

1. Why is a New Border Crossing Needed?

A new border crossing is needed to support the region, state, provincial and national economies while addressing the civil and national defense and homeland security needs of the busiest trade corridor between the United States and Canada (Figure 1-1).

Example of Freight Flows



Source: Federal Highway Administration

Figure 1-1
Existing Detroit River International Crossings
Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc.

The DRIC is truly a cooperative bi-national effort to provide the safe, efficient movement of people and goods across the U.S.-Canadian border at the Detroit River, including improved connections to national, provincial and regional systems such as I-75 and Highway 401. In 2000, the Federal Highway Administration (FHWA), the Michigan Department of Transportation (MDOT), Transport Canada (TC), and the Ontario Ministry of Transportation (MTO) formed the Border Transportation Partnership. The partners agreed to study the needs previously identified. The resulting *Planning/Needs and Feasibility Study* found a need for additional border capacity. Key to the success of this partnership is establishing a clear vision/goals, developing a working organizational structure that allows the nations to work together and share information, make decisions and resolve conflict. To guide the Partnership's effort, a Charter was created on February 2, 2005 (Appendix B). The Charter contains the Partnership's objectives, creates a Working Group and Steering Committee and defines their respective roles and responsibilities. The Charter also includes a conflict resolution policy and rules of conduct. It is important to note that key Partnership decisions are made by the Steering Committee which is comprised of members from the four governmental units listed above.

Partnership Objective No. 6 is of particular relevance to the proposed action described in this DEIS. It requires both nations "...to use a coordinated planning and environmental study process, hereafter referred to as the Coordinated Process, resulting in a joint solution having environmental clearance in both countries (emphasis added)." This particular objective was reinforced in the Memorandum of Cooperation (MOC) Between the Department of Transportation of the United States of America and the Department of Transport of Canada on the Development of Additional Border Capacity at the Detroit-Windsor Gateway signed November 26, 2007 (see Appendix B). The MOC states, in part,

"WHEREAS, the Participants recognize that development of sufficient crossing capacity in the Detroit-Windsor area, as an asset critical to the national interest of both countries, should rely on completion of the environmental studies and analyses currently underway by the Detroit River International Crossing Partnership (DRIC) study process;

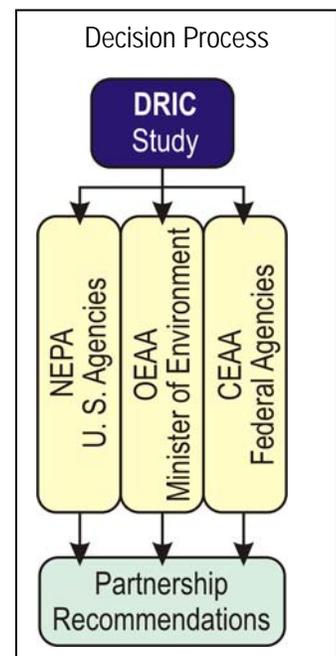
"WHEREAS, the Participants believe that the development of an enhanced border crossing system will ensure a modern, efficient, integrated, safe and secure freeway-to-freeway transportation connection, and desire to strengthen collaboration to ensure the most efficacious and expedient implementation of the enhanced crossing system..."

In light of the collaboration among the two nations, state and province, throughout this DEIS, the transnational nature of the proposed action will be discussed. This includes the transnational nature of the impact assessment of the Practical Alternatives.

It is important to also note that another role of the Partnership is to study different methods of ownership, operation and maintenance of an expanded or new border crossing.

The Detroit River, which separates the U.S. and Canada, now has border crossings at the Ambassador Bridge (four lanes), the Detroit-Windsor Tunnel (two lanes), the Detroit-Canada Rail Tunnel, and the Detroit-Windsor Truck Ferry, which serves vehicles with hazardous cargo. These trucks are not allowed in the Detroit-Windsor Tunnel nor on the Ambassador Bridge.¹ These multi-modal transportation links provide the connections for freight and passenger movements between the two countries. The DRIC Study covers transportation alternatives to improve the border-crossing facilities, operations, and connections to meet existing and future mobility and security needs.

