

Executive Summary

This Executive Summary contains information to allow the reader to become acquainted with the Final Environmental Impact Statement (FEIS) prepared for the Detroit River International Crossing Study (DRIC). This section summarizes the statement of the project’s purpose and need, a description of the alternatives analysis process, the Preferred Alternative, and the major conclusions on impacts for the No Build and Preferred Alternatives. Table S-10, at the end of the Summary, provides, in one place, the key data on almost two dozen impact categories for the No Build and Preferred Alternatives. For more detail, the reader is referred to the FEIS and supporting technical reports.

International Freight Flows Through Michigan



Source: Federal Highway Administration

The Detroit River International Crossing (DRIC) Study looks at the social, economic and environmental costs of improving the busiest trade corridor between the United States and Canada. The study location is depicted in Figure S-1. The study involves the governments of the United States, Michigan, Canada and Ontario, proposing ways to help their economies and address defense and homeland security needs over the next 30 years by ensuring adequate border crossing assets for the future.

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



Source: The Corradino Group of Michigan, Inc.

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 United States.
- Support the mobility needs of national and civil defense to protect the homeland.

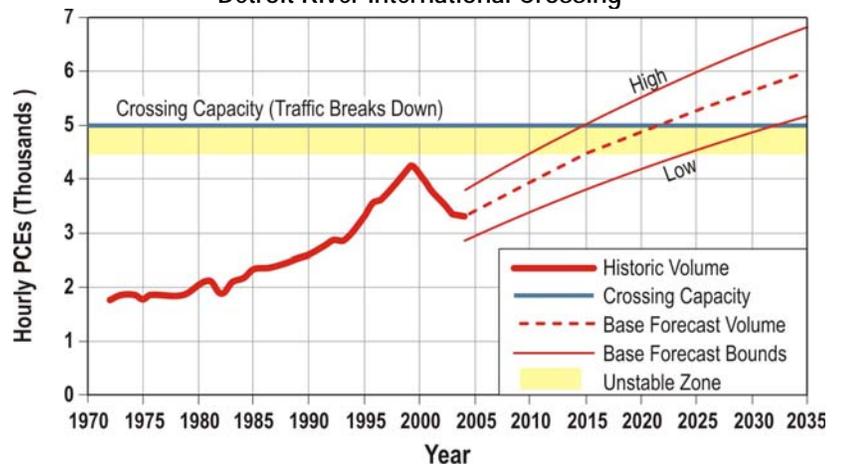
To address future mobility requirements (i.e., at least 30 years) across the U.S.-Canada border, there is a need to:

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

Nine practical Build Alternatives were identified to satisfy the new border crossing requirements. Each consisted of three elements: an interchange connecting the plaza to the existing highway network, a U.S. border inspection plaza, and a bridge from the plaza that spans the Detroit River. The No Build Alternative was also analyzed. This FEIS focuses on the issues/impacts on the United State’s side of the proposed new border crossing. Transboundary (Canadian) impacts are discussed in summary form. A Canadian-produced set of technical reports thoroughly documents the issues/impacts on the Canada side of the international border. Those are available on the project Web site (www.partnershipborderstudy.com).

Passenger car traffic across the border is projected to increase 57 percent over the next 30 years. Truck traffic is forecast to grow 128 percent. Detroit-Windsor area border crossings could overload as early as 2015 if high growth occurs, and by 2035, if traffic grows slowly (Figure S-2).

Figure S-2
Travel Demand vs. Capacity:
Combined Detroit River Crossings
Detroit River International Crossing



Note: Figure S-2 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 S-2, is 3.0 cars per truck to account for the grade leading to and from the bridge.

Source: IBI Group

Studies indicate that there will be three kinds of capacity problems at the Detroit-Windsor border:

- 1) Along roads leading to the Ambassador Bridge and the Detroit-Windsor tunnel;
- 2) At U.S. border inspection facilities at the plazas; and,
- 3) On the crossings of the border themselves.

The planning, design and construction of any major international crossing takes time. So, even though small adjustments can be made to the plazas and adequate border crossing capacity today, it's wise to deal now with the future capacity of the crossing system described above.

S.1 Purpose of the Document

This DRIC Final Environmental Impact Statement (FEIS) analyzes issues and their impacts on the U.S. side of the border crossing system between Detroit, Michigan, and Windsor, Ontario (Figure S-3). It proposes a Preferred Alternative that includes:

- 1) The border crossing;
- 2) The plaza (where tolls are collected and U.S. border inspections take place); and,
- 3) The interchange connecting the plaza to I-75.

Figure S-3
U.S. Area of Analysis for Crossing System
Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc.

S.2 Analysis Process

The FEIS builds on the *Planning Needs and Feasibility Study Report (P/N&F)* (January 2004) prepared by the Border Transportation Partnership. The Partnership consists of the Federal Highway Administration (FHWA), the Michigan Department of Transportation (MDOT), Transport Canada (TC) and the Ontario Ministry of Transportation (MTO). The P/N&F Study found the need for additional transportation capacity in the Detroit-Windsor corridor. Hence, the Partnership began the environmental study phase.

This FEIS is required by the National Environmental Policy Act (NEPA) to advance a project from the feasibility stage to design. After that, the next phases would involve acquiring right-of-way and building the project, contingent upon funding.

In keeping with NEPA, a formal Notice of Intent appeared in the *Federal Register* on March 24, 2003 (which records many federal government regulations and actions) announcing that this EIS would be prepared.

This project is important to many federal agencies, so a number of them have joined FHWA as cooperating agencies: U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. General Services Administration, U.S. Department of Homeland Security, and U.S. Department of State. On August 31, 2005, these and a larger group of state and local agencies attended a scoping meeting at Cobo Hall in Detroit. Others with an interest in the project, including elected officials and the public, also attended. Since then, more than 30 meetings have been held with various agencies. Additionally, the public has been engaged through a Local Advisory Council (community representatives, elected officials and interest groups) almost monthly since March 2005 to review and provide input to help shape the study process. Seventeen public workshops and 13 formal meetings have also been held to discuss the project and receive input. Dozens of other informal meetings have been held with citizens, interest groups, elected officials, and others. This includes an extensive outreach to low-income and minority populations.

The evaluation of alternatives is a U.S./Canada collaboration to make all decisions on an “end-to-end” basis. In other words, the alternatives analysis from the outset considered the impacts from a point at the freeway system in the U.S. to Highway 401 in Canada, with a crossing of the Detroit River between the two ends. The U.S. and Canadian governments each have unique laws and regulations to guide the specifics of their analysis processes, and preparation of appropriate documentation. Within those limitations, the two study teams collaborated in evaluating the Illustrative Alternatives, choosing the set of Practical Alternatives, and identifying the Preferred Alternative, on an end-to-end basis.

At the outset, it must be recognized that the entire DRIC analysis process was done with extensive public/agency engagement. While Section 6 of the FEIS provides detail, it is noted that almost 100 public meetings, hearings, and workshops have been held to facilitate public involvement. The methods used and information presented were guided by a Public Involvement Plan (Appendix J) established at the outset of the project and refined as it unfolded. Access to the study by a toll-free project hotline (1-800-900-2649), written comments through the project Web site (www.partnershipborderstudy.com), or by mail was available and encouraged through the study process. A DRIC Study Information Office is located at the Delray Community Center, 420 Leigh Street, in Detroit, which is open Monday, Wednesday, and Friday from 1:00 p.m. to 5:00 p.m. to provide information and answer questions about the project. Approximately 10,000 residences and businesses were sent mailings about each formal public meeting. In addition to the mailings, over a thousand fliers were handed out door-to-door in Delray and along the I-75 service drive north of the freeway for public meetings and workshops. Section 6.2 provides details on these public involvement activities.

One of the many important parts of this engagement dealt with the DRIC Draft Environmental Impact Statement. Prior to and after the DRIC public hearings, held on March 18 and 19, 2008, over two dozen meetings were held to brief individuals/organizations on the Draft Environmental Impact Statement. This included those in the Governor's office, the State Legislature, the staffs of Michigan's Congressional Delegates, mayors of various cities in the region and a host of boards/commissions/agencies. The public hearings on the DEIS were held on March 18, 2008, at Southwestern High School (6921 West Fort Street) and on March 19, 2008, at LA SED (7150 West Vernor Highway). The public hearings were held following formal notice of availability of the DEIS and all supporting technical reports on February 29, 2008. The hearings were conducted, as most DRIC public meetings, as a combination "open forum/formal presentation/open microphone format." The open forum allowed the public to stop in anytime during the scheduled hours, gather facts on the study, and speak with members of the MDOT Team on a one-to-one basis. MDOT presented a summary of the Draft Environmental Impact Statement (DEIS) during the formal presentation followed by an opportunity for all to hear public comments and questions in the open microphone portion of the meeting.

Court reporters were available to record oral comments at any time during the hearing. Citizens could also fill out a comment form and deposit it into the comment boxes at the public hearing site. Comments also were submitted through the project Web site (www.partnershipborderstudy.com) using the on-line comment form. They also were mailed, faxed and emailed. The public record for comments was open until May 29, 2008, which included a 30-day extension, as requested.

All written or recorded comments appeared in a transcript of the public hearing. A copy of the complete transcript, including all written and recorded oral comments received, was made available for public review at the locations listed in the Foreword of this FEIS.

In response to several comments on the DEIS, a meeting was held at Holy Redeemer Church on May 20, 2008. All materials were presented in Spanish. The oral presentation and question/comment exchange was translated into Spanish.

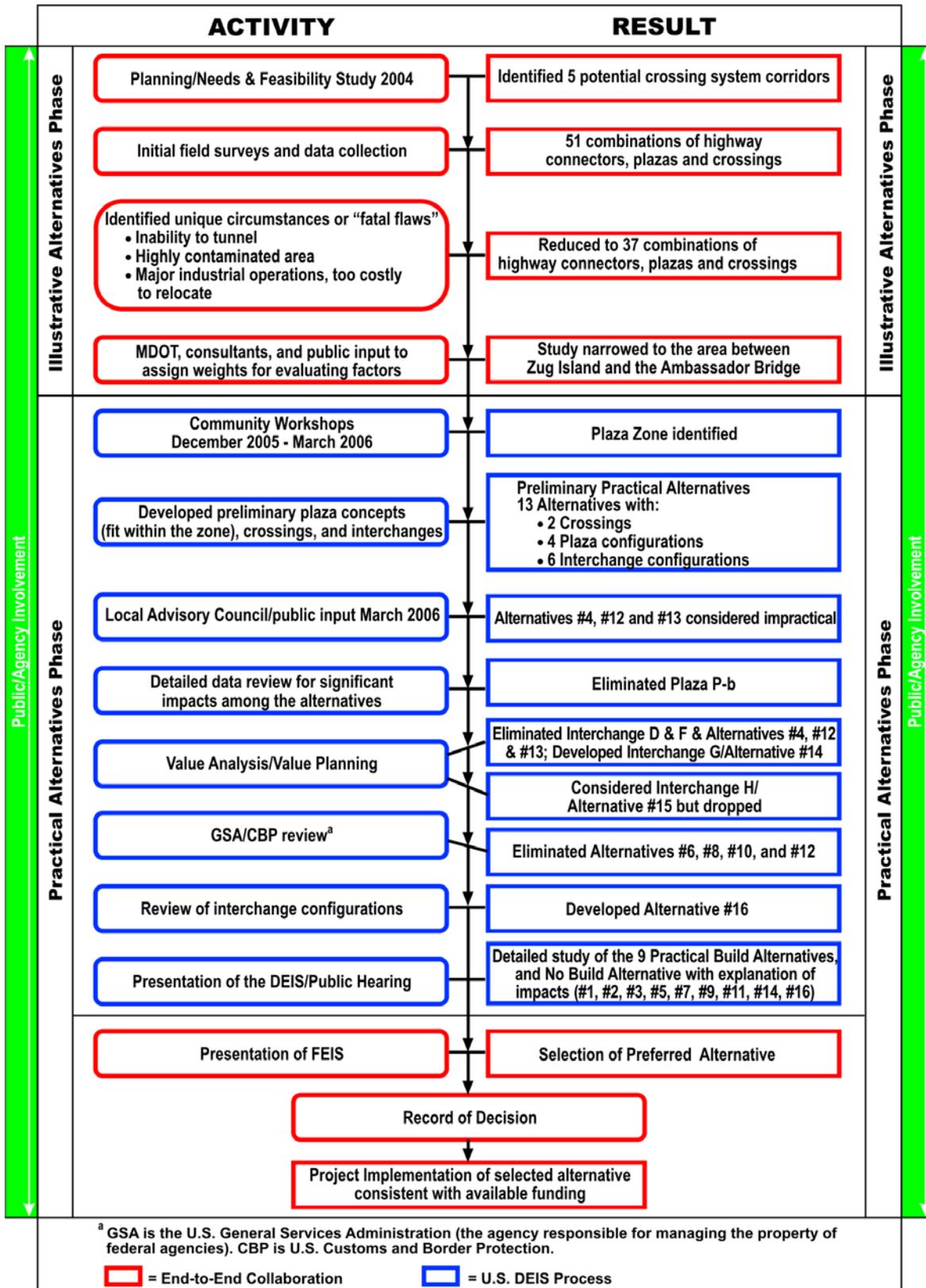
Notes of all formal public meetings, including the one on May 20, 2008, are on the project Web site.

S.2.1 Illustrative Alternatives

The DRIC analysis began with a long list of 51 Illustrative Alternatives in the U.S., including combinations of highway connectors, plazas and border crossings. Figure S-4 shows the process and Figure S-5 shows the Illustrative Alternatives (see Section 2 of this FEIS). Screening of them led to concentrating on six alternative crossing systems (red lines shown in green area on Figure S-5). Eventually, the process led to a recommendation in December 2005 to focus the analysis on two river crossings in an area in the U.S. between Zug Island and the Ambassador Bridge, known as Delray, and in Canada, between Broadway Boulevard to the vicinity of Brock Street in which the proposed bridge and plaza should be placed (Figure S-6).

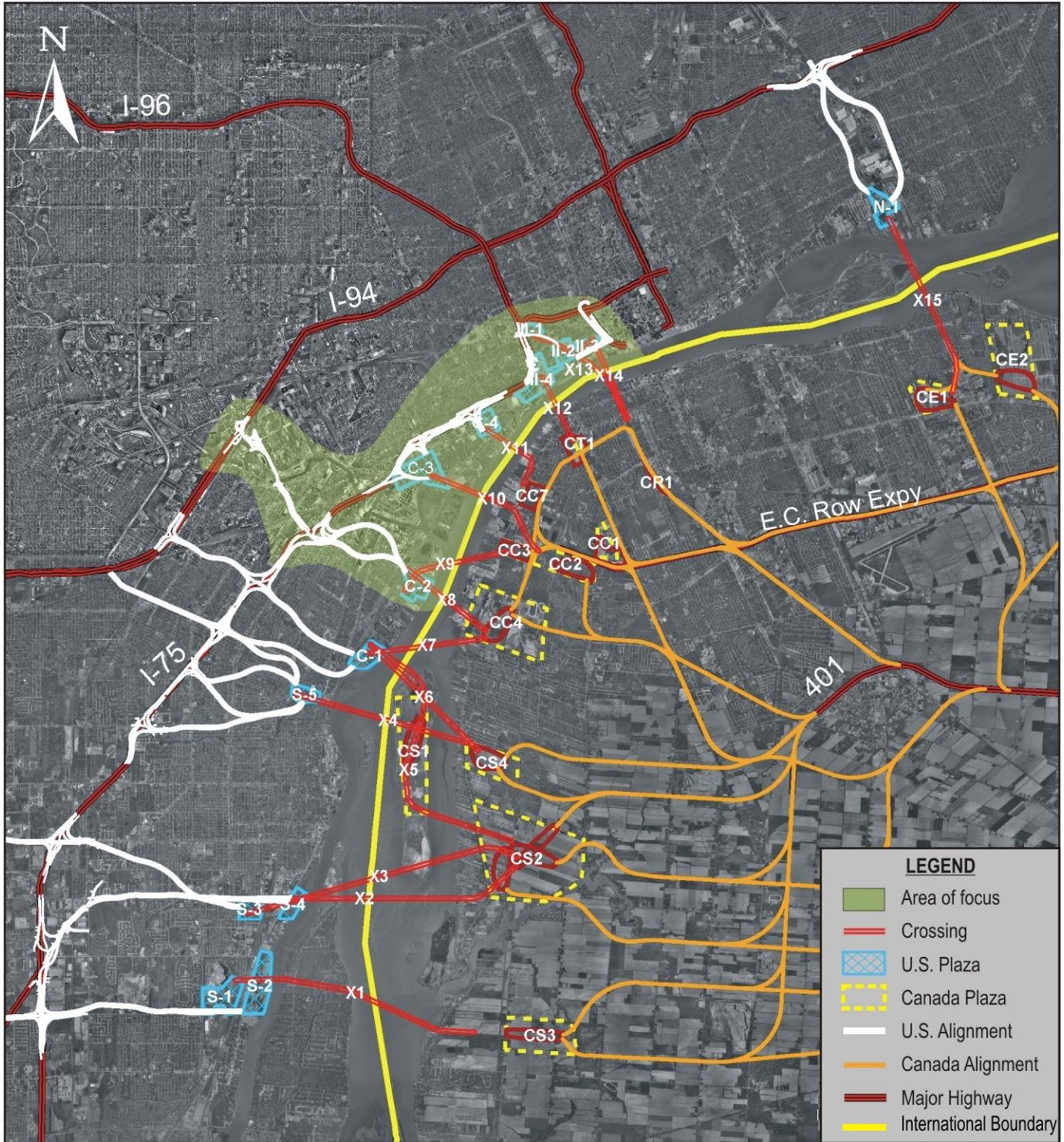
The analysis began in December 2005 and extended to July 2007. From the two ways to cross the river, over a dozen different alternatives were developed through combinations of river crossings, plazas and interchanges with I-75. This list of preliminary Practical Alternatives was evaluated by involving the public (March 2005, December 2005 and June 2006), the General Services Administration (GSA) (the property owner of the federal government) and U.S. Customs and Border Protection (CBP) (an agency of the U.S. Department of Homeland Security), other federal cooperating agencies, state agencies, MDOT and the Partnership. Nine Practical Alternatives were selected as Build Alternatives and were fully analyzed in the DEIS. The No Build Alternative was also a Practical Alternative. The No Build Alternative did not include a new crossing. Nonetheless, the proposal by the private-sector owners of the Ambassador Bridge to build a six-lane span to replace the existing, four-lane bridge was considered in Section 3.14.3, Table 3-30, i.e. the Indirect and Cumulative effects analysis.

