

Welcome to the Second Public Information Open House

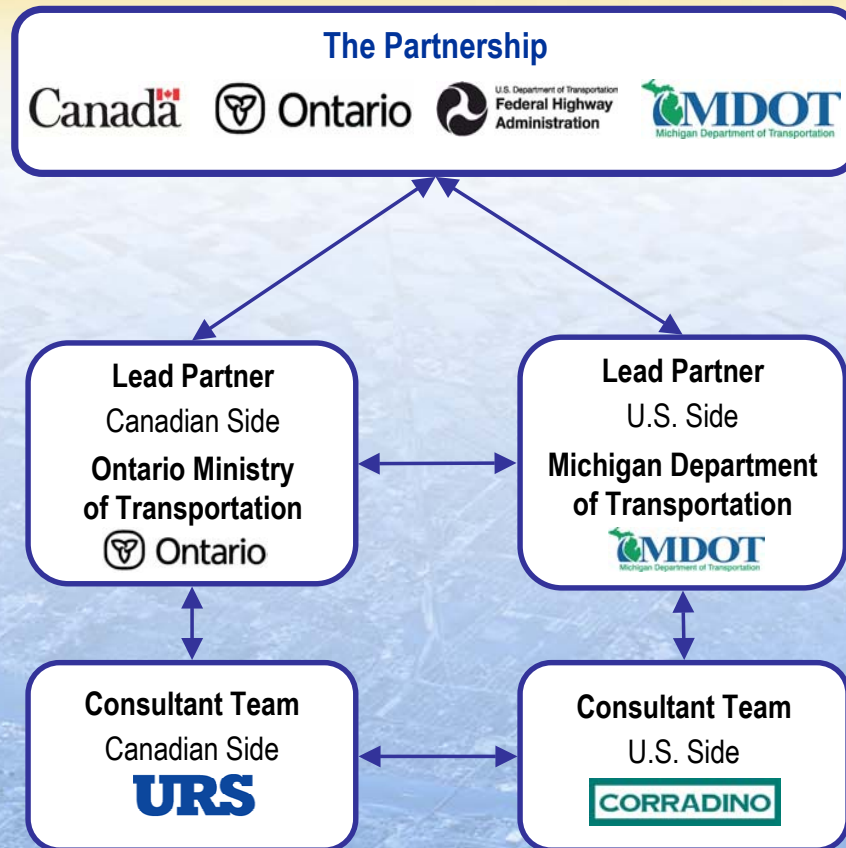
for the

DETROIT RIVER INTERNATIONAL CROSSING E N V I R O N M E N T A L A S S E S S M E N T

November 29, 30 & December 1, 2005

>> Please Sign In <<

Members of the Project Team are available to discuss any questions that you may have.



The Partnership representing the governments of Canada, the United States, Ontario and Michigan is moving forward with the Environmental Assessment (EA) phase of the Detroit River International Crossing (DRIC) project to improve traffic flow and trade movement at the Windsor-Detroit border.

The Ontario Ministry of Transportation (MTO) is leading the Canadian work program in coordination with Transport Canada. The Michigan Department of Transportation (MDOT), in coordination with the U.S. Federal Highways Administration, is leading the U.S. work program.

URS Canada Inc. has been retained to assist MTO in undertaking the route planning and environmental assessment in accordance with the Ontario Environmental Assessment Act (OEA) and Canadian Environmental Assessment Act (CEAA). MDOT has also retained a consultant team to undertake the U.S. route planning and environmental impact study in accordance with the requirements of the National Environmental Policy Act (NEPA).

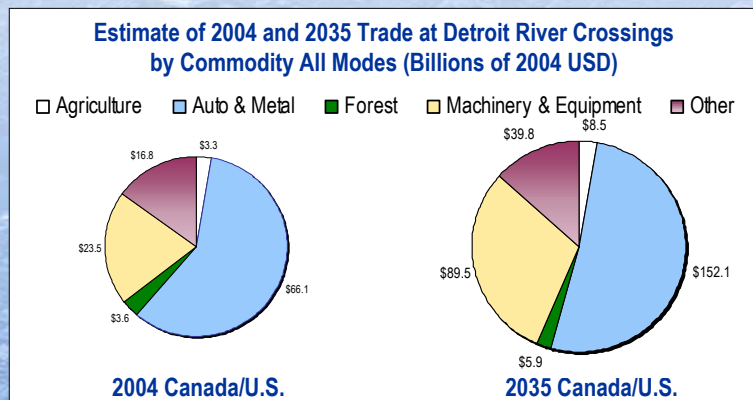
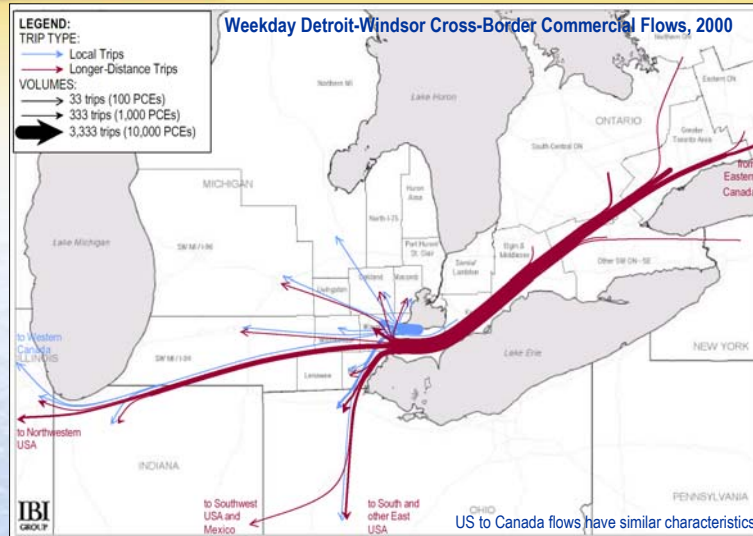
Purpose of the DRIC Project

- The purpose of a new or expanded Detroit River crossing with connections to the freeway systems in Ontario and Michigan is to provide for the safe, efficient and secure movement of people and goods across the Canadian-U.S. border in the Detroit River area to support the economies of Ontario, Michigan, Canada and the U.S.
- In order to meet the purpose, this study must address the following regional transportation and mobility needs:
 - Provide new border crossing capacity to meet increased long-term travel demand;
 - Improve system connectivity to enhance the continuous flow of people and goods;
 - Improve operations and processing capabilities at the border; and
 - Provide reasonable and secure crossing options (i.e. network redundancy)
- Given the importance of this trade corridor to the local, regional and national economies and recognizing the negative effects associated with poor traffic operations and congestion, the partnering governments must take all reasonable steps to reduce the likelihood of disruption to transportation service in this corridor.

The DRIC Study will:

- Coordinate the U.S. and Canadian work programs
- Investigate the engineering, social, economic, cultural and natural environment attributes of route and crossing alternatives
- Publicly present the assessment of direct and indirect impacts of the alternatives for public review
- Incorporate public and agency input in decision-making and development of mitigation

Windsor-Detroit: A Vital Link



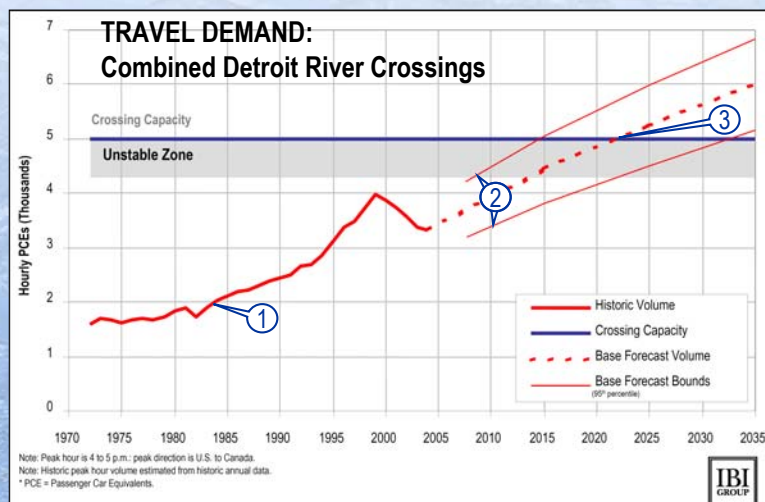
- Approximately 28% of Canada-U.S. surface trade passes through Windsor-Detroit
- Over 80% of all goods crossing the Detroit River are carried by truck
- 50% of truck traffic and 90% of car traffic crossing the border is generated locally (i.e. Windsor, Essex/Detroit)
- The corridor is significant to the economies of two nations
- Given the importance of this trade corridor to the economies of both nations, the partnering governments must take all reasonable steps to reduce the likelihood of disruption to transportation service in this corridor.

Windsor-Detroit: Future Capacity Needs

The current border crossings and associated connections are nearing capacity. Within 10 to 15 years, the border crossings in Windsor and Detroit will likely suffer from poor operations and unreliable crossing times.

Crossing	Year Capacity Reached				
	US Road Access	US Border Processing	Bridge / Tunnel	CAN Border Processing	CAN Road Access
Ambassador Bridge	> 30 years	5 to 10 years	10 to 15 years	5 to 10 years	5 to 10 years
Detroit-Windsor Tunnel	0 to 5 years	5 to 10 years	30 years*	5 to 10 years	5 to 10 years

* If no improvements are made at the Detroit River there would be some diversion of car traffic from the Ambassador Bridge to the Detroit-Windsor Tunnel. Diversion of car traffic may move the timeframe that capacity is reached to between 25 and 30 years. Physical restrictions of the tunnel limit diversion of most types of trucks to the Detroit-Windsor Tunnel.



- Historically, traffic volumes crossing the tunnel have grown over the past 30 years at an average compound rate of 2.0% per year;
- The high and low forecast bounds that form an envelope around the Base Forecast line represent the range of uncertainty in future traffic growth. The envelope is based on the historic variation in traffic;
- Based on an average compound growth rate of 1.8% per year, the Detroit-Windsor Crossings are expected to collectively reach capacity in 10 to 15 years.

Consultation activities will generally be tied to the following key milestones:

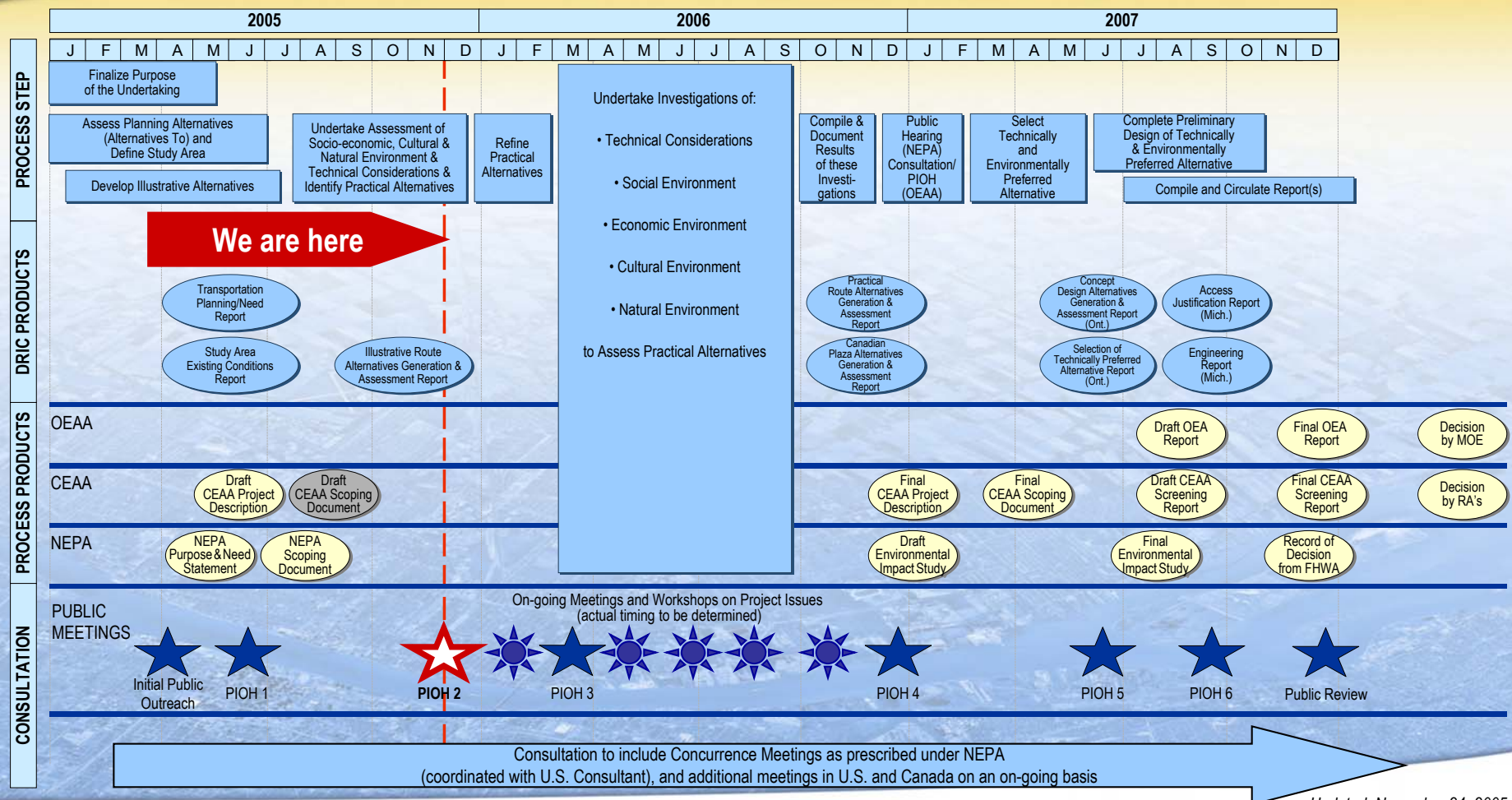
Study Area Features, Opportunities & Constraints	April '05	Initial Public Outreach
Initial Set of Crossing Alternatives, Plaza Locations & Connecting Routes in Canada and the U.S.	June '05	PIOH1
Final Set of Alternatives	Nov./Dec. '05	PIOH2
Specific Crossing, Plaza and Access Road Options	March '06	PIOH3
Results of Social, Economic, Environmental and Engineering Assessments	December '06	PIOH4
Preferred Crossing Location, Plaza Locations & Connecting Routes in Canada and the U.S.	Spring '07	PIOH5
Finalize Engineering and Mitigation Measures	Summer '07	PIOH6
Document Study and Submit for Approvals	End of '07	Public Review

We are here

In addition, other consultation activities will be held throughout the project. Join the project contact list or visit the project website to learn more about upcoming activities.

