

- Connectivity between modes;
- Unsafe roadways;
- Roadway designs below standard (vehicle clearances, other geometrics);
- Lack of freight rail service/commuter rail service;
- Lack of independent mobility for the elderly;
- Roadway quality; and
- Peninsulas – These create end points rather than through locations along corridors that could serve greater populations and industrial sectors.

Opportunities:

- Air freight growth;
- Emerging health care industry;
- Emerging technology centers and industries (products are not necessarily large volumes of heavy quantities and transportation may be electronic and outside the MDOT systems);
- Promoting access management to reduce congestion and improve safety;
- Sustainable land use to improve acceptance of transit Travel Demand and Transportation System Management alternatives;
- Attracting tourist by providing long-distance bicycle routes;
- Providing trucks safe places to rest; and
- Potential for short-haul rail freight.

Chapter 5. International Border Crossings and Issues

The world’s largest bilateral trade relationship exists between the United States and Canada, with Michigan positioned as a leader in international trade. 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 nations.

Michigan’s International Border Crossings are vital links for international commerce and are critical to the well-being of the local, state and national economies. Canada’s exports to the US constitute one-third of its GDP and 87 percent of its exports. US trade with Canada averages \$1.2 billion per day, more than US trade with the entire European Union. Over the past 30 years, US/Canada cross-border trade has grown faster than the GDP, at an annual rate of approximately 11 percent.

Two-thirds of the US/Canada trade moves by truck with the remaining trade moving by rail, water, and air. Most of the truck flows crossing the 4,000-mile US/Canadian border use 22

principal crossings. From 2001 through 2005 approximately 43 percent of all US/Canada trade moved through just two of Michigan’s international crossings.¹ These are the crossings in Detroit and Port Huron.

MDOT’s International Border Crossings addressed in this report include:

Land-Based Crossing	Location
Ambassador Bridge	Detroit
Detroit-Windsor Tunnel	Detroit
Blue Water Bridge	Port Huron
International Bridge	Sault Ste. Marie
Rail Bridge	Sault Ste. Marie
Rail Tunnel	Port Huron
Detroit-Windsor RR Tunnel	Detroit
Blue Water Ferry	Marine City
Walpole-Algonac Ferry	Algonac
Detroit-Windsor Truck Ferry	Detroit

Airport Ports of Entry	Location
Detroit Metropolitan Airport	Detroit
Gerald R. Ford International	Grand Rapids
Bishop International	Flint
MBS International	Saginaw
Kalamazoo/Battle Creek	Kalamazoo
Sawyer International	Gwinn
Chippewa County International	Sault Ste. Marie
Oakland County International	Pontiac
St. Clair County International	Port Huron

Each of these crossings is also discussed and identified in the *MI Corridors of Highest Significance Profile Summary – Executive Summary I* in connection with the corridors to which they are linked and in the appropriate *MI Transportation Plan Economic Region* in the *Economic Regions Corridor Summary*.

5.1 MDOT’s Vision and Policy for its International Border Crossings

The Michigan Department of Transportation (MDOT) recognizes that in order for Michigan to maintain its economic competitive advantage in international commerce and to support a healthy, growing economy within the state, it must assume the responsibility and challenges to maintain and ensure the safe, seamless movement of people and goods traveling via all modes of transportation through its international border crossings. MDOT has demonstrated its

¹ *Truck Freight Crossing the Canada-US Border*, Study by Eastern Border Transportation Coalition (EBTC), September 23, 2003. and USDOT, Bureau of Transportation Statistics, Transborder Surface Freight Database, 2006, www.bts.gov/

recognition of this through its International Border Crossing Vision Statement and its International Border Crossings Policy.

“It is Michigan’s vision to establish and maintain a transportation border that allows for the seamless movement of people, goods, and services in a cost-efficient, timely, safe and secure manner.”²

Recognizing Michigan’s vision and common goals with Ontario to establish and maintain a transportation border that facilitates and encourages the seamless, safe and secure transport of goods, people and services in a cost-efficient and timely manner, the State Transportation Commission adopted the following policy statements on October 28, 2004.

“The Michigan Department of Transportation shall:

1. Work to assure adequate transportation capacity at Michigan’s border crossings to facilitate, advance and, in part, provide for the seamless movement of people and goods between Michigan and Ontario;
2. Provide for the protection of and upgrade the transportation facilities on our borders through collaborative initiatives with the private sector and other governmental agencies to provide an appropriate level of redundancy among crossings and to ensure continued access for international trade and commerce between the US and Canada;
3. Study needs for improving and expanding the transportation structures and infrastructures and identify advancing technologies through persistent research and analysis in order to continue to adapt to the demands of international trade and commerce;
4. Work to enhance cooperation, coordination, and communication with US and Canadian border inspection and transportation agencies, local and regional governments, private operators, crossing users, neighborhoods, and other stakeholders affected by border crossings, in order to facilitate continued improvement to both the mobility and safety of border crossings;
5. Collaborate closely with state, local, provincial and private sector partners to proactively address topics of mutual interest that impact border crossings;
6. Work to increase federal funding for border transportation infrastructure capacity and safety improvements, and to use funding effectively to achieve the intent of this policy;
7. Work cooperatively with the other agencies responsible for improvements to border inspection processes, and encourage them to facilitate the movement of low-risk passengers and cargo; and
8. Provide adequate inspection staffing levels, and implement the utilization of technological advancements that can reduce border transit times while enhancing security.”

² As stated in MDOT’s Five-Year Transportation Programs, 2006-2010, p. 36,

5.2 Michigan's International Border Crossings

Unlike land border crossings, every Michigan border crossing relies on bridge, tunnel, marine, or aviation infrastructure. Michigan has four vehicular and three rail International Border Crossings. Three ferries operate between Michigan and Canada, and nine airports also serve as international ports of entry. The vehicular crossings include the International Bridge in Sault Ste. Marie, the Blue Water Bridge in Port Huron, the Ambassador Bridge and the Detroit-Windsor Tunnel in Detroit, all of which have a different governance structure. Michigan shares the ownership of the International Bridge in Sault Ste. Marie and Blue Water Bridges in Port Huron. Michigan owns the US half of the International Bridge and the St. Mary's River Bridge Company owns the Canadian half. Michigan owns the US half of the Blue Water Bridge and the Blue Water Bridge Authority owns the Canadian half. Both the St. Mary's River Bridge Company and the Blue Water Bridge Authority are Canadian Crown/government-owned corporations. The Ambassador Bridge is privately-owned and operated. The Detroit-Windsor Tunnel is owned by the cities of Detroit and Windsor. It is privately operated. The three rail crossings include a railroad bridge in Sault Ste. Marie and two tunnels, one in Port Huron and one in Detroit. Michigan's major international airports are Detroit Metropolitan Airport in Wayne County, Gerald R. Ford International Airport in Grand Rapids, Bishop International Airport in Flint, MBS International in Saginaw, Kalamazoo/Battle Creek International Airport in Kalamazoo, Sawyer International Airport in Gwinn, and Chippewa County International Airport in Sault Ste. Marie. (NOTE: Willow Run, the second largest cargo airport in the state, is not an international airport but a "Landing Rights Airport." The United States Customs & Boarder Protection (CBP) defines a Landing Rights Airport as "any airport, other than an international airport or user fee airport, at which flights from a foreign area are given permission by CBP to land. Aircraft landing at an international airport do not need permission to land, however advanced notice of your ETA to CBP must be transmitted for each flight.)