The Partnership's *Planning/Needs and Feasibility Study Report* is part of the foundation for this Draft Environmental Impact Statement (DEIS). Each subsequent phase of the DRIC Study has or will end with a Partnership recommendation. All recommendations will be consistent with the National Environmental Policy Act (NEPA) in the U.S., the Ontario Environmental Assessment Act (OEAA) and the Canadian Environmental Assessment Act (CEAA).



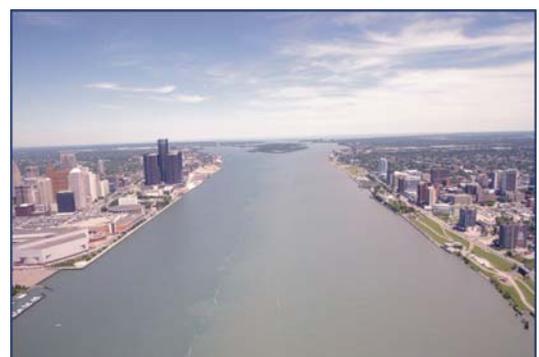
1.1 The Project's Purpose

The purpose of the Detroit River International Crossing Study is, for the foreseeable future (i.e., at least 30 years from today), to:

- Provide safe, efficient and secure movement of people and goods across the U.S.-Canadian border in the Detroit River area to support the economies of Michigan, Ontario, Canada and the U.S.
- Support the mobility needs of national and civil defense to protect the homeland.

To address future mobility requirements (i.e., at least 30 years from today) across the U.S.-Canada border, there is a need to:

The Detroit River between the Downtowns of Detroit and Windsor



Source: The Corradino Group of Michigan, Inc.

¹ The Planning Needs & Feasibility Study indicates that in 2004 the Detroit Windsor Truck Ferry, operating ten hours per day, handled 0.5 percent of the commercial vehicle traffic at the Detroit River crossings.

- Provide new border-crossing capacity to meet increased long-term demand;
- Improve system connectivity to enhance the seamless flow of people and goods;
- Improve operations and processing capability in accommodating the flow of people and goods at the plazas; and,
- Provide reasonable and secure border crossing system options in the event of incidents, maintenance, congestion, or other disruptions.

Nine Practical Build Alternatives to satisfy the new border crossing requirements have been identified (refer to Table 2-5 and Figures 2-11A through 2-11F and 2-12A through 2-12C). Each of the Build Alternatives is comprised of three elements: an interchange connecting the plaza to the existing highway network, a Customs inspection plaza, and a bridge from the plaza that spans the Detroit River. On the Canadian side of the river, the bridge will connect to one of three alternative plazas and then to a new six-lane freeway extending from the plaza to Highway 401. This DEIS compares the nine Build Alternatives to the No Build Alternative and analyzes the issues/impacts of the proposed new border crossing in the United States (Figure 1-2). A Canadian-produced document will analyze the issues/impacts on the Canada side.

What is a Practical Alternative?

A Practical Alternative is one that can be built and operated at a reasonable cost while avoiding, minimizing or mitigating impacts to the human and natural environments.

Figure 1-2
U.S. Area of Analysis for Crossing System
Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc.

1.1.1 Overview

The Detroit River area has historically seen trade grow at a higher rate than the economies of Canada and the United States, in part, because the area is a major center of manufacturing in North America. The United States and Canada have the responsibility to maintain access to trade opportunities, and to protect their homelands and strategic vital resources. To that end, the goals of the Border Transportation Partnership for the DRIC Study are to:

- Recommend a location for a new border crossing;
- Recommend connections to freeways in the U.S. and Canada;
- Recommend locations for plazas in the U.S. and Canada;
- Complete engineering to support subsequent approvals, property acquisition, design and construction;
- Submit all of the above for approval (Record of Decision in U.S.) by December 2008; and,
- Submit the Canadian Environmental Assessment for approval in 2008.

1.1.2 The Economy

The border crossing at the Detroit-Windsor gateway is key to the economies of two nations. The United States and Canada have the largest bilateral trading partnership in the world, totaling U.S. \$407 billion in 2004.² The U.S. is Canada's largest export market.³ Canada is the largest export market for 38 of the 50 states, including Michigan.⁴

Seventy percent of the U.S.-Canada trade moves by truck.² Approximately 28 percent of surface trade between the United States and Canada passes through the Detroit River area. This trade is critical to the manufacturing base of the region. Manufacturing accounts for almost 20 percent of employment in Ontario and in the five-state region of Michigan, Illinois, Indiana, Ohio, and Wisconsin.⁵

The Dynamics of Trade



² Bureau of Transportation Statistics (BTS) Transborder Surface Freight Database.

