

## N Petoskey/Grand Rapids/Indiana

### 3.13 N Petoskey/Grand Rapids/Indiana

The Petoskey/Grand Rapids/Indiana *MI Transportation Plan* Statewide Corridor of Highest Significance begins at US-31 in Petoskey and follows US-131 south through Grand Rapids ending in Indiana. It includes Charlevoix, Antrim, Kalkaska, Grand Traverse, Wexford, Osceola, Mecosta, Montcalm, Kent, Allegan, Kalamazoo, and St. Joseph Counties.

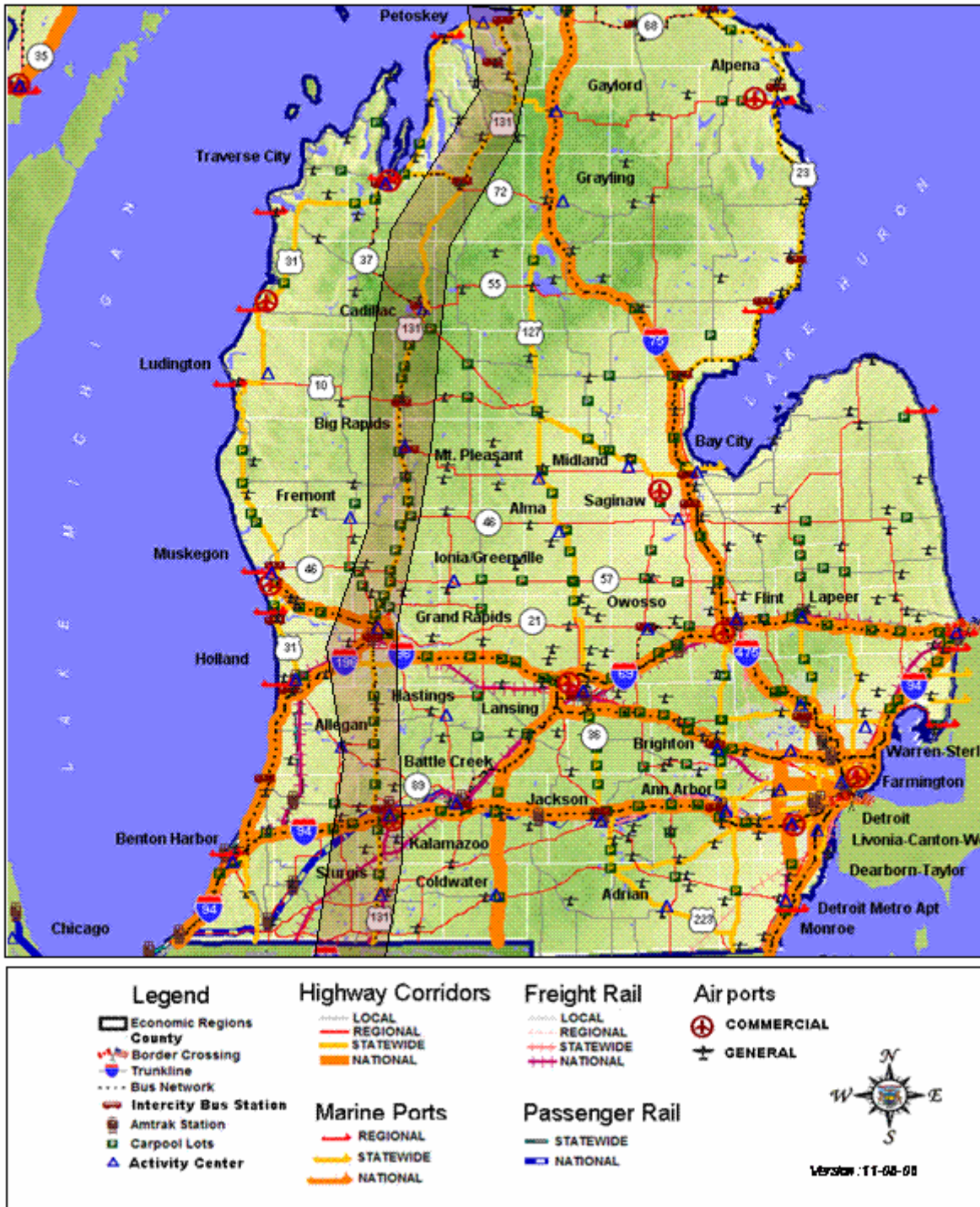
#### 3.13.1 Profile and Map

Travel within, between, and through seven *MI Transportation Plan* activity centers within Michigan is supported by this 269-mile corridor. This *MI Transportation Plan* corridor travels north-south through the rural farmland, agricultural process, retail and professional businesses, and suburban portions of the northwestern portion of the Lower Peninsula of Michigan. The corridor connects Michigan residents, business and commerce to Indiana and other portions of the US. This corridor also connects directly with the following *MI Transportation Plan* Statewide Corridors of Highest Significance: **B** Sault Ste. Marie/Bay City; **D** Muskegon/Grand Rapids/Lansing/Detroit; **E** Detroit/Chicago; **F** Grand Rapids/Chicago; **J** Port Huron/Chicago; and, **P** Mackinaw City-St. Ignace/Holland and the I-80/90 toll road.

The recently completed Paul B. Henry Freeway (M-6) also connects I-196 to US-131 to I-96 in the Grand Rapids area is a Statewide Corridor of Significance that provides a freeway connection in the Grand Rapids area for the US-131 Statewide Corridor.

Figure 16: Petoskey/Grand Rapids/Indiana Corridor

**Petoskey / Grand Rapids / Indiana**  
Corridor of Statewide Significance



### 3.13.2 Estimate of Corridor Value

The value of this corridor to the state of Michigan is defined based on the people, businesses, industries, and activities it supports together with how it is integrated and connected to the greater Michigan transportation system and activity centers inside and outside the state. In comparison to the other seven *MI Transportation Plan* Corridors of Highest Statewide Significance, this corridor carries the highest volumes of vehicular travel and is projected to have the highest ADT growth rate of the Statewide Corridors of Highest Significance. Compared to the other Statewide Corridors of Highest Significance, this corridor supports the most population and jobs.