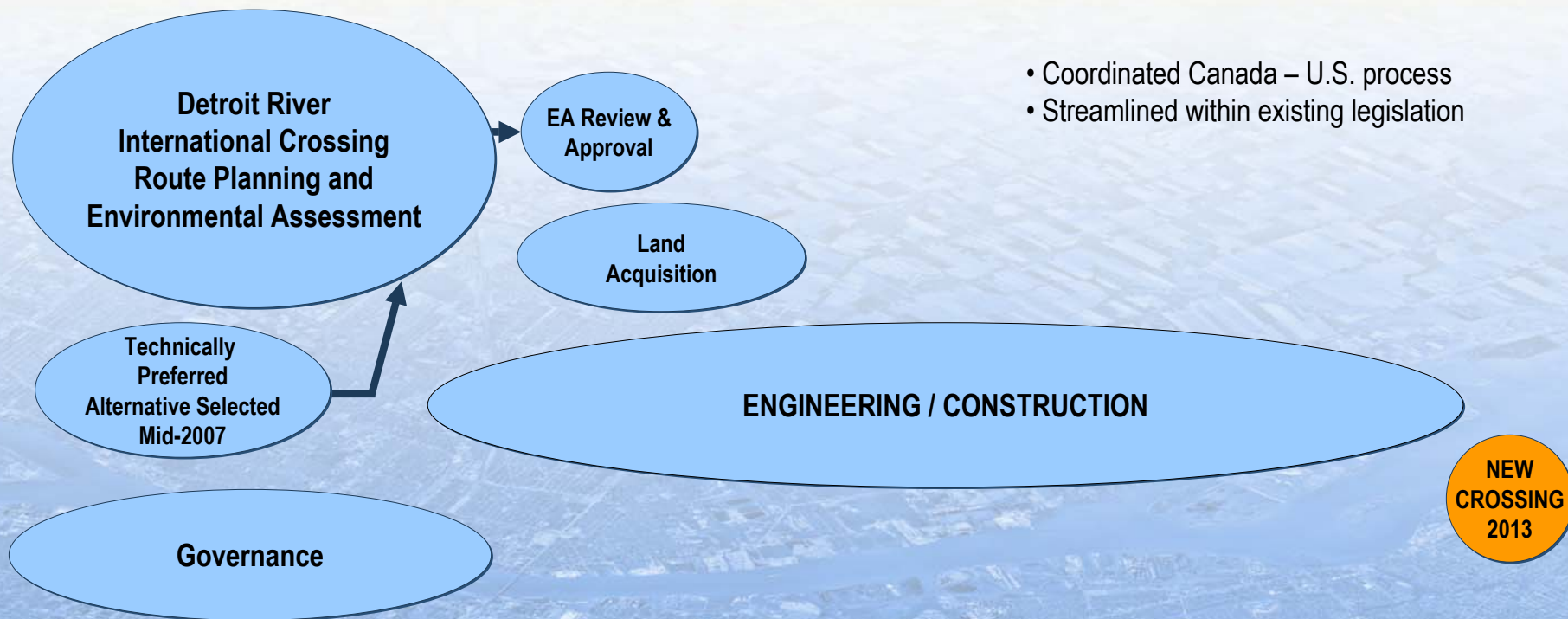
Study Process Schedule

The activities and studies for the DRIC project will be conducted in accordance with the requirements of approval agencies in Canada and the U.S.



Updated: November 24, 2005

2005	2006	2007	2008	2009	2010	2011	2012	2013
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Public Information Open House #1

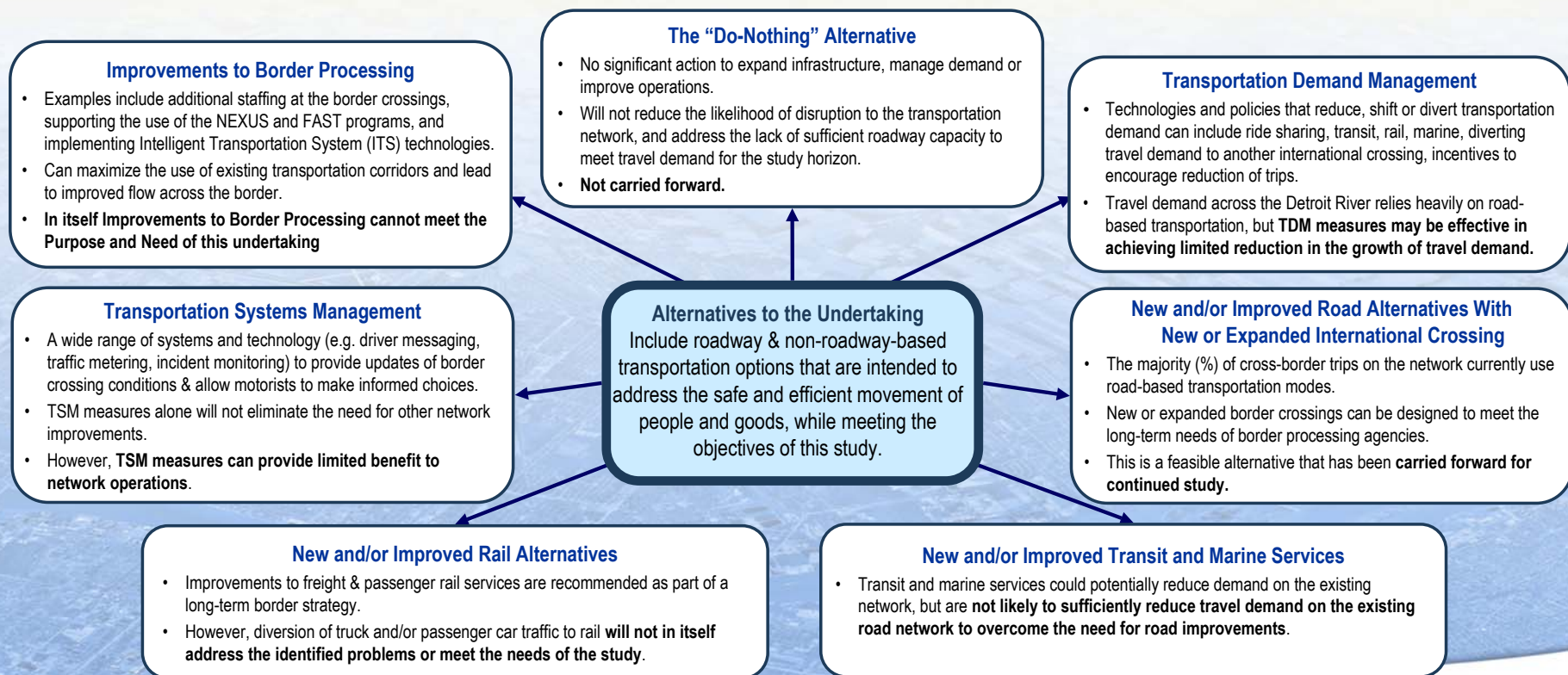
The first round of Public Information Open House meetings were held June 21 in Windsor, June 22 in LaSalle and June 28 in Amherstburg. 477 people signed the attendance registry and 181 comment sheets were received.

Most Frequent Comments	Total
Concerned with potential impacts to Ojibway Area (including Spring Garden Life ANSI and Black Oak Prairie Heritage Park)	41
Concerned about impacts to residential areas	37
Supportive of DRTP alternative or the DRTP should be considered	32
Concerned about Health Risks (including air quality)	29
General concern with impacts to natural features of area (includes wildlife)	27
Opposed to Schwartz Plan	21
Concerned about Schools, Retirement Complexes and Recreational Grounds	20
Supportive of South crossing through LaSalle or Amherstburg	19
Consider other modes (including rail, truck ferries)	15
Supportive of upgrading and use of existing highways	14
Consider alternative route outside of study area	14

Alternatives to the Undertaking

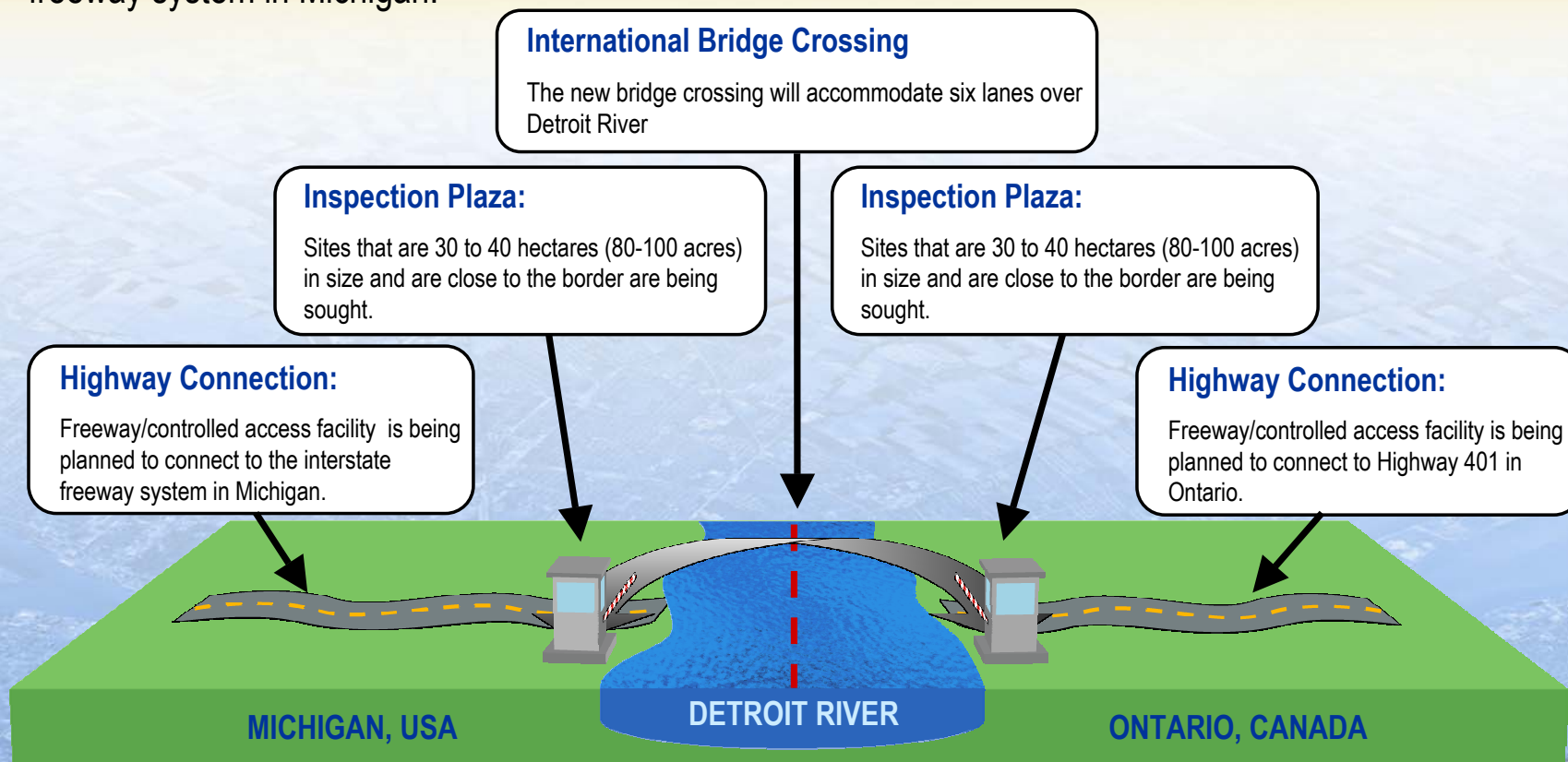
Border processing improvements and roadway additions/improvements with a new or expanded border crossing are critical to meeting the purpose of the study and long-term transportation needs in this area. Therefore, the DRIC Study is moving forward with analyzing and evaluating Illustrative and Practical Alternatives which include border processing improvements and roadway additions/improvements with new or improved border crossing.

