Partnership of

Canada

U.S. Department of Transportation
Federal Highway Administration

Ontario

MDOT
MICHIGAN DEPARTMENT OF TRANSPORTATION

Canada-United States-Ontario-Michigan
Border Transportation Partnership

Detroit River International Crossing Environmental Assessment

Public Information Open House #5 Summary Report

August 2007

URS

Table of Contents

1.0 Introduction

The Border Transportation Partnership representing the governments of Canada, the United States, Ontario, and Michigan is committed to working together to determine the long-term border crossing needs at the Windsor-Detroit Gateway. The Partnership is moving forward with the route planning and environmental studies to create additional crossing capacity. Through the Detroit River International Crossing Project, the Partnership will determine the location of a new crossing, with connections to freeways in Ontario and Michigan that meets the legislative requirements of both nations.

The Ontario Ministry of Transportation (MTO) is leading the Canadian work program in coordination with Transport Canada. URS Canada Inc. has been retained as part of the Study Team to assist in undertaking the route planning and environmental assessment in accordance with the Ontario Environmental Assessment Act (OEAA) and Canadian Environmental Assessment Act (CEAA).

Governments at all levels are committed to completing the work as rapidly as laws and regulations permit, while ensuring interested and affected parties have adequate opportunities to have their perspectives considered. Public input is an essential part of this project. The Detroit River International Crossing Project is a unique opportunity for all interested persons and organizations to contribute to the planning of a major transportation undertaking.

The consultation program for the DRIC Study incorporates Public Information Open Houses (PIOHs) throughout the Study, generally timed with major milestones in the environmental assessment as follows:

Task/Milestone		
Identify Study Area Features	Initial Public Outreach	March 2005
Identify Initial Set of Crossing, Plaza and Connecting Route Alternatives	PIOH #1	June 2005
Identify Area of Continued Analysis	PIOH #2	Dec. 2005
Identify Practical Crossing, Plaza and Access Road Alternatives	PIOH #3	March 2006
Update on Analysis of Practical Alternatives	PIOH #4	Dec. 2006
Update on Analysis of Practical Alternatives (Introduction of Parkway Alternative)	PIOH #5	Aug. 2007

This report summarizes the notification and display material prepared for the PIOH meetings, pre-PIOH activities, attendance, and the public input and comments provided at the Open House sessions.

2.0 Purpose

The fifth round of Public Information Open House (PIOH) meetings were held to present to the public the final analysis of the practical alternatives and to gather input into the Parkway Alternative. PIOH5 was held as follows:

Tuesday August 14, 2007
2:00 p.m. to 8:00 p.m.
Holiday Inn Select Hotel, Ballroom
1855 Huron Church Road
Windsor, Ontario

Wednesday August 15, 2007
2:00 p.m. to 8:00 p.m.
Ciociaro Club, Salons A & B
3745 North Talbot Road
Tecumseh, Ontario

The format for the PIOHs was informal drop-in sessions with displays showing the analysis completed for the Seven Major Evaluation Factors (Air Quality, Community and Neighbourhood Impacts, Land Use Impacts, Cultural Resources Impacts, Natural Resources Impacts, Regional Mobility, and Cost and Constructability). The Study Team was available to answer questions and receive feedback from the public. In addition, a new Parkway alternative was developed for the access road, reflecting study goals and the community input received to date.

The purpose of the PIOHs was to share the latest project information with the public and receive comments on the analysis completed to date. In addition to presenting the analysis of the previously identified alternatives, a new below-grade alternative (the Parkway) was presented. Described as a green transportation corridor, the access road for international traffic would be below-grade with a number of short tunnels. Landscaped plans for Parkway Alternative were on display, and landscape architects were available to help facilitate the public's ideas regarding how the access road alternatives should be landscaped. Information on the evaluation process to be undertaken in selecting a technically and environmentally preferred alternative for the crossing, plaza and access road was provided. As well, the public was invited to provide their ideas and comments to help the Study Team to evaluate all the alternatives and develop a single preferred alternative.

The open house sessions also offered members of the public the opportunity to complete sign-up forms to register for PIOH5 Workshop sessions to be held later in August.

3.0 Public Notification

Prior to the PIOH meetings, the following notification activities were carried out to notify the public:

1. A flyer (see Appendix A) was inserted into the following newspapers on the specified dates:

Newspaper	Date of Insert	Circulation (approx.)
Windsor Star	Saturday August 4, 2007	80,000
Amherstburg Echo	Tuesday August 7, 2007	8,300
Harrow News	Tuesday August 7, 2007	1,400
Kingsville Reporter	Tuesday August 7, 2007	2,200
Leamington Post & Shopper	Wednesday August 8, 2007	3,600
Essex Free Press	Wednesday August 8, 2007	3,500
LaSalle Post	Wednesday August 8, 2007	9,800
Le Rempart	Wednesday August 8, 2007	7,300

2. A full-page advertisement (see Appendix B) was published in the Saturday August 11th edition of the Windsor Star.

3. PIOH meeting dates and locations were announced at media events held in advance of the PIOHs. A Media Briefing session was held on August 14th.

4. Notices (see Appendix A) were mailed directly to over 10,000 persons on the Study Team's general public mailing list as well as project Advisory Group contact lists.

5. Notices (see Appendix A) were mailed directly to over 37,000 property owners (as identified on property assessment roll plans supplied by municipalities) and residents within the Area of Continued Analysis.

6. Details of the PIOHs were posted on the project website at www.partnershipborderstudy.com 14 days in advance of the meetings.

7. Public Service Announcements were placed on local community electronic billboards and websites in advance of the meetings.

4.0 Advisory Group Meetings

Meetings were held in Windsor with the DRIC Advisory Groups with the purpose of presenting the analysis results of the Practical Alternatives and introducing the Parkway Alternative. The meetings were held as follows:

Private Sector Advisory Group.....August 15, 2007
Community Consultation Group.....August 21, 2007
Municipal Advisory Group.....August 23, 2007
Canadian Agency Advisory Group..... September 13, 2007

Notes of these meetings are provided in Appendix C.

5.0 Display Material

The following display material was presented at the Public Information Open House meetings (see Appendix D):

- Contact Information – Canadian Study Team
- The Border Transportation Partnership
- CEAA Process
- Coordination of CEAA & Ontario EA Processes
- Governance
- Chronology of DRIC Study Process
- Property Acquisition
- Purpose of the DRIC Study
- Evaluation Process and Methods
- Access Road Alternatives
  - Summary of Analysis – Access Road Alternatives
    - Changes to Air Quality
      - Air Quality Monitoring
      - Air Quality Assessment
      - Tunnel Ventilation and Contaminant Removal Technologies
    - Protection of Community and Neighbourhood Characteristics
    - Maintain Consistency with Existing and Planned Land Use
    - Protect Cultural Resources – Archaeological and Built Heritage Features Impact Assessment
    - Protect the Natural Environment Assessment
    - Improve Regional Mobility Assessment
    - Cost & Constructability

        - Cost & Constructability Assessment
        - Geotechnical Explorations and Analyses – Access Roads
    - Connecting Communities
    - Parkway Alternative
    - Context Sensitive Solutions (CSS)
        - CSS Workshop Summary
- Plaza and Crossings
    - Summary of Analysis-Crossing and Plaza Alternatives (2 boards)
    - Bridge Types
    - Summary of Analysis – Crossing and Plaza Alternatives
        - Foundations Investigations
        - Current Status of Bedrock Explorations & Analyses
        - Crossing Renderings
        - Bridge Type Study
    - U.S. Study Progress to Date
        - U.S. Plaza – Preliminary Analysis Summary
        - Contact Information – U.S. Study Team
- Public Information Open House #4 Summary
- Consultation
- What's Next?
- PIOH5 Workshop Registration

In addition, video simulations of the five access road alternatives (1A, 1B, 2A, 2B and 3) were presented which depicted what the access road would look like in the future along the entire length of the corridor as well as a proposed construction staging scheme for each alternative. The video simulations were the same as those shown at the PIOH (#4) in December 2006.

The attendees were provided with a handout package that contained a copy of the display material (see Appendix D), fact sheets and a CD of the alternatives. Comment sheets were made available to all attendees. Sign-up sheets for the Workshop sessions were available at the meetings, located at five different stations throughout the meeting room.

6.0 Attendance and Comments

A total of 1,672 members of the public chose to sign the visitor's register for the two PIOH meetings (see table below).

In addition to verbal comments, the Study Team encouraged visitors to express in writing, all comments they had regarding the information presented. In total, 207 written comment sheets were submitted at the PIOHs. In addition, 23 comment sheets were received via postal mail, fax, e-mail or via the Study Team website.

A breakdown of attendance and comments by meeting date/venue is provided as follows:

Date / Venue	Total Attendance	Written Comment Sheets Received
August 14, 2007 – Windsor, Ontario	919	99
August 15, 2007 – Tecumseh, Ontario	753	85
Total Comments received via postal mail, fax, e-mail or Study Team website	-	23
Total	1672	207

Attendees were encouraged to provide input to a number of questions on the comment sheets. The following lists the questions asked and written responses received.

Question 1 – The assessment of the Practical Alternatives based on the seven evaluation factors does not support further analysis of an end-to-end at-grade solution at this time. Please indicate whether you agree or disagree with this finding and provide any additional comments.

Comments made by participants when answering Question 1 included:

Question 1	*Agree: 85*	*Disagree: 26**
Below grade is better; tunneling is best		
Should not have been considered at all based upon proposed route and existing land uses; end to end tunnel is only solution that will be environmentally acceptable		
Will not solve noise or pollution problems		
Will divide the city into two		

* Although 26 comment sheets recorded "Disagree", in 24 cases, the accompanying comment suggested the respondent was in favour of a tunnel alternative and/or not in support of an at-grade alternative.

Question 2 – Based on the seven evaluation factors, the Study Team has found that the limited benefits of an end-to-end cut and cover tunnel alternative do not justify the additional costs and risks associated with this alternative. Please indicate whether you agree or disagree with this finding and provide any additional comments.

Comments made by participants when answering Question 2 included:

Question 2	*Agree: 24*	*Disagree: 82*
• Disagree; cost is not too high; benefit surpasses costs; want the best solution, not the cheapest solution; want a tunnel; consider healthcare costs		
• Agree; cost does not warrant a tunnel		

Question 3 – The Parkway alternative was developed to improve the movement of traffic, keep trucks off local streets and to improve the quality of life in the community. Please provide your suggestions for improvements or refinements to the Parkway alternative for the Study Team to consider.

Comments made by participants when answering Question 3 included:

Question 3
• Maximize tunnel use in residential areas; to minimize visual impact, air and noise pollution
• Focus in tunneling, not parkland
• Lengthen the short tunnels
• Incorporate proper air and noise mitigation
• Parkway is too wide; does not address air and noise pollution concerns
• Parklands shown are not usable space for recreational activities (ie sports, soccer, Frisbee, dog walking)
• Parkway concept is comprised of 1920's ideologies
• Parkway will divide the city as it does with similar highway systems in Detroit
• Incorporate more trees/vegetation on the Parkway plan
• Improvements to the movement of traffic would clearly result from the proposed Parkway plan and will provide improvement to the quality of life and allow the quickest solution to the traffic problem
• Who will pay for the proposed landscaped treatments and adjoining connections to local roads/sidewalks?
• Need 200m to 300m long tunnels with 25m-30m openings
• All overpasses on green spaces should be the maximum width of 250 metres
• Good concept; especially with local traffic being at grade
• Much improved alternative; communities on west and east side of Huron Church Road will be reconnected; wildlife areas will be re-established and bike paths extended. Noise will lessen with the below grade alternative.
• Landscaped areas should be open, inviting, and well lit. Create public use areas including picnic areas, parkettes, and other recreational opportunities
• How will monitoring of potential vandalism from the Parkway be monitored?

Question 4 – You can also use the adhesive labels provided to show specific locations where you have comments regarding any of the practical alternatives, including the Parkway alternative. Write the reference number noted at the right on an adhesive label and provide your comments in the space below.