Figure S-4
 Alternatives Evaluation Process
 Detroit River International Crossing Study



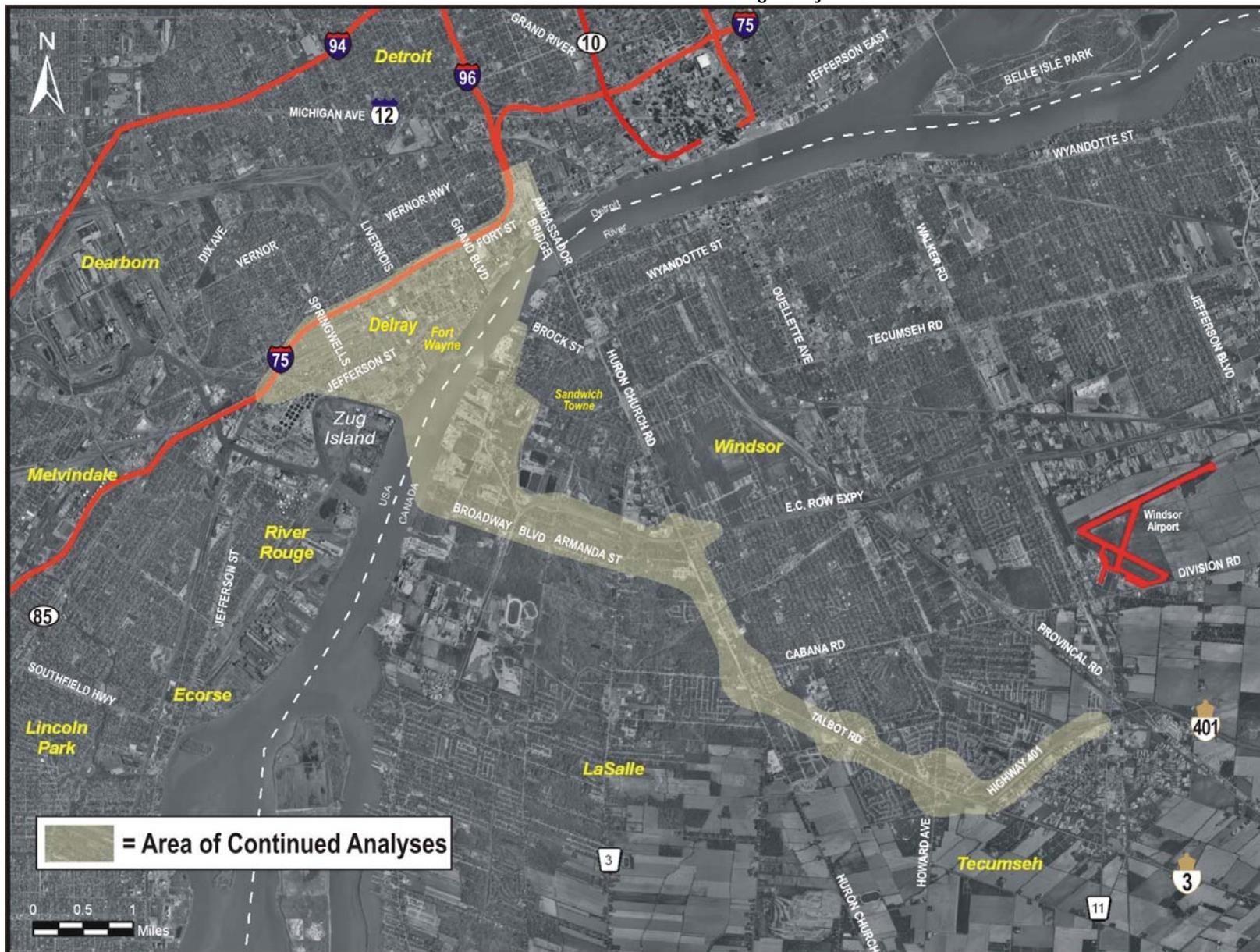
Source: Michigan Department of Transportation.

Figure S-5
 Area of Focus Based on Weighted Performance Analysis
 Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc.

Figure S-6
 Area of Continued Analyses
 Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc.

S.2.2 Practical/Build Alternatives

The nine Build Alternatives are listed on Table S-1 and shown in Figures S-7 and S-8. They involved crossing the river at one of three locations labeled X-10A, X-10B and X-11 (refer to Figure S-3). Two bridge types were considered for Crossings X-10B and X-11 – cable-stay and suspension (Figures S-9 and S-10). Only a suspension bridge was considered at Crossing X-10A as the span over the river is beyond the practical limits of a cable-stay bridge. All piers (foundations) supporting each of the three proposed bridges would be on land to avoid interference with navigation on the Detroit River. Each concept meets criteria of the U.S. Coast Guard for minimum clearance at the shorelines and center of the navigation channel.

The two proposed plazas are shown on Figure S-11. Their size is 150± acres to accommodate all functions of CBP and other federal and state agencies, plus functions such as toll collection, duty free shops, a utility corridor, and space for future flexibility.

Six alternative interchanges were studied to connect the proposed plazas to I-75. Each focused on the area along the freeway in the general location of the existing Livernois/ Dragoon interchange, which will be eliminated by the new interchange. Other modifications to I-75 interchanges at Clark and/or Springwells Streets were expected, depending on the Build Alternative selected. Changes were also expected to the seven street and five pedestrian/bicycle crossings of I-75. These changes are needed to meet all appropriate engineering criteria to connect the new interchange with I-75.

Alternative	Interchange	Plaza	Crossing
#1	A	P-a	X-10
#2	B	P-a	
#3	C	P-a	
#5	E	P-a	
#14	G	P-a	
#16	I	P-a	
#7	A	P-c	X-11
#9	B	P-c	
#11	C	P-c	

Source: The Corradino Group of Michigan, Inc.

Figure S-7
 X-10 Crossing Alternatives #1, #2, #3, #5, #14 and #16
 Detroit River International Crossing Study

Alternative #1



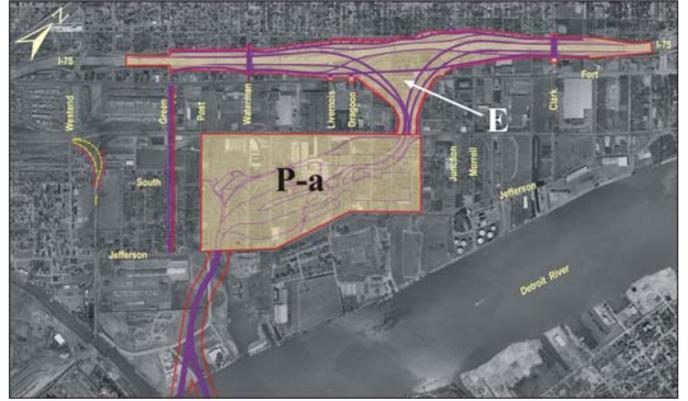
Alternative #2



Alternative #3



Alternative #5



Alternative #14



Alternative #16



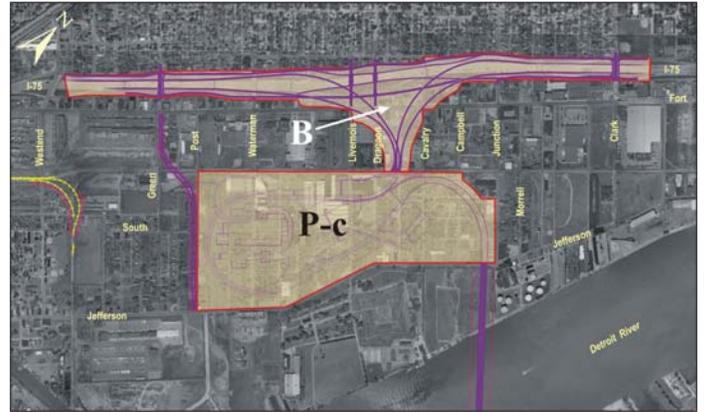
Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

Figure S-8
X-11 Crossing Alternatives #7, #9 and #11
Detroit River International Crossing Study

Alternative #7



Alternative #9



Alternative #11



Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

Figure S-9
Cable-stay Bridge Concept Developed through Stakeholder Engagement Workshops
Views from U.S. Looking Towards Detroit River
Detroit River International Crossing Study

Crossing X-10B



Crossing X-11



Source: Parsons Transportation Group

Figure S-10
Suspension Bridge Concept Developed through Stakeholder Engagement Workshops
Views from U.S. Looking Towards Detroit River
Detroit River International Crossing Study

Crossings X-10A & B

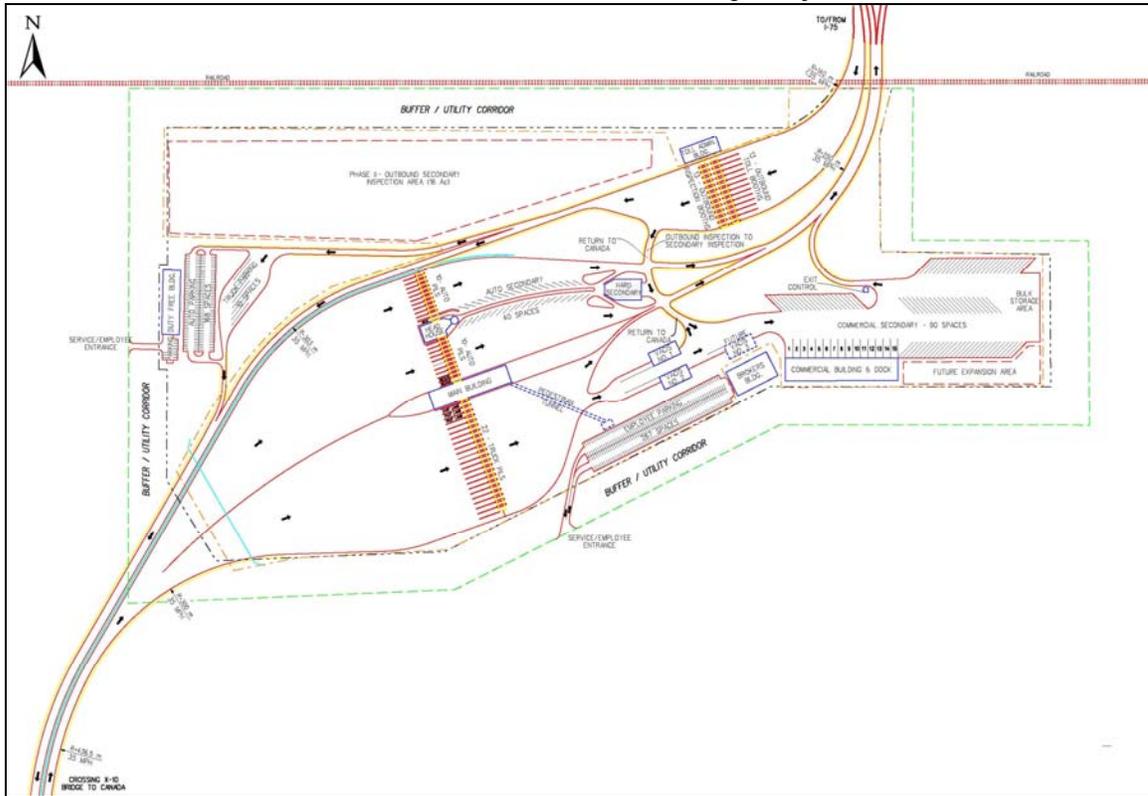


Crossing X-11



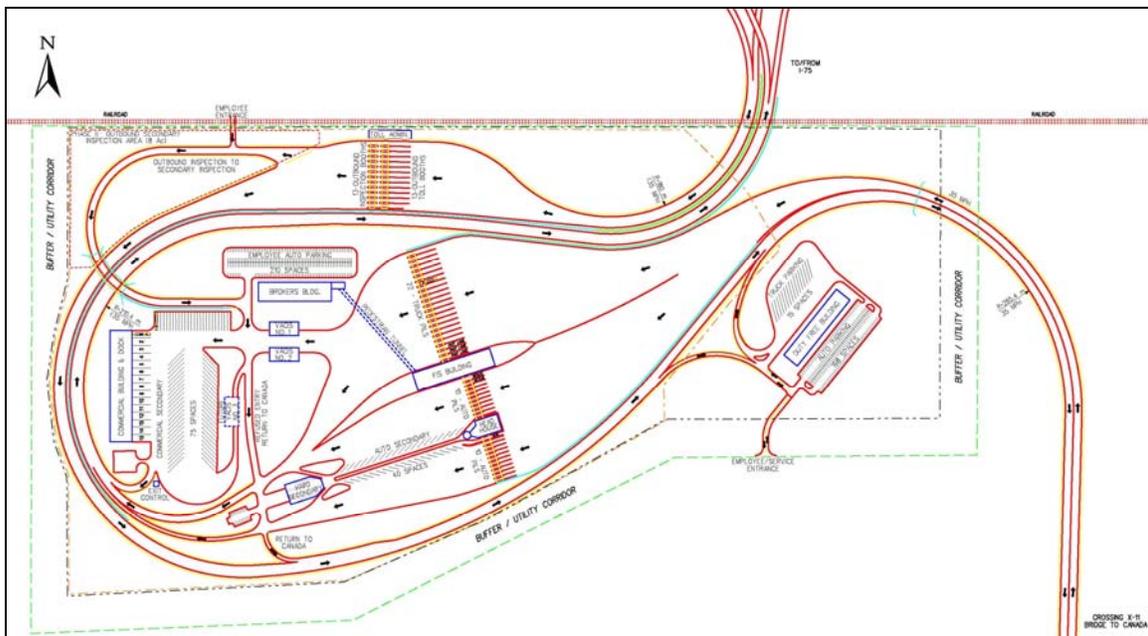
Source: Parsons Transportation Group

Figure S-11
 Preliminary Alternative Plaza Layout P-a
 Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

Preliminary Alternative Plaza Layout P-c



Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

S.2.3 Identification of the Preferred Alternative

The process that led to identifying the Preferred Alternative was part of a U.S.-Canadian collaboration to make all decisions on an end-to-end basis. The process reported upon here addresses the alternative by crossing component – bridge, plaza and interchange/ Canadian access road.