³ Standing Senate Committee on National Security and Defense, *Defense of North America: A Canadian Responsibility*, September 2002.

⁴ Ibid.

⁵ Data Resources, Inc. – Wharton Econometric Forecasting Associates (now Global Insights), U.S. Regional Economic Service, 2002.

An economic study commissioned by the Partnership indicated the U.S. would create 71,000 fewer jobs and Canada would create 27,000 fewer jobs in 2035, if no improvements were made to border-crossing system in the Detroit River area (Table 1-1).⁶ The combined annual production loss in the U.S. in 2035 is forecast to be U.S. \$9.4 billion.

Table 1-1
Costs in 2035 of Not Addressing Congestion at the Detroit River Border ^a
Detroit River International Crossing Study

	Michigan	United States	Ontario	Canada
Cumulative Lost Jobs by 2035	25,000	71,000	16,500	27,000
Annual Lost Value of Production	\$4,200	\$9,400	\$1,000	\$1,650
	millions 2004 U.S. Dollars		millions 2004 CAN Dollars	

^a In the SEMCOG-Essex County Region, there would be 12,500 fewer U.S. jobs and 1,700 fewer Canadian jobs, and a combined production loss of U.S.\$2.8 billion and CAN\$183 million, respectively. See *HLB Regional and National Economic Impact of Increasing Delay and Delay-Related Costs at the Detroit River Crossing*, August 2005. Canadian dollars are expressed in 2005 currency exchange rates.

Source: URS Canada and HLB Decision Economics, Inc.

1.1.3 Civil and National Defense and Homeland Security

Homeland security involves protecting society against manmade threats and disasters. This involves keeping critical infrastructure in sound condition to protect people and property. It also involves mitigating impacts to individuals, communities, and the environment. Each border-crossing system component (crossing, plaza, and connecting roadway) must be developed with homeland security needs in clear focus, including its engineering, location, and function (workforce/staffing, communications and information sharing).

Emergency response to foreign military threats, natural disasters, communicable disease outbreaks and environmental emergencies on the Great Lakes depends on critical links in the transportation system. These links are at the border itself and on the national highway systems connecting to it.

The United States Congress recognized this dependence when enacting the National Highway System Designation Act of 1995. The purpose of the Act is to support the needs of national and civil defense. The border crossing at the Detroit River was expressly recognized in 1995 in U.S. federal law when the Ambassador Bridge was designated to be on the National Highway System.

⁶ URS Corporation, in association with The Corradino Group, IBI Group and HLB Decision Economics, Inc., *Planning/Needs and Feasibility Study*, January 2004.

In addition to transporting personnel and equipment, the border-crossing system supports national security in two other ways:

- *Economic Security*: The strategic importance of the border is a component of U.S. Homeland Security policies. Michigan links national security to economic security with a focus on maintaining the security of trade flows across the Michigan-Ontario border.

A report by the Canadian Standing Senate Committee on National Security and Defense entitled “Defense of North America: A Canadian Responsibility, September 2002,” noted that the Canadian and United States economies have effectively merged, becoming “one huge economy.” The report links economics to military security, and calls for greater military collaboration and joint operations, citing the terrorist attack of September 11, 2001.

- *Military/Industrial Logistics*: The border-crossing system supports military/defense industry logistics. There are almost 700 defense contractors in Michigan and 300 in Canada. They interact, as does the auto industry, through the Detroit Windsor border. In 1956, the two nations signed a Defense Production Sharing Agreement that provides for Canadian contractors to compete on an equal footing with U.S. contractors in the U.S. market. As with civilian logistics, the increasing integration of military logistics and of manufacturing supply chains in the two nations is made possible by an efficient border-crossing system.

What does Military/Industrial Logistics Mean?

Military/Industrial Logistics is the planning, management, and control of freight transport operations for the industrial and manufacturing processes that supply the military establishment with the tools, equipment, and consumable goods necessary to support the military's day to day operations.

The government of Canada also has a heightened emphasis on national and civil defense. The Department of Public Safety and Emergency Preparedness Canada (PSEPC) oversees intelligence and security functions and acts as a coordinating body for border operations. PSEPC also oversees operations to combat natural disasters and security emergencies in Canada.