Three ferries operate between Michigan and Ontario, Canada; two are passenger, one is a truck ferry. The truck ferry is the only crossing with no restrictions that is permitted for hazardous and overweight vehicles. The International Bridge and the Blue Water Bridge also permit hazardous materials, but with restrictions.

Table 6: International Border Crossings and Ports of Entry

<i>Crossing</i>	<i>Location</i>	<i>Type / capacity</i>
Ambassador Bridge	Detroit	Vehicular Bridge / 4 lanes
Detroit-Windsor	Detroit	Vehicular Tunnel / 2 lanes
Blue Water Bridge	Port Huron	Vehicular Bridge / 6 lanes
International Bridge	Sault Ste. Marie	Vehicular Bridge / 2 lanes
Rail Bridge	Sault Ste. Marie	Railroad Bridge
Rail Tunnel	Port Huron	Railroad Tunnel
Rail Tunnel	Detroit	Railroad Tunnel
Blue Water Ferry	Marine City	Passenger
Walpole-Algonac Ferry	Algonac	Passenger
Detroit-Windsor Truck Ferry	Detroit	Vehicular and Passenger
Detroit Metropolitan Airport	Detroit	Commercial Airport
Gerald R. Ford International	Grand Rapids	Commercial Airport
Bishop International	Flint	Commercial Airport
MBS International	Saginaw	Commercial Airport
Kalamazoo/Battle Creek International	Kalamazoo	Commercial Airport
Sawyer International	Gwinn	Commercial Airport
Chippewa County International	Sault Ste. Marie	Commercial Airport
Oakland County International	Pontiac	General Aviation Airport
St. Clair International	Port Huron	General Aviation Airport

Source: Federal Aviation Administration, 2006 and Michigan Department of Transportation, 2006

5.2.1 Value at Crossings

The US and Canada are each other’s largest trading partner. In 2002 Canada was the origin for 16.5 percent of all imports to the US, and the US sold 19 percent of all its goods to Canada. Canada/US trade supports more than two million jobs in Canada³ and 5.2 million US jobs, including approximately 174,000 jobs in Michigan.⁴ Michigan’s International Border Crossings are the nation’s principal gateway for international trade with Canada. Of the total US trade with Canada, over \$361 billion in 2003 and over \$458 billion in 2005, most moves through Michigan’s three ports of entry Detroit, Port Huron, and Sault Ste. Marie. During 2001 – 2005, between 43 percent and 47 percent of all US/Canadian trade by value moved through these three ports. The Ambassador Bridge alone carries approximately 25 percent of all US/Canadian trade.

Two-thirds of the value of US/Canadian trade is moved by truck. Nationally this percentage has been dropping from a high of 76.5 percent of the value in 1995 to a new low of 64.3 percent of the value or \$295 billion moving by truck in 2005.

In Michigan in 2005, \$47.8 billion of the value of trade was moved by truck and 27.4 percent or \$19.7 billion was moved by rail. Unlike the decreasing national trend for freight values being moved by truck, in Michigan between 2001 and 2005, the value moved on by truck has

³ The Canadian Department of International Trade.

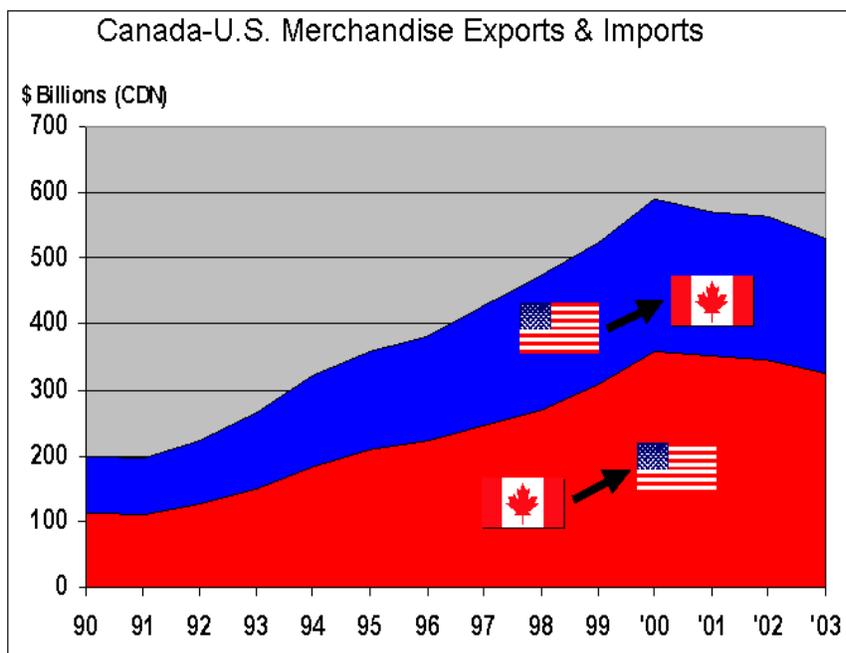
⁴ According to a 2003 study commissioned by the Canadian Embassy and based on 2001 data.

increased from 62.9 percent to 66.4 percent. The value share moved by rail has decreased from 34.1 percent in 2001 to 27.4 percent in 2005. This increased value on trucks may be in part due to the abandonment of rail lines in Michigan.

In terms of origin and destination of trade with Canada, Michigan, as compared to all US states, is Canada's largest trading partner. Michigan shipped and received a high of 19.3 percent (\$65.8 billion) in 2002 and a low of 15.7 percent (\$71.9 billion) in 2005 of all Canadian trade.

Michigan is also Mexico's third largest trading partner as the originating and destination state for a low of 9.9 percent (\$23.6 billion) in 2005 and a high of 14.2 percent (\$28.2 billion) in 2002 of all US trade with Mexico.

