

Detroit River International Crossing Project
Draft Purpose and Need
(June 2005)

Project Purpose

The Purpose of the Detroit River International Crossing Project is to: (for the foreseeable future, i.e., at least 30 years):

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

Project Need

To address future mobility requirements across the Canada-U.S. border, there is a need to:

- *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; and,*
- *Provide reasonable and secure crossing options in the event of incidents, maintenance, congestion or other disruptions.*

Detroit River International Crossing Project

Draft Purpose and Need

(March 2005)

1. Introduction

The Detroit River area represents the busiest corridor for trade between Canada and the United States. The benefits of such trade to the local, regional and national economies are represented in the prosperity, opportunities and high standards of living the citizens of each country enjoy. The prospect of continued and increased trade passing through this corridor must be supported as well as protected.

International border crossings in the Detroit River area occur via the Ambassador Bridge (Bridge), the Detroit-Windsor Tunnel (Tunnel), two railroad tunnels, and a ferry that principally carries trucks hauling hazardous materials not allowed on the Bridge or in the Tunnel (Figure 1). Almost one-fourth of all surface trade between the countries crosses the border at Detroit-Windsor, demonstrating that this corridor is vital to the economic well being (regional, national, and international) of Canada, the United States and their communities. Backups occur frequently at the Bridge and Tunnel. These conditions will worsen over time as forecasts indicate cross-border passenger traffic will increase by approximately 40 percent by 2030 and truck traffic will grow by 120 percent. Short-term measures are under study and/or have been made, particularly with respect to improving vehicle/people processing capability and reducing processing times. However, because years are required to implement major projects, planning must begin now for any long-range physical improvement.

Figure 1
Detroit River International Crossings



The transportation agencies of Canada, the United States, Michigan, and Ontario have formed a Border Transportation Partnership (the Partnership) with representatives, respectively, from Transport Canada (the Canadian federal agency), the Federal Highway Administration (FHWA), the U.S. federal agency, the Michigan Department of Transportation (MDOT), and the Ontario Ministry of Transportation (MTO). The Partnership, with the assistance of other agencies, is pursuing a bi-national study of potential solutions to border-crossing needs in the Detroit River area. While separate documents will be prepared on either side of the U.S.-Canadian border, very close coordination between the U.S. and Canada will occur. The study will address the legal and procedural requirements of each nation for environmental and related documentation. The Statement of Purpose and Need that follows is a component of this environmental documentation designed to meet those needs and to keep the study focused.

2. Project Purpose

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

- Provide safe, efficient and secure movement of people and goods across the Canadian-U.S. 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.

2.1 Summary

The Detroit River area has characteristics that could cause trade to grow at a higher rate than the economies of Canada and the United States, because the area is a major center of manufacturing in North America, is the automotive capital of the world, and because the economies of the two nations are increasingly integrated. Canada and the United States, as the largest bilateral trade partners in the world, have the responsibility to maintain access to the bi-lateral trade opportunities, and to protect their shared strategic vital resources.

2.2 The Economy

Canada and the United States have the largest bilateral trading partnership in the world. In 2000, total U.S. trade with Ontario was U.S. \$243 billion (CAN\$365 billion¹), which is larger than total U.S. trade with Japan. The U.S. is Canada's largest export market (86% of Canadian exports go to the US)². Recent statistics from the U.S. International Trade Administration identify Canada as the largest export market for 38 of the 50 U.S. states, including Michigan.²

Over \$1 billion in trade crosses the Canada-U.S. border every day. Seventy percent of this trade moves by truck. Approximately 23 percent of surface trade between Canada and the United States passes through the Detroit River area³. This trade is critical to the manufacturing base of the region, as indicated by the fact that the dollar value of vehicles, electronics, precision goods,

¹ Unless otherwise indicated, a currency conversion rate of 1.6:1 Canadian to U.S. is used throughout this document.

² "Defense of North America: A Canadian Responsibility", The Standing Senate Committee on National Security and Defence, September 2002.