First, data on the crossing on each side of the border were examined to determine if the characteristics of the three bridges – X-10A, X-10B or X-11 (refer to Figure S-3) – would significantly advantage/disadvantage one alternative or another. This was an important first step because of the uniqueness of the connection of the U.S. and Canadian plazas to the proposed crossings. For example, in the U.S., Plaza P-a would only connect to the X-10 Crossings, while Plaza P-c would only connect to the X-11 Crossing (Figure S-11). In Canada, Plaza C would only connect to Crossing X-11. In examining the crossing evaluation data, it is noted the only significant differences are in the areas of regional mobility, constructability, and potential relocations. The results were:

- The X-10 Crossings are forecast to carry, in 2035, 15 to 50 percent more traffic than the X-11 Crossing.
- The X-10 Crossings are forecast to carry, in 2035, approximately 50 to 60 percent of the combined traffic carried by the proposed new crossing and the Ambassador Bridge; the X-11 Crossing, between 40 and 43 percent of the combined traffic.
 - This measure indicates the relief to be provided to the regional network, particularly Huron Church Road.
- The brine well investigation (Section 3.16) indicates that:
 - All bridge foundations on both sides of the river are cleared from risk.
 - But, along the Canadian approach to Crossing X-11:
 - ✓ Additional investigation is needed to clear the crossing from risk.
 - ✓ Even if those investigations are undertaken, the resulting data may still indicate the risk may not be acceptable.
 - ✓ The extra time to assess the risk and build the facility would be at least one year compared to the X-10B crossing.
 - ✓ If proved feasible, the extra cost associated with building the X-11 approach structure in Canada would be as much as \$CAD260 million (w/inflation) compared to the X-10A Crossing.
- The number of potential relocations of active residential properties associated with the X-10 Crossings (0) are lower than the X-11 Crossing (21).
- The number of potential relocations of active businesses associated with the X-10 Crossings (0) are lower than the X-11 Crossing (5).

Based on these findings it was determined that:

- Crossing X-11 is not considered the best candidate for being the Preferred Alternative.
 - Plaza P-c in the U.S., attached to Crossing X-11, therefore, is also not a candidate for being the Preferred Alternative.

A comparison of the two X-10 Crossings results in the following findings:

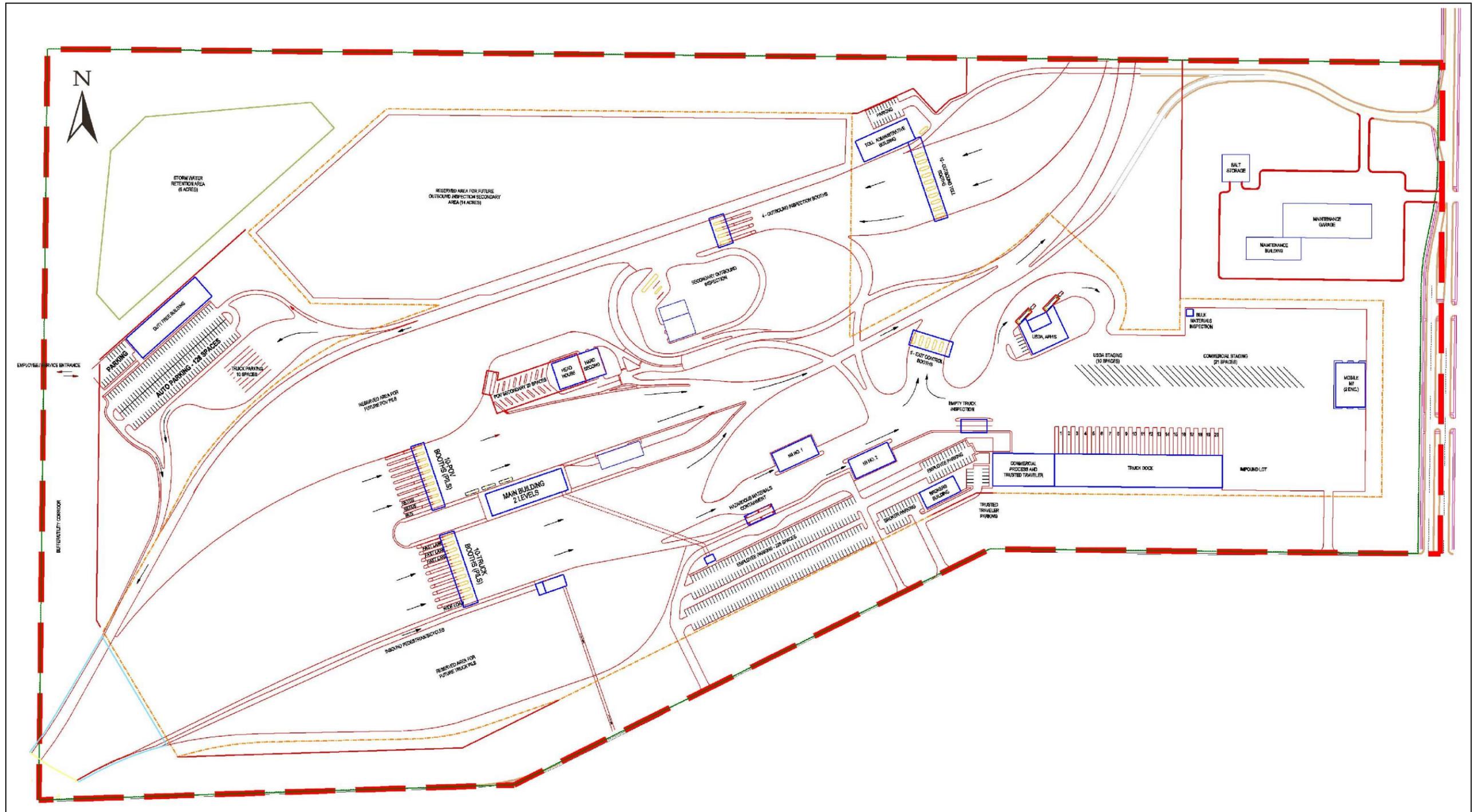
- The estimated construction cost of the main span of the suspension bridge at Crossing X-10A is significantly greater than the bridges at Crossing X-10B.
- The duration of 62 months to construct the main span of Crossing X-10A is over one year more than Crossing X-10B.

The result is that Crossing X-10B is preferred. Because Plaza P-a is the only plaza associated with Crossing X-10B, Plaza P-a is preferred.

The roadway criteria covered in Section 2.2.5.1 and the bridge criteria covered in Section 2.2.5.2 have not changed since the DEIS. Further consultation with the General Services Administration since then has provided additional guidance with respect to plaza development (Figure S-12) (Section 2.2.5.3). Specifically, GSA's plaza requirements now consist of:

- A minimum of 80 acres of building, inspection and circulation space for the Federal Inspection Station;
- Approximately 50,000 square feet of inspection office buildings and 60,000 square feet of docks to inspect and unload cargo;
- 20 inspection booths for cars and trucks (with additional space for flexibility); space for two non-intrusive inspections buildings and two mobile non-intrusive inspection equipment storage buildings;
- 5 commercial secondary exit control booths;
- 4 inspection booths for Canada bound cars and trucks;
- Provision for inspection of outbound vehicles in the Inbound Secondary Inspection area;
- Space for a future self-contained Outbound Inspection area;
- Space for impounding vehicles, inspecting trucks, and for hazardous materials containment;
- An approximate 13,500 square-foot facility for the observation, inspection and unloading of animals; and
- Space for Radiation Detection Portal monitors and License Plate Readers.

Figure S-12
 Preferred Plaza P-a with Further Input from the General Services Administration
 Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

In addition, other plaza needs have been defined to include:

- 10 toll booths.
- 10,000 square-foot Administration building for bridge operations and tolls.
- 30,000 square-foot maintenance facility.
- 15,000 square-foot Duty Free Building with 138 parking spaces.
- 10,000 square-foot Brokers Building.
- Michigan State Police Motor Carrier Division Inspection area.
- An area for stormwater retention basin.

Two Practical Alternatives associated with Crossing X-10 (Alternatives #3 and #5) would displace protected historic structures that other alternatives avoided, as covered in the DEIS. The law requires that a protected historic property must be avoided, if it can be. So, these two Practical Alternatives (Alternatives #3 and #5) were not candidates for the Preferred Alternative. Alternative #14, also associated with Crossing X-10B, had no access across I-75 between Waterman and Clark Streets (other alternatives did), had poor access to/from I-75, and had a lower design speed than other alternatives. Therefore, it was not a candidate for the Preferred Alternative. Alternatives #1, #2, and #16 were considered further.

Based on a detailed analysis of these remaining alternatives, the preferred interchange was developed (Figure S-13) combining the best elements of each. The preferred interchange provides five pedestrian crossings of I-75, compared to five today; four vehicular crossings of I-75, compared to seven today; and, complete interchange access at Springwells Avenue and a “split” interchange at Clark Street (the ramps on the north side of Clark will remain where they are, but the ramps on the south side of Clark will shift south several blocks). None of the Practical Alternatives covered in the DEIS had all these features.

It is noteworthy that monthly meetings were held with the DRIC Local Advisory Council/ Local Agency Groups to review the engineering progress to identify the Preferred Alternative in the interchange area. The Preferred Alternative described below has been shaped by this interaction, particularly the number and placement of pedestrian/ bicycle crossings of I-75, the treatment of four vehicular crossings of I-75, and the placement of noise walls.

Figure S-13
Preferred Alternative
Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

Refined engineering allows the Preferred Alternative depicted in Figure S-13 to provide that:

- The I-75 northbound service drive will terminate at Livernois Avenue in order to avoid Berwalt Manor, a National Register-eligible apartment building. This design affects the northbound I-75 exit ramp which will exit to Campbell Street. The northbound service drive will begin again north of Campbell Street and continue to Grand Boulevard.
- Campbell Street will be improved to a narrow boulevard section from the railroad line that defines the north Plaza P-a perimeter south to Jefferson Avenue.
- Local intersections along Jefferson Avenue will be improved including Dearborn, Westend, and Clark Streets to better accommodate truck turning movements.
- Pedestrian bridges across I-75 will be located at Solvay, Beard, Waterman, Morrell and McKinstry Streets.

In Canada, Crossing X-10B and Plaza B1 are in an area that is largely industrial. It is clearly the preferred location for the plaza. Nonetheless, this crossing and plaza will have a relatively moderate impact, compared to all other Practical Alternatives, on the extent of terrestrial and aquatic communities impacted, including provincially-rare vegetation communities and the number of specifications/categories of species at risk that could be affected. The access route to the plaza, known as the Windsor Parkway, provides significant advantages over the other alternatives. It provides a mix of depressed (below grade) freeway and tunnel sections over a six-mile length to Highway 401. The 11 tunnels would total just over a mile in length (Figure S-14). Two-way service roads would be located adjacent to, but separate from, the freeway. This access road will:

- Provide a greater buffer between neighborhoods and the roadway than other options.
- Create 240 acres of new green space, meaning a greater number of opportunities for new parks and recreation trails to link to existing parks and trails.
- Have better access between the freeway and its service roads.

Figure S-14
Image of a Tunnel on the Windsor Essex Parkway
Detroit River International Crossing Study



Source: URS Canada

S.2.4 Preferred Alternative Implementation

The project is approved for implementation by the signing of the Record of Decision (ROD) as shown in Figure S-4. Prior to that signing, the project must be included on the Southeast Michigan Council of Governments' (SEMCOG) fiscally-constrained 2035 *Regional Transportation Plan*. That action also confirms the project's conformance with the Clean Air Act. Inclusion on the Plan occurred through actions of SEMCOG committees and General Assembly and was confirmed in a letter from FHWA dated October 10, 2003 (Appendix I). The project must also be included in SEMCOG's *Transportation Improvements Program (TIP)*. The TIP addresses transportation activities within the near term of the long-range Regional Transportation Plan. The DRIC will be included for year 2009 in the TIP prior to the signing of the ROD.

The remainder of this section summarizes the expected impacts of the No Build and Preferred Alternatives.

S.3 Impacts

Table S-10, which summarizes the impacts that result from the No Build Alternative and Preferred Alternative, is presented at the back of this Executive Summary. Measures to reduce any environmental impacts are presented in Section 4 of the FEIS.

S.3.1 Possible Relocations

No Build Alternative

There will be no relocations or properties purchased with the No Build Alternative. The Delray community, however, will probably continue to lose housing. Since this study started in January 2005, 46 houses have burned down, a trend that isn't slowing as evidenced by the fact that 25 houses burned in 2007 alone. Also, industrial uses in Delray keep expanding. This continues to put pressure on the remaining Delray residential land use.

Preferred Alternative

Engineering refinements have allowed the Preferred Alternative to avoid the apartment building (Berwalt Manor) with 64 units south of I-75. Likewise, revision of the I-75/Springwells interchange layout will reduce the potential acquisition of dwelling units in the northwest quadrant of the interchange from five to zero. These and other refinements in the interchange layout have reduced the potential relocations to 257 dwelling units (including one apartment building with 36 units on the north side of I-75) (Table S-2). Residential relocations ranged from 324 to 414 in the DEIS.

Table S-2
Potential Relocations with the Preferred Alternative
Detroit River International Crossing Study

	Description of Item	Alternatives	
		No Build	Preferred Alternative
Residential Units	Occupied	0	257
	Vacant	0	5
Residential Population ^a	Number	0	693
Business Units	Active	0	43
	Vacant	0	25
Estimated Employees	Number	0	685
Other Land Uses Affected	Schools	0	0
	Senior Service Facilities	0	0
	City/Government Facilities	0	3
	Places of Worship	0	5
	Medical Facilities	0	0
	State/Federal Government Facilities	0	1

^a Calculated using average population per dwelling unit in Delray from the 2000 U.S. Census for Tracts 5235, 5236 and 5237.

Source: The Corradino Group of Michigan, Inc.

Forty-three businesses are expected to be relocated by the Preferred Alternative. Business relocations ranged from 41 to 51 in the DEIS.

Five churches will be relocated. The lowest number of relocated churches was five with practical alternative Crossing X-11, Alternative #5. The largest number was seven with four practical alternatives.

The Community Health and Social Services Center (CHASS), an important health services facility serving minority and low-income peoples, will not be affected. Relocation of the Detroit Water and Sewer Department offices is required and is subject to ongoing consultation.

The following standard procedure related to relocation will be followed:

Compliance with State and Federal Laws – Acquisition and relocation assistance and services will be provided by MDOT in accordance and compliance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; Act 87, Michigan P.A. 1980, as amended; Act 367, Michigan P.A. 2006; Act 439, Michigan P.A. 2006; and, the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. MDOT will inform individuals, businesses and non-profit organizations of the impact, if any, of the project on their property. Every effort will be made, through relocation assistance, to lessen the impact when it occurs.

S.3.2 Adverse Impacts to Environmental Justice Population Groups

No Build Alternative

The No Build Alternative would see past trends continue in the Delray area which indicate an increase in minority population groups and low-income population groups. Industrial/commercial uses will continue to be mixed with residential uses. Communities are expected to be challenged as Michigan's economy changes, causing jobs and related income to be lost and, possibly, homes to become vacant (Section 3.1.4).

Preferred Alternative

Since the publication of the DEIS, additional data were gathered on the populations in the DRIC study area, with greater focus on the occupants of properties that may

What does Executive Order 12898 on Environmental Justice cover?

The order states:

"...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

potentially be acquired. Based on the updated census information and field-collected data, it was determined that the Preferred Alternative would have a disproportionately high and adverse effect on minority and low-income population groups in the study area. Potential impacts include displacements, loss of jobs, change in traffic patterns, and rerouted bus lines (Section 3.1.5). MDOT and the community have developed a mitigation and community enhancement plan that will avoid, minimize and/or mitigate disproportionately high and adverse impacts on minority and low-income population groups; and provide offsetting benefits and opportunities to enhance the community, neighborhoods and individuals affected by the proposed project (Sections 4.2, 4.2.2, and the “Green Sheet: Project Mitigation Summary” at the end of Section 4). The environmental justice community along the north side of I-75 will benefit from noise walls planned as part of MDOT’s standard mitigation. No such walls are there today.

S.3.3 Jobs

No Build Alternative

Without a new border crossing, the opportunity for Michigan to attract 25,000 jobs by 2035 could be lost. This could result in tax loss to the State of Michigan of about \$500 million in 2035 alone because of disruption in international trade caused by too little border crossing capacity. In addition, restructuring of the auto industry will mean a loss of jobs and tax revenues for the next eight to ten years. Arvin Meritor is the biggest employer (400+ jobs) in the Delray area. It, too, is experiencing difficulties because of changes in the auto industry which it services as a supplier.

Construction Will Create Jobs



Source: The Corradino Group of Michigan, Inc.

Preferred Alternative

The Preferred Alternative will require relocation of 43 businesses supporting approximately 685 jobs. Most businesses prefer to remain in the study area. In the short-term, job losses will be offset by jobs generated and money spent on construction. Temporary construction jobs are expected to number almost 13,000 direct jobs and more than 33,000 indirect jobs during the construction period. Bridge/plaza operations jobs are forecast to be 775 in 2035. The short-term property tax losses are expected to be in the \$500,000 range annually, but could be partially offset by those relocating within Detroit. Meanwhile direct and indirect construction jobs will produce income for the City of Detroit, other government jurisdictions in the region, and the state.

S.3.4 Land Use

No Build Alternative

The Delray area is expected to grow more industrial without a new crossing. If the current trends continue, vacant lots will increase in the residential area of Delray.

Preferred Alternative

The Preferred Alternative will convert 160 acres to transportation uses. Despite the impact of the Preferred Alternative, Delray has the potential to become a better place to live and work if a new crossing were built. This is because it will create opportunities that may encourage development/redevelopment of the area.