The Canadian Standing Senate Committee recommended, in its 2005 report,⁷ “...only those proposals for new crossing infrastructure at Windsor-Detroit which provide separate and secure infrastructure redundancy be considered (by such studies as the Detroit River International Crossing Study).”

⁷ Senate Committee on National Security and Defense, *Interim Report*, June 2005.

This need is also recognized in the “Smart Border Declaration,”⁸ signed by the United States and Canada in December 2001. The Declaration is accompanied by a 30-point Action Plan that makes it clear both governments place an exceptionally high priority on border security and infrastructure needs. It is reinforced by the “Security and Prosperity Partnership” established by President Bush and former Canadian Prime Minister Martin in February 2005. The importance of the Detroit-Windsor gateway was also recognized by President Bush and Canadian Prime Minister Harper at their “summit” meetings in March 2006 and in April 2007. A new border crossing is essential to meeting the security needs of the U.S. and Canada.

1.2 Specific Needs for a New Crossing

Crossing a border between two nations involves an access road to a plaza, federal inspections on the plaza, and travel over a bridge or tunnel to the other country. Addressing border capacity, connectivity and processing needs involves examining each link in this chain. A discussion of these needs, along with related background, is provided below.



1.2.1 Provide Safe, Efficient and Secure Movement of People and Goods Across the U.S.-Canadian Border in the Detroit River Area to Support the Economies of Michigan, Ontario, Canada and the U.S.

To ensure the continuous, unimpeded flow of both passenger and commercial cross-border traffic, a solution is needed that accomplishes all of the following:

- Provides adequate vehicle capacity to handle vehicle demand,
- Provides adequate customs and inspection processing capability for the flow of legitimate cross border travel,
- Provides an efficient routing of vehicles using controlled access facilities (freeways),
- Increases the reliability of the border crossing system by providing a like system at a separate physical location (system design for high availability through redundancy).

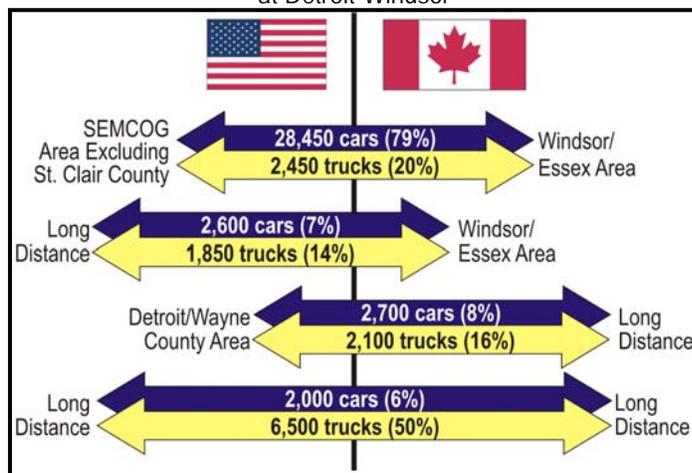
⁸ “Smart Border Declaration” and Associated 30-Point Action Plan to Enhance the Security of Our Shared Border While Facilitating the Legitimate Flow of People and Goods. U.S. Department of Homeland Security, December 2001.

1.2.1.1 Capacity

In recent years, lines of vehicles waiting to cross the border in the Detroit River area have highlighted the need to improve capacity. Trucks have backed up for miles off the Ambassador Bridge plaza and onto I-75 in Detroit and Huron Church Road in Windsor.

Approximately 95 percent of trips people make across the border in the Detroit-Windsor area use the roadway system. Trucks carry 88 percent of the value of freight, and rail carries most of the rest.⁹ Eighty percent of the truck trips are long distance (Table 1-2). Seventy-nine percent of the people crossing the border in cars are making “local” trips between Detroit and Windsor. It is this local car traffic that has been most impacted by increased security and the changes in the documentation required to cross the border. There are a number of initiatives among the border states, including in Michigan to develop an enhanced driver’s license which would meet the security needs of the Western Hemisphere Travel Initiative (WHTI). Once such a document is available, and border-crossing convenience has been restored, passenger car traffic across the border is expected to return to previously established patterns.