The Petoskey/Grand Rapids/Indiana Corridor supports:

- Approximately 10.4 percent of Michigan's population and 13 percent of Michigan jobs are within a 20-mile geographic area around this corridor;
- The corridor accounts for 5.2 percent of the total statewide ton miles and 3.4 percent of the total statewide value miles of truck freight;
- The corridor accounts for 2.5 percent of total statewide rail-ton miles and 2.9 percent of rail-value miles;
- Seven of Michigan's 50 *MI Transportation Plan* activity centers;
- Four of Michigan's 17 *MI Transportation Plan* economic regions;
- A total average daily traffic (ADT) (corridor average) of 21,000 vehicles the second highest of the Statewide Corridors of Highest Significance, the second highest of all the Statewide Corridors of Highest Significance;
- The highest total ADT (103,700 vehicles) of all the *MI Transportation Plan* Statewide Corridors of Highest Significance;
- The second highest total commercial ADT (2,400 vehicles) of all *MI Transportation Plan* Statewide Corridors of Highest Significance, is projected to have the highest percent of ADT growth (59 %) as compared to all *MI Transportation Plan* National and all Statewide Corridors of Highest Significance;
- Key north-south linkages for Michigan travelers;
- Approximately 23 million person days of tourism activity per year (the highest of all the *MI Transportation Plan* Statewide Corridors of Highest Significance);
- Three commercial airports with 1.3 million annual enplanements;
- A joint military/civilian airport in Battle Creek;
- Marine cargo port at Charlevoix, handling almost 1.3 million tons;
- Over 23,000 tons of deplaned air cargo, with facilities in Pellston, Grand Rapids, and Kalamazoo; and

- Nine state parks, 118,000 students in post secondary schools, 16 major health care facilities, and five prisons.

**Table 50: Population/Employment/ADT within a 20- mile Total Bandwidth of Corridor Petoskey/Grand Rapids /Indiana**

<i>(269.0 miles)</i>	<i>2005</i>	<i>2030</i>
Population within band	1,181,650	1,421,290
Employment within band	751,470	893,850
Total daily vehicle-miles of travel	5,681,720	9,025,460
Total average daily traffic (average)	21,120	33,550
Highest total ADT	103,700	149,850
Lowest total ADT	4,740	5,320
Passenger average daily traffic (average)	18,670	29,580
Highest passenger ADT	96,250	139,080
Lowest passenger ADT	3,890	4,370
Commercial average daily traffic (average)	2,450	3,970
Highest commercial ADT	7,810	11,350
Lowest commercial ADT	520	680

**Table 51: Corridor Truck Freight Totals**

<i>Petoskey/Grand Rapids/Indiana</i>				
<i>Miles (269.41)</i>	<i>2003 Tons</i>	<i>2013 Tons</i>	<i>2003 Value</i>	<i>2013 Value</i>
Average	10,102,480	11,421,910	\$16,956,690,884	\$21,149,355,754
High	26,481,680	29,628,550	\$46,492,912,884	\$60,756,200,944
Low	773,301	861,470	\$1,292,840,296	\$1,745,657,648

**Table 52: Corridor Rail Freight Totals**

<i>Ludington/Grand Rapids/Kalamazoo/Indiana</i>				
<i>Track Miles (209.86)</i>	<i>2003 Tons</i>	<i>2013 Tons</i>	<i>2003 Value</i>	<i>2013 Value</i>
Average	1,830,240	1,953,640	\$2,878,406,579	\$2,877,932,220
High	8,005,050	7,711,580	\$15,263,473,664	\$13,976,268,038
Low	2,620	3,500	\$1,390,720	\$1,855,181

Source: Michigan Department of Transportation Statewide and Urban Travel Analysis Section

**Table 53: Petoskey/Grand Rapids/Indiana – Activity Centers Summary**

<i>Activity</i>	<i>Measure</i>	<i>Year</i>	<i>Petoskey</i>	<i>Cadillac</i>	<i>Big Rapids</i>	<i>Grand Rapids</i>	<i>Allegan</i>	<i>Kalamazoo</i>	<i>Sturgis</i>	<i>Total Value</i>
<b>URBAN</b>										
Population	Total Activity Center Population	2005	61,692	32,145	42,073	663,754	95,348	323,558	63,100	1,281,670
<b>COMMERCIAL</b>										
General Economic Activity	Total Employment	2005	40,035	21,925	18,829	461,056	40,047	188,832	32,305	803,029
Retail Activity	Retail Employment	2005	7,625	4,573	3,803	79,198	7,829	34,862	5,750	143,640
<b>TOURISM</b>										
Hotel Capacity	Hotel Units	2000	1,723	337	270	6,118	531	2,389	411	11,779
Annual Lodging Use Tax revenue	Revenue	2004	742,522	206,282	65,027	1,766,118	51,128	255,068	17,470	3,103,615
National Park	Number of National Park Locations	2005								
State Park	Number of State Park Locations	2005	5	1			1	2		9
Gaming	Gaming Centers Employment	2005	500							500
Number of Visitors	Person Trips	2004	1,291,960	618,007	900,400	4,382,203	479,655	3,505,960	359,146	11,537,331
Length of Stay	Person Days	2004	3,972,533	1,181,191	1,322,719	8,392,678	1,081,412	6,162,598	864,416	22,977,547
<b>EDUCATION/TECHNOLOGY CENTER</b>										
Postsecondary Educational Centers	Student Population	2005	2,699	1,546	11,803	60,785		39,697	1,493	118,023
Smart Zones	Number of Technology Centers	2006				1		1		2
<b>LIFE SCIENCE</b>										
Hospitals	Number of Facilities	2005	1	1	1	6	1	3	1	14
<b>CORRECTIONAL FACILITIES</b>										
Prisons	Number of Facilities	2005	1			2		2		5
<b>MILITARY BASE</b>										
Military Base Center	Number of Facilities	2005								
<b>PASSENGER FACILITIES</b>										
Air Passenger	Passenger Enplanments	2005	49,399			1,047,223		236,744		1,333,366
Amtrak	Passenger Stations	2005				25,376		46,877		72,253
Car Pool	Number of Facilities	2005	2	1	3	10	3	7	1	27
Intercity Bus Station	Passenger Stations	2005	2	1	1	1		2		7
<b>FREIGHT FACILITIES</b>										
Air Cargo Ports	Cargo Tonnage	2005	497			22,263		77		22,837
Marine Ports	Cargo Tonnage	2003	258,000							258,000
<b>INTERNATIONAL BORDER CROSSING</b>										
Passenger and Freight	Number of Border Crossings	2005								