The other Alternatives to the Undertaking, such as travel demand management measures, rail, transit and ferry service improvements and transportation systems management are not vital to meeting the long-term transportation needs of the Detroit River area. However, the study recognizes the benefits of each of these "alternatives to" as part of a multi-modal strategy for the transportation network in this region.



Components of New or Expanded International Crossing

The Partnership is studying an end-to-end solution connecting Highway 401 in Ontario to the interstate freeway system in Michigan.

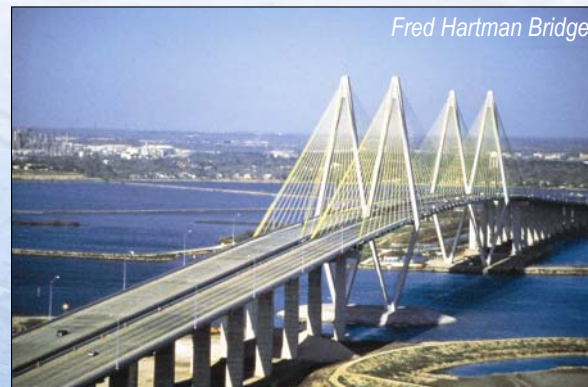


Given the width of the Detroit River in the Area of Continued Analysis, two types of crossings are under consideration:

SUSPENSION BRIDGE



CABLE STAY BRIDGE



Workshops and other meetings will provide additional information about the crossings as they are developed.

Feasibility of Bridge and Tunnel Alternatives

The geological conditions along the Detroit River were considered by the Project Team in assessing the feasibility of bridge and tunnel crossing options for each of the crossing locations.

Based on input from foundations and structural experts the Canadian and U.S. Project Teams concluded that a new freeway tunnel option under the Detroit River would not be practically feasible. The freeway tunnel option will not be carried forward for continued study.

The Project Teams will jointly study the area of continued analysis to locate bridge crossing alternatives.

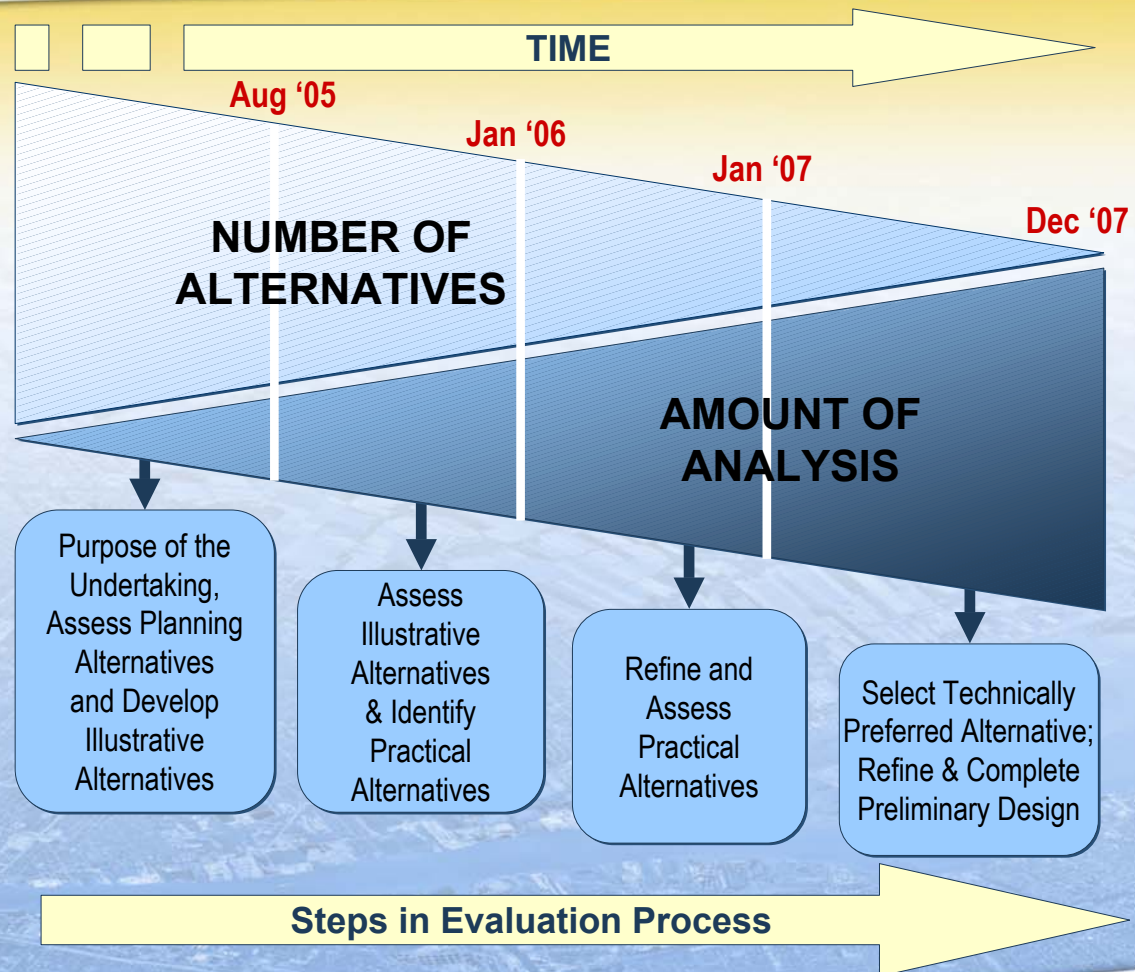
Summary of Crossing Options and Concerns

Location	Area of Fighting Island	Area of Zug Island	Area of Ambassador Bridge	Area of Belle Isle
Bridge	<ul style="list-style-type: none"> • Solution Mining • Foundations on bedrock, 15 to 20m below ground surface • Potential artesian groundwater • Methane and hydrogen sulphide • Approach embankments on compressible soils <p>✓ Practically Feasible</p>	<ul style="list-style-type: none"> • Solution Mining • Foundations on bedrock, 25 to 30m below ground surface • Methane and hydrogen sulphide • Potential artesian groundwater • Dry salt mining <p>✓ Practically Feasible. Carried forward for continued study</p>	<ul style="list-style-type: none"> • Solution Mining • Foundations on bedrock, 35 to 40m below ground surface • Methane and hydrogen sulphide • Potential artesian groundwater • Approach embankments on compressible soils <p>✓ Practically Feasible. Carried forward for continued study</p>	<ul style="list-style-type: none"> • Foundations on bedrock, 40 to 50m below ground surface • Methane and hydrogen sulphide • Potential artesian groundwater • Approach embankments on compressible soils <p>✓ Practically feasible</p>
Submerged Tunnel	<ul style="list-style-type: none"> • Solution Mining • Excavations in bedrock required • Potential artesian groundwater • Sediment disturbance and disposal creates numerous environmental concerns <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Solution Mining • Excavations may penetrate near the bedrock interface • Potential artesian groundwater • Sediment disturbance and disposal • Dry salt mining <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Excavations may penetrate near the bedrock interface • Potential artesian groundwater • Sediment disturbance and disposal creates numerous environmental concerns <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Tunnel potentially seated on soft clay • Sediment disturbance and disposal creates numerous environmental concerns <p>✗ Not practically feasible</p>
Soft Ground Tunnel	<ul style="list-style-type: none"> • Solution Mining • Insufficient ground cover in river bed therefore not feasible for 13m diameter tunnel • Groundwater control <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Solution Mining • Insufficient ground cover in river bed therefore not feasible for 13m diameter tunnel • Groundwater control • Dry salt mining <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Insufficient ground cover in river bed therefore not feasible for 13m diameter tunnel • Groundwater control <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Groundwater control • Approach construction in soft soil <p>✗ Not practically feasible</p>
Rock Tunnel*	<ul style="list-style-type: none"> • Solution Mining • Potential artesian groundwater • Approach construction, excavations of 15 to 20m • Use of double-shield rock TBM • Poor quality of rock <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Solution Mining • Groundwater control • Gas control • Approach construction, excavations of 25 to 30m • Dry salt mining areas • Use of double-shield rock TBM • Poor quality of rock <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Approach construction, excavations of 30 to 35m • Groundwater control • Gas control • Use of double-shield rock TBM • Uplift and adequate cover <p>✗ Not practically feasible</p>	<ul style="list-style-type: none"> • Groundwater control • Gas control • Approach construction excavations of 40 to 50m, beyond practical limit • Use of double-shield rock TBM • Uplift and adequate cover <p>✗ Not practically feasible</p>

	Practically Feasible - technically challenging issues may be overcome pending further analysis and design effort
	Practically Feasible pending further investigations, analysis and design effort but may also include such significant risks that render the option not suitable for further consideration (e.g. solution mining)
	Not practically feasible

Evaluation Process

- The underlying principle for the alternatives generation and evaluation process is to start with a broad perspective and become more focused/detailed as the project progresses.



The evaluation process for the Illustrative Alternatives involved two methods: **Reasoned Argument Method** and **Arithmetic Method**. The Reasoned Argument (trade-off) was the primary evaluation method employed to select alternatives for continued analysis with the Arithmetic approach used to substantiate the findings of the Reasoned Argument (trade-off) evaluation.

Reasoned Argument Method	Arithmetic Method
<p>Considered the advantages and disadvantages of each alternative and the relative significance of the impacts. The rationale used to select alternatives over others was derived from the following sources:</p> <ul style="list-style-type: none"> ▪ National and international significance of the crossing; ▪ Government legislation, policies and guidelines; ▪ Existing Land Use and Municipal policy (i.e., Official Plans); ▪ Technical Considerations (i.e. degree to which the identified transportation problems are solved); ▪ Issues and concerns identified during consultation; and ▪ Project Team expertise. 	<p>Considered both the level of importance of each environmental attribute (i.e. weight) and the magnitude of the impact or benefit (i.e. score). Generally, more weight is assigned to those features that are felt to be more important in assessing impacts. Weighting scenarios have been developed based on feedback from the general public and other stakeholders.</p> <ul style="list-style-type: none"> ▪ Scores were assigned by qualified Project Team specialists with expertise in impact assessment; ▪ Relative impacts ranged from those that are positive (benefit the environment) to negative (detrimental to the environment); ▪ 1 to 7 scoring scale used to identify magnitude of an impact/benefit whereby: <ul style="list-style-type: none"> 1 = high impact 2 = moderate impact 3 = low impact 4 = neutral/no impact 5 = low benefit 6 = moderate benefit 7 = high benefit ▪ The weight was multiplied by the score to obtain a weighted score. The weighted scores were compared to determine the preferred alternative.

Factor Weighting Results

The assessment of the plaza, crossing and route alternatives considered both the magnitude of the impacts generated by the alternatives, as well as the relative level of significance of the impacts. Each factor was rated (on a scale of 0 to 100) to determine the relative level of significance ("weights"). The public, agencies and other stakeholders were given the opportunity to rate the factors through a rating tool distributed at consultation activities in June 2005. Separate weights were determined for the public* and the Community Consultation Group*. The Project Team used input received from the rating tools to guide its weighting of the factors. A total of 60 valid rating tools were received from the public and Stakeholder. Representatives from MTO, TC and the Consultant Team collaborated to determine the Project Team weights. The following are the results of the weighting exercise:

Factor	Project Team		Public		CCG	
	Rating	Weight (%)	Avg. Rating* (reflects 60 responses received)	Weight (%)	Avg. Rating (reflects 15 responses received)	Weight (%)
Changes in Air Quality	70	12.39	85	17.31	91	17.30
Protection of Community & Neighbourhood Characteristics	90	15.93	80	15.49	73	13.88
Maintain Consistency with Existing & Planned Land Use	70	12.39	62	12.89	72	13.69
Protection of Cultural Resources	70	12.39	66	13.14	69	13.12
Protection of Natural Environment	90	15.93	78	16.34	90	17.11
Improve Regional Mobility	100	17.70	76	15.28	78	14.83
Minimize Cost	75	13.27	47	9.54	53	10.07
		100		100		100

* Public and CCG weightings were determined by averaging the individual rating tool results and do not represent a consensus among study participants. Weights received from the public and CCG were used as input to guide the Project Team in determining its weights and the significance of each factor in undertaking the Reasoned Argument evaluation. The Project Team recognizes that the members of the general public carry unique views and perspectives as to the importance of the various factors.

Evaluation Sequence

1. Assessment of impacts & benefits were conducted in accordance with environmental work plans. The impacts and benefits associated with the illustrative alternatives were identified according to the factors listed below.
 1. Changes to air quality
 2. Community and neighbourhood impacts
 3. Consistency with land use
 4. Impacts to cultural resources
 5. Natural environment
 6. Improved regional mobility
 7. Cost

The evaluation of alternatives was considered in the context of the international and national significance of the Detroit River crossing in terms of the economy, security, and ability to provide continuous river crossing capacity. To be carried forward for further study, alternatives were required to meet the purpose of the undertaking.

2. The Canadian and U.S. Project Teams assessed the results of the impacts analysis and recommended alternatives to be carried forward for continued analysis.
3. The Partnership made recommendations as to what alternatives to be carried forward for continued analysis, based on a complete understanding of the impacts and benefits on both sides of the river for all alternatives.

