MICHIGAN
State Rail Plan

Technical Memorandum #2
Existing Conditions

March 2011

Prepared for:

MDOT
Michigan Department of Transportation

Prepared by:

HNTB
HNTB Corporation

Table of Contents

1. Introduction 1
2. Freight Rail System Profile 2
   - 2.1. Overview 2
   - 2.2. Class I Railroads 2
   - 2.3. Regional Railroads 6
   - 2.4. Class III Shortline Railroads 7
   - 2.5. Switching & Terminal Railroads 12
   - 2.7. State Owned Railroads 16
   - 2.8. Abandonments 18
   - 2.10. International Border Crossings 22
   - 2.11. Ongoing Border Crossing Activities 24
   - 2.12. Port Access Facilities 24
3. Freight Rail Traffic 25
   - 3.1. Current Rail Imports, Exports and Michigan's Economic Base 25
   - 3.2. Economic Value-Chain Dependency on Commodities Shipped by Rail 29
   - 3.3. Michigan's Rail Intensive Locations and Trading Relationships 35
   - 3.4. Previous Forecasts of Rail Flows (FAF^2) 37
   - 3.5. Michigan's Economic Restructuring 43
   - 3.6. Canadian and Cross-Border Considerations 46
4. Passenger Rail Service Profile 53
   - 4.1. Current Amtrak Service 53
   - 4.2. Passenger Rail Utilization 56
5. Federal and State Funding Programs for Freight & Passenger Rail Development 61
   - 5.1. Federal Funding Programs 61
   - 5.2. State Rail Funding Programs 70
6. Review of Existing Studies 78
   - 6.1. Statewide Plans and Programs 78
   - 6.2. Regional Plans and Studies 87
   - 6.3. Multi-State and National Studies and Plans 98

List of Tables

Table 1: Class I Railroads Operating in Michigan 3
Table 2: Class II Regional Railroads Operating in Michigan 6
Table 3: Michigan Class III Shortline Railroads 8
Table 4: Michigan Switching and Terminal Railroads 13
Table 5: Total Freight Rail Mileage by Class 15
Table 6: Abandoned and Discontinued Railroads in Michigan 19
Table 7: Railroad Intermodal Terminals in Southeast Michigan 20
Table 8: Major Equipment Depots in Michigan 21
Table 9: Top Rail Import Commodities to Michigan 26
Table 10: Top Rail Export Commodities from Michigan 27
Table 11: Michigan Basic and Near-Basic Industries 29
Table 12: Rail Import Dependency for Michigan Industries 30
Table 13: Rail Export Dependency for Michigan Industries 32
Table 14: Rail Internal Dependency for Michigan Industries 33
Table 15: Top 10 Rail Import Counties in Michigan 34
Table 16: Top 10 Rail Export Counties in Michigan 35
Table 17: Top 10 Origins of Michigan Rail Imports 36
Table 18: Top 10 Destinations of Michigan Rail Exports 37
Table 19: FAF^3: Imports to Michigan by Commodity Group (2007-2040) 38
Table 20: FAF^3: Exports from Michigan by Commodity Group (2007-2040) 39
Table 21: FAF^3: Imports to Michigan by Origin (2007-2040) 40
Table 22: FAF^3: Exports From Michigan by Destination (2007-2040) 41
Table 23: Employment Trend and Forecast for Michigan Industries 42
Table 24: Employment Forecast from top Rail-Importing Counties 43
Table 25: Employment Forecast from top Rail-Exporting Counties 44
Table 26: Nature of Michigan Rail Trade 50
Table 27: Michigan's Imports and Exports with Canada 51
Table 28: Michigan's Imports and Exports with Mexico 52
Table 29: Fastest Growing Rail Passenger Pairs to and From Michigan 57
Table 30: Annual Amtrak Ridership by Route 58
Table 31: Michigan Boardings and Alightings 1999 - 2010 59
Table 32: Michigan Rail Loan Assistance Program History 71
Table 33: Freight Economic Development and State-Owned Line Funding 72
Table 34: Grade Crossing Program Expenditure History 73
Table 35: Annual State of Michigan Subsidy of Amtrak Operations 75
Table 36: Michigan Capital Investments in Passenger Rail Service 76

List of Figures

Figure 1: Michigan Railroads 5
Figure 2: Michigan State-Owned Rail Lines 17
Figure 3: International Border Crossings 22
Figure 4: Value Trend in Michigan's Leading Exports to Canada 47
Figure 5: Value Trend in Michigan Exports to Canada by Mode 48
Figure 6: Current Michigan Intercity Passenger Rail Service 54
Figure 7: 10-Year Trend in Michigan Passenger Rail Utilization 60
Figure 8: Proposed Detroit Intermodal Freight Terminal 89
Figure 9: Proposed Midwest Regional Rail System 101

1. Introduction

The railroad industry has played a key role in the development of Michigan throughout the state's history. The first steam locomotive operations began on the Erie and Kalamazoo Railroad in 1837, the same year that Michigan became the 26th state of the Union. Since their introduction, railroads have been vital to the trade of natural resources and finished products in the state, and the population, commercial and industrial growth of Michigan is closely linked to the availability of rail transportation.

Michigan's rail network peaked in the early 20th century, when there were over 9,000 miles of rail lines in the state. Over the past 100 years the rail network has shrunk to its current size of approximately 3,600 miles as the result of a long series of abandonments, bankruptcies and consolidations. However, rail is still a critical component of the state's multimodal transportation network. Freight railroads play a key role in connecting Michigan to the national economy. Michigan has an extensive rail system, ranking 12th nationally in the number of miles of track among the 50 states with approximately 4,400 miles.[1]

Intercity passenger rail service is provided on three routes, including the federally designated high speed rail corridor from Pontiac/Detroit to Chicago, operated by the National Railroad Passenger Corporation (Amtrak) which connect major urban centers in the state with Chicago, IL.

The purpose of this Technical Memorandum is to provide a detailed description of the rail infrastructure that is in place in Michigan today. This report will also describe the conditions under which both freight and intercity passenger trains operate within the state.

[1] Association of American Railroads, *State Rankings 2008*.

2. Freight Rail System Profile

This Section of *Technical Memorandum #2* documents the existing conditions of Michigan's freight rail network. The assessment includes an:

- Inventory of Class I, Regional, Switching/Terminal, and Class III railroads,
- Inventory of existing rail facilities,
- Identification of existing intermodal and border crossing facilities, and
- Identification of ongoing freight rail activities.

2.1. Overview

Michigan's freight rail system is part of a multimodal transportation system with a diverse mix of facilities in both public and private ownership. Michigan has an extensive rail system, ranking 12th nationally in the number of miles of track among the 50 states.[2] Approximately 18 percent of Michigan's freight moves by railroad[3]. Major rail commodity shipments by tonnage include coal, metallic ores, chemical products, agricultural products, and transportation equipment. In terms of value, Michigan's most valuable rail movement commodity is transportation equipment, followed by mixed shipments, metal products, and chemical products[4].

Railroads in the United States are designated into classifications based on the operating revenue, with Class I containing railroads with maximum revenue and Class III with the least. Class III railroads are defined by the American Association of Railroads as typically shortline railroads that serve a limited area and have annual operating revenue that is less than $10 million for three consecutive years. At present, the Surface Transportation Board is responsible for setting the classes of railroads. The Class II and Class III railroads primarily include railroads which fall into one of three categories:

- Regional Railroad: Operating for at least 350 miles and have an income of a minimum of $40 million per year,
- Local Railroads: Involved in line-haul service, and
- Switching and Terminal Railroads.

The majority of the railroad tracks in Michigan are owned and operated by four Class 1 railroads. The remainder of the rail is owned and operated by two regional railroads, eight switching/terminal railroads, and 15 shortline or local railroads. An Inventory Survey was sent out to all railroads operating in Michigan. The survey was conducted in the Fall of 2010 to identify the physical and operational characteristics of each rail company. The mileage figures included in the tables below include railroad ownership and trackage rights.

2.2. Class I Railroads

A Class 1 Railroad is a major rail company that has annual revenues in excess of $250 million per year (in 1991 dollars)[5].The Class I railroads are national companies that primarily offer transportation interchange to national and intermodal shippers and markets. There are seven Class 1 Railroads in the

[2] Association of American Railroads, *State Rankings 2008*.
[3] MDOT, State Long-Range Transportation Plan, 2005-2030. *Freight Profile Technical Report*. October 31, 2006.
[4] MDOT, State Long-Range Transportation Plan, 2005-2030. *Freight Profile Technical Report*. October 31, 2006.
[5] 49 CFR Part 1201. Railroad Companies. GPO, 2007

United States, four of which own track in Michigan .[6] These Class I railroads are: Canadian National/Grand Trunk Western (CN/GT), Norfolk Southern (NS), CSX Transportation (CSX), and Canadian Pacific/Soo Line (CP/SOO). Refer to Figure 1for an illustration of Michigan's Railroad System. **Table 1** below shows the mileage and terminus points for each of the Class I Railroads operating in Michigan.

Table 1: Class I Railroads Operating in Michigan

Name	AAR Rep. Mark	Approx. Mileage	Terminus Points
Canadian National / Grand Trunk	CN	1,017	Detroit, Port Huron, Battle Creek, Sault St. Marie, Munising, Escanaba, Marquette, Menominee
Norfolk Southern Railway	NS	642	Detroit, Jackson, Lansing, Kalamazoo
CSX Transportation	CSX	569	Grand Rapids, Lansing, Flint, Detroit
Canadian Pacific Railway / Soo Line	CP	1	Detroit

2.2.1. Canadian National/Grand Trunk Western Corporation

The Canadian National/Grand Trunk Corporation (CN/GT) operates as a Class I railroad as a subsidiary holding company for CN's properties in the United States. CN is headquartered in Montreal, Quebec. CN/GT operates 1,017 miles of rail in Michigan[7] as compared to their total system mileage of approximately 20,400 miles, of which 12,900 miles are located in Canada. CP/SOO only owns 1 miles of track in Detroit – the Detroit River Tunnel[8]. The CN/GT mainline extends from Port Huron to Chicago serving major cities including Detroit, hence two major intermodal terminals being located in Chicago and Detroit. The freight transported over CN rails includes petroleum, chemicals, grain, fertilizers, coal, metals, forest products, minerals, and automotive parts.

2.2.2. Norfolk Southern Corporation

Norfolk Southern Corporation (NS) is a major Class I railroad in the United States with headquarters in Norfolk, Virginia. According to NS's 2003 Annual Report to Investors, at the end of 2003, NS had more than 28,160 employees, 3,468 locomotives, and 101,095 freight cars. NS has a total system of approximately 21,500 miles of track, of which 642 miles are located in the state of Michigan. It operates three primary hubs in its system, in Harrisburg, Chicago and Atlanta. NS has many intermodal terminals, two being in Michigan, Delray and Livernois, located in Detroit, Michigan. One major rail classification yard is located in Melvindale, Michigan. The most common commodity hauled on the railroad is coal from mines in the eastern half of the country. Coal transported by NS is exported to steel mills and power plants around the world. At the end of 2003, the transport of coal, coke, and iron ore made up 23

[6] Association of American Railroads, *State of Michigan Fact Sheet 2008.*
[7] Association of American Railroads, *Freight Railroads in Michigan, 2008.* February 2010.
[8] Association of American Railroads, *Freight Railroads in Michigan, 2008.* February 2010.

percent of the total amount of traffic hauled by NS. The company is also a major transporter of auto parts and completed vehicles.

2.2.3. CSX Transportation

CSX Transportation (CSX) is a Class I railroad headquartered in Jacksonville, Florida. Out of a total 22,000 miles, CSX operates 569 miles of rail in the state of Michigan[9]. CSX operates one of the three Class I railroads serving most of the East Coast, as well as serving the Canadian provinces of Ontario and Quebec. CSX operates two regions: the Northern Region which is based out of Calumet City, Illinois and has five divisions, and the Southern Region based out of Jacksonville, Florida which has six divisions. The State of Michigan is included in the Great Lakes Division which is part of the Northern Region. CSX operates a number of large classification yards around the system, although the closest yard to Michigan is the Stanley Yard in Toledo, Ohio.

2.2.4. Canadian Pacific Railway/Soo Line

The Canadian Pacific Railway (CP) is a public company with over 15,000 employees and market capitalization of $7 billion in 2008[10]. Canadian Pacific/Soo Line Railroad Company (CP/SOO) is a Class I railroad and the primary United States railroad subsidiary of the Canadian Pacific Railway (CP). Its rail network serves major cities in the United States such as Minneapolis, Chicago, and New York City. The busiest part of its railway network is along its main line between Calgary and Vancouver. It owns approximately 14,000 miles of track all across Canada and into the United States stretching from Montreal to Vancouver, as far north as Edmonton. Over half of CP's freight traffic is in coal, grain, and intermodal freight. It also ships automotive parts and assembled automobiles, sulfur, fertilizers, other chemicals, forest products, and other types of commodities.

The CP owns only one mile of railroad in Michigan, the Detroit River Tunnel, which connects Detroit with Windsor, Ontario. CP trains then utilize trackage rights on CSX and NS to get to Chicago. CP owns a large number of large yards and repair shops across their rail network, with the closest classification yards to Michigan being Bensenville Yard in Chicago, Illinois and Toronto Yard in Toronto, Ontario.

---

[9] Association of American Railroads, *Freight Railroads in Michigan, 2008.* February 2010.

[10] Zenobank, *Company Profile for Canadian Pacific Railway Ltd (CA; CP)*, Web. http://zenobank.com/index.php?symbol=CA;CP&page=quotesearch, October 7, 2008.

Figure 1: Michigan Railroads

2.3. Regional Railroads

A Class II railroad is a line-haul with revenues of less than $250 million but in excess of $20 million (1991 dollars)[11]. Michigan's Class II railroads are mid-sized freight-hauling railroads. The State of Michigan has two Class II railroads: Great Lakes Central Railroad and Indiana & Ohio Railway[12]. . These railroads, listed in **Table 2**, are the terminal links to the major freight rail networks in the United States and Canada.

Table 2: Class II Regional Railroads Operating in Michigan

Name	AAR Rep. Mark	Approx. Mileage	Terminus Point	Terminus Point
Great Lakes Central Railroad	GLC	396	Ann Arbor	Yuma
			Petoskey- Traverse City	
			Grawn	Williamsburg
			Ashley	Middleton
			Clare	
Indiana & Ohio Railway	IO	44	Mason	Monroe
			Diann	Washington Court House, OH

2.3.1. Great Lakes Central Railroad

Great Lakes Central Railroad (GLC) is the largest regional railroad in Michigan with track extending through the central and northern portions of the State. As of 2008, Great Lakes Central Railroad (GLC) operates 396 miles of railroad in Michigan[13]. GLC was originally called the Tuscola and Saginaw Bay Railway (TSBY) and currently operates former Ann Arbor Railroad track from Ann Arbor to Yuma, Michigan, former Grand Rapids and Indiana Railroad (GR&I) track from Cadillac to Petoskey and Walton to Traverse City, former Chesapeake and Ohio Railroad (C&O) from Grawn to Williamsburg, and former Grand Trunk Western Railroad track from Ashley to Middleton. The GLC also operates a small portion of the abandoned CSX Ludington Subdivision in Clare, Michigan, to serve a local plastics factory. GLC interchanges with Class I railroads CN/GT in Durand and CSX at Howell and shortlines Huron and Eastern Railway in Durand and Owosso, Mid-Michigan Railroad in Alma, Michigan and the Ann Arbor Railroad near Ann Arbor, Michigan[14]. The majority of GLC operations are on tracks owned, or otherwise provided by, the State of Michigan. The primary commodities hauled by GLC include clay, grain, plastics, coke, fertilizers and other chemicals, sand, and lumber.

[11] 49 CFR Part 1201. *Railroad Companies*. GPO, 2007
[12] Association of American Railroads, State of Michigan Fact Sheet, 2008
[13] Association of American Railroads, *Freight Railroads in Michigan, 2008.* February 2010.
[14] Great Lakes Central Railroad. Web. http://glcrailroad.com/index.php.

2.3.2. Indiana & Ohio Railway

The Indiana and Ohio Railway (IORY) is a regional railroad that operates primarily in western Ohio, as well as in parts of southeastern Indiana and southeast Michigan. As of 2008, IORY operates a total of 570 miles and 44 miles of railroad in Michigan[15]. It is owned and operated by RailAmerica, a national company that owns 40 railroads operating in 27 states and 3 Canadian provinces, having been acquired in 2000[16]. One of its lines runs between Diann, Michigan and Washington Court House, Ohio[17]. The railroad's traffic comes mainly from grain, lumber products, metals, and chemical products. The IORY hauled around 62,000 carloads in 2008[18]. IORY handles a wide range of commodities, including automobiles, pig iron and other metal products, chemicals, plastics, lumber, paper, and grain products. IORY offers several sites suitable for new industry development. IORY has major interchanges with railroads, one being in Flat Rock, Michigan with CN, as well as numerous shortlines, which offer IORY the capability of easily moving goods throughout North America[19].

2.4. Class III Shortline Railroads

Class III railroads are defined as having an annual operating revenue that is less than $20 million (1991 Dollars). The Class III shortline railroads in the United States are primarily former branch lines of larger railroads that have now developed identities of their own serving a limited area. These railroads are engaged primarily in line-haul service[20].

Michigan has 15 Class III shortline railroads, each operating over distances ranging from 3 miles to 406 miles. These railroads, which are listed in **Table 3,** provide critical links between local industries and the national rail freight network.

---

[15] Association of American Railroads, *Freight Railroads in Michigan, 2008.* February 2010.
[16] American Short Line and Regional Railroad Association. Web. http://www.aslrra.org/our_members/railroad_members/details.cfm?railroadid=1202.
[17] "Indiana and Ohio Railway". RailAmerica. Web. http://www.railamerica.com/RailServices/IORY.aspx.
[18] RailAmerica's Empire". *Trains Magazine*. June 2010.
[19] "Indiana and Ohio Railway". RailAmerica. Web. http://www.railamerica.com/RailServices/IORY.aspx.
[20] 49 CFR Part 1201. *Railroad Companies*. GPO, 2007.

Table 3: Michigan Class III Shortline Railroads

Name	AAR Rep. Mark	Approx. Mileage	Terminus Point	Terminus Point
Ann Arbor Railroad	AA	47	Ann Arbor	Toledo, OH
Charlotte Southern Railroad	CHS	4	Charlotte	Charlotte
Coopersville & Marne Railway Company	CMR	14	Coopersville	Marne
Detroit Connecting Railroad	DCON	3	Detroit	Detroit
Escanaba & Lake Superior Railroad	ELS	226	Wells Republic	Ontonagon Green Bay, WI
Grand Elk Railroad[21]	GDLK	123	Elkhart, IN	Grand Rapids
Grand Rapids Eastern Railroad	GR (RailAmerica)	65	Ionia	Grand Rapids
Huron & Eastern Railway	HESR (RailAmerica)	406	Midland Bay City Saginaw	Throughout Southeastern Michigan
Indiana Northeastern Railroad Co[22]	IN	70	Sturgis S. Milford, IN	Litchfield Litchfield
Jackson and Lansing Railroad Co.	JAIL	45	Jackson	Lansing
Lake State Railway Company	LSRC	231	Gaylord Alpena	Bay City Bay City
Lake Superior & Ishpeming Railroad	LSI	44	Marquette	Lake Superior
Marquette Rail, LLC	MQT	133	Ludington Manistee	Grand Rapids Grand Rapids
Mid-Michigan Railroad	MMRR (RailAmerica)	56	Greenville Paines	Lowell Alma
Saginaw Bay Southern	SBS	67	Saginaw Saginaw Mt. Morris	Midland Bay City/Paines Saginaw

Primary Source: *American Association of Railroads, Freight Railroads in Michigan, 2008. February 2010.*

2.4.1. Ann Arbor Railroad

The Ann Arbor Railroad (AA) operates between Ann Arbor, Michigan and Toledo, Ohio with its headquarters in Howell, Michigan. It is strategically positioned between southeastern Michigan and northern Ohio providing a car and locomotive repair facility and three (3) vehicle distribution facilities in Toledo, Ohio. The AA has interchanges and connections with NS, CSX, CN and Wheeling and Lake Erie in Toledo, Ohio, with Great Lakes Central in Ann Arbor, Michigan, NS in Milan and the Indiana and Ohio Railway and CN at Diann.

[21] "Grand Elk Railroad". Watco Companies. Web. http://www.watcocompanies.com/Railroads/Grand%20Elk%20Railroad/Grand%20Elk%20Railroad.htm

[22] Indiana Northeastern Railroad Company. Web. http://www.indiananortheasternrailroad.com/.

The AA handles a full range of commodities for its customers including just-in-time automobile parts, bulk materials (flour, sugar, grain, plastics, sand, cement, and recyclables), paper, lumber, petroleum, and finished automobiles[23].

2.4.2. Charlotte Southern Railroad

The Charlotte Southern Railroad (CHS) is a shortline railroad operating in Charlotte, Michigan where it connects with the CN rail system. The railroad was established in 1999 and is operated by the Adrian and Blissfield Railroad. The shortline rail corridor is 3.25 miles, which mainly hauls grain. Charlotte Southern hosts the Old Road Dinner train on a former New York Central rail corridor in Charlotte.

2.4.3. Coopersville & Marne Railway

The Coopersville & Marne Railway (CMR) is a shortline railroad operating excursion trains over 14 miles of track between Coopersville & Marne, just northwest of Grand Rapids. Excursion trains are operated twice weekly between May and October, once weekly in April, November and December with special Santa Trains operating during the holiday season. The excursion train includes a 1950s era locomotive and antique passenger cars. Freight operations over the railroad corridor are performed by the Grand Rapids Eastern Railroad.

2.4.4. Detroit Connecting Railroad

The Detroit Connecting Railroad (DCON) is a shortline railroad operating in the metropolitan Detroit area, where it connects with the CN rail system. The railroad was established in 1998 and is owned and operated by the Adrian and Blissfield Railroad. The shortline rail corridor is 2.25 miles, which primarily hauls commodities including finished metal products, scrap metals and vegetables.

2.4.5. Escanaba & Lake Superior Railroad

The Escanaba & Lake Superior Railroad (ELS) is a shortline railroad operating in Northeastern Wisconsin and the Upper Peninsula of Michigan and headquartered in Wells, Michigan. The ELS expanded from the original core line of 65 miles that was purchased in 1978, to over 235 miles of operating railroad in 2005. The 208-mile mainline of the E&LS stretches from Ontonagon, Michigan to Green Bay, Wisconsin. Other lines owned by the E&LS include Channing to Republic, Channing to Wells and Sidnaw to Nestoria and Menominee. The E&LS operates on trackage rights over the CN from North Escanaba, Michigan to Pembine, Wisconsin. The E&LS connects with the CN at Pembine and Green Bay, Wisconsin and North Escanaba, Marinette and Quinnesec, Michigan[24]. The E&LS provides seven road locomotives and three switch locomotives for the transport of goods including scrap paper, wood pulp, pulpwood logs, oriented

[23] Ann Arbor Railroad. Web. http://www.annarbor-railroad.com.
[24] Escanaba & Lake Superior Railroad, Web: http://www.elsrr.com.

strand board, lumber, , canned goods, steel, scrap metal, aggregate, chemicals, and agricultural items such as corn, grains, feed, and fertilizers.

2.4.6. Grand Elk Railroad

The Grand Elk Railroad (GDLK) is owned by Watco Companies operating 123 miles of track on track leased from Norfolk Southern. GDLK extends from Grand Rapids, Michigan south to Elkhart, Indiana and interchanges with three Class I railroads including: NS at Kalamazoo and Elkhart, Indiana, CN at Kalamazoo, and the CSX interchanges in Grand Rapids.[25] Three shortlines, Marquette Rail, Mid-Michigan Railroad and the Grand Rapids Eastern Railroad interchange in Grand Rapids with GDLK. The Michigan Southern Railroad interchanges with GDLK in White Pigeon. Approximately 60 people are employed by the GDLK serving more than 55 customers in Michigan and Indiana shipping commodities including automotive parts, plastics, metals, forest products, agricultural products and aggregates[26].

2.4.7. Grand **Rapids Eastern Railroad**

The Grand Rapids Eastern Railroad (GR) is a RailAmerica railroad located in western Michigan operating approximately 50 miles of track[27]. GR runs in an east-west direction through Grand Rapids, Michigan. The major interchange point is with the CSX and GDLK at Grand Rapids. . Featured commodities on the GR include wheat, sodium carbonate and lumber[28]. In 2008, the GR hauled around 1,250 carloads[29].

2.4.8. Huron & Eastern Railway

The Huron & Eastern Railway (HESR) is a RailAmerica shortline railroad operating approximately 400 miles of track in Michigan[30]. HESR is headquartered in Vassar, Michigan. The State of Michigan owns portions of the track operated by HESR in Bay and Tuscola Counties. HESR interchanges with Class I railroad CN in Durand and shortlines Lake State Railway and its subsidiary Saginaw Bay Southern, in Saginaw, Bay City, and Midland and Great Lakes Central Railroad in Durand and Owosso. HESR serves 44 businesses throughout Michigan.[31] The railroad's traffic comes largely from agricultural

---

[25] American Short Line and Regional Railroad Association, http://www.aslrra.org/our_members/railroad_members/details.cfm?railroadid=1737.

[26] Watco Companies, *Grand Elk Railroad*, http://www.watcocompanies.com/Railroads/Grand%20Elk%20Railroad/Grand%20Elk%20Railroad.htm.

[27] American Short Line and Regional Railroad Association, http://www.aslrra.org/our_members/railroad_members/details.cfm?railroadid=1515.

[28] RailAmerica, *Grand Rapids Eastern Railroad*. Web. http://www.railamerica.com/railservices/GR.aspx.

[29] Trains Magazine, *RailAmerica's Empire,* June 2010.

[30] RailAmerica, *Huron & Eastern Railway.* Web. http://www.railamerica.com/railservices/HESR.aspx.

[31] American Short Line and Regional Railroad Association. Web. http://www.aslrra.org/our_members/railroad_members/details.cfm?railroadid=1183.

products, as well as industrial goods such as cement, fly ash, and chemicals. The HESR hauled around 34,000 carloads in 2008[32].

2.4.9. Indiana Northeastern Railroad Company

Indiana Northeastern Railroad (IN) operates over approximately 130 miles in length across northeastern Indiana, northwest Ohio, and southern Michigan. Most of the railroad's traffic interchanges with NS at Montpelier, Ohio. A connection in Sturgis, Michigan with the Michigan Southern Railroad Company (MSO) allows for additional interchange of traffic. The State of Michigan owns portions of the track operated by the IN, in Branch and Hillsdale Counties. Leading commodities moved by IN include corn, soybeans, wheat and flour. Other products transported include plastics, fiberboard, aluminum, copper, coal, stone, lumber, glass, rendering products, as well as agricultural fertilizers and chemicals[33].

2.4.10. Jackson and Lansing Railroad Company

The Jackson and Lansing Railroad Company (JAIL) is a Class III shortline carrier established in 2010 and operating on 45 miles of track leased from NS. JAIL interchanges traffic with NS in Lansing and with CN and CSX in Lansing. The Adrian and Blissfield Rail Road Company controls JAIL and is the operator of railroad services over the line[34].

2.4.11. Lake State Railway

Lake State Railway (LSRC) is a shortline railroad, operating approximately 231 miles of track in the northeast quadrant of the lower peninsula of Michigan. The State of Michigan owns portions of LSRC from Otsego to Bay County. Lake State currently operates two subdivisions: the Huron Subdivision, which runs north from Bay City to Alpena, and the Mackinac Subdivision, which runs parallel to Michigan′s I-75 corridor between Bay City and Gaylord. LSRC is a sister company to the Saginaw Bay Southern (SBS). Including SBS trackage, Lake State Railway interchanges with the Huron and Eastern Railway in Saginaw, Bay City, and Midland, the Mid-Michigan Railroad in Paines, and CSX in Mount Morris. The railroad moves large quantities of aggregate and limestone[35].

2.4.12. Lake Superior & Ishpeming Railroad

The Lake Superior and Ishpeming Railroad (LSI) is an independent Class III shortline carrier operating from Ishpeming east to Marquette, a distance of about 25 miles throughout the Upper Peninsula. LSI is owned by the Cleveland-Cliffs Iron Company (CCI) and is primarily an ore hauling railroad. LSI's primary

---

[32] Trains Magazine, *RailAmerica's Empire,* June 2010.
[33] Indiana Northeastern Railroad Company. Web. http://www.indiananortheasternrailroad.com.
[34] Surface Transportation Board Dockets FD 34510 and FD 35411. Federal Register, Vol. 75, No. 193, October 6, 2010, page 61817.
[35] Lake State Railway Company & Saginaw Bay Southern Railway. Web. http://www.lsrc.com/index-2.html.

business is the transport of iron ore over a track less than 20 miles from the Empire-Tilden Mine, south of Ishpeming, and to Lake Superior for transport.

2.4.13. Marquette Rail

The Marquette Rail (MQT) operates on 130 miles of tracks leased from CSX in West Michigan. The MQT lines Manistee, MI south to Walhalla, MI (26 miles), west to Ludington, MI (16 miles), east to Baldwin, MI (14 miles) and south to Walker MI (71 miles). It has interchanges with CSX, and Grand Elk Railroad. Fifteen locations are served from Manistee and Ludington south to Grand Rapids. MQT operates on approximately 130 miles of track leased from CSX in West Michigan. Marquette Rail continues to operate on CSX trackage rights from Walker, MI to interchange with CSX in CSX's Grand Rapids yard.
Through CSX intermediate switching, Marquette Rail also interchanges with Grand Elk Railway (NS) in Grand Rapids, MI. The railroad is headquartered in Ludington, MI with additional facilities in Manistee, MI and Baldwin, MI

Leading commodities moved by the MQT include calcium chloride, magnesium hydroxide, lime, pulp board and grain. Other products transported include plastics, lumber, fertilizers, salt, steel, potash and asphalt. In 2010, MQT hauled approximately 14,000 carloads of commodities.