Possible Land Use



Source: The Corradino Group of Michigan, Inc.

S.3.5 Traffic

No Build Alternative

If nothing is done, traffic in the area will grow slowly on major roads, like I-75. On the other hand, traffic in the neighborhoods should improve with the previously-approved Ambassador Gateway Project expected to be completed in 2009. It will connect the Ambassador Bridge directly to I-75. That will reduce heavy truck traffic on local streets, especially in Mexicantown and along Fort Street (M-85). Also, the connection of Bagley Avenue will be reestablished by a new pedestrian crossing. This connection was severed by I-75 in the 1970s. In the event that a traffic disruption occurs on the Ambassador Bridge, there is no alternative to crossing the border at Detroit except for the Detroit-Windsor Tunnel. The tunnel does not have the capacity to accommodate such a diversion. There is no adequate redundancy of traffic capacity.

Preferred Alternative

As noted in the DEIS (Section 3.5.11), a number of travel demand modeling analyses were performed for the DRIC Study. They include results from techniques known, in analytical terms, as a single-logit model (SLM) and a nested-logit model (NLM). Use of the two models creates a range of forecasts. The SLM produces traffic volumes on the new DRIC crossing at the high end of the range while the NLM produces traffic volumes at the low end of the range.

Those procedures were reapplied with a network updated since the DEIS to reflect the most up-to-date understanding of roadway capacities and linkages. The results indicate the crossing volumes developed for the X-10 crossings for the most comparable Practical Alternatives (#1, #2 and #16) are virtually no different from the Preferred Alternative, which is also an X-10 crossing (Table S-3).

Table S-3 Average Percent Difference: Practical Alternatives #1, #2, #16 and the Preferred Alternative Detroit River International Crossing Study		
2035		
	Single Logit Model	Nested Logit Model
AM Peak Hour		
Cars	0%	1%
Trucks	0%	0%
Total	0%	1%
PCEs*	0%	0%
Midday Peak Hour		
Cars	2%	1%
Trucks	0%	0%
Total	1%	0%
PCEs*	1%	0%
PM Peak Hour		
Cars	1%	1%
Trucks	1%	0%
Total	1%	1%
PCEs*	1%	0%
*Passenger Car Equivalents Trucks= 2.5 cars		
Source: The Corradino Group of Michigan, Inc.		

The data in Tables S-4 and S-4A and Tables S-5 and S-5A for the Ambassador Bridge and the new DRIC river crossing indicate the Preferred Alternative is projected to carry in the 2035 PM peak hour, between 54 (NLM) and 79 (SLM) percent of all international truck traffic and between 51 (NLM) and 63 (SLM) percent of total international traffic. Microsimulation of traffic on I-75 and a number of local streets affected by the freeway indicate: 1) no levels of service on mainline I-75 between Springwells Avenue and Clark Street will be lower than D (an accepted level of congestion for an urban interstate highway); and, 2) levels of service at local street intersections will be either at A or B. Levels of Service is a measure of congestion based on delay and freedom of movement of traffic; A is good, while F is worst.

Table S-4 2035 Single-Logit Model Crossing Volumes Detroit River International Crossing Study							
AM Peak Hour							
	Network	U.S.-to-Canada		Canada-to-U.S.		Two-way Traffic	
		AMB	DRIC	AMB	DRIC	AMB	DRIC
Cars	No Build	260	n/a	1,736	n/a	1,995	n/a
	Practical Alternatives X-10/#1/#2/#16	112	203	1,163	865	1,275	1,068
	X-10: Preferred Alternative	110	207	1,165	860	1,275	1,067
Trucks	No Build	453	n/a	453	n/a	906	n/a
	Practical Alternatives X-10/#1/#2/#16	124	418	7	548	130	966
	X-10: Preferred Alternative	123	418	9	546	132	964
Midday Peak Hour							
	Network	U.S.-to-Canada		Canada-to-U.S.		Two-way Traffic	
		AMB	DRIC	AMB	DRIC	AMB	DRIC
Cars	No Build	691	n/a	661	n/a	1,352	n/a
	Practical Alternatives X-10/#1/#2/#16	302	413	535	199	836	611
	X-10: Preferred Alternative	299	418	527	206	826	624
Trucks	No Build	722	n/a	504	n/a	1,226	n/a
	Practical Alternatives X-10/#1/#2/#16	264	736	139	426	404	1,162
	X-10: Preferred Alternative	260	740	139	426	399	1,167
PM Peak Hour							
	Network	U.S.-to-Canada		Canada-to-U.S.		Two-way Traffic	
		AMB	DRIC	AMB	DRIC	AMB	DRIC
Cars	No Build	1,824	n/a	674	n/a	2,498	n/a
	Practical Alternatives X-10/#1/#2/#16	843	1,384	517	248	1,360	1,632
	X-10: Preferred Alternative	837	1,395	510	256	1,347	1,651
Trucks	No Build	750	n/a	383	n/a	1,134	n/a
	Practical Alternatives X-10/#1/#2/#16	224	752	82	349	306	1,101
	X-10: Preferred Alternative	223	753	76	354	299	1,108

Source: The Corradino Group of Michigan, Inc.

Table S-4A
2035 Single-Logit Model Volumes
Preferred Alternative
Detroit River International Crossing Study

Vehicle Type	AM PEAK		MIDDAY		PM PEAK	
	AMB	DRIC	AMB	DRIC	AMB	DRIC
Cars	1,275	1,067	826	624	1,347	1,651
Trucks	132	964	399	1,167	299	1,108
Total	1,407	2,031	1,225	1,791	1,646	2,759
Percent of Both Crossings	41%	59%	41%	59%	37%	63%

Source: The Corradino Group of Michigan, Inc.

Table S-5 2035 Nested-Logit Model Crossing Volumes Detroit River International Crossing Study							
AM Peak Hour							
	Network	U.S.-to-Canada		Canada-to-U.S.		Two-way Traffic	
		AMB	DRIC	AMB	DRIC	AMB	DRIC
Cars	No Build	286	n/a	1,744	n/a	2,031	n/a
	Practical Alternatives X-10/#1/#2/#16	210	150	1,191	1,007	1,401	1,157
	Preferred Alternative	209	152	1,184	1,015	1,393	1,167
Trucks	No Build	486	n/a	544	n/a	1,030	n/a
	Practical Alternatives X-10/#1/#2/#16	270	291	313	350	584	641
	Preferred Alternative	270	292	314	350	584	642
Midday Peak Hour							
	Network	U.S.-to-Canada		Canada-to-U.S.		Two-way Traffic	
		AMB	DRIC	AMB	DRIC	AMB	DRIC
Cars	No Build	530	n/a	540	n/a	1,070	n/a
	Practical Alternatives X-10/#1/#2/#16	407	341	388	278	795	619
	Preferred Alternative	405	344	387	280	792	624
Trucks	No Build	997	n/a	592	n/a	1,588	n/a
	Practical Alternatives X-10/#1/#2/#16	570	612	342	335	912	947
	Preferred Alternative	570	612	342	335	912	947
PM Peak Hour							
	Network	U.S.-to-Canada		Canada-to-U.S.		Two-way Traffic	
		AMB	DRIC	AMB	DRIC	AMB	DRIC
Cars	No Build	1,607	n/a	666	n/a	2,273	n/a
	Practical Alternatives X-10/#1/#2/#16	1,033	1,090	466	323	1,499	1,413
	Preferred Alternative	1,025	1,103	465	324	1,490	1,427
Trucks	No Build	828	n/a	448	n/a	1,277	n/a
	Practical Alternatives X-10/#1/#2/#16	469	560	264	285	733	845
	Preferred Alternative	470	561	264	285	734	846

Source: The Corradino Group of Michigan, Inc.

Table S-5A
2035 Nested-Logit Model Volumes
Preferred Alternative
Detroit River International Crossing Study

Vehicle Type	AM PEAK		MIDDAY		PM PEAK	
	AMB	DRIC	AMB	DRIC	AMB	DRIC
Cars	1,393	1,167	792	624	1,490	1,427
Trucks	584	642	912	947	734	846
Total	1,977	1,809	1,704	1,671	2,224	2,273
Percent of Both Crossings	52%	48%	50%	50%	50%	51%

Source: The Corradino Group of Michigan, Inc.

These travel data can be used to assess the economic effects of the new border crossing as presented in Section 3.5.1.4 of this FEIS. That analysis indicates a new border crossing will help Michigan and Ontario avoid by 2035 losing about 39,000 jobs and tax revenue of more than \$3 billion. The cumulative travel time savings associated with a new DRIC crossing between 2015 and 2035 are forecast to total more than \$1.4 billion. It is forecast that all existing crossings in Southeast Michigan will have revenues that exceed expenses under high and low traffic forecast scenarios in 2015 and 2035, indicating the business viability of the existing crossings does not appear to be threatened.

Interchanges

Changes will occur along I-75 as a result of introducing the Preferred Alternative. It will remove the Livernois/Dragoon interchange (Figure S-13). The Clark Street interchange will be “split” – the ramps on north side (upstream of I-75) of Clark Street will remain where they are, but the ramps on the south side (downstream of I-75) will shift south by several blocks. The Springwells interchange will be rebuilt. Retaining access to I-75 is important to the local residential community and businesses. None of the Practical Alternatives in the DEIS had all these features.

Streets Crossing I-75

The Preferred Alternative will remove three streets that now cross I-75 (Waterman, Dragoon and Junction). All Practical Alternatives in the DEIS would have removed either two or three cross streets.

Pedestrian/Bicycle-only Crossings of I-75

The new bridge over the Detroit River and the plaza are laid out to accommodate pedestrians and bicyclists. It will be up to U.S. Customs and Border Protection and its Canadian counterpart (Customs and Border Service Agency) to determine if this traffic is allowed.

The Preferred Alternative will maintain sidewalks on each side of the reconstructed Springwells, Green, Livernois and Clark roadway bridges over I-75. As noted above, the Waterman, Dragoon and Junction Street bridges will be removed. Replacement pedestrian bridges will be located at Solvay and Beard (Figure S-13). The Casgrain pedestrian bridge will be shifted to a Waterman alignment to serve Southwestern High School when the Waterman Street crossing over I-75 is closed. The Cavalry Street pedestrian bridge will be closed and replaced by a new pedestrian bridge at Morrell Street. Similarly, the Ferdinand Street pedestrian bridge will be replaced by one at McKinstry Street. As laid out, the Preferred Alternative will have the same number of

pedestrian/bicycle-only crossings of I-75 (five) as exist today. It would have more than any Practical Alternative presented in the DEIS.

It is also noteworthy that new boulevards with sidewalks will be developed east and west of the plaza on Green and Campbell Streets. Bike lanes will be added to Jefferson Avenue and Clark Street, linking the Rouge River Gateway Master Plan Trail and the proposed West Riverfront Greenway. Non-motorized paths will be included in the buffer zone surrounding the plaza.

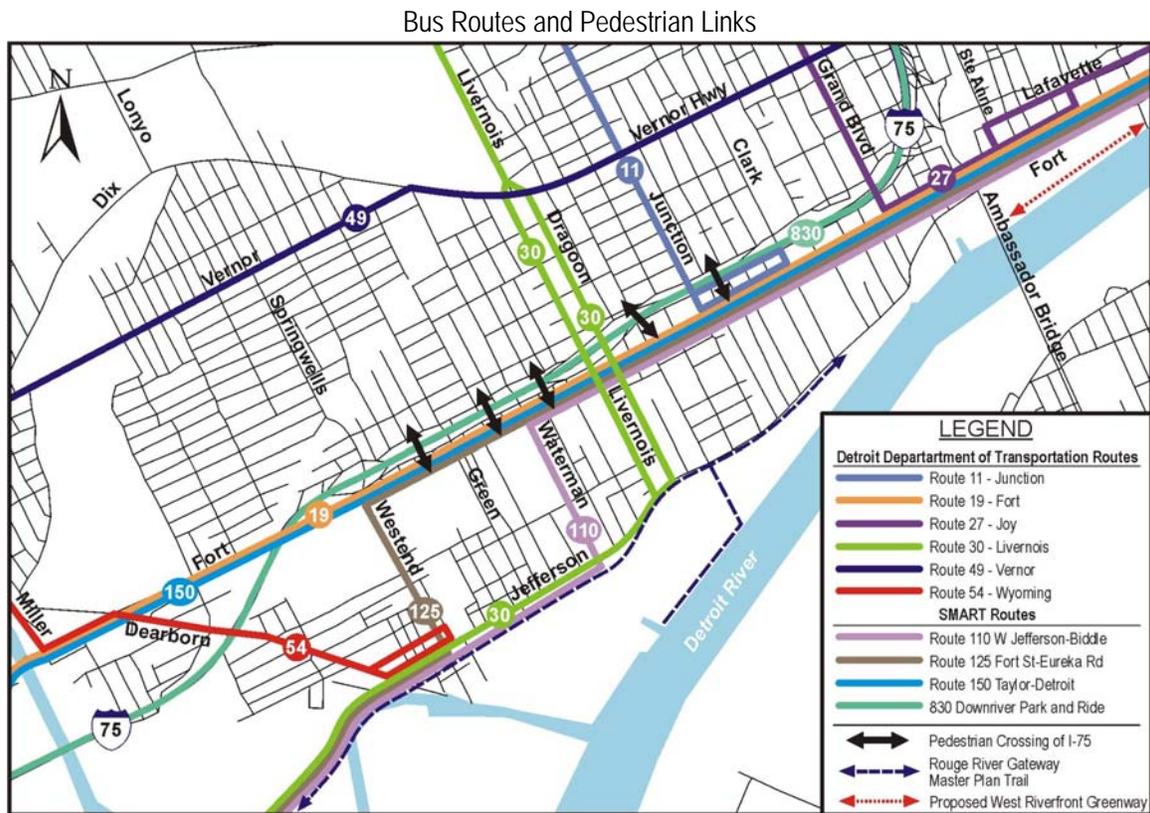
All facilities will be designed to meet Americans with Disabilities Act (ADA) standards, including sidewalks along any road to be repaved because it is impacted by the Preferred Alternative. This means there will be an upgrade of many facilities as they were built before the ADA standards were established.

What is the Americans with Disabilities Act (ADA) Supposed to do?

It is intended to make America more accessible to people with disabilities. To do so, standards are provided on buildings, sidewalks, street crossings, and the like. Curb cuts for wheelchairs and limits to how steep sidewalks can be are two examples.

Bus Routes

The Preferred Alternative will affect Detroit Department of Transportation (DDOT) Bus Route 11/Junction and Route 30/Livernois. Consultation will continue with DDOT regarding Route 11/Junction and Route 30/Livernois. Alternative routings are available for each.



Source: The Corradino Group of Michigan, Inc.

S.3.6 Air Quality

No Build Alternative

Air quality will improve under the No Build Alternative because of U. S. Environmental Protection Agency rules and regulations under the Clean Air Act and the National Ambient Air Quality Standards. Regional air quality will also improve because of the closings of old manufacturing plants due to the decline in the economy and a shift to more service-oriented industries. Local air quality conditions in the Mexicantown area at the Ambassador Bridge are expected to improve with opening of the Ambassador Gateway Project in 2009.

Preferred Alternative

As with the No Build Alternative, overall air quality will improve because of EPA rules and regulations. The Preferred Alternative will result in a split of traffic and, therefore, of air quality emissions between the Ambassador Bridge and the new bridge.

North of I-75, in Southwest Detroit, the Preferred Alternative will reduce traffic on Livernois Avenue and Dragoon Street by changing the I-75 ramp system that now serves this one-way pair. Heavy-duty diesel truck traffic would be rerouted away from the densely residential area surrounding these two streets.

A Mobile Source Air Toxics Impact Analysis was conducted consistent with FHWA Interim Guidance. Local “hot spots” were analyzed. It was concluded that carbon monoxide (CO) and particulate matter (PM) air quality standards will not be violated.

The Clean Air Act (CAA) states that regions must meet and maintain specific air quality standards. Southeast Michigan currently does not meet the standards for 8-hour ozone and fine particulate matter (PM_{2.5}). The region also must prove that it is maintaining CO and small, coarse particulate matter (PM₁₀) at required levels. The regional planning organization has the responsibility to develop a transportation plan that helps meet the CAA air quality standards. The Southeast Michigan Council of Governments (SEMCOG) is the planning organization that is responsible for developing the transportation plan. SEMCOG has performed the analyses necessary to ensure that CAA standards are met. The Preferred Alternative has been included in its transportation plan. It has passed the CAA conformity test as evidenced by letters by FHWA and U.S. EPA in Appendix I.

MDOT will work with contractors on an operating agreement to control emissions during construction. It may include:

- Scheduling the use of construction equipment so it reduces pollution impacts around sensitive places like Southwestern High School;
- Using “clean” operating engines on construction equipment; and,
- Using ultra-low sulfur diesel fuel for off-road vehicles.