Comments made by participants when answering Question 4 included:

Question 4
• Include a tunnel with scrubbers; provide extra parkland; landscaping is preferred to sound barriers
• Use retaining walls instead of sloping grass; extend retaining walls 10 feet above grade
• Create one long tunnel at Cousineau with ventilation; landscaping is preferred to an artificial sound barrier.

Question 4
• Take all the homes on Gratiot Street; do not leave any with no access to community facilities
• Need larger buffer between the Parkway concept and the playing fields at St.Clair College; provide natural barriers as opposed to a chain link fence
• Concerns about property value, and view from front yard of the Parkway
• On/off ramps need to have low grade to minimize the use of air brakes
• Concerned about air quality and noise impacts at Huron Estates; suggestion of tunneling the Parkway at Turkey Creek
• Parkway concept at Labelle is excellent and improves quality of life; access to green space on west side of Huron Church Road is much improved and safer
• Parkway does not improve quality of life; green space proposed is not enough; tunnel
• Consider designing Parkway at Southwood Lakes below grade to help mitigate noise impacts; install concrete barriers at Southwood Lakes
• Provide an entrance/exit to St. Clair College; move land bridge further past on and off ramps allowing a turnaround for college traffic
• Ramp from Highway 401 to Labelle/Bethlehem should be changed to have one exit at Labelle and access provided to Huron Church Road
• Too much property is taken for the Parkway Alternative
• Provide more buffer to properties located at Oliver Estates; concern with noise and age of homes
• If providing recreational facilities on the landscaped short tunnels; provide parking to access these facilities
• Allow people to cross Huron Church Road at convenient locations and still maintain access to the expressway exits and entrances
• Provide an exit at Howard Avenue
• Route off ramp traffic toward Highway 3 to avoid additional traffic closer to homes on Imperial Drive in the Southwood Lakes subdivision.

Question 5 – Please provide your comments on the preliminary analysis completed for the Seven Major Evaluation Factors listed in the table below. Consider the following:

- Do you have any concerns relating to the results of the analysis of the crossing, plaza, or access road alternatives?
- Are there any other issues that you feel should be addressed?
- Do you have any comments concerning the analysis work and the methods used to carry out the work?

Comments made by participants when answering Question 5 included:

Question 5 – Changes to Air Quality
• Air quality must be kept to the highest standard possible
• Changes in air quality should be carefully examined

Question 5 – Changes to Air Quality
• Air quality should be improved over current conditions
• Construct a tunnel with air scrubbers; contain pollutants within a tunnel
• Show actual air quality data to the public; data presented to the public is too complicated
• Concern over higher concentrations of air particulate matter at tunnel openings
• Not satisfied that the Parkway concept adequately addresses air pollution
• Very concerned about air quality as a result of this project
• Concerned about air quality for Sandwich Towne as a result of the plaza alternatives
• Concerned about health impacts to Windsor residents
• Concerned with diesel particulate matter
• None of the alternatives will improve the air quality in Windsor
• Not convinced that the state of the art technology is not being utilized for this project
• No matter what solution is employed there will always be transboundary air quality impacts
• The very limited improvement in the tunneling option versus the below grade option needs to be made more clear
• If the starting and stopping of traffic is eliminated air quality should improve
• Results of the analysis is very good; satisfied with the data presented

Question 5 – Protection of Community and Neighbourhood Characteristics
• Neighbourhoods must be protected from excess noise and pollution
• This factor should have the highest weight assigned to it
• This project will divide West Windsor from the rest of the city
• Concern about potential impacts to Oakwood School and adjacent natural areas
• Maintain continuity on each side of the highway as shown with multi-use pathways
• End to end tunnel would protect current community and neighbourhood characteristics
• Good planning in avoiding Ojibway and LaSalle woodlot
• Concerned with established and new residential neighourhoods surrounding Plaza A; concern for impacts to Sandwich Towne
• Project will clean up the area; add more trees and vegetation
• Concerned about business displacement and future relocations
• Concern that commercial properties located at key intersections, adjacent neighbourhoods are deprived of urban amenities
• Parkway will be a blight on the neighbourhoods and on the city; it will devalue property values

Question 5 – Protection of Community and Neighbourhood Characteristics
• Parkway does a nice job of joining the Windsor and LaSalle communities
• Concerned that LaSalle will be cut off from Windsor

Question 5 – Maintain Consistency with Existing and Planned Land Use
• Tunnel will have less impact on existing land uses
• Not in line with the City of Windsor development plan
• No way this project can maintain consistency with existing land use
• Plans ignore the residential nature of the study area
• Parkway infringes present land use and puts the highway even closer to residential neighbourhoods
• Improve existing land uses; Huron Church Road is already a highway; preserve more vulnerable green spaces
• Land uses will be acquired during construction; hope that similar land uses return after construction is completed

Question 5 – Protect Cultural Resources
• Cultural Resources should be ranked higher
• Consider Heritage Park Alliance Church to be a cultural resource
• Must not invade any protected cultural lands
• Good job with the cultural analysis
• Tunneling appears to have the least impact to cultural resources
• Preserve what are truly historical features

Question 5 – Protect the Natural Environment
• Natural resources are the most vulnerable and the most important
• The only protection to natural resources may be implemented by constructing a tunnel
• Preserve as many trees as possible
• Natural areas are being eliminated along EC Row Expressway and the Spring Garden area
• Concern about air pollution effects on new plantings proposed with the Parkway alternative
• Natural environment analysis looks correct
• Do not sacrifice the natural environment for development
• Natural environment will be worse for some areas and better in other areas

Question 5 – Protect the Natural Environment
• Use existing natural areas as buffers
• Good job for protecting the environment
• Plan does not protect the natural environment; minimize the disruption to the natural environment
• Avoid natural areas surrounding Plaza A location
• Cannot replace the little natural areas left in Windsor
• Plaza C impacts the least amount of natural features
• Consider a green buffer landscaping with pine trees to help with noise impacts year round
• Consider using xeroscape landscaping as an option; use native plantings for future planting areas

Question 5 – Improve Regional Mobility
• Consider multi-modal solutions (ie. trucks on trains outside the study area)
• A fully tunneled highway will improve mobility
• Consider keeping truck traffic separate from local traffic
• Consider emergency services access with each alternative
• This project will eliminate the need for trucks to start and stop on city streets; a third crossing is needed
• Parkway alternative looks like it adequately maintains continuity across the highway
• Would prefer if the highway would bypass Windsor altogether and build the transportation system elsewhere
• Parkway alternative preserves local traffic and improves pedestrian traffic; concerned that it cuts off neighbourhoods that could have access to the routes/paths
• Frequency of crashes in tunnels are less; good argument in favour of end-to-end tunneling
• Concerned about being cut off from the east side of Windsor
• Removing the stop lights help; consider merging E.C. Row Expressway and the new access road to the plazas

Question 5 – Cost & Constructability
• Cost of tunneling seems to be exaggerated
• Cost should not be a major factor or a defining factor; unacceptable evaluation factor
• Other six evaluation factors should be considered greater than cost and constructability
• Windsorites deserve the best that money can buy; since the new crossing will service the economy of Canada
• Parkway is a cheap solution; total cost can be recovered quickly
• Cut and cover tunnel is the most costly but it is the preferred solution; solution needs to last for the next 50-70 years

Question 5 – Cost & Constructability
• Cost of tunneling is cheaper than the projected cost of health care
• The perceived benefit of a tunnel is far outweighed by cost, spend the money on acquisitions and increase buffer zones
• Use the cheapest solution possible
• Federal funding is involved; therefore do not consider a cheap solution
• Windsor is an underserved and underfunded transportation hub for Ontario and Canada into the North American north/south/east/west transportation corridors
• Cost is important but not at the expense of other issues
• Compare costs of this project to other large infrastructure projects in Canada (ie. Confederation Bridge)
• The most efficient use of tax dollars should be considered
• If at grade alternative is not be considered; cost for tunnel should not be a factor
• Look for the best solution, not the most cost-effective solution

Question 6 – Other Comments

Comments made by participants when answering Question 6 included:

Question 6
• The new crossing must remain in the public domain, with ownership shared between the governments of Canada and the United States.
• Windsorites deserve the best solution since we are the gateway of Canada
• Start this project tomorrow. Our economy is at a standstill, we need jobs and new money to keep our economy going. Do not consider tunneling. One tunnel is a potential for disaster. You will need two in case of accidents.
• Air quality statistics are not acceptable especially given the results found in California regarding diesel trucks.
• Ambassador Bridge company plans include a twinning of the existing bridge and keeping the roadway to the bridge at grade. The DRIC project does nothing to change this, it only provides a second crossing.
• Bad proposal. Not in the best interest of the City of Windsor and its residents.
• This huge undertaking deserves the most imaginative and innovative solution. The solution should be so impressive to the world that we are seen in the best possible light and the people around the world want to do bigger business in Canada.
• Do not agree with the Parkway alternative; cut and cover tunnel is a better proposal.
• Concerned with traffic flow during construction.
• Consider wildlife linkages once a final crossing and plaza location is chosen. Consider one to one replacement mitigation for natural areas.
• Who will provide funding for the continual upkeep of the parkway/policing?

Question 6
• Develop a more progressive, creative and responsible design.
• Your plans do not address our needs.
• Please incorporate bridges and pathways into the design. The bridges for the multiuse pathways are an excellent idea and help eliminate pedestrian/cyclist conflicts with vehicles.
• The proposed plan appears to allow a timely solution.
• This project is bound to get someone angry; this project is difficult; change is needed and change is good.
• Appreciate that the study team updates the public periodically and asks for input in the project.
• Concerned about housing and commercial development along the freeway after construction.
• There will be a beautiful road, plaza and crossing in Windsor.
• Detroit/Windsor tourists do not want to be tunneled into town alongside trucks.

7.0 PIOH 5 Workshop Sign-ups

At the PIOH sessions, the public was invited to register for workshops to be held August 22 and 23, 2007 to discuss any aspect of the project they wished to discuss with the Study Team. In total, 228 individuals attended both of the workshops.

APPENDIX A - Flyer Insert and Public Notice Mailout

Detroit River
INTERNATIONAL CROSSING
S T U D Y

Public Information Open House Meetings


Driver's View on Service Road


Existing View

The community has an important role to play in the environmental assessment for the Detroit River International Crossing (DRIC) Study. Through our ongoing consultation you are sharing your ideas and we're listening. Now you have another opportunity to both find out all the latest information on this important study and be heard by study team members.

Public Information Open Houses to be Held

August 14th 2007
2:00 P.M. to 8:00 P.M.
Holiday Inn Select, Ballroom
1855 Huron Church Rd,
Windsor

August 15th 2007
2:00 P.M. to 8:00 P.M.
Ciociaro Club, Salons A & B
3745 North Talbot Rd,
Tecumseh

Get Involved The DRIC study team has listened to community concerns about the need to improve quality of life through better air quality, less noise, and getting trucks off local streets. A new Parkway alternative has been developed for the access road, reflecting the study goals and the community input received to date. Described as a green transportation corridor, the access road for international traffic would be below-grade with a number of short tunnels.

We encourage the community to find out more about the Parkway. Get involved to help us make this refined option even better.

Other features of the Parkway include:

- People-friendly spaces including wider bridges to allow communities on both sides of the corridor to connect
- New trails for pedestrians and cyclists
- Linkages for wildlife
- Landscaped buffer zones
- Entrance points for local traffic
- Reduced impact of international traffic on neighbourhoods
- Opportunities to create a signature gate-way and warm welcome into Windsor, Ontario and Canada


View of Parkway Concept looking southeasterly toward Cabana Road / Todd Lane with Oakwood School in the background

For more information visit us at **www.partnershipborderstudy.com**

Visit the Open Houses

At the fifth round of Public Information Open Houses the enhanced below-grade alternative will be presented along with the analysis of the previously identified alternatives, and information on the evaluation process to be undertaken in selecting a technically and environmentally preferred alternative for the crossing, plaza and access road. Your ideas and comments will help the study team evaluate all of the alternatives and develop the single preferred alternative.