2.4.14. Mid-Michigan Railroad

The Mid-Michigan Railroad (MMRR) is a railroad owned by RailAmerica since 2000 and headquartered in Muskegon, Michigan. MMRR operates two separate lines for a total of 56 miles of track in Michigan from Greenville to Lowell and from Paines to Alma. The MMRR interchanges with other short-line carriers that provide transportation service to Class I carriers to move goods and services throughout North America. The MMRR provides the transport of agricultural commodities such as corn and, soybeans[36]. In 2008, MMRR hauled around 5,100 carloads of commodities[37].

2.4.15. Saginaw Bay Southern Railway

Saginaw Bay Southern (SBS) is a shortline railroad and sister company of the Lake State Railway (LSRC) operating in the lower peninsula of Michigan and headquartered in Saginaw. It interchanges with CSX, Huron & Eastern Railway, Mid-Michigan Railroad, and Lake State Railway. SBS operates routes from Saginaw to Midland, Saginaw to Bay City and the Paines subdivision.[38].

2.5. Switching & Terminal Railroads

A switching and terminal railroad is a freight railroad company whose primary purpose is to perform local switching services or to own and operate a terminal facility. As defined by the Association of American Railroads, Michigan has eight switching and terminal

[36] RailAmerica. "Mid-Michigan Railroad". http://www.railamerica.com/RailServices/MMRR.aspx
[37] Trains Magazine, *RailAmerica's Empire,* June 2010.
[38] Lake State Railway Company & Saginaw Bay Southern Railway. http://www.lsrc.com/index-2.html .

railroads.[39] The operational switching and terminal railroads in Michigan are listed below in **Table 4.**

Table 4: Michigan Switching and Terminal Railroads

Name	AAR Rep. Mark	Approx. Mileage	Terminus Point	Terminus Point
Adrian & Blissfield Railroad	ADBF	30	Adrian	Blissfield
Conrail Shared Assets Operations.	CR	98	Trenton/ Detroit	Sterling Heights/Utica
Delray Connecting Railroad	DCRR	1	Downriver District, Detroit	
Lapeer Industrial Railroad	LIRR	2	Lapeer Spur	
Michigan Air-Line Railway Company	MAL	8	W. Bloomfield	Wixom
Michigan Shore Railroad	MSR (RailAmerica)	68	Freemont	West Olive
Michigan Southern Railroad Company	MSO (Pioneer Railcorp)	18	White Pigeon	Sturgis
West Michigan Railroad Company	WMI (Pioneer RailCorp)	15	Paw Paw	Hartford

Primary Source: *American Association of Railroads, Freight Railroads in Michigan, 2008. February 2010.*

2.5.1. Adrian & Blissfield Railroad Company

The Adrian and Blissfield Rail Road Company (ADBF) operates 20 miles of track between Adrian and Riga, in Lenawee County, Michigan. It also operates Lapeer Industrial Railroad, Charlotte Southern Railroad, Jackson and Lansing Railroad, Detroit Connecting Railroad, and Tecumseh Branch Connecting Railroad. ADBF has interchanges with the Indiana & Ohio Railroad and NS. ADBF's railroad line is one of the oldest operating in the United States and operates a dinner train in Blissfield and Charlotte, Michigan. According to the AAR, ADBF serves as a switching and terminal railroad for other railroads. The ADBF also operates a Class II short line, the Jackson and Lansing Railway, which began operations in October 2010 on tracks leased from NS.

2.5.2. Conrail Shared Assets Operations.

Conrail Shared Assets Operations (CSAO) operates as a switching and terminal railroad in the state of Michigan for its owners, CSX and NS. CSAO operates approximately 98 miles of track in the Detroit area[40]. CSAO operations are focused along the corridor connecting Trenton, Detroit and Sterling Heights and Utica areas on the east side of Detroit. Major yards served by Conrail include Livernois, North, River Rouge and Sterling[41]. CSAO was created to provide switching services in Shared Asset Areas identified by CSX and NS during the 1997-1998 Surface Transportation Board proceedings that split the parent Conrail between the two railroads. CSAO today also provides rail service for other Shared Asset Areas located New Jersey and Philadelphia.

[39] Association of American Railroads, State of Michigan Fact Sheet, 2008
[40] Association of American Railroads, Freight Railroads in Michigan, 2008. February 2010.
[41] "Freight Service, Local Operations." Conrail. Web. http://www.conrail.com/freight.htm.

2.5.3. Delray Connecting Railroad

The Delray Connecting Railroad (DCRR) operates as a switching and terminal railroad in the downriver district of Detroit. The railroad operates one mile of track in the state of Michigan.[42] DCRR supplies the Great Lakes Works with many and varied services to iron and steel making groups. The railroad interchanges with the CN, NS, CSX and CSAO[43].

2.5.4. Lapeer Industrial Railroad

The Lapeer Industrial Railroad (LIRR) is a switching operation in Lapeer, which connects with Class I railroad, CN. The switching railroad was established in 1999 with headquarters in Lapeer and is operated by the Adrian and Blissfield Railroad. The switching operations are performed on 1.34 miles of track, known as the Lapeer Spur, along with 0.88 miles leased from CN.

2.5.5. Michigan Air-Line Railway

The Michigan Air-Line Railway Company (MAL) is a switching railroad in the metropolitan Detroit area. The railroad owns and operates the former Grand Trunk Western line from an interchange point with CSX in Wixom, running eastwardly to West Bloomfield. Established in 1984, the railroad headquarters is located in Walled Lake, Michigan. Primary commodities hauled include plastics, lumber and aggregates. The MAL also operates the *Michigan Star Clipper Dinner Train*, which is the oldest, continuously running dinner train in the United States.

2.5.6. Michigan Shore Railroad

The Michigan Shore Railroad (MSR) is a RailAmerica shortline railroad located in the west central portion of the Lower Peninsula. MSR operates 52 miles of track connecting Fremont to CSX at West Olive, Michigan. MSR also traverses several cities in Michigan including Muskegon, Grand Haven and Holland. MSR interchanges with CSX. The MSR operates a line with over 7,000 cars per year primarily of sand and chemicals[44].

2.5.7. Michigan Southern Railroad

The Michigan Southern Railroad (MSO) is a subsidiary of Pioneer Railcorp that operates 15 miles of track and is headquartered in White Pigeon. Michigan Southern serves customers in Sturgis and White Pigeon, where it connects with GDLK. The railroad's principal commodities are scrap paper, pulp board, lumber, and soybean oils[45].

---

[42] Association of American Railroads, *Freight Railroads in Michigan, 2008.* February 2010.
[43] Delray Connecting Railroad Company, *Delray Connecting Railroad Company.* Web. http://www.tstarinc.com/Delray/delray-index.html.
[44] RailAmerica, *Michigan Shore Railroad,* Web. http://www.railamerica.com/RailServices/MS.aspx.
[45] Pioneer RailCorp, *Michigan Southern Railroad Company*, Web. http://www.pioneer-railcorp.com/Subsidiaries/MSO/mso.html.

2.5.8. West Michigan Railroad

The West Michigan Railroad (WMI) is a shortline railroad subsidiary of Pioneer Railcorp that operates 15 miles of track from Paw Paw to Hartford. It interchanges with CSX in Hartford. WMI serves Hartford, Lawrence, and Paw Paw. The railroad's principal commodities are frozen foods and canned goods[46].

2.6. Summary of Freight Railroads Operating in Michigan

The freight rail network in Michigan includes 4,412 miles of track which also supports three shared passenger rail corridors.

Table 5: Total Freight Rail Mileage by Class

Railroad	Class I-Freight	Class II-Regional	Class III-Shortline	Switching & Terminal
Adrian & Blissfield Railroad				30
Ann Arbor Railroad Company			47	
Canadian National/Grand Trunk	1,017			
Canadian Pacific Railway/Soo Line	1			
Charlotte Southern Railroad			4	
Conrail Shared Assets Operations				98
Coopersville & Marne Railway Company			14	
CSX Transportation	569			
Delray Connecting Railroad				1
Detroit Connecting Railroad			3	
Escanaba & Lake Superior Railroad			226	
Grand Elk Railroad			123	
Grand Rapids Eastern Railroad			65	
Grand Lakes Central Railroad		396		
Huron & Eastern Railway			406	
Indiana & Ohio Railway		44		
Indiana Northeastern Railroad Company			70	
Jackson & Lansing Railroad Company			45	
Lake State Railway Company			231	
Lake Superior & Ishpeming			44	
Lapeer Industrial Railroad				2
Marquette Rail, LLC			133	
Michigan Air-Line Railroad				8
Michigan Shore Railroad				68
Mid-Michigan Railroad, Inc.			56	
Michigan Southern Railroad Company				18
Norfolk Southern Railway	642			
Saginaw Bay Southern Railway			67	
West Michigan Railroad Company				15
Total by Class	**2,229**	**440**	**1,511**	**240**
Michigan Freight Rail Miles – Grand Total	**4,412**			

[46] Pioneer RailCorp, *West Michigan Railroad Company*, Web. http://www.pioneer-railcorp.com/Subsidiaries/WMI/wmi.htm.

2.7. State-Owned Railroads

There are approximately 530 miles of state-owned rail lines in Michigan, as shown in **Figure 2.** These lines are operated under contract with MDOT and provide the only rail access to many businesses in certain areas of the state. They represent a portion of the trackage that was purchased between the mid-1970s and mid-1980s in response to the Federal government's attempt to restructure bankrupt railroads in the northeast and Midwest regions of the country.

The 1,100 miles of rail lines proposed for abandonment were concentrated in rural parts of the state and represented a significant portion of Michigan's total freight network at that time. State leaders were concerned that losing rail service would have had serious economic consequences, not only in the areas immediately impacted but statewide as well. After considerable study and analysis, MDOT opted to purchase approximately 900 of the 1,100 miles proposed for abandonment. Responsibility for the railroad mode of transportation was transferred to MDOT in 1973[47]. Most of the lines were in serious disrepair. MDOT contracted with private railroad operators to provide service to shippers and began an intensive effort to rehabilitate the lines to a more reasonable and sustainable operating condition.

Over time, it became apparent that some of the lines were not in fact essential parts of the state's transportation system. Several lines, or portions of lines, have since been abandoned and may have become recreational trails in the process. Two lines have been successfully returned to the private sector.

The following companies operate on tracks owned by State of Michigan:

- Great Lakes Central Railroad (GLC) from Emmet to Washtenaw County,
- Lake State Railway (LS) from Otsego to Bay County,
- Huron & Eastern Railway (HER) within Bay and Tuscola Counties, and the
- Indiana Northeastern Railroad (IN) in Branch and Hillsdale Counties.

Cities served by state-owned rail lines include: Alma, Ann Arbor, Cadillac, Mt. Pleasant, Petoskey, and Traverse City.

The state-owned rail lines are managed through MDOT's Capital Development Program (Program). These lines are operated under contract and provide rail access to businesses within the state. Approximately 80 customers are currently served through this arrangement. The program's goal is to enhance the commercial viability of the lines so they can be returned to the private sector[48].

[47] Michigan DOT. "History". Web. http://www.michigan.gov/mdot/0,1607,7-151-11056_22444_56505-239435--,00.html.

[48] Michigan DOT. "State-Owned Rail Lines". Web. http://www.michigan.gov/mdot/0,1607,7-151-11056_22444_56505---,00.html.

Figure 2: Michigan State-Owned Rail Lines

In 1998, the state legislature enacted legislation mandating that MDOT divest itself of four specific rail lines. As directed by the legislature, MDOT is pursuing divestiture through a competitive proposal process with the goal of attracting a private sector bidder who exhibits the best combination of purchase price and potential for providing long-term, continuous, efficient and reliable rail service. Per statute, the following properties are to be divested in order:

- The Lenawee County System
- The Hillsdale County System
- The Vassar Area System, and
- The Ann Arbor and Northwest Michigan System

The process has been completed for the Lenawee County Rail System and negotiations are underway for the Hillsdale County Rail System currently operated by IN. The remaining two segments, the Vassar Area System, and the Ann Arbor and Northwest Michigan System, operated by HER and GLC respectively, will be offered at a later date. A final state owned line, the North-Central Michigan System operated by LSI is not subject to divestiture. For the lines that remain under state ownership, MDOT is responsible for various property management functions.

2.8. Abandonments

Due to track and market conditions, some rail lines have the potential to become abandoned. Rail lines over which no local traffic has moved for two years without any formal complaint have been exempt from the traditional process and can be abandoned simply by filing a notice with the Surface Transportation Board (Board).

Under the Interstate Commerce Commission's Termination Act of 1995, a railroad may abandon a line only with the permission of the Board. The Board must determine whether the "present or future public convenience and necessity require or permit" the abandonment. In making this determination, the Board balances two competing factors. The first is the need of local communities and shippers for continued service. That need is balanced against the public interest in releasing railroads from financial burdens that are a drain on their overall financial health and lessen their ability to operate economically elsewhere[49].

Once a rail line is abandoned it can be retained for potential trail or transportation use or it can be sold. The State of Michigan mandates that abandoned rail lines must first be offered respectively to both MDOT and Michigan Department of Natural Resources (MDNR) before being sold, since rail corridors acquired by MDOT can be utilized for interim trail purposes[50].

[49] Surface Transportation Board, *Overview: Abandonments & Alternatives to Abandonments*, 2008.
[50] Michigan DOT. "Rail Line Abandonment". Web. http://www.michigan.gov/mdot/0,1607,7-151-11056_22444_56485---,00.html.

2.8.1. 1995-2010 Abandonments

The railroads that have been abandoned and/or discontinued in Michigan since the 1995 are listed below in **Table 6.**

Table 6: Abandoned and Discontinued Railroads in Michigan

Railroad Name	County	Miles	Date
Escanaba & Lake Superior Railroad	Ontonagon, Houghton	43	2010
Michigan Air-Line Railway	Oakland	3	2010
Mid-Michigan Railroad	Kent, Iona, Montcalm	25	2010
Mid-Michigan Railroad	Muskegon	4	2009
Central Michigan Railway	Kent	2	2009
Huron & Eastern Railway	Shiawassee	3	2009
Mid-Michigan Railroad	Kent, Ottawa	7	2009
Mid-Michigan Railroad	Kent, Ionia	16	2008
Sault Ste. Marie Bridge	Dickinson	1	2008
Lake State Railway	Otsego	4	2007
Mid-Michigan Railroad	Muskegon	3	2007
Grand Trunk Western Railroad	Oakland	1	2007
Grand Trunk Western Railroad	Genesee	2	2006
Conrail	Wayne	4	2006
Norfolk Southern Railway	Kalamazoo	1	2006
Mid-Michigan Railroad	Kent, Ionia	5	2005
Mid-Michigan Railroad	Kent	2	2005
Lake Superior & Ishpeming Railroad	Marquette	9	2004
CSX & Mid-Michigan Railroad	Gratiot	6	2003
CSX	St. Clair	3	2003
Central Michigan Railway	Saginaw	2	2003
CSX	Ottawa, Allegan	6	2002
Grand Trunk Western Railroad	Oakland	3	2001
Grand Trunk Western Railroad	Genesee	3	2001
Wisconsin Central	Marquette, Alger	37	2001
Wisconsin Central	Marquette	9	2001
CSX	Saginaw	3	2001
Grand Trunk Western Railroad	Macomb, Oakland	18	2001
Lake State Railway	Alpena	8	2001
Lake State Railway	Presque Isle, Alpena	38	2000
Mid-Michigan Railroad	Kent, Ionia	5	2000
Wisconsin Central	Marquette, Alger	37	1999
Lake State Railway	Alpena	8	1999
Wisconsin Central	Marquette	1	1999
CSX	Midland	2	1999
Union Pacific Railroad	Ada	18	1999
Mid-Michigan Railroad	Kent, Ionia	5	1999
CSX	Saginaw	2	1999
Grand Trunk Western Railroad	Macomb, Oakland	18	1999
Lake Superior & Ishpeming Railroad	Marquette	4	1999
CSX	Muskegon	10	1998
Grand Trunk Western Railroad	Macomb, Oakland	23	1998
Michigan Shore Railroad	Muskegon	3	1997
CSX	Muskegon	4	1997
Total Miles Abandoned/ Discontinued		**411**	

Primary Source: *Surface Transportation Board, Proposed Railroad Abandonments, 1995-2010.*

2.9. Intermodal Facilities and Freight Terminals

The intermodal concept draws from each mode of transportation, providing flexibility and nearly unlimited access to industrial and commercial locations. Rail intermodal shipments are most often used for consumer goods and subassembly components. In the early 2000s, railroad intermodal volume grew at approximately 32 percent. At that time, intermodal was the number one source of railroad freight revenue. Michigan does not have any intermodal rail movements that are completely internal within the state, but there are significant interstate and international intermodal movements. Michigan's intermodal terminals handle traffic that primarily originates/terminates in Ontario, Quebec, Nova Scotia, Maryland, Virginia, Mexico, California and British Columbia.

The world's largest bilateral trade relationship exists between the United States and Canada, with Michigan positioned as a leader in international trade. Michigan is at the head of the continuing strong trade growth between the United States and Canada. Goods and people moving across Michigan's borders significantly impact the economies of Michigan and Ontario, and the economies of the United States, Canada, and other global destinations[51]. Cost-effective, time-sensitive transportation gives a competitive advantage to manufacturing and service-based industries. Freight movement in Michigan's key intermodal transportation corridors is crucial to Michigan's future economic vitality[52].

2.9.1. Existing Rail Intermodal Conditions

The State of Michigan has significant trade volume conducted with surrounding states[53]. As defined by *MDOT's Economic Regions Corridor Summary*, there are six rail intermodal terminals located in the Southeast Michigan region[54]. The purpose of the terminals is to connect larger carriers to other modes of transportation or other rail carriers. The major railroad intermodal terminals in Southeast Michigan and ones serving Michigan are identified below**:**

Table 7: Railroad Intermodal Terminals in Southeast Michigan

Terminal Name	Terminal Address	Terminal Owner
CN /Moterm	600 Fern Street, Ferndale, MI	Canadian National
CP Expressway	12594 Westwood, Detroit, MI	Canadian Pacific
CSX Livernois Yard	2725 Livernois Avenue, Detroit, MI	CSX Corporation
NS Triple Crown	2500 Wabash Street, Melvindale, MI	Norfolk Southern
NS Delray	8501 West Fort Street, Detroit, MI	Norfolk Southern
NS Livernois Yard	2725 Livernois Avenue, Detroit, MI	Norfolk Southern

[51] Michigan DOT, *MI Transportation Plan, 2005-2030. Freight Profile Technical Report.* October 31, 2006.
[52] Michigan DOT, *MI Transportation Plan, Moving Michigan Forward, 2005-2030 State Long Range Transportation Plan,* June 2007.
[53] Michigan DOT, *MI Transportation Plan, Moving Michigan Forward, 2005-2030 State Long Range Transportation Plan,* June 2007.
[54] Michigan DOT, *MI Transportation Plan, 2005-2030, Economic Regions Corridor Summary, Executive Summary Report II.* February 17, 2007.

Seven major equipment depots are located in Michigan. These depots provide inland terminal and cargo transportation services to shipping lines, railroads, and shippers/receivers of containerized cargoes. The depots are strategically located to cover all major port locations and major rail sites. The primary services that are provided to Michigan include intermodal container drayage, terminal and rail operations, warehousing logistics, container/trailer maintenance and repair. The depot names and respective locations are listed in
Table 8.

Table 8: Major Equipment Depots in Michigan

Depot Name	Depot Address
Bridge Terminal Transport	27849 Wick Road, Romulus, MI
C&D	700 Leigh Street, Detroit, MI
Classic Transportation	4729 Division, Wayland, MI
ContainerPort Group Inc	312 South Westend St, Detroit, MI
Mason Dixon Intermodal	4440 Wyoming Ave, Dearborn, MI
Masserlink Brothers Inc.	901 Freeman Ave SW, Grand Rapids, MI
Reliable Transportation Specialists	7100 Dix Avenue, Detroit, MI

2.9.2. Planned Intermodal

Intermodal freight movements, with shipment of containerized goods by water, train and truck are increasing[55]. The USDOT estimates that freight traffic will nearly double in the next 20 years. Growing demand and limited capacity will increase congestion, as well as freight transportation prices, and cause less reliable trip times as freight carriers struggle to meet delivery windows. Over time, these limitations can increase the cost of doing business, increase the cost of living for consumers, and decrease Michigan's productivity and competitiveness[56]. Intermodal freight will continue to grow and will require additional investment in the future, especially in the Detroit area. Detroit is one of the top intermodal markets in the nation. Currently seven intermodal terminals are scattered over many locations in the Detroit Area. The capacity of the intermodal terminals and coordination of rail lines is inadequate within southeast Michigan; therefore, the Detroit Intermodal Freight Terminal (DIFT) Project was proposed as a result of the growing truck-rail intermodal market. The DIFT will expand the capacity of intermodal terminals to accommodate the volumes of traffic expected in 2025. This project provides the enhancement of intermodal operations by the four Class I railroads. See Section 6.2.1 for detailed information regarding the DIFT. Under the plan recommended by DIFT, NS

[55] Michigan DOT, *MI Transportation Plan, Moving Michigan Forward, 2005-2030 State Long Range Transportation Plan*, June 2007.
[56] Cambridge Systematics, Inc. and Battelle Memorial Institute, *An Initial Assessment of Freight Bottlenecks on Highways*, prepared for Office of Transportation Studies, FHWA, October 2005.

intermodal operations would be shifted to the Livernois-Junction Yard. The Preferred Alternative will increase the overall efficiency of rail operations by expanding the NS and CSX intermodal operations at the Livernois-Junction Yard; shifting the NS Triple Crown operations from Melvindale to the Livernois-Junction Yard; and moving the CP Oak intermodal operation to the Livernois-Junction Yard. The inefficiency of having several terminals throughout the metro Detroit area hinders the growth of the freight mode of transportation in Michigan. Consolidation of intermodal facilities would provide the equipment and infrastructure availability needed to remain competitive. Under DIFT CSX, NS and CP would also participate in an external rail improvement program[57].

2.10. International Border Crossings

Figure 3: International Border Crossings

Michigan is a leader in international trade and an essential freight gateway to the United States from Canada. Goods and people moving across Michigan's borders significantly impact the economies of Michigan and Ontario. In the last decade, trade between the United States and Canada has increased over 75 percent, and trade between Michigan and Canada increased 32 percent. The province of Ontario imported nearly 97 percent of Michigan's total exports to Canada in 2002[58].

As identified in the *State Long-Range Transportation Plan*, Michigan has three rail international border crossings. The three rail crossings include a railroad bridge in Sault Ste. Marie and two tunnels, one in Port Huron and one in Detroit[59].

2.10.1. Sault Ste. Marie Rail International Border Crossing: Sault Ste. Marie Railroad Bridge

The Sault Ste. Marie Bridge Company, a subsidiary of CN, operates the railroad bridge spanning the St. Mary's River between Sault Ste. Marie, Michigan and Sault Ste. Marie, Ontario[60].

---

[57] Michigan DOT, *Detroit Intermodal Freight Terminal Project FEIS Summary*, 2008.
[58] Michigan DOT, *MI Transportation Plan, Moving Michigan Forward, 2005-2030 State Long Range Transportation Plan*, June 2007.
[59] Michigan DOT, *MI Transportation Plan, Corridors and International Borders Report.* March 1, 2007.
[60] Michigan DOT, *MI Transportation Plan, Corridors and International Borders Report.* March 1, 2007.

2.10.2. Port Huron International Border Crossing: St. Clair International Rail Tunnel

The St. Clair International Rail Tunnel is owned by CN/GT. The crossing extends across Canadian border in Port Huron to Sarnia, Ontario. The Port Huron Railroad Tunnel was the first rail-port connection in North America, completed in 1891[61]. In 1995 CN completed construction of a new tunnel with an expanded bore diameter of 27 feet, 6 inches that can accommodate all freight cars currently in service in North America, including double-stacked containers.

2.10.3. Detroit River Tunnel

The existing Detroit River Tunnel was constructed during the period 1906-1910 and consists of twin, single-rail track tubes within a steel/concrete box structure. After ownership by various railroads, the tunnel was jointly purchased in 1985 by CN and CP. In the early 1990s, MDOT recognized that the age and physical limitations of the existing tunnel were a bottleneck to international commerce and developed a concept of constructing a new rail tunnel and converting the existing tunnel for truck use. In 1993-1994, CP enlarged one of the twin tubes of the tunnel. In 2001, CN sold its 50% share of the Detroit River Tunnel to Borealis Transportation Infrastructure Trust, an entity controlled by the Ontario Municipal Employees Retirement System (OMERS). CP and Borealis created the Detroit River Tunnel Partnership (DRTP) in 2002. In early 2009, CP sold a portion of its ownership to Borealis. Ownership of the tunnel is currently 83.5% by Borealis and 16.5% by CP.

The DRTP has been exploring options for constructing a new rail tunnel to provide additional rail capacity, particularly for double-stacked containers. The DRTP proposal evolved into a concept that employed an extensive truck-only, dedicated access route extending several miles from the Ontario 401 freeway to the tunnel. Significant local opposition developed within the Windsor community regarding this truck road. The proposal to convert the existing tubes for truck traffic was later dropped and the proposed project consists only of the construction of a new rail tunnel.

In June 2010, it was announced that a new public-private partnership – the Continental Rail Gateway Coalition (CRG) – was created by CP, Borealis Infrastructure, and the Windsor Port Authority. The addition of a local Canadian agency would appear to provide additional support for the project. The Detroit Economic Growth Corporation is reportedly set to join the new partnership. The partners plan "to pursue opportunities for developing, funding and constructing a new rail tunnel" by 2015, and to promote the project with government officials and business leaders.[62]

---

[61] National Park Service, *National Historic Landmark Summary Listing, St. Clair River Tunnel. Web.* http://tps.cr.nps.gov/nhl/detail.cfm?ResourceId=996&ResourceType=Structure

[62] Michigan DOT, *Detroit River Railroad Tunnel Briefing Paper*, December 8, 2010.

2.11. Ongoing Border Crossing Activities

MDOT has demonstrated commitment to its border crossings by investing over the past 10 years close to $1.5 billion in them and the transportation corridors that serve them. Over $1 billion is planned for investments over the next eight years. Current freight planning activities include: monitoring freight issues, legislative and policy development, collection of freight data, development of freight maps, providing technical assistance to local freight carriers/shippers, conducting specialized freight studies, and providing technical assistance and political support for private border crossing projects including the CN St. Clair Tunnel and the CP Detroit River Tunnel.

2.12. Port Access Facilities

Michigan's businesses and industries generate a large volume of overseas trade transported by truck or rail to Pacific, Atlantic, or Gulf coastal ports for ocean shipping. Michigan has 18 port facilities that support outbound commodity movements, lead by Marquette with iron ore. As of 2003, the port facilities that produce the most outbound tonnage, following Marquette, include: Calcite, Stoneport, Port Inland, Escanaba, Alpena, Port Dolomite, Port Drummond, Charlevoix, and Detroit.

According to the *Freight Profile Technical Report*, Michigan's ports handled more than 78 million tons of freight in 2003, valued at more than $5 billion. Approximately 38 million tons was classified as outbound freight. Stone, sand, iron ore and coal accounted for 86 percent of the freight total. Cement, petroleum, and chemicals account for another 12 percent[63]. Coal is the highest volume inbound commodity into Michigan ports, as of 2003, accounting for 36 percent of total inbound movements, approximately 15 million tons. Detroit is the leading destination port by tonnage, accounting for 32 percent of all inbound water movements, followed by Saginaw River with docks in Bay and Saginaw Counties.

In the Upper Peninsula, most of the port facility traffic at Escanaba and Marquette consists of outbound` iron ore pellets mined and processed in the Upper Peninsula and destined for Great Lakes steel mills. Iron ore that is mined in Marquette County is moved by rail from the mine to the ports of Marquette and Escanaba. Almost 7.5 million tons of iron ore are transported to docks in Marquette, which are then transported by water. Over 3.5 million tons of iron ore are transported by rail to Escanaba to be shipped by water to southern Lake Michigan steel industry in neighboring states.

With the exception of these iron ore movements, there are not significant rail-to-water or water-to-rail intermodal cargo transfers at Michigan ports. The principal reason is that Michigan's marine cargo facilities are designed for local or regional distribution and do not lend themselves to rail transport.

[63] Michigan DOT, *MI Transportation Plan, 2005-2030. Freight Profile Technical Report*. October 31, 2006.

3. Freight Rail Traffic

Freight railroads play a key role in Michigan's economy and the trade of goods within the state and between the state and other states and other countries.. The following section utilizes available data, forecasts and other tools to describe Michigan's existing rail system in its economic context. Critical issues addressed in this section include:

- Current Rail Imports, Exports and Michigan's Economic Base
- Economic Value-Chain Dependency on Commodities Shipped by Rail
- Rail-Intensive Locations And Industry Sectors Within Michigan
- Federal Forecasts of Rail Activity
- Effects of Economic Re-Structuring
- Canadian Cross-Border Trade Considerations
- Passenger Rail Utilization
- "Hot Topics" for the current rail plan

Some issues, such as the potential implications of Michigan's economic restructuring and changes occurring in Michigan's trans-border trade with Canada are addressed in conceptual terms, as it is understood that detailed (quantitative) analysis of specific industry sector shifts, changing cost structures and global supply chains are beyond the scope of the current report.

3.1. Current Rail Imports, Exports and Michigan's Economic Base

Michigan is highly dependent on rail transport to affordably access fuels, raw materials and inputs for its economy and to provide connections to markets for the state's manufactured products and raw materials. According to MDOT's analysis, based on a TRANSEARCH data-base, in 2006, Michigan's railroads carried over 110 million tons of freight, accounting for over 25 percent of Michigan's total ground commodity movements. The US DOT Freight Analysis Framework (FAF[3]) valued the freight on Michigan's rail system in 2009 at $40.7 Billion.

Industries such as mining, manufacturing and agriculture account for the top consumers of rail service in the states' economy. Based on the US DOT 2009 Freight Analysis Framework (FAF3) **Table 9** and **Table 10** show the top 10 commodities for Michigan's rail imports and exports, respectively. Overall the commodities moving into and out of Michigan by rail appear consistent with other data sources, as does the concentration of tonnage in the most common commodities.

