Sub Working Group on Smart Traffic and Transit Technologies

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Technology Overview

- Systems- security, intelligence, monitoring, management
- Hardware- traffic signals, cameras, sensors, off-road equipment, busses, trains, vehicles with varying levels of autonomy (drones, shuttles), EV charging equipment, micromobility

Technology Overview

- Software- route planning
- Connectivity- Cellular Vehicle to Everything (C-V2X), 5G, autonomous navigation (edge and cloud)
- Edge Computing (self driving vehicles)
- Artificial Intelligence
- Linkage to IoT AB Subgroup on Smart and Critical Infrastructure

Opportunities and Benefits

- Safety Applications
  - Improving Road Safety/Protecting Vulnerable Road Users
- Use Cases
  - emergency vehicle traffic pre-emption
  - entering school or work zone
  - pedestrian crossing ahead;

Opportunities and Benefits

- Support Functions
  - Package, Food and Medicine Delivery
- Congestion Mitigation/Environmental Benefits
  - Orderly flow of traffic
  - Less time idling
- Increase Productivity
  - Less time stuck in traffic

Barriers

- Policy/regulations
- Accessibility/inclusion
- Education/training and resources
- Interoperability
- Cybersecurity
- Funding

Industry Experts

- Selected State DOTs
- Vison Zero Network
- Highway Engineering Exchange Program
- Smart Cities Experts
- Research firm that talks about grid impacts associated with increased Electric Vehicles
- Security risks associated with transportation

Other references

- Federal Agencies (NHTSA, US DOT)
- State and local jurisdictions
- Smart City examples
- Studies on the growth of the EV market

Recommendations

- National Privacy/Data Framework
- Industry led Standards
  - Interoperability
  - Cybersecurity
  - Technologies for Autonomous Vehicles

Draft Recommendations

- Programs/Grants
  - Underdeveloped and underserved communities
  - Rural Areas
- Education/Workforce Development
  - Aspects unique to smart transportation technologies

Draft Recommendations

Recommendation 1:

The federal government should support a National Privacy/Data Framework that clearly delineates the different aspects of data (i.e., machine versus personal) and how they should or shouldn't be utilized in smart transportation technologies.

Draft Recommendations

Recommendation 2:

The federal government should support industry lead standards in areas such as telematics and sensor technologies for autonomous vehicles. These standards should be based on high-level safety guidelines determined by the National Highway Traffic Safety Administration.

Draft Recommendations

Recommendation 3:

The federal government should consider developing programs and grants to allow underserved and less developed communities as well as rural areas to adopt smart transportation technologies.

Draft Recommendations

Recommendation 4:

The federal government should support industry lead standards for minimum baseline interoperability and cybersecurity requirements for smart transportation technologies.

Draft Recommendations

Recommendation 5:

The federal government should invest and promote education and workforce development in smart transportation technologies.