S.3.7 Noise

No Build Alternative

Noise levels from traffic will not increase much with the No Build Alternative because traffic is not expected to change much. However, it should be noted that existing noise levels along the north side of I-75 are already high (70 dBA and above) and no noise walls exist there, nor are they proposed with the No Build Alternative. The exception is in and around Mexicantown with the opening in 2009 of the Ambassador Gateway Project at the Ambassador Bridge. Traffic will be directly channeled from the Ambassador Bridge plaza onto I-75. International traffic that often makes its way through the neighborhood should be eliminated and noise levels should be reduced.

Preferred Alternative

Sensitive receivers around the proposed DRIC plazas will not experience noise levels exceeding the established noise abatement criteria. Likewise, the DRIC bridge will be far enough removed from any sensitive receivers that no noise mitigation is warranted.

Representative Michigan Noise Wall



Source: The Corradino Group of Michigan, Inc.

Along the north side of I-75, noise walls will be built between the service drives and the mainline of I-75. Appropriate gaps will be left for pedestrian bridges. Other emergency access needs will be accounted for. Similarly, noise walls will be situated properly for appropriate sight distances at intersections and ramps so drivers have a clear field of view. The approximate limits of walls that have been found reasonable and feasible as listed in Table S-10, at the end of this summary are: Green Street to Rademacher Street, east of Dragoon Street to east of Campbell Street and east of Campbell Street to Clark Street.

The Preferred Alternative will provide a new way to get trains carrying coke to the steel mill on Zug Island. Through much of the year these daily trains pass Southwestern High School sounding their horns at cross streets. Horn noise can be over 100 dBA at

100 feet. Locomotives create noise of about 85 dBA at 100 feet and rail cars create noise in the mid 70s dBA at that distance. The Preferred Alternative will eliminate these trains going by Southwestern High School.

S.3.8 Wetlands

No Build Alternative

The No Build Alternative will not affect any wetlands.

Preferred Alternative

The Preferred Alternative will not affect any wetlands.

S.3.9 Threatened and Endangered Species/Coastal Zone Issues

No Build Alternative

No harm to threatened and endangered species is expected with the No Build Alternative.

Preferred Alternative

The Preferred Alternative will not affect any threatened, endangered or species of special concern. The U.S. Department of the Interior states in its letter of May 9, 2008 (Appendix F), that "... the draft EIS provides an adequate discussion of the consequences to fish and wildlife resources from construction of each of the Practical Alternatives." The letter goes on to say with respect to consultation on the bridge type, "...we recommend that any such coordination be documented in the final EIS." As the bridge type is to be decided in the design phase, the consultation will continue beyond this FEIS and the ROD, with a particular focus on avian impacts.

In its letter responding to the DEIS, the Land and Water Management Division of the Michigan Department of Environmental Quality dated April 29, 2008, notes that its staff reviews projects for consistency with Michigan's Coastal Management Program (MCMP) and indicates as follows: "Provided no valid objections based on valid environmental concerns are received during the public notice period and all required permits are issued and complied with, no adverse impacts to coastal resources are anticipated. Upon issuance of all necessary permits, this project will be consistent with the MCMP."

S.3.10 Cultural Resources – Aboveground

MDOT's and FHWA's responsibilities for cultural resources are governed by Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act.

No Build Alternative

The current trends of deterioration, destruction and demolition can be expected to continue as evidenced by the decline of the former McMillan School in Delray. This will harm the historic value of the area where there are many cultural resources (Section 3.9.2).



Source: The Corradino Group of Michigan, Inc.



Source: The Corradino Group of Michigan, Inc.

What is the National Historic Preservation Act (NHPA)?

Legislation passed in 1966 establishing the federal government's policy on historic preservation and the national historic preservation program through which that policy is implemented.

What is Section 4(f)?

Section 4(f) of the Department of Transportation Act of 1966 states that no transportation project should be approved which required the "use" of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, or historic site unless there is no feasible or prudent alternative to use of such land.

Preferred Alternative

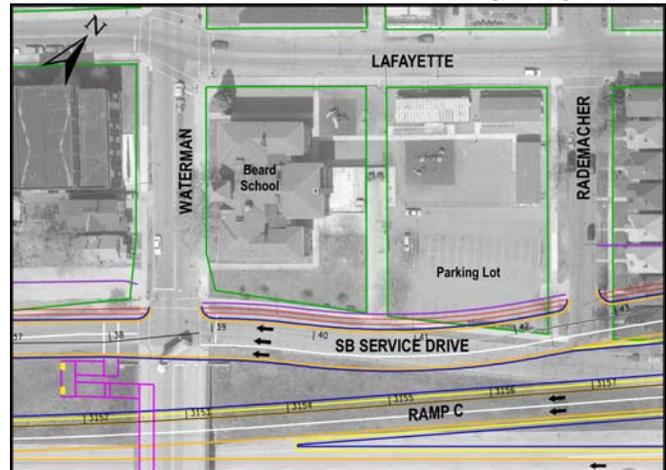
Engineering modifications to the Preferred Alternative's interchange with I-75 have avoided adverse effects at the Frank Beard School and Berwalt Manor. At the Beard School, the southbound service drive right-of-way would extend several feet into the parking lot to the rear of the school (Figure S-15). It has been determined that the parking lot is not part of the historic property.

Avoidance of Berwalt Manor was the subject of consultation with the State Historic Preservation Office (SHPO) and development of a technical memorandum, "Berwalt Manor Avoidance Options" (Parsons Transportation Group, September 2008). The curve of the ramps between the plaza and I-75/northbound was changed allowing the ramp that formerly would have passed through Berwalt Manor with every Practical Alternative to pass around it with the Preferred Alternative (Figure S-16). Engineering modifications were also made to the northbound I-75 exit ramp (which will now end at Campbell Street) and the northbound service drive. The Berwalt Manor owners will be offered new windows throughout and a central heating-ventilating and cooling (HVAC) system to mitigate excessive noise resulting from the close proximity of the ramp connecting the plaza to northbound I-75, as well as existing and excessive noise from I-75. The replacement windows will be subject to Secretary of Interior Standards for Rehabilitation. The energy-efficient HVAC system will be constructed so that occupants will no longer need to open windows or use window air conditioners. These plans are noted in the draft MOA (Appendix E).

The Preferred Alternative will require removal of Kovacs Bar and the St. Paul African Methodist Episcopal Church. Mitigation is stated in the draft MOA in Appendix E and will include recordation of the properties prior to demolition.

The project is expected to increase Fort Wayne's viability because of its increased visibility. Nonetheless, as a result of concern expressed by the City of Detroit Recreation Department (which manages Ft. Wayne), FHWA has proposed to take a number of actions to improve the context of the Fort and the public's accessibility to the Fort, as well as actions to minimize environmental impacts. These are the result of ongoing consultation among the National Park Service, the City of Detroit, the Fort Wayne Advisory Committee, the State Historic Preservation Office (SHPO), MDOT and FHWA. This consultation is reflected in the draft MOA in Appendix E.

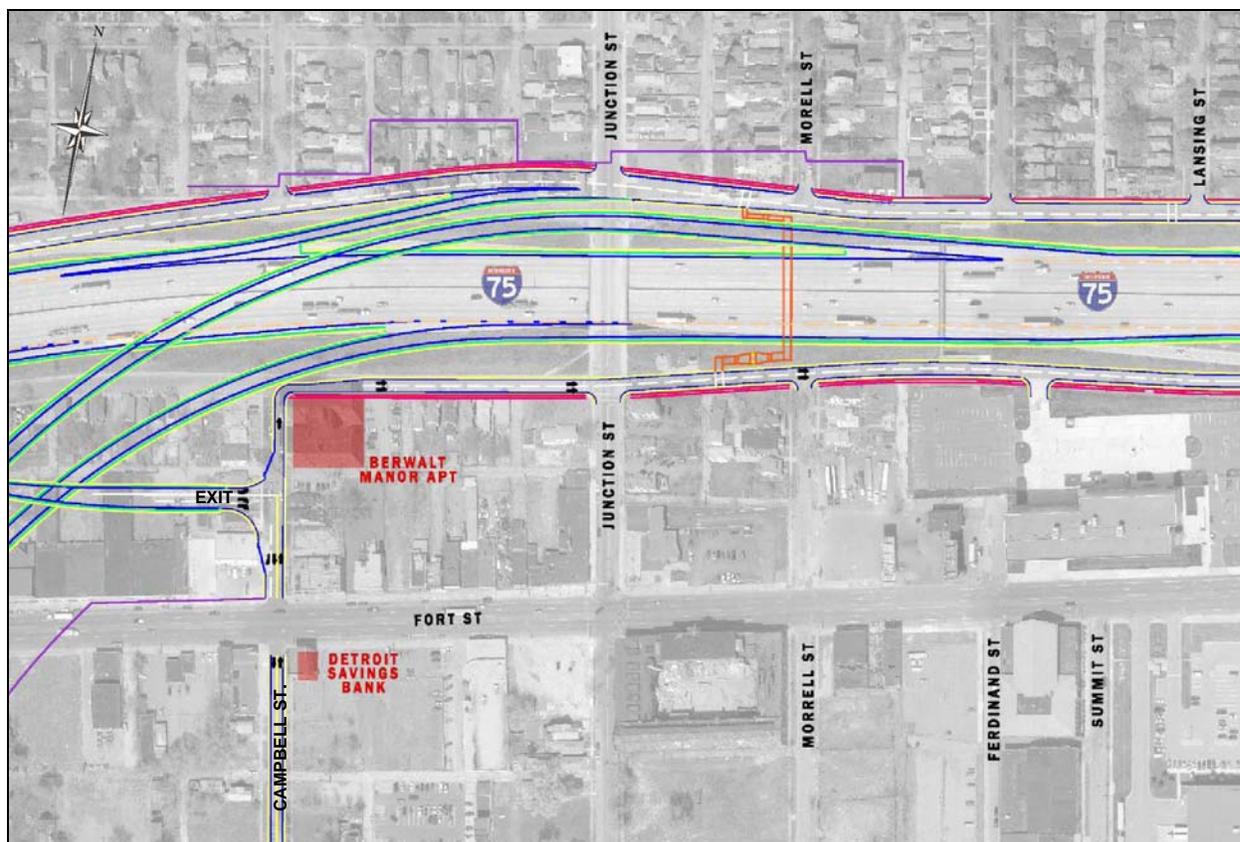
Figure S-15
Preferred Alternative in Vicinity of Beard School
Detroit River International Crossing Study



Note: Parking lot not part of National Register site.

Source: The Corradino Group of Michigan, Inc.

Figure S-16
 Preferred Alternative at Berwalt Manor Apartment Building
 Detroit River International Crossing Study



Source: Parsons Transportation Group

S.3.11 Cultural Resources – Archaeological

No Build Alternative

While there are a number of known archaeological resources in the area based on MDOT studies, no impacts on archaeological sites are expected with the No Build Alternative.

Preferred Alternative

The Preferred Alternative will not have an effect on any *prehistoric* archaeological sites. All alternatives would affect two *historic* archaeological sites from the late-1800s. Each is recommended for listing in the *National Register of Historic*

What are Prehistoric Archaeology and Historic Archaeology?

Prehistoric archaeology is the study of the past before historical records began. It deals with ancient cultures that did not have writing of any kind.

Historic archaeology is the study of the recent past, for which written documentation is available.

Places. This adverse effect will require full excavation prior to any construction, consistent with the draft Memorandum of Agreement developed in consultation with the State Historic Preservation Office (SHPO) (Appendix E).

S.3.12 Parkland

MDOT's and FHWA's responsibilities for parklands are governed by Section 4(f) of the Department of Transportation Act (see side bar in Section S.3.10).

No Build Alternative

Past trends have seen the closing of a number of local parks and recreation facilities. The ongoing economic decline, forecast by SEMCOG to continue into the middle of the next decade, may hasten that trend under the No Build Alternative.

Preferred Alternative

The past trends cited above will also continue with the Preferred Alternative. Plazas proposed for all alternatives in the DEIS remove three recreational areas. They are:

- South Rademacher Park at 6501 South Street;
- South Rademacher Community Recreation Center at 6501 South Street (closed by the City of Detroit since 2006); and
- Post-Jefferson Playlot, 577 South Post.

Consultation with the City of Detroit is ongoing. It is anticipated that the parks will be appraised and the City will be compensated for the property, facilities and functions. This process will conclude after the Record of Decision is signed and funding is in place.

South Rademacher Park and Recreation Center



Source: The Corradino Group of Michigan, Inc.

S.3.13 Visual Conditions

No Build Alternative

If the replacement span next to the Ambassador Bridge is not built, there would be no major visual changes in the study area. A replacement span of the Ambassador Bridge, as proposed by the Detroit International Bridge Company, would create a visual impact on the existing bridge. That impact must be addressed by the proponent in consultation with the State Historic Preservation Office.

Preferred Alternative

The Detroit River Bridge and the interchange with I-75 will be the dominant visual elements of the Preferred Alternative (Figure S-17). A cable-stay bridge would be more visible than a suspension bridge; the cable-stay bridge towers would be taller. But, from many ground-level vantage points in the Delray area, the bridge will not be visible. A decision concerning the bridge type will be made during the design phase of the proposed project.

The I-75 ramps serving the plaza – to the south and from the north – will be at the second-floor level as they cross over I-75 to connect with the plaza. An example of how these would look to a traveler northbound on I-75 is shown in Figure S-18. Repaving of local roads in Delray impacted by the Preferred Alternative will improve the visual aspect of the area. Nonetheless, Delray would be changed visually by the new crossing and connections to I-75. This could be positive as concepts are refined and the Context Sensitive Solutions (CSS) process continues during the project's design phase and CSS workshops continue in the community.

The plaza will not be dominant visually because of its at-grade profile and buffering. For example, the proposed plaza area viewed from Fort Street today includes a mix of vegetation, vacant lots, homes, institutional and light industrial buildings. In the future, there will be more vegetation and fewer structures. This is true of other areas around the plaza.

Fort Wayne, which is located between the X-10 and X-11 crossings, will be visible to drivers on the new bridge with the Preferred Alternative. That, combined with good local access and signing to the Fort from the crossing's plaza and I-75, could increase the number of people who visit Fort Wayne.

