

## Midwest High-Speed Rail Supply Chain Good For Manufacturing Jobs, Good for Economic Growth and Good for Our Environment



## **ENVIRONMENTAL LAW & POLICY CENTER**







## Midwest High-Speed Rail Supply Chain Good For Manufacturing Jobs, Good for Economic Growth and Good for Our Environment

## **Report Findings:**

- High-speed rail manufacturing and jobs are growing in the United States.
- American rail manufacturing gets a boost from federal high-speed rail investment, which creates jobs and economic growth.
- Old-line manufacturing companies in the industrial Midwest are re-tooling to seize new business opportunities from rail growth.
- Midwest manufacturers will especially benefit from these investments.
- Rising rail ridership trends set the stage for more manufacturing growth.
- Good-paying manufacturing jobs create more wealth in communities.
- Rail investments mean job creation and economic growth and expansion.



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## **Overview**



**N** ext generation passenger rail is picking up speed in the United States, which means business opportunities for both the Original Equipment Manufacturers (OEMs) that make the trains and the many "supply chain" companies that create the components and materials needed by the OEMs. ELPC's study of high-speed and other new technology intercity passenger rail suppliers identified 12 OEMs and 460 supply chain companies in seven industrial Midwest states. Each job at a rail car manufacturer generates additional downstream manufacturing jobs.

### High-speed rail manufacturing is growing in the United

**States.** A combined \$782 million in federal investment is being awarded to California, Illinois, Iowa, Michigan, Missouri and Washington to purchase 33 quick-acceleration locomotives and 130 modern bi-level passenger rail cars. Amtrak is also in the midst of a multi-year purchase.



American manufacturing gets a boost from high-speed rail investment. In September 2012, contract awards for next generation rail cars were announced. This will be followed in early 2013 with awards for next generation locomotives. Each car and locomotive is the pinnacle of a large supply chain, creating jobs and economic development in diverse industries across the country. The federal "Buy America" standard will ensure that the resulting job growth will happen mostly in the United States.

**Midwest manufacturers will especially benefit from these investments.** ELPC's study identified a "clustering effect" of rail supply chain businesses in the Midwest. Several major rail OEMs are located in the Midwest — including Nippon-Sharyo USA in Rochelle, IL, which won the railcar procurement bid — leading to a concentration of nearby supply chain companies. For example, Electro-Motive Diesel, a major locomotive manufacturer, says the majority of its supply chain is within 500 miles of Chicago.



**Rising rail ridership trends set the stage for manufacturing growth.** In FY 2012, Amtrak announced record-setting annual increases in ridership for nine of the last ten years. Ridership nationwide is now 50% higher than in 2000.

**Old-line manufacturing businesses in the Industrial Midwest are re-tooling to seize opportunities from rail growth.** Our study found dozens of companies that now supply rail manufacturers after years of supplying the automotive industry and other sectors. This rail growth offers opportunities to suppliers of automotive glass, seats and other components, particularly given the "Buy America" mandate for rail.

**Manufacturing jobs create more wealth in communities through better wages and benefits.** Manufacturing has a higher multiplier effect as the goods flow through the economy. For example, according to a 2010 study from the



Tripp Umbach research firm, GE Transportation has a larger impact on the Pennsylvania economy (\$4.6 billion) than all of the state's professional sports teams (\$1.37 billion) and mining, oil and gas extraction industries (\$1.79 billion) combined.

**Rail investments mean job creation and economic expansion.** Current investments in next-generation rail provide an important "jolt in the arm" to the U.S. rail industry supply chain. A predictable, long-term demand stream is important to continue to develop the industry. Consistent funding for Amtrak and state rail equipment purchases are high-leverage investments.

Photo locations, left to right: Talgo in Milwaukee, WI (ELPC photographer Marianne Morgan); Brookville Equipment Corp. in Brookville, PA; US Railcar in Columbus, OH; and Siemens Rolling Stock Division in Sacramento, CA. All photos courtesy of the company unless otherwise noted.

## Rail Car and Locomotive Manufacturers



Photo locations, top to bottom: Alstom Transport, Brookville Equipment Corporation and General Electric Transportation. Photos courtesy of the companies.

Intercity passenger rail cars and locomotives are ultimately manufactured or assembled by major Original Equipment Manufacturers (OEMs). These companies purchase component parts, such as seats, flooring and brakes, and services needed to complete a rail car or locomotive assembly from the "rail supply chain" and deliver the finished product to the customer. The 12 major rail OEMs in the U.S. market are:

### Alstom Transport — Hornell, NY

Alstom Transport employs 26,000 people in 60 countries and is the largest global supplier of high- and very-highspeed rail vehicles. Alstom Transport operates the largest passenger rolling stock manufacturing facility in the U.S., is heavily involved in the freight, signaling and metro sectors, and has provided equipment for over 20% of America's active subway cars. More than 5,000 rail vehicles currently in use throughout North America were manufactured by Alstom Transport.

### Bombardier Transportation — Horsham, PA

Bombardier Transportation supplied the Acela Express passenger cars currently in use on Amtrak's Northeast Corridor. Bombardier designs, manufactures and services complete trains, rail sub-systems and signaling equipment for high-speed trains, transit and urban light rail. The company employs about 2,500 U.S. workers across 15 states, has manufacturing sites in Plattsburgh, NY, and Pittsburgh, PA, and operates a network of fleet maintenance and service sites in 11 states. Globally, Bombardier Transportation is present in 26 countries with 36,200 employees.

## Brookville Equipment Corporation – Brookville, PA

Brookville is an American manufacturer founded in 1918 that designs and builds passenger and freight locomotives. Brookville purchases 55% of its components locally in Pennsylvania.