Table 9: Top Rail Import Commodities to Michigan

Commodity	Tonnage	Share
Coal	24,311,620	54%
Metallic ores	8,206,970	18%
Basic chemicals	4,084,130	9%
Motorized vehicles	2,398,620	5%
Coal-n.e.c.	1,085,240	2%
Base metals	909,490	2%
Wood prods.	518,620	1%
Plastics/rubber	410,450	1%
Newsprint/paper	376,340	1%
Gravel	374,440	1%
All Others	*2,648,490*	*5%*
GRAND TOTAL	**45,324,410**	**100%**

Source: FAF3, USDOT 2009

It is not surprising that Coal accounts for more than half of the rail imports to Michigan, as rail is nationally the mode of choice for coal shipments. The majority (96%) of Michigan's coal is shipped from the top three origins in Wyoming (74%), Kentucky (17%) and Ohio (5%), respectively.

Table 10: Top Rail Export Commodities from Michigan

Commodity	Tonnage	Share
Metallic ores	8,399,990	37%
Basic chemicals	2,759,130	12%
Base metals	2,028,540	9%
Cereal grains	1,685,240	7%
Nonmetal min. prods.	1,367,100	6%
Motorized vehicles	1,207,700	5%
Newsprint/paper	917,410	4%
Coal-n.e.c.	693,560	3%
Other ag prods.	538,270	2%
Plastics/rubber	459,320	2%
All Others	2,417,830	11%
GRAND TOTAL	**23,620,238**	**100%**

Source: FAF3, USDOT 2009

Metallic ores, Basic Chemicals and Cereal Grains are the top rail exports from Michigan (in terms of tonnage), consistent with Primary Metals, Non-metallic minerals and their associated mining and manufacturing sub-sectors as basic to Michigan's economy (as shown in **Table 11**).

Overall, the analysis of Michigan's rail import and export commodities suggests that most of the freight utilization of Michigan's rail system for imports and exports is supporting industry sectors that are either maintaining or declining within the state's economic base. Commodities uniquely central to supplying or marketing products of Michigan's economically targeted and emerging industries (such as Health and Life Sciences, Finance Insurance and Real Estate, Pharmaceuticals and Energy manufacturing) do not currently account for a significant share of Michigan's rail commodity flows.

However, some of Michigan's growing and emergent industries are freight dependent, and jobs are created in Michigan by exports made possible by freight and passenger transportation infrastructure serving these industries. It should be noted, that in service sectors (such as health-care, which is a basic industry to Michigan) an "export" may be a service that is rendered to someone in a market outside of the state. Consequently, an "exported service" may include output where the customer travels to Michigan, or where employees from Michigan travel to the customer. In this way, the accessibility of Michigan's service industry trade centers is economically sensitive to passenger rail service and quality, just as freight accessibility has long been important for manufacturing, mining and agricultural sectors**.** **Table 11** shows some critical statistics for industries that are either within Michigan's economic base (with a location quotient of greater than or equal to one), or that have a sufficient concentration of jobs in Michigan relative to the national averages that marginal increases in concentration may add them to

the state's economic base. also shows Michigan's basic (and "marginal" potential or near-basic) industries, their value of output they export from the state, as well as the approximate number of jobs in Michigan that are attributable to exports transported from the state.

It is important to note that several of the industries that are "marginal" in Michigan's economy (that could develop into, or be lost from Michigan's economic base with a relatively minor shift in employment concentration) are associated with the commodities that move by rail. In particular, chemical manufacturing, paper manufacturing, printing and related support activities, and waste management and remediation are all industries that produce or utilize commodities shown in **Table 11** to be shipped by rail, and with location quotients near one. In these industries, the quality, cost and efficiency of rail service for accessing national markets may contribute to the overall business environment that determines whether the industries can be sustained in the state's economic base.

From the relationship between **Table 11** to **Table 12,** it can be seen that there are other industries (such as primary metal manufacturing and transportation equipment manufacturing) that are securely and significantly within Michigan's economic base and that account for a significant amount of the state's rail exports. For these industries, ongoing efficiency of rail for access to local markets will be an important consideration for maintaining the state's economic base.

Analyzing commodity flows within the context of Michigan's economic base also yields some understanding of the role of rail in supplying commodities for Michigan's business and industry. For example, the utility industry is very basic to Michigan's economy with imports of chemicals, coal and other fuels supporting the industry accounting for a large share of the rail market. Fabricated metal products are another critical element of Michigan's economic base supplied with metallic ores and primary metals imported by rail. Furniture exports are a marginal industry in Michigan, (currently on the borderline of the economic base), and may be reliant on imports of lumber and wood which account for a significant share (3%) of rail imports to the state (the remainder is likely to be shipped by water, however rail accessibility could contribute to this sector in some cases).

Table 11: Michigan Basic and Near-Basic Industries

Basic Vs. Non Basic (From LQ)	Industry	Relative Industry Concentration (LQ)	Net Outflow ($mil)	Total Jobs Supported by Net Exports
Basic Industries	Transportation Equipment	4.42	36,673.8	219,725
	Plastics & Rubber Products	1.60	706.1	5,723
	Fabricated Metal Products	1.56	1,434.2	12,024
	Primary Metal Manufacturing	1.55	-3,652.9	0
	Machinery Manufacturing	1.42	428.1	3,645
	Religious, Civic, Professional, Organizations	1.31	2,277.0	44,951
	Leather & Allied Products	1.30	-1352.3	0
	Utilities	1.17	570.7	2,158
	Miscellaneous Manufacturing	1.16	-1,643.5	0
	Health Care & Social Services	1.10	8,840.0	163,328
	Nonmetallic Mineral Products	1.07	-637.3	0
	Electric Equipment, Appliances, etc.	1.05	-1,314.6	0
	Real Estate	1.04	5,775.0	23,042
	Administrative & Support Services	1.00	1758.1	43,910
	Paper Manufacturing	1.00	-355.7	0
	Waste Management & Remediation	1.00	96.6	1,087
Marginal Industries	Furniture & Related Products	0.97	-1,393.8	0
	Professional Scientific, Technical, Services	0.97	3,343.2	45,131
	Amusement & Recreation	0.94	234.0	4,202
	Wholesale Trade	0.94	-2,050.7	0
	Retail Trade	0.93	-1,190.0	0
	Repair, Maintenance, & Personal Services	0.91	-646.0	0
	Chemical Manufacturing	0.90	-5,163.4	0
	Printing & Related Support Activities	0.90	-140.1	0

Source: EDRG TREDIS System (From FAF and vectors from Michigan Implan Group); 2010

3.2. Economic Value-Chain Dependency on Commodities Shipped by Rail

In addition to supporting Michigan's economic base, the rail transportation system supports earnings, output, and employment to many sectors of the state's economy. **Table 12**, **Table 13** and **Table 14** show the overall national earnings, output and employment that is directly supported by commodities shipped by rail into, out of and within Michigan, respectively (based on input-output parameters from the Minnesota IMPLAN (IMpact Analysis for PLANning) Group). For each type of movement, the top ten industries are described (based on the number of industry jobs are associated with rail commodity flows). The numbers given reflect the estimated total annual dollars of output, value added or personal income that are enabled by rail flows and total number of jobs that are associated with rail-dependent production. The percentages give an

indication of what share of overall earnings, output or employment for a given industry is associated with rail movements as a percentage of all transportation-dependent activity in the sector. (What percentage of activity in each industry 'touches' the rail system in some way).

Table 12: Rail Import Dependency for Michigan Industries

Top 10 Job-Creating Rail Imports to Michigan (Output, Value Added, Employment and Income Attributable to Rail, and Rail Share of Overall)					
NAICS	**Industry Description**	**(Output Share Using Rail-Shipped Commodities)**	**(Val-Added Share Using Rail-Shipped Inputs)**	**(Share of Jobs Using Rail-Shipped Commodities)**	**(Share of Income using Rail-Shipped Commodities)**
336	Transportation Equipment	$52,671	$11,222	82,444	$9,199
		64%	*64%*	*64%*	*64%*
920	Government & non NAICs	$3,713	$3,419	49,965	$3,019
		18%	*18%*	*18%*	*18%*
561	Administrative & Support Services	$1,214	$841	22,165	$693
		31%	*31%*	*31%*	*31%*
230	Construction	2,918.20	1,181.40	22,105	1,078.10
		17%	*17%*	*17%*	*17%*
481-487	Transportation	$2,950	$1,510	18,451	$1,089
		42%	*42%*	*42%*	*42%*
811-812	Repair, Maintenance, & Personal Services	$1,447	$856	17,550	$503
		40%	*40%*	*40%*	*40%*
441-454	Retail Trade	$1,037	$707	16,319	$444
		30%	*30%*	*30%*	*30%*
621-624	Health Care & Social Services	$1,201	$734	13,950	$639
		10%	*10%*	*10%*	*10%*
721-722	Accommodations, Eating & Drinking	$425	$210	7,917	$137
		7%	*7%*	*7%*	*7%*
333	Machinery Manufacturing	$2,287	$767	7,778	$605
		20%	*20%*	*20%*	*20%*
	All Others	$16,108	$6,578	54,445	$3,604
		15%	*13%*	*13%*	*13%*
	Total	**$85,971**	**$28,025**	**313,088**	**$21,010**
		31%	***25%***	***23%***	***26%***

Source: TREDIS - 2010

The findings show that a large share (64%) of jobs in transportation equipment manufacturing involve commodities brought into the state by rail, making this highly basic industry sector also one of Michigan's most rail dependent. Furthermore, 30% of the jobs in transportation equipment manufacturing also involve commodities exported to downstream markets by rail – making this also the largest industry sector dependent on rail exports as well.

A further analysis of the role of rail imports in Michigan's economy shows that over 313,000 of Michigan's jobs are in value chains relying on commodities imported to the state by rail, with the majority of the jobs (over 42%) in the service sectors. This points to the importance of rail (and rail freight in particular) for non-manufacturing sectors of the economy. For example, 40% of Michigan's jobs in maintenance, repair and personal services are reliant on inputs that enter the state by rail, and 30% of retail trade employment involves goods brought into the state by rail.

An analysis of Michigan's rail exports (**Table 13**) shows that employment in most of Michigan's basic industries (as shown in **Table 11** as well) involves significant jobs associated with commodities shipped out of the state by rail, with a total of approximately 84,417 jobs in some way involving commodities exported by rail. It is especially important to note that in Machinery and Chemical Manufacturing (both emerging knowledge-intensive manufacturing sectors in Michigan's economy); a rail activity is associated with a significant share of transportation dependent jobs.

While according to the TREDIS (TRansportation Economic Development Impact System[64]) analysis, the actual tonnage of commodities entering and leaving Michigan by rail accounts for only 9% of commodities on Michigan's overall transportation system (which is less than the 10.7% moved by rail for the nation according to FAF[3], 2010); the above analysis shows how, in value-chain terms, a significant amount of employment and value-added activity involves work and services performed with these goods. In addition to the above commodity value-chain analysis, this *Existing Conditions Report's* section on passenger rail utilization explores the degree to which Michigan's labor and consumer markets are also dependent on freight for workforce accessibility and the accessibility of consumer markets in some of Michigan's trade centers.

[64] TREDIS Consulting Group; Division of Economic Development Research Group, Inc. *Web:* http://www.tredis.com

Table 13: Rail Export Dependency for Michigan Industries

Top 10 Job-Creating Rail Exports from Michigan (Output, Value Added, Employment and Income Attributable to Rail, and Rail Share of Overall)					
NAICS	**Industry Description**	**$ and % of Output Using Rail-Transported Commodities**	**$ and % of Val-Added Using Rail-Transported Commodities**	**# and % of Jobs Using Rail-Transported Commodities**	**$ and % of Personal Income from activities using Rail-Transported Commodities**
336	Transportation Equipment	$36,451	$7,766	57,056	$6,366
		30%	*30%*	*30%*	*30%*
333	Machinery Manufacturing	$2,133	$715	7,254	$564
		10%	*10%*	*10%*	*10%*
212-213	Mining & Support Activities	$1,729	$904	4,476	$394
		67%	*67%*	*67%*	*67%*
325	Chemical Manufacturing	3,041.30	716.40	2,965	340.70
		15%	*15%*	*15%*	*15%*
332	Fabricated Metal Products	$636	$245	2,598	$158
		4%	*4%*	*4%*	*4%*
322	Paper Manufacturing	$1,206	$275	2,361	$194
		23%	*23%*	*23%*	*23%*
326	Plastics & Rubber Products	$518	$186	1,919	$117
		9%	*9%*	*9%*	*9%*
331	Primary Metal Manufacturing	$824	$175	1,283	$124
		7%	*7%*	*7%*	*7%*
311	Food Products	$577	$116	1,041	$60
		5%	*5%*	*5%*	*5%*
111	Crop Production	$89	$46	983	$15
		3%	*3%*	*3%*	*3%*
	All Others	$1,702	$612	2,482	$334
		3%	*1%*	*0%*	*1%*
	Total	**$48,908**	**$11,757**	**84,417**	**$8,667**
		17%	***15%***	***13%***	***16%***

Table 14: Rail Internal Dependency for Michigan Industries

Top 10 Job-Creating Rail Exports from Michigan (Output, Value Added, Employment and Income Attributable to Rail, and Rail Share of Overall)					
NAICS	**Industry Description**	**$ and % of Output Using Rail-Transported Commodities**	**$ and % of Val-Added Using Rail-Transported Commodities**	**# and % of Jobs Using Rail-Transported Commodities**	**$ and % of Personal Income from activities using Rail-Transported Commodities**
920	Government & non NAICs	$336	$310	4,526	$273
		4%	*4%*	*4%*	*4%*
212-213	Mining & Support Activities	$329	$172	852	$75
		5%	*5%*	*5%*	*5%*
230	Construction	$49	$20	371	$18
		1%	*1%*	*1%*	*1%*
331	Primary Metal Manufacturing	122.70	26.00	191.10	18.50
		4%	*4%*	*4%*	*4%*
327	Nonmetallic Mineral Products	$58	$24	173	$14
		3%	*3%*	*3%*	*3%*
221	Utilities	$136	$93	161	$27
		3%	*3%*	*3%*	*3%*
336	Transportation Equipment	$69	$15	108	$12
		0%	*0%*	*0%*	*0%*
621-624	Health Care & Social Services	$6	$4	71	$3
		0%	*0%*	*0%*	*0%*
322	Paper Manufacturing	$25	$6	50	$4
		2%	*2%*	*2%*	*2%*
111	Crop Production	$4	$2	44	$1
		0%	*0%*	*0%*	*0%*
	All Others	$103	$45	415	$23
		0%	*0%*	*0%*	*0%*
	Total	**$1,239**	**$716**	**6,961**	**$468**
		1%	***2%***	***1%***	***2%***

Further examination of the latest data set provides some additional high-level detail regarding which of Michigan's counties are shown in the data to have the highest concentrations of imports and exports. **Table 15** and **Table 16** show the top ten rail importing and exporting counties in Michigan, their share of Michigan's rail exports, as well as their share of Michigan's overall employment (in the data year) as well as those rail lines serving these counties.

Table 15: Top 10 Rail Import Counties in Michigan

Destination	Rail Tonnage	Share of Michigan's Rail Imports	Employment	Employment Share	Major Rail Lines
Wayne County	13,606,011	36%	935,377	17%	**CSX, CR, NS, CN**
Monroe County	9,820,784	26%	57,320	1%	All Class I Railroads
Ottawa County	4,121,520	11%	139,203	3%	**CSX** & GRE
Ingham County	3,074,044	8%	207,555	4%	**CN, CSX** & GDLK
Delta County	947,036	2%	19,602	0%	**CN**
St. Clair County	897,985	2%	68,503	1%	**CSX** & **CN**
Bay County	601,060	2%	48,747	1%	LS, HE & SBS
Kent County	453,132	1%	418,947	8%	**CSX, GDLK** & GR
Oakland County	421,036	1%	905,470	17%	**CN** & **CSX**
Kalamazoo County	416,416	1%	151,193	3%	**CN & GDLK**
All Others	*3,962,372*	*10%*	*2,411,107*	*45%*	*Various*
GRAND TOTAL	**38,321,396**	**100%**	**5,363,024**	**100%**	

Source: 2007 STB Waybill Data

In **Table 15** it is notable that in some counties (including Wayne, Monroe, Ottawa, Ingham, St. Clair and Bay Counties) the concentration of rail imports are disproportionately higher than the concentration of population, suggesting that the economic base in these locations are likely to be more dependent on inputs supplied by available rail lines. Performance issues (and projects remedying existing or potential performance barriers) affecting rail access or capacity in these five counties are likely to have a disproportionate local effect on rail-consuming industries in these counties (such as transportation equipment manufacturing, construction, transportation, retail trade and others shown in **Table 12**).

Table 16: Top 10 Rail Export Counties in Michigan

Origin	Tonnage	Share	Employment	Employment Share	Major Rail Lines
Wayne County	10,805,498	46%	935,377	17%	**CSX**, **CR**, **NS**, **CN**
Marquette County	1,352,076	6%	36,356	1%	**CN** & LSS
Oakland County	1,034,076	4%	905,470	17%	**CN** & **CSX**
Dickinson County	614,800	3%	17,413	0%	ELS
Macomb County	592,688	3%	391,324	7%	**CN**, **CR**
Eaton County	575,068	2%	46,726	1%	**CSX**, **CN**, CHS
Genesee County	556,716	2%	199,091	4%	**CSX**, **CN**, SBS, HE
Saginaw County	553,418	2%	107,030	2%	SBS, GLC, HE
Kent County	529,688	2%	418,947	8%	**CSX,** GDLK & GR
Delta County	469,880	2%	19,602	0%	**CN**
All Others	*6,536,330*	*28%*	*2,285,688*	*43%*	*Various*
GRAND TOTAL	**23,620,238**	**100%**	**5,363,024**	**100%**	

Source: 2007 STB Waybill Data

Table 16 shows that Wayne, Marquette, Eaton and Saginaw counties have concentrations of rail exports that are disproportionate in relation to other major rail exporting counties in Michigan. As with imports, it is likely that existing or anticipated rail performance or capacity issues affecting accessibility of these locations have the potential to affect Michigan's economy with respect to transportation equipment manufacturing, machinery manufacturing, mining and support, chemical manufacturing, fabricated metal products and other the rail export-dependent sectors shown in **Table 13**. These exports continue to support a viable industry in the state, as the industry has continued to invest in iron-ore mining facilities (for example the 2008 Cleveland-Cliff Inc. investment in the Upper Peninsula in 2008).

3.3. Michigan's Rail Intensive Locations and Trading Relationships

Table 17 and **Table 18** further explore critical trading relationships visible in Michigan's latest analysis of the 2007 STB Waybill data.

Table 17: Top 10 Origins of Michigan Rail Imports

Origin	Total Tons Imported	% of Tons Imported	Most Common Import from This Location
Illinois	12,730,898	33%	Coal (78%)
Kentucky	5,597,557	15%	Coal (73%)
Wyoming	4,027,792	11%	Coal (96%)
West Virginia	2,152,566	6%	Coal (68%)
Ontario	2,150,084	6%	Transportation Equipment (39%)
Pennsylvania	1,673,215	4%	Coal (40%)
Ohio	1,240,380	3%	Primary Metal Products (70%)
Quebec	1,232,400	3%	Freight All Kinds (44%)
Indiana	1,127,748	3%	Primary Metal Products (83%)
Georgia	737,080	2%	Clay, Concrete, Glass or Stone (45%)
All Others	5,651,676	15%	(Various)
Grand Total	**38,321,396**	**100%**	

Source: 2007 STB Waybill Data

Table 17 shows the top 10 origins of rail imports, and describes the primary commodity imported from each location (with the percentage of imports from each origin accounted for by the primary commodity shown in parenthesis). The analysis points to the significance of coal from Illinois, Kentucky, Wyoming and West Virginia among Michigan's imports, with coal as the dominant import from Michigan's top four import partners, accounting for more than 50% of the tonnage from each of these locations. Transportation equipment imports from Ontario also point to the importance of parts and components imported trans-border to support Michigan's complex transportation equipment value-chains. Primary metal products from Ohio and Indiana as well as clay, concrete glass and stone products from Georgia also account for significant imports supporting Michigan's economy.

Table 18 shows the top 10 destinations of Michigan's rail exports. The table points to the significance of rail in transporting Michigan's transportation equipment to markets in Illinois and Missouri (top export destinations for which transportation equipment represents 65% and 87% of export tonnage to these destinations, respectively). The table also shows the role of rail in transporting waste and scrap materials out of Michigan to locations in Indiana and Pennsylvania.

Table 18: Top 10 Destinations of Michigan Rail Exports

Origin	Total Tons Exported	Share of Tons Exported	Most Common Export to This Location
Illinois	3,786,248	16%	Transportation Equipment (65%)
Indiana	2,696,688	11%	Waste or Scrap Materials (45%)
Ohio	2,317,268	10%	Empty Containers (18%)
Ontario	2,025,332	9%	Metallic Ores (59%)
Missouri	1,527,040	6%	Transportation Equipment (87%)
North Carolina	1,262,178	5%	Farm Products (88%)
Wisconsin	1,247,640	5%	Lumber or Wood Products (43%)
Virginia	925,203	4%	Farm Products (41%)
Pennsylvania	860,936	4%	Waste or Scrap Materials (28%)
Georgia	841,993	4%	Farm Products (48%)
All Others	6,129,712	26%	(Various)
Grand Total	**23,620,238**	**100%**	

Source: 2007 STB Waybill Data

3.4. Previous Forecasts of Rail Flows (FAF^3)

The Federal Highway Administration Freight Analysis Framework (FAF) was last fully updated in 2010 (FAF^3) with forecasts of commodity flows for Michigan rail imports and exports from 2007 to 2040. The new FAF estimates are based on 2009 data and reflect different conditions related to the current economic re-structuring (as described in the subsequent section of this Existing Conditions Report on economic re-structuring). **Table 19** and **Table 20** summarize the significant shifts in Michigan imports and exports anticipated by FAF^3. The tables show the five Michigan rail export and import commodities forecast to experience the largest growth in tonnage from 2007 to 2040 by FAF^3. These forecasts provide context for understanding the changing role of rail freight in Michigan's economy, and will be interpreted critically in the subsequent section with regard to Michigan's economic restructuring.

FAF^3 anticipates an increase in just over 1.8 Million tons of additional rail imports to Michigan in 2040 from 2007, as shown in **Table 19**. This represents a compounded annual increase in Michigan's rail imports of approximately .13%. Commodities likely to experience the greatest rate of increase among Michigan's rail imports are Pharmaceuticals, Agricultural products, Precision Instruments, Furniture and Electronics. While the tonnages of these increases are modest, the rate of increase indicates the changing uses and significance of Michigan's rail network. Anticipated declines in rail

imports are expected to be in Coal related products (non-fuel), Gravel, Fertilizers, Fuel Oils and Waste/Scrap materials.

Table 19: FAF^3: Imports to Michigan by Commodity Group (2007-2040) -- Domestic and International Combined

Top Increasing/Declining Flows	Commodity	Net Change in Tonnage (2007-2040)	% Change Compound Annual Growth Rate (2007-2040)
Top 5 Increasing Commodity Flows	Pharmaceuticals	0	5.58%
	Other ag prods.	86	4.97%
	Precision instruments	7	3.97%
	Furniture	56	3.83%
	Electronics	61	3.56%
5 Most Decreasing Commodity Flows	Coal-n.e.c.	-749	-2.27%
	Gravel	-153	-2.49%
	Fertilizers	-382	-2.51%
	Fuel oils	-43	-6.03%
	Waste/scrap	-58	-8.85%
Other Flows	*All Other Commodities*	3,062	0.21%
Total Forecast Change	**All Commodities**	**1,886**	**0.13%**

Source: Freight Analysis Framework, FHWA 2010

As shown in **Table 20** FAF^3 anticipates a significant rate of increase in rail exports of meat & seafood, pharmaceuticals, waste & scrap material, paper articles and fuel oils by rail. Of these rapidly increasing commodities, only waste and scrap and paper articles account for significant tonnage in the 2007-2040 period. It is important to note the significant increase in both the forecast for pharmaceutical imports and exports to Michigan, reflecting the rise of activity in health care and social services, as well as chemical manufacturing as described in the location quotient/economic base analysis given in **Table 11**. Anticipated declines in rail exports of motorized vehicles and metallic ores further point to changes in Michigan's economy. While rail imports are forecast to increase only modestly, rail exports are anticipated to increase by over 23 Million tons (an annual increase of 2.51%).

Table 20: FAF[3]: Exports from Michigan by Commodity Group (2007-2040) -- Domestic and International Combined

Top Increasing/Declining Flows	Commodity	Net Change in Tonnage (2007-2040)	% Change Compound Annual Growth Rate (2007-2040)
Top 5 Increasing Flows (2007-2040)	Meat/seafood	3	8.66%
	Pharmaceuticals	15	8.56%
	Waste/scrap	1,628	6.53%
	Gravel	0.1	6.50%
	Paper articles	272	6.44%
Declining Flows	Motorized vehicles	-299	-0.36%
	Crude petroleum	-.4	-0.82%
	Metallic ores	-921	-1.03%
Other Flows	All Other Commodities	22,872	3.21%
Total Forecast Change	**All Commodities**	**23,569**	**2.51%**

Source: Freight Analysis Framework, FHWA 2010

The 2010 FAF also points to specific trading partners with whom Michigan is expected to increase its overall trade between 2007 and 2040. **Table 21** and **Table 22** show the five rail trading partners that Michigan is expected to experience the greatest change in its imports and exports (respectively) to the year 2040.

Table 21: FAF[3]: Imports to Michigan by Origin (2007-2040) – Domestic and International Combined

Top Increasing/Declining Flows	Origin	Net Change in Tonnage (2007-2040)	% Change Compound Annual Growth Rate (2007-2040)
Top 5 Increasing Flows	SE Asia & Oceania	25	2.75%
	Montana	18	2.63%
	Africa	**1**	2.61%
	Tennessee	3	2.59%
	Rest of Americas	142	2.52%
5 Most Decreasing Flows	Maine	-16	-3.62%
	Connecticut	0	-4.11%
	Kentucky	-4225	-7.65%
	Massachusetts	-57	-9.96%
	New Jersey	-155	-11.94%
Other Flows	All Other Commodities	6,151	0.44%
Total Forecast Change	**All Commodities**	**1,886**	**0.13%**

Source: Freight Analysis Framework, FHWA 2010

As shown in **Table 21**, the 2010 FAF anticipates increases in rail imports to Michigan from Southeast Asia and Oceana and Africa. Michigan's rail imports originating in Southeast Asia and Oceana are forecast to arrive largely (48%) in Michigan ports, where they access the rail system. Significant shares of Michigan's Southeast Asia/Oceana imports are also anticipated to enter Michigan by rail after arriving by water at ports in Texas (15%) and Louisiana (23%) as well. Michigan's growing imports from Africa are expected to enter primarily through seaports in New Jersey (72%) where transferring to rail modes to access Michigan, with another 18% of anticipated Africa imports utilizing Michigan's rail system arriving by water directly at a Michigan port before being drayed to destinations within the state. Imports from elsewhere in North and South America (beyond Canada and Mexico) are also anticipated to increase at a significant rate, with the largest share of these imports (46%) arriving by water at Louisiana ports and another 31% arriving by water at Texas ports, and 13% arriving by water at Alabama ports before accessing Michigan by rail. The fact that the rates of increase in Michigan's rail imports are from international origins in countries beyond Canada and Mexico points to the growing significance of Michigan's dependence on the global economy as well as the importance of rail connections to seaports beyond Michigan's borders.

Significant rates of increase in rail exports to Montana and Tennessee also are among the imports expected to grow at the fastest rates. Rail exports to Maine, Connecticut, Kentucky, Massachusetts and New Jersey are expected to have some of the highest rates of decline from 2007 to 2040.

As shown in **Table 22**, The 2010 FAF anticipates increases in rail exports from Michigan to New Hampshire, Vermont, Idaho, Eastern Asia and Iowa. The anticipated 2040 rail exports destined for East Asia are expected to enter the US at seaports in California (42%) and Washington State (35%). Rail exports to Massachusetts, Nevada, Colorado, Oklahoma and Connecticut are expected to decline from 2007 to 2040.

Table 22: FAF[3]: Exports From Michigan by Destination (2007-2040) – Domestic and International Combined

Top Increasing/Declining Flows	Destination	Net Change in Tonnage (2007-2040)	% Change Compound Annual Growth Rate (2007-2040)
Top 5 Increasing Flows	New Hampshire	119	8.08%
	Vermont	69	8.00%
	Idaho	46	6.34%
	Eastern Asia	421	6.30%
	Iowa	239	5.50%
5 Most Decreasing Flows	Massachusetts	-11	-0.29%
	Nevada	0	-0.29%
	Colorado	-7	-0.86%
	Oklahoma	-4	-1.43%
	Connecticut	-4	-2.10%
Other Flows	*All Other Commodities*	*22,689*	*2.47%*
Total Forecast Change	**All Commodities**	**23,569**	**2.51%**

Source: Freight Analysis Framework, FHWA 2010

These forecasts anticipate changes in global, national and state economic factors significantly affecting Michigan's outlook. Michigan's economic re-structuring is likely to have profound impacts on the role of the rail system for both imports and exports to and from Michigan to 2040 and beyond. The following discussion addresses how Michigan's economic restructuring may affect issues pertinent to the current rail plan. While the new FAF[3] forecasts above go all the way to 2040, other sources used give estimated economic changes to 2035, illustrating many of the same general trends that are reflected in the latest FAF estimates.