Cable-stay Bridge @ Crossing X-10B

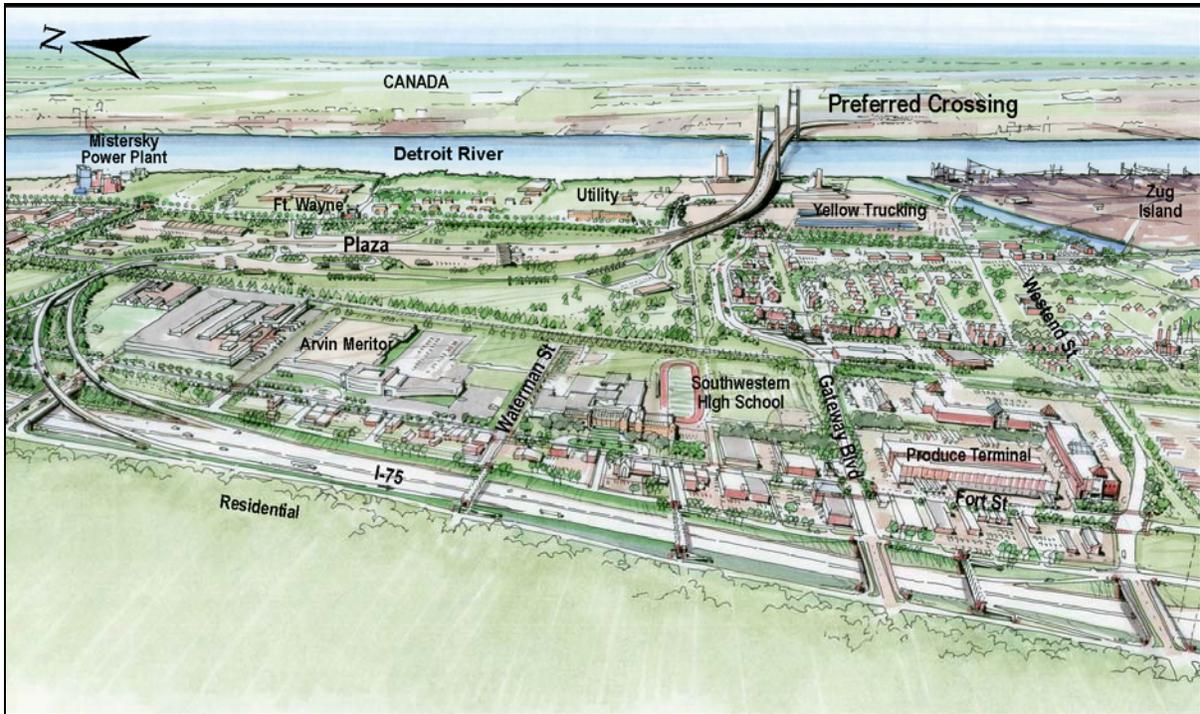


Suspension Bridge @ Crossings X-10A & B

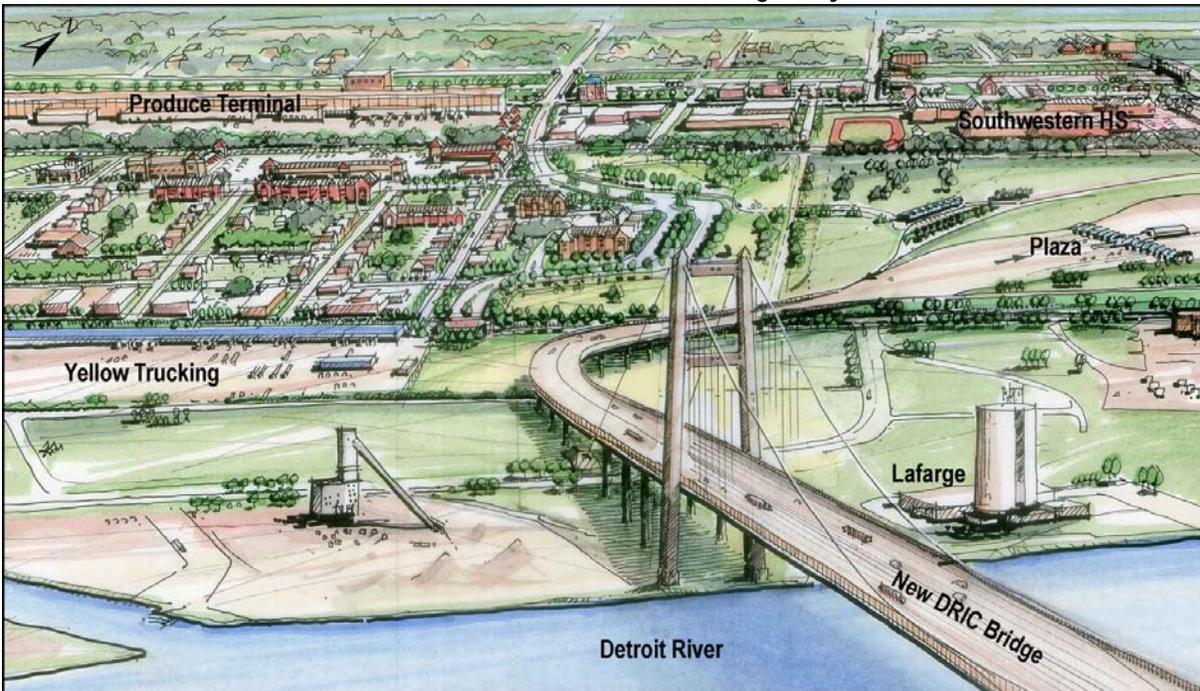


Source: Parsons Transportation Group

Figure S-17
 Detroit River Bridge – View Toward River
 Detroit River International Crossing Study

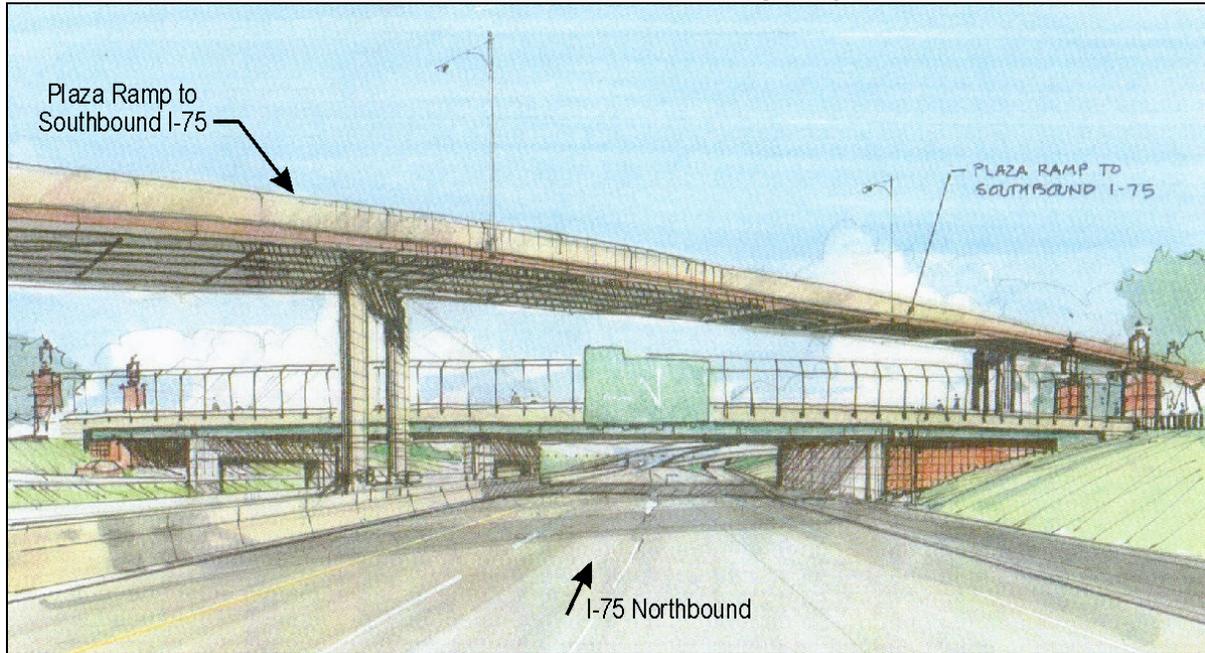


Detroit River Bridge – View From River
 Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc.

Figure S-18
I-75 Northbound View of Ramps from Plaza
Detroit River International Crossing Study



Source: The Corradino Group of Michigan, Inc.

S.3.14 Lighting

No Build Alternative

A continuation of past trends is expected with the No Build Alternative. They include night lighting from the Ambassador Bridge. A proposed replacement span of the bridge, if approved, would alter the existing night light pattern. On the other hand, street lighting in Delray is often in poor condition because of low maintenance. No change is expected.

Preferred Alternative

The Preferred Alternative follows the X-10B Crossing connecting to Plaza P-a. The nearest residences that will remain will be on the west side of Harrington Street and the east side of Campbell Street. It is anticipated that project light levels in these locations will be higher than they are now.

It is further anticipated that ambient light at Fort Wayne will increase at night from atmospheric reflection. This will be the case even when consideration is given to the General Services Administration policy with regard to the cutoff angle of light on their property.

A consultation process related to bridge lighting will be necessary during project design to balance the safety and navigational lighting needs of the Federal Aviation Administration and U.S. Coast Guard (river navigation) with other concerns, such as aesthetics and the impacts on migratory birds. Best management practices to protect migrating birds would be reviewed with the U.S. Fish & Wildlife Service.

Cable-stay Night Rendering



Source: The Corradino Group of Michigan, Inc.

Lighting needs for the new interchange will be determined during the design phase. Lighting is present today along the median of I-75, on vehicular bridges crossing I-75, along the northbound and southbound service drives, and on I-75 ramps, as well as surface streets. With the project, new ramps will connect the plaza with I-75, crossing the Fort Street area. These ramps will carry additional lighting. High-mast lighting is sometimes used at interchanges. During design of this project, proposed lighting will take into account the adjacent residential uses on the north side of I-75 and at Berwalt Manor (apartment building) on the northbound service drive at Campbell Street.

S.3.15 Contaminated Sites

No Build Alternative

A continuation of past trends is expected as federal and state clean-up rules are applied to contaminated sites when they are reused.

Preferred Alternative

The Preferred Alternative will impact 23 contaminated sites. Preliminary Site Inspections (PSIs) have been completed by MDOT on six properties to which access was granted. Results are on file at MDOT. Other PSIs will be completed once access can be obtained by provisions in Michigan law. Access to monitoring wells at sites under remediation will be maintained or alternate access will be provided.

S.3.16 Indirect and Cumulative Impacts – U.S. and Transboundary

An indirect impact is caused by an action occurring later in time or farther removed in distance but happening in the reasonably foreseeable future. Cumulative effects result from the incremental impact of an action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes the action.

No Build Alternative

Past trends will continue under the No Build Alternative, with further deterioration caused by the ongoing decline of the Michigan economy. The effects will be felt for the next eight to ten years, with continued losses of jobs and the abandonment of industrial sites. The economic downturn could actually improve air quality, when some polluting industries close. Positive changes in traffic and air quality will also occur in the area immediately around the Ambassador Bridge after the Ambassador Gateway Project is completed in 2009 (Tables S-6 and S-7). This includes reconnecting Bagley Street over I-75 as a pedestrian bridge. It also includes eliminating international trucks on neighborhood streets. If a replacement span of the Ambassador Bridge were built next to the current crossing, as proposed, there would be more construction and bridge operations jobs. This could help the local economy.

Preferred Alternative

The conditions cited above for the No Build Alternative also apply to the Preferred Alternative. However, because of improved accessibility provided by a new crossing, a small number of new jobs could be attracted to the study area in the vicinity of the I-94 interchange at Michigan/Wyoming Avenues. Closing of the I-75 interchange at Livernois/Dragoon and closing three streets now crossing I-75 should reduce heavy truck traffic in the community. But, traffic will have to find new routes with the changes in streets that cross I-75 and changes to the interchanges that now serve the freeway. Nonetheless, the overall air quality in the surrounding communities will improve because of improved vehicle engines and fuels and other state and federal requirements, even if more development results from the Preferred Alternative.

Cultural resources in the community not affected by the DRIC are more likely to be protected. That's because historic properties could be blended into redevelopment plans and new historic districts would be identified. Historic properties within recognized districts may be eligible for loans and grants or tax credits which would enable restoration and preservation of these properties.

Table S-6
 Summary of U.S. **Indirect** Impacts
 The No Build Condition Versus the Preferred Alternative
 Detroit River International Crossing Study

Category	No Build	Preferred Alternative
Traffic	Domestic traffic increases are expected to be relatively small. Positive effects will be experienced in Mexicantown and along Fort Street (M-85) with completion of Ambassador Gateway Project.	Domestic traffic increases are expected to be relatively small. Positive effects will be experienced in Mexicantown and along Fort Street (M-85) with completion of Ambassador Gateway Project. The community north and south of I-75 will experience negative and positive indirect effects. <u>Negative:</u> More difficult for traffic to gain access to I-75 and move across it. <u>Positive:</u> Fewer trucks penetrating the area would reduce noise levels and improve air quality.
Economic Impacts	A continued jobs loss is expected in the SEMCOG region until about 2015 with relatively small net growth by 2030 compared to current conditions. In Wayne County and Detroit, a net loss in jobs can be expected, not just a loss of job growth. If replacement span of Ambassador Bridge is built, an increase in jobs during construction and bridge operations with resulting increase in taxes to help economy.	A continued jobs loss is expected in the SEMCOG region until about 2015 with relatively small net growth by 2030 compared to current conditions. In Wayne County and Detroit, a net loss in jobs can be expected, not just a loss of job growth. The change in accessibility associated with a new bridge would create 1,800 new jobs in Wayne County, with a small number of these locating in Southwest Detroit near the I-94/Wyoming Avenue interchange in the vicinity of the Livernois-Junction Yard intermodal (truck/rail) terminal. Oakland County could stand to gain 900 jobs near Novi. The SEMCOG region could gain 3,350 jobs (including those noted above). All these jobs would come from outside Michigan. If replacement span of Ambassador Bridge is built, an increase in jobs during construction and bridge operations with resulting increase in taxes to help economy.
Land Use	Existing land use patterns are expected to continue with little change in the region. Expected losses of population and jobs in Wayne County and Detroit could lead to abandonment of some current land uses. If the Ambassador Bridge replacement span is built, it could result in the expansion for additional booths (i.e. proposed International Plaza).	If the Ambassador Bridge replacement span is built, it could result in the expansion for additional booths (i.e. proposed International Plaza). Existing land use patterns are expected to continue with little change in the region. Construction of the DRIC plaza will change the existing land use for almost 170 acres in Delray. Adjoining land uses may also change as a result. The possibility that a "Welcome Center" will be part of this project has been mentioned at several public meetings. It has been concluded that if a Welcome Center is to be considered in the future, it will be addressed as a separate entity.
Air Quality	Pollution from mobile sources is expected to decrease because of cleaner engines and fuels. The forecast loss of jobs may mean some polluting industries will close.	Pollution from mobile sources is expected to decrease because of cleaner engines and fuels. The forecast loss of jobs may mean some polluting industries will close. Sensitive receptors in the study area are not expected to be negatively impacted if development is properly located consistent with planning/zoning rules. Additional areas, particularly north of I-75 and near the Ambassador Bridge at Mexicantown, would benefit because of less truck traffic there.
Community Effects	Some housing rehabilitation can be expected to continue. Industrial/commercial uses will continue to be mixed with residential uses. Both uses may degrade as forecast loss in jobs and population over the next eight to ten years can be expected to result in property abandonment in spots.	Some housing rehabilitation can be expected to continue. Industrial/commercial uses will continue to be mixed with residential uses. Both uses may degrade as forecast loss in jobs and population over the next eight to ten years can be expected to result in property abandonment in spots. Project may spur land use and benefits, once implemented. Other indirect community effects of the Preferred Alternative, such as noise, air quality, land use, etc., are discussed throughout this table.
Noises/Vibrations	No perceptible increases in noise and vibrations are expected overall. Some improvement is expected in Mexicantown with completion of Ambassador Gateway Project in 2009. Blasts from nearby room-and-pillar salt mining will continue to cause vibrations at annoyance levels in the area.	No perceptible increases in noise and vibrations are expected overall. Some improvement is expected in Mexicantown with completion of Ambassador Gateway Project in 2009. Blasts from nearby room-and-pillar salt mining will continue to cause vibrations at annoyance levels in the area, but the expansion potential towards Delray is reduced. Because existing noise levels in the residential area north of I-75 exceed criteria, the project will bring noise-attenuating walls along I-75, where none exist now. This will benefit the nearby community. No vibrations impacts are expected.
Cultural Resources	Continuation of past trends expected with some older structures being abandoned. Potential exists in West Delray and in the area north of I-75 to protect the area's historical integrity and open an avenue to grant/loan programs for improving properties in historic districts identified in those two locations. If replacement span of Ambassador Bridge is built, it may impact the existing bridge, which is believed to be eligible for listing on the <i>National Register of Historic Places</i> .	Continuation of past trends expected with some older structures being abandoned. Potential exists in West Delray and in the area north of I-75 to protect the area's historical integrity and open an avenue to grant/loan programs for improving properties in historic districts identified in those two locations. A positive and, at the same time, possibly negative indirect effect is possible on aboveground cultural resource sites in the study area that are on or recommended eligible for listing on the National Register of Historic Places. While several of these would not be directly impacted by the DRIC, care must be taken that "ripple-wave" development in the area not create a negative indirect impact on them. If replacement span of Ambassador Bridge is built, it may impact the existing bridge, which is believed to be eligible for listing on the <i>National Register of Historic Places</i> .
Water Quality, Wetlands, Threatened and Endangered Species	Status quo is expected to be maintained, while recognizing some additional wetlands may form due to human activities at abandoned sites.	Recognizing no negative indirect effects are anticipated on wetlands, nor threatened and endangered species, some additional wetlands may form due to human activities. Further, government approvals of development that could be stimulated by building a new border crossing would avoid water quality impacts, ensuring proper treatment of water runoff/wastewater. Surface water runoff would decrease as there would be less total roofed/paved area.

Source: The Corradino Group of Michigan, Inc.