### 3.13.3 Corridor Analysis

This corridor connects southern Michigan and the Indiana Toll Road I-80/90 with Kalamazoo, Grand Rapids and northern Michigan, including Mackinac via US-31 (corridor P). Travel is available primarily by highway (US-131) and transit within the major urban centers in the corridor. The corridor supports 13 percent of Michigan's jobs and travel for local residents, businesses and tourists from inside Michigan and outside the state. Through its connectivity with other *MI Transportation Plan* Corridors of Highest Significance, it supports north-south long-distance travel throughout the state of Michigan.

Primary roadway concerns are a trend toward a reverse commute as the population moves out of urban areas into the suburbs, maintenance of traffic during construction, and the need for improved mobility. The US-131 corridor is the heaviest traveled corridor in the Grand Rapids metropolitan area. The S-Curve section in downtown Grand Rapids was reconstructed and widened in 2000. Modernization and reconstruction have been completed or are planned on other segments in the metropolitan area. A new section of freeway was opened in 2005 around Cadillac. The department is currently completing the environmental clearance phase for a bypass around the Village of Constantine south of Kalamazoo.

Indian Trails provides intercity service from Petoskey to Kalamazoo. (Petoskey to Grand Rapids portion is state subsidized). Passenger intermodal facilities are in Traverse City, Cadillac, Grand Rapids and Kalamazoo. Public transit within the corridor is varied with the rural areas offering a mix of countywide and small community service and the urban areas offering a more comprehensive level of service including rideshare service and vanpool programs. There are gaps in public transit service that can be met on a limited basis by specialized service providers. Grand Rapids is conducting a corridor study in their region that could have a major impact on the provision of public transit for that area.

Opportunities for this corridor include the potential for economic growth in areas of health care, life sciences, office furniture, tourism, and automotive and aviation technology. These types of jobs require professional and technical employees with more personal travel needs than heavy or high volumes of freight. This corridor also travels through Kent and Allegan Counties, two of the most rapidly growing counties within the state. The southern portion of this corridor also supports heavy agriculture movements. The corridor is expected to continue to be a desirable and attractive place to locate a new or expand businesses with improvements and choices provided for personal travel. This may include improvements for rail, intermodal facilities, public transit including bus and possibly light rail, air travel and personal vehicle travel to support future high-tech and health service orientated jobs. Major transit improvements are being studied in the Grand Rapids area along the corridor. The Midwest Rail Initiative is also considering high-speed passenger rail connections to Grand Rapids from the Detroit/Chicago corridor in Kalamazoo.

Barriers to movement include existing and future physical transportation system gaps, identified freight bottlenecks, and pavement and bridge conditions throughout the corridor.

Intermodal connectivity for personal travel and freight between highway, rail, and airports also needs improvement.

### 3.13.4 Corridor Objectives

This corridor serves a unique mix of year-round residents, seasonal tourists, and freight traffic passing through the region. It serves emerging technology workforce, manufacturing, and tourism in northern Michigan. Objectives for the corridor are to:

- Provide for safe and efficient travel by reducing congestion and delay, and improving intersections and interchanges;
- Improve roadway and bridge conditions including pavement condition;
- Integrate the transportation needs of differing users;
- Improve roadway and bridge conditions (vertical clearance, weight capacity, lane width) to current design standards;
- Maintain roadway and system conditions consistent with Asset Management strategies;
- Expand passenger air and rail opportunities and intermodal connectivity;
- Provide more public transit opportunities within and between the urban areas;
- Enhance non-motorized transportation;
- Preserve existing transit and intercity bus services;
- Support expansions of public transit opportunities to include countywide service in all counties and expanded intercity bus services to the degree state funds are available; and
- Continue to support the corridor study being conducted by ITP in Grand Rapids.

### 3.13.5 Broad Policy-Based Corridor Strategies

The following strategies may help to advance these corridor-specific objectives. Detailed examples of capital projects, programs, and policies that may be used to implement the strategies identified below are provided in **Appendix D** to the *Corridors and International Borders Report*. MDOT will:

- Apply the following highway strategies;
  - Capacity – consistent with commitments within the regional MPO long-range plans, MDOT will improve the US-131/44th Street interchange and construct a by-pass around the Village of Constantine to facilitate more efficient movement of goods and people along this corridor;
  - Modernization – bring bridges and roadway geometrics to current design standards;
  - Maintenance and Rehabilitation – implement scheduled and preventive maintenance programs;

- Improve connections between I-94/US-131;
- Work with local governments to encourage Access Management and Land Use patterns that may reduce the need for additional intersections and interchanges and will support transit oriented development patterns;
- Work with local governments to implement Transportation Demand Management (TDM) and Transportation Systems Management and Operations (TSMO) improvements and strategies;
- Implement operational strategies such as increased incident management and maintenance of traffic practices during construction projects will be utilized;
- Apply Asset Management principles;
- Install and implement ITS advances on key urban corridors to improve the overall operations of the region's transportation systems;
- Seek opportunities and implement low-cost operational improvements to increase roadway corridor mobility. These include but are not limited to geometric improvement, interchange improvements, ramp extensions, turning lanes, signal timing, visitor-friendly signage, improved incident management, and maintenance of traffic practices during construction projects;
- Continue to coordinate improvements and management practices with key local stakeholder groups along corridors;
- Add or enhance long-distance bicycle trails;
- Identify opportunities to integrate multi-modal transportation systems throughout this corridor including but not limited to incorporating carpool lot facilities, and bicycle and pedestrian facilities into future projects where feasible;
- Continue to provide financial and technical assistance to local agencies to help them preserve existing transit service;
- Develop strategies that can be implemented at the local level to innovate public transportation services to meet the unique needs/demands of the aging population;
- Encourage local transit agencies to evaluate the potential to expand to countywide service to increase the availability and connectivity of public transit;
- Continue to support vanpooling and ridesharing activities to provide commuter alternatives and congestion relief;
- Support communication and coordination between local transit systems and between transit and intercity bus to improve connectivity and regional public transportation;
- Provide improvements and expansion of passenger rail, air and public transit - these services in the urban areas, including implementation of the Locally Preferred Alternative from the Great Transit/Grand Tomorrows major transit study in the Grand