Table 23: Employment Trend and Forecast for Michigan Industries

Michigan Industries	Industry Sector	2001 Employment	2010 Employment (Estimated)	Historic Growth Rate (Compound Annual)	2035 Employment (Estimated)	Projected Growth Rate (Compound Annual)
Growth Sectors	Administration, Waste Services	322,152	373,837	1.67%	481,004	**1.01%**
	Arts, Entertainment, Recreation	100,369	109,841	1.01%	140,793	**1.00%**
	Health Care, Social Asst	551,775	654,771	1.92%	837,485	**0.99%**
	Professional, Tech Services	366,306	382,234	0.47%	487,147	**0.97%**
	Services	2,118,461	2,351,744	1.17%	2,897,500	**0.84%**
	Accommodations, Food Services	350,383	373,670	0.72%	459,591	**0.83%**
	Educational Services	73,183	95,663	3.02%	111,458	**0.61%**
	Construction	304,276	265,742	-1.49%	292,467	**0.38%**
	Private Non-Farm	4,767,485	4,725,865	-0.10%	5,120,262	**0.32%**
	Finance, Insurance	207,866	222,122	0.74%	237,009	**0.26%**
	Financial Activities	375,624	426,361	1.42%	451,206	**0.23%**
	Other Services	285,445	295,800	0.40%	311,962	**0.21%**
	Real Estate, Rental, Leasing	167,758	204,239	2.21%	214,197	**0.19%**
	Wholesale Trade	196,162	193,530	-0.15%	200,582	**0.14%**
	Mngmt of Comp, Enter	68,848	65,929	-0.48%	68,060	**0.13%**
	Transportation, Warehousing	134,666	133,933	-0.06%	137,268	**0.10%**
Other Sectors	State Government	173,392	163,089	-0.68%	161,424	-0.04%
	Local Government	449,454	423,866	-0.65%	414,576	-0.09%
	Government	699,496	660,600	-0.63%	645,308	-0.09%
	Trade, Transp. & Utilities	1,007,145	947,076	-0.68%	906,543	-0.17%
	Federal Civilian	54,628	53,664	-0.20%	51,168	-0.19%
	Information	87,123	79,372	-1.03%	74,613	-0.25%
	Forestry, Fishing, Other Nat Res	16,835	15,955	-0.59%	14,918	-0.27%
	Retail Trade	654,619	598,367	-0.99%	551,416	-0.33%
	Federal Military	22,022	19,980	-1.08%	18,140	-0.39%
	Natural Resources, Mining	31,113	29,048	-0.76%	25,823	-0.47%
	Mining	14,278	13,093	-0.96%	10,904	-0.73%
	Utilities	21,698	21,245	-0.23%	17,277	-0.82%
	Manufacturing	843,743	626,522	-3.25%	472,110	-1.13%
	Farm	72,906	66,605	-1.00%	46,670	-1.41%
	Total Employment	**5,539,887**	**5,453,071**	**-0.18%**	**5,812,239**	**0.26%**

Source: Fulton & Grimes (2008)

3.5. Michigan's Economic Restructuring

Overall Michigan's economy is changing into a more knowledge-based, service-based and highly technical manufacturing economy. Michigan's official 2008 forecasts recognize the potential decline in employment in some of Michigan's current core industries to 2035, and anticipated a different growth trend than was assumed by the last FAF forecast in 2003. Michigan's economic restructuring is expected to affect both the commodities moved on Michigan's rail system as well as the locations to and from which commodities are exchanged by rail in and out of Michigan. **Table 23** summarizes the Fulton & Grimes (2008) projections for changes in Michigan's statewide employment by industry from 2010 to 2035.

All the growth sectors Michigan's economy forecast to grow at the fastest rate to 2035 are service sectors and other non-manufacturing sectors. This highlights the importance of the value-chain inputs to service sectors of the economy described in Section 3.2 and **Table 12** of this Report. Growth sectors such as Health Care, Government, Transportation, Construction, Recreation (or Arts & Entertainment) and technical/ professional services are also sectors that depend on a complex mix of inputs, often including commodities imported to Michigan by rail.

While manufacturing, mining, agriculture, forestry and other rail-export intensive sectors are not forecasted to grow statewide in their share of state employment, it is likely that in exports supporting the remaining employment in these industries will be concentrated at select trade centers. For this reason, one key focus of the current rail plan entails identifying the critical needs of rail export trade centers for these industries that will be critical to support these sectors.

Table 24 and **Table 25** summarize the 2008 Fulton & Grimes projections for the counties that were found to have the highest 2006 concentrations of rail imports and exports to and from Michigan (respectively) in the MDOT commodity flow analysis (2007). The analysis begins with the 2001 estimates and summarizes estimated changes to 2010, and forecast changes in employment to 2035.

Table 24: Employment Forecast from top Rail-Importing Counties

County	2001 Employment	2010 Employment (Estimated)	Historic Growth Rate (Compound)	2035 Employment (Estimated)	Projected Growth Rate (Compound)
Wayne	1,022,755	938,133	-0.96%	946,845	0.04%
Monroe	58,746	58,719	-0.01%	60,781	0.14%
Ottawa	142,427	142,095	-0.03%	158,456	0.44%
Ingham	209,979	206,304	-0.20%	214,874	0.16%
Delta	20,170	20,784	0.33%	21,397	0.12%
St. Clair	66,227	68,261	0.34%	76,791	0.47%
Bay	52,079	50,572	-0.33%	52,187	0.13%
Kent	412,376	428,101	0.42%	484,052	0.49%
Oakland	946,069	923,261	-0.27%	1,032,707	0.45%
Kalamazoo	149,148	152,776	0.27%	159,752	0.18%

Source: Fulton & Grimes (2008)

The analysis shows that in the current economic downturn, employment has declined from 2001 to 2006 in six of the top 10 rail importing counties of the state, but has increased moderately in Delta, St. Clair, Kent and Kalamazoo counties. Furthermore, the analysis shows that for each of the rail-importing counties, employment growth is expected to rebound from 2010 to 2035, generally at rates greater than observed during the current downturn. The exception is Delta and Kalamazoo counties, where the forecast suggests employment growth may slow in the 2010-2035 period.

Table 25: Employment Forecast from top Rail-Exporting Counties

County	2001 Employment	2010 Employment (Estimated)	Historic Growth Rate (Compound Annual)	2035 Employment (Estimated)	Projected Growth Rate (Compound Annual)
Wayne	1,022,755	938,133	-0.96%	946,845	0.04%
Marquette	15,497	15,539	0.03%	15,771	0.06%
Oakland	946,069	923,261	-0.27%	1,032,707	0.45%
Dickinson	17,727	17,890	0.10%	18,358	0.10%
Macomb	404,695	404,942	0.01%	424,536	0.19%
Eaton	43,662	44,836	0.30%	49,559	0.40%
Genesee	211,970	197,763	-0.77%	196,015	-0.04%
Saginaw	116,480	112,052	-0.43%	112,349	0.01%
Kent	412,376	428,101	0.42%	484,052	0.49%
Delta	20,170	20,784	0.33%	21,397	0.12%

Source: Fulton & Grimes (2008)

Employment in the rail-exporting counties has also declined in the current economic downturn, with four of the top ten rail exporting counties showing declines in employment from 2001-2010. However, some counties (most notably Dickinson, Eaton, Kent and Delta) have maintained a level of growth in employment exceeding .09%. With the exception of Genesee County, each of the top ten rail exporting counties is expected to recover and show employment growth by 2035. It should be noted that the median annual growth rate for the top ten exporting counties is forecast to be .11% in comparison to .17% for the top ten rail importing counties, further highlighting the anticipated re-alignment in Michigan's economy to industries and locations dependent on using rail imports to provide services, with slower growth in those areas where the economic base is reliant on exporting products by rail.

The available forecasts (both FAF and the Fulton & Grimes 2008 employment forecast) provide some context for understanding the economic shift occurring in Michigan's overall need for rail transportation. The following analysis explores some conceptual issues beyond those apparent from data alone, which are important for understanding the implications of Michigan's existing conditions and trends.

3.5.1. Strategic Aspects of Re-Structuring

An examination of future business growth for southeast Michigan (UM, 2007) places emphasis on *knowledge-driven industries* (engineering/architecture, finance, information services) and *health-care services* as a potential replacement for the jobs lost through the automobile manufacturing shakeout. A similar recommendation was made for the state's economy. It is important to caveat that growth vis a vis *knowledge-driven economic activity* does not preclude manufacturing facilities.

Michigan's Economic Development Corporation is targeting firms in *alternative energy* (development or components manufacturing), *life sciences*, *Homeland Security & Defense*, and *advanced manufacturing.* Five Michigan companies (four are new, one is re-tooled and re-positioning itself) have been singled out for their growth performance and they span a diverse set of activities and locations: 2 (in Lansing, and Allegan) in *pharmaceutical manufacturing*, 1 in finance, 1 in energy distribution and 1 in communications (all in southeast Michigan) (see *"100 Fastest growing Companies",* Fortune Magazine, Sept. 2010).

An examination of *success stories* both on the MEDC web-site as well as the WE Upjohn Institute for Employment Research (see W Michigan *Business Outlook*, June 2010) demonstrates how new firms are viewing the Michigan economy as a place to locate/expand business:

- *Axio Bionics* of Scio Township (biomedical, Ann Arbor area)
- *ADCO Global Inc.*, Jackson County (re-positioning to enter solar panel market, Lansing area)
- *Materialize*, Plymouth Township (expansion into diagnostic software development, Detroit area, BELG owned)
- *Electric Vehicle power train facility* (will locate in Ann Arbor area)
- *Clairvoyant Energy* and *Xtreme Power*, city of Wixom (solar panel manufacturing)
- *Integrated Fabric Resource* of Holland Charter Township (branching into flexi-tanks for shipping bulk liquids)
- *ENergetx* of Holland (utility scale wind turbine blade manufacturing & other composite parts)
- *FAB Masters* of Marcellus (custom aluminum machining & fabricated parts, Kalamazoo area)
- *ConAgra* (expansion of food processor, Grand Rapids area)
- *Toda America* in Battle Creek (new facility for advanced battery manufacturing, JAPN owned)
- *Fortu PowerCell Inc.* of Muskegon Township (new facility for advanced battery manufacturing, GER owned)
- *Cobalt Holdings* of Sturgis (new facility for rubber products manufacturing, St. Joseph County)

3.5.2. Implications of Re-structuring for major commodities, trade centers and industries

There is no paradox in two statements –

- "*the trend for U.S. manufacturing has been declining over the past 25-30 years"* and
- *"Though employing fewer than in the past, manufacturing industries will remain an important component to the structure of select regional economies"*.

The trend of reducing size but ongoing (and increasing) strategic significance of manufacturing sectors is relevant to any discussion of the Midwestern/Great Lakes region states. Manufacturing activities typically imbue a desirable export base component to an economy (as described for Michigan in Sections I and II of this *Existing Conditions Report*). A recent study (Brookings, July 2010) of future economic opportunities for the Great Lakes states emphasizes that metro-areas will need to enhance their export growth. Those customers of Michigan *goods & services* are expected to come from the emerging markets of Brazil, India and China. Though U.S. *goods exports* represent a declining share of global goods exports, the emphasis on niche manufacturing products is expected to remain and grow in importance.

Service sector exports are an area of global trade where the U.S. stills exerts its primacy, accounting for 13.8% of global commercial services exports. Two Michigan metro-areas, *Detroit-Warren-Livonia* and *Grand-Rapids-Wyoming* rank 28th and 88th respectively out of the Top 100 U.S. metro areas for global *service* exports. These same two Michigan metro areas rank among the Top 28 strongest export regions (goods & services) as a result of the historical significance of *transportation equipment manufactured components* sector. This is reflected in the rail utilization and rail dependency analysis earlier in this *Existing Conditions Report*.

3.6. Canadian and Cross-Border Considerations

Over the past ten years, Michigan has become less reliant on exports to Canada. In 1999, Canada accounted for 68% of the value of all Michigan exports. By 2009, trade with Canada represented 46% of the state's exports, and Mexico, China, Germany and Japan have emerged as viable partners as well. In 2009, these nations received an aggregate 28% of the value of Michigan exports.[65]

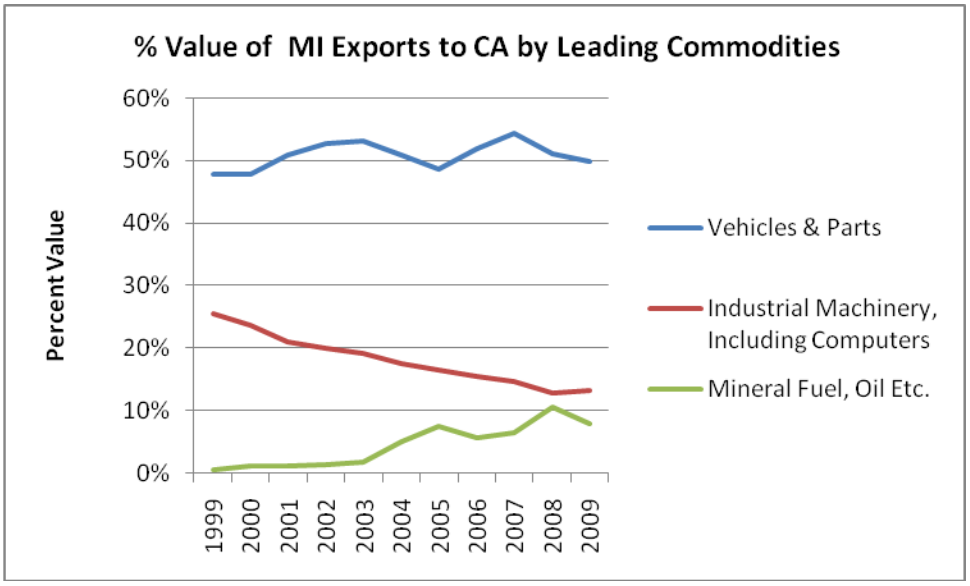
For value of goods traded (all modes), Canada is still by far Michigan's dominant international trading partner, as shown by the fact that nearly half of the trading value of Michigan exports remains with Canada. The value of Michigan exports, to Canada, however, fell 17% from 1999 through 2008 in constant 2009 US dollars. After 2009,

[65] US Bureau of Census Foreign Trade Division, aggregated by WISERTrade

with the affect of the US recession, the value of Michigan exports to Canada was 44% less than 1999 (in constant 2009 US dollars).[66]

Over the past ten years, vehicles and parts have provided nearly half the value of Michigan exports to Canada, followed by industrial machinery and mineral fuels. Together, these three commodity groups have steadily accounted for 71% to 74% of total exports by value from Michigan to Canada. However, in 1999, industrial machinery accounted for more than one-quarter of exports to Canada, decline to less than 20% in 2003 and to 13% of the value of exports by 2009. Conversely, mineral fuels represented 1% of the state's exports to Canada in 1999 and 8% in 2009. **Figure 4** below illustrates these ten year trends.[67]

Figure 4: Value Trend in Michigan's Leading Exports to Canada



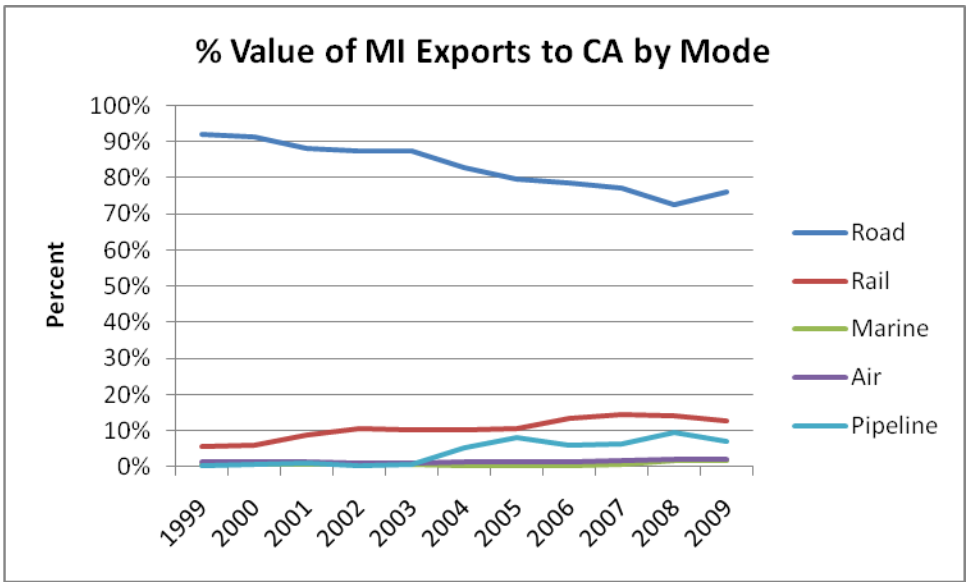
Michigan exports to Canada are targeted to Ontario, which received a 97% of share of the states exports annually from 1990 through 2003. By 2009, the share to Ontario had decreased to 90% (It was 89% in 2008.) By 2009, exports from Michigan to Alberta had increased from less than ½ of one percent to 5% (6% in 2008).[68]

Shown in **Figure 5**, cross border transport of Michigan's exports are less reliant on truck and more reliant on rail and pipeline (given the rise in mineral fuels as an export). In 1999 over 90% of the value of goods exported from Michigan was transported to Canada by truck. By 2008 this proportion has decreased to 72% (rebounding to 76% in 2009), and has been less than 80% since 2006. Conversely, exports by rail have more than doubled in proportion, conveying 6% of exports to Canada in 1999 and peaking at 15% in 2007 (dropping to 13% in 2009), and the share of exports carried by pipeline has grown

[66] Statistics Canada, International Trade Division, aggregated by WISERTrade
[67] Ibid
[68] Ibid

from 0% to 1% in 1999 to 2003 to 7% in 2009 (10% in 2008). Exports by marine and aviation modes now account for a combined 4% of the value of Michigan exports to Canada (2% each), a small increase from 2% (1% each) in 1999.[69]

Figure 5: Value Trend in Michigan Exports to Canada by Mode



The majority of U.S.-Canadian trade value crosses the international border by truck or rail at Port Huron-Sarnia and Windsor-Ontario (data through 2005, source: *The Great Lakes- A World-Leading Bi-national Economic Region*, Brookings 2007).

While not as robust as many of the service and manufacturing sectors comprising Michigan's economic base, it is likely that agriculture, agricultural products and timber are likely to continue to be significant elements of Michigan's economy. Michigan is understood to be among the most agriculturally diverse states in the U.S., producing over 200 commodities (one-third of which are exported). Michigan leads the Nation in the production of 19 commodities; agricultural commodities and processed food exports to Canada comprise almost 50% of Michigan's global exports from this sector. (source: *Michigan's Agri-Food Industry*, MDA, 2008). For this reason, flows and inter-modal connections for agricultural commodities, timber and food and kindred products exported to Canada are likely to be more strategically significant than today's numbers or forecasts along might suggest.

3.6.1. Provisional 2008 FAF Data on Michigan's International Rail Movements

The data presented above represent overall trends in the value of Michigan's trade with Canada available from WISERTrade. Volume Data presented in previous sections of this *Existing Conditions Report* also reference Michigan DOT's analysis of the 2007 STB Waybill data, as well as forecasts from the *2010 FAF*[3]

[69] Ibid

commodity flow forecasts from the US DOT. The latest version of the Freight Analysis Framework (FAF^3), also includes state-to-state (and trans-border) estimate of 2007 trade by mode. The FAF^3 data do not include county level detail or forecasts of the level presented the 2006 analysis presented elsewhere in this report, and therefore will represent different control totals than appear in other sections. However, the provisional FAF3 data provide important context for the rail plan regarding:

- The latest data in the relative share of Michigan's rail trade that is exchanged with Canada, Mexico, other US States and within Michigan;
- The latest assessment of the key commodities traded with Canada, Mexico, other US States and within Michigan that are known to move by rail.

The following summary provides some key statistics from the 2008 provisional FAF data elucidating some of the important trans-border trade flows supported by Michigan's rail system.

Table 26 summarizes the FAF^3 data estimates of Michigan's rail trade in terms of Canada, Mexico, US Domestic and intra-Michigan trade. The table shows that the majority of Michigan's rail trade (69.24%) is with other US States, with the second highest trade level occurring between origins and destinations within Michigan (17.58%), and a significant share exchanged with Canada (8.08%). Trade with Mexico is considerably less than other types of rail trade, accounting for only 2.9% of all tonnage on Michigan's rail system.

Table 26: Nature of Michigan Rail Trade

Trade Type	Tons	Share of Total Tons
Imports from Canada	5,513,890	4.64%
Exports to Canada	4,093,330	3.44%
Total Trade With Canada	**9,607,220**	**8.08%**
Imports from Mexico	2,801,690	2.36%
Exports to Mexico	694,090	0.58%
Total Trade Mexico	**3,495,780**	**2.94%**
Imports from Rest of World	720,710	0.61%
Exports to Rest of World	1,840,540	1.55%
Total Trade with Rest of World	**2,561,250**	**2.15%**
Imports from US	57,264,850	48.17%
Exports to US	25,043,480	21.07%
Total Trade Other US States	**82,308,330**	**69.24%**
Total Internal to Michigan	**20,899,710**	**17.58%**
Total Tons Moved	**118,872,290**	**100.00%**

Source: Freight Analysis Framework, FHWA 2010

Table 27 and **Table 28** summarize the top commodities of Michigan's rail import and exports tonnage traded with Mexico and Canada, respectively. As with domestic flows, Motorized vehicles (including their parts and equipment) supporting Michigan's auto manufacturing industry represent the top import to Michigan from both Canada and Mexico, and the top export to Canada, and second highest export to Mexico (in terms of rail tonnage).

While the economic base and value-chain analysis do not find agriculture and mining among the Michigan's largest or most dynamic elements in the economic restructuring, the analysis of Michigan's exports points to the ongoing significance of agricultural and mining exports from Michigan's mining and agriculture sectors in international trading relationships. The FAF[3] analysis suggests that agricultural products and base metals represent a significant share of Michigan's international exports, with metallic ores, wood products, animal feed, cereal grains and coal (non-fuel) products all among Michigan's top rail export commodities to Canada. Mining and agricultural outputs also factor prominently in Michigan's exports to Mexico; however, top rail exports to Mexico also include significant shares of machinery and electronic equipment. Plastics, rubber, chemicals and chemical products are also significant exports, which point to the growing significance of chemicals, chemical products and related manufacturing in Michigan's economic re-structuring.

Furthermore, the analysis shows that Michigan imports significant tonnage of metals, chemicals, machinery and electronics (all inputs to high-tech manufacturing) by rail from Canada and Mexico. Overall the analysis of Michigan's trade with Canada and Mexico suggests that while mining and agriculture are generally not among Michigan's most dynamic or growing industries, significant exports of mining and agricultural products are moved from Michigan to Canada and Mexico by rail. Rail planning decisions should recognize the unique role rail plays in trans-border agricultural and mining export markets.

Rail imports continue to play a role in supplying both Michigan's automotive manufacturing industry, as well as potential other higher-technology manufacturing sectors targeted by the re-structuring. Because most of the top rail imports are also rail exports, the analysis suggests that rail plays an important role in supplying value-chains both within and outside of the state where chemicals, plastics, metals and raw materials are synthesized into other types of chemicals, plastics, metals and raw materials for products like electronics, transportation equipment and other down-stream uses of these commodities.

Table 27: Michigan's Imports and Exports with Canada

Imports			Exports		
Commodity	**Amount**	**% of Imports**	**Commodity**	**Amount**	**% of Exports**
Motorized vehicles	2,663,290	48.3%	Metallic ores	2,780,950	67.9%
Wood products	729,750	13.2%	Motorized vehicles	507,520	12.4%
Base metals	544,670	9.9%	Coal-n.e.c.	364,790	8.9%
Basic chemicals	431,610	7.8%	Basic chemicals	128,530	3.1%
Metallic Ores	281,590	5.1%	Other foodstuffs	73,970	1.8%
Newsprint/paper	262,390	4.8%	Cereal grains	53,500	1.3%
Fertilizers	174,520	3.1%	Wood products	46,290	1.1%
Paper articles	134,520	2.4%	Plastics/rubber	44,990	0.5%
Nonmetallic minerals	130,530	2.4%	Alcoholic beverages	21,820	0.4%
Plastics/rubber	88,090	1.6%	Paper articles	14,220	0.8%
All Others	72,920	1.3%	All Others	56,770	1.4%
Total Imports	**5,513,880**	**100.0%**	**Total Imports**	**4,093,350**	**100.0%**

Source: Freight Analysis Framework, FHWA 2010

Table 28: Michigan's Imports and Exports with Mexico

Imports			Exports		
Commodity	**Amount**	**% of Imports**	**Commodity**	**Amount**	**% of Exports**
Motorized vehicles	2,528,070	90.2%	Motorized vehicles	297,020	42.8%
Machinery	149,850	5.4%	Plastics/rubber	194,970	28.1%
Articles-base metal	58,770	2.1%	Basic chemicals	60,280	8.7%
Nonmetal min. prods.	26,590	1.0%	Base metals	35,200	5.1%
Electronics	10,610	0.4%	Articles-base metal	28,320	4.1%
Nonmetallic minerals	9,750	0.4%	Machinery	26,830	3.9%
Base metals	7,460	0.3%	Other ag prods.	18,830	2.7%
Plastics/rubber	4,960	0.2%	Electronics	8,650	1.3%
Basic chemicals	2,040	0.1%	Newsprint/paper	8,600	1.2%
Mixed freight	1,280	0.1%	Chemical prods.	6,300	0.9%
All Others	2,320	0.1%	All Others	9,080	1.3%
Total Imports	**2,801,700**	**100.0%**	**Total Imports**	**694,080**	**100.0%**

Source: Freight Analysis Framework, FHWA 2010

4. Passenger Rail Service Profile

Michigan is currently served by three Amtrak routes; The Wolverine (Detroit/Pontiac – Chicago), the Blue Water (Port Huron – Chicago) and the Pere Marquette (Grand Rapids – Chicago). Amtrak initiated service on the Detroit to Chicago corridor in May 1971 as part of its nationwide system. This service was extended to Pontiac on May 5, 1994. The Blue Water service (Port Huron-Chicago) was initiated on September 15, 1974 and became the International service (Toronto-Port Huron-Chicago) on October 31, 1982. On April 25, 2004, service to Toronto was discontinued and the International service transitioned back into the Blue Water service. Pere Marquette service between Grand Rapids and Chicago began on August 5, 1984.

4.1. Current Amtrak Service

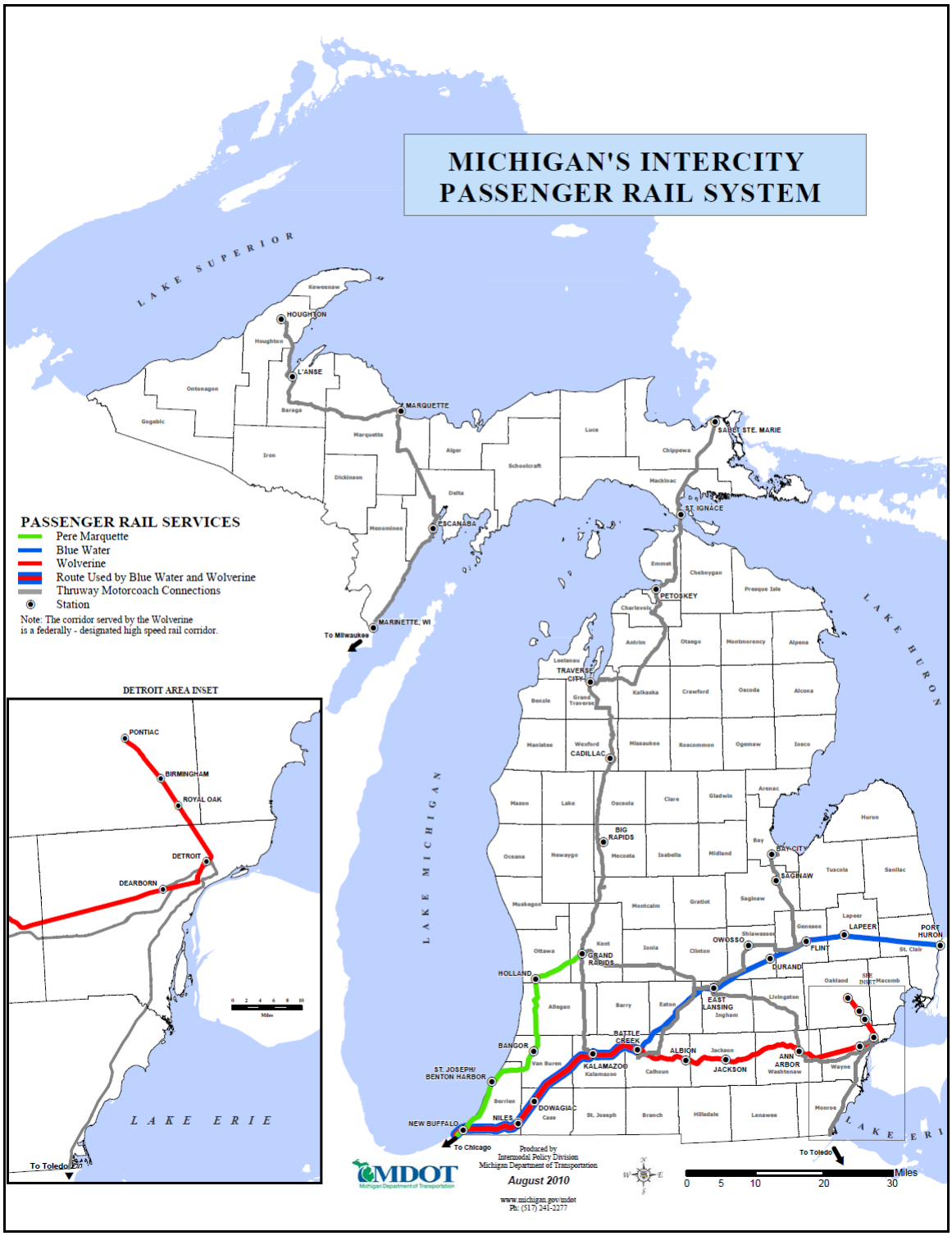
Today, Amtrak offers intercity passenger rail services along these same three corridors in Michigan as shown in **Figure 6**. These services are the Wolverine, the Blue Water and the Pere Marquette. The Pontiac-Detroit-Chicago corridor is one of the original federally designated High-Speed Corridors. The corridor currently includes the only segment of track outside the Northeast Corridor that has the technical ability to travel to 110 miles per hour (mph) and currently operates at 95 mph. This segment of track extends over 72 miles of Amtrak ownership and is located west of Kalamazoo to New Buffalo. Amtrak is working to upgrade the segment of the corridor between New Buffalo and Porter, IN, which will extend the 110 mph capability to nearly 100 miles by 2012. These three passenger rail corridors serve 22 station communities and consist of 521 route miles in Michigan. The Pere Marquette and Blue Water offer one round trip per day and the Wolverine offers three round trips daily.