Figure 6: US Canada Exports and Imports



Source: Statistics Canada (EET-DFAIT)

Source: EBTC, The Importance of Efficient Canada/US Border Crossings, <http://www.ebtc.info/files/ebtc-whitepaper.doc>

One reason for Michigan ranking as among both Canada and Mexico's largest trading partners may be the growth in the automotive industries in both Mexico and Canada. Based on national figures the top five commodities by value moved by land in North America⁵ are:

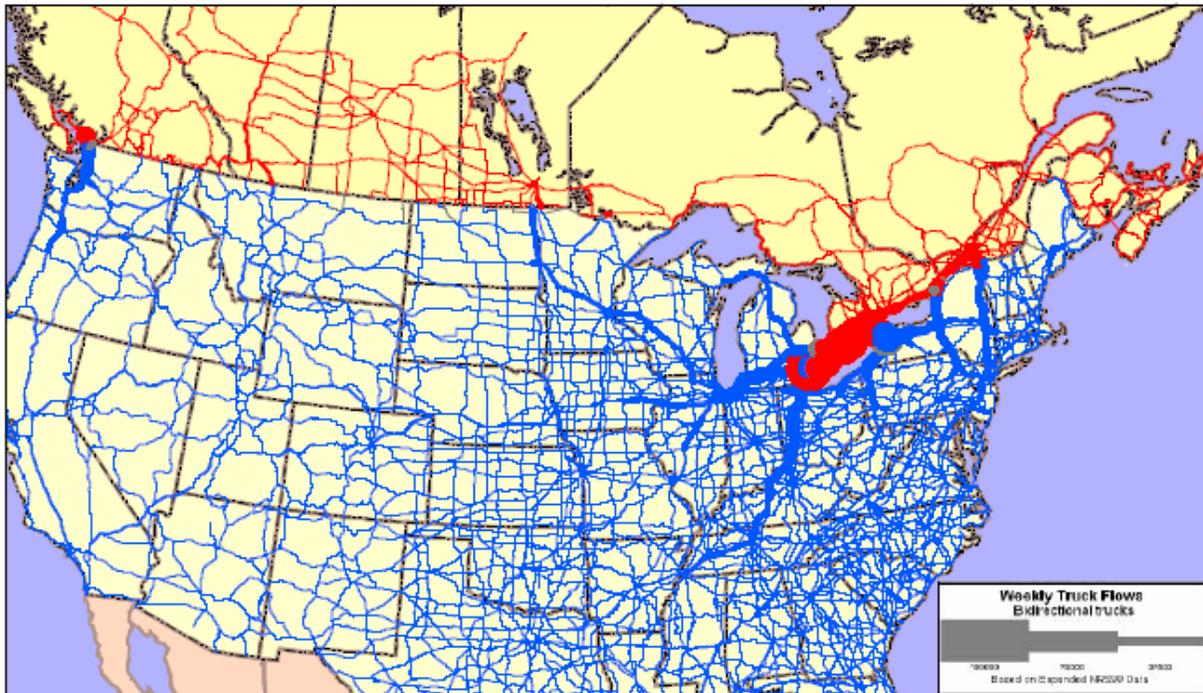
- Vehicle parts and accessories;
- Machinery, boilers, and mechanical appliances and parts;
- Electrical machinery, equipment, parts, TV and sound recording equipment;

⁵ USDOT, Bureau of Transportation Statistics, Transborder Surface Freight Database, 2006, www.bts.gov/

- Minerals, oils, fuels; and
- Plastics.

According to 2003 merchandise trade figures from *Statistics Canada*, on average Michigan and Canada exchange \$177 million daily (www.CanadianAlly.com). In 2003, Michigan sold over \$8.6 billion in auto parts to Canada and in turn bought more than \$21 billion in automobiles and \$7.8 billion in trucks.

Figure 7: 1999 Weekly Truck Trips Crossing US / Canada Border



Note: Trip data was expanded and assigned to the combined Canada-U.S. highway system. The bandwidth indicates weekly Canada-U.S. truck trips. The corridor between Detroit, Toronto, and Buffalo is heavily traveled, with the resulting wide bandwidths causing some loss of roadway detail in that area.

Source: <http://www.ebtc.info/PDF/Executive%20summary.pdf> from Executive Summary, 1999 Roadside study, Eastern Border Transportation Coalition (EBTC), September 2003.

Table 7: US – Canada – Mexico – Michigan Trade (in Billion \$)

	<i>All Modes</i>	<i>Trucks</i>	<i>% trucks</i>
	<i>Total US / Canada</i>	<i>Total US / Canada</i>	
1995	\$243.563	\$186.388	76.5%
1996	\$263.716	\$195.824	74.3%
1997	\$289.650	\$210.989	72.8%
1998	\$299.853	\$223.663	74.6%
1999	\$330.000	\$242.041	73.3%
2000	\$365.117	\$257.642	70.6%
2001	\$346.515	\$234.824	67.8%
2002	\$341.256	\$236.244	69.2%
2003	\$362.390	\$240.949	66.5%
2004	\$408.613	\$268.659	65.7%
2005	\$458.309	\$294.918	64.3%



	<i>Total US / Canada Ports</i>	<i>Total Port of Detroit</i>	<i>% Detroit of total US</i>	<i>Total Port Huron</i>	<i>% Port Huron of total US</i>	<i>Total Sault Ste. Marie</i>	<i>% Sault SM of total US</i>	<i>% Detroit + Port Huron + Sault Ste. Marie.</i>
2001	\$346.515	\$91.906	26.5%	\$55.539	16.0%	\$1.917	0.6%	43.1%
2002	\$341.256	\$100.800	29.5%	\$57.289	16.8%	\$1.551	0.5%	46.8%
2003	\$362.319	\$101.815	28.1%	\$62.245	17.2%	\$1.978	0.5%	45.8%
2004	\$408.613	\$113.668	27.8%	\$65.880	16.1%	\$2.405	0.6%	44.5%
2005	\$458.309	\$130.336	28.4%	\$68.174	14.9%	\$2.765	0.6%	43.9%

	<i>% Michigan all US / Canada Trade</i>	<i>Trucks Total Michigan / Canada</i>	<i>% Michigan value in trucks</i>	<i>Rail Total Michigan / Canada</i>	<i>% Michigan value on rail</i>	<i>All modes Total US/ Mexico</i>	<i>Total all modes Michigan / Mexico</i>	<i>% Michigan an of all US / Mexico</i>
2001	17.8%	\$38.866	62.9%	\$21.072	34.1%	\$200.796	\$27.540	13.7%
2002	19.3%	\$41.887	63.6%	\$22.186	33.7%	\$199.539	\$28.248	14.2%
2003	17.9%	\$40.912	63.2%	\$21.852	33.7%	\$200.457	\$26.708	13.3%
2004	17.0%	\$45.074	64.9%	\$21.189	30.5%	\$224.950	\$24.600	10.9%
2005	15.7%	\$47.766	66.4%	\$19.684	27.4%	\$239.676	\$23.635	9.9%