## Construcciones y Auxiliar de Ferrocarriles USA — Washington, D.C.

CAF USA is the North American subsidiary of a Spanish parent company that has operated a 400,000-square-foot facility in Elmira, NY, since 2000. The company is building 130 new single-level passenger cars for Amtrak — a contract that is expected to create 575 new manufacturing and assembly jobs. That plant has a 2,700-foot test track used for final rail car evaluation and is establishing a stainless steel shell manufacturing area. Globally, CAF is involved in rail projects on six continents.

## Electro-Motive Diesel (EMD) – LaGrange, IL

A wholly owned subsidiary of Progress Rail Services Corp. (a Caterpillar Company), EMD is the second-largest manufacturer of diesel-electric locomotives in North America used for inter-city passenger rail, freight rail and industrial applications. EMD also makes diesel engines for marine and power generation use. It has built more than 72,500 engines since its founding in 1922. Progress Rail recently opened a new locomotive manufacturing facility in Muncie, IN.

## **General Electric Transportation – Erie, PA**

More than 15,000 GE-built diesel-electric locomotives are in operation worldwide, including more than 250 with Amtrak. GE Transportation produces locomotives, communication equipment and rail management software and is currently designing hybrid diesel-electric locomotives for increased fuel efficiency. GE Transportation employs more than 11,000 workers. In May 2012, the company announced plans to move its corporate headquarters to Chicago.

## Kawasaki Rail Car – Yonkers, NY

Kawasaki Rail Car has delivered more than 3,000 rail cars to American customers and more than 90,000 worldwide. Its 900 employees manufacture commuter, subway and rapid transit cars. Kawasaki recently opened a new railcar shell manufacturing facility in Lincoln, NE. Kawasaki Rail Car is a division of Kawasaki Heavy Industries, a global company



Photo locations, top to bottom: Siemens Rolling Stock Division, Talgo USA and US Railcar. Photos courtesy of the companies.

involved in industrial, robotic and transportation technology with more than 32,000 employees.

## Nippon Sharyo USA — Arlington Heights, IL

This North American subsidiary of a Japanese company has delivered more than 880 cars since its founding in 1982 and opened a new factory in Rochelle, IL, in 2012. The first rolling stock built by that new plant is slated to enter service with the Chicago region's Metra system in late 2012. The firm has been awarded a contract to build 130 bi-level passenger rail cars for the Midwest and California. Nippon Sharyo's Japanese parent company has delivered more than 3,000 railcars for Japan's high-speed rail.

## Siemens Rolling Stock Div. — Sacramento, CA

Siemens Rolling Stock Division has been a major provider of light rail and rapid transit vehicles in the United States since 1975. Siemens employs 850 people at its California facility, which is producing 70 new electric locomotives for Amtrak's Northeast Corridor. The plant uses on-site solar energy for 80% of its electricity needs. Siemens employs 360,000 people globally and 62,000 in the U.S.



Photo locations, top to bottom: Brookville Equipment Corp., GE Transportation and Siemens Rolling Stock. Photos courtesy of the companies.

## Stadler US – Westfield, NJ

New Jersey and Texas currently use railcars produced by Stadler US's Swiss parent company, Stadler Rail Group. The company founded its North American division in 2011. Stadler Rail Group manufacturers regional and light-rail vehicles and trams and is introducing fuelefficient hybrid locomotives.

## Talgo USA – Seattle, WA

Talgo USA employs 140 people and builds train sets and passenger coaches for service in the Midwest andthe Pacific Northwest. The company also provides comprehensive equipment maintenance and services for its passenger cars. Talgo USA is a subsidiary of a Spanishbased company that produces high-speed, super high-speed and intercity passenger trains. Talgo employs 1,500 people and has more than 3,000 passenger cars in service worldwide.

## US Railcar – Columbus, OH

US Railcar produces powered and unpowered railcars in single and bi-level designs capable of 79-90 mph and 110 mph. It is the only supplier of self-propelled intercity and commuter railcars that do not need waivers or temporal separation agreements to operate in mixed-mode freight corridors. US Railcar also markets customizable luxury "Ultradome" passenger cars for tourism and private use.

## **Supply Chain Company Profiles**



 $E^{LPC}$  identified 460 companies in seven industrial Midwest states that provide component parts and services to the U.S. passenger rail industry. Advancing an engaged supplier base is a vital opportunity for the American passenger rail industry.

OEMs generate downstream supply chain manufacturing jobs, which support each OEM position. For example, the American automobile manufacturing industry supports three additional jobs for each corresponding OEM employee. Accordingly, the majority of jobs associated with industrial manufacturing exist farther down the supply chain at component and materials fabrication levels. The Midwestern companies profiled in this section exemplify the breadth of sizes and capabilities of passenger rail suppliers and service providers.

## Armond Cassil Railroad Construction – Warren, MI

Armond Cassil Railroad Construction designs and builds new railroad tracks across the United States. Since 1994, the company has worked on passenger rail projects. Armond Cassil is approved for rail work by 12 states and most major American railroads. The company has also built new rail lines for power plants, Class 1 Railroads and steel factories.

### Bo-Mar Industries — Indianapolis, IN

Bo-Mar is a metal fabrication shop employing more than 40 people. Established in 1991, the company's founders began operations in their father's barn. Today, Bo-Mar's capabilities include laser cutting, water-jet cutting, sheet metal fabrication, prototyping and custom manufacturing. The company's experience in the passenger rail industry includes designing and producing sleeper bunks, water tanks, battery boxes and complete stainless steel kitchens. Bo-Mar also patented and fabricated a bicycle storage device for the CALTRANS Rail System in Los Angeles.

### Brasco International – Madison Heights, MI

Brasco International designs and manufactures passenger shelters for rail applications. Founded in 1993, the company uses primarily aluminum and either glass or polycarbonate to build sustainable structures. Brasco International demonstrates its commitment to environmental responsibility by using sustainable materials, integrated solar panels and efficient LED lighting.