Evaluation of Illustrative Alternatives

"Best To" Evaluation

Having analyzed and evaluated the various route segments on the Canadian side connecting Highway 401 to the proposed plaza sites and crossings, the Canadian Project Team incorporated the plazas and crossings into an assessment of the illustrative crossing/inspection plaza/connecting route systems. The Canadian Project Team assessed the set of "Best To" route/plaza/crossing systems to determine which alternatives should be brought forward for comparison to the U.S. findings as part of an end-to-end evaluation.



- Legend**
- SA Canadian Illustrative Route Alternatives Segment Identifier
 - Illustrative International Crossings Alternatives (Bridges or Tunnels)
 - Canadian Illustrative Connecting Route Alternatives
 - Illustrative Plaza Opportunity Area (Canada)
 - Illustrative Potential Plaza Site (Canada)
 - Best Routes to Crossings
 - Extended Plaza Areas
 - Illustrative Connecting Route Alternatives (U.S. Study)
 - Illustrative Plaza Location (U.S. Study)
 - School
 - Windsor Airport
 - Airfield
 - Park or Recreational Area
 - Industry or Resource Site
 - Hospital
 - Cemetery
 - Brine Well
 - Wetlands
 - Environmentally Sensitive Area
 - Area of Natural or Scientific Interest
 - LaSalle Future Urban Area Limit
 - Municipal Boundary
 - Truck Ferry
 - Tunnel
 - Canada-U.S. International Border

NOVEMBER/DECEMBER 2005



Analysis Results Canadian Side – South Alternatives

For the south alternatives, a new transportation facility would not provide adequate benefits to **regional mobility**. A new crossing in the South area would not attract sufficient traffic to alleviate existing crossings or the roads connected to these crossings. Based on the assessment of Travel Demand for the study horizon (2035), the Ambassador Bridge, Detroit-Windsor Tunnel and key roads connected to these crossings would be congested, resulting in excessive delays during daily peak travel periods in the long term.

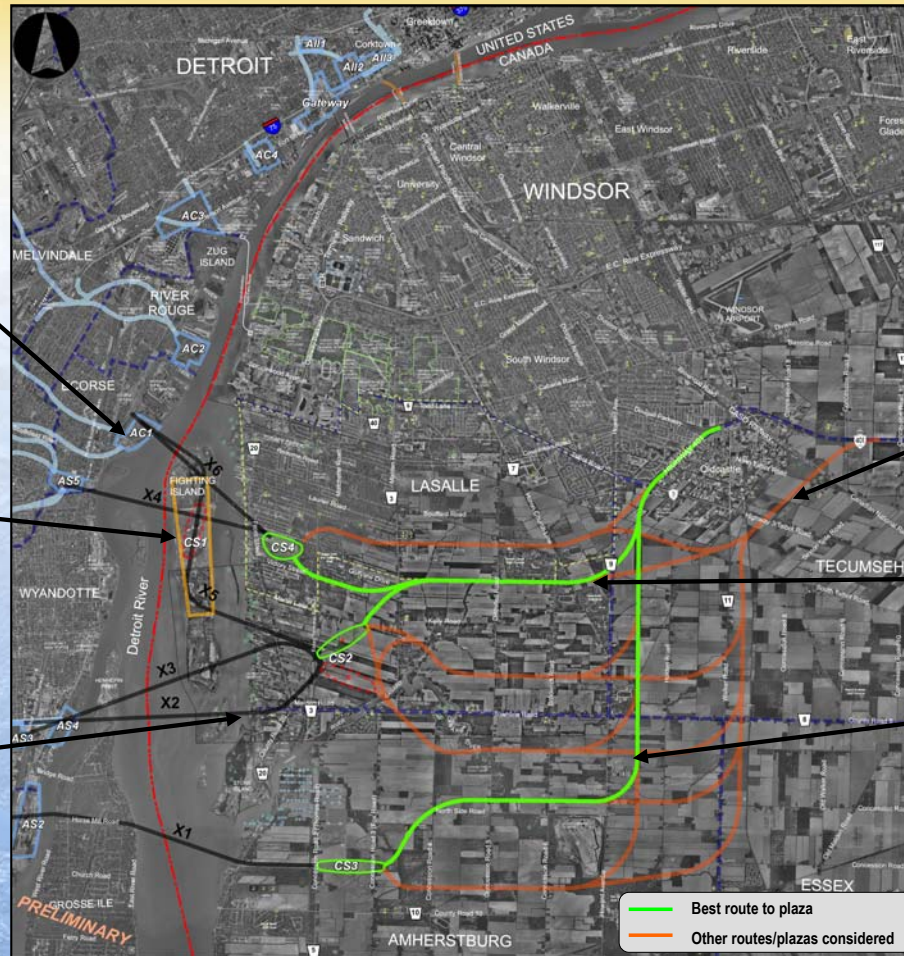
U.S. Plaza AC1 and Crossing X6 eliminated from further consideration on the basis of unacceptable impacts to existing industrial operation

Fighting Island

- North end of Island contains Provincially Significant Wetland and Environmentally Sensitive Area
- Middle and southern sections have historically been used for disposal of alkaline waste; this material ranges in thickness from 0.5m to 11m
- Construction of plaza would require removal of waste material to other parts of the island
- High constructability risks associated with this plaza and crossings on this island
- Plaza site CS1 and Crossing X5 were eliminated from further consideration

Natural Heritage Features – All south crossings except Crossing X1 were found to impact sensitive riverfront wetlands. Crossing X2 near Turkey Island was found to have the highest impacts.

Length of river crossings (between 2500m to 4500m) was not considered a disadvantage of these alternatives; the cost to construct the bridge structures were found comparable to the shorter, but more complex spans, longer spans, proposed for the narrower sections of the river.



This area of Essex County is a predominately agricultural area; as a result, a new highway in this area would impact very few homes on the Canadian side compared to the other alternatives

Alternatives passing east of **Oldcastle** were found to have higher costs but similar impacts as alternatives using Highway 401 corridor to Highway 3, and were not carried forward.



Preferred routes alternatives connecting to **crossings X2, X3** avoids residential areas along **Canard River**

Preferred **route to X1** avoids quarry lands and has lower impacts to sensitive natural areas of the Canard River than the other alternatives considered.

RECOMMENDATION: Due to the generally rural nature of the land uses south of LaSalle, the southern alternatives carried lower community impacts than the other alternatives. However, on the basis that a new transportation facility would not provide adequate benefits to regional mobility, the **Canadian Project Team did not recommend that any of the south alternatives be carried forward for further study.**

Analysis Results Canadian Side – South Alternatives

Highway 401 to Detroit River

Factor	Crossing X1/Plaza CS3	Crossing X2/Plaza CS2	Crossing X3/Plaza CS2	Crossing X4/Plaza CS4
Changes to Air Quality	No impact Slight decrease in pollutants on a system-wide basis	Low impact Small to moderate increase in pollutants on a system-wide basis	Low impact Moderate increase in pollutants on a system-wide basis	No impact Little to increase in pollutants on a system-wide basis
Community and Neighbourhood Impacts	Low impact Displacements: 10+ households; < 5 Businesses; Disruption: 90+ households within 250 m of centreline; <5 businesses	Low impact Displacements: 10+ households; <5 Businesses; Disruption: 100+ households within 250 m of centreline; <5 businesses	Low impact Displacements: 10+ households; 1+ Businesses; Disruption: 90+ households within 250 m of centreline; <5 businesses	Low impact Displacements: 80+ households; <5 Businesses; Disruption: 380+ households within 250 m of centreline; <5 businesses
Consistency with Land Use	Low impact Connecting route primarily impacts rural areas of LaSalle and Amherstburg, which are somewhat consistent for a new freeway; plaza and crossing have limited impacts on planned land use	Low impact Connecting route primarily impacts rural areas/boundary of future urban area of LaSalle, which is somewhat consistent for a new freeway; plaza and crossing have limited impacts on current/planned land use	Low impact Connecting route primarily impacts rural area/boundary of future urban area of LaSalle, which is somewhat consistent for a new freeway; plaza and crossing have limited impacts on current/planned land use	Moderate impact Connecting route impacts primarily rural area/boundary of future urban area of LaSalle, which is somewhat consistent for a new freeway; plaza and crossing are within in the urban area boundary of LaSalle impacting current/ future residential land use – not consistent
Impacts to Cultural Resources	Low impact Impacts to 0 built feature, 3 known archaeological sites; moderate potential for impacting unknown sites	Low impact Impacts to 0 built feature, 1 known archaeological site; high potential for impacting unknown sites	Low impact Impacts to 0 built features; 1 known archaeological site; high potential for impacting unknown sites	Low impact Impacts to 0 built features; 1 known archaeological sites; high potential for impacting unknown sites
Natural Environment	Moderate Impact Loss of 22+ ha of designated/ undesignated features; direct impacts to 17+ ha of ETS ¹ /habitat;	High Impact Loss of 55+ ha of designated/ undesignated features; direct impacts to 31+ ha of ETS ¹ /habitat;	Moderate Impact Loss of 33+ ha of designated/ undesignated features; direct impacts to 44+ ha of ETS ¹ /habitat;	Moderate Impact Loss of 21+ ha of designated/ undesignated features; direct impacts to 32+ ha of ETS ¹ /habitat
Improve Regional Mobility	Low Benefits Provides additional capacity/new crossing; inadequate benefits to existing crossings and key connecting roadways in Windsor which operate over capacity during daily peak travel periods in long term	Low Benefits Provides additional capacity/new crossing; inadequate benefits to existing crossings and key connecting roadways in Windsor which operate over capacity during daily peak travel periods in long term	Low Benefits Provides additional capacity/new crossing; inadequate benefits to existing crossings and key connecting roadways in Windsor which operate over capacity during daily peak travel periods in long term	Low Benefits Provides additional capacity/new crossing; inadequate benefits to existing crossings and key connecting roadways in Windsor which operate over capacity during daily peak travel periods in long term
Cost	High Impacts CDN\$850 M ² ; Constructability risks include construction of 2 km crossing over Detroit River on Canadian side	High Impacts CDN\$1030 M ² ; Constructability risks include active salt mines and construction of 2+ km crossing over Detroit River on Canadian side.	High Impacts CDN \$980 M ² ; Constructability risks include active salt mines, Fighting Island soils/ contamination issues and construction of 2+ km crossing over Detroit River on Canadian side.	High Impacts CDN\$870 M ² ; Constructability risks include active salt mines, Fighting Island soils/ contamination issues, construction of 2 km crossing over Detroit River/Fighting Island on Canadian side.

Conclusions:

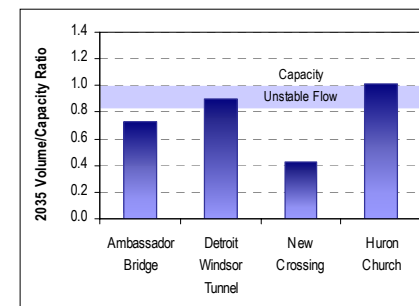
The Southern alternatives generally have lower impacts to community features and have comparable costs and constructability risks compared to the other alternatives. However, these alternatives do not provide adequate improvement to regional mobility in the long term, which is a primary objective of this project. These alternatives are therefore not recommended for continued analysis.

¹ Endangered or threatened species

² Preliminary planning costs of connecting route, plaza and one-half of crossing

Analysis Results Canadian Side – South Alternatives

2035 Traffic Volumes And Volume to Capacity Ratios of Key Network Components with Southern Alternative



Regional Mobility

The assessment of improvements to Regional Mobility is based on a number of criteria and measures, including traffic operations on key roadway links including the existing crossings and roadways serving those crossings and changes in travel time and distance, as compared to the do-nothing or no-build alternative.

The **southern alternatives** avoid the urban areas of Windsor, LaSalle and Tecumseh. However, local truck and passenger trips would continue to use the existing crossings. Existing crossings, and the roads serving these crossings, would operate over capacity during daily peak periods in 2035. The Detroit-Windsor Tunnel and Huron Church Road serving the Ambassador Bridge, would experience congestion and delays on a daily basis. Such conditions are considered unacceptable impacts. Additional transportation improvements would be required to address the need for additional capacity at the existing crossings and on the key connecting roadways in the urban area of Windsor. In contrast, the new crossing would operate well below capacity during peak travel periods; diverting trips to the new crossing to improve the utility of the new crossing would require a major shift in local travel patterns and create substantial out-of-way travel for local Windsor/Detroit trips.

Based on the inadequate improvements to regional mobility, the Southern Alternatives were not recommended for further study.

Analysis Results Canadian Side – East Alternatives

With the east alternatives, a new transportation facility would not provide adequate benefits to **regional mobility**. The existing crossings and key roads serving these crossings would operate at or near capacity during peak travel periods within the 2035 planning horizon of this study. This would result in excessive delays during peak travel periods. Additional transportation improvements would be required to address the need for additional capacity at the existing crossings and on the key connecting roadways in the urban area of Windsor.



The east alternative was found to be not compatible with the established residential character of east Windsor, particularly north of E.C. Row Expressway. A new crossing and plaza in the riverfront area of east Windsor would have high **impacts to the community**.