Year 2004 Weekday Vehicle Border Crossings at Detroit-Windsor



Source: IBI Group

Table 1-2
2004 Daily International Traffic (Two-Way) Crossing at Windsor-Detroit
By Vehicle and Trip Type
(Fall Weekday)

Detroit River International Crossing Study

Type of Traffic	Passenger	%	Commercial	%
Local to Local	28,450	79%	2,450	19%
Local in U.S. to Long Distance in Canada	2,700	8%	2,100	16%
Local in Canada to Long Distance in U.S.	2,600	7%	1,850	14%
Long Distance to Long Distance	2,000	6%	6,500	50%
Other ^a	120	0%	100	1%
Total	35,850	100%	13,000 ^b	100%

^a Includes unexpected/atypical trips where the shortest route is not taken.

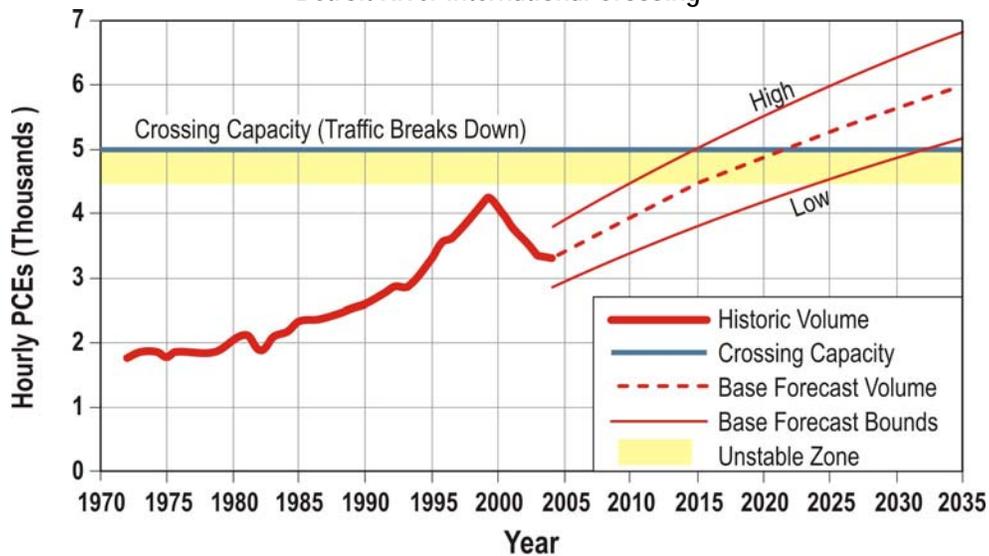
^b Total commercial crossings do not include trucks carrying hazardous materials crossing via the Detroit-Windsor Truck Ferry. The truck ferry handles an average of 50 trucks per day.

Source: IBI Group

⁹ Ibid.

Detroit River area cross-border passenger car traffic is forecast to increase by approximately 57 percent over the period 2004 to 2035, and truck traffic by 128 percent. Traffic demand could exceed the cross-border roadway capacity as early as 2015 if high growth occurs. Even under “low” projections of cross-border traffic, the border-crossing capacity (bridge and tunnel, combined) will be reached between 2030 and 2035 (Figure 1-3). When that happens, the system will become gridlocked.

Figure 1-3
 Travel Demand vs. Capacity:
 Combined Detroit River Crossings
 Detroit River International Crossing



Note: Figure 1-3 is from the DRIC Travel Demand Forecast Working Paper (September 2005), prepared by the IBI Group. The Passenger Car Equivalent factor (PCE) used in that report, and in Figure 1-3, is 3.0 cars per truck.

Source: IBI Group

These forecasts indicate that there will be inadequacies:

- The capacities (number of lanes) of the Ambassador Bridge and Detroit-Windsor Tunnel themselves;
- The ability to process vehicles through Customs services; and,
- The roads leading to the existing bridge and tunnel.

1.2.1.2 Connectivity

Ambassador Bridge

The Ambassador Bridge is two lanes in each direction. It is more than 75 years old and needs continuous maintenance. This often requires at least one lane to be closed. Blockages due to maintenance and incidents can result in queues and delays that reach beyond the limits of the bridge and its plazas.