### Buell Air Horns – Lyons, IL

Buell Air Horns has produced quality acoustic signaling horns since 1912. The company offers complete systems, incorporating compressors, brackets, connections and

# Continued... Supply Chain Company Profiles



horns. Buell Air Horns offers single, 3-chime and 5-chime air horns for locomotives. They also produce air horns for marine, industrial and emergency-vehicle applications.

### Electro Wire – Schaumburg, IL

Electro Wire supplies and services railroad cabling and electronics. The company is the largest distributor of Exane, the transit cable used in more than 20,000 locomotives worldwide. They also offer DLO cable suited to provide power to traction motors of diesel-electric locomotives. Founded in 1978, Electro Wire has grown to provide signal, communication and traction solutions for passenger rail. The company recently moved its headquarters to a new 116,000-square-foot facility in Schaumburg, IL.

### Freedman Seating Co. – Chicago, IL

Freedman was founded in 1892 and is one of the nation's largest specialty seating manufacturers. The company employs more than 550 people and provides seats and seating products for trains, buses and commercial vehicles. Freedman is reducing its carbon footprint by installing a more efficient lighting system, expanding its recycling

program and installing solar panels to reduce its demand from the electric grid.

### HiRAIL Corporation — Lisbon, IA

HiRail Corporation manufactures custom rubber gradecrossing units. The company offers customized designs and a state-of-the-art engineering facility in Lisbon, IA. For more than 25 years, HiRAIL Corporation has used rubber recycled from old tires in full-depth railroad grade-crossing systems. Most of these tires would otherwise have been destined for a landfill.

### Independent Machine Company — Gladstone, MI

Independent Machine Co. supplies a range of machined parts to the passenger rail industry, including gear cases, plows and wear plates. The company was founded in 1975 with a single lathe used to turn locomotive wheels in a garage. Independent Machine Company currently has more than 30 employees and two plant facilities totaling more than 37,000 square feet. It is capable of prototype work and uses only American-made materials and products.

## Loram Maintenance of Way - Hamel, MN

Loram supplies track maintenance machinery and services to railroads both nationally and globally. Their customers include Amtrak, MTA New York, PATH and Metra Rail. The company started in 1954 with two maintenance machines. Today, they employ more than 800 people and operate 123 machines in 16 countries. Loram offers rail grinding, ditching and track data services. The company also offers maintenance training, consulting and support.

## Master Packing & Rubber Company – Cedar Rapids, IA

Founded in 1982, Master Packing and Rubber Company provides sealing solutions for applications involving high temperature, pressure and vibration. The company works closely with railroads and engine-rebuilders throughout its design process. Master Packing and Rubber uses computer simulations to analyze seals using polymers, ceramic, Teflon and other materials. The company also serves the power, pharmaceutical and food processing industries.

## Metalcraft of Mayville – Mayville, WI

Metalcraft is a custom sheet metal fabricator that machines large weldments and castings. Metalcraft has two locations in Wisconsin and employs 772 people. The company directly supplies many components to passenger railcar OEMs, including coach ceiling parts and gangway assemblies. Metalcraft also provides products for the agriculture, construction and military industries.

## Milwaukee Composites - Cudahy, WI

Milwaukee Composites manufactures patented light-weight, fire-safe, moisture-resistant phenolic composite products. These parts are predominantly applied as floor and ceiling panels for use in mass transit vehicles. Milwaukee Composites customers include global railcar companies such as Kawasaki, Nippon Sharyo, Bombardier, Alstom, Siemens and others. A recent project included floors for 600 New York City Metropolitan Transportation Authority cars. Milwaukee Composite is currently supplying an aftermarket

Supply Chain Company Profiles Continued on Page 21...

## Illinois High-Speed Rail: 84 Supply Chain Companies



1. K&E	Alsip
2. Prestige Metal Prod	ucts Antioch
3. Nippon Sharyo USA	A Arlington Heights
4. Illinois Auto Electri	ic Aurora
5. PPG Rail Division	Batavia
6. R&W Machine	Bedford Park
7. Kustom Seating	Bellwood
-	Belvidere
-	Boilingbrook
10. Austin-Westran	Byron
11. JMA Railroad Supp	ly Carol Stream
	Carol Stream
13. Amsted Industries	Chicago
14. Amsted Rail	Chicago
15. Bowman, Barrett &	Associates Chicago
	Chicago
	Chicago
	Chicago
	Chicago
20. LTK Engineering Sy	/stems Chicago
	iyes Chicago
22. Funk Linko	Chicago Heights
	Crete
24. Skandia	Davis Junction
25. Forge Resources G	roupDekalb
-	Des Plaines
27. Parkway Metal Pro	ducts Des Plaines
-	quipment Dixmoor
-	l Downers Grove
30. Harting	Elgin
	Elk Grove Village
32. Midwest Imperial S	Steel Fab Frankfort
	es Hinsdale
34. Rexroth Bosch Gro	upHoffman Estates
35. Relay Systems of A	mericaJoliet
36. Electro-Motive Die	selLaGrange
	Lake Bluff
38. Kor-Pak	Lake Forest
	Libertyville
	ringLibertyville
41. Zeman Manufactur	
	Services Co Loves Park