Source: US DOT, Bureau of Transportation Statistics, Transborder Surface Freight Database <http://www.bts.gov>, WSA generated Table, 2006

5.2.2 Volumes at Crossings

Nearly 22.8 million vehicles (2005), including 5.5 million trucks (2005), cross Michigan’s four vehicular International Border Crossings each year. Between 1990 and 2000 commercial truck traffic more than doubled to 5.3 million trucks per year. The Ambassador Bridge in Detroit and the Blue Water Bridge in Port Huron jointly carry more than 5.2 million truck (2005) crossings per year or 14,345 truck crossings per day. The Detroit Tunnel carries 148,000 trucks and 5.77 million cars per year.⁶

The Blue Water Bridge opened in 1938 and is the fourth busiest US/Canada crossing and the second busiest commercial border crossing between the US and Canada. Truck travel on the bridge has increased from 1.1 million in 1994 to 1.79 million in 2005. In 2005 a total of 5.5 million vehicles crossed the bridge.

The International Bridge at Sault Ste. Marie, which opened to traffic in 1962, is the only vehicular crossing for a 420-mile distance. In 2005 it carried 1.9 million vehicles, including 1.73 million passenger vehicles and 132,172 trucks and 59,115 buses. The International Bridge connects the two cities of Sault Ste. Marie, Ontario (pop. 75,000) and Michigan (pop. 16,000). Based on a 2000 study by the Ministry of Transportation, between 66 and 70 percent of the crossings were by people from the local area crossing for work, recreation and shopping purposes. The bridge also serves the steel, paper and forestry industries and regional tourism. Automobile traffic grew from 1980 to a peak of 3.5 million in 1993 and has been declining steadily due to disparity in Canadian and US currencies. Truck crossings have grown by 123 percent, except for a 2-percent decline in 2003. Trucks contribute approximately 47 percent of toll revenues at the bridge.⁷

Table 8: US – Canada Border Crossings and 2005 Volumes

<i>Crossing</i>	<i>Location</i>	<i>Type / capacity</i>	<i>Passenger cars (Millions)</i>	<i>Rank</i>	<i>Commercial Vehicles</i>	<i>Buses & Misc.</i>	<i>US/Canada Rank</i>
Ambassador Bridge	Detroit	Vehicular Bridge 4 lanes	5.86	1	3,445,585	76,660	1
Detroit-Windsor	Detroit	Vehicular Tunnel 2 lanes	5.77	2	148,065	59,117	6
Blue Water Bridge	Port Huron	Vehicular Bridge 6 lanes	3.71	4	1,790,673	8,407	2
International Bridge	Sault Ste. Marie	Vehicular Bridge 2 lanes	1.73	8	132,172	59,115	8

⁶ Michigan’ International Corridors and Border Crossings Investment Strategy, September 2001, p.2. and Bridge and Tunnel Operators Association monthly traffic reports.

⁷ The International Bridge Business Plan 2004-2008, November 2004.

5.2.3 Changes in Volumes and Value at Crossings

Traffic forecasts for US/Canada border crossings suggest that while in the short-term, traffic volumes have gone down, in the long-term traffic will increase. Free trade agreements with Canada have reduced constraints on trade and encouraged international traffic. Long-term, traffic at Michigan’s four border crossings is expected to grow to 34 million vehicles by 2020, a 36-percent increase. By 2025, auto crossings are expected to increase 44 percent and truck crossings by 60 percent.⁸

Truck growth on the Blue Water Bridge has increased more than 150 percent since 1990 and is forecast to increase another 150 percent by 2030. Passenger traffic is expected to increase 71 percent over the same period. By 2020 the Blue Water Bridge is expected to carry 2.9 million trucks, a 95-percent increase from 2001.⁹

However, from 2000 to 2004, passenger traffic at all four vehicular crossings declined significantly. Several reasons include 9/11, SARS, currency exchange rates, the war in Iraq, increased fuel costs and the large number of these trips that were discretionary, and border inconveniences. Preliminary 2005 data suggests the passenger trend will not level off for several years. The bulk of this change is from same-day passenger trips.¹⁰

Table 9: Annual Volumes

<i>Crossing</i>	<i>2000 Volume (millions)</i>	<i>2004 Volume (Millions)</i>	<i>Change (millions)</i>	<i>Percent Change</i>
Ambassador Bridge	8.81	6.26	- 2.55	- 29%
Detroit -Windsor Tunnel	8.44	5.84	- 2.60	- 31%
Blue-Water Bridge	4.40	3.77	- 0.63	- 14%
Sault St. Marie Bridge	2.55	1.72	- 0.83	- 33%

Bridge And Tunnel Operator’s Association

United States – Canada

Traffic Report

		<i>Year-To-Date</i>			
		<i>2004</i>	<i>2005</i>	<i>Change</i>	<i>Percent</i>
<i>Ambassador Bridge</i>	Passenger Cars	6,172,992	5,865,633	(307,359)	-4.98%
	Trucks	3,371,397	3,445,585	74,188	2.20%
	Buses & Misc.	82,029	76,660	(5,369)	-6.55%
	TOTAL	9,626,418	9,387,878	(238,540)	-2.48%
<i>Blue Water Bridge</i>	Passenger Cars	3,761,591	3,714,729	(46,862)	-1.25%
	Trucks	1,799,371	1,790,673	(8,698)	-0.48%

⁸ *Mobility is Security, 2000- 2025.*

⁹ *Michigan’s Investment Strategy,*

¹⁰ *Ontario-Michigan Border Crossing Traffic Study, August 2000 and 2004 Travel Demand Model Update for the Detroit River international Crossing Study. Pp 19-23.*

	Buses & Misc.	7,883	8,407	524	6.65%
	TOTAL	5,568,845	5,513,809	(55,036)	-0.99%
<i>Detroit-Windsor Tunnel</i>	Passenger Cars	5,781,920	5,774,705	(7,215)	-0.12%
	Trucks	159,786	148,065	(11,721)	-7.34%
	Buses & Misc.	59,468	59,117	(351)	-0.59%
	TOTAL	6,001,174	5,981,887	(19,287)	-0.32%
<i>Sault St. Marie Bridge</i>	Passenger Cars	1,652,064	1,735,373	83,309	5.04%
	Trucks	133,773	132,172	(1,601)	-1.20%
	Buses & Misc.	63,545	59,115	(4,430)	-6.97%
	TOTAL	1,849,382	1,926,660	77,278	4.18%
<i>TOTALS</i>	Passenger Cars	17,368,567	17,090,440	(278,127)	-1.31%
	Trucks	5,464,327	5,516,495	52,168	-6.82%
	Buses & Misc.	212,925	203,299	(9,626)	-7.46%
	GRAND TOTAL	23,045,819	22,810,234	(235,585)	-15.58%

Source: Bridge and Tunnel Operators Association

In terms of the International Bridge, the International Bridge Authority (IBA) predicts that in the short-term, traffic is expected to decline. The IBA projects an overall decline of 11 percent from 2003 to 2008, which includes a 12-percent decline in automobile traffic. One reason given for this decline is the heightened security.