³ Planning Need and Feasibility Study, by URS Corporation, in association with The Corradino Group, IBI Group and FLB Decision Economics, Inc., January 2004.

metal parts and machinery account for 85% of the trade.⁴ Manufacturing accounts for almost 20% of employment in Ontario, and in the five state East North Central Region comprising Michigan, Illinois, Indiana, Ohio, and Wisconsin.⁵

A study commissioned by the Partnership⁶ indicates, if no improvements were made to border crossing capabilities in the Detroit River area by 2030, the two nations will realize the loss of up to 70,000 Canadian jobs and 80,000 U.S. jobs (Table 1). The combined annual loss in 2030 of production is forecast to be CAN\$21.5 billion or US\$13.4 billion.⁷

Table 1
Costs in 2030 of Not Addressing Congestion at the Detroit River Border⁸

	Michigan	United States	Ontario	Canada
Cumulative Lost Employment	25,000	79,000	52,000	70,000
Annual Lost Production	\$4,440	\$10,620	\$2,900	\$4,510
	millions 2000 US\$		millions 2000 CAN\$	

Over the past 30 years, bilateral trade in goods and services has grown faster than gross domestic product (GDP), i.e., at an annual rate of approximately 11 percent. A 1998 report commissioned by Industry Canada⁹ cited that “free trade forces will bring about a further increase in Canada-U.S. trade, which by 2005 or 2010 could be 20 to 30 percent above what it would have been in the absence of the recent trade agreements.” The North American Free Trade Agreement (NAFTA), and similar pacts, will continue to have significant positive impacts on trade between the two nations.

2.3 Civil and National Security

National and civil defense involves protecting society against man-made and natural threats and disasters. For example, emergency response to foreign military threats, natural disasters, communicable disease outbreaks and environmental emergencies on the Great Lakes all depend on critical links in the transportation system, both 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 Act, which states that along with regional and interstate commerce, the purpose of the national highway system is to support the needs of national and civil defense. The border crossing at the Detroit River was expressly recognized in U.S. federal law in 1995 when the Ambassador Bridge was designated to be on the National Highway System. Additionally, it is integral to Michigan’s

⁴ DRI-WEFA, Inc., U.S. Regional Economic Service, 2002.

⁵ Ibid.

⁶ Planning Need and Feasibility Study, by URS Corporation, in association with The Corradino Group, IBI Group and FLB Decision Economics, Inc., January 2004.

⁷ Currency was converted using the rate of 1.6:1 Canadian to U.S. dollars. For example, US\$10.6 billion was multiplied by 1.61 and added to CAN\$4.5 billion.

⁸ In the SEMCOG-Essex County Region, there would be 10,000 fewer U.S. jobs and 12,000 fewer Canadian jobs, and a combined production loss of US\$3.2 billion or CAN\$5.1 billion.

⁹ North American Integration: 25 Years Backward and Forward, by Gary C. Hufbauer and Jeffrey J. Schott, Institute for International Economics, 1998.

Interstate system which is on the Strategic Highway Network (STRAHNET) for defense purposes.

The government of Canada is heightening emphasis on national and civil defense. A new Department of Public Safety and Emergency Preparedness Canada (PSEPC) has been created. The PSEPC includes a National Critical Infrastructure Program, which administers the Public Safety and Emergency Preparedness (PSEP) Portfolio. The PSEP will oversee intelligence and security functions and act as a coordinating body for border operations, as well as operations to combat natural disasters and security emergencies on the Canadian side.

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 the US's Homeland Security policies. Michigan's draft Homeland Security Policy Statement expressly links national security to economic security, and states that this depends on maintaining the security of trade flows across the Michigan-Ontario border.

A report by the Canadian Standing Senate Committee on National Security and Defence entitled "Defence of North America: A Canadian Responsibility", September 2002, noted that the Canadian and United States economies have effectively merged, becoming "one huge economy". Citing the impact of the terrorist attack of September 11, 2001 on the Canadian economy, the report linked economics to military security, and recognizing this interdependence, called for greater military collaboration and joint operations.

- *Military Logistics:* The border crossing system supports military or defense industry logistics. There are almost 700 defense contractors in Michigan, and 300 in Canada. In 1956, the two nations signed a Defence 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.

3. Project Need

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

- 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; and,
- Provide reasonable and secure crossing options in the event of incidents, maintenance, congestion, or other disruptions.

The border crossing facilities, roads, interchanges, and processes operate as a system. Solving capacity problems at the border will necessarily involve a comprehensive approach. This means that roadway deficiencies on the cross border structures cannot be effectively addressed apart from issues dealing with interchange and processing capabilities, and conversely processing and

interchange capacity issues cannot be effectively addressed without dealing with impending capacity problems on the cross border structures.

These needs, along with related background, are expanded upon below.