		Buell Air Horns	
	44.	Powermark International	. Machesney Park
ghts	45.	Safeway Services of Rockford	. Machesney Park
	46.	Marengo Valve & Foundry	. Marengo
	47.	Elcon	. Minooka
	48.	Whiting	. Monee
	49.	Alstom Power	. Naperville
	50.	Bloomington-Normal Seating	. Normal
	51.	LB Foster Rail Products	. Oak Brook
	52.	Standard Car Truck	. Park Ridge
	53.	Caterpillar	. Peoria
	54.	American Gear	. Prophetstown
	55.	Niemeyer & Associates	. Ringwood
	56.	Hill Fastener	. Rock Falls
	57.	IFH Group	. Rock Falls
	58.	R&R Metalcraft	. Rock Falls
	59.	Cummins Central Power	. Rock Island
	60.	Advanced Machine & Engineering	. Rockford
	61.	Dasco Pro	. Rockford
	62.	Dixon Automatic Tools	. Rockford
	63.	Fiberglass Innovations	. Rockford
nts	64.	Forgings & Stampings	. Rockford
	65.	GFI Metal Treating	. Rockford
ı	66.	Global Display Solutions	. Rockford
	67.	Leatherhead Tools	. Rockford
	68.	MTE Hydraulics	. Rockford
	69.	Nelson Manufacturing	. Rockford
	70.	Pyramid Plastics	. Rockford
/e	71.	SPX Hydraulic Technologies	. Rockford
	72.	The Caldwell Group	. Rockford
age	73.	Electro Wire	. Schaumburg
	74.	Priority Manufacturing	. Shiller Park
		Electrol Specialties	
tes	76.	Meadoweld Machine	. South Beloit
	77.	Hadady	. South Holland
	78.	Hanson Professional Services	. Springfield
	79.	Ellcon-National	. St. Charles
	80.	Westwood Machine & Tool	. Sterling
		Aldon	-
	82.	MRT Track Services	. Wheaton
	83.	Microtech Machine	. Wheeling
		Progress Rail Services	-
		-	-

## Indiana High-Speed Rail: 99 Supply Chain Companies





1.	Prince Manufacturing	. Avilla
2.	Dynamic Specialty Metal Spinning	. Bedford
3.	Indianapolis Wire & Terminal	. Beech Grove
4.	JP Corp	. Beech Grove
5.	Katalyst Industrial Coatings	. Beech Grove
6.	LS Mold	. Beech Grove
7.	National Salvage & Service Corp	. Bloomington
8.	Schindler Electric	. Brownsburg
9.	Allied Electronics	. Carmel
10.	Industrial Specialties	. Carmel
11.	Advanced Boiler Control Services	. Crown Point
12.	ACTIA	. Elkhart
13.	Adams & Westlake	. Elkhart
14.	Dynamic Metals	. Elkhart
15.	Hadley Products	. Elkhart
16.	Primix	. Elkhart
17.	Industrial Filter Manufacturers	. Evansville
18.	Crane America Services	. Fort Wayne
19.	Essex Group	-
20.	Press-Seal Gasket Fastener Div	. Fort Wayne
21.	Garcor Supply Co	. Franklin
22.	Quality Mill Supply	. Franklin
23.	Pro Pump	5
24.	Stanrail	0
25.	Advantage Electronics	. Greenwood
26.	American Industrial Corp	. Greenwood
27.	Wessels Co	. Greenwood
28.	Diesel Electrical Equipment	. Griffith
29.	Sims Professional Engineers	0
30.	A & A Industrial Supply	. Indianapolis
31.	Action Equipment Sales	-
32.	Advantage Water Conditioning	
33.	Aircon Engineering	
34.	Alro Steel	. Indianapolis
35.	American Wire Rope & Sling	-
36.	Baker Machinery	•
37.	Bisco Industries	-
38.	Bo-Mar Industries	•
39.	Burgess Mechanical	-
40.	Central Supply	-
41.	Colby Equipment	
42.	Crown Screw and Bolt	Indianapolis

43.	Delta Faucet	. Indianapolis
44.	Duncan Supply	. Indianapolis
45.	E-A-R Specialty Composites	. Indianapolis
46.	Electrical Equipment	. Indianapolis
47.	Elliott Equipment	. Indianapolis
48.	Ellis Mechanical	. Indianapolis
49.	Fairbanks Scales	. Indianapolis
50.	Fiberglass Engineering & Design	. Indianapolis
51.	Firestone Industrial Products	. Indianapolis
52.	Gexpro	. Indianapolis
53.	Graybar Electric	. Indianapolis
54.	Grunau	. Indianapolis
55.	High Voltage Maintenance	. Indianapolis
56.	Hydra Air	. Indianapolis
57.	IDS Blast Finishing	. Indianapolis
58.	Kennedy Tank & Manufacturing	. Indianapolis
59.	Kirby Risk	. Indianapolis
60.	Koorsen Protection	. Indianapolis
61.	Lauck Mfg	. Indianapolis
62.	Lawler Manufacturing	. Indianapolis
63.	Loy Instrument	. Indianapolis
64.	MacAllister Machinery	. Indianapolis
65.	McGinty Conveyors	. Indianapolis
66.	Mile Rail	. Indianapolis
67.	ORR Safety	. Indianapolis
68.	OTP Industrial Solutions	. Indianapolis
69.	PEI Genesis	. Indianapolis
70.	R S Hughes	. Indianapolis
71.	Rocore	. Indianapolis
72.	S&K Air Power Tool	. Indianapolis
73.	Service Pipe & Supply	. Indianapolis
74.	South Central	. Indianapolis
75.	Standard Electric Supply	. Indianapolis
76.	System Scale	. Indianapolis
77.	Tarpenning-Lafollette	. Indianapolis
78.	Unistrut Indianapolis	. Indianapolis
79.	Universal Tool & Supply	. Indianapolis
80.	Worldwide Filters	. Indianapolis
81.	Wurth Service Supply	. Indianapolis
82.	NAP GLADU Tools	. Jasper
83.	Pepka Spring	. Kokomo
84.	ATI Casting Service	. LaPorte

85.	Structural Composites of Indiana Li	igonier
86.	Edlo Sales & Engineering Lo	ogansport
87.	Dwyer Instruments M	lichigan City
88.	Lift-a-Loft M	luncie
89.	Warner Supply M	luncie
90.	GaylorN	oblesville
91.	Inohva PneumaticsN	oblesville
92.	Sidener EngineeringN	oblesville
93.	Capital Machinery Systems Pe	endleton
94.	Hoosier Equipment ServicePl	lainfield
95.	B&H Electric & SupplySl	nelbyville
96.	WatconSo	outh Bend
97.	Fairway IndustriesVa	alparaiso
98.	Certa Craft W	hiteland
99.	Accurate Laser SystemsZi	ionsville