Public Information Open Houses

August 14th 2007
2:00 P.M. to 8:00 P.M.
Holiday Inn Select, Ballroom
1855 Huron Church Rd,
Windsor

August 15th 2007
2:00 P.M. to 8:00 P.M.
Ciociaro Club, Salons A & B
3745 North Talbot Rd,
Tecumseh

Is Your Property Impacted ? We want to hear from you.

In response to feedback from the community, property purchase requests from land owners currently having direct access to existing Highway 3 (Talbot Road) or Huron Church Road between Highway 401 and E.C. Row Expressway will be considered. Other residential and commercial properties may also qualify. This will help to reduce uncertainty for those whose properties may be affected. Please contact us for further information.

Workshops

The study team is also organizing two public workshops to provide additional opportunities for you to consider the results of the analysis to date and provide comments on all of the alternatives.

August 22nd 2007
6:30 P.M. to 9:00 P.M.
South Windsor Arena, Auditorium
2555 Pulford Street, Windsor

August 23rd 2007
6:30 P.M. to 9:00 P.M.
South Windsor Arena, Auditorium
2555 Pulford Street, Windsor

To pre-register for a workshop: call **519-969-9696** or
e-mail **info@partnershipborderstudy.com**
Study information will be on display at the Arena Auditorium beginning at 3:00 P.M. on the day of the workshop.

For more information visit us at **www.partnershipborderstudy.com**

Background

The Ontario Ministry of Transportation (MTO), in coordination with Transport Canada, is leading the Environmental Assessment study in Canada and has retained URS Canada Inc. to assist in this undertaking.

The Detroit River International Crossing (DRIC) study is a bi-national planning study that will lead to the identification of a single technically and environmentally preferred alternative for the access road, inspection plaza and river crossing. The DRIC study is being conducted in accordance with the requirements of the Ontario Environmental Assessment Act (OEAA) and the Canadian Environmental Assessment Act (CEAA) in Canada and coordinated with the U.S. National Environmental Policy Act (NEPA) in the United States.

Canada | U.S. Department of Transportation Federal Highway Administration | Ontario | MDOT Michigan Department of Transportation

Information collected at these Open Houses and Workshops will be used in accordance with the Freedom of Information and Protection of Privacy Act and the Access to Information Act. With the exception of personal information, all comments become part of the public record.

Mr. Roger Ward
Senior Project Manager
Ministry of Transportation
Border Initiatives Implementation Group
659 Exeter Road, 2nd Floor
London, Ontario N6E 1L3
Tel: (519) 873-4586 Fax: (519) 873-4789
Toll Free: 1-800-265-6072 ext. 4586
e-mail: detroit.river@ontario.ca

Mr. Len Kozachuk, P.Eng.
Deputy Project Manager
URS Canada Inc.
75 Commerce Valley Drive East
Markham, Ontario L3T 7N9
Tel: (905) 882-4401
Fax: (905) 882-4399
Toll Free: 1-800-900-2649
e-mail: info@partnershipborderstudy.com

Ministry of Transportation
Border Initiatives
Implementation Group
Windsor Office
949 McDougall Avenue
Suite 200
Windsor, Ontario N9A 1L9
Tel: (519) 973-7367
Fax: (519) 973-7327

Detroit River International Crossing
URS Canada Windsor Project Office
2465 McDougall Avenue
Suite 100
Windsor, Ontario N8X 3N9
Tel: (519) 969-9696
Fax: (519) 969-5012

Detroit River
INTERNATIONAL CROSSING
S T U D Y

Journées d'information et d'accueil du public


Vue de la voie de service (conducteur au volant)


Vue existante

Les collectivités locales ont un rôle important à jouer dans l'évaluation environnementale de l'Étude sur la Traversée internationale de la Rivière Détroit. Dans le sillage de notre consultation permanente, vous partagez vos idées et nous sommes à l'écoute. Voici maintenant une autre occasion aussi bien pour prendre connaissance des plus récents développements à propos de cette importante étude que pour vous faire entendre auprès des membres de l'équipe d'étude.

Journées d'information et d'accueil du public

14 août 2007
14h00 à 20h00
Holiday Inn Select, Ballroom
1855, rue Huron Church
Windsor

15 août 2007
14h00 à 20h00
Ciociaro Club, Salons A & B
3745 North Talbot Rd.
Tecumseh

S'impliquer dans le processus

L'équipe d'étude du projet a entendu les préoccupations de la collectivité à propos de l'amélioration de la qualité de vie en ce qui a trait à la qualité de l'air, à la pollution sonore et à la présence de camions lourds dans les rues. Conformément aux objectifs de l'étude et pour donner suite aux intrants reçus à ce jour en provenance de la collectivité locale, une nouvelle option d'Autoroute fut conçue à titre de voie d'accès. Ce que l'on décrit comme un couloir ou corridor vert, le tracé de cette voie d'accès pour la circulation serait implanté sous le niveau du sol avec quelques segments en tunnel.

Nous encourageons la collectivité à s'informer à propos de l'Autoroute et à s'impliquer afin de nous aider à perfectionner plus avant cette option améliorée.

Autres caractéristiques:

- **Espaces conviviaux –incluant des ponts plus larges, pour permettre le rattachement des collectivités de part et d'autre du corridor**
- **Nouvelles pistes piétonnes et cyclables**
- **Maillages pour la faune**
- **Zones-tampon végétalisées**
- **Points d'entrée pour la circulation locale**
- **Réduction de l'impact de la circulation internationale sur le voisinage**
- **Occasions de créer un indicatif de chaleureuse bienvenue à Windsor, en Ontario et au Canada.**


Vue du Concept d'Autoroute vers Cabana Road / Todd Lane avec l'école Oakwood en arrière-plan (dos au nord-ouest)

Pour toute information, consultez notre site web à l'adresse URL: **www.partnershipborderstudy.com**

Historique

Le Ministère des Transports de l'Ontario (MTO), de concert avec Transports Canada, assume le leadership de l'étude d'évaluation environnementale au Canada et il a retenu les services professionnels d'URS Canada Inc. pour le seconder dans cette réalisation.

L'Étude sur la Traversée internationale de la Rivière Détroit s'avère une étude de planification binationale qui conduira à l'identification d'une seule option technique et environnementale préférentielle pour déterminer la voie d'accès, la plaza d'inspection et la traversée de la rivière. L'Étude sur la traversée internationale de la rivière Détroit est réalisée en conformité avec les exigences de la Loi sur les évaluations environnementales de l'Ontario (LÉEO) et de la Loi canadienne sur l'évaluation environnementale (LCÉE) au Canada de manière coordonnée avec l'U.S. National Environmental Policy Act (NEPA) aux États-Unis.

Canada | U.S. Department of Transportation Federal Highway Administration | Ontario | MDOT Michigan Department of Transportation

L'information recueillie au cours des journées d'accueil et des ateliers sera utilisée en conformité avec la Loi sur l'accès à l'information et la protection de la vie privée et de la Loi sur l'accès à l'information. Sauf pour les renseignements personnels, tous les commentaires sont inscrits au registre public.

Assistez aux Journées d'accueil

Au cours de cette cinquième (5e) ronde des Journées d'information et d'accueil du public, l'option d'une autoroute améliorée fera l'objet d'une présentation de même que l'analyse des options concrètes précédentes, sans oublier les renseignements concernant le futur processus d'évaluation pour la sélection de l'Option technique et environnementale préférentielle pour la traversée, la plaza et la route d'accès. Vos idées et vos commentaires aideront l'équipe de projet à évaluer toutes les options et à identifier une option préférentielle unique.

Journées d'information et d'accueil du public

14 août 2007
14h00 à 20h00
Holiday Inn Select, Ballroom
1855, rue Huron Church
Windsor

15 août 2007
14h00 à 20h00
Ciociaro Club, Salons A & B
3745 North Talbot Rd.
Tecumseh

Votre propriété est-elle en cause ? Nous voulons vous entendre.

Suite aux commentaires en provenance de la collectivité, les demandes d'acquisition foncière des propriétaires qui ont un accès direct à l'autoroute (Highway) 3 existante (Talbot Road) ou à Huron Church Road entre la 401 et l'E.C. Row Expressway seront examinées. D'autres propriétés résidentielles ou commerciales pourraient également se qualifier. Ceci contribuera à réduire le niveau d'incertitude chez les personnes dont les propriétés pourraient être affectées. Pour tout renseignement additionnel, prière de prendre contact avec nous.

Ateliers

L'équipe d'étude organise également deux (2) ateliers publics permettant d'examiner les résultats d'analyse à ce jour et pour exprimer des commentaires sur toutes les options à l'étude

22 août 2007
18h30 à 21h00
South Windsor Arena, Auditorium
2555, rue Pulford, Windsor

23 août 2007
18h30 à 21h00
South Windsor Arena, Auditorium
2555, rue Pulford, Windsor

Pour s'inscrire à un atelier: composez le 519-969-9696
Par courriel: **info@partnershipborderstudy.com**

Le contenu de l'Étude sera affiché à l'Aréna, dans l'Auditorium à compter de 15h00 le jour de la tenue de l'atelier.

Pour toute information, consultez notre site web à l'adresse URL: **www.partnershipborderstudy.com**

M. Roger Ward
Chargé de projet principal
Ministère des Transports
Groupe de mise en œuvre des initiatives frontalières
659, rue Exeter, 2ième étage
London, Ontario N6E 1L3
Tél. : (519) 873-4586 Téléc. : (519) 873-4789
Sans frais : 1-800-265-6072 poste 4586
Courriel: detroit.river@ontario.ca

M. Len Kozachuk, P.Eng.
Gestionnaire de projet adjoint
URS Canada Inc.
75 Commerce Valley Drive East
Markham, Ontario L3T 7N9
Tél. : (905) 882-4401
Téléc. : (905) 882-4399
Sans frais : 1-800-900-2649
Courriel: info@partnershipborderstudy.com

Ministère des Transports
Groupe de mise en œuvre des initiatives frontalières
Bureau de Windsor
949, avenue McDougall
Bureau 200
Windsor, Ontario N9A 1L9
Tél. : (519) 973-7367
Téléc. : (519) 973-7327

Traversée internationale de la Rivière Détroit
URS Canada, bureau de projet à Windsor
2465 McDougall Avenue
Bureau 100
Windsor, Ontario N8X 3N9
Tél. : (519) 969-9696
Téléc. : (519) 969-5012

APPENDIX B - Newspaper Advertisement

Detroit River
INTERNATIONAL CROSSING
S T U D Y

Public Information Open House Meetings

The community has an important role to play in the environmental assessment for the Detroit River International Crossing (DRIC) Study. Through our ongoing consultation you are sharing your ideas and we're listening. Now you have another opportunity to both find out all the latest information on this important study and be heard by study team members.

View of Parkway Concept looking southeasterly toward Cabana Road / Todd Lane with Oakwood School in the background

Features of the Parkway include:

- People-friendly spaces including wider bridges to allow communities on both sides of the corridor to connect
- New trails for pedestrians and cyclists
- Linkages for wildlife
- Landscaped buffer zones
- Entrance points for local traffic
- Reduced impact of international traffic on neighbourhoods
- Opportunities to create a signature gateway and warm welcome into Windsor, Ontario and Canada

Get Involved The DRIC study team has listened to community concerns about the need to improve quality of life through better air quality, less noise, and getting trucks off local streets. A new Parkway alternative has been developed for the access road, reflecting the study goals and the community input received to date. Described as a green transportation corridor, the access road for international traffic would be below-grade with a number of short tunnels.

We encourage the community to find out more about the Parkway. Get involved to help us make this refined option even better.

Visit the Open Houses At the fifth round of Public Information Open Houses the enhanced below-grade alternative will be presented along with the analysis of the previously identified alternatives, and information on the evaluation process to be undertaken in selecting a technically and environmentally preferred alternative for the crossing, plaza and access road. Your ideas and comments will help the study team evaluate all of the alternatives and develop the single preferred alternative.