Table S-7
Summary of U.S. [Cumulative](#) Impacts
The No Build Condition Versus the Preferred Alternative
Detroit River International Crossing Study

Category	No Build	Preferred Alternative
Mobility	<p>Completion of the Ambassador Gateway Project, which will directly connect the Ambassador Bridge to I-75, will favorably alter circulation patterns in a large portion of the study area.</p> <p>Plaza improvements at the Blue Water Bridge will have negligible effects on the Detroit River crossings.</p> <p>Implementation of the Fort Street (M-85) reconstruction, the Fort Street bascule bridge and viaduct replacement will improve operations on Fort Street.</p> <p>If the Ambassador Bridge Enhancement project replaces the existing four-lane bridge with a new six-lane bridge there will be little change in mobility which would continue to be controlled by Huron Church Road capacity.</p>	<p>Completion of the Ambassador Gateway Project, which will directly connect the Ambassador Bridge to I-75, will favorably alter circulation patterns in a large portion of the study area.</p> <p>Plaza improvements at the Blue Water Bridge will have negligible effects on the Detroit River crossings.</p> <p>Implementation of the Fort Street (M-85) reconstruction, the Fort Street bascule bridge and viaduct replacement will improve operations on Fort Street.</p> <p>Negative effects could occur if induced development is not guided by proper government approvals. If properly guided, a mix of compatible uses and no congestion is foreseen.</p> <p>If the Ambassador Bridge Enhancement project replaces the existing four-lane bridge with a new six-lane bridge, it, in combination with the DRIC Preferred Alternative, would likely provide sufficient border crossing capacity for over 60 years.</p>
Land Use	<p>A continuation of past trends is expected, at best. Potential for population and employment decline in Detroit and Wayne County may lead to continued abandonment of land uses.</p> <p>Expansion of Marathon Plant will cause an increase in about 800 construction jobs and about 200 permanent jobs. Air pollution changes have been addressed by the Michigan Department of Environmental Quality.</p>	<p>A continuation of past trends is expected, at best. Potential for population and employment decline in Detroit and Wayne County may lead to continued abandonment of land uses.</p> <p>Expansion of Marathon Plant will cause an increase in about 800 construction jobs and about 200 permanent jobs. Air pollution changes have been addressed by the Michigan Department of Environmental Quality.</p> <p>Any negative land use change associated with "ripple-wave" development of the DRIC will likely be minimized by applying planning principles that exist in all communities to ensure they are compatible with neighborhood uses.</p> <p>Marathon Oil Company's expansion in Southwest Detroit, reconstruction of Fort Street by MDOT, when combined with the Preferred Alternative of DRIC and MDOT's Detroit International Freight Terminal Project, could provide positive impetus to change existing trends.</p>
Air Quality	<p>Pollution from mobile sources is expected to decrease. Continued loss of jobs and population throughout region over next eight to ten years could lead to closing of polluting industries.</p> <p>New or expanded industries are subjected to more stringent permit requirements for area point sources, such as the recent Marathon Oil Refinery expansion, and will be cleaner operating facilities.</p>	<p>Pollution from mobile sources is expected to decrease. Continued loss of jobs and population throughout region over next eight to ten years could lead to closing of polluting industries.</p> <p>Proper location of new development, consistent with existing planning/zoning rules, would also help control pollution as a cumulative effect of the DRIC project.</p> <p>New or expanded industries are subjected to more stringent permit requirements for area point sources, such as the recent Marathon Oil Refinery expansion, and will be cleaner operating facilities.</p>
Cultural Resources	<p>A continuation of past trends is expected with some older structures being abandoned.</p> <p>Historic districts identified as a result of DRIC studies could qualify for funds to improve properties in the districts.</p>	<p>A continuation of past trends is expected with some older structures being abandoned.</p> <p>Historic districts identified as a result of DRIC studies could qualify for funds to improve properties in the districts.</p> <p>Adverse impacts with new development stimulated by the DRIC Preferred Alternative will likely be prevented by applying local controls and proper planning. Fort Wayne will have increased visibility which could lead to positive benefits to the fort. Historic districts identified by the study could benefit from tax credits and other funds.</p>
Community Effects	<p>Communities are expected to be challenged as the continued slump in the economy will likely cause businesses and homes to be left vacant as jobs and related income are lost. Even so, some housing rehabilitation can be expected to continue.</p> <p>Reconstruction of Fort Street (M-85) and its bascule bridge and viaduct, plus the DIFT project, could stimulate some development in Southwest Detroit.</p>	<p>Communities are expected to be challenged as the continued slump in the economy will likely cause businesses and homes to be left vacant as jobs and related income are lost. Even so, some housing rehabilitation can be expected to continue.</p> <p>Reconstruction of Fort Street (M-85) and its bascule bridge and viaduct, plus the DIFT project, could stimulate some development in Southwest Detroit.</p> <p>A new crossing can be expected to stimulate some development. There are large and small tracts of land throughout the study area in locations compatible with industrial, logistics and transportation-related land uses. This re-use would minimize, if not totally avoid, negative impacts on community cohesion of such development.</p>
Noise	<p>No perceptible increases are expected, overall. Some change could occur in spots if the downturn in the economy causes continued abandonment of noise-generating industrial/commercial uses.</p> <p>Some decrease in noise in neighborhoods may result from the Gateway and DIFT projects.</p>	<p>Some decrease in noise in neighborhoods may result from the Gateway and DIFT projects.</p> <p>Traffic volumes and noise levels would increase if economic development conditions improve with a new crossing. Negative community impacts can be avoided with care by the developer/builder and government agencies in locating this development away from sensitive uses.</p>
Water Quality, Wetlands, Threatened and Endangered Species	<p>A continuation of past trends of challenges to meet water quality standards is expected. Some wetlands may develop incidental to human activity on abandoned sites.</p> <p>The City of Detroit has requested a permit to construct an additional tunnel extending into the Detroit River near the Preferred Crossing to increase sewage treatment plant discharge capacity. The city is also planning a combined sewer overflow facility to improve water quality. It will be near the Detroit River upriver from Fort Wayne.</p>	<p>A continuation of past trends of challenges to meet water quality standards is expected. Some wetlands may develop incidental to human activity on abandoned sites. Nonetheless, no negative wetlands and/or water quality impacts are foreseen. Some positive effects could occur if brownfield sites are remediated for new development.</p> <p>The City of Detroit has requested a permit to construct an additional tunnel extending into the Detroit River near the Preferred Crossing to increase sewage treatment plant discharge capacity. The city is also planning a combined sewer overflow facility to improve water quality. It will be near the Detroit River upriver from Fort Wayne.</p>

Source: The Corradino Group of Michigan, Inc.

In the region, indirect and cumulative traffic and air quality impacts are not expected to increase. The same is true of water quality, wetlands, and impacts on threatened and endangered species. At the regional level, no negative indirect and cumulative cultural resources impacts are foreseen provided local controls and proper planning are applied.

The DRIC project has the potential to respond in a positive way to past and expected future trends by:

- Building on the transportation and industrial strength of the study area; and,
- Making improvements to push unwanted truck traffic out of residential areas.

In addition to those items, MDOT, in partnership with FHWA, will fund eligible activities and otherwise cooperate with other government agencies and the private sector on a number of concepts by which enhancements may be made to the Delray area as it becomes the “host community” for the DRIC project. These concepts include public/private partnering in areas such as job training, small business development, improving and replacing housing stock, and other community enhancing amenities. These items are included in Section 4 of this FEIS, specifically, the Green Sheet: Project Mitigation Summary.

None of this potential is diminished by a new six-lane replacement Ambassador Bridge as it would not significantly reduce the projected traffic on the proposed DRIC crossing (see Table 3-30).

S.3.16.1 Transboundary Impacts

The Transboundary/Canadian impacts are summarized in Table S-8.

No Build Alternative

The No Build Alternative will be associated with continuing negative economic and land use trends throughout the Southeast Michigan/Windsor/Ontario region. More locally, community effects will be felt as vehicular and pedestrian movements along Huron Church Road, which serves the Ambassador Bridge, will continue to be negatively affected by congestion. Likewise, noise is likely to increase as traffic spills from Huron Church Road into surrounding neighborhoods.

What are Transboundary Impacts?

These are impacts that are “reasonably foreseeable” that occur across a border as a result of proposed “actions” by federal agencies in the United States.

Table S-8
Summary of U.S. Transboundary/Canadian Impacts
The No Build Versus Preferred Alternative
Detroit River International Crossing Study

Category	No Build in Canada	Preferred Alternative in Canada
Mobility	<p>Acceleration of negative consequences is expected as congestion in the Huron Church Road corridor causes spillover traffic to disrupt surrounding communities.</p> <p>If the Ambassador Bridge Enhancement project replaces the existing four-lane bridge with a replacement six-lane bridge there will be little change in mobility which would continue to be controlled by Huron Church Road capacity.</p>	<p>The Preferred Alternative will improve overall traffic operations for Huron Church Road and the surrounding area without need for local infrastructure improvements. The new crossing and associated access road would reduce by almost 30 percent the amount of international truck traffic in the Huron Church Road corridor north of E.C. Row Expressway.</p> <p>If the Ambassador Bridge Enhancement project replaces the existing four-lane bridge with a replacement six-lane bridge there will be little change from its construction on Huron Church Road traffic. The change on Huron Church will come from the DRIC, not a six-lane Ambassador Bridge (see Table 3-30).</p>
Economic Impacts	A continuation of past trends due to the economic downturn of auto and related industries is expected.	Changes in accessibility would benefit the Windsor/Essex County area. These changes would influence development as guided by local governing bodies.
Land Use	A continuation of past trends is expected but with acceleration of negative consequences as congestion in the Huron Church Road corridor causes spillover traffic to disrupt surrounding communities.	Land use conversion to respond to increased economic development would be expected with improved accessibility in Windsor/Essex County. Local municipalities will determine the nature and extent of such development. New green space will be a direct result of the project
Air Quality	Changes in engines and fuels are expected to, at least, partially offset possible air pollution increases in communities surrounding Huron Church Road that will realize increased spillover traffic from a congested corridor to the Ambassador Bridge.	Increases in particulate matter are forecast in the vicinity of the plaza.
Cultural Resources	No impacts to designated heritage features. Possible future development in Brighton Beach Industrial Park could impact (displace or disrupt) one cultural landscape.	No impact to designated heritage features. Potential displacement/disruption to cultural landscape in Brighton Beach.
Community Effects	<p>Pedestrian movements along/across Huron Church Road, where schools, senior housing, residential neighborhoods, shopping and a host of other community attractions exist, will be impacted by the increased traffic/congestion.</p> <p>Noise increases are expected in sensitive areas as spillover traffic from Huron Church Road infiltrates surrounding communities.</p>	<p>Plaza traffic is not expected to cause high noise impacts. Homes are usually 1,000 feet or more from the plaza. Analysis is ongoing to determine noise mitigation.</p> <p>The areas of south and west Windsor and LaSalle would benefit from having international traffic removed from local streets.</p> <p>The new access road would have an aesthetic impact on the surrounding community, increasing green space with the opportunity for additional parkland and recreational features and pathway connectivity.</p>
Water Quality, Wetlands, Threatened and Endangered Species	Continuation of past trends is expected, including positive efforts to protect wetlands and threatened and endangered species. Also, unwanted and often unexpected pollution impacts on water bodies as associated with industrial operations are to be expected.	<p>Continuation of past trends is expected, including positive efforts to protect threatened and endangered species. Also, unwanted and often unexpected pollution impacts on water bodies as associated with industrial operations are to be expected.</p> <p>Plaza B1/Crossing X-10B is expected to have a moderate impact. Crossing X-10 and Plaza B1 may disturb designated natural heritage features because of its close proximity to Black Oak Woods Area of Natural and Scientific Interest/Environmentally Sensitive Area.</p>
Geotechnical	Brine well development in the crossing corridors stopped years ago and is not expected to resume.	Crossing X-10B is cleared from risks of deep brine wells.

Source: The Corradino Group of Michigan, Inc. and URS Canada.

Preferred Alternative

The impacts in Canada associated with the action on the Preferred Alternative include improved accessibility in Windsor/Essex County thereby influencing increased development. Locally, improved traffic operations on Huron Church Road and in the surrounding areas are expected without the need for additional infrastructure improvements there. The Preferred Alternative would reduce by almost 30 percent the amount of international traffic in the Huron Church Road corridor north of E. C. Row Expressway. On the other hand, increases in particulate matter are forecast in the vicinity of the plaza. But, plaza traffic is not expected to cause high noise impacts. Two features of heritage significance will be affected. Likewise, the Preferred Alternative may disturb designated natural heritage features because of its close proximity to Black Oak Woods Area of Natural and Scientific Interest/Environmentally Sensitive Area.

S.3.17 Safety and Security

No Build Alternative

A continuation of past trends in the Delray area is expected under the No Build Alternative. This is not expected to be positive based on statistics on emergency services responses and crime.

Preferred Alternative

Some change is expected in response time by emergency services once the project is completed. Coordination with such services will be continuous during project design and construction to minimize any negative effects. Coordination with the Detroit Police Department has provided a mechanism using signal preemption to maintain emergency response times during and after construction of the Preferred Alternative.

The GSA has submitted its Prospectus that defines the Port of Entry (i.e. plaza) features. It will be submitted to Congress to secure funding in the fiscal year 2010 budget. Specific security measures for the crossing system and surrounding area will be defined by the Department of Homeland Security/Customs and Border Protection during the design phase of the project.

S.3.18 Soil/Geological Resources

No Build Alternative

The No Build Alternative could see expansion of room-and-pillar mining of salt at depths of about 1,000 feet below the ground surface on the western edge of Delray. This is known through communications with the mining operators.

Preferred Alternative

The Preferred Alternative in the U.S. and Canada is clear of the risk of sinkholes forming. The Border Partnership will take steps, in cooperation with other agencies and land owners, to limit extraction of mineral resources in a prescribed area around the new bridge and plaza to protect them. The cost to limit this mineral extraction is included in the Project estimate.

No issues have come to light that would require special construction techniques for the plaza area. Investigations continue related to the interchange; however, the presence of the existing I-75 mainline, bridges and service drives do not give reason to believe construction will involve unusual techniques.

S.3.19 Permits

No Build Alternative

Permits would not be needed under the No Build Alternative except that implementation of the Ambassador Bridge replacement span would require permit approval.

Preferred Alternative

A list of permits needed for implementing the Preferred Alternative is in Table 3-32 of this FEIS. Part 303 and Wetland Findings are not needed. Information has been submitted to the Federal Aviation Administration regarding the main bridge tower heights. Issuance of the Part 301 Permit by MDEQ ensures consistency with the Michigan Coastal Zone Management Plan. An updated draft Memorandum of Agreement on historic resources is in Appendix E. It will be signed by the time the ROD is signed.

S.3.20 Energy

No Build Alternative

If a replacement span of the Ambassador Bridge were built, it would require a large amount of energy and materials to be used. Apart from building a replacement span, the No Build Alternative would not require an increase in the use of energy and materials over time. At the point that border crossing capacity is reached, delay and idling at the border would increase and worsen over time if a new crossing is not built. Congestion means increased energy use.

Preferred Alternative

In the short-term, substantial energy will be used to construct the Preferred Alternative, but it will provide for substantial reductions in energy use in the future by avoiding the congestion that would occur without the project, and by providing a greater incentive to join the FAST and NEXUS programs which facilitate cross border movements by low-risk travelers and pre-approved, low-risk truck movements (see Section 1.2.12).

S.3.21 Cost

No Build Alternative

The cost exposure of the No Build Alternative is the \$33 million authorized to prepare the DEIS, FEIS and ROD. This includes the cost of the geotechnical investigations (drilling) that were part of this study.

Preferred Alternative

These same costs to prepare the DEIS, FEIS and ROD apply to the Preferred Alternative.

The Preferred Alternative has been included in SEMCOG's fiscally-constrained *Regional Transportation Plan* and will be added to its *Transportation Improvement Program* (TIP) for 2009 prior to the signing of the Record of Decision.

The U.S. cost of the combined bridge, plaza, interchange, utilities and associated property acquisition (including purchase of mineral rights) is placed at \$1.847 billion, with a cable-stay bridge, and \$1.850 billion, with a suspension bridge. These costs are somewhat higher than the itemized costs shown in Table S-9 because they include an allowance for the risk of potential cost increases.

Table S-9
Estimate of Construction and Related Costs
(Base Cost in Millions of 2008 U.S. Dollars
with Inflation Then Added)^a
Detroit River International Crossing Study

	<i>Preferred</i>	
	<i>Cable-stay Bridge</i>	<i>Suspension Bridge</i>
Construction Costs^b		
Detroit River Bridge (U.S. Cost Only)	\$395	\$399
Toll and Inspection Plaza Site Work	\$57	\$57
Interchange and Local Roadways	\$190	\$190
Enhancements ^c	\$21	\$21
Utilities ^d	\$157	\$157
Management Reserve (5%)	\$40	\$40
Subtotal – Construction Costs	\$860	\$864
Design/Construction Engineering^e		
Final Design and Permits (10%)	\$80	\$80
Construction Engineering (10%)	\$80	\$80
Subtotal – Design/Construction	\$160	\$160
Inflation (rounded)^a	\$172	\$173
Property Acquisition/Remediation^f		
Property Acquisition ^g	\$365	\$365
Remediation	\$17	\$17
Inflation ROW	\$35	\$35
Subtotal – Property	\$418	\$418
GSA Plaza Costs	\$200	\$200
Grand Total Cost (rounded)	\$1,809	\$1,814

^a Inflation costs weighted using cash flow year of expenditure for a typical alternative, assuming completion of the entire project in 2013.

^b Construction costs include design (15%) and construction (10%) contingencies, maintenance of traffic (5%) and mobilization (10%) in 2008\$.

^c Community enhancements from "Green Sheet" as explained in Sections 4.21 and 4.22.

^d Utility costs include both public and private relocation costs.

^e Final design and construction engineering costs are 7.5% of construction subtotal and utilities each.

^f Includes cost to limit extracting minerals in a key area.

^g Property acquisition costs include demolition and all real estate contingencies.