3.1 Capacity/Connectivity/Processing Capability

In recent years, lines of vehicles waiting to cross the border in the Detroit River area have demonstrated a need to improve capacity in the not-too-distant future. Furthermore, connectivity to other links in the transportation network (i.e., roads, process/customs systems, etc.) is an issue as evidenced by the back-up of trucks for miles on Huron Church Road in Windsor and off the Ambassador Bridge plaza and onto I-75 in Detroit.

The vast majority (approximately 95%) of person trips crossing the border in the Detroit area are roadbased (Table 2). Most of the value of freight (approximately 88%) is hauled by trucks on roads. Rail carries most of the remaining freight.

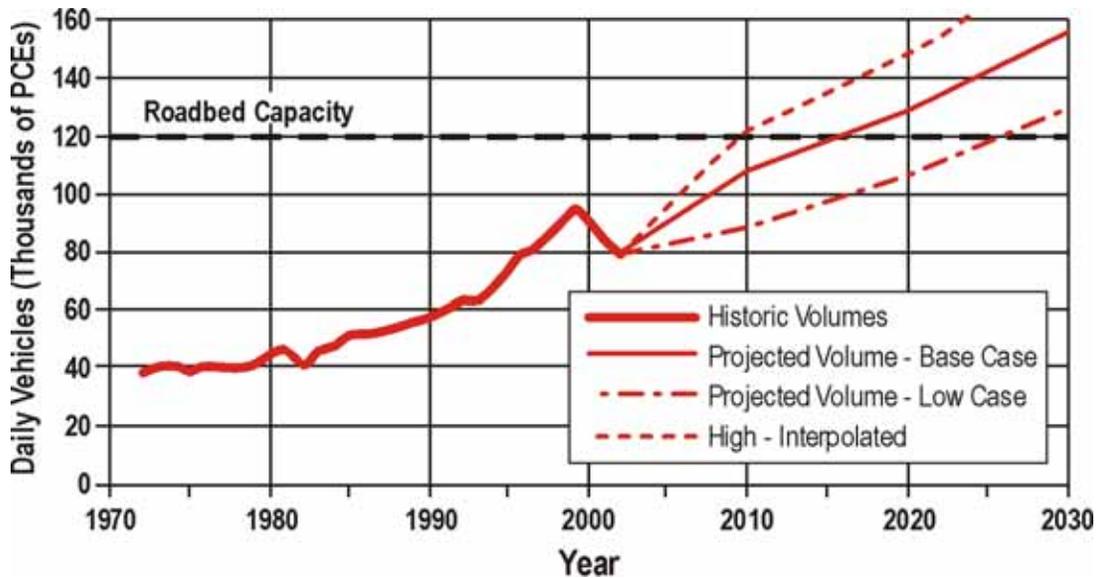
Table 2
2000 Daily International Traffic (Two-Way) Crossing at Windsor-Detroit
By Vehicle and Trip Type

Type of Traffic	Passenger	%	Commercial	%
Local to Local	40,561	79%	3,083	24%
Local in U.S. to Long Distance in Canada	3,145	6%	1,983	16%
Local in Canada to Long Distance in U.S.	4,882	9%	2,113	16%
Long Distance to Long Distance	3,003	6%	5,589	44%
Total	51,591	100%	12,769	100%

Over the next 30 years, Detroit River area cross-border passenger traffic is forecast to increase by approximately 40 percent, and movement of trucks by 120 percent. This corresponds to a projected 30-year increase in daily cross-border car trips from 52,000 to 70,000, and an increase in daily truck trips from 13,000 to 28,000 (two-way).

Traffic demand could exceed roadway capacity as early as 2010 under high growth scenarios. Even under “low” projections of cross-border traffic, the roadway capacity of the existing border crossings will be exceeded by 2030 (Figure 2). In addition, the capacity of the connections and plaza operations will be exceeded well in advance of capacity constraints on the roadway. This will result in a deterioration of operations, increased congestion and unacceptable delays to the movement of people and goods in this strategic international corridor.

**Figure 2
Windsor-Detroit Cross-Border Traffic, Historic and Projected**



An analysis of capacity finds that there are inadequacies in: 1) the roads leading to the existing bridge and tunnel; 2) the ability to process vehicles through customs and immigration; and, 3) the capacities (number of lanes) of the Ambassador Bridge and Detroit-Windsor Tunnel themselves. The timeframes by which travel demand is anticipated to meet capacity in the Ambassador Bridge corridor are summarized as follows.