Ambassador Bridge connections to the interstate highway system are being improved through the independent Ambassador Gateway Project, to be completed in 2009. That project does not impact primary and secondary inspections. It improves the flow of traffic from the toll booths to the U.S. freeway system. Border-crossing programs, such as NEXUS and FAST, will contribute to speedier processing of users of such programs and, thus, improve the efficiency of the Customs staff to process other users. But, current U.S. and Canadian processing facilities are expected to reach capacity in five to ten years. The Detroit crossing itself, and connecting roads in Canada, have different constraints that are more difficult to address than functions at the plazas.

In Canada, 11 of the 17 signalized intersections along Huron Church Road (the access road to the bridge) are approaching capacity with several movements at critical levels.¹⁰ Traffic flow is often unstable. Periods of congestion occur unpredictably along the corridor, often for several hours at a time. Anticipated increases in border-crossing traffic, combined with modest growth in background traffic, means Huron Church Road will likely exceed capacity within five to ten years. Queuing and diversion of traffic onto other parallel roads will become more frequent. The effects of this problem will extend to restrictions in the movement of people and goods that serve the needs of the two nations. Likewise, local communities around the border crossings will experience air quality and noise impacts.

In Canada, traffic reaches the border via Highway 401 (which is a freeway) (refer to Figure 1-1). The Ontario Ministry of Transport, under separate action, is constructing additional capacity on the section of Highway 401 from Highway 3 to Tilbury. This component of the corridor is expected to have sufficient capacity beyond the 30-year planning horizon.

¹⁰ Border Transportation Partnership, URS, The Corradino Group of Michigan, Inc., IBI Group, HLB Decision Economics, *Planning/Need and Feasibility Study Report*, January 2004.

What is NEXUS?

NEXUS is a program that allows pre-approved low risk travelers to enjoy a simplified border crossing process. NEXUS pass holders can use dedicated lanes at border crossings, reducing their waiting time.

What is FAST?

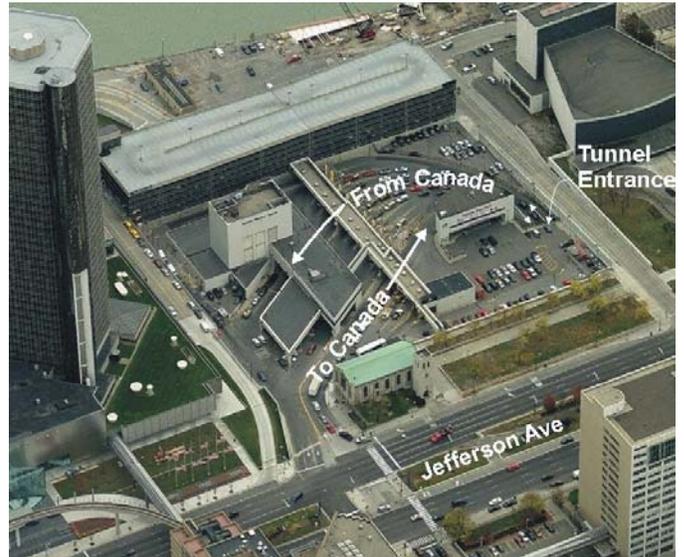
The Free and Secure Trade (FAST) program offers quicker clearance of pre-registered, low risk shipments. To be eligible to use the dedicated FAST lanes, the importer, trucking company, and driver must all be pre-approved.

Detroit-Windsor Tunnel

The Detroit-Windsor Tunnel has one lane in each direction with sharp curves in the approaches, which restrict truck usage. The most limiting factor of the Tunnel involves the approach roads. Lines of waiting vehicles often extend into downtown Detroit and downtown Windsor. The downtown road networks in each city are also subject to regular peak-hour congestion.

As traffic volumes increase, so will delay and queuing in Detroit and Windsor. A 2004 analysis of the Detroit downtown street system indicated that in 2010, and beyond, the eastbound and westbound Jefferson Avenue intersections with the tunnel would be at Level of Service F (i.e., gridlock) in the afternoon peak hour.¹¹

The Detroit Windsor Tunnel Entrance in Detroit



There are plans for operational and border processing facilities improvements at the tunnel. Both the U.S. and Canadian plazas will continue to be constrained by adjacent development and the connecting street network.