Significant **commercial development** exists along Tecumseh Road and Lauzon Road

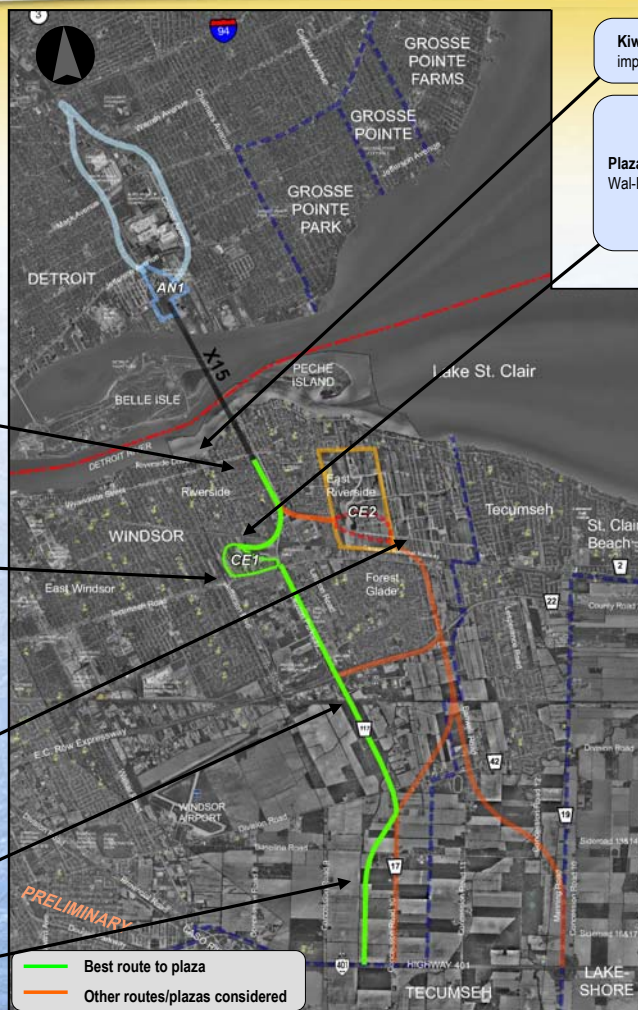


Area east of Lauzon Road, along the Manning/Banwell Corridor, is planned for **future residential development**



Area south of E.C. Row along Lauzon Road has been designated as a **future employment area**

A new road connection to Highway 401 was found to have little impact to community character and a fair degree of **compatibility with current and future land uses**.



Kiwanis Park at the riverfront and Derwent Park at E.C. Row/Lauzon Parkway would be impacted

Plaza site CE1 displaces "big box" commercial uses, including Wal-Mart, Home Depot, Rona and other retail establishments



Assessment of Illustrative Alternatives, Canadian Side, East Alternatives – Highway 401 to Detroit River

Factor	Crossing X15/Plaza CE1
Changes to Air Quality	No impact Little change in pollutant levels on a system-wide basis vs. do nothing
Community and Neighbourhood Impacts	High impact Displacements: 570+ households 40+ businesses; Disruption: 2600+ households within 250 m of centreline; 40+ businesses
Consistency with Land Use	High impact Crossing, plaza and route north of EC Row highly inconsistent with current and planned land uses, route south of EC Row to Highway 401 is somewhat consistent
Impacts to Cultural Resources	Moderate impact Impacts to 10 built features; no known archaeological sites impacted; moderate potential for impacting unknown sites
Natural Environment	Low impact Loss of 13+ ha of designated/ undesignated features; direct impacts to 9+ ha of ETS ¹ habitat
Improve Regional Mobility	Low Benefits Provides additional capacity/new crossing; inadequate benefits to existing crossings and key connecting roadways in Windsor which operate over capacity during daily peak travel periods in long term
Cost	High Impacts CDN\$1.6 B ² . Constructability risks include interchange on EC Row/Lauzon Parkway; traffic/utility management and access on Lauzon Parkway/plaza area/new crossing
Conclusions: The crossing X15 alternative has high community impacts and does not provide adequate improvement to regional mobility in the long term. This alternative is therefore not recommended for continued analysis.	

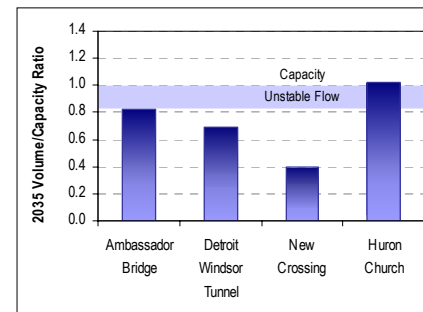
¹ Endangered or threatened species

² Preliminary planning costs of connecting route, plaza and one-half of crossing

RECOMMENDATIONS: On the basis that a new transportation facility in this area of the city would not provide adequate benefits to regional mobility in the long-term, which is a primary objective of this project, and would have high community impacts, **the Canadian Project team did not recommend the east alternative be carried forward for further study.**

Analysis Results Canadian Side – East Alternatives

2035 Traffic Volumes And Volume to Capacity Ratios of Key Network Components with East Alternative



Regional Mobility

The assessment of improvements to Regional Mobility is based on a number of criteria and measures, including traffic operations on key roadway links including the existing crossings and roadways serving those crossings and changes in travel time and distance, as compared to the do-nothing or no-build alternative.

The **east alternative** is situated on the east side of Windsor, at the Tecumseh border. Presently, there is no major transportation facility connecting Highway 401 to the river in this area of the city.

An eastern crossing would serve a portion of the international truck and auto traffic (both long-distance and local), however by 2035, the travel demand on Huron Church approaching Ambassador Bridge would exceed the capacity of the roadway, resulting in congestion on this facility during peak travel periods; operations on the Ambassador Bridge itself would be approaching unstable flow on this crossing, within a few years beyond 2035, the Ambassador Bridge would be operating near capacity. In contrast, the new crossing would operate well below capacity during peak travel periods; diverting trips to the new crossing to alleviate the existing crossing and improve the utility of the new crossing would require a substantial shift in travel patterns and create out-of-way travel for local Windsor/Detroit trips.

Based on the community impacts and incompatibility with land uses in the area of Windsor/Tecumseh north of E.C.Row Expressway, and since alternatives in this area would not provide adequate benefits to regional mobility in the long-term (which is a primary objective of this project), the East Alternatives were not recommended for further study.

Analysis Results Canadian Side – Central Alternatives

X8, X9, X10 and X11 alternatives offer high **regional mobility** benefits. These alternatives connected by a freeway in the Huron Church/Talbot Road corridor would adequately serve long-distance international truck traffic and local cross-border auto and truck traffic and would have a greater ability to provide continuous/ongoing river crossing capacity for international traffic.



Crossing X11 alternative has higher **community impacts** than the other central alternatives, including impacts to land use and cultural features, due to the proximity of the crossing and plaza to the residential and historic community of Sandwich.



Crossing X9 and Route to Crossing X8 have high negative impacts to sensitive natural areas along riverfront.

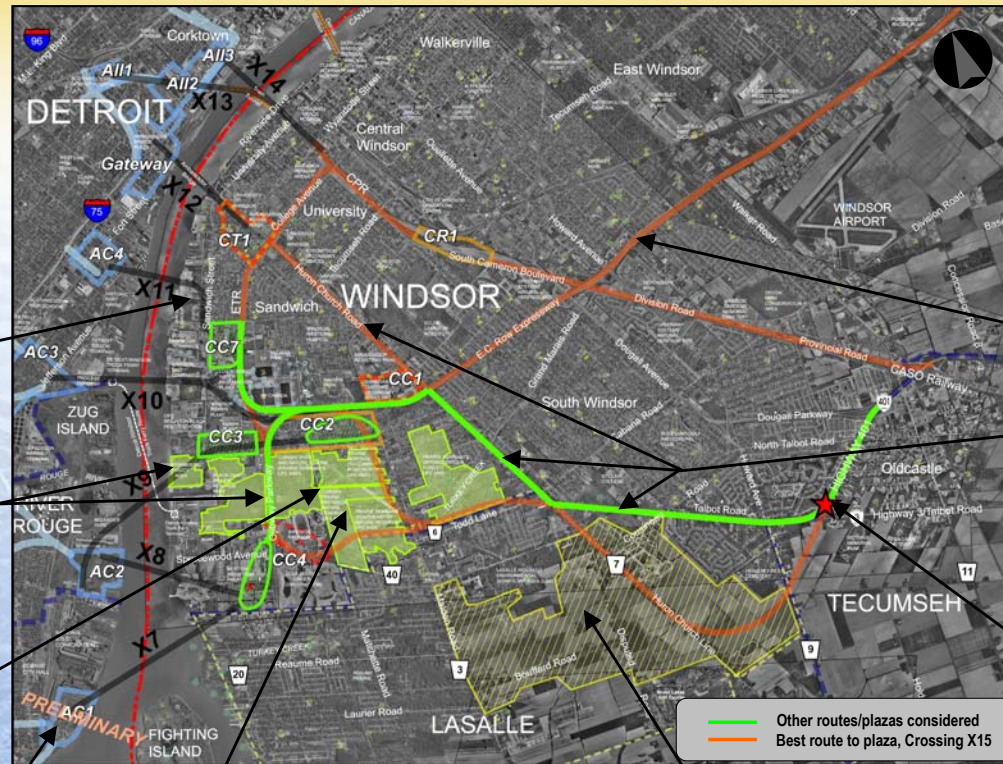
A new alignment in this area would sever the **Ojibway Prairie** Provincial Prairie Reserve an **Spring Garden Forest** designated Areas of Natural and Scientific Interest (ANSI) and Environmentally Sensitive Areas (ESA). This would have high negative impacts to habitat for threatened and endangered species.



U.S. Plaza AC1 and Crossing X7 eliminated from further consideration on the basis of unacceptable impacts to existing industrial operation

New freeway in this area would sever **residential and natural areas**, negatively impacting community character and cohesion. Crossing X8 and X9 alternatives avoid the community of Sandwich, but have higher impacts to natural features associated with impacts to connectivity between the sensitive natural areas in the Ojibway area and the riverfront.

Town of LaSalle is proceeding with **approved plan** for development of lands south of Talbot Road with future urban area in support of growth. A new highway in this area conflicts with the Town's approved plans and disrupts municipal infrastructure constructed to serve these growth areas.



Expansion of rail corridor to provide a new freeway from Highway 401 to EC Row Expressway along the DRTP rail corridor would impact major commercial and employment areas; regional retail shopping centre; car dealerships; other retail businesses



EC Row Expressway serves as a vital east-west link to local road network for area businesses and residents



Huron Church/Talbot Road serves as the primary connecting route between Highway 401 and the Ambassador Bridge. This corridor features **highway-oriented land uses** and businesses (e.g. accommodations, restaurants, gas stations)



Existing Terminal of Highway 401 - Today, long-distance international traffic primarily uses Huron Church/Talbot Road to access Ambassador Bridge

RECOMMENDATION: The central alternatives represent the best balance of transportation benefits and community impacts on the Canadian side. Continued analysis of these central alternatives would provide opportunities to reduce the land use/community and natural feature impacts, as well as address issues of constructability. **The Canadian Project Team therefore recommended that the crossing X8, X9, X10 and X11 alternatives connected by a freeway in the Huron Church/Talbot Road corridor be carried forward as practical alternatives.**

Analysis Results Canadian Side – Central Alternatives

Highway 401 to Detroit River

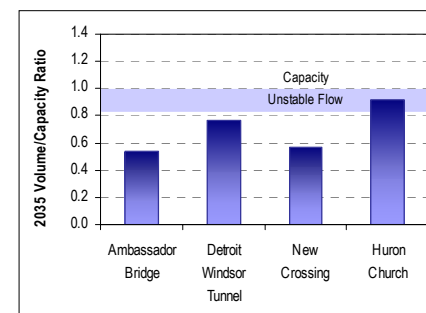
Factor	Crossing X8/Plaza CC4	Crossing X9/Plaza CC3	Crossing X10/Plaza CC3	Crossing X11/Plaza CC7
Changes to Air Quality	Low impact No noticeable change in regional airshed	Low impact No noticeable change in regional airshed	Low impact No noticeable change in regional airshed	Low impact No noticeable change in regional airshed
Community and Neighbourhood Impacts	Moderate impact Displacements: 130+ households 40+ Businesses; Disruption: 1600+ households within 250 m of centreline; 10+ businesses	Moderate impact Displacements: 150+ households; 40+ Businesses; Disruption: 1400+ households within 250 m of centreline; <10 businesses	Moderate impact Displacements: 140+ households 45+ Businesses; Disruption: 1450+ households within 250 m of centreline; 10+ businesses	Moderate to high impact Displacements: 180+ households 55+ Businesses; Disruption: 2080+ households within 250 m of centreline; <10 businesses
Consistency with Land Use	Moderate impact Huron Church/Talbot is somewhat consistent for a new freeway; plaza and crossing in active industrial areas considered consistent	Low impact Huron Church/Talbot is somewhat consistent for a new freeway; plaza and crossing in undeveloped industrial areas highly consistent	Low impact Huron Church/Talbot is somewhat consistent for a new freeway; plaza and crossing in undeveloped industrial areas highly consistent	Low to Moderate impact Huron Church/Talbot is somewhat consistent for a new freeway; plaza adjacent to residential not consistent; crossing in industrial areas consistent
Impacts to Cultural Resources	Moderate impact Impacts to 1 built feature, 3 known archaeological sites; high potential for impacting unknown sites	Moderate impact Impacts to 1 built feature, 6 known archaeological sites; high potential for impacting unknown sites	Moderate impact Impacts to 2 built features; 2 known archaeological sites; high potential for impacting unknown sites	Moderate to High impact Impacts to 10 built features; 2 known archaeological sites; high potential for impacting unknown sites
Natural Environment	High Impact Severs Ojibway features from riverfront; Loss of approx. 26 ha of designated/ undesignated features; direct impacts to 25+ ha of ETS ¹ /habitat;	High Impact Potential for severing Ojibway features from riverfront; Loss of approx. 30 ha of designated/ undesignated features; direct impacts to 20+ ha of ETS ¹ /habitat;	Moderate Impact Loss of 20+ ha of designated/ undesignated features; direct impacts to 14+ ha of ETS ¹ /habitat;	Moderate Impact Loss of 25+ ha of designated/ undesignated features; direct impacts to 13+ ha of ETS ¹ /habitat;
Improve Regional Mobility	High Benefits Provides additional capacity/new crossing; existing crossings operate well; D-W tunnel approaching unstable flow in 2035	High Benefits Provides additional capacity/new crossing; existing crossings operate well; D-W tunnel approaching unstable flow in 2035	High Benefits Provides additional capacity/new crossing; existing crossings operate well;	High Benefits Provides additional capacity/new crossing; existing crossings operate well;
Cost	High Impacts CDN\$1.5 B ² ; Constructability risks include traffic/utility management on HCR/Talbot corridor, active mines, brine wells	High Impacts CDN\$1.4 B ² ; Constructability risks include traffic/utility management on HCR/Talbot corridor, active mines, brine wells	High Impacts CDN\$1.4 B ² ; Constructability risks include traffic/utility management on HCR/Talbot corridor, active mines, brine wells	High Impacts CDN\$1.2 B ² ; Constructability risks include traffic/utility management on HCR/Talbot corridor, active mines, brine wells
Conclusions: The Central alternatives represent a reasonable balance between benefits to regional mobility and community impacts. These alternatives are recommended for continued analysis.				