U.S. Interstate Connections (with gateway)	U.S. Border Processing	Ambassador Bridge	Canadian Border Processing	Huron Church Road	Highway 401 (6 lanes)
At or near capacity beyond 30 years	At or near capacity within 5 years	At or near capacity within 10 – 15 years	At or near capacity within 5 years	At or near capacity within 5 years	At or near capacity beyond 30 years

The timeframes by which travel demand is anticipated to meet capacity in the Detroit-Windsor Tunnel Corridor are:

Downtown Detroit Road Connections to Tunnel Plaza	U.S. Border Processing	Detroit-Windsor Tunnel	Canadian Border Processing	Downtown Windsor Road Connections to Tunnel Plaza
At or near capacity within 5 years	At or near capacity within 5 years	At or near capacity within 10 – 15 years	At or near capacity within 5 years	At or near capacity within 5 years

It should be understood that the delays and resultant queuing already occurring at the Ambassador Bridge and Detroit-Windsor Tunnel are not limited to border locations, but have several negative effects associated with poor transportation network operations, including the following:

- Increased highway safety concerns, including higher potential for collisions at intersections, entrances and queue ends;
- Increased economic opportunity costs;
- Increased air pollution;
- Impacts to access and adjacent land uses in the vicinity of the border crossings;
- Infiltration of cross-border traffic onto local roads;
- Impacts to incident/emergency response time;
- Increased vehicle operating costs and fuel consumption; and
- Increased driver frustration.

Ambassador Bridge and Related Connectivity

Ambassador Bridge connections to the interstate system are being addressed through the independent Ambassador Bridge Gateway Project (estimated completion 2007). That project may also help improve primary inspection of Canada-bound automobile traffic and secondary inspection of U.S.-bound trucks, but will not resolve capacity issues. Border crossing programs, such as NEXUS and FAST also help relieve pressure on border processing, but overall processing facilities, both U.S. and Canadian are expected to reach capacity within five years.

The Ambassador Bridge itself is 75 years old and needs continuous maintenance. The Bridge consists of two lanes in each direction. Often maintenance requires at least one lane to be closed. Under optimal conditions, with all four lanes open, the capacity of the bridge is projected to extend for another 10 to 15 years. But blockages due to maintenance and incidents are common, with queues and delays that reach beyond the limits of the bridge and its plazas.

In Canada, most of the signalized intersections along Huron Church Road (the access road to the bridge) are approaching capacity with several movements at critical levels. Under these conditions and with the large percentage of commercial vehicles using this facility, traffic flow can be unstable, with periods of congestion occurring unpredictably along the corridor. Anticipated increases in border crossing traffic, combined with modest growth in background traffic, will mean that Huron Church Road will likely exceed capacity within five years. As the traffic volumes approach the capacity of the facility, congestion, queuing and infiltration of traffic onto other parallel roads will become more frequent. (City of Windsor Traffic Engineering is already observing such conditions during periods of excessive delay at the border.) The effects of this problem can extend beyond the traffic and direct economic impacts associated with delays to the restriction in movement of people and goods. The local communities around the border crossings have expressed concerns with disruption to local access and impacts to air quality and noise levels during periods of congestion on the border crossing approach roadways.

East of Huron Church Road, MTO, under separate action, has planned improvements for the section of Highway 401 from Highway 3 easterly to Tilbury. Therefore, this component of the corridor is expected to have sufficient capacity beyond the 30 year planning horizon.

Detroit-Windsor Tunnel and Related Connectivity

The Tunnel is comprised of one lane in each direction with sharp curvature in the approaches, which limits truck usage. The limiting constraint at the Tunnel is processing, especially primary inspection of Canada-bound automobile and bus traffic and primary inspection of U.S.-bound autos. There are frequent queues at the border crossing that extend onto the downtown Windsor and Detroit road networks. Many of these queues and delays result from a lack of available staffing and border security issues, which increase vehicle inspection times. The downtown road

networks in each city are also subject to typical peak hour congestion like that found in any downtown area.

As travel demand continues to increase, capacity constraints will increase delay and result in extensive queuing on the adjacent downtown road networks of both Windsor and Detroit. The tunnel operator has identified initiatives for plaza improvements on both sides of the border. Short-term measures (e.g. temporary turning restrictions and lane closures during peak periods) are being implemented in both Windsor and Detroit. In addition, plans are proposed for further operational improvements and improvements to border processing facilities. Nevertheless, due to their downtown locations, both plazas are constrained by adjacent development and the municipal street network.