1.2.1.3 Customs Processing Capability

Access roads and border crossing capacities are most affected by physical facilities; Customs services are most affected by policies and laws. For example, a study published by the Ontario Chamber of Commerce in August 2007 indicated "...at least 44 different Canadian and U.S. agencies have jurisdiction over border operations...There are almost 4,500 new or revised regulations introduced by Canadian federal and provincial governments every year..." that affect cross-border travel. So, while the limitations on U.S. and Canadian access roads and the border crossings can be addressed with physical improvements, changes at the plazas where border processing delays regularly occur is not just about more booths and manpower, but rules and regulations set by policymakers in the U.S. and Canada. The rules and regulations to ensure a secure border create considerable congestion today. The need, beginning in summer 2008, to present a passport to cross into the U.S. from Canada will immediately impact border congestion. This passport requirement is expected to be permanent.

¹¹ Ibid.

Beyond border processing, the need exists for six more lanes of cross-border roadway capacity (three in each direction) by 2035. This is in addition to the Detroit-Windsor Tunnel (two lanes) and the existing Ambassador Bridge (four lanes). The Border Partnership's Feasibility Study indicated the need could be as high as ten new/additional lanes. The forecasts leading to that conclusion have been refined based on a number of factors including the effects on cross-border traffic of the events of September 11, 2001, and economic conditions. Nonetheless, as trade in this corridor continues to grow, the need for ten additional lanes, compared to today's condition, is reasonable from a capacity, economic, and/or homeland security viewpoint.

The delays caused by capacity constraints at any of the three components of the border-crossing system will have several negative "ripple-wave" effects, including the following:

- Increased economic costs, including losses to businesses themselves and relocation of businesses outside the region;
- Increased highway safety concerns, including higher potential for collisions;
- Increased vehicle operating costs and fuel consumption;
- Diversion of cross-border traffic to local roads;
- Impacts to access of land uses adjacent to the border-crossing routes;
- Increased air pollution; and,
- Interference with incident/emergency responders.

The planning, design and construction of any major international crossing takes time. Therefore, it is prudent to address how and when the need is to be satisfied.

1.3 Redundancy

Redundant crossings are essential to satisfying the project's purpose. The North American Free Trade Agreement (NAFTA), and similar pacts, will continue to have significant positive impacts on trade between the two nations. Over the past 30 years, bilateral trade in goods and services has grown faster than U.S. gross domestic product (GDP); i.e., at an annual rate of approximately 11 percent. A report by Global Insight forecasts that bi-national commerce will grow 250 percent in the next 20 years.¹² There is a need for a new border crossing to ensure there is no disruption to the trade between the U.S. and Canada.

What is Redundancy?

Redundancy, in transportation, has two major components:

System Connectivity, which means providing adequate alternative pathways to maintain the flow of traffic in case one roadway segment in the system becomes unavailable; and

Network Resiliency which means that the system maintains adequate capacity, so that when the flow on one link is disrupted, the remainder of the system can handle the additional traffic.

¹² Global Insight, Inc., World Trade Service Forecast, 2nd Quarter, 2003.

The Ambassador Bridge and the Detroit-Windsor Tunnel are each more than 75 years old and will inevitably need significant maintenance. Furthermore, congestion and disruptions continue to occur through vehicular crashes, breakdowns and similar incidents. In the era of just-in-time delivery, the logistics industry needs a travel network with predictable times and reasonably accessible alternative routings when traffic-disrupting incidents occur. Commerce not only depends upon reliable transportation links but multiple links as well. Major disruptions at either the Ambassador Bridge or Detroit-Windsor Tunnel have significant economic effects. It is essential to have redundancy, made available by a new border crossing to move people and goods across the border in the Detroit River area.

The Ambassador Bridge



The Ambassador Bridge Company's current proposal includes a new six-lane span over the Detroit River and expansion of the existing U.S. inspection plaza. The existing bridge will be taken out of service. A second bridge alongside the existing Ambassador Bridge, utilizing common inspection plazas and freeway connections at the existing bridge on both sides of the river, provides limited redundancy. A second bridge alongside the Ambassador Bridge would serve as a reasonable and secure crossing option for the border transportation network only in so far as it may provide a means of addressing an incident on one of the crossings themselves. An incident on either plaza or freeway connection in either country could affect operations on the crossing system. A new crossing at a different location, with separate inspection plazas and new connections to the freeway network in both countries, together with the Ambassador Bridge crossing system, would provide a second, distinct crossing system and a greater degree of redundancy.