5.2.4 Aviation Crossings

Michigan has seven commercial and two general aviation airports identified by the Federal Aviation Administration as international airports. These airports provide scheduled service to both passengers and air cargo. Major international air cargo airports include the Detroit Metropolitan Airport which handles over 375,000 tons of air cargo annually, Gerald R Ford airport in Grand Rapids, which handles over 120,000 tons annually, and Bishop International airport in Flint which handles over 50,000 tons of air cargo annually.¹¹ While not all of this is international cargo, it is the availability of this international service that is important to Michigan's economic vitality. Willow Run airport is Landing Rights Airport and is the second largest cargo airport in Michigan and handles a large volume of international air cargo.

All nine of these airports carry international passengers. The Detroit Metropolitan Airport ranks 11th in total passengers¹² and has 34 daily international flights, and over three million international passengers annually.

¹¹ www.faa.gov/airports/ 2005 data

¹² http://www.michigan.gov/aero/0,1607,7-145-6771_7016---,00.html

5.2.5 Ferry Crossings

Three Maritime Ferry Lines provide regularly scheduled crossings between Canada and Michigan. The Detroit/Windsor Truck Ferry, started in 1990, has 10 round-trips scheduled each day. Fees range from \$30 per passenger vehicle, to \$250 for large vehicles (14-foot – 16-foot wide by less than 80-foot truck with a GVW less than 80,000 lbs.) to \$1,650 for super-loads over 150-feet. The Walpole-Algonac Ferry line is over 100-years old and operates two ferries, one carrying 12 and one carrying nine passenger cars operating year-round departing approximately every 20 minutes from early morning until 10 p.m. The Blue Water Ferry also operates seven days a week, year-round. It has been carrying passenger cars and small trucks since 1948 in the Port Huron area. The truck ferry is the only permitted hazardous materials and overweight vehicle crossing in the Detroit area.

5.3 Issues

Maintaining and managing Michigan’s International Border Crossings involves dealing with a number of diverse and complex issues. Capacity, congestion, delays, growth in international trade, homeland security, deteriorating physical conditions of aging infrastructure, the challenges of working with two national governments, and planning for continuously evolving inspection procedures and regulations are some of the most critical border issues.

5.3.1 Capacity, Congestion and Delays

Michigan’s International Border Crossings rank among the top commercial vehicle crossings on the US/Canada border. Businesses and manufacturers in the US, Canada and Mexico depend on parts and products shipped across international borders. Many of these businesses operate with limited inventories and rely on receiving shipments just in time to match their product development and delivery schedules.

The events of September 11, 2001 and continuing growth in commercial truck traffic have increased border delays as much as two hours during peak periods. Delays are caused by a number of factors including inadequate staffing at federal inspection facilities, inadequate inspection facilities, different and confusing customs and immigration policies on each side of the border, inadequate connectivity and access to interstates, and current design and lane capacity limitations of International Border Crossings. As shown on **Table 8**, US/Canada-Mexico-Michigan trade, it is clear that the value of international trade is continuing to grow. Traffic volumes for both passengers and trade are also growing long-term. Some studies have shown that Detroit border crossings may reach capacity in five to 10 years.¹³

Congestion and delays at border crossings have been an issue for several years and, if not addressed, can impact individual business and ultimately the overall economy. If border congestion and delays, including delays due to security inspections are not addressed, annual

¹³ *Mobility is Security*, Executive Summary, p.5

production in the United States would be \$10.6 billion less and there would be almost 80,000 fewer jobs in the US.¹⁴

5.3.2 Homeland Security

Michigan's International Border Crossings and trade corridors are critical to the well-being of the local, state, and national economies and therefore critical to state and national security. Security and transportation are, by nature, in conflict. Security requires stopping or delaying traffic to verify the integrity of the occupants and contents being transported while the transportation agencies seek to provide a seamless flow of vehicles.

With the terrorist events of September 11, 2001 increased security efforts at the international borders initially increased congestion and delays. MDOT has actively worked with the US Department of Homeland Security to minimize the impacts of delays while increasing security measures. MDOT's strategies and initiatives are defined in detail in the *Security Technical Report* produced as part of this *MI Transportation Plan* process. A summary of MDOT's Homeland Security activities are described in **Chapter 6, Homeland Security Strategies and Initiatives**, of the *Security Technical Report*.

5.3.3 Physical Conditions of Infrastructure

Like any system, some border crossing facilities are in good condition, while others are in need of short-term repair or long-term replacement. For example, the Blue Water Bridge is in good condition. Work at the 40-year old Blue Water Bridge focuses on providing additional capacity at the plaza. However, many of the bridges and tunnels which make up Michigan's International Border Crossings system were constructed 75 years ago such as the Detroit/Windsor crossings and are in need of significant long-term repair, reconstruction or modernization. The needed improvements for this aging infrastructure in many cases exceed their original construction costs. Funding for these and other MDOT facilities are limited.

5.3.4 Intergovernmental Challenges

Projects and issues related to International Border Crossings require working with multiple levels of government including local, state, provincial, and US and Canadian federal governments, each with its own set of regulations and organizational and administrative structures. Coordination, communication, and cooperation between all agencies involved in crossing ownership, operation, maintenance, and administration are essential to having an efficient, safe, and secure international border crossing.

¹⁴ Purpose and Need and Feasibility Study, www.partnershipborderstudy.com

5.4 Physical Conditions and Needs

Because many of the International Border Crossing facilities are privately-owned, this report only presents a discussion of those facilities which MDOT owns or is directly involved in funding its improvement.