Public Information Open Houses

August 14th 2007
2:00 P.M. to 8:00 P.M.
Holiday Inn Select, Ballroom
1855 Huron Church Rd,
Windsor

August 15th 2007
2:00 P.M. to 8:00 P.M.
Ciociaro Club, Salons A & B
3745 North Talbot Rd,
Tecumseh

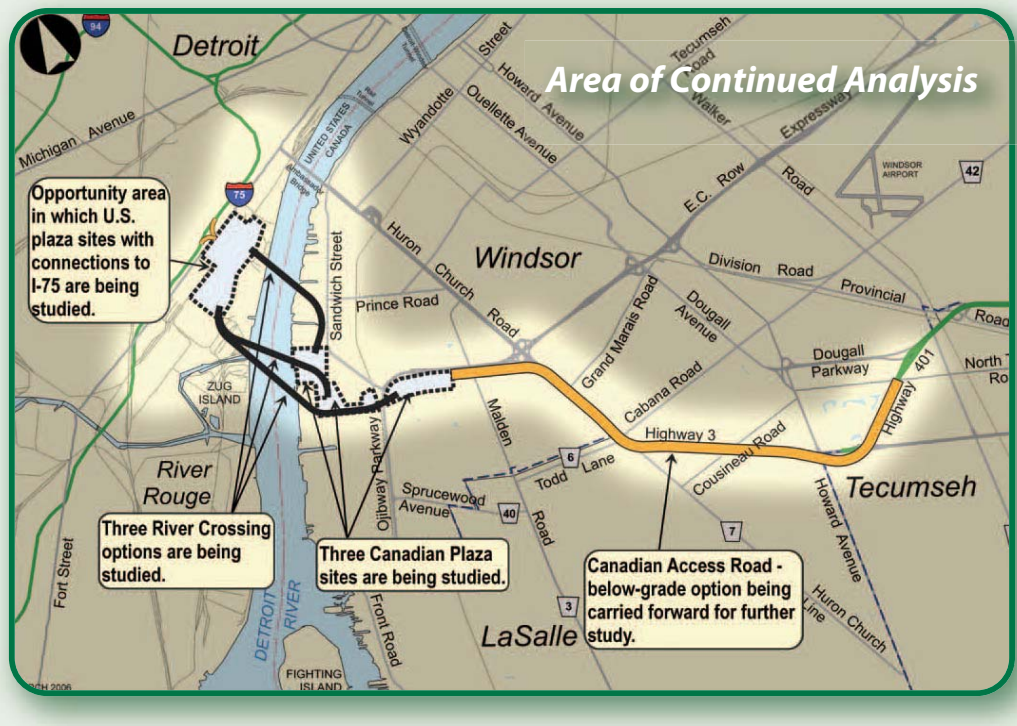
Is Your Property Impacted ? **We want to hear from you.**
In response to feedback from the community, property purchase requests from land owners currently having direct access to existing Highway 3 (Talbot Road) or Huron Church Road between Highway 401 and E.C. Row Expressway will be considered. Other residential and commercial properties may also qualify. This will help to reduce uncertainty for those whose properties may be affected. Please contact us for further information.

Workshops The study team is also organizing two public workshops to provide additional opportunities for you to consider the results of the analysis to date and provide comments on all of the alternatives.

August 22nd 2007
6:30 P.M. to 9:00 P.M.
South Windsor Arena, Auditorium
2555 Pulford Street, Windsor

August 23rd 2007
6:30 P.M. to 9:00 P.M.
South Windsor Arena, Auditorium
2555 Pulford Street, Windsor

To pre-register for a workshop: call **519-969-9696** or e-mail **info@partnershipborderstudy.com**
Study information will be on display at the Arena Auditorium beginning at 3:00 P.M. on the day of the workshop.



Background The Ontario Ministry of Transportation (MTO), in coordination with Transport Canada, is leading the Environmental Assessment study in Canada and has retained URS Canada Inc. to assist in this undertaking.

The Detroit River International Crossing (DRIC) study is a bi-national planning study that will lead to the identification of a single technically and environmentally preferred alternative for the access road, inspection plaza and river crossing. The DRIC study is being conducted in accordance with the requirements of the Ontario Environmental Assessment Act (OEAA) and the Canadian Environmental Assessment Act (CEAA) in Canada and coordinated with the U.S. National Environmental Policy Act (NEPA) in the United States.

Canada · U.S. Department of Transportation Federal Highway Administration · Ontario · MDOT Michigan Department of Transportation

Information collected at these Open Houses and Workshops will be used in accordance with the Freedom of Information and Protection of Privacy Act and the Access to Information Act. With the exception of personal information, all comments become part of the public record.

For more information visit us at
www.partnershipborderstudy.com

For further information, contact:

Mr. Roger Ward
Senior Project Manager
Ministry of Transportation
Border Initiatives Implementation Group
659 Exeter Road, 2nd Floor
London, Ontario N6E 1L3
Tel: (519) 873-4586 Fax: (519) 873-4789
Toll Free: 1-800-265-6072 ext. 4586
e-mail: detroit.river@ontario.ca

Mr. Len Kozachuk, P.Eng.
Deputy Project Manager
URS Canada Inc.
75 Commerce Valley Drive East
Markham, Ontario L3T 7N9
Tel: (905) 882-4401
Fax: (905) 882-4399
Toll Free: 1-800-900-2649
e-mail: info@partnershipborderstudy.com

Ministry of Transportation
Border Initiatives
Implementation Group
Windsor Office
949 McDougall Avenue
Suite 200
Windsor, Ontario N9A 1L9
Tel: (519) 973-7367
Fax: (519) 973-7327

Detroit River International Crossing
URS Canada Windsor Project Office
2465 McDougall Avenue
Suite 100
Windsor, Ontario N8X 3N9
Tel: (519) 969-9696
Fax: (519) 969-5012

APPENDIX C - Notes of Advisory Group Meetings

Detroit River International Crossing Study
Private Sector Advisory Group Meeting
Meeting Notes
August 15, 2007, 9:00 a.m.
Notes Revised August 31, 2007
Michigan Intelligent Transportation Systems Center

Attendees: See attached.

Purpose: To review the progress on the Detroit River International Crossing Study.

Introduction

Mohammed Alghurabi welcomed everyone to the meeting, including those participating by teleconference and asked for introductions. He indicated Joe Corradino would begin the formal presentations followed by Len Kozachuk. Questions and comments would be taken after each presentation.

Joe Corradino explained, with the use of a PowerPoint presentation, recent progress on the Detroit River International Crossing, including reduction in the number of Practical Alternatives to seven. He also reviewed the work that was being undertaken in the local area in which the project would be located – Delray. He indicated that, as the result of the latest work, the project's footprint had been narrowed. He concluded by indicating that the Draft Environmental Impact Statement in the U.S. is scheduled to be complete in December 2007, with the public hearing in January 2008, followed by a public announcement of a Preferred Alternative now scheduled for April 2008. Joe Corradino then asked for comments and questions.

Q: Mark Petro: What is the status of the geotechnical work?

R: The field work has been completed on the U.S. side and will soon be completed on the Canadian side. The two programs are using the same consultants to analyze the data collected in the field and this is creating a backlog in processing information because it is so voluminous. Nonetheless, it is expected that results will be presented to a panel of 12 international experts in December 2007, with a conclusion reached by the panel by the end of January 2008. Joe Corradino noted this schedule fits well with the public hearing which is scheduled for January 2008 leading to a recommendation in April 2008.

Q: Claudia Berry: Can the project be sped up?

R: In all practicality, no, because the geotechnical work cannot be sped up. Nonetheless, the standard that is being used by the Border Transportation Partnership is to do it right, not fast.

C: What is going on in the Michigan Legislature with respect to the DRIC budget?

R: Budget matters are still pending. The fiscal year ends on September 30th. So, it is expected that there will beconsiderable activity between now and that time.

Q: Phil Knetchel: What is the status of the issue of piers in the river?

R: It has been decided that piers will not be placed in the Detroit River to support the bridge.

Len Kozachuk then presented information on the Canadian project to date, using a PowerPoint presentation. He indicated that a public meeting was held the previous evening, and another will be held later that evening to discuss recent progress on the project, particularly the access road. A parkway concept has been developed for the access road, with refinements still to be made. The concept of an end-to-end tunnel was not considered viable as there were no advantages in terms of reducing impacts to properties, land uses, natural or cultural features. Additionally, all alternatives provide for the same benefit in air quality in the immediate corridor--the concept of an end-to-end tunnel may reduce particulate concentrations in the access road corridor, but that advantage is offset by increases in other gaseous pollutants over a broader area. Finally, Len noted the tunnel is three to six times higher in cost compared to other alternatives. As a result, the end-to-end tunnel for the access road treatment is not supported by the analysis and will not be considered further.

Len indicated that an at-grade alternative does not provide the best balance of advantages and disadvantages. Even though this is the least costly solution, and has fewer constructability risks, it has fewer benefits in terms of protecting the community/neighborhoods served. The assessment of impact data does not lead to further analysis of the at-grade solution.

Len then showed the concept of the parkway using a number of slides which depicted pedestrian activity and buffering of sensitive land uses from the access road's main line. He noted how walking paths and bicycling facilities would be integrated throughout the corridor. About ten short tunnels, between 120 and 240 m (400 and 800 feet) long would be located along the length of the access road. He noted that analysis work still needs to be done on the parkway concept for

the access road and that the team will be looking to refine this option.,. He concluded by noting public workshops would be conducted on August 22nd and August 23rd at the South Windsor Arena/Auditorium to further discuss this issue. At this point, Len Kozachuk entertained questions and comments.

Q: Ted Gorski: Will the concept of the parkway eliminate trucks containing hazardous material from using it?

R: No, those short tunnels were designed to avoid that circumstance. They are like the short tunnels on I-696 in the Detroit area.

C: Ted Gorski: But I-696 west of Woodward Avenue, where these tunnels exist, does restrict the vehicles transporting hazardous material. If hazardous material is blocked from using this access road, that will hurt my business and others like me.

Q: Ann Arquette: Will anything be done to connect the existing crossing with the new access road?

R: Yes, there is a a connection to/from Huron Church Road that directly serves the Ambassador. We can review that issue further after the meeting.

C: Mark Petro: I see bottlenecks with concepts being discussed and would like to talk about those after the meeting.

C: Mark Petro: I am concerned about the size of the Canadian plaza. I believe it would be wise to plan for more space, so that, in the worst case, such as reverse-inspections, adequate space is available to accommodate the plaza's expansion? A report done in 1964 by John Toffelmeyer dealt with an expanding system and it provides insight to current planning.

R: Comment acknowledged.

Q: Mathew Wilson: We at the Canadian Vehicle Manufacturer's Association are also concerned with the size of the proposed plaza. Our group has spoken to the Customs and Border Security Agency and still has some concerns. First, a small plaza will restrict any ability for reverse inspections between Canada and the US or any other possible customs processes changes in the future and we would rather not restrict options in the future. Second,

that the proposed plazas on both sides of the border contain exit booths – which if built will be used by Customs – and not only will this add a layer on the border process, it will also create significant congestion given that the number of booths being made available is 2/3 smaller than the actual import customs booths.

C: Mark Petro: We appreciate what CBSA says but believe the team needs to go beyond what is now being planned and do more.

Q: Mathew Wilson: I agree with Mark that we need to look to one hundred years into the future.

R: The comments on the plaza size are noted. The study needs to balance necessity with what might appear to be "extra " property acquisition.

Q: Mathew Wilson: Who is going to pay for the access road?

R: The cost will be shared between the Canadian Federal and Provincial governments.

Governance

The discussion then turned to the issue of governance. Kaarina Stiff indicated that, at the Transport Canada level, an examination of public/private partnerships in a number of forms is underway. Mohammed Alghurabi indicated that the U.S. government partners (Federal Highway Administration and Michigan Department of Transportation) are working closely with the Canadians and no options on governance have been ruled out. He stressed there's a lot of work ahead and one of the things that needs to be done is for Michigan to enact legislation. MDOT is pursuing that.