Rapids metropolitan area. High-speed rail passenger connections to the Detroit/Chicago corridor from the Grand Rapids area to Kalamazoo;

- Provide feeder bus services in accordance with the Midwest Regional Rail Initiatives and between rail connections from the Grand Rapids/Holland area to the Detroit/Chicago corridor via Kalamazoo, as passenger rail services is improved and funding becomes available;
- Support coordination of transportation services and funding between local human service agencies and local transit agencies; and
- Evaluate potential intercity bus ridership in this corridor in comparison to existing intercity bus services in other northern Michigan corridors to optimize the investment of state resources in intercity bus service.

## P Mackinaw City-St. Ignace/Holland

### 3.14 P Mackinaw City–St. Ignace/Holland

The Mackinaw City-St. Ignace/Holland *MI Transportation Plan* Statewide Corridor of Highest Significance begins at I-75 south of Mackinaw City and follows US-31 south through Petoskey, Traverse City, and Muskegon ending at I-196 in Holland. It includes Emmet, Charlevoix, Antrim, Grand Traverse, Manistee, Mason, Oceana, Muskegon, Ottawa, and Allegan Counties.

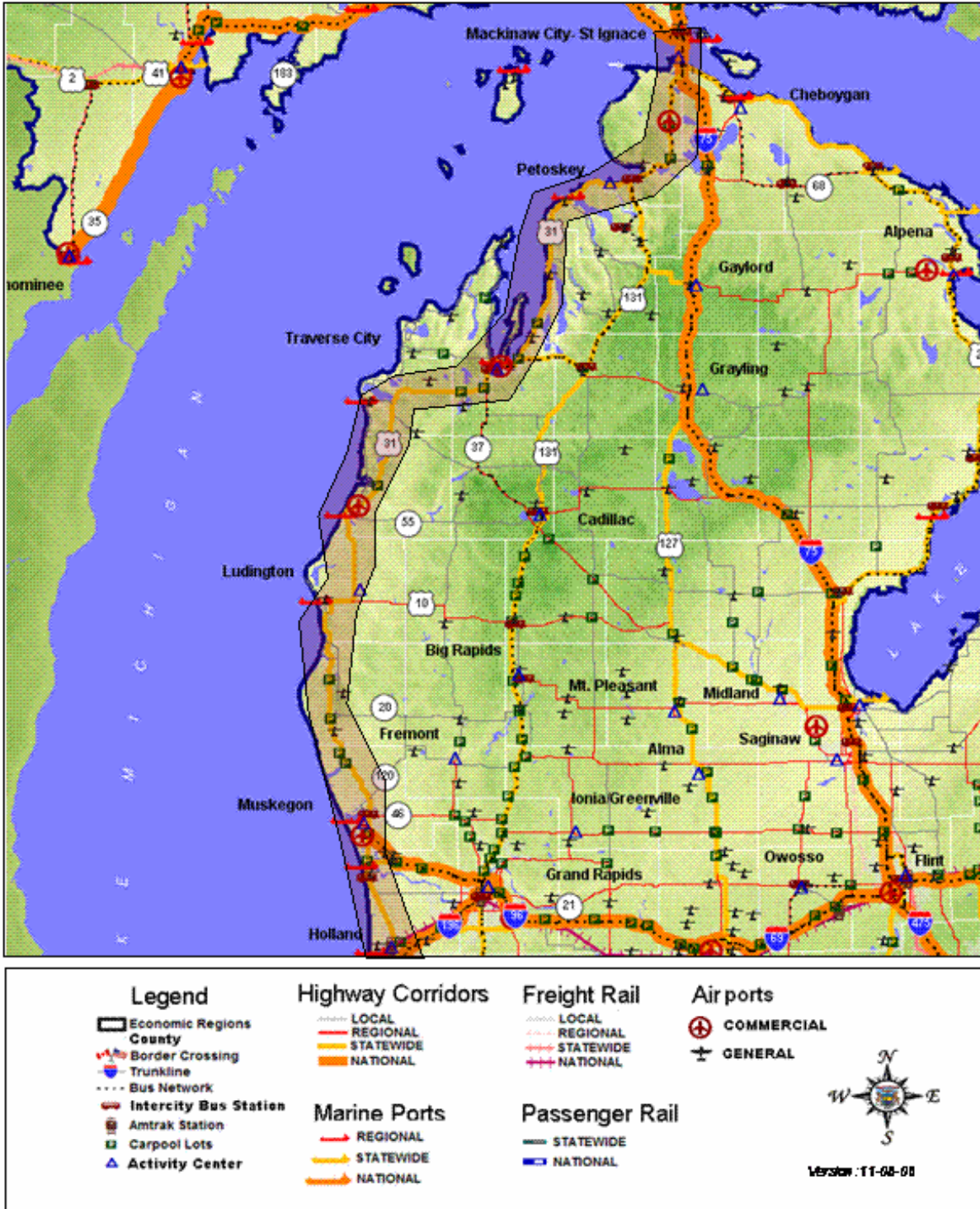
#### 3.14.1 Profile and Map

Travel within, between, and through six *MI Transportation Plan* activity centers within the western shore of the Lower Peninsula of Michigan is supported by this corridor. This corridor travels north-south through the rural western coast of Michigan. The corridor area includes farmland and many tourist vacation sites. It provides access to over 19 state parks, more than any other *MI Transportation Plan* National or Statewide Corridor of Highest Significance. It links with other *MI Transportation Plan* National or Statewide Corridor of Highest Significance and continues to Indiana and Chicago.

The corridor connects directly with the following corridors: **A** Mackinaw City–St. Ignace/Wisconsin; **B** Sault Ste. Marie/Bay City; **D** Muskegon/Grand Rapids/Lansing/Detroit; **F** Grand Rapids/Chicago and **N** Petoskey/Grand Rapids/Indiana.