¹ Endangered or threatened species

² Preliminary planning costs of connecting route, plaza and one-half of crossing

Analysis Results Canadian Side – Central Alternatives

2035 Traffic Volumes And Volume to Capacity Ratios of Key Network Components with Central Alternative



Regional Mobility

The assessment of improvements to Regional Mobility is based on a number of criteria and measures, including traffic operations on key roadway links including the existing crossings and roadways serving those crossings and changes in travel time and distance, as compared to the do-nothing or no-build alternative.

The **central alternatives** provide high benefits to regional mobility in comparison to other alternatives. A new crossing in the central area of the Detroit River would provide improvement to the regional road network by providing additional capacity to the border transportation network; without this additional capacity, the existing crossings would reach capacity by year 2022, resulting in severe congestion and delay for all international truck and auto traffic, for both long-distance and local trips. A central crossing attracts a sufficient volume of local and long distance traffic, that the existing crossings operate below capacity in 2035. Unlike a southern alternative, a central crossing attracts the local truck and passenger car trips; a central crossing also attracts the long-distance truck and passenger car trips, which were not attracted to an eastern alternative. A central crossing has greater ability to provide continuous and on-going river crossing capacity for international trips than the other options. The ability to provide continuous and on-going river crossing capacity in the border transportation network serving this important trade corridor helps to reduce the likelihood of congestion and delay at the existing crossings, thereby increasing the reliability of the network and improving regional mobility.

Based on the high benefits to regional mobility and the acceptable level of community impacts, the Central Alternatives were recommended for further analysis.

Analysis Results – Crossing X12 Ambassador Bridge

A six-lane freeway connecting to a twinned Ambassador Bridge has a high benefit to **regional mobility**. This alternative would adequately serve long-distance international truck traffic and local cross-border auto and truck traffic.

However, expansion of the existing crossing and connections offers limited ability to provide continuous/ongoing river crossing capacity for international traffic, as it does not provide a new crossing with new connections. A new freeway in the Huron Church Road corridor has high potential for disrupting international traffic in this important trade corridor.



Expansion of the crossing and existing plaza creates high impacts to the historic **Sandwich community**. The community impacts associated with twinning of Ambassador Bridge, expansion of the existing bridge plaza and expansion of Huron Church Road to a freeway are notably higher than those of the central alternatives.



Limited to no flexibility for **future plaza expansion** without a large number of property takings and significant disruption to the community of Sandwich



Route impacts to Huron Church Road between E.C.Row and the river would primarily affect **highway commercial land uses**. These commercial uses would have to be relocated.



Low impacts to **natural features** are associated with this alternative. Impacts are limited to edge impacts to Spring Garden Prairie and St. Clair College Prairie



Assessment of Illustrative Alternatives, Canadian Side, Crossing X12 Alternatives – Highway 401 to Detroit River

Factor	Crossing X12/Plaza CT1
Changes to Air Quality	No impact Slight increase in pollutant levels on a system-wide basis vs. do nothing
Community and Neighbourhood Impacts	High impact Displacements: 420+ households 85+ Businesses; Disruption: 3490+ households within 250 m of centreline; 25+ businesses
Consistency with Land Use	Moderate impact Huron Church/Talbot is somewhat consistent for a new freeway; plaza and crossing in historic residential area are highly inconsistent
Impacts to Cultural Resources	High impact Impacts to 45 built features, 3 known archaeological sites; high potential for impacting unknown sites
Natural Environment	Low impact Loss of 15+ ha of designated/ undesignated features; direct impacts to 11+ ha of ETS ¹ habitat;
Improve Regional Mobility	Low Benefits Provides additional capacity/new crossing; existing crossings operate below capacity; D-W tunnel approaching unstable flow in 2035 during daily peak travel periods in long term
Cost	High Impacts CDN\$1.5 B ² . Constructability risks include traffic/utility management and access on HCR/Talbot Rd/Hwy 3; complex interchange at Huron Church and EC Row Expressway
Conclusions: The Crossing X12 alternative provides adequate improvements to regional mobility but has greater community impacts than the central alternatives. This alternative is therefore not recommended for continued analysis	

¹ Endangered or threatened species

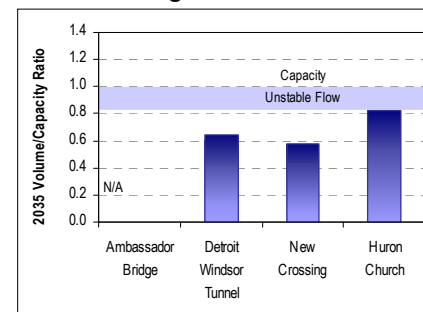
² Preliminary planning costs of connecting route, plaza and one-half of crossing

RECOMMENDATION: Crossing X12 alternative not carried forward on the Canadian side. Higher benefits to regional mobility are outweighed by limited ability to provide continuous/ongoing river capacity for international traffic. As well, this alternative creates high impacts to the neighbourhoods in the vicinity of plaza, in particular the neighbourhood of Sandwich.

On the U.S. side, the Ambassador Bridge is well connected to freeways and is consistent with area land uses. The plaza and gateway connections of this crossing will be carried forward for further study.

Analysis Results – Crossing X12 Ambassador Bridge

2035 Traffic Volumes And Volume to Capacity Ratios of Key Network Components with Crossing X12 Alternative



Regional Mobility

The assessment of improvements to Regional Mobility is based on a number of criteria and measures, including traffic operations on key roadway links including the existing crossings and roadways serving those crossings and changes in travel time and distance, as compared to the do-nothing or no-build alternative.

Expanding Huron Church/Talbot Road to a freeway would provide improvement to the regional road network by providing additional capacity to the border transportation network; without this additional capacity, the existing crossings would reach capacity by year 2022, resulting in severe congestion and delay for all international truck and auto traffic, for both long-distance and local trips.

Twinning of the Ambassador Bridge, however, offers limited ability to provide continuous/ongoing river crossing capacity for international traffic; a twinned structure can provide some flexibility in operations in response to certain types of incidences and maintenance operations, but would not provide a new link in the border network. Huron Church Road serves two primary functions in the regional road network: one function is to facilitate access to areas in west Windsor for local traffic; the second function, owing to its connection to the Ambassador Bridge, is to efficiently convey international traffic to the border crossings to facilitate the movement of people and cross-border goods. Using Huron Church Road to serve both of these primary functions provides fewer benefits to regional mobility. Multiple links and border crossings improve regional mobility and would have greater ability to provide continuous/ongoing river crossing capacity.

Detroit River INTERNATIONAL CROSSING STUDY

The Rail Corridor was assessed as:

- a two lane **truckway** utilizing the two existing single track rail tunnels;
- a six-lane freeway with a new six-lane **road tunnel** beneath the Detroit River; and,
- a six-lane freeway with a new six-lane **road bridge** over the Detroit River



The **DRTP truckway** proposal (Crossing X13) was found to provide inadequate capacity to meet the long-term needs of the border transportation network and has high community impacts on the Canadian side. This option was eliminated from further study.



As a six-lane freeway with a new bridge or tunnel, the Rail Corridor alternative has a high benefit to **regional mobility**. However, a new freeway through central and south Windsor is not consistent with land use plans and would have high impacts to the community.



The rail corridor alternatives are considered to have high impacts to **regional commercial/retail and employment** areas as well as negative impacts to both south Windsor and the older riverfront neighbourhoods.

Constructability concerns with an interchange at E.C. Row Expressway, between Howard Ave and Dougal Ave.

Rail corridor alternative is close in proximity to **Devonwoods Environmentally Significant Area**

The rail corridor alternative would create a **major transportation corridor through urban area of Windsor**. New multi-lane facility would attract a high proportion of international truck and auto traffic; result in significant shift in travel patterns in the City

Analysis Results – Rail Corridor (X13/X14 and DRTP Truckway)



The U.S. and Canadian Project Teams considered a **tunnel under this section of the Detroit River** practically infeasible due to the time and cost implications for the project.

Border agencies raised issues of security and monitoring requirements associated with location of plaza and the proposed connection to a new crossing.



Assessment of Illustrative Alternatives, Canadian Side, Rail Corridor Alternatives – Highway 401 to Detroit River

Factor	Crossing X13/14/Plaza CR1
Changes to Air Quality	No impact Little change in pollutant levels on a system-wide basis vs. do nothing
Community and Neighbourhood Impacts	High impact Displacements: 125+ households; 75+ Businesses; Disruption: 2180+ households within 250 m of centreline; 10+ businesses
Consistency with Land Use	High impact High impacts to land use; especially regional commercial uses; crossing, plaza and freeway highly inconsistent with local land uses and city plans
Impacts to Cultural Resources	High impact Impacts to 14 built features, no known archaeological sites impacted; moderate potential for impacting unknown sites
Natural Environment	High impact Loss of 21+ ha of designated/ undesignated features; direct impacts to 18+ ha of ETS ¹ habitat;
Improve Regional Mobility	High Benefits Provides additional capacity/new crossing; existing crossings and connecting roadways operate well during daily peak travel periods in long term;
Cost	High Impacts CDN\$1.9 B ² ; Constructability risks include interchange reconfiguration at Hwy 401; complex interchange at EC Row including reconfiguration of Howard and Dougal interchanges; traffic/utility management and access in Provincial Road corridor; maintenance of rail traffic.
Conclusions: The Crossing X13/X14 alternatives provide adequate improvements to regional mobility but have higher community impacts than the central alternatives. These alternatives are therefore not recommended for continued analysis.	

¹ Endangered or threatened species

² Preliminary planning costs of connecting route, plaza and one-half of crossing

RECOMMENDATION: A freeway connecting to a plaza and new crossing in the downtown area was **not carried forward on the Canadian side on the basis that this alternative has high negative impacts to the community** and is not compatible with local land uses and City plans

Analysis Results – Rail Corridor (Crossing X13/X14 Alternatives and DRTP Proposal)

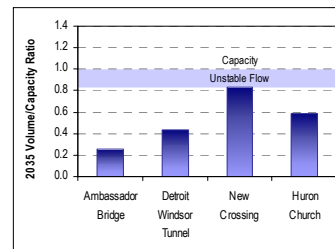
2035 Traffic Volumes And Volume to Capacity Ratios of Key Network Components with Rail Corridor Alternatives



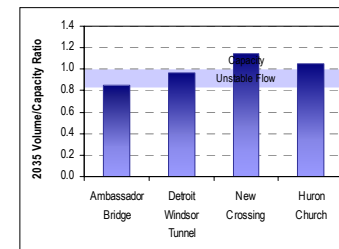
Freeway Connection and New Crossing



Freeway Connection and New Crossing



Freeway Connection and New Crossing



DRTP Proposal

Regional Mobility

The assessment of improvements to Regional Mobility is based on a number of criteria and measures, including traffic operations on key roadway links including the existing crossings and roadways serving those crossings and changes in travel time and distance, as compared to the do-nothing or no-build alternative.

The analysis of travel demand in 2035 indicates that a new crossing constructed in the rail corridor with a multi-lane freeway would attract a high proportion of the international truck and auto traffic. As well as serving as the primary route to the new crossing for long distance international truck traffic, a freeway connecting to this crossing in central Windsor would also be more attractive for the local cross border auto and truck traffic than the existing crossings which are served by arterial roads with signalized intersections. International traffic on Huron Church Road would be greatly reduced. With international traffic moving to these higher order roads, the minor street system in the city would convey fewer international trips, providing some benefit to local access.