-

## Iowa High-Speed Rail: 7 Supply Chain Companies



1	Rail-Way Inc	Cascade
2	Master Packing & Rubber Company	Cedar Rapids
3	Red Giant Oil Companies	Council Bluffs
4	Products Inc	Des Moines
5	Environmental Lubricants Mftrg	Grundy Center
6	Matrix Metals LLC	Keokuk
7	HiRAIL Corporation	Lisbon

## Michigan High-Speed Rail: 49 Supply Chain Companies

- 1. Dexter Stamping..... Ann Arbor
- 2. Schnorr ..... Ann Arbor
- 3. Custom Service & Design ..... Auburn Hills
- 4. Pettibone Michigan......Baraga
- 5. Sandpoint Consulting ..... Bloomfield Hills
- 6. Peaker Services ...... Brighton
- Aalfs Petroleum......Buchanan
   Pathfinder Engineering ......Byron Cent
- Pathfinder Engineering ...... Byron Center
   Borg Warner Cooling ...... Cadillac
- Borg Warner Cooling ...... Cadillac
   Hehr International ...... Chesaning
- 10. Hehr International..... Chesaning
- Hess Asphalt Paving & Const. ..... Clyde
   Dubric Packing & Seals ..... Comstock Park
- 13. Chemcoa...... Detroit
- 14. Compuware...... Detroit
- 15. Detroit Diesel ...... Detroit
- 16. Tognum America ..... Detroit
- 17. Mitchell Equipment...... Dundee
- 18. East Jordan Iron Works..... East Jordan
- 19. FMC Rail ..... Fenton

20.	Powertran	Ferndale
21.	Independent Machine	Gladstone
22.	American Seating	Grand Rapids
23.	Suspa	Grand Rapids
24.	Hastings Fiber Glass	Hastings
25.	Alsons	Hillsdale
26.	Steel Products (MCS Industries)	Homer
27.	Total Plastics	Kalamazoo
28.	Alcoa	Lansing
29.	G4S Secure Solutions USA	Livonia
30.	Harsco Rail	Ludington
31.	Brasco International	Madison Heights
32.	General Bearing	Milford
33.	Trinity Equipment	Muskegon
34.	Kenneth Smith Inc	Niles
35.	Omnicast	Norton Shores
36.	Peleton	Otsego
37.	Bach-Simpson	Port Huron
38.	Dymac	Port Huron

- 39. Michigan Petroleum Technology...... Port Huron
- 40. RKA Petroleum......Romulus
- 41. Spencer Oil..... Roseville
- 42. Hougen Manufacturing...... Swartz Creek43. HOV Services...... Troy
- 44. Mentor Group...... Troy
- 45. Schaeffler Group North America ...... Troy
- 46. Armond Cassil Railroad Const...... Warren
- 47. Hadley-Transmatic...... Waterford
- 48. NLB Corporation...... Wixom
- 49. Interclean Equipment...... Ypsilanti



## Minnesota High-Speed Rail: 26 Supply Chain Companies



- Burns & McDonnell..... Bloomington 1 2 Edward Kraemer and Sons ......Burnsville 3 Northern Tool & Equipment ...... Burnsville Reco Railway Equipment Co..... Delano 4 Krech Ojard & Associates ...... Duluth 5 6 CH Robinson Worldwide ..... Eden Prairie 7 Wasp Inc. ..... Glenwood Andy's Electrical Service ...... Grand Meadow 8 9 Industrial Lubricant ...... Grand Rapids Loram...... Hamel 10 Telemetry & Process Controls Inc ..... Lake Elmo 11 Donaldson Company ...... Minneapolis 12 Reviva Inc...... Minneapolis 13
- Spiral Manufacturing...... Minneapolis 14 ZTR Control Systems ...... Minneapolis 15 Thermo King Corp...... Minneapolis 16 17 Accustream Inc ..... New Brighton Oakdale Communications Solutions...... Oakdale 18 Modern Metal Products ..... Owatonna 19 20 Railway Research Inc ..... Red Wing 3M Traffic Safety Systems ...... St. Paul 21 Vomela Specialty Co..... St. Paul 22 McDowall Co..... Waite Park 23 24 Lewis Bolt & Nut Co..... Wayzata Fastenal Co..... Winona 25 Miller Felpax Corporation...... Winona 26

## Ohio High-Speed Rail: 122 Supply Chain Companies



- 1. Ace Precision Industries..... Akron
- 2. RCA Rubber..... Akron
- 3. Alliance Casting...... Alliance
- 4. Filnor ..... Alliance
- 5. Solutions Plus ..... Amelia
- 6. Delta Railroad Construction ..... Ashtabula
- 7. Batavia & Ohio Railways Svcs..... Batavia
- 8. Seneca Railroad & Mining..... Bellevue
- 9. American & Ohio Locomotive CraneBucyrus
- 10. W.E. Lott ......Bucyrus
- 11. Morrison Metalweld Process..... Canfield
- 12. Midwest Industrial Supply ...... Canton
- 13. Ohio Gratings ..... Canton
- Ralph C. Williams ..... Canton 14. Sperling Railway Services...... Canton 15. Timken..... Canton 16. 17. United Grinding..... Canton 18. Stacy Builders ..... Castalia 19. Solon Manufacturing..... Chardon 20. Union Spring & Manufacturing...... Chillicothe Cliffe Metal Products..... Cincinnati 21. Crown Lift Trucks..... Cincinnati 22. Fechheimer Brothers..... Cincinnati 23. 24. Piedmont Plastics.....Cincinnati Siemens ..... Cincinnati 25. Applied Industrial Technologies...... Cleveland 26.