Figure 17: Mackinaw City-St. Ignace/Holland Corridor

**Mackinaw City – St. Ignace / Holland**  
Corridor of Statewide Significance



### 3.14.2 Estimate of Corridor Value

The value of this 281.7-mile corridor to the state of Michigan is defined based on the people, businesses, industries, and activities it supports together with how it is integrated and connected to the greater Michigan transportation system and activity centers inside and outside the state.

The corridor supports:

- Approximately six percent of Michigan's population and seven percent of Michigan jobs within a 20-mile geographic area around this corridor;
- The corridor accounts for two percent of the total statewide ton miles and 1.4 percent of the total statewide value miles of truck freight;
- The corridor accounts for 0.5 percent of total statewide rail-ton miles and 0.1 percent of rail-value miles;
- Six of Michigan's 50 *MI Transportation Plan* activity centers;
- A total average daily traffic (ADT) (corridor average) of 14,035 vehicles;
- Is projected to have a 43 percent ADT growth;
- Approximately 23 million person days of tourism activity per year (the second highest among the *MI Transportation Plan* Statewide Corridors of Highest Significance);
- Three commercial airports with 303,00 annual enplanements;
- Major marine cargo ports handling nearly eight million tons; and
- Nineteen state parks (more than any other *MI Transportation Plan* corridor), 23,000 students in post secondary institutions, and 2,700 people employed in gaming centers.

**Table 54: Population/Employment/ADT within a 20-mile geographic area around Corridor Mackinaw City–St. Ignace/Holland**

<i>(281.7 miles)</i>	2005	2030
Population within band	626,030	784,420
Employment within band	380,470	475,680
Total daily vehicle-miles of travel	3,953,080	5,668,720
Total average daily traffic (average)	14,040	20,130
Highest total ADT	64,300	92,500
Lowest total ADT	2,890	3,240
Passenger average daily traffic (average)	13,160	18,860
Highest passenger ADT	62,380	89,740
Lowest passenger ADT	2,500	2,810
Commercial average daily traffic (average)	870	1,270
Highest commercial ADT	2,660	4,140
Lowest commercial ADT	290	410

**Table 55: Corridor Truck Freight Totals**

<i>Mackinaw City–St. Ignace /Holland</i>				
<i>Miles (281.08)</i>	<i>2003 Tons</i>	<i>2013 Tons</i>	<i>2003 Value</i>	<i>2013 Value</i>
Average	3,826,740	4,064,070	\$6,493,030,530	\$7,914,120,480
High	17,870,100	18,551,710	\$36,392,358,596	\$45,071,866,368
Low	247,290	285,510	\$92,725,216	\$112,138,026

**Table 56: Corridor Rail Freight Totals**

<i>Freemont/Holland</i>				
<i>Track Miles (61.39)</i>	<i>2003 Tons</i>	<i>2013 Tons</i>	<i>2003 Value</i>	<i>2013 Value</i>
Average	1,244,270	1,464,940	\$221,606,581	\$224,712,581
High	5,506,680	6,795,930	\$438,406,528	\$533,083,888
Low	125,810	115,270	\$131,844,128	\$115,553,692

Source: Michigan Department of Transportation Statewide and Urban Travel Analysis Section

Table 57: Mackinaw City-St. Ignace/Holland – Activity Center Summary

Activity	Measure	Year	Mackinaw							Total Value
			City- St. Ignace	Petoskey	Traverse City	Ludington	Muskegon	Holland		
<b>URBAN</b>										
Population	Total Activity Center Population	2005	5,381	61,692	127,377	29,049	229,154	138,199	590,852	
<b>COMMERCIAL</b>										
General Economic Activity	Total Employment	2005	7,780	40,035	84,823	16,030	122,511	103,954	375,133	
Retail Activity	Retail Employment	2005	2,419	7,625	17,549	3,397	22,531	17,860	71,381	
<b>TOURISM</b>										
Hotel Capacity	Hotel Units	2000	3,203	1,723	1,660	299	1,403	823	9,111	
Annual Lodging Use Tax revenue	Revenue	2004	1,632,556	742,522	1,963,603		309,999	216,939	4,865,619	
National Park	Number of National Park Locations	2005			1				1	
State Park	Number of State Park Locations	2005	3	5	4	1	4	2	19	
Gaming	Gaming Centers Employment	2005	325	500	850	1,000			2,675	
Number of Visitors	Person Trips	2004	804,310	1,291,960	4,326,497	555,991	2,252,354	696,037	9,927,149	
Length of Stay	Person Days	2004	2,328,451	3,972,533	8,729,434	1,786,391	4,704,827	1,668,627	23,190,263	
<b>EDUCATION/TECHNOLOGY CENTER</b>										
Postsecondary Educational Centers	Student Population	2005		2,699	4609	1,320	9,230	3,328	21,186	
Smart Zones	Number of Technology Centers	2006					1		1	
<b>LIFE SCIENCE</b>										
Hospitals	Number of Facilities	2005	1	1	2	1	3	2	10	
<b>CORRECTIONAL FACILITIES</b>										
Prisons	Number of Facilities	2005		1		1	5	2	9	
<b>MILITARY BASE</b>										
Military Base Center	Number of Facilities	2005			1				1	
<b>PASSENGER FACILITIES</b>										
Air Passenger	Passenger Enplanments	2005		49,399	217,035		36,298		302,732	
Amtrak	Passenger Stations	2005						17,272	17,272	
Car Pool	Number of Facilities	2005		2	5		7	1	15	
Intercity Bus Station	Passenger Stations	2005	1	2	1		2	1	7	
<b>FREIGHT FACILITIES</b>										
Air Cargo Ports	Cargo Tonnage	2005		497	1,260		13		1,770	
Marine Ports	Cargo Tonnage	2003	9,000	1,307,000	219,000	294,000	3,674,000	559,000	6,062,000	
<b>INTERNATIONAL BORDER CROSSING</b>										
Passenger and Freight	Number of Border Crossings	2005								



### 3.14.3 Corridor Analysis

This corridor connects the western portion of the Lower Peninsula of Michigan including Holland, Muskegon and the Traverse City area. Travel is available primarily by highway (US-31) and transit within the major urban centers on in the corridor. The corridor supports seven percent of Michigan's jobs and travel for local residents, businesses, and tourists from inside Michigan and outside the state. Through its connectivity with other *MI Transportation Plan* Corridors of Highest Significance, it supports north-south long-distance travel along the west coast of Michigan.