For the X13/X14 alternatives as a freeway with a new crossing, 'local' international traffic on E.C. Row may increase, as access to the new crossing would be available for local motorists (auto and truck) via an interchange at E.C. Row.

While the DRTP proposal for a truckway provides additional capacity for trucks, the capacity provided is inadequate in comparison to the total capacity needed to accommodate the growth in travel demand to 2035.

Summary of Results of Arithmetic Evaluation

The arithmetic evaluation incorporates numeric values for both the level of importance of each environmental attribute (the “weight”) and the magnitude of the impact or benefit associated with an alternative (the “score”). The weight is multiplied by the score to obtain a total weighted score. The totals for each alternative are compared to determine the preferred alternative. The Arithmetic Method also allows for sensitivity testing of the different weighting scenarios.

The Canadian Project Team developed a set of weights for the seven major evaluation factors. A weighting scenario was also developed by arithmetically combining the factor weights provided by individuals of the public through a rating tool exercise. A third weighting scenario was developed by arithmetically combining the factor weights assigned in rating tools submitted by individuals of the Community Consultation Group (CCG).

The Arithmetic Method results indicate:

- Based on the unweighted scores, Crossing X1 and X10 alternatives were ranked highest overall, with crossing alternatives X3, X4 and X11 also highly ranked.
- The Canadian Project Team, public and CCG weighting scenarios identified crossing X10 as the highest ranking alternative; this result reflects the balance of high benefits to regional mobility and generally low to moderate impacts to the community the central options represent.
- The Canadian Project Team weighting scenario identified crossing X11 scenario as the third highest rated alternative (after X10 and X1). This weighted score reflects that the alternative has higher community impacts than the southern alternatives, but lower impacts than other alternatives in the urban area of Windsor (i.e crossing X12, X14 and X15 alternatives). This balance is also reflected in the public and CCG weighted score scenarios; the crossing X11 alternative was ranked fourth, higher than the other ‘urban’ alternatives.

The Arithmetic Method identified crossing X10 alternative in the central area as the preferred crossing location on the Canadian side. The Canadian Project Team identified the Huron Church/Talbot Road corridor and the industrial area around crossing X10 as an area of continued analysis.

Summary of Results of Arithmetic Evaluation

Crossing/Plaza/Route Evaluation - Canadian Side				ARITHMETIC EVALUATION - Project Team Weighting Scenario																											
Summary of Evaluation (1)	Weighting (2)	X1		X2		X3		X4		X5		X6		X7		X8		X9		X10		X11		X12		X13		X14		X15	
		Score (4)	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score
Changes in Air Quality	12.39	4	49.56	3	37.17	3	37.17	4	49.56	3	37.17	3	37.17	4	49.56	3	37.17	4	49.56	3	37.17	4	49.56	4	49.56	4	49.56	4	49.56	4	49.56
Protect Community/Neighbourhood Characteristics	15.93	3	47.79	3	47.79	3	47.79	3	47.79	2	31.86	2	31.86	2	31.86	2	31.86	2	31.86	2	31.86	1	15.93	1	15.93	1	15.93	1	15.93	1	15.93
Maintain Consistency with Existing and Planned Land Use	12.39	3	37.17	3	37.17	3	37.17	2	24.78	2	24.78	3	37.17	3	37.17	3	37.17	3	37.17	2	24.78	1	12.39	1	12.39	2	24.78	1	12.39	1	12.39
Protect Cultural Resources	12.39	3	37.17	3	37.17	3	37.17	3	37.17	2	24.78	2	24.78	2	24.78	2	24.78	2	24.78	2	24.78	1	12.39	1	12.39	2	24.78	1	12.39	1	12.39
Protect the Natural Environment	15.93	2	31.86	1	15.93	2	31.86	2	31.86	1	15.93	2	31.86	2	31.86	2	31.86	2	31.86	2	31.86	3	47.79	3	47.79	3	47.79	3	47.79	3	47.79
Improve Regional Mobility	17.70	5	88.50	5	88.50	5	88.50	5	88.50	7	123.90	7	123.90	7	123.90	7	123.90	7	123.90	7	123.90	7	123.90	7	123.90	7	123.90	5	88.50	5	88.50
Minimize Cost	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27	1	13.27
Unweighted Score		21		19		20		20		18		19		21		20		19		21		20		19		18		17		17	
Ranking		1		6		3		3		9		6		1		3		6		9		3		6		9		11		11	
Project Team Weighted Score	100.00	305.32		277.00		292.93		292.93		271.69		284.08		312.40		300.01		287.62		312.40		300.01		287.62		275.23		252.22		252.22	
Ranking		2		8		4		4		10		7		1		3		6		9		3		6		9		11		11	

		ARITHMETIC EVALUATION - Public Weighting Scenario																													
Summary of Evaluation	Weighting (2)	X1		X2		X3		X4		X5		X6		X7		X8		X9		X10		X11		X12		X13		X14		X15	
		Score (4)	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score
Changes in Air Quality	17.32	4	69.28	3	51.96	3	51.96	4	69.28	3	51.96	3	51.96	4	69.28	3	51.96	4	69.28	3	51.96	4	69.28	4	69.28	4	69.28	4	69.28	4	69.28
Protect Community/Neighbourhood Characteristics	15.49	3	46.47	3	46.47	3	46.47	3	46.47	2	30.98	2	30.98	2	30.98	2	30.98	2	30.98	2	30.98	1	15.49	1	15.49	1	15.49	1	15.49	1	15.49
Maintain Consistency with Existing and Planned Land Use	12.89	3	38.67	3	38.67	3	38.67	2	25.78	2	25.78	3	38.67	3	38.67	2	25.78	1	12.89	1	12.89	2	25.78	1	12.89	1	12.89	1	12.89	1	12.89
Protect Cultural Resources	13.14	3	39.42	3	39.42	3	39.42	3	39.42	2	26.28	2	26.28	2	26.28	2	26.28	2	26.28	2	26.28	1	13.14	1	13.14	2	26.28	1	13.14	1	13.14
Protect the Natural Environment	16.34	2	32.68	1	16.34	2	32.68	2	32.68	1	16.34	1	16.34	2	32.68	2	32.68	2	32.68	2	32.68	3	49.02	3	49.02	3	49.02	3	49.02	3	49.02
Improve Regional Mobility	15.28	5	76.40	5	76.40	5	76.40	5	76.40	7	109.96	7	109.96	7	109.96	7	109.96	7	109.96	7	109.96	7	109.96	7	109.96	7	109.96	5	76.40	5	76.40
Minimize Cost	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54	1	9.54
Public Weighted Score	100.00	312.46		278.80		295.14		299.57		267.84		280.73		314.39		297.07		289.21		314.39		297.07		289.21		276.32		258.56		258.56	
Ranking		2		8		5		3		10		7		1		4		6		9		3		6		9		11		11	

		ARITHMETIC EVALUATION - Community Consultation Group Weighting Scenario																													
Summary of Evaluation	Weighting (2)	X1		X2		X3		X4		X5		X6		X7		X8		X9		X10		X11		X12		X13		X14		X15	
		Score (4)	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score	Score	Weight x Score
Changes in Air Quality	17.30	4	69.20	3	51.90	3	51.90	4	69.20	3	51.90	3	51.90	4	69.20	3	51.90	4	69.20	3	51.90	4	69.20	4	69.20	4	69.20	4	69.20	4	69.20
Protect Community/Neighbourhood Characteristics	13.88	3	41.64	3	41.64	3	41.64	3	41.64	2	27.76	2	27.76	2	27.76	2	27.76	2	27.76	2	27.76	1	13.88	1	13.88	1	13.88	1	13.88	1	13.88
Maintain Consistency with Existing and Planned Land Use	13.69	3	41.07	3	41.07	3	41.07	2	27.38	2	27.38	3	41.07	3	41.07	2	27.38	1	13.69	1	13.69	2	27.38	1	13.69	1	13.69	1	13.69	1	13.69
Protect Cultural Resources	13.12	3	39.36	3	39.36	3	39.36	3	39.36	2	26.24	2	26.24	2	26.24	2	26.24	2	26.24	2	26.24	1	13.12	1	13.12	2	26.24	1	13.12	1	13.12
Protect the Natural Environment	17.11	2	34.22	1	17.11	2	34.22	2	34.22	1	17.11	1	17.11	2	34.22	2	34.22	2	34.22	2	34.22	3	51.33	3	51.33	3	51.33	3	51.33	3	51.33
Improve Regional Mobility	14.83	5	74.15	5	74.15	5	74.15	5	74.15	7	103.81	7	103.81	7	103.81	7	103.81	7	103.81	7	103.81	7	103.81	7	103.81	7	103.81	5	74.15	5	74.15
Minimize Cost	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07	1	10.07
Public Weighted Score	100.00	309.71		275.30		292.41		296.02		264.27		277.96		312.37		295.07		288.79		312.37		295.07		288.79		275.10		258.56		258.56	
Ranking		2		8		5		3		10		7		1		4		6		9		3		6		9		11		11	

NOTES:

- (1) - Crossing X5, X6, X7 and X13 alternatives were eliminated from further study and therefore were not ranked
- (2) - Members of the Canadian Project Team collaboratively developed one set of weightings.
- (3) - Public and Canadian Consultation Group weighting scenarios were developed by arithmetically combining individual submissions on factor weightings
- (4) - Scores were assigned to each alternative by Project Team specialists and are the same for all weighting scenarios

Summary of Canadian Side Assessment

Based on the results of the evaluation of crossing/plaza/connecting route systems connecting the 15 crossings to Highway 401, the Canadian Project Team brought forward the following preliminary recommendations for comparison to the U.S. findings as part of an end-to-end evaluation:

Alternative (Highway 401 to Detroit River)	Canadian Project Team Recommendations	Comments
Crossing X1, X2, X3 and X4	Not carried forward	Alternatives do not provide adequate improvement to regional mobility.
Crossing X5, X6 and X7	Not carried forward	Eliminated from further consideration due to issues of constructability/feasibility.
Crossing X8 and X9	Carried forward	Crossings X8 and X9 alternatives provide high benefits to regional mobility and avoid the community of Sandwich, but have higher impacts to natural features than other central alternatives on the Canadian side. In determining whether to carry these alternatives forward as practical alternatives, the impacts and benefits of these alternatives on the U.S. side must needed to be considered.
Crossing X10 and X11	Carried forward	These alternatives were found to have the best overall balance of meeting regional mobility needs and impacts to community features.
Crossing X12	Not carried forward	The Crossing X12 alternative would result in high community impacts and high potential for disruption to international traffic during construction. This option has limited ability to provide continuous river crossing capacity in the border crossing network.
Crossing X13	Not carried forward	This alternative would provide inadequate capacity to meet long-term needs and high community impacts
Crossing X14	Not carried forward	This alternative has high impacts to communities and neighbourhoods in central and south Windsor.
Crossing X15	Not carried forward	This alternative does not provide adequate improvement to regional mobility and has high community impacts

Results of Assessment of U.S. Alternatives

The U.S. Project Team conducted a parallel evaluation of 37 crossing/plaza/connecting route systems on the U.S. side.

North Alternatives – Crossing X15

- 2 alternatives analysed
- New crossing at Belle Isle would not adequately meet the long-term needs for regional transportation network
- Poorer performance in terms of impacts to community and neighbourhood characteristics; consistency with land use plans; impacts to cultural resources; impacts to air quality

CROSSING X15 ALTERNATIVES NOT RECOMMENDED TO BE CARRIED FORWARD

I-75/I-96 Area

Crossings X13 and X14

- 4 crossing/plaza/route alternatives were analyzed; including the proposed DRTP truckway (Crossing X13)
- Crossing X13 had little benefit to mobility in terms of reducing congestion at existing crossings in 2035
- Crossing X13 on U.S. side connecting to I-75 had negative community impacts and impacts to cultural features associated with the plaza and crossing; the connecting route was considered incompatible with local land use; a new crossing was noted as being in conflict with plans for residential/commercial revitalization for this area of Detroit

2 crossing X14 alternatives performed better than most alternatives in terms of improving regional mobility; protecting natural features and constructability
CROSSING X14 WAS RECOMMENDED TO BE CARRIED FORWARD TO THE END-TO-END EVALUATION

Crossing X12 Alternative (Twin Ambassador Bridge)

- Identified as one of the top overall performers on the U.S. side in terms of effectiveness and cost-effectiveness
- Ambassador Bridge is currently undergoing expansion of existing plaza; improved connections between the bridge and interstate freeway system is occurring as part of the Gateway Project
- High impacts to cultural resources; maintaining air quality