Dave Wake commented that, on the Canadian access road, expectations are there will be a role for the private sector but Ontario will take the lead.

With that, Mohammed Alghurabi asked if there were any additional information. Claudia Berry of the Detroit Regional Chamber of Commerce indicated that a briefing, like one held in the past with the leadership of the Chamber, would be appropriate. Mohammed Alghurabi indicated that he would follow up. He also indicated that if more information were needed, those in attendance should contact him or the Canadian representatives.

The meeting then ended at 10:30 a.m.

G. L. Pothier Enterprises Inc.
2197 Galloway Drive
Oakville, Ontario, Canada L6H 5MI

tel: (905) 844-5174
fax: (905) 844-7368
em: glenn@glpi.com

Meeting notes from:

The Fourteenth Meeting of the Detroit River International Crossing *Community Consultation Group*

Meeting Date/Location:

February 21st, 2007/Holiday Inn Select — Windsor, Ontario

Facilitator: Glenn Pothier, President, GLP*i*

Meeting Purpose

This fourteenth meeting of the Community Consultation Group (CCG) was focused on sharing information about recent consultation activities and air quality monitoring station findings to date. More specifically, the meeting was designed to:

- Provide an overview of the key themes and issues from the December Public Information Open Houses — and the follow-up workshops conducted in January.
- Provide an overview of the highlights from the January social impact assessment workshops conducted to explore the potential impacts of the different plaza and crossing alternatives on the Sandwich Towne community.
- Update members on the re
- sults recorded to date at the two new air quality monitoring stations set-up along the proposed route for the access road — and to place this data in context.
- Update members on the overall status of both the Canadian and U.S. initiatives — including the drilling programs on both sides of the border.
- Provide an overview of next steps in the project, including the meetings schedule.
- Allow for public/CCG member comments and questions about issues of their choosing.

Summary of Meeting Highlights

Opening Remarks

- Glenn Pothier, the independent meeting facilitator, called the group to order, welcomed all participants, introduced Study Team members, and provided an overview of the meeting agenda.

Review of November 29th/06 Joint CCG/LAC/LAG Meeting Summary

- Glenn Pothier noted that the summary of the November 29th joint meeting of the Canadian Community Consultation Group and the U.S. Local Advisory Council/Local Agency Group had been previously distributed to all CCG members. He then asked for feedback regarding any substantive errors or omissions. No comments were offered.

Public Comment

- Glenn Pothier reminded the group that in the interest of openness, transparency and accountability, any member of the public can attend a CCG meeting as an observer. He then asked if any comments/questions were forthcoming from observers at this time. None were raised.

Summary of PIOH #4 Outcomes and Follow-Up Workshops

- Irene Hauzar (Senior Environmental Planner, URS Canada) provided an overview of various consultation activities that had taken place in December and January. More specifically, she described and referenced selected key findings from:
    - The December 6&7, 2006 Public Information Open Houses (PIOHs), noting that the combined attendance at these was over 500 people. The Open Houses included displays, DVD 'moving image' presentations and interaction with Study Team specialists who were available to answer questions, explain analysis methods and discuss results to date. The follow-up workshops held on January 9&10, which were sparsely attended, featured small group open format roundtable discussions that allowed participants to comment on issues of concern to them. Ms. Hauzar also described the overarching themes and issues raised by participants at both the Open Houses and follow-up workshops (these slides are available for review on the Project website www.partnershipborderstudy.com).
    - The January 26&27 Sandwich Towne Social Impact Assessment focus group-style workshops, which over 30 people attended. Ms. Hauzar provided an overview of the Workshop exercise in which participants defined their neighbourhood boundaries and described how they interact within the community — including where they shop, worship and recreate. Participants also discussed the perceived impact that the proposed project may have on themselves and the broader community. Ms. Hauzar also described the overarching themes and issues raised by workshop participants, including the finding that most attendees define the geographical boundaries of their community as the 'pie' shape that approximates the shape of Sandwich's boundaries (this and other findings are included in the slides available for review on the Project website). SENES Consultants (the group with the primary role in conducting the Social Impact Assessment workshops) will be incorporating the input into their community and neighbourhood cohesion analysis.

- Ms. Hauzar noted that data gathered from all of the public open houses and workshops will be incorporated in the impact assessment of the practical alternatives.

- Both during and following Ms. Hauzar's overview as described above, CCG members offered a number of comments and questions:

  Question: Who made the statements reflected in the slide presentation about the PIOHs — are they from the Study Team or Open House participants?

  Response: PIOH participants submitted the written comments that were described.

Question/Comment: Who was invited to the PIOH workshops? I'm disappointed that I hadn't heard about them until tonight — I would have liked to attend them.

> *Response*: The workshops were open to the public. A sign-up desk was placed at the PIOH #4 meetings in December.

Comment: If a person missed the PIOH, they would not know about the workshops. In the future, the Study Team should send out notices to everyone on their list.

> *Response*: [Comment noted.]

Question: How were people notified for the Sandwich focus groups?

> *Response*: The Study Team mailed-out over 4,000 meeting notices to residents in the Sandwich area in the vicinity of the riverfront. Local municipal councillors also assisted in getting the word out about the meetings.

Question: Only about 30 residents attended out of 4,000 mailings?

> *Response*: That's correct.

Comment: There were other meetings that were going on that week, including City Ward meetings, and the Sandwich Towne Historic District Study meeting, which competed for everyone's time. This likely had an impact on the focus group attendance.

> *Response*: [Comment noted.]

Question: Is it too late to add comments about the information discussed at either the PIOHs or the Sandwich focus groups?

> *Response*: No, there is still time. However, the Study Team would appreciate your comments as soon as possible.

Question: Is the Study Team hearing anything new — are the points raised at these meetings different from what you've heard previously?

> *Response*: Most of the points are familiar, but some information is new. For example, recently there have been a number of questions and comments about the Ambassador Bridge enhancement proposal — people are looking to the DRIC Study Team for information about what is happening at the bridge and what it means to the DRIC project as a whole.

Question: I understand that about 65% of those living in Sandwich Towne rent their homes. Who came to your focus group meetings — were they property owners or renters?

Response: A mix of both.

Comment: When you assess the potential impact of any new DRIC-related crossing or plaza, you need to consider the cumulative impact of that initiative in combination with anything that may happen with the Ambassador Bridge (whether its twinning or something else). You need to consider the 'worst case' and assume both Ambassador Bridge expansion and a new crossing.

Response: [Comment noted.]

Question: With the Ambassador Bridge Company proposing a new crossing, doesn't that suggest that some options — including the DRTP — were dropped prematurely from the DRIC process prior to a full investigation of their relative merits?

Response: The Study Team looked at twinning the Ambassador Bridge and the DRTP option at the illustrative alternatives stage of the study. Based on a thorough and systematic comparative analysis, these were set aside from further study under the DRIC process. However, the Study Team recognizes that the Ambassador Bridge Company and DRTP can continue to pursue approvals for these undertakings on their own.

Question: The Study Team evaluated the DRTP option as only a two-lane tunnel. DRIC should consider DRTP's latest proposal that includes more lanes and tunneling of the approach roadway by boring — this is less disruptive to the community and would require less mitigation. This needs to be noted again as part of the formal consultation record.

Response: The DRIC Study Team examined two options within the DRTP corridor and noted several disadvantages, many of which are not addressed by tunneling the Canadian approach road. The Study Team sees no compelling reason to study this option further. Again, the DRTP can seek approvals for its proposal under a separate process.

Report on Air Quality Monitoring Station Findings

- Glenn Pothier introduced the next meeting component — namely an update on findings to date from the two new air quality monitoring stations set-up along the proposed route for the access road.

- Abby Salb (Air Quality Specialist, SENES Consultants) provided an overview of the air quality information collected at the new monitoring stations between October 1/06 to December 31/06. Ms. Salb:
    - Noted the locations of the two new air quality monitoring stations within the ACA — one beside the Ontario Public Health Lab, the other opposite the entrance to St. Clair College.
    - Described the various pollutants that are being measured and noted that the approach also includes the recording of meteorological and traffic data.
    - Reported that the wind direction recordings show that the predominant winds blow from the southwest.
    - Described the daily concentrations for various pollutants — for example, $PM_{2.5,}$ NOx, and other air toxics — and the number of times, if any, that various criteria thresholds were exceeded.
    - Noted that the Ontario Ministry of the Environment has audited the new stations and their equipment, and that they are satisfied with the manner in which the data is being collected.
    - Noted that a comparison with the $PM_{2.5}$ data collected by the MOE for the fall 2006 time period will be made once the MOE data is available. Currently, the MOE has posted data as recent as 2005 — a request for 2006 data is being made.

- Len Kozachuk (Deputy Project Director, URS Canada) noted that the data being presented represents only three months of monitoring. The findings reflect what is directly being recorded at the air quality monitoring stations. In its assessment of air quality impacts, the Study Team will be looking at the differences between the air quality results for each alternative, not necessarily what is causing the changes. The Team is developing the baseline conditions for air quality to predict the 2015, 2025 and 2035 conditions.

- During and following Ms. Salb's presentation, CCG members offered a number of questions and comments:

  Question: Why isn't an air quality monitoring station located on Huron Church Road at Assumption High School?

  > *Response*: The Area of Continued Analysis does not go north of the E.C. Row Expressway — air quality monitoring stations were placed along the corridor that is being proposed for the new access road.

  Question/Comment: Why use wind direction (wind rose) data from the airport — is this valid? The airport is in an open area and far from the proposed route.

  > *Response*: The Ontario Ministry of the Environment encourages the use of wind roses from a broader area as part of the meteorological data collection. Airport wind rose data is valid and is important, in part, because

the Airport is sited in an open area. Wind data is also being collected at the new monitoring stations.

Question: What do the colours on the wind rose mean?

Response: They indicate wind speed intensity. The brighter the colour, the more intense the wind speed.

Question: What does the $PM_{2.5}$ data mean?

Response: The Canada Wide Standard for $PM_{2.5}$ is 30 $\mu g/m^3$. This standard is the maximum desirable concentration. It includes all sources. This is not a legally enforced criterion. There are a number of contributing factors that have an impact on air quality in Windsor including trans-boundary airflow. The MOE's threshold of 30 $\mu g/m^3$ for $PM_{2.5}$ comes into effect in 2010. Air quality is a provincial jurisdiction. The Canada Wide Standard for $PM_{2.5}$ was developed by the provincial and federal governments.

Question: Are the first quarter air quality monitoring station results reliable, given that the station is, in my view, on the wrong side of the road?

Response: The first quarter air quality monitoring station results reflect the data that is collected from both of the air quality monitoring stations, one station is located on each side of Huron Church Road/Highway 3.

Question: To what degree does the volume of truck traffic influence the first quarter air quality monitoring results?

Response: The Study Team is collecting traffic data in conjunction with the air quality data, but any correlation has not yet been analyzed. The Study Team is looking at traffic as one of many sources that contribute to Windsor's air quality.

Question: The line graph for $PM_{2.5}$ for October shows a 30-point difference between the St. Clair College site and the Ontario Public Health Lab site. Why is that?

Response: There is no simple explanation, but October is generally considered the last month in which this area experiences smog conditions. Air masses between the two stations are different, and different sources for $PM_{2.5}$ are found both upwind and downwind of each station.

Question: The alternative routes being proposed show changes in elevation that may require vehicles to gear up or down along the route and that will cause a change in air quality along the roadway. Will this be covered in your projections?

Response: The changes in grade have been taken into account in the alternatives design process. The proposed freeway grades that are shown for the alternatives are at a three percent slope or less, which typically does not affect the engine dynamics or the way engines perform.

Comment: You should keep the access road below grade — grade fluctuations are worse than starting/stopping at stoplights.

Response: Again, the grades that are shown for the alternatives are at a three percent slope or less, which typically does not affect the engine dynamics or necessitate changing gears. The new facility will be a highway without stoplights. There are alternatives that are continuously below grade.