Primary roadway concerns are heavy congestion inside the urban areas, gaps in the limited access highway system, the bascule bridge in Grand Haven, maintenance of traffic during construction, and the need for modernization and improved mobility. Plans to improve travel on the segment between Holland and Grand Haven and providing an alternative crossing of the Grand River are underway.

Adequate and reliable air passenger service is provided by the commercial service airports in Manistee, Muskegon, Pellston and Traverse City. These facilities provide passengers with convenient access to larger hub airports with numerous national and international connections.

Indian Trails provides intercity service from Mackinaw City to Traverse City (the Petoskey to Traverse City leg of this service is along a different corridor however). There are intermodal facilities in Traverse City, Muskegon and Holland. Public transit along the corridor is a mix of countywide, small community, specialized service and urban. Ridesharing and vanpooling services are available in the greater Holland area.

This corridor serves Michigan's existing jobs and key developing industries. Opportunities for this corridor include the potential for economic growth in areas of health care, life sciences, office furniture, tourism, mineral extraction, and automotive technology. There is connection to Amtrak rail passenger service between Grand Rapids and Chicago at Holland. The corridor is expected to continue to be a desirable and attractive place to locate a new or expand businesses with improvements and choices provided for personal travel. This may include improvements for rail, and intermodal facilities, enhanced public transit and passenger rail service in the urban areas, air travel and personal vehicle travel.

Barriers to movement, including missing or deficient links and existing and future physical transportation system gaps include the identified freight bottlenecks, and the quality of the pavement and bridge condition throughout the corridor. Intermodal connectivity for personal travel and freight between highway, rail, and airports also needs improvements. The bascule bridge in Grand Haven also creates mobility and emergency service issues, especially during the summer months.

### 3.14.4 Corridor Objectives

This corridor serves a unique mix of year-round residents, seasonal tourists, and freight traffic passing through the region. It serves emerging technology workforce, manufacturing, and tourism in northern Michigan. Objectives for the corridor are to:

- Provide for safe and efficient travel by reducing congestion and delay, and improving intersections and interchanges;
- Improve roadway and bridge conditions including pavement condition;
- Expand passenger air and rail opportunities and intermodal connectivity;
- Integrate the transportation needs of differing users;
- Improve roadway and bridge conditions (vertical clearance, weight capacity, lane width) to current design standards;
- Expand or improve intermodal connectivity;
- Maintain roadway and system conditions consistent with Asset Management strategies MDOT;
- Maintain pavement condition;
- Provide for safe and efficient travel by reducing congestion and delay, and improving intersections and interchanges;
- Enhance non-motorized transportation; and
- Preserve existing transit and intercity bus services, support expansion of public transit opportunities to include countywide service in all counties, and expand intercity bus services to the degree state funds are available.

### 3.14.5 Broad Policy-Based Corridor Strategies

The following strategies may help to advance these corridor-specific objectives. Detailed examples of capital projects, programs, and policies that may be used to implement the strategies identified below are provided in **Appendix D** to the *Corridors and International Borders Report*. MDOT will:

- Apply Asset Management principles;
- Apply Highway strategies;
  - Capacity - consistent with commitments within the regional MPO long-range plans, MDOT will construct a new Grand River crossing east of Grand Haven connecting M-45 to I-96 to provide improved access between Holland and Grand Haven;
  - Improve the existing US-31 route in Grand Haven and Holland, and interchange enhancements in Muskegon;

- Identify and improve gaps in trunkline system (between Holland and Grand Haven); north from US-10 – creating lane consistency;
- Maintenance and Rehabilitation – implement scheduled and preventive maintenance programs, continue to strive to maintain good pavement conditions along all of its trunkline corridors;
- Modernization – bring bridges and roadway geometrics to current design standards;
- Continue improvements north of Ludington;
- Install and implement ITS advances in key corridors to improve the overall operations of the region’s transportation systems;
- Seek opportunities and implement low-cost operational improvements to increase roadway corridor mobility. These include but are not limited to geometric improvement, interchange improvements, ramp extensions, turning lanes, signal timing, visitor-friendly signage, improved incident management, and maintenance of traffic practices during construction projects;
- Work with local governments to implement Transportation Demand Management (TDM) and Transportation Systems Management and Operations (TSMO) improvements and strategies;
- Work with local governments to implement Access Management on strategic sections of the regional and local roadways;
- Continue to coordinate improvements and management practices with key local stakeholder groups along corridors;
- Add or enhance long-distance bicycle trails;
- Add carpool lots as needed along US-31;
- Identify opportunities to integrate multi-modal transportation systems throughout this corridor including but not limited to incorporating carpool lot facilities, and bicycle and pedestrian facilities into future projects where feasible;
- Continue to provide financial and technical assistance to local agencies to help them preserve existing transit services;
- Encourage local transit agencies to evaluate the potential to expand to countywide service to increase transit availability and connectivity;
- Provide feeder bus services in accordance with the Midwest Regional Rail Initiatives as passenger rail services is improved and funding becomes available;
- Develop strategies that can be implemented at the local level to innovate public transportation services to meet the unique needs/demands of the aging population;

- Support communication and coordination between local transit systems and between transit and intercity bus to improve connectivity and regional public transportation;
- Support coordination of transportation services and funding between local human service agencies and local transit agencies; and
- Evaluate potential intercity bus ridership in this corridor in comparison to existing intercity bus services in other northern Michigan corridors to optimize the investment of state resources in intercity bus service.