5.4.1 International Bridge

The International Bridge at Sault Ste. Marie opened to traffic in 1962. It is the only vehicular crossing for a 420-mile distance. It is operated and managed by the Joint International Bridge Authority (JIBA) and International Bridge Administration (IBA). The January, 2003 inspection report concluded that the International Bridge is in good overall condition and the structure was well maintained. Ten major capital projects in addition to ongoing day-to-day maintenance will be needed over the next 30 years to insure the continued structural integrity of the bridge. The International Bridge will need a complete re-decking in 15 years. The cost estimate for these projects is \$76 million. When inflation is taken into consideration the projections will increase to \$164 million, eight times more than it cost to build the bridge and its approaches.¹⁵

5.4.2 Blue Water Bridge

The Blue Water Bridge opened in 1938 as a three-lane, 6,200 foot cantilever truss bridge. The Bridge connects Port Huron, Michigan with Sarnia and Point Edward, Ontario. A parallel three-lane structure was added in 1997 and the original three lanes closed and major deck rehabilitation was completed. In 1999 the bridge reopened as a six-lane facility.

MDOT is currently studying potential improvements to the US Plaza at the Blue Water Bridge. The Environmental Impact Statement (EIS) is due to be completed in 2008 and construction completed in 2012. Backups of vehicles waiting to enter the United States are common. These occur during high volume periods especially on Tuesdays, Wednesdays and Thursdays for trucks and summer and holiday weekends for cars. Backups partially result from inadequate inspection facilities including a limited number of inspection booths and a plaza layout that creates traffic conflicts between cars and trucks on the plaza, over the bridge and along I-94 and Canadian Highway 402. Unless improvements are made, backups will worsen as traffic continues to grow.

The plaza must accommodate security measures to allow federal inspection agencies to maintain a secure border. Following the terrorist attacks of September 11, 2001 more staff and new technologies are being introduced at the border, and these also will need to be accommodated in an expanded Blue Water Bridge plaza footprint. Improvements to the plaza may present opportunities to improve local access from the bridge and plaza to downtown Port Huron and the St. Clair riverfront. MDOT anticipates completing the environmental clearance process in 2008. Construction of the expanded plaza will likely occur between 2010 and 2015.

¹⁵ International Bridge Business Plan 2004-2008, November, 2004. p.14.

5.4.3 Ambassador Bridge and Detroit-Windsor Tunnel

The Ambassador Bridge is a 9,200-foot long, privately-owned and operated suspension bridge that opened in 1929 and has been renovated numerous times. It has two lanes in each direction. Currently, one is used for cars and one for commercial vehicles.

The Detroit-Windsor Tunnel opened in 1930. It is one-mile long and is 75-feet below the bottom of the Detroit River. The tunnel has one lane in each direction, is lighted and ventilated. It has a vertical clearance of 13'2" and a 330-degree turn which restricts the types of commercial vehicles that can use the tunnel. The tunnel is owned by the Cities of Detroit and Windsor and is privately operated.

An in-depth analysis of the conditions of the Ambassador Bridge and Detroit-Windsor Tunnel were conducted as part of the Canada - United States - Ontario - Michigan Border Transportation Partnership for the *Detroit River International Crossing Study*. This study identified the major problems at these crossings as a lack of sufficient capacity to meet existing and growing demand, the need for improved connectivity to freeways, and the need to improve safety and enhance security.

Based on outcomes of this study, MDOT initiated an Environmental Impact Statement (EIS) to identify a new or improved international crossing of the Detroit River. The Detroit River International Crossing (DRIC) study is expected to be complete in 2008.

5.5 MDOT's Border Strategies, Initiatives, and Investments

MDOT is committed to maintaining and enhancing its highway and rail International Border Crossings. Over the past 10 years, MDOT has invested close to \$1.5 billion in its corridors and crossings. During that time MDOT also participated in drafting federal transportation legislation supporting border crossings and trade corridors, worked to stop legislation that would profoundly clog border crossings, supported increased funding for US Customs border operations, completed an intergovernmental agreement with Canada to study the feasibility of a new international crossing, actively participated with Homeland Security to identify and implement protective measures for US crossings, conducted truck and traffic surveys to identify international truck and traffic movements, and sponsored or participated in trade corridor planning studies and management strategy development.

Through proactive, aggressive advocacy, MDOT plans to work closely with all parties committed to the concept of a seamless US/Canada border while addressing legitimate security concerns and providing for critical infrastructure needs. MDOT's investments and initiatives include strategic objectives supported by an action plan.

5.5.1 MDOT International Border Crossing Strategy and Action Plan

MDOT's Strategic Objectives for 2000 – 2005, which it continues to support, include:

- Improve movement of people, goods and services in a safe, secure and efficient manner across the US/Canada border to connect with existing national, provincial, and regional transportation corridors;
- Improve vehicle flows on Michigan’s highways and rail corridors, enhance safety and security, reduce travel times and increase their predictability to support the fast-growing international trade in the region;
- Expand and improve collaboration and coordination of planning, programming and border operations with Canada to expedite cross-border vehicle and cargo movements;
- Conduct research, planning, feasibility studies and pilot projects related to trade corridors and border crossings;
- Support changes to federal laws, regulations and policies that improve the flow of trade across the US/Canada border while maintaining national security, including border inspection, processing policies and border staffing needs; and
- Support the development and implementation of Intelligent Transportation Systems that enhance border-crossing efficiency and improve vehicle movement on Michigan’s trade corridors.

MDOT’s five-year action plan (2000-2005) for International Border Crossings consisted of three major initiatives. MDOT will continue to support these initiatives for 2005-2010. They include:

- Invest in border and corridor infrastructure focusing on systematically repairing and rebuilding the infrastructure and connecting the crossings to the interstate freeway system;
- Enhance coordination and cooperation with federal, state, provincial, regional and local partners; and
- Advocate for federal policies that address border and corridor infrastructure needs that improve the movement of people and goods across the US/Canada border.

5.5.2 Past Investments and On-going Initiatives

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.

Table 10: Border Crossing and Supporting Corridors Investments 1995 - 2005

	1995- 2000	2001-2005
Ambassador Bridge Gateway - Detroit	\$ 8,000,000	\$114,000,000
Blue Water Bridge – Port Huron	\$83,000,000	\$2,000,000
International Bridge – Sault Ste. Marie	\$ 10,000,000	\$ 10,000,000
I-94 - Port Huron to Indiana	\$ 356,000,000	\$ 472,000,000
I-69 - Port Huron to Indiana	\$ 117,000,000	\$ 77,000,000
I-75 – Detroit to Ohio	\$ 141,000,000	\$ 93,000,000
I- 94 and I-75 - ITS Development	\$ 20,000,000	\$ 000
High Speed Rail – Detroit to Chicago	\$ 10,000,000	\$ 15,000,000
Detroit Intermodal Freight Terminal	\$ 000	\$ 1,000,000
TOTAL	\$ 745,000,000	\$ 801,000,000

Detroit – Ambassador Bridge Gateway Project: Over 9,000 trucks cross the Ambassador Bridge every day, making it the busiest truck crossing in North America. MDOT’s on-going \$206.1 million Ambassador Bridge Gateway project will provide direct interstate access to I-75, I-94, and I-96 where none currently exist, improve traffic flow to and around the bridge, reduce cross border traffic times and increase their predictability. Specific accomplishments when completed in 2009 will include the reconstruction of I-75 in the vicinity of the Gateway Plaza , a new pedestrian bridge across I-75, new welcome center, and reconstructed Fort Street (M-85) adjacent to the plaza.