General Note – Contingency format per FHWA Major Project Estimating Guidance

Source: The Corradino Group of Michigan, Inc. and Parsons Transportation Group

S.3.22 Governance

The Detroit River International Crossing Partnership, composed of the Federal Highway Administration, the Michigan Department of Transportation, Transport Canada, and the Ontario Ministry of Transportation, is committed to providing an end-to-end solution for additional border crossing capacity in southwest Ontario-southeast Michigan that will be publicly owned in both countries.

The State of Michigan will own the U.S. portion of the bridge and the U.S. highway interchange; the U.S. inspection plaza will be owned by the State of Michigan and leased to the U.S. Federal Government; the Government of Canada will own the Canadian portion of the bridge and Canadian inspection plaza; and the Province of Ontario will own the Canadian access road.

The preferred delivery mechanism for the bridge is a public-private partnership in the form of a long-term concession agreement which will seek to maximize private sector participation and financing to avoid the use of taxpayer dollars. The intent is for the bridge to be financially self-sustaining from a reasonable toll charged to its users. It is envisioned that the owners will form a joint venture to oversee the concession contract with the private sector. The U.S. and Canadian governments are committed to private sector involvement for any combination of the design, financing, construction, operations, and/or maintenance of the bridge crossing. The Partnership will provide oversight of any private sector participation to ensure a safe and secure international border crossing.

S.3.23 Short-term Use of Environment

No Build Alternative

The No Build Alternative without a replacement span of the Ambassador Bridge will not involve direct use of resources. Past trends of residential and commercial decline and industrial encroachment throughout the area would be expected with this condition. If the replacement span were constructed, there would be short-term use of resources during construction such as energy, minerals, materials and petroleum resources. The short-term impacts include commitment of additional land for transportation uses and consumption of some mineral and petroleum resources during construction. The long-term effects of the proposed replacement span of the Ambassador Bridge are considered consistent with the maintenance and enhancement of the long-term productivity of the local and regional area.

Preferred Alternative

As with building a replacement span of the Ambassador Bridge, short-term impacts and use of resources by the Preferred Alternative would be consistent with the maintenance and enhancement of long-term productivity for the local area (Southeast Michigan), the State of Michigan, the United States and Canada. The short-term impacts include commitment of additional land for transportation uses and consumption of some mineral and petroleum resources during construction. The long-term effects of the Preferred Alternative are considered consistent with the maintenance and enhancement of the long-term productivity of the local and regional area.

S.3.24 Irreversible and Irretrievable Commitment of Resources

No Build Alternative

The No Build Alternative will result in MDOT's spending \$33 million to prepare the DRIC DEIS, FEIS and ROD.

If a replacement span of the Ambassador Bridge is built, considerable amounts of fossil fuels, labor and construction materials will be used. If a replacement span is not built, a continuation of past trends in the use of these resources is expected.

Preferred Alternative

Implementation of the Preferred Alternative will involve the commitment of a range of natural, physical, human, and fiscal resources. Land that would be used for expansion/construction of the proposed new border crossing system is an irreversible commitment.

Considerable amounts of fossil fuels and construction materials would be used for this project. Large amounts of labor and natural resources would be used to make construction materials. Their use would not have an adverse effect upon the supply.

Construction of the Preferred Alternative will require a substantial expenditure of state, federal, local and private funds. The commitment of these resources would result in improved border crossing system redundancy, providing improved efficiency, safety, and time savings. These are expected to outweigh the commitment of these resources.

**Table S-10
Summary of Impacts and Benefits
Detroit River International Crossing Study**

Issue	Alternative		No Build	Preferred Alternative
	Description/Units			
Environmental Justice	Impacts/Benefits	<ul style="list-style-type: none"> Trends indicate increased population of Delray by minority and low-income people. 	<ul style="list-style-type: none"> The proposed project will have a disproportionately high and adverse effect on minority and low-income population groups in the study area. The potential impacts include: <ul style="list-style-type: none"> 257 households would have to relocate. 685 jobs would be relocated from the Delray area. Some are held by minorities and low-income people. This is particularly true for those businesses taking advantage of the Empowerment Zone, which allows them to gain tax credits when they employ people from the local area. <i>National Register</i> recommended eligible Kovacs Bar and the St. Paul AME Church will be removed. The CHASS Center would not be relocated. It serves the needy and low-income population with little access to an automobile. Five places of worship would be lost. The South Rademacher Community Recreation Center, although closed by the City of Detroit, would be eliminated. So, would both South Rademacher Park and one small playlot. Normal traffic patterns would be disrupted and travel would be more difficult because interchanges with I-75 will be closed/modified and three of seven existing streets crossing I-75 would be closed. Two bus lines would be rerouted. The population affected has relatively low access to an automobile. Five pedestrian crossings of I-75 will exist which is the same number with the No Build Alternative. Potential disruptions to community cohesion, possible isolation and loss of economic vitality. Noise levels will reduce along the north side of I-75 with the project's three noise walls. Community enhancements to offset impacts are noted in Sections 4.2 and 4.22 and on the Green Sheet at the end of Section 4. 	
Relocations	Residential Units	Occupied	0	257
		Vacant	0	5
	Residential Population	Number	0	493 ^a
	Business Units	Active	0	43
		Vacant	0	25
	Estimated Employees	Number	0	685 ^a
	Other Land Uses Affected	Schools	0	0
		Senior Service Facilities	0	0
		City/Government Facilities	0	3
		Places of Worship	0	5
Medical Facilities		0	0	
State/Federal Government Facilities		0	1	
	Community Services	0	0	
Land Use		<ul style="list-style-type: none"> Trends indicate continued industrialization at cost of remaining residential area that now exists. 	<ul style="list-style-type: none"> Delray has the potential to capitalize on its strategic location with revitalization of the areas adjacent to the new crossing. Shift of 160 acres of mixed residential, industrial and vacant to government use. 	
			Single-Logit Model	Nested-Logit Model
Traffic	2035 AM Peak (two-way)	Ambassador Bridge: 2,901	DRIC: 2,031 59%	DRIC: 1,809 48%
			AMB: 1,407 41%	AMB: 1,977 52%
	2035 Midday Peak (two-way)	Ambassador Bridge: 2,578	DRIC: 1,791 59%	DRIC: 1,571 48%
			AMB: 1,225 41%	AMB: 1,704 52%
	2035 PM Peak (two-way)	Ambassador Bridge: 3,632	DRIC: 2,759 63%	DRIC: 2,273 51%
			AMB: 1,646 37%	AMB: 2,224 49%
	I-75 Interchanges	<ul style="list-style-type: none"> No effect except the opening of the Ambassador Gateway Project connecting the Ambassador Bridge directly to I-75. 	<ul style="list-style-type: none"> Livernois-Dragon interchange removed. Split interchange at Clark. Parts of the lost access will be replaced with new ramps in new locations. 	
I-75 Cross Streets	<ul style="list-style-type: none"> None affected. 	<ul style="list-style-type: none"> Three of seven removed. 		
Pedestrian Crossings	<ul style="list-style-type: none"> Reconnection of Bagley Street with Ambassador Gateway Project pedestrian bridge over I-75. 	<ul style="list-style-type: none"> Five pedestrian crossings of I-75 will exist as with the No Build Alternative. 		
Transit	<ul style="list-style-type: none"> Continuation of past trends, which include higher fares, reduced service. 	<ul style="list-style-type: none"> Continuation of past trends, which include higher fares, reduced service. Consultation will continue with DDOT regarding Route 11-Junction and Route 30-Livernois. Alternative routings are available for each. 		
Jobs	State	<ul style="list-style-type: none"> Michigan would not attract 25,000 jobs by 2035. 	<ul style="list-style-type: none"> Michigan could attract 25,000 jobs by 2035, mostly in manufacturing and related sectors. 	
	Region	<ul style="list-style-type: none"> Continued decline in Michigan economy limiting growth. 	<ul style="list-style-type: none"> Continued decline in Michigan economy limiting growth. Possible gain of 3,352 jobs due to improved border crossing access alone. 	
	Construction	<ul style="list-style-type: none"> Continued decline in economy limiting growth. This could be offset if replacement span of Ambassador Bridge is built. 	<ul style="list-style-type: none"> Continued decline in economy limiting growth. Gain of almost 13,000 direct jobs during construction. Gain of more than 33,000 indirect jobs during construction. 	
	Bridge Operations	<ul style="list-style-type: none"> Possible increase if replacement span of Ambassador Bridge is built. 	<ul style="list-style-type: none"> 775 permanent jobs at new crossing: 400 at Customs; 200 brokers; 70 at tolls; 20 at maintenance; 75 at duty free; and, 10 in administration. 	
Tax Base	Tax Revenue	<ul style="list-style-type: none"> Continued decline with loss of jobs/income taxes and loss in real estate values. Possible gain if replacement span of Ambassador Bridge is built in income and sales taxes due to new construction jobs and expenditures, respectively. 	<ul style="list-style-type: none"> Continued decline with loss of jobs/income taxes and loss in real estate values. Loss of \$500,000 to \$600,000 in annual property taxes to City of Detroit. This loss does not assume any offset associated with those relocated to areas within Detroit. Gain of income and sales taxes due to new construction jobs and construction expenditures, respectively. Potential gain of \$500 million in 2035 if 25,000 jobs are attracted. 	
Air Quality	Pollution Trends	<ul style="list-style-type: none"> Measures taken by EPA will continue to improve air quality. Continued decline in economy may have unintended consequences of closing polluting plants/industries. Air quality in Mexicantown would improve with completion of Gateway Project. 	<ul style="list-style-type: none"> Measures taken by EPA will continue to improve air quality. Continued decline in economy may have unintended consequences of closing polluting plants/industries. No violation of carbon monoxide and particulate matter hot-spot standards. Mobile Source Air Toxics are split between new bridge and Ambassador Bridge. 	

^a Developed by use of U.S. Census data.

Table S-10 (continued)
Summary of Impacts and Benefits
Detroit River International Crossing Study

Issue	Alternative	No Build	Preferred Alternative
	Description/Units		
Noise	Plaza and Crossing	<ul style="list-style-type: none"> No perceptible increases. 	<ul style="list-style-type: none"> No negative effect on sensitive receivers.
	Interchanges/I-75	<ul style="list-style-type: none"> Existing noise levels along I-75 exceed criteria. No perceptible increases in future. Some improvement near Mexicantown and Fort Street (M-85) with opening in 2009 of Ambassador Gateway Project at Ambassador Bridge. 	<ul style="list-style-type: none"> Reasonable and feasible walls have been determined for: <ul style="list-style-type: none"> Green to Rademacher – 1,820 feet East of Dragoon to East of Campbell – 1,488 feet East of Campbell to Clark – 2,234 feet Security walls and buffer area around the plaza will provide a noise reduction benefit to nearby properties.
Wetlands		<ul style="list-style-type: none"> Status quo maintained while recognizing additional wetlands may form due to human activities at abandoned sites. 	<ul style="list-style-type: none"> Status quo maintained while recognizing additional wetlands may form due to human activities at abandoned sites.
Threatened and Endangered Species		<ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> No impacts.
Cultural Resources	Aboveground	<ul style="list-style-type: none"> Continuation of past trends with some older structures being abandoned and, potentially, destroyed. 	<ul style="list-style-type: none"> Continuation of past trends with some older structures being abandoned and, potentially, destroyed. 4(f) impacts to two cultural sites – Kovacs Bar and St. Paul AME Church. Improve visibility of and access to Fort Wayne could improve visitation.
	Archaeological	<ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> No adverse effects on prehistoric archaeological sites. Impact likely to two historic sites recommended for <i>National Register</i>. Draft Memorandum of Agreement developed with the State Historic Preservation Office for archaeological sites.
Parkland		<ul style="list-style-type: none"> Continuation of past trends with some decline possible as ability to preserve existing facilities is negatively affected by the economic decline. 	<ul style="list-style-type: none"> Continuation of past trends with some decline possible as ability to preserve existing facilities is negatively affected by the economic decline. 4(f) impacts to three recreational resources: <ul style="list-style-type: none"> South Rademacher Park South Rademacher Center Post-Jefferson Playlot
Visual Conditions		<ul style="list-style-type: none"> Visual impacts if replacement span of Ambassador Bridge is built. Otherwise, no change in visual conditions. 	<ul style="list-style-type: none"> Visual impacts if replacement span of Ambassador Bridge is built. New bridge, plaza, I-75 interchange added to visual landscape. Delray visual landscape will be altered. Context Sensitive Solutions work during design phase may cause positive change.
Lighting		<ul style="list-style-type: none"> Continuation of past trends. Street lighting is often in poor condition. Replacement span of Ambassador Bridge could introduce new lighting if it is built. 	<ul style="list-style-type: none"> Plaza would affect the area west of Post Street. Fort Wayne may experience increased night lighting. Consultation on bridge lighting necessary during design phase to balance the navigational lighting needs of the Federal Aviation Administration, and U.S. Coast Guard with the U.S. Fish and Wildlife Service, the latter in regards to possible avian impacts at the new bridge. Replacement span of Ambassador Bridge could introduce new lighting if it is built.
Contaminated Sites		<ul style="list-style-type: none"> Continuation of past trends with cleanup when abandoned sites are reused. 	<ul style="list-style-type: none"> 23 contaminated sites, rated medium or high in pollutants, would be acquired with some remediation necessary.
Indirect/Cumulative Impacts		Refer to Tables S-6 and S-7	Refer to Tables S-6 and S-7
Transboundary Impacts		Refer to Table S-8	Refer to Table S-8
Safety and Security		<ul style="list-style-type: none"> Continuation of past trends. Crime is high in Delray. 	<ul style="list-style-type: none"> Compliance needed with federal and state homeland security provisions. Presence of federal and state homeland security forces, plus lighting and activity of new crossing, could improve safety and security of Delray. Redundancy provides for border security and functions.
Soil/Geologic Resources (Salt)		<ul style="list-style-type: none"> Expansion of room-and-pillar salt mining is possible along the west edge of Delray. 	<ul style="list-style-type: none"> No brine well or other geologic restrictions to crossing system in U.S. and Canada. Mineral extraction would be limited to protect the bridge and plaza area at a cost of \$1 million. Additional plaza security measures will be developed by the Department of Homeland Security/ Customs and Border Protection during the design phase.
Permits		<ul style="list-style-type: none"> None required without replacement span. Many permits needed with replacement span but not a Presidential Permit. 	<ul style="list-style-type: none"> All needed permits would be secured following the Record of Decision.
Energy		<ul style="list-style-type: none"> If the replacement span of the Ambassador Bridge is built, it will require use of a large amount of energy and materials. Continuation of past trends with improvements in energy use only as new technology provides. 	<ul style="list-style-type: none"> Construction will require use of large amount of energy and materials. Project would be built to minimize long-term energy use. Efficiencies in plaza design and operation would contribute to minimizing long-term energy costs, as will redundancy during incidents or heavy congestion.
Cost ^a		<ul style="list-style-type: none"> Expenditure limited to \$33 million to prepare DEIS and FEIS, which includes the geotechnical investigation program. 	<ul style="list-style-type: none"> Expenditure includes \$33 million to prepare DEIS and FEIS, which includes the geotechnical investigation program. Total cost for interchange, plaza and U.S. portion of bridge: <ul style="list-style-type: none"> Cable-stay bridge: \$1.847 billion Suspension bridge: \$1.850 billion
Governance		<ul style="list-style-type: none"> State government to continue pursuing legislative agenda formed by the Border Partnership to take advantage of creative ways to implement transportation projects. 	<ul style="list-style-type: none"> The Detroit River International Crossing Partnership, composed of the Federal Highway Administration, the Michigan Department of Transportation, Transport Canada, and the Ontario Ministry of Transportation, is committed to providing an end-to-end solution for additional border crossing capacity in southwest Ontario-southeast Michigan that will be publicly owned in both countries. The State of Michigan will own the U.S. portion of the bridge and the U.S. highway interchange; the U.S. inspection plaza will be owned by the State of Michigan and leased to the U.S. Federal Government; the Government of Canada will own the Canadian portion of the bridge and Canadian inspection plaza; and the Province of Ontario will own the Canadian access road. The preferred delivery mechanism for the bridge is a public-private partnership in the form of a long-term concession agreement which will seek to maximize private sector participation and financing to avoid the use of taxpayer dollars. The intent is for the bridge to be financially self-sustaining from a reasonable toll charged to its users. It is envisioned that the owners will form a joint venture to oversee the concession contract with the private sector. The U.S. and Canadian governments are committed to private sector involvement for any combination of the design, financing, construction, operations, and/or maintenance of the bridge crossing. The Partnership will provide oversight of any private sector participation to ensure a safe and secure international border crossing.

^a Cost in millions 2008 dollars.

^b Cable-stay bridge cost is shown first; suspension bridge cost is shown second.

Source: The Corradino Group of Michigan, Inc.