## Q Benton Harbor/Indiana

### 3.15 Q Benton Harbor/Indiana

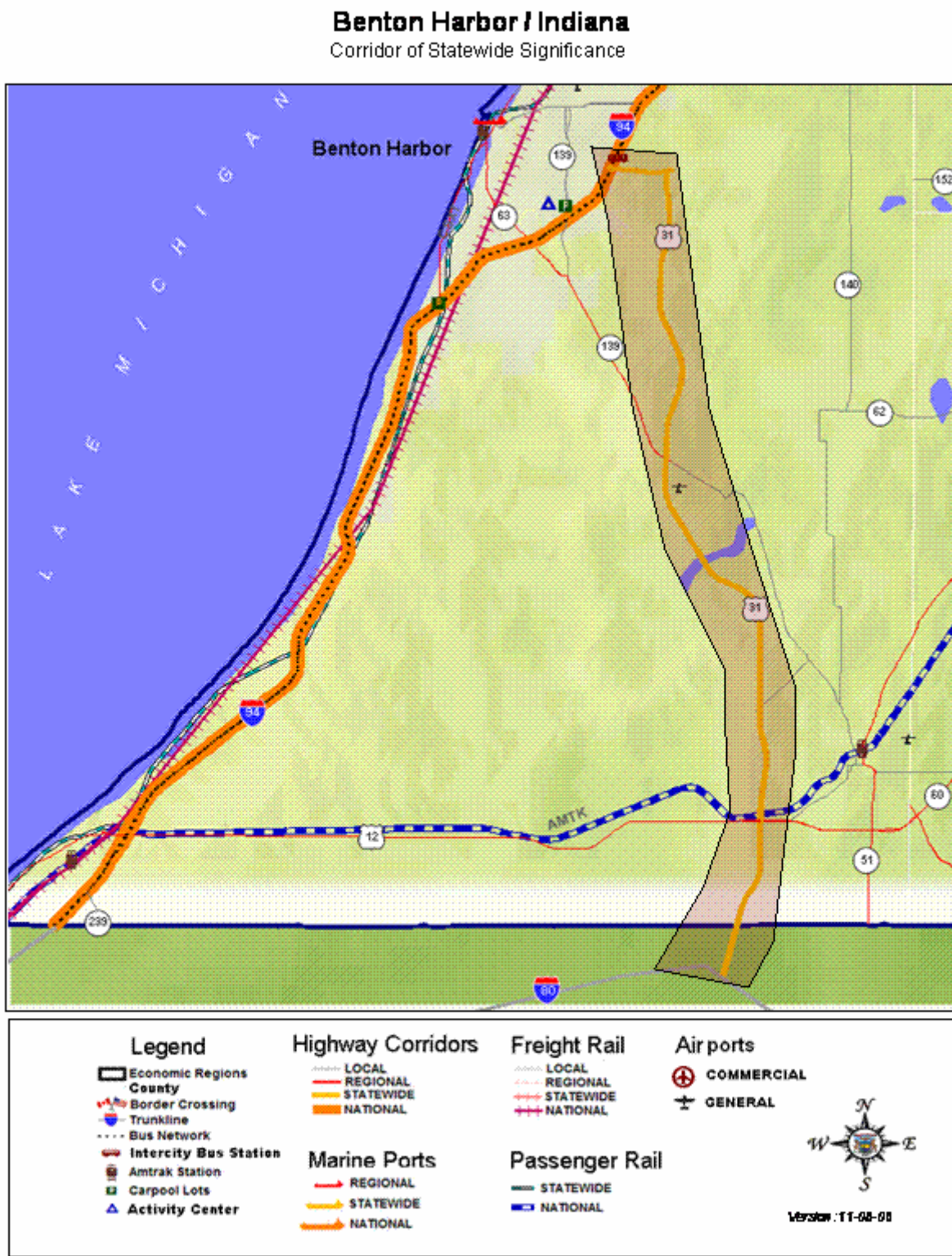
The Benton Harbor/Indiana Statewide Corridor of Highest Significance begins at I-94 in Benton Harbor and follows US-31 south through Niles ending in Indiana. It includes Berrien County.

#### 3.15.1 Profile and Map

This short corridor extends only 26.5 miles. Its primary purpose is to provide an alternative connecting route to access east west travel on I-80/I-90 from the three *MI Transportation Plan* National Corridors of Significance that follow I-94 to Chicago.

This corridor travels north south through rural and suburban areas in southwest Michigan to Indiana. It passes through one Michigan activity center and provides access to the Indianapolis *MI Transportation Plan* activity center outside Michigan.

Figure 18: Benton Harbor/Indiana Corridor





### 3.15.2 Estimate of Corridor Value

The value of this corridor to the state of Michigan is defined based how it is integrated and connected to the greater Michigan transportation system and activity centers outside the state.

The Benton Harbor/ Indiana Corridor supports:

- Approximately 1.4 percent of Michigan's population and 1.5 percent of Michigan jobs are within a 20-mile geographic area around this corridor;
- The corridor accounts for 0.5 percent of the total statewide ton miles and 0.4 percent of the total statewide value miles of truck freight;
- No rail lines can be attributed to this corridor;
- One of Michigan's 50 *MI Transportation Plan* activity centers (Benton Harbor) inside the state and several centers outside the state;
- A total average daily traffic (ADT) (corridor average) of 13,000 vehicles;
- Connects to three *MI Transportation Plan* National/International Corridors including Detroit/Chicago, Grand Rapids/Chicago, and Port Huron/ Chicago;
- Provides a key linkages nationally to locations business and manufacturing centers throughout the midwest;
- Serves Whirlpool, one of the region's major manufacturing industries and employers;
- Serves the growing General Aviation Airport at Benton Harbor;
- Serves close to three million person days of tourism activity per year;
- Amtrak service crosses the corridor and provides service to 13,000 passengers; and
- One major marine cargo port handling over 803,000 tons of cargo.