Comment/Question: Your slides show that the pollution is generally below the threshold level. What is the minimum air quality standard for $PM_{2.5}$ as prescribed by the other provinces?

Response: 30 $\mu g/m^3$ is a Canada Wide Standard, which is prescribed for all the provinces. This Standard is an objective for air quality, not a legally enforced criterion.

Question: Is there a worldwide standard that is used?

Response: There are a few used in other jurisdictions — however, they are generally target levels, not standards.

Comment/Question: The data seems to suggest that the pollution from the diesel truck traffic is generally below the threshold level and that the trans-border air pollution sometimes pushes it over. How many of the days above the 30 $\mu g/m^3$ is caused by diesel traffic?

Response: The Ontario Public Health Laboratory recorded that $PM_{2.5}$ levels were above the 30 $\mu g/m^3$ 13 out of 92 days in the first quarter of monitoring, while the St. Clair College site recorded 8 out of 92 days. These readings are from all sources combined — it is not possible to separate the contributions from diesel traffic. All the air toxics that are being monitored are well below the prescribed standards. There were no NOx exceedances.

Question: Why is there a difference in the benzene level measured at the Public Health Lab site and the St. Clair College site?

Response: There may be a non-traffic source located near the St. Clair College air quality monitoring station — such as a paint manufacturer, an

auto-related manufacturer, and so forth — that is contributing to the higher benzene level at that location.

Question: What does the benzene measurement mean? Where does benzene come from?

Response: There is no stated standard for benzene as there is no level that the government will designate as 'safe.' Benzene is often associated with auto manufacturing, in particular, with the spray paint booths used for painting new cars.

Comment/Question: Based on what's been collected so far, it appears that the data you will have available will be insufficient to support recommendations that are proposed to be announced by the end of the year. Is this correct?

Response: The data currently being collected from the air quality monitoring will be incorporated into the decision-making process. This data will serve to help confirm baseline conditions along the corridor. Though the Study Team will not have a full year of data from the new monitors, we are using data from the other Ontario Ministry of the Environment air quality stations to assist in determining the air quality baseline conditions.

Question/Comment: Will your next steps include monitoring the existing tunnel ventilation buildings? There is an already existing tunnel in Windsor — you should use it to gauge the level of tunnel emissions.

Response: The Study Team is focusing on monitoring as a means to assess the background conditions within the Area of Continued Analysis. It would be difficult to draw any conclusions about a new tunnel based on monitoring of the existing one. Any new tunnel will have different traffic volumes/speeds, different ventilation systems and so on. A new tunnel would likely have very different air quality data from that of the current Windsor/Detroit tunnel.

Comment: Monitoring at the existing tunnel will still give you some indication of air quality even if the conditions at a new tunnel are different.

Response: [Comment noted.]

Question: What does the 'no build' alternative mean?

Response: The no build alternative means evaluating the future traffic conditions without any changes to the existing roadway network.

Question: The Ontario Ministry of the Environment lists the standard for Formaldehyde to be 65 $\mu g/m^3$ — can you give an example of a place where this standard might be exceeded?

> *Response*: This standard may occasionally be exceeded in areas located directly adjacent to certain types of industries.

Comment: There is a concern that your numbers may be skewed given that the air quality monitoring stations operated by the MOE are ineffective. The monitor located on College Avenue was just recently cleaned up — I believe it had been neglected, with weeds growing around it and so on. I'm very concerned about using existing air monitoring stations to present background data — I would oppose this.

> *Response*: [Comment noted.]

Comment/Question: A study was conducted by the Great Lakes Institute in August 2006 in which air quality monitoring took place near the existing Windsor-Detroit tunnel. Will the Study Team use the results of this study and incorporate it as part of the analysis? Even though the monitoring provides only a brief snapshot, the data could be of value.

> *Response*: The study was conducted near the tunnel for a very short period of time. Notwithstanding this significant limitation, the Study Team will review and consider this study. Again, any new tunnel could have very different operating parameters than the existing one.

Question: Generally speaking, what is the anticipated height of the stacks of the ventilation buildings that would be required for the tunnel option?

> *Response*: The stacks of the ventilation buildings are usually constructed to be 2.5 times the building height. The preliminary stack height is approximately 45 m. There is no single answer to the question. Under various scenarios, the ventilation buildings would have different sizing dimensions.

Question: When comparing the air quality monitoring data collected by the Ministry of Environment monitors at the airport and elsewhere, with the results from the two new monitors, are the concentrations of air quality toxics similar?

> *Response*: Air toxins data are not routinely collected at all stations — therefore, it is not always possible to make these comparisons. However, comparisons will be made where the data is available.

Question: Will you be using models from other air quality studies (such as those conducted in other jurisdictions like California) to determine if there are any predictable levels of air toxins?

> *Response*: The Study Team will review similar models and air quality studies to determine if there are any predictable levels of air toxins.

Question: Are you monitoring for lead, mercury and sulfur dioxide?

> *Response*: No. Since lead is no longer added to gasoline, lead is not typically monitored in air quality assessments. There is some mercury that may be present at a given location, but we are not monitoring for it. Sulfur dioxide is not a main contributor to air quality concerns in this area of Ontario.

Question: In future meetings, I would suggest that the data be presented as it relates to the dispersion patterns and how quickly pollutants fall back to the ground — you should also show MOE ambient air levels.

> *Response*: The Study Team will consider presenting data as it relates to the dispersion of pollutants as they fall back to the ground. Typically PM10 is measured at the fenceline where measurements are taken at ground level.

Question: Does the existing Windsor-Detroit tunnel have air scrubbers?

> *Response*: We will have to ask the City of Windsor this question and report back to the CCG.

Comment: There is sulfur in diesel gasoline used for trucks — you can smell it in the exhaust. The asphalt would contain lead from the leaded gasoline used in the past.

> *Response*: The MOE air quality monitoring stations are measuring relatively low sulfur in the air around their stations — But sulfur is highly odorous, as well as other components in diesel exhaust, which means you smell them at very low concentrations. These are what you may be smelling. Lead used in gasoline would not be in the asphalt — it would have long since been washed away.

Report on Federal Environmental Assessment Status

- Glenn Pothier noted that the report on the status of the Federal Environmental Assessment was a new item added to the meeting agenda.

- Kaarina Stiff (Environmental Assessment Project Manager, Transport Canada) reminded CCG members that the Canadian Environmental Assessment Act draft guidelines relating to the DRIC project are available for public comment — and that comments can be provided to her or any Study Team member. Though some comments have already been received, more are welcomed. Ms. Stiff also noted that the guidelines show how the DRIC Study Team is coordinating the provincial and federal processes. The guidelines will distributed with the CCG meeting notes and are available on the Project website www.partnershipborderstudy.com.

- Following Ms. Stiff's overview, CCG members offered a number of questions and comments:

  Question: When do you expect to finalize the document?

  > *Response*: Our initial timeline was the end of February, but our new estimate is sometime in April or May.

  Question: If there are differences between the Canadian and Ontario standards, do you use the higher standard? Are the Canadian standards sometimes higher than the provincial standards?

  > *Response*: It's not so much an issue of standards as it is process regulations. There are different requirements that must be met to comply with the regulations of the Ontario and Canada Environmental Assessment Processes. For example, there are differences in how cumulative effects are reported. The entire DRIC study is a coordinated joint Ontario and Federal process. Where there is a difference in standards, the Study Team would strive to use the stricter standard, as appropriate.

  Question: Sandwich Towne may end up with two new bridge crossings, the one proposed by the Ambassador Bridge Company, and the one proposed by DRIC. Will the combined impacts to the community be documented within the EA process if these two new bridge crossings are approved?

  > *Response*: Under the Canadian Environmental Assessment process, the analysis of cumulative effects is evaluated and documented. Projects that may be constructed in the reasonably foreseeable future will be taken into consideration. However, it is often a challenge to determine which projects may be constructed in the reasonably foreseeable future. Transport Canada and other federal authorities determine which projects fall into this category, and decide what is appropriate for the cumulative impacts study — the level of analysis may differ.

  Question: When evaluating cumulative impacts, will the Study Team consider global warming and carbon dioxide and ozone level depletion? Environment

Canada shows an increase in ozone along the corridor from Windsor to Toronto — how does this get factored into the cumulative effects? Can I petition for it?

Response: Government agencies are looking at how to best incorporate climate change in the assessment of a project — no determination has yet been made on this issue. Yes, you can petition for including this in the assessment and it will be considered.

Comment: You should just construct a tunnel with scrubbers.

Response: [Comment noted.]

Question: Can we have a presentation on the CEAA process if there is sufficient interest?

Response: Yes, if there's interest. The DRIC Study Team is looking to receive comments regarding the Federal EA process.

- Ms. Stiff then went on to describe the process that applies to the proposed Ambassador Bridge enhancement project:
  - Transport Canada has received documentation submitted by the Canadian Transit Company for an enhancement to the current Ambassador Bridge.
  - The Ambassador Bridge project will need to follow the Environmental Assessment guidelines and it will require a navigational permit from Transport Canada.
  - There is a federal EA process that has been initiated for the Ambassador Bridge project that is separate from the DRIC study.
  - An advertisement requesting comments on the draft EA guidelines for the Ambassador Bridge project will be placed in the near future.

- This update was followed by a participant question:

Question: Could Windsor end up with three bridges in the future — the current Ambassador Bridge, the new Ambassador Bridge, and the DRIC bridge?

Response: Yes, potentially.

Status Updates and Next Steps

- Len Kozachuk (Deputy Project Manager, URS Canada) then provided a project status update for activities on the Canadian side of the River, and an overview of next steps. In so doing, Mr. Kozachuk noted that:
  - The Study Team has made no decision about the preferred alternative — analysis is ongoing.

- Air quality modeling is nearing completion and that the analysis of results will be completed shortly thereafter.
- There are ongoing meetings with various groups in the community and the Study Team has completed the initial report on the impact assessment on business (and that this report is under review). The data from the Sandwich Towne social impact focus groups is still being analyzed.
- The noise impact analysis is ongoing.
- The land use assessment analysis is complete.
- The cultural resources analysis is ongoing: the archaeology work will continue though there have been no significant findings to date; the built heritage analysis is nearing completion.
- The natural environment fieldwork (three seasons of analysis) is complete — reports are being prepared for Study Team review.
- In terms of regional mobility — analysis of traffic operations is complete; the review of safety/security issues is nearing completion; the Team is finalizing cross sections for a new crossing.
- Bedrock investigation near the riverfront is continuing and alternatives for the Grand Marais Drain crossing are under review; crossing alternatives are still under analysis including the study of piers in the river; the plaza analysis is complete.
- The drilling program in Canada should be completed by March/April.
- There have been meetings with the Canada Border Services Agency regarding the potential plaza sites/designs.
- The Study Team is looking at refinements to improve the access route design.
- There continues to be a strong working relationship with the U.S. partners and a high degree of information sharing and cooperation.
- All of the work being undertaken is contributing to the development of cost estimates for the various options.
- Though there is still much work to be done, the Study Team is still working towards a decision by the middle of the year.

- Len Kozachuk also noted that the next CCG meeting is tentatively scheduled for sometime in June. A notice will be sent to CCG members when a date has been set.

- Mohammed Alghurabi (Michigan Department of Transportation) then provided an overview of and update on selected project activities on the American side, noting that the U.S. Team:
  - Has begun its geotechnical drilling program (have drilled 3 of 14 holes to date) — it should be completed by the end of June if not sooner.
  - Continues to meet with Customs and Border Protection, and Homeland Security regarding their plaza issues.
  - Is intending to hold community workshops in March to review the community plan for the areas around the proposed plaza locations.

- Will be holding its next LAC/LAG meeting on February 28th at Southwestern High School (in Detroit) at 7:00 P.M. This meeting will include a drilling program update.
- Will be holding Context Sensitive Solutions workshops to examine the look and fit of the plaza/bridge crossing in April. Another CSS workshop will be held in June on the U.S. side. Other U.S. public meetings will be held over the next few months.