27.	Cleveland Track Material Cleveland
28.	CR Construction Cleveland
29.	Crowd Control Depot Cleveland
30.	Demag Cranes & Components Cleveland
31.	Eaton Cleveland
32.	Erico Products Cleveland
33.	Hickok Cleveland
34.	N. T. Ruddock Cleveland
35.	Park Ohio Cleveland
36.	Parker Hannifin Cleveland
37.	Performed Line Product Cleveland
38.	Sherwin-Williams Cleveland
39.	SIFCO Selective Plating Cleveland
40.	State Industrial Products Cleveland
41.	Bearing Distributors Columbus
42.	Capital Spring Division Columbus
43.	Columbus Steel Castings Columbus
44.	Fritz Rumer Cooke Columbus
45.	Keyser Powell Equipment Columbus
46.	Kimball Midwest Columbus
47.	Laird Plastics Columbus



- 48. Ohio Power Tool..... Columbus
- 49. Parsons Brinckerhoff...... Columbus
- 50. Rail Products International..... Columbus
- 51. Spirit Services..... Columbus
- 52. Tri Palm International..... Columbus
- 53. US Railcar..... Columbus
- 54. Yenkin Majestic ..... Columbus
- 55. Sancast..... Coshocton
- 56. Nationwide Express ..... Crooksville
- 57. Becker Pumps..... Cuyahoga Falls
- 58. Dayton-Phoenix Group...... Dayton
- 59. Precision Gage & Tool..... Dayton
- 60. Sabic Polymershapes ..... Dayton
- 61. Stromag...... Dayton
- 63. Spectrum Infrared...... Eastlake
- 64. Master Bolt Manufacturing...... Elyria
- 65. PPG Industries..... Euclid
- 67. Morgan AM&T..... Fostoria
- 68. Advance Machining ...... Grove City



69.	Safety Today	Groveport
70.	Tri State Testing Laboratories	Hamilton
71.	Cincinnati	Harrison
72.	Railroad Tools & Solutions	Hillsboro
73.	Ametek Rotron Products	Kent
74.	Ohio Railway Supply	Kent
75.	Schneller	Kent
76.	AECOM	Los Angeles
77.	ADTrans	Mansfield
78.	D&A International Casting	Mansfield
79.	Clifton Steel	Maple Heights
80.	Ohio Magnetics	Maple Heights
81.	Hi-Vac	Marietta
82.	Cincinnati Industrial	Mason
83.	Motion Savers	Mason
84.	Roemer	Masury
85.	Roemer Industries	Masury
86.	Mayfran International	Mayfield Village

- M & F Technology...... Mentor 87.
- 88. Com Net Software ...... Miamisburg
- International Display Systems...... Moraine 89.

90.	Powell Electrical Systems	N. Canton
91.	Railtech Boutet	Napoleon
92.	Provantage Superstore	. North Canton
93.	Railworks Track Services	North Jackson
94.	Quest	. North Royalton
95.	SAS Rubber	. Painesville
96.	Iron Horse Engineering	Parkman
97.	Redhawk Energy Systems	Pataskala
98.	KSA	Portsmouth
99.	Ohio Valley Track work	Rio Grande
100.	Industrial Nut	5
101.	Acme Construction	Solon
102.	Chromate Industrial	Solon
	RELAM	
	Tameran Graphic Systems	
	McSweeny	
	TPI Composites	
	Chemical Methods	0
	Safety Sign Company	-
	Seves USA	
110.	Tiffin Palfinger	
111.	A & K Railroads Materials	
112.	Kay Toledo Tag	
113.	Visual Marking Systems	-
114.	L.B. Foster	
115.	Schaefer	
116.	Contech Construction Products	
117.	Newberry Construction	
118.	TSS Technology	
119.	RWC	
120.	Stevenson Oil & Chemical	
121.	Kottler Metal Products	0,
122.	Transit Fittings of North America	Youngstown

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## Wisconsin High-Speed Rail: 73 Supply Chain Companies



- 1. L&S Electric.....Appleton
- 2. Apache Stainless Equipment ......Beaver Dam
- 3. Automation Solutions of America...... Beloit
- 4. ANDERSON MFG .....Bristol
- 5. Engineering Specialists ......Brookfield
- 6. Evans Transportation ......Brookfield
- 7. Milwaukee Insulation.....Butler
- 8. Doig Corporation .....Cedarburg
- 9. KM Logistics.....Cuahy
- 10. E80 Plus Constructors ...... DeForest
- 11. Krech Ojard & Associates ......Eau Claire
- 12. MTL Manufacturing.....Elkhorn
- 13. Fiber-Tech ......Franksville

- 14. Airgas Safety ......Germantown
- 15. J.W. Speaker Global Headquarters......Germantown
- 16. Sedia.....Glendale
- 17. Northern Electric.....Green Bay
- 18. Mahar Tool Supply.....Kenosha
- 19. Compass Group.....La Crosse
- 20. D & B Tool & Mfg.....Lannon
- 21. HNTB.....Madison
- 22. Mohawk ......Madison
- 23. Heavy Metal Fabricators......Manitowoc
- 24. Silvan Industries ......Marinette
- 25. Mayville Engineering ......Mayville
- 26. Metalcraft of Mayville ..... Mayville



27. Certified Scale......Menomonee Falls Ingersoll Rand......Menomonee Falls 28. 29. Universal Metrics...... Menomonee Falls 30. Sullivan Manufacturing ...... Mequon R & M Mfg......Milton 31. Allied Insulation Supply......Milwaukee 32. 33. Atlas Copco.....Milwaukee 34. Avalon Rail......Milwaukee Bay Insulation Supply of Mil.....Milwaukee 35. Braun......Milwaukee 36. 37. BSIS......Milwaukee Burns & McDonnell......Milwaukee 38. 39. Capitol Stampings......Milwaukee 40. General Electric ......Milwaukee General Plastics ......Milwaukee 41. Key Engineering Group ......Milwaukee 42. Kracor.....Milwaukee 43. Monarch......Milwaukee 44. 45. Motive Equipment......Milwaukee NRE Wheel Works ......Milwaukee 46. Res Manufacturing ......Milwaukee 47. 48. Rockwell Automation......Milwaukee 49. Securitas ...... Milwaukee 50. Super Steel Products ...... Milwaukee