**Table 58: Population/Employment/ADT within a 20-mile geographic area around Corridor Benton Harbor/Indiana**

<i>(26.5 miles)</i>	<i>2005</i>	<i>2030</i>
Population within band	157,430	167,980
Employment within band	86,070	90,850
Total daily vehicle-miles of travel	352,580	429,560
Total average daily traffic (average)	13,310	16,220
Highest total ADT	17,340	21,140
Lowest total ADT	3,720	9,160
Passenger average daily traffic (average)	11,440	13,940
Highest passenger ADT	15,650	19,090
Lowest passenger ADT	5,850	7,200
Commercial average daily traffic (average)	1,870	2,280
Highest commercial ADT	2,920	3,380
Lowest commercial ADT	1,590	1,960

**Table 59: Corridor Truck Freight Totals**

<i>Benton Harbor/Indiana</i>				
<i>Miles (26.36)</i>	<i>2003 Tons</i>	<i>2013 Tons</i>	<i>2003 Value</i>	<i>2013 Value</i>
Average	10,704,560	11,398,530	\$18,896,400,421	\$21,639,183,253
High	13,452,650	14,314,830	\$23,776,668,973	\$27,817,138,677
Low	8,214,620	8,853,970	\$14,584,798,120	\$16,097,027,797

**Table 60: Corridor Rail Freight Totals**

\*\*No rail along this corridor.

Source: Michigan Department of Transportation Statewide and Urban Travel Analysis Section

**Table 61: Benton Harbor/Indiana – Activity Centers Summary**

<i>Activity</i>	<i>Measure</i>	<i>Year</i>	<i>Benton Harbor</i>	<i>Total Value</i>
<b>URBAN</b>				
Population	Total Activity Center Population	2005	162,976	162,976
<b>COMMERCIAL</b>				
General Economic Activity	Total Employment	2005	90,505	90,505
Retail Activity	Retail Employment	2005	16,521	16,521
<b>TOURISM</b>				
Hotel Capacity	Hotel Units	2000	1,983	1,983
Annual Lodging Use Tax revenue	Revenue	2004	135,615	135,615
National Park	Number of National Park Locations	2005		
State Park	Number of State Park Locations	2005	1	1
Gaming	Gaming Centers Employment	2005		
Number of Visitors	Person Trips	2004	1,422,594	1,422,594
Length of Stay	Person Days	2004	3,003,448	3,003,448
<b>EDUCATION/TECHNOLOGY CENTER</b>				
Postsecondary Educational Centers	Student Population	2005	7,172	7,172
Smart Zones	Number of Technology Centers	2006		
<b>LIFE SCIENCE</b>				
Hospitals	Number of Facilities	2005	3	3
<b>CORRECTIONAL FACILITIES</b>				
Prisons	Number of Facilities	2005	1	1
<b>MILITARY BASE</b>				
Military Base Center	Number of Facilities	2005		
<b>PASSENGER FACILITIES</b>				
Air Passenger	Passenger Enplanments	2005	2,817	2,817
Amtrak	Passenger Stations	2005	12,902	12,902
Car Pool	Number of Facilities	2005	3	3
Intercity Bus Station	Passenger Stations	2005	1	1
<b>FREIGHT FACILITIES</b>				
Air Cargo Ports	Cargo Tonnage	2005	0.50	0.5
Marine Ports	Cargo Tonnage	2003	803,711	803,711
<b>INTERNATIONAL BORDER CROSSING</b>				
Passenger and Freight	Number of Border Crossings	2005		

### 3.15.3 Corridor Analysis

This corridor supports approximately 1.5 percent of Michigan’s jobs and travel for local residents, businesses, and tourists. It provides a second link to the Indiana toll road, I-80/90.

This corridor supports travel for local residents, tourists from inside Michigan and outside the state, and north-south long-distance tourist and freight travel. Travel is primarily on roadway facilities, which are adequate in but require continuing maintenance and preservation.

There is countywide, demand-response transit in a good portion of the corridor. Intercity bus is currently absent from the corridor. Ridesharing and MichiVan services are available on the corridor.

### 3.15.4 Corridor Objectives

Objectives for the corridor are to:

- Provide for safe and efficient travel;
- Improve roadway and bridge conditions;
- Maintain roadway and system conditions consistent with Asset Management strategies MDOT;
- Maintain pavement condition; and
- Preserve existing transit and intercity bus services, support expansion of public transit opportunities to include countywide service all counties and expand intercity bus services to the degree state funds are available.

### 3.15.5 Broad Policy-Based Corridor Strategies

The following strategies may help to advance these corridor-specific objectives. Detailed examples of capital projects, programs, and policies that may be used to implement the strategies identified below are provided in **Appendix D** to the *Corridors and International Borders Report*. MDOT will:

- Apply Asset Management principles;
- Apply Highway strategies;
  - Maintenance and Rehabilitation – implement scheduled and preventive maintenance programs, continue to strive to maintain good pavement conditions along all of its trunkline corridors;
- Capacity – consistent with commitments made within the regional MPO long-range plan MDOT will complete the remaining freeway segment from Napier Road to I-94 and reconstruct and modernize the I-94/I-94BL/US-31 interchange;

- 
- Install and implement ITS advances in key corridors to improve the overall operations of the region's transportation systems;
  - Seek opportunities and implement low-cost operational improvements to increase roadway corridor mobility. These include but are not limited to geometric improvement, interchange improvements, ramp extensions, turning lanes, signal timing, visitor-friendly signage, improved incident management, and maintenance of traffic practices during construction projects;
  - Work with local governments to implement Transportation Demand Management (TDM) and Transportation Systems Management and Operations (TSMO) improvements and strategies;
  - Work with local governments to implement Access Management on strategic sections of the regional and local roadways;
  - Continue to coordinate improvements and management practices with key local stakeholder groups along corridors;
  - Add or enhance long-distance bicycle trails;
  - Identify opportunities to integrate multi-modal transportation systems throughout this corridor including but not limited to incorporating carpool lot facilities, and bicycle and pedestrian facilities into future projects where feasible;
  - Continue to provide financial and technical assistance to local agencies to help them preserve existing transit services;
  - Continue to support the MichiVan program to provide commuter alternatives and ease congestion;
  - Provide feeder bus services in accordance with the Midwest Regional Rail Initiatives as passenger rail services is improved and funding becomes available;
  - Develop strategies that can be implemented at the local level to innovate public transportation services to meet the unique needs/demands of the aging population;
  - Support coordination of transportation services and funding between local human service agencies and local transit agencies; and
  - Evaluate potential intercity bus ridership in this corridor in comparison to existing intercity bus services in other Michigan corridors to optimize the investment of state resources in intercity bus service.