Detroit River International Crossing Study (DRIC) - Proposed new crossing: Based on findings from the *Ontario - Michigan Border Transportation Feasibility Study*, a new Detroit River International Crossing (DRIC) is being evaluated. In January 2004, the partnership produced a final Planning/Need and Feasibility Study Report. This report identified a long-term strategy to meet the needs of the transportation network serving southeastern Michigan and southwestern Ontario. The Detroit River International Crossing (DRIC) Study is a bi-national effort to complete the environmental study processes for the United States, Michigan, Canada and Ontario governments. The study will identify solutions that support the region, state, provincial and national economies while addressing civil and national defense and homeland security needs of the busiest trade corridor between the United States and Canada. The DRIC study is currently evaluating alternative crossing locations south of the existing Ambassador Bridge crossing, working to eliminate from further study, alternatives that are shown to have the worst impact to the study area, and is proceeding to seek environmental clearance for a new crossing. Public meetings are currently underway and the partnership is seeking public input on community issues and the project. Environmental clearance is anticipated in 2008, followed by design and construction of the crossing to be completed in 2013.

Port Huron – Blue Water Bridge: In 1997, construction of a second span costing \$41.4 million and \$6 million in plaza improvements were completed. In addition \$21.3 million in repairs were completed in 1999 for the first span. In 2001, \$8.5 million in improvements were made to enhance truck processing and reduce congestion. An additional \$4.1 million was spent from 2000-2005 for resurfacing and to improve access routes to the bridge and \$1.8 million for capital improvements.

Currently MDOT is in the process of completing an Environmental Impact Statement to identify a preferred alternative that would expand the existing Blue Water Bridge plaza. As part of this project the Black River Bridge and approaching I-94/I-69 corridor will also be reconstructed. This improvement will separate international traffic from local traffic and will improve both the safety and security leading to and from the new plaza. In total MDOT estimates this plaza and corridor improvement project will cost over \$400 million and will be completed between the 2010 and 2015 time-period.

Sault Ste. Marie – International Bridge: From 1996-2000 \$10 million and from 2000-2005 an additional \$10 million in MDOT funding was spent on preservation and capital improvement for the Bridge. Through agreements with Transport Canada and the St. Mary’s River Bridge Company a new International Bridge Authority was created. This Authority ensures the preservation of this crossing for the next 40 years. The five-year (2004-2008) Capital Improvement Program for the Bridge recommends \$1.3 million in security enhancements and approximately \$900,000 in other improvements, including a new concrete overlay.

Rail Corridor Projects: MDOT supports and continues to invest in the development of the High Speed Passenger Rail Initiative between Detroit and Chicago. From 1996-2000, approximately \$10 million was invested in its feasibility analysis and development. From 2000–2005, \$15 million was invested in track improvements. MDOT also invested \$18 million in the first phase of the Detroit Intermodal Freight Terminal project, intended to facilitate mode to mode transfers between truck, rail and shipping containers.

5.5.3 US/Canada Discussions and Policy Initiatives

To address the needs of Michigan’s border crossings, MDOT actively supports the development and implementation of federal policies and programs that address the needs of states bordering Canada. MDOT also actively works with decision makers on both sides of the border to improve the seamless movement of people and goods in a cost-efficient, timely and safe manner. Key groups include:

- The Eastern Border Transportation Coalition (EBTC);
- The Transportation Border Working Group (TBWG);
- The US-Canada-Michigan-Ontario Border Transportation Partnership;
- The Joint International Bridge Authority (JIBA);
- The Blue Water Bridge Authority (BWBA);
- The Detroit International Bridge Company/The Canadian Transit Company;
- The Detroit and Canada Tunnel Corporation;
- The Bridge and Tunnel Operators Association (BTOA);
- The I-94 International Trade Alliance;
- The Great Lakes Trade Corridor Association;

- The Canadian-American Border Trade Alliance (CAN-AM BTA); and
- The I-69 Mid-Continental Coalition.

MDOT support includes participation in the development of TEA-21 and SAFETEA-LU borders programs. These include the Comprehensive Border Infrastructure Program (CBI) and the National Corridor Planning and Development Program (NCPD), support to increase funding for US Customs and Immigration to modernize operations, and completion of the intergovernmental agreements for the International Bridge between Michigan and the Canadian government.

5.5.4 Proposed Investments 2005 - 2030

During the next five years, the MDOT State Transportation Improvement Program (STIP) FY 2006 to FY 2010 includes funding commitments to repair and maintain MDOT's bridges and borders including \$15 million to the Blue Water Bridge and \$110 million to the Border Infrastructure Program.

MDOT plans to invest close to a billion dollars in International Border Crossings and corridor improvements between 2005 and 2030. Specifically, MDOT intends to invest as follows:

Detroit-Windsor Border Strategy: As discussed in **Section 5.3.2**, Michigan and Ontario are cooperating in studying the need for increased capacity in the Detroit - Windsor area to help accommodate the traffic growth in the area. Michigan is proceeding with a \$206.1 million investment at the Ambassador Bridge Gateway to improve access and to reduce travel times at the existing Detroit crossing. Ontario has signed a Memorandum of Understanding (MOU) with the government of Canada committing \$300 million over the next five years as part of a joint investment to upgrade existing infrastructure on the Ontario approaches to the Windsor - Detroit crossing. The proposed strategy includes:

- Optimizing the use of the existing network;
 - Improve US approaches;
 - Improve Canadian approaches - \$300 million Transport Canadian commitment;
 - Traffic management and ITS - \$30 million MDOT commitment.
- The Ambassador Bridge Gateway Project - \$206.1 million MDOT commitment – will provide direct highway access from the existing Ambassador Bridge to I-75, I-94, and I-96.
- The Detroit River International Crossing (DRIC) study – currently undergoing environmental clearance to provide new capacity.
- Improving border processing;
 - Promote NEXUS (a joint program of Canada and US Customs and Immigration agencies that simplifies border crossing for pre-approved, low-risk travelers.) and FAST (Free and Secure Trade Program: a joint US/Canada initiative that supports moving pre-approved eligible goods across the border and verifying trade

compliance away from the border.) NEXUS and FAST are now offered at 11 border crossings including Port Huron and Detroit.

- Enhancing security; and
- Improving agency coordination.