Unlike the Wolverine service, which is part of Amtrak's national system, the Pere Marquette and the Blue Water services are operated by Amtrak at the request of the state of Michigan. The state operating subsidy for these services range from $6 to $8 million per year (see **Table 35**). The price of operating each service is based on the allocation of direct costs, i.e., costs that are associated with train operation and service. These costs include shared route costs to the host (freight) railroads, shared capital costs for maintenance on the Amtrak owned infrastructure, fuel, labor, equipment maintenance, reservations, stations, etc. The operating subsidy is 100 percent of the projected route operating loss. This route operating loss is calculated as total operating revenue minus the total direct operating costs.[70]

In addition, Amtrak offers rail passengers a single-ticketed, dedicated bus connection from East Lansing, Ann Arbor, Dearborn, and Detroit. These Thruway Bus connections travel to Toledo, Ohio, and connect to east coast trains. Indian Trails (bus operator) and Amtrak also coordinate thruway bus service between Flint, East Lansing and Battle Creek and also from Sault Ste. Marie, St. Ignace, Traverse City, and Grand Rapids to Kalamazoo with connections to trains along the Wolverine service. Thruway Bus connections to Amtrak's Hiawatha service in Milwaukee, WI is also provided from Houghton, L'Anse, Marquette and Escanaba.

[70] MDOT MI Transportation Plan 2005-3030. Intercity Passenger Technical Report. November 8, 2006.

Figure 6: Current Michigan Intercity Passenger Rail Service



4.1.1. Wolverine Service

The Wolverine provides three daily round-trips on the 304 mile-long corridor from Chicago to Detroit and Pontiac. Trains take approximately 6 ½ hours to travel from Chicago to Pontiac. Station stops for the Wolverine consist of:

- Chicago, IL
- Hammond- Whiting, IN (two trains stop in each direction)
- Michigan City, IN (two trains stop in each direction)
- New Buffalo
- Niles
- Dowagiac (one train stops in each direction)
- Battle Creek
- Kalamazoo
- Albion (one train stops in each direction)
- Jackson
- Ann Arbor
- Dearborn
- Detroit
- Royal Oak
- Birmingham
- Pontiac

Amtrak Thruway bus service also provides connections to the Wolverine from other key population centers, including Flint, Saginaw, Bay City, Traverse City, Sault Ste. Marie and Toledo, OH.

4.1.2. Blue Water Service

Amtrak inaugurated the Blue Water service in 1974 along the 319 mile-long route between Chicago, IL and Port Huron. In 1982, the line was replaced by the International Limited, operated jointly with VIA Rail Canada, between Chicago and Toronto. Delays associated with customs inspections at the border brought about the termination of the International Limited service and a restoration of the Blue Water in 2004. VIA still operates trains to Sarnia, right across the border from Port Huron. Station stops on the Blue Water are:

- Chicago, IL
- New Buffalo
- Niles
- Dowagiac
- Kalamazoo
- Battle Creek
- East Lansing
- Durand

- Flint
- Lapeer
- Port Huron

The Blue Water provides westbound service (Port Huron to Chicago) in the morning and eastbound (Chicago to Port Huron) service in the afternoon.

4.1.3. Pere Marquette Service

The Pere Marquette service was initiated in 1984 through a partnership between MDOT and Amtrak. The train was named after the former railroad that operated in the southwest portion of the state, which was named for Father Jacques Marquette, a French missionary who founded Michigan's first European settlement in 1671. Station stops on this 176 mile-long route include:

- Chicago, IL
- St. Joseph – Benton Harbor
- Bangor
- Holland
- Grand Rapids

The one round trip train per day on this route operates west bound (Grand Rapids to Chicago) in the morning and eastbound in the evening (Chicago to Grand Rapids), traveling the entire route in approximately four hours.

4.2. Passenger Rail Utilization

According to Amtrak statistics, intercity passenger rail ridership involving Michigan points has increased from 518,744 in 1999 to 663,421 in 2010 (an increase of 28%). Chicago continues to be the largest node of activity for Michigan's intercity rail travel, serving as either the origin or the destination for 43% Michigan's intercity passenger rail trips in 2009. Ann Arbor is the second largest intercity passenger origin and destination, serving as the origin for 10% of Michigan's intercity passenger rail trips, and destination for 9%. The five fastest growing origin-destination pairs on Michigan's intercity network are shown in **Table 29**.

Table 29: Fastest Growing Rail Passenger Pairs to and From Michigan

O-D Pair	Passengers 1999	Passengers 2010	Change in Passengers	% Increase in Passengers	2010 Share of Statewide Passengers
Chicago to Ann Arbor	32,971	56,259	23,288	71%	7%
Ann Arbor to Chicago	33,772	56,327	22,555	67%	7%
Total	**66,743**	**112,586**	**45,843**	**69%**	**14%**
Chicago to East Lansing	8,482	26,246	17,764	209%	3%
East Lansing to Chicago	8,569	27,758	19,189	224%	3%
Total	**17,051**	**54,004**	**36,953**	**217%**	**7%**
Kalamazoo to Chicago	23,123	39,590	16,467	71%	5%
Chicago to Kalamazoo	22,996	38,480	15,484	67%	5%
Total	**46,119**	**78,070**	**31,951**	**69%**	**10%**
Chicago to Dearborn	18,034	32,812	14,778	82%	4%
Dearborn to Chicago	19,369	33,955	14,586	75%	3%
Total	**37,403**	**66,767**	**29,364**	**79%**	**9%**
Royal Oak to Chicago	3,173	14,562	11,389	359%	2%
Chicago to Royal Oak	3,203	14,389	11,186	349%	2%
Total	**6,376**	**28,951**	**22,575**	**354%**	**4%**
All Other Destinations (Combined)	**345,052**	**435,619**	**87,980**	**26%**	**56%**
TOTAL PASSENGER TRIPS	**518,744**	**775,997**	**257,253**	**50%**	**100%**

Source: Amtrak (As Processed by MDOT), January, 2011

Passenger traffic between Ann Arbor and Chicago accounts for the largest share (14%) of passenger intercity rail traffic in Michigan in 2009. Traffic for this pair has increased by 69% in the eleven-year period since 1999, significantly exceeding the 50% increase in overall intercity passenger utilization in the same period. The most rapidly growing movement has been between Chicago and Royal Oak, where passenger rail traffic has more than tripled since 1999, and today accounts for just more than 2% of all traffic on Michigan's intercity rail network.

Overall, ridership has increased substantially on each of Michigan's three passenger rail lines (the Wolverine, the Pere Marquette and the Blue Water lines). **Table 30** and **Figure 7** show the ten year trend in ridership on each of these lines from 1999 to 2010.

Table 31 shows the total overall 10 year trend in boardings and alightings at all stations for Michigan's Amtrak rail service from 1999-2010.

The Wolverine line (connecting Pontiac, Detroit and Chicago) is by far the most heavily utilized line, accounting for between 65% and 67% of total Michigan ridership consistently throughout the 12-year period. The second most utilized line is the Blue Water line, connecting Port Huron to Chicago (part of the International Limited route between 1982 and 2004), which has averaged between 17% and 22% of statewide ridership from 1999 to 2010. The line with the smallest share of ridership is the Pere Marquette line (connecting Grand Rapids to Chicago), with ridership between 13% and 16% throughout the period. Trends in overall statewide utilization have been consistent throughout the period with no one line growing or declining in any given period disproportionately to other lines. However, it is notable that the Blue Water/International line declined in ridership in 2002 (from 103,197 in 2001 to 88,045 in 2002), recovering significantly (from 98,356 in 2004 to 115,741 in 2005) when in 2004 the International Limited (Toronto) service was dropped and the line returned to the pre-1982 "Blue Water" route (from Port Huron to Chicago) .

Table 30: Annual Amtrak Ridership by Route

YEAR	Wolverine	Blue Water	Pere Marquette
1999	334,946	113,864	69,934
2000	313,255	106,866	61,102
2001	294,570	103,197	59,437
2002	295,550	88,045	63,596
2003	344,107	83,530	75,606
2004	379,677	98,356	90,522
2005	411,092	115,741	98,299
2006	444,319	124,953	103,912
2007	455,020	130,063	106,462
2008	474,479	138,604	111,575
2009	431,128	132,602	99,691
2010	503,964	168,248	103,785

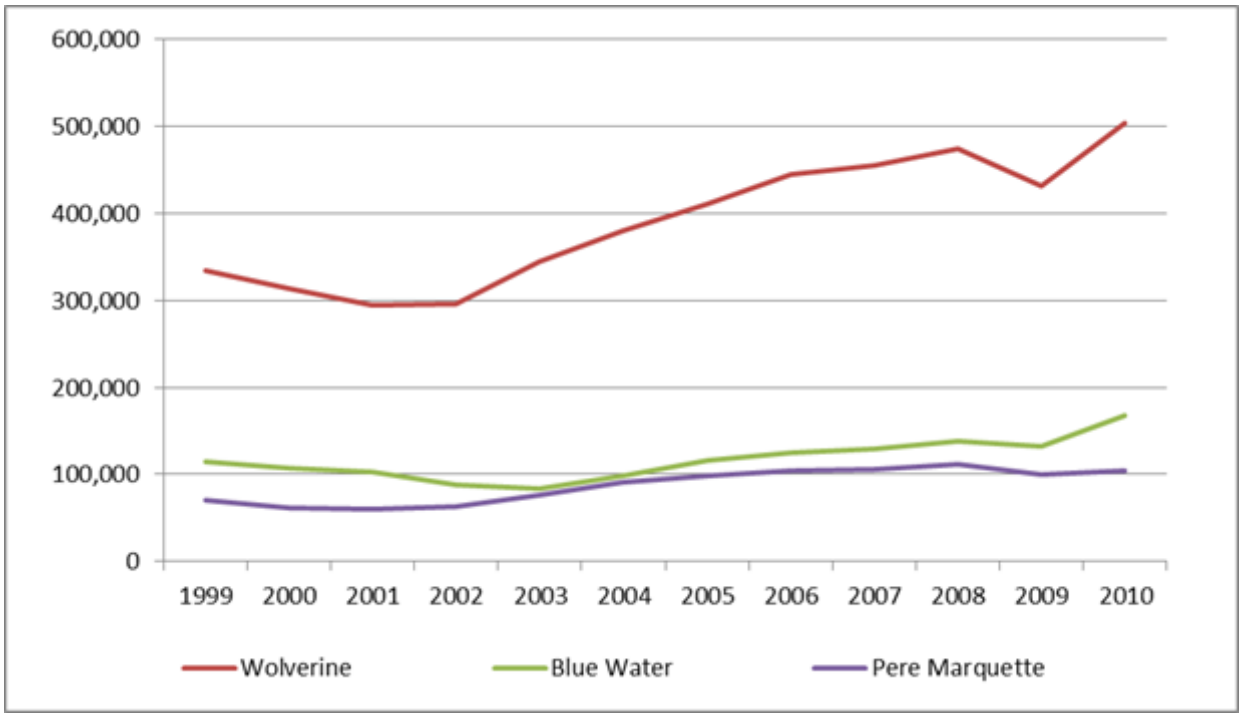
Source: AMTRAK/MDOT

Table 31: Michigan Boardings and Alightings 1999 - 2010

Station	Boardings 1999	Alightings 1999	Boardings 2010	Alightings 2010	% Increase in Boardings 1999-2010	% Increase in Alightings 1999-2010
Albion	750	1,038	812	815	8.3%	-21.5%
Ann Arbor	46,646	46,716	72,618	72,422	55.7%	55.0%
Bangor	1,067	1,320	2,035	1,820	90.7%	37.9%
Birmingham	4,880	4,802	11,814	12,081	142.1%	151.6%
Battle Creek	26,570	27,240	23,954	27,717	-9.8%	1.8%
CBM	21,654	21,595	N/A	N/A	N/A	N/A
Chicago	203,072	200,043	333,835	333,947	64.4%	66.9%
Dearborn	29,483	27,011	42,360	40,241	43.7%	49.0%
Detroit	26,756	26,555	34,993	35,754	30.8%	34.6%
Dowagiac	666	872	1,579	1,775	137.1%	103.6%
Durand	1,881	2,209	5,260	5,091	179.6%	130.5%
Flint	10,087	10,037	16,770	15,422	66.3%	53.7%
Greenfield Village	1,478	1,120	N/A	N/A	N/A	N/A
Grand Rapids	17,303	17,089	26,249	26,033	51.7%	52.3%
Hammond-Whiting, IN	7,924	8,388	3,331	3,856	-58.0%	-54.0%
Holland	11,459	13,922	18,578	18,650	62.1%	34.0%
Jackson	13,655	13,723	14,350	14,513	5.1%	5.8%
Kalamazoo	41,491	41,823	58,320	56,053	40.6%	34.0%
East Lansing	16,042	15,576	31,845	30,396	98.5%	95.1%
Lapeer	2,586	3,174	4,414	4,282	70.7%	34.9%
Michigan City, IN	941	1,458	1,542	2,356	63.9%	61.6%
New Buffalo (Pere Marquette)	501	1,109	N/A	N/A	N/A	N/A
New Buffalo (Wolverine/Blue Water)	N/A	N/A	5,040	6,654	N/A	N/A
Niles	12,393	11,976	9,544	9,537	-23.0%	-20.4%
Pontiac	4,336	4,192	8,477	7,858	95.5%	87.5%
Port Huron	6,516	5,760	9,574	9,133	46.9%	58.6%
Royal Oak	4,818	5,058	18,148	18,386	276.7%	263.5%
St. Joseph/ Benton Harbor	2,856	4,005	4,681	5,331	63.9%	33.1%
Unknowns	933	933	15,874	15,874	1601.4%	1,601.4%
TOTAL	**518,744**	**518,744**	**663,421**	**663,421**	**27.9%**	**27.9%**

Source: AMTRAK/MDOT

Figure 7: Michigan Passenger Rail Ridership



5. Federal and State Funding Programs for Freight and Passenger Rail Development

Historically Michigan and most other states have relied on a variety of relatively small federal and state funding programs to develop their state passenger and freight rail systems. With the passage of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and the American Recovery and Reinvestment Act (ARRA), the federal funding picture has changed – especially for passenger rail development. PRIIA, enacted in 2008, provides a multi-year capital funding framework which emphasizes the role of states in US passenger rail development. In 2009 ARRA subsequently provided $8 billion in federal capital funding for state sponsored high speed and intercity passenger rail projects and $1.5 billion for the Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program which can fund freight and passenger rail as well as other modal projects.

This section highlights the major features of these new federal funding programs as well as the other federal funding programs available to Michigan for freight and passenger rail projects. Existing state funding programs that have been used to fund Michigan rail projects and to match available federal funding are also described and summarized below.

5.1. Federal Funding Programs

5.1.1. The Passenger Rail Investment and Improvement Act of 2008

In October of 2008 Congress passed the Passenger Rail Investment and Improvement Act (PRIIA). This legislation reauthorized and reformed Amtrak, but most importantly, it provides a new statutory framework for a federal/state partnership to fund and develop US high speed and intercity passenger rail service using 80/20 federal/state capital grants. The PRIIA legislation authorized $3.4 billion in capital grants over five years to states, groups of states, interstate compacts, public agencies, and in some cases Amtrak. This legislation requires Congressional action each year to appropriate the amounts authorized. Section 301 of the Act provides grants for Intercity Passenger Rail Service Capital Assistance. Section 501 provides capital grants for High Speed Rail Corridor Development for federally designated corridors with planned speeds of 110 mph or more. Section 302 Congestion Grants are focused on relieving rail congestion bottlenecks. Section 303 requires each state develop and maintain a State Rail Plan in order to be eligible for the funding provided in Sections 301 and 501. The purpose of the State Rail Plan is to set forth state policy involving freight and passenger rail transportation and to present priorities and strategies to enhance rail service and to serve as the basis for federal and state investments

5.1.2. The American Recovery and Reinvestment Act of 2009

In February of 2009 Congress passed the American Recovery and Reinvestment Act (ARRA) which appropriated $8 billion in 100 percent federal funding providing "capital assistance for high speed rail corridors and intercity passenger rail service." This program is based on the statutory framework provided by PRIIA and focuses on funding state sponsored projects. ARRA also provided $1.5 billion in 100 percent flexible multimodal funding under the TIGER Discretionary Grant Program (Transportation Investment Generating Economic Recovery). Since then, another $600 million in 80 percent federal funding was appropriated in 2010 for the TIGER II Discretionary Grant Program. The TIGER grant programs provide funding for both passenger and freight rail projects.

5.1.3. The FRA High Speed and Intercity Passenger Rail Program (HSIPR)

In developing guidance for ARRA grants as well as grants offered under subsequent PRIIA appropriations, a structure for the Federal Railroad Administration's High Speed and Intercity Passenger Rail Program (HSIPR) has evolved. The current structure is best reflected in the most recent notices of funding availability (NOFA) for FY 2010 appropriations for 80/20 federal/state grants under three program areas: 1) *Service Development Program Grants* issued in the Federal Register on July 1, 2010, 2) *Individual Project Grants* also issued on July 1, 2010, and 3) *Planning Grants* issued in the Federal Register on April 1, 2010. FRA will develop final guidance and regulations for the HSIPR over the next few years, but it is likely that these interim guidance documents will provide the basic framework for the PRIIA grant program as well as for future funding programs. Under the FY 2010 appropriation for these programs, $2.125 billion was provided for Service Development Program Grants, $245 million was provided for Individual Projects and $50 million was provided for Planning Grants. The basic features of each program are outlined below.

a) Service Development Program Grants

Investment in Service Development Programs (SDP) is "the long-term interest" of the new FRA HSIPR Program. Service Development Program Grants are aimed at developing new high-speed or intercity passenger rail services or substantially upgrading existing services. Service Development Program Grants are provided on an 80/20 percent federal/state basis and in-kind contributions are allowable with FRA approval. A Service Development Program Grant application will typically contain sets of inter-related projects that constitute the entirety or a distinct phase (or geographic section) of a long-range Service Development Plan. It is expected that these projects will collectively produce benefits greater than the sum of each individual project. These investments will generally address, in a comprehensive manner, the construction and acquisition of infrastructure, equipment, stations, and facilities necessary to operate high-speed and intercity passenger rail service.

There are two Service Development Program categories: 1) Major Service Development Programs which is the default category for SDP grant requirements and 2) Standard Service Development Programs which cost less than $100 million, primarily benefit intercity passenger rail service with top speeds of 79 mph, use proven technology and are submitted by applicants with proven HSIPR project implementation experience.

Major Service Development Programs are unique in that the award instrument will be a "Letter of Intent" for the cost of the entire program that will contain milestones, grant conditions and other requirements agreed upon by FRA and the grantee that must be fulfilled prior to any disbursement of funds. Funding will be obligated through cooperative agreements and disbursed to grantees as the agreed upon milestones are achieved.

The award instrument for the Standard SDP is a traditional "cooperative agreement" with funding made available to grantees on a reimbursable basis

Major SDPs will typically require a "two-tiered" approach to complying with the requirements of the National Environmental Policy Act (NEPA) : utilizing a Tier 1 Environmental Impact Statement (EIS) to address broad service issues ("Service NEPA" document); followed by a Tier 2 EIS, Environmental Assessment (EA), or Categorical Exclusion to address site-specific project environmental review requirements ("project NEPA" document). To be eligible for a Major SDP grant, an applicant must have completed and submitted a NEPA document satisfying FRA's "Service NEPA" requirement with its application. It should be noted that project preliminary engineering, site-specific NEPA, final design, and construction activities are eligible for funding.

Standard Service Development Programs can utilize a "non-tiered" NEPA approach where one EIS or EA would cover both service issues and individual project components. The applicant thus must have completed and submitted with its application an EIS or EA that addresses, at a minimum, Service NEPA issues. For applications intended to advance directly into Final Design, FRA requires project NEPA documents and all Preliminary Engineering (PE) for project components to be completed and submitted with the application.

b) Individual Project Grants

Individual Project Grants are intended to assist applicants with the capital costs of improving existing high-speed or intercity passenger rail service. Individual Project Grants are provided on an 80/20 percent federal/state basis and in-kind contributions are allowable with FRA approval. Awards will be for projects that involve Final Design (FD)/Construction or projects that already have completed site-specific NEPA documentation; or completion of project NEPA and PE documentation. Completion of the grant activities should result in all of the documentation necessary for the project to move into the Final Design/Construction stage. The intent is to fund discrete individual projects that result in operation or other tangible improvements

(such as station rehabilitation) benefiting one or more existing high-speed or intercity passenger rail services.

All individual projects must be addressed in a Service Development Plan, State Rail Plan or similar planning document. Final design and construction projects must have project NEPA documentation completed as well as preliminary engineering. Grants for PE/NEPA work must be developed sufficiently to support immediate commencement of final design. There is no requirement for a "tiered" NEPA approach. All individual project grants must have operational independence in that upon implementation the project will provide measurable benefits with no additional investment.

c) Planning Grants

There are two types of eligible planning projects: (1) "Passenger Rail Corridor Investment Plans" and (2) State Rail Plans. Grants are provided on an 80/20 percent federal/state basis and in-kind contributions are allowable with FRA approval.

Passenger Rail Corridor Investment Plans" must include both service development plans (SDPs) and Corridor-Wide Environmental Documentation meeting Tier I Service NEPA requirements. If the applicant has completed one of these documents, FRA must have accepted that document to receive a grant to complete the remaining component(s).

Service Development Plans must include: a corridor development program rationale; a service plan; a capital investment needs assessment; financial forecast; a public benefits assessment; and a program management approach. Corridor Wide Environmental Documents must satisfy FRA "Service NEPA requirements". FRA has defined Service NEPA as at least a programmatic/Tier 1 environmental review (using tiered reviews and documents), or alternatively, a "project" environmental review that also addresses broader questions and likely environmental effects for the entire corridor. Simple corridor programs can be addressed with a project NEPA approach while more complex programs will require a "tiered" approach.

State Rail Plans must meet PRIIA requirements and specific requirements included in the notice of funding availability. These include: state multimodal goals addressing the role of rail, a description of the existing rail system and its performance, a discussion of the existing state rail program and an analysis of the economic and environmental effects of rail, a discussion of existing rail proposals, a "vision" for rail transportation, a 5- and 20 -year service and investment program for passenger and freight rail with an assessment of public and private benefits, and a description of public and stakeholder participation as well as coordination with other transportation programs.

5.1.4. FHWA Section 130 Highway-Rail Grade Crossing Program

The Federal Highway Administration (FHWA) Section 130 Highway Railroad Grade Safety Crossing program provides grants for the improvement of

highway-railroad grade crossings that enhance safety. This includes: separation or protection of grades at crossings; the reconstruction of existing railroad grade crossing structures; and the relocation of highways or rail lines to eliminate grade crossings. Funds from the FHWA Section 130 Program can be used for freight and passenger rail projects, provided that the projects improve safety at grade crossings. This may include a variety of methods, such as installation of warning devices, elimination of at-grade crossings by grade separation or consolidation, and closing of crossings. Work may also include replacement of crossing surfaces, improvement of road approaches, installation of new gates/flashers, and installation of other safety signal equipment. Funding may also be used for elimination of crossing hazards should a state choose to use the funds for this purpose. For example, any repair, construction or reconstruction of roads and bridges affected by a project would be eligible.

The amount of federal funds available for Section 130 is dependent on annual appropriations. Federal funds for grade-crossing safety improvements are available at a 90-percent Federal share, with the remaining 10 percent to be paid by State and/or local authorities and/or the railroad. The Federal share may amount to 100 percent for the following projects: signing; pavement markings; active warning devices; the elimination of hazards; and crossing closures. The decision on whether to allow 100-percent Federal funding rests with the individual States.

5.1.5. FRA High-Speed Rail Crossing Improvement Program

The Federal Railroad Administration High-Speed Rail Crossing Improvement Program, funded at $50 million over the 5 year period of the Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users (SAFETEA-LU), which is intended to reduce or eliminate hazards at highway-rail grade crossings in designated high speed corridors.

5.1.6. FRA Rail Line Relocation and Improvement Capital Grant Program:

Section 9002 of SAFETEA-LU authorized $350 million per year for the purpose of providing financial assistance for local rail line and improvement projects. For FY 2010, Congress appropriated $34,532,000 in Federal funds for the Rail Line Relocation and Improvement program. Any construction project that improves the route or structure of a rail line and 1) involves a lateral or vertical relocation of any portion of the rail line, or 2) is carried out for the purpose of mitigating the adverse affects of rail traffic on safety, motor vehicle traffic flow, community quality of life, or economic development, is eligible. The federal share for these funds is 90%, not to exceed $20 million. This program can also be useful for passenger rail projects which require re-routing freight operations to provide access for passenger service. No funding has been provided for this program in the 2011 appropriations process.

5.1.7. FHWA Surface Transportation Program (STP)

The Surface Transportation Program (Title 23 USC Section 133, 104(b) (3), 140) provides flexible funding for projects on any Federal-aid highway, bridges on public roads, transit capital investments, and intracity and intercity bus terminals and facilities. Eligible freight projects include preservation of abandoned rail corridors, bridge clearance increases to accommodate double-stack intermodal trains, and freight transfer yards.

5.1.8. FHWA Congestion Mitigation and Air Quality Management (CMAQ)

The Congestion Mitigation and Air Quality Management Program (CMAQ) (Title 23 USC Section 149) was created in 1991 in order to provide innovative funding for transportation projects that improve air quality and help achieve compliance with national air quality standards set forth by the Clean Air Act. Funding authorized through CMAQ is for projects in areas not meeting national air quality standards. The CMAQ program pays for transportation projects or programs that will contribute to attainment of national ambient air quality standards. The program encompasses projects and programs that reduce traffic congestion and help meet federal Clean Air Act requirements.

CMAQ funding may be used for freight and passenger rail projects that accomplish the program's air quality goals. The statutory provisions above are clarified in the January 16, 2002 Federal Register Notice, "High Speed Rail Projects for the Congestion Mitigation and Air Quality Improvement Program (CMAQ)". This Federal Register Notice provides that CMAQ funds may be used for intercity passenger rail projects located in a nonattainment or maintenance area if they reduce emissions and meet the program's other eligibility criteria. Capital costs, as well as operating expenses (for the first 3 years), are eligible as long as the project contributes to attainment or maintenance of the air quality standard through reduction in vehicle miles traveled, fuel consumption or through other factors. The regulations include eligibility for corridors where a portion of the corridor is in a non-attainment area. The federal cost share is typically 80 percent.

5.1.9. FHWA Traffic Mitigation Funding

FHWA Traffic Mitigation project funding is available to federally eligible highway projects to address congestion resulting from construction activities in a given highway corridor under the Work Zone Safety and Mobility Rule (23 CFR 630 Subpart J). Where cost-effective, as documented in a project Transportation Management Plan (TMP), new or enhanced intercity passenger rail service can be considered as a traffic congestion mitigation measure. Federal highway funding can then be used to subsidize all or part of the passenger rail operating costs during the life of the construction project. This funding option is most applicable to major multi-year highway improvement projects on high-volume interstate highways where intercity rail service operates in parallel to the highway corridor. The federal cost share can be either 80 or 90 percent with the higher figure

dependant on whether the rail project is associated with mitigating congestion on an interstate highway.

5.1.10. FHWA Transportation Enhancements Program

Funds are available under the FHWA Surface Transportation Program for the Transportation Enhancement Program. The purpose of this program is to fund projects that allow communities to strengthen the local economy, improve the quality of life, enhance the travel experience, and protect the environment. Transportation Enhancement Program funds can be used for rehabilitation and operation of historic transportation buildings, structures or facilities and preservation of abandoned railway corridors (e.g. conversion of abandoned rail corridors to trails). The federal grant share is generally not less than 80 percent.

5.1.11. FRA Rail Rehabilitation and Improvement Financing Program

The Railroad Rehabilitation and Improvement Financing Program (RRIF) provides direct federal loans and loan guarantees to finance development of railroad infrastructure. The program was established by TEA21 and amended by SAFETEA-LU. Under this program the FRA authorizes direct loans and loan guarantees up to $35 billion. Up to $7 billion is reserved for projects benefiting freight railroads other than Class I carriers.

The funding may be used to acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, track components, bridges, yards, buildings and shops. It can be used to refinance outstanding debt incurred for the purposes listed above as well as for developing or establishing new intermodal or railroad facilities. While the program has been used largely for freight rail projects, it can be used for passenger rail and transit projects.

In the case of passenger rail projects, RRIF funding is only workable where investment grade revenue and operating cost forecasts show that the project has the potential to provide a substantial revenue stream typically after a significant public investment is made in infrastructure and/or equipment. Projects receiving RIFF credit assistance must obtain an investment grade rating from at least one nationally recognized credit rating agency. Direct loans can fund up to 100 percent of a railroad project, with repayment periods of up to 35 years and interest rates equal to the U.S. treasury rate. Eligible borrowers include railroads, state and local governments, government sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers that intend to construct a new rail connection. In summary, the RRIF program provides financing on favorable terms; however the applicant must identify a viable revenue stream to make payments over the loan period. This program is administered by the FRA, and final award decisions are overseen by the U.S. DOT Credit Council and the OMB.

5.1.12. USDOT Transportation Infrastructure Finance and Innovation Act

The Transportation Infrastructure Finance and Innovation Act (TIFIA) administered by the Federal Highway Administration, authorizes credit assistance on flexible terms in the form of secured loans, loan guarantees, and standby lines of credit. The TIFIA program was created in 1997 by the Transportation Equity Act for the 21st Century (TEA-21) and amended by SAFETEA-LU. TEA-21 authorized $10.6 billion in TIFIA credit assistance.