51.	Talgo	Milwaukee
52.	Technical Metal Specialties	Milwaukee
53.	United P&H Supply	Milwaukee
54.	Wagner	Milwaukee
55.	Wisconsin & Southern Railroad	Milwaukee
56.	Arrow Global	Mosinee
57.	Bent Tubes	Neenah
58.	A & A Manufacturing	New Berlin
59.	Milwaukee Composites	Oak Creek
60.	Premold	Oconomowoc
61.	Midwest Engineering Systems	Pewaukee
62.	HFI Fluid Power Products	Racine
•=-		
63.	Seats	Reedsburg
63. 64.		0
00.	Seats	Stoughton
64.	Seats Stoughton Trucking	Stoughton Sussex
64. 65.	Seats Stoughton Trucking Liberty Elec	Stoughton Sussex Twin Lakes
64. 65. 66.	Seats Stoughton Trucking Liberty Elec Five Star Fabricating	Stoughton Sussex Twin Lakes Waukesha
<ul><li>64.</li><li>65.</li><li>66.</li><li>67.</li></ul>	Seats Stoughton Trucking Liberty Elec Five Star Fabricating Weldall	Stoughton Sussex Twin Lakes Waukesha Waukesha
<ul><li>64.</li><li>65.</li><li>66.</li><li>67.</li><li>68.</li></ul>	Seats Stoughton Trucking Liberty Elec Five Star Fabricating Weldall Wieland Engineering	Stoughton Sussex Twin Lakes Waukesha Waukesha Waupaca
<ul> <li>64.</li> <li>65.</li> <li>66.</li> <li>67.</li> <li>68.</li> <li>69.</li> </ul>	Seats Stoughton Trucking Liberty Elec Five Star Fabricating Weldall Wieland Engineering Dura Glass Industries	Stoughton Sussex Twin Lakes Waukesha Waukesha Waupaca Wausaukee
<ul> <li>64.</li> <li>65.</li> <li>66.</li> <li>67.</li> <li>68.</li> <li>69.</li> <li>70.</li> </ul>	Seats Stoughton Trucking Liberty Elec Five Star Fabricating Weldall Wieland Engineering Dura Glass Industries Wausaukee Composites	Stoughton Sussex Twin Lakes Waukesha Waukesha Waupaca Wausaukee Wausaukee
<ul> <li>64.</li> <li>65.</li> <li>66.</li> <li>67.</li> <li>68.</li> <li>69.</li> <li>70.</li> <li>71.</li> </ul>	Seats Stoughton Trucking Liberty Elec Five Star Fabricating Weldall Wieland Engineering Dura Glass Industries Wausaukee Composites American Paper Packaging	Stoughton Sussex Twin Lakes Waukesha Waukesha Waupaca Wausaukee Wausaukee Wauwatosa West Allis

# Continued from P. 8... Supply Chain Company Profiles



project directly to the Chicago area's Regional Transit Authority to overhaul older Metra commuter rail cars and will supply an aftermarket floor project for New York City. The company has approximately 50 employees and has been in business since 1996.

## Press-Seal Gasket Fastener Division — Fort Wayne, IN

Press-Seal Gasket is North America's leading producer of nylon anchors for concrete ties. The company has developed a range of related products that enable railroad and transit systems to anchor rails to concrete ties. It also manufactures rail maintenance equipment capable of repairing concrete ties after derailments. The company is a division of Press-Seal Gasket Corp., founded in 1954. The company's core capabilities include rubber and plastic molding, stainless steel fabrication and water jet cutting.

## Primix – Elkhart, IN

Primix develops and offers a unique hybrid railroad crosstie. The member is comprised of internal steel beams and concrete fill within a composite case. The outer case shell is constructed from 100% reclaimed materials. Specific crosstie compositions can be optimized for high-speed passenger, subway or freight lines. These modern crossties provide longevity, durability and gauge retention benefits over traditional wooden ties. The company was founded in 1996 and markets its products globally.

## R&W Machine - Bedford Park, IL

R&W Machine was founded in 1946 with an engine lathe purchased from a Walgreens Drug Store. Today, it is a precision machine shop that produces rail parts, including axles, wheel sets and traction motors. The company also provides aftermarket remanufacturing and rebuilding in their 120,000-square-foot facility. R&W's operations are fully computerized through CNC equipment. The company also serves the wind, marine and mining industries.

### Rocore – Indianapolis, IN

Rocore designs and manufactures heat transfer products for power generation, military equipment and the rail and marine industries. Rocore was founded in Greendale, WI, in 1984. The company has five domestic manufacturing facilities and currently supplies little to the intercity passenger rail industry, but has the capabilities to gain business from an increase in demand from train OEMs.

## SAS Rubber Company – Painesville, OH

SAS Rubber Company makes rubber components for passenger rail applications. Their products include insulating window gaskets, headlamp seals and door closure strips. Nearly all of their operations, including injection moldings and extrusions, are performed in-house in their Painesville facility. Founded over 72 years ago, the company also serves the automotive, industrial and military markets.

## Seneca Railroad and Mining - Bellevue, OH

Seneca Railroad and Mining was founded in 1981 and provides polyurethane insulated rail joints for passenger, mining and freight railroads. Their one-piece polyurethanesteel structure ensures reliable circuit insulation and maintains electrical and physical stability in the face of heavy rail traffic. The joints require little to no maintenance. Seneca Railroad and Mining also offers insulated tie plates and tie pads.