Open Forum/Public Comment

- Glenn Pothier asked whether the Study Team had any further business to add to the meeting agenda. No issues were raised.

- Glenn Pothier then asked whether CCG members had any further business to add to the meeting agenda. The following questions/comments were noted:

  Question: Has a cost-benefit analysis been conducted for the alternatives? The projected cost for the tunnel has been reported in the paper and it was stated that the cost is too high — has a cost-benefit for separate tunneling for both cars and trucks been done? Has a market feasibility study for a third crossing been conducted?

  Response: The DRIC study has examined the impacts and benefits of each alternative — it is not a cost/benefit analysis study per se. The Study Team is examining what is important for the existing road network and the economy, the environment, the community and so forth — there are a range of analysis factors that are being addressed. The Study Team is looking at how to add border capacity and efficiently move both people and goods. There is a governance group — as part of a separate, but parallel process — that is looking at how to fund and administer any new facilities. We are not looking at separate tunnels for cars and trucks — the roadway will be a shared facility.

  Question: Will you be examining security issues as part of your evaluation?

  Response: Yes, it is part of the evaluation. The Canada Border Services Agency and the RCMP have been and will be weighing in on security issues.

  Comment: The City of Windsor is undertaking a study to designate Sandwich Towne as a Heritage Conservation District. If Crossing C were chosen (Sterling Marine Fuels) it would be located beside Sandwich Towne and beside this District. What impact will the City's initiative have on the DRIC project?

Response: We are aware of the City's study, but cannot really comment until it is complete. If Crossing C were chosen, this would result in a proximity impact to Sandwich Towne. The Environmental Assessment would have to describe the impact and consider any heritage designation. Provincial and Federal project needs would also have to be considered.

Question: Who would make the decision regarding the impacts to Sandwich Towne and the proposed Heritage Conservation District — does the City of Windsor have a veto?

Response: The DRIC Environmental Assessment would be submitted to the Ontario Ministry of the Environment for approval. During that approval process it will be reviewed by the Ontario Minister of Culture. The Provincial and Federal governments will look to address the concerns of the local municipalities as much as practicable.

Comment: If you build a tunnel instead of a bridge, you will have lower infrastructure maintenance requirements.

Response: There is infrastructure rehabilitation work done in the province everyday. Maintenance is required for all roadways including tunnels.

Question: When will the preferred alternative be announced?

Response: We originally said that it would be the Spring of 2007, it is looking like June at this point — there are still a number of key questions to address.

Question: When the preferred alternative is submitted, will it be final? Can it be changed?

Response: The Study Team is working toward ensuring that it has a defensible/traceable basis in support of any recommendation. Nevertheless, the Environmental Assessment process allows for all decisions to be open to public review and comment. The Study Team's recommendation will need to be approved by various governmental bodies. The public has the opportunity to share comments and influence this approval process.

Comment: Advertising for future meetings should ensure more comprehensive reach to the public.

Response: We anticipate that the Study Team's preferred alternative will attract widespread attention and be broadly covered in local media. Still, the Team will consider enhancements to its advertising approach and will look at sending meeting announcements to more households in the future.

- Glenn Pothier then made the 'second round' call for any comments/questions from meeting observers. None were raised.

Closing Remarks

- Glenn Pothier thanked the group for their attendance and participation.

- The meeting was formally adjourned (having run from approximately 6:40 to 9:10 p.m.).

Attendance (names listed in order as recorded on the participant sign-in sheet)

CCG Members and Public Observers:
Edward Oleksiuk
Alice DiCaro
Terry Kennedy
Louann Sharp
Larry & Mary Stiers
Bob Fetherston
Mary Ann Cuderman
Lucy Malizia
Mike Duchene
Clara Deck
June & Robert Thibert
Elizabeth Havelock
Leona Fracas
Denise Ausman
Pierre Quenneville
Anna Lynn Meloche
Ed Arditti
Moe Haas
Jaye Lacerte
William Marshall
Alan McKinnon
Wayne Lessard
Al Teshuba
Dominic Troiani

Partnership:
Roger Ward, Joel Foster and Kevin DeVos — Ontario Ministry of Transportation
Kaarina Stiff — Transport Canada
Mohammed Alghurabi — Michigan Department of Transportation

Consultant Team:
Murray Thompson, Len Kozachuk, Irene Hauzar — URS Canada
Abby Salb, Nick Shinbin — SENES.

Meeting Notes

Project:	Detroit River International Crossing	Meeting No.	
Project No.	33015386	Date:	August 23, 2007
Location:	Ballroom, Holiday Inn Select Hotel, Windsor	Time:	10:00 a.m.
Purpose:	Meeting with Representatives of the Municipal Advisory Group (MAG)		

Present:

Study Team Representatives:
Dave Wake, MTO
Joel Foster, MTO
Kevin DeVos, MTO
Len Kozachuk, URS Canada

MAG Representatives:
Andrew Dowie, City of Windsor
Jaime Garcia, County of Essex
Tom Bateman, County of Essex
Brian Gregg, County of Essex
Brian Hillman, Town of Tecumseh
George DeGroot, Town of Tecumseh
Larry Silani, Town of LaSalle

The purpose of the meeting was to review progress on the Detroit River International Crossing Study.

Len Kozachuk began the meeting with an overview of the current status of the study. He presented the results of the analysis of the access roads, plazas and crossings through the use of a PowerPoint presentation. He noted that this presentation was the same as that provided to the elected officials at a briefing the previous week, as well as to the public at workshops being held this week.

Following the presentation, there was a discussion of the outcomes of the open houses and the workshop. He summarized that:

- Over 1600 people attended the open houses.
- Over 100 people participated in the first workshop; a second workshop was scheduled for that evening.
- Based on verbal comments being heard by the study team, reaction to date to the parkway is mixed; there are those that are opposed to the parkway, favouring a full tunnel option, and those favouring the parkway. A frequently heard remark in favour of the tunnel is that, given the importance of this border crossing, governments should not consider cost as a limiting factor. A frequently heard comment favouring the parkway option is that it appears to be a more 'realistic' option that provides benefits without the high cost (vs. the tunnel option) and something needs to be completed as soon as possible.

Larry Silani commented that municipalities are not able to retain expertise in air quality and noise impact assessments, which are the areas of greatest concern to local residents. He urged the study team to consider having the air quality and noise analyses peer reviewed and/or submitted for ministry reviews to verify the methodology and confirm the findings, as is being done for the foundations investigations by the river. In his opinion, this would help to bolster the study team's position that the parkway option will 'improve quality of life' and that the end-to-end tunnel option does not offer sufficient advantages to offset the additional costs and risks. Dave Wake stated that the study team would carefully consider this comment.

Len Kozachuk noted that the technical and environmental studies completed in support of the analysis being presented at the open houses are being prepared for distribution to libraries, municipal offices and the study website (www.partnershipborderstudy.com). Copies of the following reports were being distributed today to MAG members:

URS Canada Inc.
75 Commerce Valley Drive East
Markham, ON Canada L3T 7N9
Tel: 905.882.4401
Fax: 905.882.4399
www.urs.ca

- Air Quality Impact Assessment
- Noise and Vibration Assessment
- Social Impact Assessment
- Existing and Planned Land Use
- Level 2 Traffic Operations Analysis
- Improvement to Regional Mobility Memorandum

Len Kozachuk also noted that the meeting to discuss the Highway 3/Highway 401/Howard Avenue interchange options is being arranged for mid-September. It was agreed that the meeting would be scheduled for September 20th. Additional topics of discussion could include the Todd Lane/Cabana Road/Huron Church Line access points with the parkway option, and the Ojibway Parkway/E.C. Row area. It is expected that the meeting would start in the morning and extend into mid-afternoon; URS Canada will confirm details of the arrangements and provide discussion materials as soon as possible.

L. Silani asked whether the DRIC team had received any word from the City of Windsor, regarding timing for the City's formal response. Dave Wake said that as of the time of this meeting, he had not received any information on this.

The participants then reviewed a plan of the parkway option. Len Kozachuk noted that the short tunnel sections shown on the plan range in length from 120 m to 240 m, this upward limit reflecting the team's understanding of the maximum length of a tunnel that would not require mechanical ventilation. In addition, tunnel spacing of at least 150 m is required to prevent the exhaust from one tunnel from being entrained in the adjacent tunnel under certain conditions. This information is preliminary and the team will be modeling the performance of the tunnels once the parkway has been refined based on comments received.

In reviewing the parkway option, preliminary comments from one or more of the meeting participants included:

- The parallel pathways and park use of open spaces adjacent to the roadways serves to limit access to lands adjacent to the service road; this would provide a high-order arterial parkway-like road with limited entrances and access points and be a benefit to the local road network.
- The principle of having grade separated trails to allow one to travel end-to-end along the parkway without having to cross a traffic lane is admirable, and could be achieved with grade separations of trails at key locations, not necessarily at every service road crossing.
- It would be beneficial to have the trail system extend easterly from Howard Avenue along Highway 3 to the Chrysler Greenway.
- The parkway should reflect LaSalle's plans for the future extension of Normandy Avenue, which would create a four-legged intersection with the main entrance to St. Clair College.

Attendees requested copies of the parkway option to enable further review and comment. URS Canada will arrange for delivery of the parkway option plans, as requested.

The meeting adjourned at 12:00 noon.

Submitted by: Len Kozachuk, URS Canada
Copies To: Meeting Invitees & Attendees
Project File

Meeting Notes

Project:	Detroit River International Crossing	Meeting No.	CANAAG-006
Project No.	33015385	Date:	September 13, 2007
Location:	Hilton Hotel, Windsor, Ontario	Time:	10:00 a.m.
Purpose:	Meeting of Canadian Agency Advisory Group (CANAAG)		
Present:	See attached list		

Following introductions, URS presented an update on the results to date for the Access Roads, Plazas, and Crossings. In addition, an overview of the Parkway Alternative was given, highlighting its various design features and an overview of the Technical Reports was given and a review schedule was established. *Please refer to attached presentation slides.* Discussion following the presentations included the following:

- Will traffic be affected during construction?

  Four lanes of traffic will be maintained during construction. Shifts in travel lanes will occur during construction, as construction occurs from one side of the road to another. Maintaining four lanes of traffic will be essential during the entire construction timeframe.

- How will stormwater management be dealt with in the plaza areas?

  Both stormwater quality and quantity will be treated in the plaza areas. Details of the stormwater management in the plaza area are still being developed and analyzed.

- Will there be piers in the river?

  It has been decided through consultation with the U.S and Canadian Coast Guards, and through consultation with various shipping companies that piers in the river is not favoured for this new crossing. Therefore there will not be any piers in the river for this new crossing.

- Is there any concern with the location of Crossing C on the U.S. side?

  There are concerns with the location of Crossing C on both sides of the river. The touch down location of Crossing C on the U.S. side is located adjacent to the Delray Community of Detroit. The U.S. Study Team has worked very closely with this community to develop a community plan that will improve housing, streets, sidewalks and other amenities in the vicinity of the new plaza location. A Master Plan for this area has been developed and has received extensive public input .

- What will happen to this project in light of the funding discussions that have taken place on the U.S side?

  The Canadian Study Team is continuing to work with the U.S. Team on this project. Funding for this project is assumed to continue on the U.S. side, the draft Environmental Impact Statement will be completed by December 2007. A public hearing will occur in January 2008.

- What are the business impacts at Highway 3 and Highway 401?

  Business impact analysis are presented in the Economic Impact Assessment Report, located in the report section of the DRIC Partnership website www.partnershipborderstudy.com. Analysis of the Parkway alternative is currently being undertaken, and business impacts as a result of the Parkway Alternative will be presented in late October.

URS Canada Inc.
75 Commerce Valley Drive East
Markham, ON Canada L3T 7N9
Tel: 905.882.4401
Fax: 905.882.4399
www.urs.ca

- Have the residential property impacts from the Parkway Alternative been determined yet?