Port Huron Border Strategy: As discussed under **Section 5.3.1** studies, Michigan is completing the environmental process for a new US border station plaza at the Blue Water Bridge. Currently, \$43 million is dedicated through three earmarks in SAFETEA-LU for the plaza. In Ontario, \$115 million (Canadian dollars) will be invested in improvements in the same area.

Sault Ste. Marie Border Strategy: Sault St. Marie, Ontario and the Canadian federal government are investing \$15 million to develop a new international truck route linking Highway 17 and the International Bridge to improve the flow of people and goods across the border.

5.5.5 Aviation Strategies, Issues, and Initiatives

In order to support Michigan's economic vitality, Michigan's transportation system must ensure the aviation system provides seamless and complete access to key activities. The provision of high value economic services, business hospitality, recreation, and just in time production (and other supply chain activities) are directly supported by Michigan's aviation system.

Border Protection: There are a number of critical US Border Protection services that must be maintained to effectively serve the residents and businesses of the state and nation. These aviation-related services, provided by federal agencies, are outlined below:

- United States and Canadian Customs at Airports - All aircraft entering the United States must notify the Customs officer in charge of the airport of an intended landing at least one hour prior to landing. Failure to notify Customs could result in a fine. Certain airports provide flight notification service which allows a pilot to notify Customs simply by including "ADCUS" (advise Customs) in the remarks section of the flight plan. Certain airports have been designated "user fee airports" and are authorized to charge for costs associated with providing Customs service. User fees may range from \$50 to \$300 depending on the time of service. Pilots check with the Customs officer directly to determine exact fees.
- Airports of Entry - Advance notice of arrival time must be furnished to Customs unless otherwise noted the Michigan Airport Directory, US Customs or Canadian Customs publications. Notice to Customs officials may be included in the flight plan if filed in Canada, and the destination is an airport where flight notification service (ADCUS) is available.
- Landing Rights Airports - In addition to the advance notice required at Airports of Entry, Landing Rights Airports require the pilot in command to secure advance permission to land from US Customs. There are currently 11 such airports in Michigan.

Unless otherwise noted in the Michigan Airport Directory, US Customs or Canadian Customs publications, one-hour advance notice is sufficient.

An airport is a significant economic engine for its region. Airports support a variety of aviation activities that employ thousands of persons and create millions of dollars in economic benefits. Businesses throughout the state also depend on airports for the movement of goods and personnel. Benefits associated with airports include direct and indirect jobs, wages and expenditures. They also include the effects rippling through the community, enhancing economic activity far from the airport itself. Economic benefits also include expenditures made by those transient passengers who use the airport but spend their money throughout the region. Airports also create savings in time and money as a result of the travel efficiencies they create. Economic benefits also include the intangible effect the airport has on business decisions to locate or remain in a specific area. Finally, and somewhat less tangible are “quality of life benefits” provided by an airport. Examples include police and firefighting support, search and rescue, and recreation. The close proximity of reliable, efficient air service is cited by many as important when choosing where to reside.

5.6 Homeland Security Strategies, Initiatives, and Issues

As stated in its vision statement, “MDOT’s Strategy for its International Border Crossings is to establish and maintain a transportation border that allows for the seamless movement of people, goods, and services in a cost-efficient, timely, safe and secure manner.” To achieve this vision, MDOT actively participates in the protection of critical infrastructure in cooperation with state and federal agency partners in homeland security. MDOT’s security strategy remains focused on the protective measures for the international and national border crossings.

5.6.1 Initiatives

The following includes a brief listing of the various border crossing initiatives currently underway:

- **I-75 at Ambassador Bridge, Gateway Project – City of Detroit, Metropolitan Region:** This \$206.1 million project will address long-term congestion mitigation issues and provide direct access improvements between the Ambassador Bridge and I-75 and I-96.
- **Detroit River International Crossing – Detroit, Metropolitan Region:** The Detroit River International Crossing (DRIC) Study will consider transportation alternatives that improve the border crossing facilities, operations, and connections to meet existing and future mobility and security needs.
- **Blue Water Bridge Plaza Study – Port Huron, Metropolitan Region:** MDOT is investing over \$11.76 million in a study to address future traffic needs at the Blue Water Bridge Plaza in Port Huron. The study will concentrate on identifying capacity-related needs at the plaza without inhibiting the operations of customs and immigrations officers.
- **I-94 Black River Bridge Study – St. Clair County, Metropolitan Region:** (This is part of the Blue Water Bridge Plaza Study) The I-94 Black River Bridge connects the Blue Water

Bridge Plaza to I-94 and I-69, and also connects the north and south sections of the Port Huron metropolitan area. The current structure is obsolete, narrow, and in poor condition. It needs replacement within a few years.

- **National Roadside Survey (NRS) – Truck Freight Crossing the US - Canada Border:** The Eastern Border Transportation Coalition (EBTC), of which MDOT is a member, completed an assessment of the US - Canada commercial vehicle crossings in 1999. It provides a more expansive and significant view of trade and traffic between the US and Canada than previously available. Currently, Transport Canada is leading the new NRS study that is underway with a data and findings report expected in 2007.

5.6.2 Maritime Initiatives

The following includes a brief listing of the maritime initiatives currently underway:

- Border workers were offered advanced hazardous materials transportation enforcement training as well as second wave of carbon tank inspection training. Issues involving the Detroit Truck Ferry were discussed.
- The Transportation Subcommittee has been working with US Coast Guard (USCG) staff to attempt to identify both budget request routing options and also to attempt to identify other program funds that might be available to meet transportations needs. The area of opportunity identified is for both study funds and for immediate contingency measures, mostly in support of potential critical infrastructure “repairs of potential attack damage,” but also in some additional areas of waterway/transportation structure hardening and protection against damage of infrastructure including structures on alternate detour routes in the event of attack damage, the related structures, and various commercial dock and port structures, the commercial docks and piers and others within the Michigan portion of the Toledo Coast Guard command’s area of responsibility.

5.6.3 Information Technology Initiatives

Applying ITS technologies to International Border Crossings can be used to assist in moving traffic efficiently during emergencies and crisis situations. MDOT continues to work with its partners at the Department of Information Technology to implement and to assure secure connections and maintain data backup and recovery systems. MDOT continues to update the MDOT Business Continuity Plan and the Disaster Recovery plan for IT needs. New, updated security systems and programs such as NEXUS and Free and Secure Trade (FAST), are installed or are in progress for key International Bridge crossing locations. By assisting with providing FAST and NEXUS lanes, MDOT is partnering with US Homeland Security Bureau of Customs and Border Protections (previously Customs and Immigration agencies) to improve security while maintaining mobility.