TIFIA financial assistance is provided directly to public-private sponsors of surface transportation projects of national significance. The TIFIA credit program's fundamental goal is to leverage Federal funds by attracting substantial private and other non-Federal investment in critical improvements to the nation's surface transportation system. It can be used for both freight and passenger rail projects. A wide variety of intermodal and rail infrastructure projects are eligible and can include equipment, facilities, track, bridges, yards, buildings and shops.

TIFIA credit assistance provides improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments. The interest rate for TIFIA loans is the U.S. Treasury rate and the debt must be repaid within 35 years. TIFIA can support up to 33 percent of a project's cost and is restricted to projects costing at least $50 million. TIFIA can help advance qualified, large-scale projects that otherwise might be delayed or deferred because of size, complexity, or uncertainty over the timing of revenues. TIFIA is not a funding source, but a method of financing projects through assisted borrowing.

5.1.13. IRS Tax Exempt Private Activity Bonds

Private Activity Bonds (PABs) are federally tax-exempt bonds which can be used to finance the activities of private firms. Congress introduced private activity bonding eligibility for transportation projects through the amendment of Section 142 of the Internal Revenue Code. SAFETEA-LU added PAB eligibility for highway and freight transfer facilities (including highway-rail transfer). Mass transit projects and high-speed rail facilities (over 150 mph) were already eligible for PABs, up to a $15 billion limit for transportation-related PABs. As of August 2010, more than $2 billion of PABs have been issued. The program is administered by the U.S. Department of Transportation, and according to the Council of Development Finance Agencies, the 2011 budget allows for each state to receive $95 per capital or $277.8 million, whichever is greater.

State and local governmental authorities must issue the bonds and the authorities traditionally serving as conduits for bond issuance include Development Authorities, Downtown Development Authorities, among others. Qualified projects include "any surface transportation project which receives Federal assistance under Title 23, United States Code" (FHWA, 2010). This includes rail facilities and vehicles as long as these projects are also receiving TIFIA credit assistance. The premise of this requirement is that bringing TIFIA and PABs

together on surface transportation projects will encourage more private equity investment to transportation.

An application for funding allocation is required on an annual basis subject to the federal cap on PAB's established for each state. Some of the requirements to be included in the application include proposed date of bond issuance, financing/development team information, borrower information, project description, project schedule, financial structure, and a description of Title 23/49 funding received by the project. It should be noted that if a projects receives an allocation and the schedule agreed upon in the application is not met, the allocation may be withdrawn.

5.1.14. FHWA Grant Anticipation Revenue Vehicle Bonds

Grant Anticipation Revenue Vehicle (GARVEE) bonds can be issued by states under the guidelines in Section 122 of Title 23 of the United States Code. These bonds can be used for transportation projects with no stated limitations on transportation mode. GARVEE bonds may only be used for projects receiving federal funding and the project details must be approved by the Federal Highway Administration (FHWA). States repay the funds using anticipated federal funds. While FHWA must approve the project for federal funding, they do not approve the financing method, but a state or local government must notify FHWA that they will be using GARVEE bonds.

Grant Anticipation Bonds are useful when it is desirable to bring a project to construction more quickly than otherwise would be possible. Inflation, increased congestion and lost economic development benefits associated with delay provide offsets to the additional interest costs of debt financing. Grant Anticipation Bonds are typically intended to meet short term funding needs, usually less than one year to maturity, but sometimes as long as two to three years.

The PRIIA "Letter of Intent" provisions of the FRA High Speed and Intercity Passenger Rail Program can provide a basis for documenting to investors the availability and commitment of future federal grant funding. It is important to note, however, that the bonds are not guaranteed by the federal government and the States do not guarantee that the federal government will provide the expected financing. The state's share of the bond is backed by the State and the State may elect to either carry high interest rates or use other sources of revenue as security on the federal portion of the bonds.

5.1.15. Railroad Track Maintenance Credit Program

This program was authorized within the Internal Revenue Code to provide tax credits to qualified entities for an amount equal to 50 percent of qualified railroad maintenance expenditures on railroad tracks owned or leased by Class II or Class III railroads. The maximum credit amount allowed was $3,500 per mile of track.

Legislation was enacted in December 2010 to extend the tax credit program for an additional two year period and maintains the credit limitation at $3,500 per mile.

5.1.16. Future Federal Funding Programs for Rail Transportation: Surface Transportation Program Reauthorization

A key priority for Congress is the reauthorization of the highway, transit and safety programs under SAFETEA-LU, which expired on September 30, 2009. The federal-aid programs in the Act, including highway, transit, highway safety, and motor carrier programs are being continued through a series of extensions until the entire program is reauthorized..

Significant discussion over the need to significantly change the objectives and means of funding future transportation programs has been undertaken in recent years. Congress established the Surface Transportation Policy and Revenue Commission to advise it on the authorization of a new "Surface Transportation Program" including rail.

In its January 2008 Report to Congress "Transportation for Tomorrow", the Commission recommended that the 108 existing surface transportation programs in SAFETEA-LU and related laws should be replaced with 10 new federal programs for highways, transit, safety and rail including the establishment of a new "Intercity Passenger Rail Program". This new program would provide $5 billion annually in "intercity passenger rail development grants" to states with an 80 percent federal grant share. The report also recognized the need for new tax and regulatory policies which can play an incentivizing role in expanding freight and intermodal networks.

In September 2010, President Obama announced the outlines of a six-year transportation infrastructure plan, including an up-front investment of $50 billion for roads, rail and airports. The funding source mentioned in the announcement was for establishment of an Infrastructure Bank to leverage federal dollars and focus on investments of national and regional significance. The administration indicated the plan would put high-speed rail on an equal footing with other surface transportation programs.

Each of these proposals, along with the passage of PRIIA and ARRA funding for intercity passenger rail, provide the policy framework for Congressional consideration of intercity passenger rail funding in the authorization of a new Surface Transportation Program. State Rail Funding Programs

5.1.17. The Michigan Rail Loan Assistance Program

The Michigan Rail Loan Assistance Program (MiRLAP) is a revolving loan program designed to contribute to the stability and growth of the state's business and industry by helping to preserve and improve Michigan's rail freight infrastructure. The program awards no-interest loans on a competitive basis to fund rail infrastructure preservation projects such as, track rehabilitation and bridge/culvert repair projects. Up to 90% of a project's eligible costs can be covered, with a repayment period of up to ten years.

The balance of the MiRLAP fund was transferred to help address the General Fund shortfall in 2010. The program has been indefinitely suspended until the

fund's balance is sufficient to support a competitive program. A history of MiRLAP funding is shown in **Table 32.**

Railroads, local governments, economic development corporations and current or potential users of freight railroad services are eligible to apply for loan funds. Loans are limited to $1,000,000 per project (and per applicant) and the project must be for work scheduled for construction within one year.

Table 32: Michigan Rail Loan Assistance Program History

Fiscal Year	Appropriations*	Loan Obligations
1997	$3,000,000	$1,062,896
1998	$3,300,000	$721,776
1999	$3,300,000	$924,805
2000	$2,600,000	$2,567,196
2001	$2,000,000	$977,550
2002	($3,200,000)	$2,108,404
2003	$100,000	$553,111
2004	$100,000	$,1207,142
2005	$100,000	$1,445,353
2006	$100,000	$1,619,677
2007	$600,000	$0
2008	$600,000	$712,567
2009	$300,000	$1,389,798
2010	($5,700,000)	$0
TOTAL	**$7,200,000**	**$15,290,276**

* Includes unallotments and fund transfers
**Includes interest and penalties, as well as downward adjustments in project costs

5.1.18. Freight Economic Development Program (FEDP)

Michigan's Freight Economic Development Program (FEDP) provides low-interest loans to provide new or expanding businesses access to the rail system. Projects are commonly a part of a larger incentive package organized by the Michigan Economic Development Corporation. As much as 50 percent of the rail-infrastructure costs can be loaned. Loans are made at a minimum interest rate of two percent below the prime rate. There is a five-year repayment period, but loan payments can be forgiven when annual shipping commitments are met. If shipping commitments are met for each of the five years, the loan effectively converts to a grant.

Applications are accepted continuously throughout the year. Businesses locating or expanding in Michigan or entities assisting these businesses are eligible to apply.

Table 33: Freight Economic Development and State-Owned Line Funding

Fiscal Year	Preservation & Development	Rail Freight Fund*	Property Management Funding**
1995	$5,547,566	$800,000	$2,600,000
1996	$4,200,000	$1,000,000	$2,600,000
1997	$1,800,000	$1,000,000	$2,000,000
1998	$2,500,000	$2,951,700	$1,850,000
1999	$3,500,000	$1,465,822	$2,000,000
2000	$4,100,000	$671,662	$1,893,300
2001	$4,328,000	$1,099,949	$1,893,300
2002	$7,668,800	$1,389,270	$1,893,300
2003	$3,592,900	$2,000,000	$1,500,000
2004	$3,492,900	$2,000,000	$1,500,000
2005	$1,621,738	$2,000,000	$1,000,000
2006	$1,392,900	$1,560,349	$1,000,000
2007	$2,592,900	$560,853	$1,000,000
2008	$2,992,900	$459,373	$1,000,000
2009	$2,992,900	$672,069	$1,000,000
2010	$1,264,200	$1,489,229	$1,000,000

* Maximum amount available for expenditure. Unspent dollars carry forward.
** Not a source of FEDP funds.

5.1.19. State-owned Rail Property Capital Development

The Capital Development Program provides on-going property management and infrastructure rehabilitation in an effort to maintain the safety of the 530 miles of state-owned lines and the existing level of service to the shippers. On-going property management includes vegetation control and as necessary, bridge, culvert and crossing repairs. Property leases and trackage-right agreements are maintained to span a gap in the corridor between Owosso and Durand. The program's goal is to ultimately make the lines viable again in the private sector.

5.1.20. Local Grade Crossing Program

The Local Grade Crossing Program (LGCP) provides assistance to local governments and railroad companies with developing and implementing projects that enhance motorist safety at public highway-railroad crossings. In accordance with federal and state laws, the LGCP evaluates crossings statewide to develop an annual prioritized listing and fund safety improvements where they will have the greatest impact for the motoring public.

Funding is also available for safety enhancements at crossings affected by road projects. In addition, the LGCP provides cash incentives to road authorities for road closures and covers up to 100% of the project costs associated with relocating/realigning active track to eliminate public grade crossings. A history of expenditures for the Local Grade Crossing Program is shown in **Table 34** below.

5.1.21. Trunkline Railroad Crossing Program

The Trunkline Railroad Crossing Program finances various safety measures necessary to improve crossing surface condition and to upgrade warning devices on state highways. The projects typically are a part of highway work or stand-alone jobs initiated by the Trunkline Railroad Coordination area in response to a request from the railroads, private citizens or other areas within the department. This program also participates in maintenance work on the trunkline grade crossings by assisting the railroad in financing approach pavement and any maintenance of traffic required. A history of expenditures for the Trunkline Railroad Crossing Program is shown in **Table 34** below.

Table 34: Grade Crossing Program Expenditure History

Fiscal Year	Local Crossings*	Trunkline Crossings	Total
2000	$5,880,280.45	$2,641,680.71	$8,521,961.16
2001	$8,322,826.68	$2,872,782.23	$11,195,608.91
2002	$5,916,607.25	$4,509,867.32	$10,426,474.57
2003	$6,548,542.45	$4,653,663.31	$11,202,205.76
2004	$7,441,393.96	$4,284,671.06	$11,726,065.02
2005	$6,842,337.42	$5,443,886.61	$12,286,224.03
2006	$3,637,260.87	$4,956,835.29	$8,594,096.16
2007	$7,260,622.50	$3,913,931.71	$11,174,554.21
2008	$7,243,951.64	$5,011,473.27	$12,255,424.91
2009	$4,889,692.31	$3,733,815.71	$8,623,508.02
2010	$7,041,076.57	$1,444,155.83	$8,485,232.40

Reflects new project authorizations and adjustments in project costs.
*Expenditures can exceed annual appropriations due to prior balances carried forward.

5.1.22. Passenger Rail Program

Michigan is one of fourteen states that contract with Amtrak for the operation of trains that supplement the national Amtrak network by extending the reach of passenger rail services or increasing frequencies on national routes. Michigan's Transportation Commission has adopted policies that acknowledge that intercity rail passenger service, including high speed rail, should be an integral part of the transportation system that meets transportation needs now and in the future. MDOT recognizes that intercity passenger rail is most effective in high volume travel corridors and that its best performance is achieved with high ridership.

Through its investments in operating and capital assistance to enhance Amtrak's nationwide system, MDOT endeavors to:

- Provide passenger rail service in Michigan's highest travel corridors which includes connections to the largest population centers, employment centers, and university communities.
- Meet customers' long-distance travel needs including safe and accessible equipment and terminals.
- Increase coordination and build partnerships of various modes to balance the overall transportation system.
- Fund capital improvements to reduce rail congestion and support the development of the high speed rail corridor which allows for increased speeds and shorter more reliable travel times.

MDOT's activities include providing an operating subsidy for rail passenger services to supplement intercity passenger rail services. MDOT subsidizes operations on the Blue Water and Pere Marquette lines. The Wolverine service is considered to be part of Amtrak's national network and the state does not contribute to the operation of these trains. A history of the state's subsidy of Amtrak operations is shown in **Table 35** below.

Table 35: Annual State of Michigan Subsidy of Amtrak Operations

Fiscal Year	Annual State Subsidy
1994	$965,000
1995	$1,100,000
1996	$1,897,500
1997	$2,050,000
1998	$2,050,000
1999	$2,050,000
2000	$2,050,000
2001	$5,700,557
2002	$5,700,000
2003	$5,700,000
2004	$7,100,000
2005	$7,100,000
2006	$7,100,000
2007	$6,236,555
2008	$6,124,306
2009	$6,435,296
2010*	$7,800,000

Source: MDOT * Estimated

The Michigan Department of Transportation has made significant capital investments in the state's rail network to support passenger rail service. Since Amtrak began operating the nation's passenger rail service in 1974, MDOT has invested over $100 million in state, federal and local funds on passenger-related rail projects. These projects have included new and rehabilitated stations and associated facilities, grade crossing improvements, separations and eliminations, track and signal upgrades, especially on the 97 miles of Amtrak-owned track between Porter, IN and Kalamazoo, and rail equipment upgrades. A detailed list of these capital investments is included in **Table 36** below.

Table 36: Michigan Capital Investments in Passenger Rail Service

Project	Fiscal Year Started	State $	Federal $	Other $	Other Participants	Status
Jackson Study	2009	$60,000				ongoing
Durand Parking Lot	2009	$250,000				ongoing
Test Project-Denton Rd	2007	$158,553	$118,447			ongoing
Battle Creek Signal Relocation	2007	$146,440				ongoing
LED Signals	2006		$277,000			complete
Generators-Amtrak Ownership	2006		$79,664			ongoing
Battle Creek Signage	2006	$5,000				complete
Detroit Station Rehab	2006	$25,000				complete
East Lansing Station Rehab	2006	$20,000				complete
Galien-Grant Street Closure	2006		$100,000			complete
Grand Rapids Station Rehab	2006	$50,000				complete
Holland Protective Fencing	2006	$25,000				complete
Jackson Station Stabilization	2006	$300,000				ongoing
Troy Station Design	2006	$350,000				complete
Kalamazoo Station	2005	-				complete
Bangor Station Rehab	2004	$125,000				complete
Port Huron Platform/Hook-ups	2004	$175,000				complete
Mich. Ave/Kalamazoo Closures	2004	$115,000				complete
Galien-Grant Street Closure	2004		$55,720			complete
Jackson Station Study	2003	$50,000		$50,000	City	complete
Albion Grade Crossing Elimination	2002	$101,200				complete
Decatur Fencing Project	2001	$73,100	$42,500			complete
Three Oaks Fencing Project	2001	$22,840	$27,360			complete
Battle Creek Station Track Study***	2001	$435,757				complete
Amtrak Infrastructure Work*	2000	$5,577,958				ongoing
Niles Enhancement	2000	$396,040	$141,640			complete
Private Crossing Elimination*	1999	$200,000	$966,420			ongoing
Kalamazoo Grade Crossings	1999	$1,570,960				complete
Horizon Coach Refurbishment	1998	$3,000,000				complete
Dearborn-New Station	1997	$248,125	$992,500			complete
Grand Rapids Station rehab	1996	$131,000				complete
Auto Ticketing	1996	$500,000				ongoing
Hi Speed Pos. Train Control**	1995	$10,950,768	$19,430,012	$9,377,569	Am/Harmon	ongoing
Durand-rehab	1994		$102,000	$26,000	City	complete
Greenfield Vlg-platform, station	1994	$170,660	$122,640			complete
Pontiac Mechanical Building	1994	$32,000	$130,000			complete

Table 36: Michigan Capital Investments in Passenger Rail Service (Continued)

Project	FY Started	State $	Federal $	Other $	Other Participants	Status
Battle Creek-minor rehab	1993	$25,600		$6,400	City	complete
Detroit Permanent Station	1993	$2,590,000	$6,160,000			ongoing
Dowagiac-platform, enhancement	1993	$50,000	$341,048	$208,539	City	complete
Kalamazoo Minor rehab	1993	$153,000				complete
Lapeer-Rehab	1993	$25,000	$25,000	$6,000	City	complete
Section 1010 Gd Xing Improvements	1993	$1,000,000	$3,650,000			ongoing
Pontiac Extn-Station and track	1992	$2,942,000				complete
Holland-Major station rehab	1991	$1,000,000		$700,000	City	complete
Lapeer-Station Rehab	1991	$125,000				complete
Coach refurbishment	1990	$4,925,000				complete
Conrail Gd. Xing improvements	1989	$4,500,000				complete
Corridor Infrastructure Improvement	1989	$7,805,523				complete
Flint station constr.	1989	$700,000				complete
St. Joseph station rehab	1989	$150,000		$350,000	City	complete
Albion station rehab	1988	$150,000				complete
Detroit temporary Station	1988	$550,000		$150,000		complete
Durand-station rehab	1988	$85,000		$15,000	City	complete
Niles-Station-Major rehab	1988	$275,000		$275,000	Amtrak	complete
Cab Control Cars	1987	$4,075,000		$4,075,000	Amtrak	complete
Amtrak Gd. Xing improvements	1986	$425,000				complete
E. Lansing station rehab	1985	$50,000	$75,000	$100,000	City/Amtrak	complete
Jackson Station rehab	1985		$200,000			complete
Bangor station rehab	1984	$20,000		$30,000	City/Amtrak	complete
Gd. Rapids-temp. station const.	1984	$50,000		$100,000	City/Amtrak	complete
New Buffalo station rehab	1984	$10,000		$15,000	City/Amtrak	complete
Ann Arbor station constr.	1983	$375,000		$375,000	City/Amtrak	complete
Battle Creek constr.	1981	$2,000,000				complete
Dearborn station constr.	1979	$375,000		$375,000	City/Amtrak	complete
Dowagiac-Major rehab	1977	$100,000				complete
Kalamazoo Major rehab	1977	$1,000,000				complete
Pt. Huron-Station constr.	1974	$50,000		$100,000	City/Amtrak	complete
Total		$60,846,524	$33,036,951	$16,334,508	$110,217,983	

* $800,000 in State money added to Amtrak Infrastructure and $200,000 in State money added to Private Crossing Elimination in FY2003 and an additional $795,000 of State funds put into Amtrak Infrastructure and $200,000 in Auto Ticketing Project in 2004.)

** This project was started in 1995 and additional monies have been added through 2006-In 2006 the following contributions were made State-$250,768,FRA-$355,436,GETS-$580,000,AMTRAK-$570,000) Amendatory Contract (96-0819/A8) between MDOT and the FRA does not reflect the $580,000 that is contributed by GETS. It is in the work plan but FRA did not want to reflect it in their total project costs.

*** $775,058 in State money was added to Battle Creek Station Track Project/Study in FY03. Total of $2,868,343.28 was transferred in FY08 from this project to the West Detroit Track Project which was not on list until FY09.

6. Review of Existing Studies

Numerous studies have been conducted by the State of Michigan and various regional and local governmental agencies that address the role of rail in the state's transportation network. These studies have focused on determining current and future rail needs and the benefits of investing in the state's rail network. Studies range from comprehensive statewide policy development plans to individual studies designed to move rail projects forward to implementation. Brief descriptions of each of the significant studies conducted since 1995 are included below.

6.1. Statewide Plans and Programs

6.1.1. 2005–2030 Long-Range Transportation Plan: Moving Michigan Forward (MDOT June 2007)[71]

The Long Range Transportation Plan addresses Michigan's transportation needs through 2030. Seventeen technical reports and several other supporting documents were developed to examine issues for every mode of transportation as well as related topics such as the environment, land use, and the economy. Dozens of public meetings were held throughout the state to obtain customer and stakeholder input. Surveys were conducted, and trends were examined to better understand the current state and future needs of transportation in Michigan. Michigan's multi-modal transportation system plays an integral role in supporting the state and region's economy and the quality of life for residents. The state's economy relies heavily on the transportation-intensive manufacturing industry that is dependent on the delivery of raw materials and finished products at the right place and right time. Transportation improvements will help to drive economic growth, develop new emerging and developing industries, create new jobs, and overcome economic challenges.

Transportation Challenges

The plan outlined the following challenges that affect the state's transportation system:

- **Michigan's population is aging.** This increases the demand for transit and other passenger transportation services in rural and urban places.
- **Michigan is a gateway to the global economy.** Michigan is an important freight gateway to the U.S. from Canada and intermodal freight movements with containerized goods by water, train and truck are increasing.
- **Increased highway congestion poses a problem in some parts of the state.** This is expected to interfere with timely travel on some of the state's busiest corridors as approximately 28 percent of the state's trunkline miles are expected to approach congested levels by 2030
- **Michigan's growing travel demands and aging infrastructure present needs to preserve, modernize and expand its transportation system and**

[71] http://www.michigan.gov/mdot/0,1607,7-151-9621_14807_14809---,00.html

services in key areas. The plan's outreach efforts have discovered the public seeks greater modal choice, better access, and connectivity with other modes. Truck traffic and global trade are increasing, making uncongested transportation corridors more important to the economy than ever.

- **Michigan is in a state of economic transition**. Michigan needs a transportation system in place to help support new industries, while also preserving the system that has served the manufacturing sector so well.
- **Land use change is a constant concern**. MDOT recognizes that land use patterns affect transportation choices and transportation opportunities impact land use decisions. Integrating land use into Michigan's long-range planning will help identify situations where collaboration between land use authorities and other stakeholders may complement transportation improvements.
- **There is a gap between public expectations and government's ability to deliver.** Public outreach indicates that the public wants greater transportation choices and greater access to transportation facilities.
- **Projected funding is not sufficient to sustain Michigan's transportation system, even at current levels of service.** The state's focus on maintaining pavement and bridges has hindered improvements in other areas, particularly in the non-highway modes that have received only enough attention or funding to address the most basic requirements. More revenue for transportation is needed to sustain progress, modernize the system, and improve connectivity and integration with other modes.

<u>Transportation Vision, Goals and Objectives:</u>

The plan set forth the following vision for Michigan's transportation system:

"Michigan's 2030 transportation system will be the foundation of the state's economic vitality and will sustain quality of life for its residents. Transportation providers throughout the state will work together to address the system's needs. The entire system will be maintained, preserved and protected as one of the state's most important physical assets."

The following four goals were identified to carry out the plan's vision:

- **Stewardship**: Preserve transportation system investments, protect the environment, and utilize public resources in a responsible manner.
- **System Improvement:** Modernize and enhance the transportation system to improve mobility and accessibility.
- **Efficient and Effective Operations:** Improve the efficiency and effectiveness of the transportation system and transportation services and expand MDOT's coordination and collaboration with partners
- **Safety and Security:** Continue to improve transportation safety and ensure the security of the transportation system.

The following strategies were created to help Michigan achieve its transportation goals:

- Focus improvements on Corridors of Highest Significance
- Measure performance for all modes
- Integrate the transportation system
- Encourage Context Sensitive Solutions
- Avoid, Minimize or Mitigate for Adverse Impacts
- Identify appropriate funding

Corridor Report

The transportation plan identified eleven corridors of highest significance to focus revenues on improving the condition and efficient operation of multi-modal corridors of highest significance to the Michigan economy. The corridors of highest significance (Corridors of National/International Significance) are an integrated, multi-modal system of transportation infrastructure along geographic corridors that provide a high level of support for the international, national, and state economies. These corridors connect activity centers within and outside Michigan and serve the movements of people, services, and goods vital to the economic prosperity of the state. The corridors serve and provide access to 72 percent of Michigan's population and 83 percent of Michigan's employment.

The plan has identified the following rail projects that are being implemented along National/International corridors of focus:

- Midwest Regional Rail Initiative
- Detroit Intermodal Freight Terminal (DIFT)
- Ann Arbor-Detroit-Pontiac Passenger Rail/Bus Rapid Transit Initiative

Regionally and Locally Significant Corridors were also identified in the plan. These include an integrated, multi-modal system of transportation infrastructure along geographic corridors that provide a high level of support for a specific sub-state region of Michigan's economy. These corridors connect to and augment the Corridors of Highest Significance and serve the movements of people and goods within or between activity centers.

Technical Reports

Seventeen technical reports were created for the Transportation Plan. The reports describe the separate programs and infrastructure assets that make up the system. They include:

- Aviation
- Conditions and Performance
- Environmental
- Environmental Mitigation

- Finance
- Freight
- Highway Safety
- Highway/Bridge
- Integration
- Intercity Passenger Transit
- Land Use
- MPO/RPA
- Non-motorized
- Security
- Socioeconomics
- Transit
- Travel Characteristics

The reports were reviewed to identify information relevant to the rail planning process. Relevant information is summarized below.

- **Finance -** As of 2005, the highway program received the largest portion of the state's transportation revenues, accounting for 81% of the total. The Transit Program received the second highest level at 12 percent followed by the Aeronautics Program (6%) and the Intercity Passenger and Freight Program (1%). Federal transit and intercity/freight revenues are expected to increase at an annual rate of 4.3 percent through 2030. State transit and intercity/freight revenues are expected to increase at an annual rate of 3 percent through 2030.
- **Freight -** The safe, reliable movement of freight on the state's highway corridors and intermodal connections are keys to Michigan's future economic vitality and quality of life in the global economy. In 2003, Michigan's railroads carried nearly 120 million tons of freight, accounting for approximately 18 percent of Michigan's total commodity movements. The estimated value of these rail flows exceeded $162 billion. Approximately 46 percent of all overland commodity tonnage passing through Michigan moves by rail. Also, Michigan transports just over 14 million tons of commodities intrastate by rail, with a value of $2.9 billion.
- **Intercity Passenger Transit -** National Railroad Passenger Corporation (Amtrak) serves as the primary passenger rail service in Michigan. Amtrak offers intercity passenger rail services along three major corridors (22 stations total) in Michigan. Statewide ridership and revenue reached all-time highs in 2005. Michigan is also involved in the Midwest Regional Rail Initiative (MWRRI),
- **Transit -** While all 83 counties in Michigan have some sort of public transit, there remain significant gaps in the services provided. Urban transit systems transported 78.6 million passengers in 2004 and non-urban area systems carried more than 6.5 million passengers, and these numbers are growing.

6.1.2. State Transportation Improvement Program, FY 2011-2014 (MDOT, Revised August 2010)[72]

The State Transportation Improvement Program (STIP) is a federally mandated planning document that lists surface transportation projects that the state intends to fund with federal-aid provided under the federal-aid transportation program. The primary purpose of the plan is to provide information on programs and projects over the next four years, and gives FHWA the opportunity to verify that new resources are available and sufficient to finance these improvements. Once approved, it will serve as a four-year planning document for the state and will be periodically updated through the amendment process. The STIP is prepared in accordance with the requirements of SAFETEA-LU. It is also coordinated with the state's MPOs and Rural Task Forces.

The current STIP is a compilation of transportation projects that was authorized for funding in fiscal years 2011-2014. The STIP is composed of 13 separate documents; 12 individual MPO Transportation Improvement Programs (TIPs) and one STIP document. The STIP lists only projects outside of the Metropolitan Area Boundaries but contains financial information for the entire state.

The following are included in the STIP:

- Road, bridge and transit projects located exclusively in rural areas
- The transportation planning processes
- MDOT's transportation goals
- The public involvement process
- A financial plan that compares annual resources to new commitments.

6.1.3. MDOT Five Year Transportation Program (FYTP), FY 2011-2015 (MDOT, 2011)[73]

The Five Year Transportation Program is an integrated multi-modal program that continues to implement the goals and policies outlined by the State Transportation Commission (STC), emphasizing preservation of the transportation system and providing safe mobility to Michigan's citizens. It is an integrated program that includes highways, bridges, public transit, rail, aviation, marine, and non-motorized transportation. Revenue assumptions and investment strategies that relate to the Michigan Rail Plan process are discussed in the proceeding sections.

Revenue Assumptions:

The FYTP invests nearly $5.9 billion in MDOT's transportation system. Over this time period it dedicates $4.07 billion to the highway program, $1.35billion to

[72] http://www.michigan.gov/mdot/0,1607,7-151-9621_14807_14808-241927--,00.html
[73] http://www.michigan.gov/documents/mdot/MDOT_5_Year_Program_216970_7.pdf

passenger transportation (local transit, intercity bus and passenger rail) $53.7 million to rail freight and ports and $620.1 million to airports.

MDOT is able to advance a fully funded highway program in FY 2011 as a result of one-time funding shifts within the department's budget. A shortfall in state funds to match federal aid was restored due to these budget adjustments. However, there remains a significant state funding shortfall in FY 2012- 2015.

In order to match all available federal aid, an additional $120 million to $160 million in state revenue is needed per year starting in 2012. The Five-Year Program for FY 2012-2015 was reduced by approximately $700 million per year from FY 2011 investment level, due to the expected shortfall in state revenues.