## ZTR Control Systems – Minneapolis, MN

ZTR Control Systems specializes in locomotive modernization and remote equipment monitoring services. Their modernization process can extend the useful life of a diesel-electric locomotive by 10-20 years. The company, founded in 1987, also offers unique locomotive idle reduction systems and advanced locomotive controls for the passenger rail industry. Their SmartStart IIe idle system can save up to \$20,000 in wasted fuel annually from a single locomotive.



## The Midwest Regional Rail Network Moving from Vision to Reality \_\_\_\_\_



Map by ELPC.

The Midwest Regional Rail Initiative is the culmination of a decade's work by nine Midwestern state departments of transportation to improve the region's transportation network. They recommend a 3,000-mile hub-and-spoke system of trains radiating out from Chicago to serve the large and mid-sized cities within a 400-mile radius. On primary routes, modern new trains will operate at 110 mph on upgraded tracks incorporating advanced signaling, positive train control and safer grade-crossings.

The new network will have more trains running at more times of the day. Travel times between major cities will be reduced by 30%-50%. Nine Midwestern states will benefit from improved right-of-ways, which will continue to be shared with freight rail lines. Multi-modal stations will improve connectivity to transit, road and bicycle traffic. The entire network is expected to attract 13.6 million passengers annually by 2025, four times more than if existing service continued unchanged.

The Chicago-hubbed Midwest network reaches 27 million people, including seven metro regions of at least 1 million people. Europe's Paris-hubbed network reaches about 28 million people, including five metro regions of at least 1 million people. With a \$2.5 trillion GDP, the Midwest region is the world's 7th largest economy.

The modern passenger rail system will provide economies of scale for maintenance, along with improved equipment and crew utilization. Compared to the current system, future operating costs will be reduced by the use of advanced locomotives and rail cars and faster equipment turnarounds. The system will offer competitive fares and travel times for short- and medium-distance trips. An integrated bus feeder system, with schedules coordinated to passenger rail timetables, will enable rail access for lesspopulated areas. The network is mostly owned by freight railroads, and network improvements will preserve the operability of freight and commuter networks.

Construction is already underway. The Midwest is now home to the first high-speed rail service outside the Northeast. In February 2012, Amtrak began 110 mph revenue service on 97 miles of the Chicago - Detroit corridor owned by Amtrak. The speed increase was enabled by the installation of a positive train control system and track improvements along the route between Porter, IN, and Kalamazoo, MI. The federal government is investing over \$600 million for new infrastructure and signaling along the corridor, which will allow for 110 mph operation on 77% of the Wolverine route. It will also place 70% of the Wolverine line into public ownership.

Work is also underway on track and safety improvements to the Chicago – St. Louis corridor. By the end of 2014, the line is expected to operate at a sustained speed of 110 mph for 75% of its route. New trains set to operate between Chicago and Milwaukee have been purchased and are scheduled for delivery this year. Construction will soon begin on improved passenger rail service between Chicago and the Quad Cities, with a potential extension to Iowa City, Des Moines and Omaha.

## A National Commitment to High-Speed Passenger Rail



Modern, fast, comfortable and convenient high-speed rail will improve mobility, reduce pollution, create jobs and spur economic growth. High-speed rail development is good for jobs, good for economic growth and good for our environment.

The Midwest intercity passenger rail network and supplier base are parts of a national movement to modernize rail infrastructure and change the way we travel. President Barack Obama and the U.S. Congress jump-started the industry by including \$8 billion for intercity passenger rail in the 2009 American Recovery and Reinvestment Act (the "Economic Stimulus" legislation). Congress has since made an additional \$2.1 billion available through annual appropriations, bringing total funding to \$10.1 billion, plus additional funds from other programs. State governors from both major political parties made \$55 billion worth of requests for the funds in a reflection of latent demand. In 2011, Vice President Joe Biden announced a further \$53 billion plan for high-speed intercity passenger trains. President Obama has set a national goal of 80% of Americans having access to high-speed rail service by 2035.

President Obama devoted significant attention to highspeed passenger rail in his 2010 and 2011 State of the Union addresses. His vision to build a national network is akin to President Eisenhower's drive to construct the interstate highway system. President Obama's plan today encounters many of the same opposing arguments (system costs, this issue should be left to the states, the status quo is sufficient, etc.) that President Eisenhower faced in the 1950s. Despite its initial speed bumps, it is hard to imagine the United States without the benefits of the national highway system over the past 60 years.

Railroads, highways and airports have spurred America's economic growth. Traffic congestion already costs the country more than \$130 billion annually, and America's population is expected to grow by 100 million people before 2050. No economy should grow faster than its transportation network can carry it. Supporting our economy and manufacturing base with a long-term federal and state government investment in a modernized intercity passenger rail network will advance continued growth in the Midwest regional economy.



## **Environmental Law & Policy Center**

The Environmental Law & Policy Center is the Midwest's leading public interest environmental legal advocacy and eco-business innovation organization. We develop and lead successful strategic advocacy campaigns to improve environmental quality and protect our natural resources. We are public interest environmental entrepreneurs who engage in creative business dealmaking with diverse interests to put into practice our belief that environmental progress and economic development can be achieved together. ELPC's multidisciplinary staff of talented and experienced public interest attorneys, environmental business specialists, public policy advocates and communications specialists brings a strong and effective combination of skills to solve environmental problems.

ELPC's vision embraces both smart, persuasive advocacy and sustainable development principles to win the most important environmental cases and create positive solutions to protect the environment. ELPC's teamwork approach uses legal, economic and public policy analysis, and communications advocacy tools to produce successes. ELPC's strategic advocacy and business dealmaking involves proposing solutions when we oppose threats to the Midwest environment. We say "yes" to better solutions; we don't just say "no."

ELPC was founded in 1993 and has achieved a strong track record of successes on national and regional clean energy development and pollution reduction, transportation and land use reform, including high-speed rail development, and natural resources protection issues. ELPC's creative public advocacy effectively links environmental progress and economic development together and improves the quality of life in our Midwestern communities.

### **HEADQUARTERS**

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