CROSSING X12 WAS RECOMMENDED TO BE CARRIED FORWARD TO THE END-TO-END EVALUATION

Central Alternatives – Crossings X7, X8, X9, X10 and X11

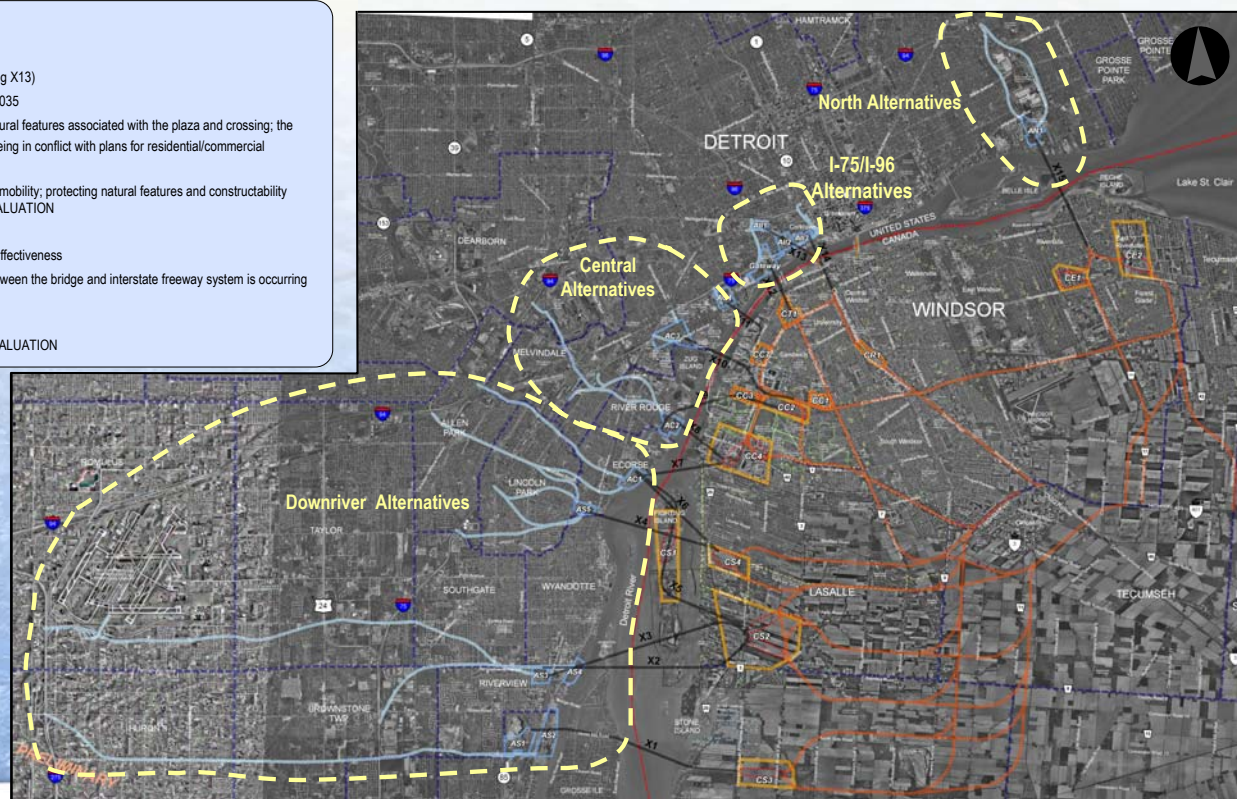
- Crossing X7 and plaza AC1 was eliminated from further consideration on the basis of unacceptable impacts to existing industrial operation.
- Crossings X8 and X9 and Plaza AC2 were noted as having a high impact to the steel mill operations. The higher constructability risks associated with these impacts left these options as being less preferred than the X10 and X11 options.
- Crossing X10 and X11 alternatives had high performance based on analysis of cost-effectiveness which considered impacts and costs of all alternatives

CROSSINGS X8, X9, X10 AND X11 WERE RECOMMENDED TO BE CARRIED FORWARD TO THE END TO END EVALUATION

Downriver Alternatives -- Crossings X1, X2, X3, X4, X5, X6

- Downriver crossings would have limited improvement to traffic operations on the U.S. freeway system; had poorer performance in regional mobility; none were among the top performers overall

NONE OF THE DOWNRIVER ALTERNATIVES WERE RECOMMENDED TO BE CARRIED FORWARD



The results of the Canadian and U.S. Project Teams' analysis were brought forward for an end-to-end evaluation. The recommendations of the Canadian and U.S. Project Teams were brought forward and the Partnership made final recommendations based on the complete understanding of impacts and benefits on both sides of the river for all alternatives.

	Advantages	Disadvantages	Recommendations
Crossings X1 to X7 and X15	<ul style="list-style-type: none"> South alternatives (Canadian side) have lower community impacts than other alternatives In the U.S., several downriver alternatives provided greater benefits to Maintaining Air Quality and others were noted as having lower community/neighbourhood characteristics than other alternatives. For the East and North alternatives, the Canadian and U.S. analysis identified lower impacts to natural features than other alternatives. 	<ul style="list-style-type: none"> Analyses for South and East alternatives indicate inadequate benefits to regional mobility. Canadian Analysis identified high constructability risks with a plaza on Fighting Island and Crossing X5. Canadian and U.S. analysis for South alternatives identified high impacts for sensitive natural areas along the riverfront U.S. analysis indicated generally higher impacts to natural features for the Downriver alternatives. U.S. analysis identified that AC1 would disrupt an existing industrial operation (National Steel). Therefore, Implementing Crossings X5 and X6, and X7 could pose a risk to the timeline of the project. Analysis for East alternatives identified high impacts to established riverfront residential communities. U.S. analysis identified North alternatives have poorer performance than most other alternatives in terms of impacts to community and neighbourhood characteristics, consistency with land use plans, impacts to cultural resources, impacts to air quality. 	<ul style="list-style-type: none"> The analysis of the Canadian and U.S. Project Teams agreed that these alternatives should be eliminated from further study. The disadvantages outweighed the advantages.
Crossings X8 and X9	<ul style="list-style-type: none"> Both teams identified that crossing X8 and X9 alternatives offer high benefits to regional mobility. 	<ul style="list-style-type: none"> The Canadian analysis identified that X8 alternative offers lower benefits to regional mobility than the other central alternatives and that both X8 and X9 alternatives have high impacts to the significant natural features in the Ojibway area. The U.S. analysis identified high constructability risks associated with Plaza AC2 (crossings X8 and X9) as well as Plaza AC2 is sited on the National Steel plant lands. These alternatives would require relocating the rolling mill without disrupting production. This increases constructability risks as well as the cost and time required to implement a new crossing. 	<ul style="list-style-type: none"> X8 and X9 alternatives are not the top performers in either country, and both alternatives have unique high impacts and risks. Crossing X8 and X9 were eliminated from further study.
Crossing X10 and X11	<ul style="list-style-type: none"> Both teams identified that crossing X10 and X11 alternatives offer high benefits to regional mobility. 	<ul style="list-style-type: none"> The Canadian analysis identified Crossing X11 alternative has higher community impacts than the other central alternatives, including impacts to land use and cultural features, due to the proximity of the crossing and plaza to the residential and historic community of Sandwich. The U.S. analysis identified Plazas AC3 and AC4 (potential plaza locations for X10 and X11) as having negative impacts to community cohesion and character, as well as environmental justice impacts. Plaza AC3 would likely result in the displacement of approximately 300 residential units, while plaza AC4 would displace over 60 residences. 	<ul style="list-style-type: none"> The high benefits to regional mobility outweigh the disadvantages. These alternatives were found to have the best overall balance of meeting regional mobility needs and impacts to community features. The Canadian and U.S. Project Teams recommended the X10 and X11 alternatives to be carried forward for continued analysis.
Crossing X12	<ul style="list-style-type: none"> Relatively low negative impacts on the U.S. side in terms of benefits provided to mobility. The alternative provides improved regional mobility for the border transportation network on both sides of the river 	<ul style="list-style-type: none"> Relatively high negative impacts on the Canadian side and Considered to have limited ability to provide continuous/ ongoing river crossing capacity for international traffic on the basis that this alternative would not provide a new crossing. High community impacts to the residential area impacted by the expansion of the Canadian bridge plaza and the expansion of Huron Church Road to a freeway facility, and the potential for disruption to border traffic during construction 	<ul style="list-style-type: none"> The disadvantages of the Crossing X12 alternative outweighed the advantages. The U.S. plaza of the Ambassador Bridge, with the improved connections to the interstate freeway system will be carried forward within the Area for Continued Analysis as a possible U.S. plaza site for a new crossing.
Crossing X13 and X14	<ul style="list-style-type: none"> Both teams identified that as a six-lane freeway, the Rail Corridor has a high benefit to regional mobility. Two X14 alternatives were considered on the U.S. side. The X14/Plaza I12/Connection to M-10 alternative performed better than most alternatives in terms of community/ neighborhood impacts, consistency with local planning, protecting natural features, improving regional mobility and constructability. The X14/Plaza I13/Connection to M-10 among top performers in terms of protecting natural features, constructability and regional mobility. 	<ul style="list-style-type: none"> The Canadian analysis identified this alternative has high community impacts to regional commercial/retail areas and employment areas; high negative impacts to community character and cohesion in areas north of Tecumseh Road to the river and south of E.C. Row to Highway 401. Canadian Analysis also noted concerns with constructability of interchanges along the rail corridor and security/monitoring of the remote plaza. U.S. analysis noted that a crossing and inspection plaza would negatively affect the local community including impacts to businesses, schools and residences. As well, these alternatives had a poorer performance than most other alternatives in terms of protection of cultural features and maintaining air quality. Neither of the X14 alternatives was among the top overall performers on the U.S. side. 	<ul style="list-style-type: none"> The disadvantages of the Crossing X13 and X14 alternatives outweighed the advantages. Therefore, the Crossing X13 and X14 alternatives were eliminated from further study
Conclusions: Area of Continued Analysis	<ul style="list-style-type: none"> The results of the end-to-end evaluation of illustrative alternatives led to the identification of an area of continued analysis for possible practical crossing, plaza and connecting route alternatives. These practical alternatives will be refinements of crossing alternatives X10 and X11, as well as possible alternatives connecting to the Ambassador Bridge Gateway and expanded plaza area on the U.S. side. On the Canadian side, this area would encompass plazas CC2, CC3 and CC7 and be defined to provide sufficient area to enable a range of connecting route alignments and crossing alignments to be developed for continued analysis. The area would also accommodate refinement to the locations and alignments of crossing, plaza and connecting route alignments in the Ojibway Industrial Park area. The residential community of Sandwich, Black Oak/Ojibway protected natural areas would serve to limit the extent of the area for continued analysis on the Canadian side. On the U.S. side, the area would encompass the area of southwest Detroit between the I-75 corridor and the riverfront between Zug Island and the Ambassador Bridge. Possible improvements to connections to I-94 along Schaefer Road or Outer Drive will also be examined. 		



- Information and comments received from this PIOH will be considered in refining and assessing the alternatives to be carried forward for continued analysis.
- The practical crossing, inspection plaza and connecting route alternatives will be presented to the public in March 2006.
- The Partnership will undertake detailed investigations of technical, social, economic, cultural and natural environment issues:

Acoustical and Vibration

Site Surveys
Consult with Agencies and Stakeholders
Conduct Practical Routes Noise Assessment
Develop Noise Mitigation Strategies

Air Quality

Site Surveys
Consult with Agencies and Stakeholders
Conduct Practical Routes Air Quality Assessment
Present Results of Air Quality Assessment

Archaeological

Prepare Stage One Documentary Survey
Consult with Agencies and Stakeholders
Conduct Stage Two Field Surveys at specific locations
Develop Mitigation Strategies

Built Heritage

Conduct Built Heritage Inventory
Consult with Agencies and Stakeholders
Develop Mitigation Strategies

Economic

Individual Business Interviews
Consultation with Business Associations/Groups

Natural Heritage

Site Surveys
Consult with Agencies and Stakeholders
Conduct Practical Routes Noise Assessment
Develop Noise Mitigation Strategies

Social

Individual Household Interviews
Consultation with Residential Community Associations/Groups

Technical

Conduct Geotechnical Surveys
Develop Preliminary Geometric Design
Consult with Municipalities, Agencies, and Stakeholders
Develop Geometric Design Mitigation Strategies

Waste and Waste Management

Field Surveys – i.e. sites
Consult with Agencies and Stakeholders
Develop Waste Management Strategies

Ongoing consultation with agencies, stakeholders and the public will be incorporated in this work.

- The results of these additional investigations, and the assessment of practical alternatives will be presented to the public by the end of 2006.
- A technically and environmentally preferred alternative will be determined within the area of continued analysis in the Spring of 2007.

- Workshops are being arranged to allow interested persons opportunities to discuss potential plaza, route and crossing alternatives as well as project issues in greater detail with the Project Team.
- The **tentative** dates are **Tuesday January 10 and Thursday January 12, 2006**. Additional dates will be arranged as required.
- Possible topics of discussion include:
 - Results of assessment of Illustrative Alternatives
 - Key features within the area of continued analysis
 - Design aspects (interchange locations, access routes, buffer zones, landscaping, and building treatments) of crossings, plaza and connecting routes alternatives.
- If you are interested in attending one of these workshops, please provide your contact information on the registration form available at this PIOH.
- For further information, please visit www.partnershipborderstudy.com or speak to a member of the Project Team.

How Can You Stay Involved?

- The DRIC Study is an important project for the communities in the Detroit River area; it provides a unique opportunity for the public to get involved in the decisions that will have a lasting effect regionally and nationally.
- Your participation is welcomed and encouraged!
 - Please complete a comment sheet and share your views with the Project Team
 - Sign-up to participate in a project issue workshop (Registration forms are available at this Open House or on the project website)
 - Check website for progress updates
 - Contact the Project Team at any time to obtain information or ask questions
 - Attend the Community Consultation Group and public meetings (check the project website for upcoming meetings)

THANK YOU FOR ATTENDING!

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