For FY 2012-2015, the adjustments made to match federal aid in 2011 will not be available. In the Five-Year Program, we have assumed some redirection of state funds will be necessary to afford the planned program for FY 2012-2015. The department will continue to monitor revenue and program investments and make adjustments as needed to ensure fiscal constraint.

A similar crisis exists for MDOT multi-modal programs. These programs provide assistance for local and intercity bus service and airports, as well as passenger transportation and freight rail service. The programs receive funding through the Michigan Transportation Fund (MTF), the Comprehensive Transportation Fund (CTF), State Aeronautics Fund (SAF) and Federal Aid for Grade Crossings. These programs have all experienced reduced revenues for a number of years, and that trend is expected to only get worse.

For passenger rail, the FYTP indicates that MDOT will compete for grants provided by the High Speed Intercity Passenger Rail ARRA funds administered by the Federal Rail Administration during this five-year period.

For freight rail, funding will continue to face reductions during this five-year period. Limited funding restricts MDOT's ability to address new business opportunities or emergency situations.

The Local Grade Crossing Program, which supports motorist safety at railroad/roadway grade crossings, receives dedicated federal funding through SAFETEA-LU and MTF funding. Federal funding for local railroad crossing safety programs has remained constant for the past several years, but continues to be approximately 20 percent below pre- SAFETEA-LU levels. Any additional federal funding would be based on congressional earmarks and special projects.

Investment Strategies:

The Five-Year Transportation Program includes investment strategies for highways and multi-modal programs based on previously discussed funding levels. Only investments that are most relevant to the rail planning process are summarized below.

State revenues will fall short of meeting the average annual need to preserve existing intercity passenger services and infrastructure. It is uncertain if MDOT will be able to maintain current contracts for intercity bus and passenger rail

services over the next five years. In addition, Michigan will not be able to effectively compete for new federal discretionary grant programs for rail passenger. Under PRIIA, Congress created a five-year competitive grant program for funding high-speed intercity passenger rail programs throughout the United States. Michigan will continue to apply for PRIIA grants to improve the intercity passenger rail system in Michigan; however, the match needed to obtain these grants is not available and as such not included in this five-year program

With revenue expected to remain constant, at best, and costs continuing to escalate, MDOT will take all appropriate steps to maximize the effectiveness of its rail freight investments. Railroads operating on state owned lines may be expected to shoulder an increasing responsibility for maintenance and minor improvements. The Freight Economic Development Program may be forced to deny worthwhile applications for assistance and/or require greater proportional participation from the applicants themselves. Fewer safety improvement projects at grade crossings will be undertaken.

Under this five-year program, MDOT will seek to respond to any economic development activity, while continuing to focus its efforts on safety and preservation. It is expected to invest $42.3 million (not including the expenditure authority above expected revenue) through the Capital Development Program, Freight Economic Development Program, and Local Grade Crossing Program. Projects planned for this five-year timeframe include the repair of two state-owned rail bridges, as well as freight-related economic development projects and safety enhancement projects at local railroad crossings. Although specific projects for the Freight Economic Development have not yet been identified, we should be able to accommodate approximately 10 project requests within this five-year timeframe. Based on the expected funding, approximately 40 Local Grade Crossing projects will be undertaken each year, with specific projects identified annually. However, additional program reductions may be needed if revenues continue to decline.

6.1.4. Michigan Intercity Bus and Passenger Rail Study (University of Michigan, 2009)[74]

Michigan's 2009 Intercity Bus and Rail Study explored the travel characteristics of Michigan's intercity rail users. The study shows that of the intercity rail travelers between Michigan and Chicago, 39% are traveling for vacation, nearly 6% are traveling for shopping and over 13% are travelling on business. This is important because it indicates that the passenger traffic between Chicago and Michigan supports access to business and recreational markets in both Illinois and Michigan. Furthermore, the study finds that over 18% of travelers on Michigan's rail system are from Illinois and over 5% are from elsewhere in the US, indicating the role played by intercity rail in bringing outside business and recreation markets to the state.

[74] Grengs, J., Michigan Intercity Bus and Passenger Rail Study, University of Michigan, 2009

According to the study, the most common trip purpose for Michigan's intercity rail travelers is visiting friends and family (accounting for 39% of rail passengers). Vacation is also a very common intercity rail trip purpose, accounting for 26% of rail trips in 2009, with vacation as the dominant purpose for travel to Chicago (the most common intercity rail destination). Business, school and personal travel were also cited as common purposes for intercity rail trips in Michigan. In the 2009 study, over 80% of Michigan's rail travelers indicated that air travel was a very likely substitute for trip making if the train was not available, and over 40% indicated that driving would be a very likely substitute. Just over 30% indicated they were very likely to forego travel if rail service were not available.

The 2009 study also indicates that the majority of intercity rail users in Michigan are from households earning more than $50,000 with two or more vehicles available (among Michigan residents). 72% either drive or are dropped off at rail stations by passenger cars. More than 50% of Michigan's rail passengers are under the age of 35.

Overall it is important to note that:

a) Intercity rail brings a significant number of people into the state each year for business, entertainment and recreational trip purposes – as well as visiting friends and family.

b) Rail connections support personal more than business trip purposes for Michigan travelers, indicating that rail supports the quality of life for Michigan residents.

c) A significant number of Michigan's rail travelers would use more costly substitutes (flying or driving) if rail were not available to them, indicating that there is some cost savings to the public when rail is available.

d) A significant share of Michigan's rail travelers would forego travel entirely if rail were not available; suggesting that rail service is enabling some degree of other activity in the state that may not have otherwise occurred.

6.1.5. Michigan Passenger Rail Station Community Benefits Study (MDOT, 2009)[75]

IN 2009, MDOT commissioned the Michigan Passenger Rail Station Community Benefits Study to assess the existing economic benefits of Michigan's passenger rail stations. The study explores the economic benefit of Michigan's AMTRAK services in terms of:

a) Time and cost savings to individuals of using passenger rail service when compared to likely secondary modes (as reported in the 2007 passenger survey);

[75] http://www.michigan.gov/documents/mdot/MDOT_Michigan_Passenger_Rail_Station_Community_Benefits_Study_299920_7.pdf

b) Local business activity stimulated by travel to Michigan destinations that would have been foregone in the absence of rail service (a distinction is made between those that would have been foregone, and those that would simply have been transferred to other modes or activities in other locations);

c) The direct economic impact on earnings, output and employment of actually operating the rail lies themselves; and

d) The public costs of maintaining and operating the stations.

This study is a broad based assessment of the community level benefits of passenger rail services. It is important to recognize that Michigan communities receive only low or medium frequency levels of passenger rail service. Eleven of Michigan's 22 station communities have only a single daily round trip while the other half have from two to four daily round trips. Thus the level of services should not be expected to meet the expected economic impacts experienced by communities served by commuter rail, light rail, or heavy rail systems with hourly or more frequent service. That being said, existing Amtrak service generates significantly, quantifiable benefits.

The National Railroad Passenger Corporation, operating under the Amtrak name, has since 1971, been the sole provider of intercity passenger rail service in Michigan. Covering three corridors:

- The Wolverine Corridor between Pontiac, Detroit and Chicago
- The Blue Water Corridor between Port Huron and Chicago
- The Pere Marquette Corridor between Grand Rapids and Chicago.

Ridership on these services has grown by over 50% thus far this decade—from 457,000 passengers in the year 2000 to 724,000 passengers in 2008. The 22 stations range in size and level of services. Some are well preserved full-service venues, while others are bus-stop type shelters with a ticket machine. There is no common model for these locations.

Overall the study finds that intercity rail service is responsible for nearly $20 million in direct travel time and cost savings to travelers, over $2.7 million in savings to travelers on secondary modes (to which travel would be diverted if intercity rail were not available), $25.7 million in local business revenue (activities that would have been foregone if the rail service had not been available) and over $13.6 million in direct expenditures by Amtrak itself operating the service in Michigan's economy.

The study points to the economic significance of Michigan's intercity rail service in supporting the state's economy, demonstrating that the benefits of intercity passenger rail service go far beyond travel time and travel cost savings alone, and account for a substantial economic contribution while carrying only a small share of the state's overall traffic.

6.2. Regional Plans and Studies

6.2.1. Final Environmental Impact Statement (FEIS) and Final Section 4(f) Evaluation – Detroit Intermodal Freight Terminal (DIFT) (MDOT & Federal Highway Administration (FHWA), December, 2009)[76]

The FEIS for the Detroit Intermodal Freight Terminal (DIFT) describes the social, economic, and natural environmental impacts of a proposed freight terminal located in southwest Detroit between Wyoming and Livernois avenues south of I-94. The preferred alternative involves consolidating intermodal operations of the CSX, NS, and CP railroads in Southwest Detroit at the Livernois-Junction Yard. The CP/Oak terminal will continue to be used for non-intermodal railroad purposes. The Canadian National Railroad has opted not to shift its Moterm operation to the Livernois-Junction Yard and not to expand its terminal. But, it will pay its share of external-to-terminal rail improvements that are part of the DIFT project. Such improvements by the DIFT project will increase the efficiency of operations. Road improvements will also be made.

The Federal Highway Administration (FHWA) has issued the final environmental clearance for this proposal. With the release of the Record of Decision (ROD), the project is allowed to move forward in the next phases of design, and pursue right of way acquisition and construction as funding becomes available.

This terminal will be used as a center for stimulating economic revitalization in southeast Michigan by improving rail freight transportation opportunities and efficiencies at a consolidated terminal in southwest Detroit.

MDOT has teamed with all four Class I railroads operating in Michigan - CSX, Norfolk Southern, Canadian Pacific, and Canadian National Railroad - to jointly develop the project. This represents the largest public/private partnership of this type in Michigan history. Additionally, USDOT will fund portions of this project. MDOT has been awarded a FY 2009 HSIPR grant in the amount of $7.9 million to pay 50% of the cost of new connecting track and crossovers, a new bridge and a new rail traffic control system at West Detroit junction.

According to the FEIS, the consolidated terminal will provide the necessary infrastructure to support current and future distribution needs of auto manufacturing, the state's largest industry, and other southeast Michigan businesses, while supporting the needs of residential neighborhoods and businesses in the area.

There is a current lack of adequate intermodal capacity in Southeast Michigan, and the connectivity between intermodal terminals is poor. Roadway improvements would be needed to realize this plan to successfully direct traffic into, out of, and around the terminal. The consolidated terminal would accommodate existing and future demands, while supporting the needs of residential neighborhoods and businesses in the area.

[76] http://www.michigan.gov/mdot/0,1607,7-151-9621_11058_26215---,00.html

The project is estimated to cost $650 million, while displacing 28 single family dwellings, 4 apartment units, and 29 businesses (approximately 169 acres). Each of these impacts are explained as minimal, and are minimized by the jobs, surrounding housing, and business development opportunities that are available at this time – and will increase in the future with the development of such a terminal.

The EIS estimates that 275 jobs will be relocated within or outside the terminal location. The project is estimated to provide an average of 300 construction jobs over a 10-year period with over 600 construction jobs during the peak construction year. It also will create almost 2,400 permanent jobs in Detroit and an additional 2,100 jobs throughout Michigan (4,500 total in Michigan).

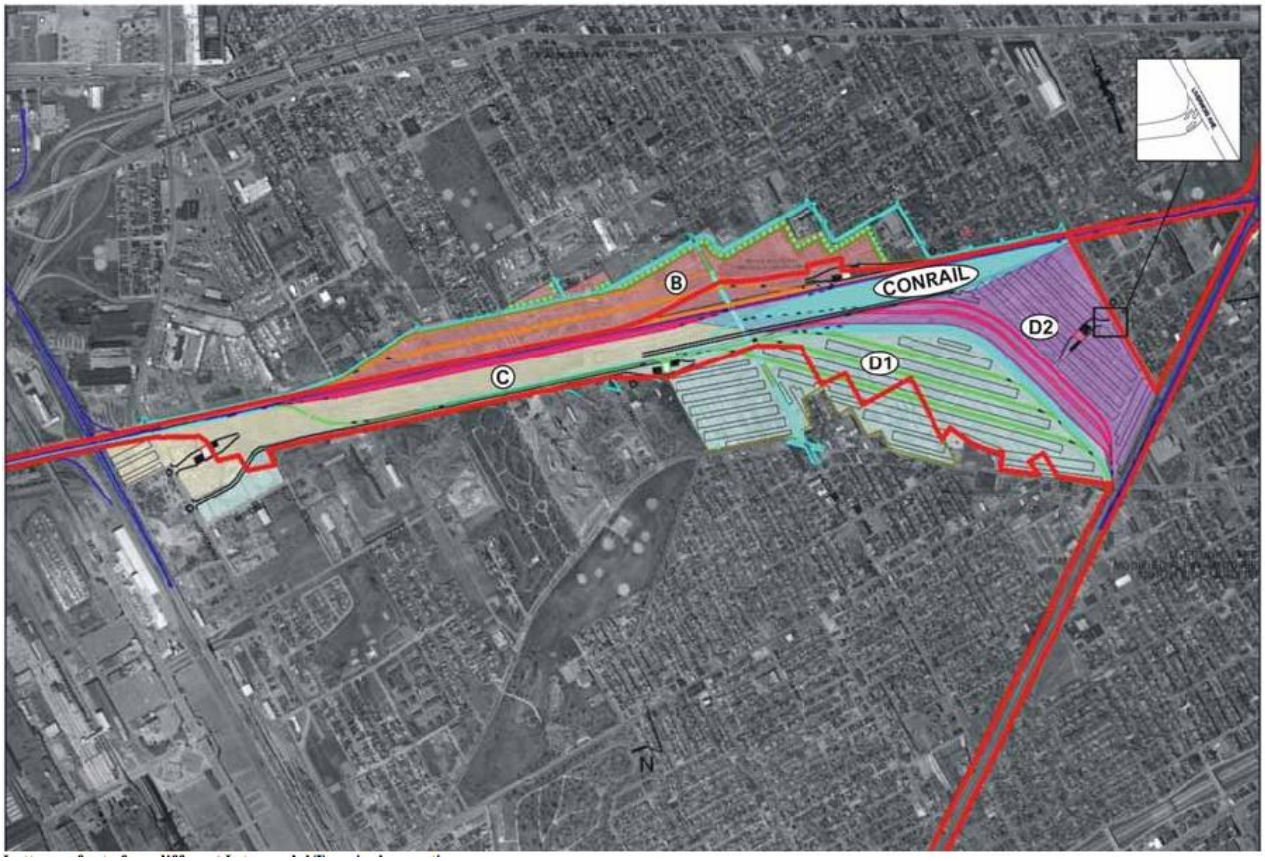
The Federal Highway Administration issued a Record of Decision (ROD) on April 22, 2009 that concurs with Selected Alternative chosen by MDOT through the EIS process. According to the ROD, the Selected Alternative will:

- Expand the Norfolk Southern and CSX intermodal operations at the Livernois-Junction yard;
- Provide the opportunity to shift the NS Triple Crown operations from Melvindale and Willow Run to the Livernois-Junction Yard;
- Provide for external rail improvements, with participation by all for Class I railroads
- Make roadway and yard entry gate changes in support of the project; and
- Provide enhancements to the community.

The ROD identifies the Selected Alternative as the environmentally preferred alternative that best:

- Meets the purpose and need for intermodal capacity while minimizing the project footprint and truck impacts;
- Meets design constraints; and
- Protects, preserves and enhances historic, cultural, social and natural resources.

Figure 8: Proposed Detroit Intermodal Freight Terminal



6.2.2. <u>Service NEPA Environmental Assessment. Chicago-Detroit/Pontiac Rail Corridor Improvements from Chicago, Illinois to Pontiac, Michigan</u> (MDOT with Illinois DOT, Indiana DOT, and FRA, 2009)[77]

This document is an Environmental Assessment for the proposed improvement to the Chicago-Detroit/Pontiac Rail Corridor in Illinois, Indiana and Michigan. This assessment will determine the significance of impacts for the proposed improvements to this rail project and in effect will establish the appropriate environmental documents that must be prepared for the project. The EA will be made available for review by the public. If review and comment by the public and interested agencies support the determination of "no significant impact", a finding of no significant impact (FONSI) will be issued by the Federal Railroad Administration (FRA). If it is determined that the preferred alternative will have significant impacts that cannot be mitigated, the preparation of an EIS will be required.

Specifically, the EA describes the type of service being proposed, Communities being served, types of operations, ridership projections and major infrastructure

[77] http://www.michigan.gov/documents/mdot/MDOT_ServiceNepaEA_295227_7.pdf

components, improvement alternative being proposed and measures taken to minimize harm to the corridor.

The proposed improvements to the existing rail corridor in Illinois, Indiana and Michigan consist of a coordinated and comprehensive group of rail improvement projects that eliminate a series of chokepoints between Chicago and Porter, IN and improve track conditions and signals between Porter and Ann Arbor resulting in speed increases in this segment. The proposed improvements to the existing Chicago-Detroit/Pontiac rail corridor and station improvements are consistent with the Midwest Regional Rail Initiative (MWRRI) Plan of 1996.

The project proposes to acquire 134-miles of the Norfolk Southern (NS) Rail Line, as NS has plans to downgrade this segment of the existing corridor to a FRA Class II railroad (25 mph freight and 30-40 mph passenger) unless an alternative agreement is reached.

All potential impacts need to be identified and steps to minimize, mitigate or compensate for these impacts must be identified in the NEPA document. The NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment.

Connected projects must also be included in this assessment. For example, an Environmental Impact Statement (EIS) for the Detroit Intermodal Freight Terminal (DIFT) Project, the current Automatic Block System (ABS) will be converted to a Centralized Traffic Control (CTC) signaling between Milwaukee Junction and West Detroit Junction, and the proposed Englewood Flyover (METRA Rock Island District (RID) line) flyover over the NS rail line at Englewood Junction in Chicago will be subject to this investigation. While they are not directly detailed in this project, they are connected projects and will have important impacts on this project.

The proposed infrastructure improvements, acquisition of railroad ROW and rolling stock, and station improvements were analyzed and it was determined that the proposed planned improvements along the corridor will not have a negative impact on the human, physical or biological environment.

The trains will travel on existing lines through areas already accustomed to rail traffic, both freight and passenger. The indirect results of planned project work in Michigan and Illinois will contribute to an improvement to the environment in Indiana in the following areas: public health and safety, noise and vibration, and air quality.

Illinois, Indiana, and Michigan have reviewed this project for potential impacts on the physical, human, and biological environments. Based on the information in this Environmental assessment, along with field reviews and coordination with other agencies and the public, it is anticipated that the proposed improvements to the rail corridor will have no long-term significant negative impacts on the environment.

6.2.3. Lansing to Detroit Passenger Rail Study (SEMCOG, 2000)[78]

In 1996, the Oldsmobile Division of General Motors Corporation announced the consolidation of Oldsmobile's Lansing Headquarters into GM's new World Headquarters in downtown Detroit. In consequence, many workers were faced with the choice to relocate their families or maintain a long daily commute to Detroit. Discussions began in 1997 on commuter options that could possibly alleviate some of the cost and inconvenience of a long daily commute between Lansing and Detroit. One proposed commuter option was determined to be a rail passenger service.

Market research studies were undertaken to explore demand for such a service. Considerable interest was shown. The service evolved over time from a commuter train to serve GM employees to a passenger rail service that could broadly meet the needs of commuter, business and recreational traveler's moving in both directions from Lansing to Detroit and from Detroit to Lansing.

The Lansing to Detroit Passenger Rail Study concluded with the development of a Business Plan for the project. This includes suggestions on an organizational structure to manage and provide oversight for the project, a detailed plan and schedule for implementation, a phased capital improvement program and strategies for funding the project. Further, economic impacts associated with the project, public information and marketing needs and freight railroad negotiation issues are addressed. No further work was done to progress the implementation of service in the entire study corridor, however, there is an on-going effort to implement service in two segments – Ann Arbor to Detroit and Ann Arbor to Howell (see below for more information about these two corridors).

6.2.4. Ann Arbor-Detroit Regional Rail Project: AA/DEIS Transit Study (SEMCOG, 2006)[79]

The Southeastern Michigan Council of Governments (SEMCOG) has been working to improve transit services along the 38-mile corridor between downtown Detroit and Ann Arbor. This project is part of the Lansing-Detroit project that emerged in 2000. The Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) completed in 2006 analyzed five different alternatives using a combination of three different technologies (Bus Rapid Transit, Light Rail Transit and Commuter Rail Transit). The preferred alternative selected in the DEIS includes commuter rail service connecting to the proposed Woodward Avenue/M1 light rail corridor in Detroit.

The AA/DEIS determined that the proposed service would not meet the Federal Transit Administration's cost effectiveness requirements and was therefore not eligible for federal funding. Consequently, the state and SEMCOG decided to move this project forward without federal funds. The intent is to start with a three

[78] http://www.semcog.org/AADD_AdditionalMaterials.aspx
[79] http://www.semcog.org/AADD.aspx

to five year demonstration project and run trains for special events. This will hopefully demonstrate that costs and ridership would be in a range to better qualify the project in the federal New or Small Starts program. The federal process can be continued at a later date

MDOT is moving forward with rebuilding 15 bi-level passenger cars, improving rail infrastructure and developing two new stations. This project implements one of the key recommendations from SEMCOG's "Improving Transit in Southeast Michigan: A Framework for Action" plan.

6.2.5. Washtenaw Livingston Rail Line (Wally) Technical Review. Final Report and Revised Draft Business Plan (Wally Coalition, 2008)[80]

"Wally" is a proposed north-south commuter service between Ann Arbor and Howell, a distance of approximately 27 miles, with three intermediate stops. Under this proposal the Ann Arbor Transportation Authority will operate four trips per day in each direction. Projections estimate 1,200 passengers per day. Capital costs are estimated to be $32 million and the annual operating expense is approximately $7 million. In April 2010 supporters announced a scaled-back proposal with start-up costs of $16-$20 million, with yearly operating costs of $7.1 million.

About half of the money has been secured, with much of it coming from the Michigan Department of Transportation, which is paying to renovate 15 former Chicago METRA rail coaches, improve portions of the 27 miles of MDOT owned track, and conduct the environmental assessment.

This line would ease traffic congestion on U.S. 23 and promote economic development in Livingston and Washtenaw counties. MDOT determined that adding a third lane of traffic would cost approximately $500 million, far exceeding any budget in place. This line would also create economic development opportunities for existing and new businesses.

In addition to meeting the goals of the Washtenaw County Comprehensive Plan, the proposed commuter rail corridor is part of the 2001 Regional Transit Plan adopted by the Southeast Michigan Council of Governments (SEMCOG). The proposed service is also supported by the rail operator, Great Lakes Central Railroad. Other project partners include the University of Michigan and the Environmental Protection Agency who have pledged to purchase passes on behalf of employees, all leading to a high likelihood of success.

Station sites are currently undergoing planning and environmental reviews.

6.2.6. Direction2035 Regional Transportation Plan for Southeast Michigan: Transportation Needs (SEMCOG, 2008)[81]

Direction2035 is the region's (SE Michigan) long-range vision for transportation. It demonstrates how the transportation system can lend itself to improving the

[80] http://www.theride.org/wally.asp
[81] http://www.semcog.org/Long-RangeTransportationPlan.aspx

region overall by contributing to transportation goals, economic recovery, environmental health, community revitalization and stability, and quality of life. It consists of transportation projects anticipated over the next 26 years, as well as policies and initiatives to be carried out by both SEMCOG and its partner agencies to keep moving the region in the right direction. Direction2035 includes 1,800+ transportation projects to be implemented between now and 2035 by the state, local communities, and transit agencies.

This vision consists of roads, bridges, transit routes, walking and biking facilities, ports, airports, rail lines, international border crossings, and intermodal facilities. It moves people and freight efficiently, effectively, and safely, contributing to quality of life and prosperity for residents, visitors, and businesses alike.

Combined, Direction2035:

- Identifies and prioritizes the region's transportation needs through the year 2035;
- Estimates federal, state, and local revenues available to road and transit implementing agencies to address those needs;
- Promotes a regional investment direction for spending those revenues that will maximize goals and achieve quantifiable pavement, bridge, safety, congestion relief, walking/biking, and transit performance targets; and
- Is consistent with various federal and local evaluation criteria.

It is estimated the region would need approximately $2.8 billion per year to address all identified transportation needs. However, they anticipate having only $1.3 billion per year available.

Both SEMCOG's regional transit vision (adopted in 2001, covering the entire seven-county region) and the Regional Transit Coordinating Council's Comprehensive Regional Transit Service Plan (adopted in 2008, providing more detailed recommendations in the tri-county area) are included in Direction2035 by reference and guide the programming of projects. They plan to spend $315 million per year to maintain the existing system of buses and initiate a regional rapid transit system. Funding has been identified to construct and operate three rapid transit lines listed in the regional transit vision and tri-county transit plan — along Woodward Avenue in the City of Detroit, between Ann Arbor and Detroit, and between Ann Arbor and Howell — and to conduct an analysis of alternatives for the expansion of the rapid transit system along the next high-priority routes — M-59 in Macomb and Oakland Counties, Gratiot Avenue in Macomb and Wayne Counties, and Woodward Avenue in Oakland County. The remainder of the rapid transit projects identified in the regional transit vision and tri-county transit plan are part of an "illustrative" list of projects that will move forward when additional funding is identified.

6.2.7. TranslinkeD Driving Global Connectivity (Detroit Regional Chamber of Commerce, 2009)[82]

TranslinkeD was introduced at the 2008 Mackinac Policy Conference and is made of Detroit Regional Chamber and Detroit Regional Economic Partnership members who strategically plan our future logistics and mobility resources. Their work allows the region to create a comprehensive transportation vision with prime access to North American and global trade for the Detroit region.

The 2009 – 2012 Strategic Plan for the Detroit Regional Chamber is meant to identify an operating framework to assure relevancy to the membership it was created to serve. The current mission, "Powering the Economy of Southeast Michigan" remains a critical need.

One umbrella goal: To lift the Detroit region from its current image and perception problems through attracting and retaining talent and driving economic development.

This strategic plan focuses on 1) Image & Perception, 2) Advocacy, 3) Talent, and 4) Economic Development, as the pillars in need of immediate attention, so that the strategic plan will succeed.

Their website provides a grocery list of links and helpful resources for transportation related issues in Michigan. Additionally, there is helpful information that provides development information to the four pillars mentioned above.

The website and strategic plan provided does not specifically reference rail projects in Michigan, but provides useful links to transportation issues. Primarily focused on the economy of SE Michigan, this site is a good source for economic trends and issues in this area.

6.2.8. Detroit Regional Aerotropolis: Strategic Development Master Plan (Detroit Renaissance, 2008)[83]

This report presents a Strategic Development Master Plan for a new international commercial nexus to catalyze growth and development throughout Southeast Michigan. The term 'Aerotropolis' is used to classify the economic development role of airports and aviation-driven enterprises in shaping 21st century urban growth and form. Land adjacent to airports is naturally advantageous for the location of global and domestic commercial entities. The Detroit Region Aerotropolis is well positioned to take advantage of this phenomenon, with vacant, developable land proximate to Detroit's airports. This plan estimates that 64,000 new jobs would be created with the full build-out of this plan.

The project area is approximately 60,000 acres, surrounding both Detroit Metropolitan Airport and Willow Run Airport. This area is larger than any city in Michigan other than Detroit. The location is close to both airports, contains a

[82] http://www.detroitchamber.com/index.php?option=com_content&view=article&id=73&Itemid=73
[83] http://www.detroitregionaerotropolis.com/pdf/JLLstudy.pdf

large amount of vacant/developable land (10,731 acres), and accessible through I-94, I-275, connecting arterials and three rail lines. Alternatively, the location lacks significant infrastructure and utilities, is located near numerous tracts of land containing wetlands, and must contend with Federal Aviation Administration (FAA) development restrictions near both airports.

There are no major legal or regulatory obstructions to development within the selected areas of the Aerotropolis; however, the creation of a "one stop shop" for all state, county and local permits, entitlements and incentives and fast track reviews would significantly accelerate development within the Aerotropolis and improve its competitive position.

Rail Component – A significant rail component is part of every existing and proposed Aerotropolis. With Michigan's proposal, there is an ideal opportunity to take advantage of the emerging in-state rail traffic support. The Ann Arbor-Detroit rail passenger study identifies this corridor as the most promising opportunity to reintroduce commuter rail travel. This master plan proposes a light rail transit line to connect terminals to parking areas and a car rental facility. It is also proposed to connect this line to a proposed stop along the Ann Arbor-Detroit rail line.

The Next Michigan Development Act (SB 1079-1084), a package of bills designed to provide economic development incentives for regional projects like the Detroit Region Aerotropolis, still awaits action by the Michigan Senate Commerce and Tourism Committee.

6.2.9. Sault Ste. Marie Multi-Modal Initiative. Phase I-Market Assessment[84] and Phase II-Feasibility Study (Destiny Sault Ste. Marie, 2007)[85]

These documents serve as an evaluation, promotion, and feasibility study of multi-modal transportation opportunities for Sault Ste Marie. Sault Ste Marie is unique as a transitional location between the US and Canada by air, land (road and rail) and sea (marine). As part of these high capacity transportation networks, Sault Ste Marie's transportation sector serves as an engine for economic growth.

Location serves as both an opportunity and a challenge for new or enhanced transportation networks. On one hand, Sault Ste Marie is in a location that could utilize products from two nations (US and Canada) while at the same time using its location on the Great Lakes and existing infrastructure to provide a variety of transit options. On the other hand, Sault Ste Marie is geographically isolated due to its location. Air travel lacks consistent service for passengers as well as cargo shipments – though these are seen as a secondary form of transportation for this project. Its isolation has traditionally made shipping difficult from this area.

[84] Sault Ste. Marie Multimodal Initiative. Phase I Market Assessment Final Report. Destiny Sault Ste. Marie, 2007.
[85] Sault Ste. Marie Multimodal Initiative. Phase II Infrastructure and Feasibility Assessment Final Report. Destiny Sault Ste. Marie, 2007.

However, there are many opportunities to enhance the current services in order to reach a much greater segment of the market.

Ultimately, the participation of shipping companies and railways is contingent upon the level and sustainability of demand that is committed by end customers towards a Sault Ste. Marie routing and the extent to which it is large enough to convince them to establish the community as a new transportation gateway.