3.2 Security and Reasonable Options

“Security” has two different meanings in this Statement of Purpose and Need:

- National and civil defense security measures. This involves protecting society at-large against man-made and natural threats and disasters. This is a project purpose, discussed in Section 2.
- The physical security of the border crossing itself is a project objective listed in Section 3, and discussed below. The border crossing facilities and processes must be protected from interruptions due to man-made or natural calamities. These may include threats from terrorism or sabotage, aging or failing infrastructure, or other natural disasters. Assuring homeland security requires the border be protected from disruptions caused by terroristic actions.

Security at the border is of critical importance. It entails 1) providing a reasonable assurance that crossborder movements and trade will not be disrupted; and, 2) providing adequate facilities for the processing and screening of people and goods passing between Canada and the United States. Increased scrutiny of people and goods has the collateral effect of improving the security of those who live and work in the Detroit River area while increasing processing time, which reduces the effective capacity of border operations. The latter issue manifests itself in the need for expanded physical facilities for agencies responsible for border security and reasonable options to cross between nations in the event that one of the existing crossing points is compromised.

The Ambassador Bridge and the Detroit-Windsor Tunnel together represent a strategic link between Canada and the United States, but both are over 70 years old and will inevitably need significant maintenance. Furthermore, congestion, like vehicular crashes/breakdowns, and other disruptions continue to occur. The logistics industry needs travel routes with predictable travel times for the ever-growing emphasis on just-in-time delivery. Major disruptions at either the Ambassador Bridge or Detroit-Windsor Tunnel will have significant economic effects. The longer the duration of the disruption, the greater the effects. Therefore, it is essential to have reasonable options to move people and goods across the border in the Detroit River area. Commerce in this situation not only depends upon reliable transportation links but multiple links as well.

This need is recognized in the “Smart Border Declaration,” signed by Canada and the United States in December 2001. The Declaration is accompanied by a 30-point Action Plan, several points of which relate to the Partnership’s border crossing study. For example, the Action Plan calls for border infrastructure improvements. It also supports further development of FAST and

NEXUS.¹⁰ Both programs allow customs and immigration authorities to concentrate on potentially high-risk travelers and goods, thereby enforcing security and protection standards at the border. The Action Plan notes the establishment of a bi-national Steering Committee “to assess threats to our shared critical infrastructure.” The Action Plan, therefore, makes it clear that both governments place an exceptionally high priority on border security and infrastructure needs.

4. Conclusion

The purpose of the Detroit River International Crossing project is to support the economies and address the civil and national security needs of Canada, the United States, Michigan and Ontario by providing for the safe, efficient and secure movement of people and goods across the Canada-U.S. border in the Detroit River area. The goal of the project is to improve border crossing facilities, operations and connections to meet existing and future mobility needs for the foreseeable future (i.e., at least 30 years) across the Canada-U.S. border.

To sustain and enhance cross-border capacity, and to provide for a secure economic link between the countries, the Detroit River International Crossing project is studying the need for a new border crossing in the Detroit area, together with improvements to the roadway networks serving the border crossings, and improvements to border processing related to customs and immigration. In meeting these needs, there is an opportunity for improved system integration and connectivity, and information flow among the components of border crossing facilities and transportation systems.

Inadequacies at the border are continually being addressed, and improvements are being made to border operations and processing systems. However, major infrastructure improvements require many years to implement, and the facilities typically have lifetimes of fifty to a hundred years. This requires that the Detroit River International Crossing project focus on the long-term need for additional capacity, connectivity, and security. In addition, the complexity of the border crossing system, consisting of a network of interconnecting structures and processes, requires a comprehensive approach. The capacity of the structures, the connecting roads and interchanges, and the processes and operations must work as a system. This requires coordinated planning and action. Finally, the strategic nature of the crossing and its importance to the lives of the citizens of the two nations, merits the highest level of attention and commitment by the governments of Canada and the United States, and Michigan and Ontario.

The Detroit River area represents the busiest corridor for trade between Canada and the United States. The benefits of this trade to the local, regional and national economies are represented in the prosperity, opportunities and high standards of living the citizens of each country enjoy. The prospect of continued and increased trade passing through this corridor must be encouraged as well as protected, including providing for reasonable options to cross the border in the Detroit River area. The governments of Canada, the United States, Ontario and Michigan are moving forward to address these needs and the methods by which they can be met to ensure safe, continuous transport of people and goods across the Detroit River.

¹⁰ FAST (Free and Secure Trade) provides expedited clearance for certain low-risk freight shipments. NEXUS allows speedier processing of qualifying persons who regularly cross the border.