Containers shipped Asia to West Coast ports (both in the U.S. and Canada) that are destined for the U.S. Great Lakes region would be shipped to the Port of Vancouver and sent by rail to Sault Ste. Marie, with the containers then loaded onto trucks for distribution further south. In selecting this routing, it is anticipated that customers will realize reductions in shipping times due to a more direct routing (i.e. less kilometers travelled – assuming a first port of call in Vancouver) and the avoidance of congestion at U.S. West Coast ports (primarily Los Angeles and Long Beach), Chicago and Southern Ontario border crossings (see Figures 10(a) and 10(b)).

The ability of any facility to attract container traffic rests with its ability to obtain the support of rail companies. The loss of container service to the Port is due in large part to its presence on secondary rail lines (as opposed to main lines), which corresponds with the general trend in the rail industry – a movement towards a fewer and larger intermodal facilities strategically located along the rail network in close proximity to major population centers. In Sault Ste. Marie, the ability to attract rail service will be a key determinant in the initiative's success. The issue of rail service is further compounded by the findings of the Fort Erie case study, which indicates that rail access to border crossing points should be capable of accommodating high speeds (thereby increasing total capacity). While an analysis of the state of the rail infrastructure connecting Sault Ste. Marie to the main trans-national rail network is the subject of future research, this would indicate that the extent of infrastructure investment required may be significant.

Depending on originating location, using Sault Ste. Marie as a transition point would reduce the total distance traveled, than many of the transfer locations. In order to capitalize on this opportunity, Sault Ste. Marie would be required to establish a trans-load/reload facility where Northern Ontario commodities would be collected for further distribution into the United States.

The study identifies two potential markets:

1. The shipment of commodities produced in Northern Ontario and bound for the U.S. Upper Great Lakes region
2. The shipment of goods from Western Canada to the U.S. Upper Great Lakes region that currently cross at Southern Ontario border gateways.

<u>Key Challenges:</u>

1. The inability of Sault Ste. Marie to provide a reduction in transportation distances for natural resource producers in Northeastern Ontario, which may eliminate up to half of the identified potential market;

2. Competition provided by existing distribution centers for wood and paper products situated in Southern Ontario, which are important factors influencing routings; and
3. The preference of rail companies to maximize rail densities, which will result in the use of rail lines other than those transiting through Sault Ste. Marie.

The market assessment demonstrates strong interest in the concept among end customers and logistics companies, this interest is conditional upon a sufficient level of benefits for all of the participants, including not only end customers but also those railways, shipping lines and trucking organizations that would be involved in the movement of containers through Sault Ste. Marie.

The main focus for developing the primary opportunity should be third party logistics companies.

The nature of the commodities in the containers is a reflection of the heavily industrialized nature of the core market of Michigan, Ohio and Indiana and the predominance of durable goods manufacturing in the region.

The total required infrastructure investment associated with the multimodal initiative has been estimated at between $154 million and $203 million, depending on the level of rail improvements required. However, a significant portion of this investment is related to current shortcomings in the local transportation infrastructure and would be required in the absence of the multimodal initiative. Overall, the cost of the infrastructure improvements necessary to support the multimodal initiative is estimated to be in the order of $49 million, with the remaining expenditure needed to remedy existing infrastructure constraints. This report estimates the following costs for rail infrastructure for their proposals: $68 million to address current issues, $7 million to an incremental multimodal requirement, total of $75 million. An intermodal terminal is estimated at a cost of $28 million.

Investment in this venture will come primarily from the private sector. The reliance on the private sector considers the absence of both Federal and Provincial funding programs for railways and intermodal facilities in Ontario. The decision by private sector organizations to invest in the Sault Ste. Marie initiative will be based on the overall financial return that is expected to be generated by the initiative. Under a traditional financing approach, which considers the current rates paid to the HCR and the absence of government assistance, the initiative, while potentially profitable, will likely be unable to achieve a rate of return that justifies the necessary level of investment in the supporting infrastructure

The largest single investment associated with the Sault Ste. Marie initiative relates to the improvement of the Huron Central Rail (HCR) – the company who currently operates the CP rail line between Sudbury and Sault Ste. Marie, which accounts for over half of the total required costs. Given the propensity for railways to finance their own rail improvements, it is likely that at least some

portion of the infrastructure improvements relating to the HCR will be financed by the HCR and CP (Private sector).

6.3. Multi-State and National Studies and Plans

6.3.1. Midwest Regional Rail Initiative Reports (MWRRI, 2004-2006)[86]

The Midwest Regional Rail Initiative (MWRRI) is a cooperative, multi-agency effort that began in 1996 and involves nine Midwest states (Indiana, Illinois, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin) as well as the Federal Railroad Administration. This collaboration forges an enhanced partnership between USDOT, FRA and the Midwestern states for planning and providing passenger rail service. The MWRRI has developed a plan for the Midwest Regional Rail System (MWRRS) that includes:

- Operation of a Chicago-centered hub and spoke passenger rail system
- Use of 3,000 miles of existing rail rights-of-way to connect rural, small urban, and major metropolitan areas and operate on eight corridors; connecting 100 cities in the Midwest and connecting 80 percent of the region's 65 million residents.
- Projected ridership: 13.6 million passengers annually
- 90% of the Midwest's population would be within an hour ride of a MWRRI rail station.
- Introduction of modern trainsets capable of operating at speeds up to 110 mph
- Provision of multi-modal connections to improve system access
- Introducing a contracted rail operation that improves efficiency and reliability.

The Chicago – Detroit – Pontiac Corridor is one of the key corridors recommended for upgrade to 110 mph operation. Under the MWRRI plan this 304 mile long corridor would see a significant improvement in rail service resulting from upgrades to the track and signal network, the use of modern equipment, improved travel times and frequencies; competitive fares that maximize revenue yields, improved reliability and enhanced on-board and station amenities. The MWRRI Plan proposes to support this Michigan high speed rail corridor with conventional rail service in the Pere Marquette and Blue Water corridors and with feeder bus service.

The goal of the initiative is to develop a passenger rail system that offers business and leisure travelers shorter travel times, additional train frequencies, and connections between urban centers and smaller communities. The MWRRI will provide a large increase in service and will cut travel time between destinations by 30 to 50 percent. In addition, new equipment with reduced maintenance requirements, an advanced train signaling and control system, and line capacity improvements will help to establish and sustain a high-level of on-time performance.

[86] http://www.michigan.gov/mdot/0,1607,7-151-11056-166461--,00.html

As a result of faster trip times, more frequent and higher quality on-time service, rail ridership in the routes that encompass the MWRRI will increase greatly. This increase in ridership will help to reduce expected growth in automobile congestion on highways and reduce overcrowding and runway delays at regional airports.

The MWRRS is both an enhancement to the Midwest region's transportation network and an engine for economic growth. The region's economy, like that of many other regions in the U.S., is experiencing significant growth. Trends in economic and population growth are expected to continue and it is essential that the region's transportation network keep pace with demand to sustain this growth. Because commercial and economic growth, to a large degree, is dependent upon travel within the region, mobility – for both passenger and freight – is key to sustaining the region's economic vitality and quality of life. The Midwest Regional Rail Service (MWRRS) will serve as a key component in achieving a 21st century transportation system for the region.

Key Project Benefits:

- Expanded Regional Mobility
- Increasing the Attractiveness and Popularity of Intercity Rail Service
- Environmental Benefits
- Derived Economic Benefits
- Derived Community Benefits
- Expanded Commercial Business Opportunities

Capital costs would include two major components – infrastructure and train equipment. Total investment estimated at $7.7 billion (in 2002 dollars). The MWRRI studies estimate return to the states will be an eleven fold increase in economic benefit (based on a Benefit Cost assessment) and as much as 14 fold return if "transfer benefits" from the Federal Government are considered. It should be noted that state and local tax revenues for MWRRI states would increase on the order of $750 million over the life of the project, equivalent to at least 30 percent of the project cost to the states.

Key Project Challenges:

- Project Funding and Funding-Related Activities
- Project Advocacy
- Interstate/Amtrak Cooperation and Institutional Arrangements
- Shared Rights-of-Way with Freight and Commuter Railroads

Concurrent with continuing efforts to broaden and strengthen support for the MWRRS from local, state and federal stakeholders, the business community and citizens, there is a need to advance the technical planning for the proposed system, refine the financing plan and strategies and develop institutional arrangements related to the MWRRS. These additional activities are necessary to

effectively define and position the MWRRS for funding and ultimately implementation. Work on these activities will be undertaken immediately following this study to enhance the case for the MWRRS.

Status:

Under the ARRA Act of 2009 ($8 billion for rail projects across the US) the following allotments will result in funding for this project:

- $1.131 billion for Chicago–St. Louis–Kansas City ($1.1 billion for Chicago–St. Louis, $31 million for St. Louis–Kansas City)
- $823 million for Chicago–Milwaukee–Madison–Minneapolis/St. Paul ($810 million for Milwaukee–Madison, $12 million for Chicago–Milwaukee, remaining $600,000 to study possible alignments to the Twin Cities.)
- $244 million for Chicago–Pontiac–Detroit, including funding for the Englewood Flyover railroad grade separation in Chicago, the Norfolk Southern Gateway project in Indiana, and funding for new stations in Dearborn and Troy and renovations to the existing station in Battle Creek.

An additional $400 million was released for the "3C" corridor in Ohio connecting Cleveland, Columbus, Dayton, and Cincinnati, and $17 million was allocated to Iowa. Many of the corridors receiving funding at this time were originally designated as high-speed rail corridors following the 1991 ISTEA legislation.

Additional funding for MWRRI corridors is being provided through the High-Speed Intercity Passenger Rail Program (HSIPR), which was created by the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). In the fiscal year (FY) 2010 grant cycle, the State of Michigan was awarded $150 million to help purchase and restore 135 miles of rail line between Kalamazoo and Dearborn. Michigan will also receive a planning grant for $3.2 million that will pay for the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor Investment Plan, which will include updating the corridor Service Development Plan, an analysis of route alternatives and a Programmatic Environmental Impact Statement (EIS) for the corridor.

Other segments of the MWRRS that received HSIPR in FY 2010 include:

- $230 million was awarded to Iowa and Illinois to help introduce passenger rail service on an emerging high-speed rail corridor between Chicago and Iowa City. Projects will include the construction of a new main line track, rehabilitation of existing track, and installation of new crossovers, siding tracks, and signal improvements that will allow for 79 mile per hour service. These projects will also fund new rolling stock and the construction of three new passenger rail stations. These improvements will allow for two round trip trains per day between Iowa City and Chicago.
- Illinois also received $3.7 million to replace a railroad bridge in Wadsworth, Ill., to help speed travel on Amtrak's Hiawatha line between Chicago and Milwaukee.

- Missouri received a $3.6 million grant to build a third main track and pay for associated signal and switch work in downtown St. Louis. This new track will improve rail access to St. Louis's Gateway Multimodal Center station.

Figure 9: Proposed Midwest Regional Rail System

6.3.2. <u>Vision for High-Speed Rail in America</u> (Federal Railroad Administration, 2009)[87]

This vision document provides a general framework for High-Speed Rail throughout America. This vision builds on the planning and construction of highway and aviation systems that transformed the US in the 20th century - fueling unprecedented economic expansion, fostering new communities, and connecting cities, towns and regions. Today, we now face new sets of transportation challenges that require new transportation solutions that are being met with large-scale visions, such as this.

[87] http://www.fra.dot.gov/downloads/Research/FinalFRA_HSR_Strat_Plan.pdf

Strategic Transportation Goals:

- Ensure safe and efficient transportation choices
- Build a foundation for economic competitiveness
- Promote energy efficiency and environmental quality
- Support interconnected livable communities

President Obama is proposing an efficient, high-speed passenger rail network of 100–600 mile intercity corridors that connect communities across America – focusing on a clean, energy-efficient option (even today's modest intercity passenger rail system consumes one-third less energy per passenger-mile than automobiles, for example).

The development of such a system requires a long-term commitment on both Federal and State levels. The President has jump-started this process by providing $8 billion in the American Recovery and Reinvestment Act (ARRA) of 2009 and $2.5 billion high-speed rail grant program in FY 2010.

Challenges:

- Lack of expertise and resources
- State Fiscal Constraints
- Partnerships with Private Railroads
- Multi-State Partnerships
- Need for High-Speed Rail Safety Standards
- Requirements for installing Positive Train Control systems

Beginning in FY 2008, Congress established a new framework for intercity passenger rail development with the passage of four key pieces of legislation:

- The FY 2008 Appropriation Act, which established a new State grant program.
- The Rail Safety Improvement Act of 2008 (RSIA).
- The Passenger Rail Investment and Improvement Act of 2008 (PRIIA).
- The American Recovery and Reinvestment Act of 2009 (ARRA).

ARRA directs funds toward projects that will aid in near-term economic recovery, while laying a foundation for longer-term economic stability and competitiveness.

Proposed Funding Approach:

- Projects. Provide grants to complete individual projects that are "ready to go" with preliminary engineering and environmental work completed.
- Corridor programs. Enter into cooperative agreements to develop entire phases or geographic sections of corridor programs that have completed corridor plans and environmental documentation, and have a prioritized list of

projects to meet the corridor objectives; this approach would involve additional Federal oversight and support.

- Planning. Enter into cooperative agreements for planning activities using non-ARRA appropriations funds, in order to create the corridor program and project pipeline needed to fully develop a high-speed rail network.

This Strategic Plan is just the first of several steps by the federal government that further refine and elaborate on this high-speed rail corridor vision – including the program guidance, appropriation of high speed rail funding, and the development of the National Rail Plan called for by Congress.

6.3.3. Preliminary National Rail Plan (Federal Railroad Administration, 2009)[88]

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) directed the Administrator of the Federal Railroad Administration (FRA) to develop a Preliminary National Rail Plan (PNRP or Preliminary Plan) to address the rail needs of the Nation. The PRIIA also directed FRA to provide assistance to States in developing their State rail plans in order to ensure that the Federal long-range National Rail Plan is consistent with approved State rail plans. Subsequent to PRIIA, the American Reinvestment and Recovery Act of 2009 (Recovery Act) sets the framework for the development of true high-speed rail in the United States. This Preliminary Plan lays the groundwork for developing policies to improve the U.S. transportation system. Its goals are consistent with the top goals of the U.S. DOT: to improve safety, to foster livable communities, to increase the economic competitiveness of the United States, and to promote sustainable transportation.

Passenger and freight transportation are closely interlinked in that people and goods use the same infrastructure for transportation by highway and rail. Intermodal transportation is essential to meet the goals established. The long-range National Rail Plan will assist in developing strategies that exploit the strengths that are inherent in each mode of transportation, and leverage those strengths to improve U.S. transportation as a whole.

This Preliminary Plan sets forth the FRA's proposed approach to developing the long-range National Rail Plan, including goals and objectives for the greater inclusion of rail in the national transportation system. Although this Preliminary Plan does not generally offer specific recommendations, it identifies a number of issues that this agency believes should be considered in formulating the National Rail Plan. In short, it is designed to create a springboard for further discussion. The end focus is on the shippers and riders who use the rail system.

Background and Context

The Department estimates that tonnage on the railroad system will increase by 88 percent through 2035. Currently, there are more than 20 commuter rail systems that serve 25 major metropolitan areas. During the 10 years between 1997 and

[88] http://www.fra.dot.gov/Downloads/RailPlanPrelim10-15.pdf

2007, annual commuter rail ridership increased by 28 percent–by almost 100 million riders–and in 2007, these commuter rail systems operated 7,000 route-miles and carried approximately 1.7 million daily riders.

As commuter services grow, and as high-speed intercity rail brings more passengers directly into city centers, the importance of easy access to local transit services will increase. The number of rail corridors that reach through metropolitan areas and into the heart of cities, however, is limited.

Long-term trends demonstrate that the growth in intercity and commuter passenger rail services will continue.

Objectives for Rail

- Increasing Passenger and freight Rail Performance will Improve National Transportation System Performance
- Integration of all Transportation modes: a complementary Transportation System
- Identify Projects of National Significance
- Provide Increased Public awareness

To Reach these Goals

- Development of Passenger high-Speed Intercity Rail: a New Transportation vision
- Improve Safety
- Improve Fuel Efficiency

Railroads have worked to improve their fuel efficiency and have shown gains of over 23 percent from 1990 through 2007, measured as average gallons of fuel consumed per revenue ton-mile.

- Foster Livable Communities
- Increase the Economic competitiveness of the United States
- Better Understand and Integrate the Unique Economics of the Rail Industry
- Help Bolster the Domestic Passenger Rail Industry and create jobs

Another important step in developing the long-range National Rail Plan is developing State Rail plans that set policies for freight and passenger rail transportation, establish priorities and implementation strategies to enhance rail service in the public interest, and serve as the basis for Federal and State rail investments within the State. State rail plans should use this National Plan as a framework for future development. At the same time, the National Plan must understand previous actions and goals of States and plan accordingly.

Important Considerations for State Rail Programs:

- Appropriateness of Strategies of funding freight Transportation Investments

- Developing ways to assign costs and allocate Resources Equitably across all modes of freight Transportation
- Opportunities and Greater Efficiencies in Multimodal Transportation
- Identifying areas to continue to Improve Transportation Safety
- Effectively meet Defense and Emergency Transportation Requirements
- Balancing the Benefits of Rail Corridor Development with Local Communities and Commuter Services
- Identify opportunities to Improve Energy Use and the Environment

6.3.4. State Rail Planning Best Practices (AASHTO, 2009)[89]

Interest in rail planning is reaching new heights as State Departments of Transportation (DOTs) across the country rush to qualify for new Federal grants authorized through the Passenger Rail Investment and Improvement Act (PRIIA). This new wave of State rail planning activity builds on the recent momentum and leadership of several States that have developed compelling freight and passenger rail planning programs and investments. This guidebook, prepared under the direction of the American Association of Highway and Transportation Official's (AASHTO) Standing Committee on Rail Transportation (SCORT), serves as flexible guidance to States launching State rail plans for the first time or for veteran programs looking to shake the dust off older plans with an eye to the future—and new funding.

The overarching goal of this guidebook is to help States produce PRIIA-compliant State rail plans customized to the unique circumstances of each State.

The purpose of this guidebook is not to provide all the answers or to dictate formulaic approaches, but rather to serve as a resource to set the planning process on the correct path to meet individual state needs. This guidebook provides a framework for developing comprehensive State rail plans, but it does not substitute for regulatory guidance from the U.S. Department of Transportation.

6.3.5. Freight-Rail Bottom Line Report (AASHTO, 2003)[90]

This report describes is one of a "family" of AASHTO Bottom Line reports that deal with all of the major modes of freight and passenger transportation. The report addresses concerns about the capacity of the nation's freight transportation system, especially the freight-rail system, to keep pace with the expected growth of the economy over the next 20 years. The report finds that relatively small public investments in the nation's freight railroads can be leveraged into relatively large public benefits for the nation's highway infrastructure, highway users, and freight shippers.

[89] American Association of State Highway and Transportation Officials. State Rail Planning Best Practices. November, 2009. (https://bookstore.transportation.org/item_details.aspx?ID=1557)
[90] AASHTO. Freight-Rail Bottom Line Report. 2003. http://rail.transportation.org/Documents/FreightRailReport.pdf

Trucks move most of the nation's freight and will continue to do so, but freight rail is critical to the freight transportation system, the competitiveness of many industries, and the economies of most states. The identifies the following public benefits of the freight-rail system.

- **Transportation System Capacity and Highway Cost Savings** The freight-rail system carries 16 percent of the nation's freight by tonnage, accounting for 28 percent of total ton-miles, 40 percent of intercity ton-miles, and six percent of freight value. If all freight-rail were shifted to trucks tomorrow, it would add 92 billion truck vehicle-miles-of-travel (VMT) to the highway system and cost federal, state, and local transportation agencies an additional $64 billion for highway improvements over the next 20 years. This $64 billion is a conservative figure that does not include the costs of improvements to bridges, interchanges, local roads, new roads or system enhancements. If these were included, the estimate could double.
- **Economic Development and Productivity** Freight rail provides shippers with cost-effective transportation, especially for heavy and bulky commodities, and can be a critical factor in retaining and attracting industries that are central to state and regional economies. If all freight-rail were shifted to trucks tomorrow, it would cost current rail shippers an additional $69 billion this year alone — or $1.4 trillion over the next 20 years — causing significant changes in business and consumer costs.
- **International Trade Competitiveness.** Freight rail, in partnership with the trucking industry, provides intermodal transportation connecting U.S. seaports with inland producers and consumers. Freight rail also carries 16 percent of the nation's cross-border NAFTA trade. Intermodal freight-rail service is crucial to the global competitiveness of U.S. industries.
- **Environmental Health and Safety.** Freight rail is fuel-efficient and generates less air pollution per ton-mile than trucking. Rail also is a preferred mode for hazardous materials shipments because of its positive safety record.
- **Emergency Response.** Freight rail is vital to military mobilization and provides critically needed transportation system redundancy in national emergencies.

At issue is the capacity of the freight-rail system to grow with the economy and continue to provide these public benefits.

The U.S. economy is growing, and with it the demand for freight transportation services. With moderate growth in the economy — about three percent per year — domestic freight tonnage will increase by 57 percent by 2020 and import-export tonnage will increase by nearly 100 percent.

Today trucks and the highway system carry 78 percent of domestic tonnage, the freight-rail system carries 16 percent, and barges and coastal shipping carry six percent. By 2020, the highway system must carry an additional 6,600 million tons

of freight (an increase of 62 percent), and the freight rail system must carry an additional 888 million tons (an increase of 44 percent). However, the highway system is increasingly congested, and the social, economic, and environmental costs of adding new highway capacity are prohibitively high in many areas. State departments of transportation are asking if expanding the capacity of the freight-rail system in some cases might be a cost-effective way of increasing the capacity of the total transportation system.

Productivity gains and competitive rates have not been sufficient to rebuild market share and increase revenue. Railroad revenues have continued to drop. The industry's return on investment has improved from about four percent in 1980 to about eight percent in 2000; however, it is still below the cost of capital at 10 percent. Most of the benefits of railroad reorganization and productivity improvements have accrued to shippers and the economy in the form of rate cuts, rather than to the railroads and their investors.

This is a major problem for the railroad industry because it is extraordinarily capital-intensive. Railroads spend about five times more to maintain rail lines and equipment than the average U.S. manufacturing industry spends on plant and equipment. Wary of the gap between the railroads' capital needs and their income, investors have backed away from railroad stocks. This has reduced the amount of money available to railroads to invest in the freight-rail system, forcing the railroads either to borrow money to maintain and expand infrastructure or defer maintenance and improvements.

The rail industry today is stable, productive, and competitive, with enough business and profit to operate but not to replenish its infrastructure quickly or grow rapidly. Market forces will continue to pressure the rail industry to streamline and downsize, to maximize revenues, and to minimize capital costs.

6.3.6. Intercity Passenger Rail Transportation (AASHTO, 2002)[91]

This report provides an overview of intercity passenger rail service in the United States, summarizing the characteristics of the current system, reviewing the relevant history, and projecting future plans. The report describes the approaches states have used to advance intercity passenger rail service and the lessons they have learned. It documents past state investments and presents projections of future investment. It aggregates state estimates of investment needs to the national level to establish the cost of realizing the benefits of efficient and dependable intercity passenger rail service and to support the case for dedicated, sustainable, federal funding.

Nearly all intercity passenger rail service is operated by the National Railroad Passenger Corporation (Amtrak). Most of this service is part of the "basic system" that Amtrak operates nationwide. In addition, a number of states have contracted with Amtrak to operate additional state-supported intercity passenger rail services. Intercity passenger rail transportation services are currently provided throughout a

[91] AASHTO. Intercity Passenger Rail Transportation . 2002. https://bookstore.transportation.org/Item_details.aspx?id=190

network of about 23,000 miles of rail over which 267 trains operate per day (excluding commuter trains) serving more than 500 communities in 47 states. Intercity passenger rail transportation serves about 23 million passengers annually, generating annual ticket revenue of about $1.1 billion.

Since its creation, Amtrak's year-to-year funding struggles have resulted in inadequate investment and great uncertainty, severely hampering the effort to establish and maintain satisfactory intercity passenger train service. Given the continuing uncertainty concerning Amtrak's future, it is important to recognize that any significant changes in the corporate character of Amtrak should not be allowed to jeopardize the right to maintain or establish passenger service over rail freight lines and should allow states to acquire essential Amtrak assets.

Most importantly, what is needed is a strong federal-funding partnership. The user fee/trust fund financing mechanisms for the other modes of passenger transportation provides a secure, long-term, dedicated source of funding. A similar financing system is needed for intercity passenger rail. The private market cost of capital is prohibitive for both freight and passenger railroads. A dedicated national source of capital funding for passenger rail must not compromise existing transportation funding. Transportation logistics is a highly integrated, interdependent set of activities. All modes have current and future financial investment needs that must be carefully considered. Existing program flexibility must be preserved. However, the only appropriate way to compare investment strategies is if each mode has its own dedicated source of funds.

A stable, predictable source of passenger rail financing would encourage long-term planning and investment strategies to achieve incremental benefits. Reduced travel times, increased frequencies, and modern amenities would build ridership and reduce operating costs. A stable source of funding would strengthen coordination with the freight community and state and local government and these partners would be able to structure their own investments with a greater degree of certainty.

Efficient and dependable intercity passenger rail service is necessary and achievable, but not without well-organized, systematic, and adequately financed effort involving the states and the federal government. The result will be an intermodal passenger transportation system that meets the mobility needs of the citizens of the United States much more effectively than is currently possible.

6.3.7. Transportation for Tomorrow: Report of the National Surface Transportation Policy and Revenue Study Commission, 2008.[92]

Congress created The National Surface Transportation Policy and Revenue Study Commission in 2005 under Section 1909 of SAFETEA-LU. The Commission was created because, as Congress declared, "it is in the national interest to preserve and enhance the surface transportation system to meet the needs of the United States for the 21st century." The Commission expired in 2008.

[92]National Surface Transportation Policy and Revenue Study Commission http://transportationfortomorrow.com/

The Commission was comprised of 12 members, representing: Federal, state and local governments; metropolitan planning organizations; transportation-related industries; and public interest organizations. The Commission examined the condition and future needs of the nation's surface transportation system and short and long-term alternatives to replace or supplement the fuel tax as the principal revenue source to support the Highway Trust Fund over the next 30 years.

The Commission's vision was to: *Create and sustain the preeminent surface transportation system in the world*. To make this vision a reality, Federal leadership and Federal surface transportation investments must be carefully aligned with the "National Interest" as defined above. The Commission recommended several new structural features as key to the successful program reform necessary to achieve the Commission's vision:

- Developing a comprehensive, performance-based approach.
- Reforming program and project development processes to reduce the excessive time required to move projects from initiation to completion, improving overall project decisions, reducing project and overall program costs, and realizing project benefits sooner.
- Concentrating Federal surface transportation investment in 10 program areas:
    - Rebuilding America: A National Asset Management Program
    - Freight Transportation: A Program to Enhance U.S. Global Competitiveness
    - Congestion Relief: A Program for Improved Metropolitan Mobility
    - Saving Lives: A National Safe Mobility Program
    - Connecting America: A National Access Program for Smaller Cities and Rural Areas
    - Intercity Passenger Rail: A Program to Serve High-Growth Corridors by Rail
    - Environmental Stewardship: Transportation Investment Program to Support a Healthy Environment
    - Energy Security: A Program to Accelerate the Development of Environmentally- Friendly Replacement Fuels
    - Federal Lands: A Program for Providing Public Access
    - Research, Development, & Technology: A Coherent Transportation Research Program for the Nation.
- Harnessing the technical strengths of the USDOT and the surface transportation industry, developing a national strategic plan to guide public sector investment in these programs that will serve a growing and vibrant population and economy.
- Based on a Congressional charter, establishing an independent and permanent National Surface Transportation Commission (NASTRAC) that would use the

national strategic plan to recommend appropriate authorization and revenue levels to Congress.

Among the most controversial issues the Commission dealt with in its work was the issue of how future surface transportation programs should be financed. The Commission studied the current patterns and sources for revenue for the surface modes including highways, transit, rail, ports, and waterways as well as the options that are open to the Congress.

Significant additional investment by all levels of government and the private sector will be required to serve a growing population and to support the Nation's economic growth and international competitiveness. The Commission strongly supported the principle of user financing that has been the backbone of transportation finance for the last 80 years. Personal and commercial travelers should pay for the transportation systems and services they use in proportion to the costs associated with their use.

Historically, the fuel tax has been an important component of the user financing system. At the Federal level, fuel taxes represent almost 90 percent of total HTF revenues. While there is a growing consensus that alternatives to the fuel tax may be necessary in about 20 years, the fuel tax should remain an important component of surface transportation finance until viable alternatives are found. Among the attributes that make fuel taxes particularly attractive sources of surface transportation revenues are their (1) low administrative and compliance costs, (2) ability to generate substantial amounts of revenue, (3) relative stability and predictability, and (4) ease of implementation. A limitation of the fuel tax is that it is not responsive to increasing construction costs when levied on a per gallon basis. That weakness can be remedied by indexing the tax to inflation.

The Commission recommended that, in the short term, the Federal government should contribute approximately 40 percent of total surface transportation capital outlay in line with the Federal share in recent years. In order to achieve this recommended funding level the Commission recommended:

- Increasing the Federal fuel tax from 5 to 8 cents per gallon per year over the next 5 years then index the tax to inflation.
- Federal ticket tax be levied on all transit trips to supplement revenues from the Federal fuel tax and General Fund in order to provide a dedicated funding source for transit.
- A Federal freight fee help finance freight-related improvements as part of an overall freight program.
- A portion of Customs duties be dedicated to help pay the costs of freight-related improvements.
- A Federal Investment Tax Credit be granted to transportation facility owners for freight capacity expansion.
- A new Federal ticket tax be levied on users of the passenger rail system to supplement funding from fuel taxes and general funds.

MICHIGAN
State Rail Plan

CD MENU

MDOT
Michigan Department of Transportation

HNTB