  Residential impacts as a result of the Parkway alternative as currently been determined and will be presented as part of the Parkway analysis reported in the Social Impact Assessment Report.

Tyler Drygas (URS Canada) reminded those that were in attendance and on the conference call that the DRIC Study Team is looking to receive their guidance and approval on the methodology, results of analysis, and how the information is presented in the various technical reports that have been produced thus far for the DRIC study. The Study Team is expecting to receive agency input by October 12, 2007. A reminder notice to agencies will be sent out in the next few weeks. Agency participants were asked to download the reports form the project website. Those that wished to receive paper copies did so shortly following the meeting.

Any requests/comments made regarding the technical reports should be forwarded to:

Irene Hauzar
Senior Environmental Planner
Irene_hauzar@urscorp.com
Tel. (905) 882-4401 ext. 299

CANAAG members will receive amendments to the reports that contain the Parkway Alternative analysis later this fall once it is complete.

Submitted by: Irene Hauzar, URS Canada

Distribution: Meeting Invitees & Participants
Project File

APPENDIX D - Display Material/Handout Package

Detroit River
INTERNATIONAL CROSSING
S T U D Y

Welcome to the Fifth 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

August 14 & 15, 2007

>> Please Sign In <<

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

Canada | U.S. Department of Transportation Federal Highway Administration | Ontario | MDOT Michigan Department of Transportation | URS

Detroit River
INTERNATIONAL CROSSING
S T U D Y

Contact Information - Canadian Study Team

Ministry of Transportation

Windsor Border Initiatives Implementation Group

949 McDougall Street, Suite 200, Windsor
Detroit.River@ontario.ca

Mr. Dave Wake
Manager, Planning
Tel. 519-873-4559

Mr. Roger Ward
Senior Project Manager
Tel. 519-873-4586

URS Canada Inc.

DRIC Project Office

2465 McDougall Street, Suite 100, Windsor
info@partnershipborderstudy.com

Mr. Murray Thompson
Project Manager
Tel. 905-882-4401

Mr. Len Kozachuk
Deputy Project Manager
Tel. 905-882-3540

www.partnershipborderstudy.com
1-800-900-2649 (Toll Free)

The Border Transportation Partnership

Canada | U.S. Department of Transportation Federal Highway Administration | Ontario | MDOT Michigan Department of Transportation

The Detroit River International Crossing Study follows an Environmental Assessment process that is a proven, legislated process used throughout Ontario and Canada on infrastructure projects, ranging from simple road widenings to complex long span bridges.

The task of completing the DRIC EA falls to the Border Transportation Partnership, a dedicated bi-national team of leading engineers, planners, and policy experts from Transport Canada, the Ontario Ministry of Transportation, the U.S. Federal Highways Administration, and the Michigan Department of Transportation – committed to a new border crossing by 2013.

CEAA Process

The **Canadian Environmental Assessment Act** (the Act) applies to federal authorities when they contemplate certain actions in relation to a *project* (e.g. funding and certain regulatory permits). Federal departments that have an environmental assessment (EA) responsibility in relation to a project are called Responsible Authorities (RAs).

Transport Canada (TC) is an RA for the Detroit River International Crossing project because TC is a co-proponent of the project, together with the Ontario Ministry of Transportation. As an RA, TC must ensure that an environmental assessment is carried out under the Act. The Windsor Port Authority also has an EA responsibility under the *Canada Port Authority Environmental Assessment Regulations*. The DRIC study has been designated to coordinate the federal and provincial EA requirements.

The CEAA process was formally initiated in March 2006, and a Notice of Commencement was posted on the Canadian Environmental Assessment Register, registry number 06-01-18170.Federal authorities also participating in the assessment include:

- Environment Canada
- Health Canada
- Fisheries and Oceans Canada
- Foreign Affairs Canada
- Natural Resources Canada
- Canadian Transportation Agency
- Canada Border Services Agency

Federal authorities have been participating in the coordinated EA process since it began in 2004, by reviewing the draft work plans to ensure that the information being collected as part of the DRIC process will be sufficient to meet federal information needs under CEAA.

Draft federal Environmental Assessment Guidelines have been developed to outline the specific requirements of the CEAA process. These guidelines were made available for public review in December 2006, and are currently being updated to reflect public input. In addition, the federal Public Participation Plan was developed, to describe the opportunities the public will have to provide input directly into the federal process. Both of these documents are available on the CEAA website at www.ceaa.gc.ca.

For more information about the CEAA process please contact:

Mr. Mohammad Murtaza
Senior Program Officer
Canadian Environmental Assessment Agency
55 St. Clair Avenue East
9th Floor, Room 907
Toronto, ON M4T 1M2
Phone: 416-952-1585
Fax: 416-952-1573
E-mail: mohammad.murtaza@ceaa-acee.gc.ca

Ms. Kaarina Stiff
Environmental Assessment Project Manager
Transport Canada
330 Sparks Street
Place de Ville, Tower C
Ottawa, ON K1A 0N5
Phone: 613-990-2861
Fax: 613-990-9639
E-mail: stiffk@tc.gc.ca

Coordination of CEAA & Ontario EA Processes

This study is being undertaken through a coordinated federal-provincial Environmental Assessment (EA) process. Both governments have agreed to coordinate their respective EA processes as outlined in the *Canada-Ontario Agreement on EA Cooperation* (November, 2004), which states that federal and provincial governments:

> *"will coordinate the environmental assessment processes whenever projects are subject to review by both jurisdictions…The agreement maintains the current level of environmental standards and the legislative and decision-making responsibilities of both governments. While projects requiring both provincial and federal environmental assessment approvals will still require separate approvals, decisions will be based on the same body of information and there will be an ability to make decisions concurrently".*

The federal EA process was initiated early in the project planning stages in order to maximize opportunities for coordination with the provincial EA process.

All technical studies being prepared as part of the provincial individual EA process will form the basis for meeting the requirements of the *Canadian Environmental Assessment Act.*

Federal departments provided input into the development of the Work Plans developed for each of the various disciplines required for this study, as part of the coordinated process.

Governance

Public Oversight

The Partnership has heard that public oversight of a new crossing is important. We are committed to protecting the public interest with public oversight. The Partnership is exploring various forms of collaboration and innovation with the private sector, while maintaining an appropriate level of public oversight.

New Crossing and Plaza

The Government of Canada is the lead in the implementation of the bridge and inspection plaza on the Canadian side of the crossing system. Canada has indicted it intends to explore the opportunity for private-sector participation in the construction, financing, and operation of the new bridge. A public-private partnership will not affect the ownership of the new crossing and the Government of Canada remains committed to public ownership of the new bridge and inspection plaza.

New Access Road

Ontario is the lead in the development of the access road from Highway 401 to the new plaza in Canada and is also exploring various roles for the private sector in the delivery of the access road. The Government of Canada, in recognition of the importance of this project, has committed to cover 50 per cent of the eligible capital cost of the new access road.

Detroit River INTERNATIONAL CROSSING STUDY

Chronology of DRIC

Study Process

An Ontario Environmental Assessment Terms of Reference, outlining the process for the Detroit River International Study, was prepared by the Partnership.

Submitted Terms of Reference, May 2004

Consultation

Public Information Open House, June 2003

Meetings with private sector and agencies

Meetings with Municipalities (Sarnia, Windsor, LaSalle, Essex County, Tecumseh, Amherstburg

MOE Approval, September 2004

Coordinate the U.S. and Canadian work programs.

Investigate engineering, social, economic, cultural and natural environment.

Present assessment of impacts for public review.

Incorporate public and agency input.

Initiated Environmental Assessment, January 2005

Public Information Open Houses scheduled at study milestones

Meetings with public, private sector and agencies throughout the study.

Community Consultation Group formed.

Chronology of DRIC

Study Process

Developed initial set of alternatives based on public, agency and municipal input, Guiding Principles and recommendations made by other studies.

Identified sensitive community features.

Sought public input on the level of importance of each evaluation factor.

Consultation

Initial Public Outreach, April 2005

Workshops

Tours of Detroit River area

Meetings with public, private sector municipalities and agencies

Public Information Open House 1, June 2005

Developed Illustrative Crossing, Plaza Locations & Connecting Route Alternatives in Canada and the U.S., Summer 2005

Based on the assessment of Illustrative Alternatives, Area of Continued Analysis was identified.

Assessment considered Specialists' Evaluation and public input to level of importance of Evaluation Factors.

At-grade and below-grade alternatives considered.

Identified Area of Continued Analysis, Fall 2005

Workshops

Tours of Detroit River area

Meetings with public, private sector municipalities and agencies

Public Information Open House 2, November 2005

Chronology of DRIC

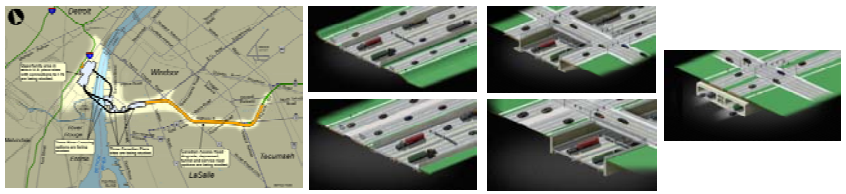
Study Process

Consultation

Established Guiding Principles in generating practical alternatives.

Specific options generated based on community objectives, public, agency, municipal and specialists input.

Identified Practical Crossing, Plaza and Access Road Alternatives, Spring 2006



Public Workshops to define specific options and explore Context Sensitive Solutions.

Tours of Detroit River area.

Meetings with public, private sector municipalities and agencies.

Public Information Open House 3, March 2006.

Study Team sought and gathered information on key community features.

Field data, modeling, design work and secondary source info, incorporated in analysis of impacts and benefits.

Compile all analysis data.

Present Preliminary Analysis of Practical Alternatives, December 2006

Context Sensitive Solutions Workshops

Tours of Detroit River area

Workshops

Meetings with public, private sector municipalities and agencies

Public Information Open House 4, December 2006

Used knowledge gained from analysis of original practical alternatives and community input to develop the Parkway alternative.

Continued with foundation investigations for the plaza and crossing alternatives.

Compiled data, finalize and present analysis to public.

Update of Preliminary Analysis of Practical Alternatives, August 2007

Meetings with public, private sector municipalities and agencies

Public Information Open House 5, August 2007

Property Acquisition

Because options are still being studied and evaluated, the Partnership cannot identify exact property requirements at this time. Once the project has received Environmental Assessment (EA) approval, the Partnership members will approach homeowners and business owners to acquire property in a mutually agreeable way.

However, prior to this, owners may initiate the sale of their property on a willing buyer/willing seller basis.

In response to feedback from the community, the Partnership will consider **purchase requests** from owners of properties currently having direct access to existing Highway 3 (Talbot Road) or Huron Church Road between Highway 401 and E.C. Row Expressway. Other residential and commercial properties may also qualify. These will be considered on a case by case basis if you wish to discuss whether your property may qualify, please contact the Ministry of Transportation.

After EA approval has been obtained, a representative will contact you if any part of your property is required. They will carry identification that you should insist on seeing. They will explain the procedures for the sale of your property.

Compensation will be based on a market value appraisal of your property. The market value appraisal is based on what similar land might be expected to sell for if sold on the open market by a willing buyer, based on historic and present market conditions in the local area. There are also provisions for payment of other reasonable expenses.

For more information on property matters, please speak to a representative at this meeting or contact the Ministry of Transportation, Windsor Border Initiatives Implementation Group.

Phone: 519-973-7367 or 1-800-265-6072 ext.4800 or email: detroit.river@ontario.ca

Purpose of the DRIC Study

To provide for the safe, efficient and secure movement of people and goods across the Canada-U.S. border in the Detroit River area to support the economies of Ontario, Michigan, Canada and the U.S.

To construct a new end-to-end transportation system that will link Highway 401 to the U.S. interstate system with inspection plazas and a new river crossing in between.

In meeting 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).

The Study Team seeks to implement transportation solutions which minimize community and environmental impacts as much as possible. In particular, the Canadian Study Team is looking to address the local communities' goals to:

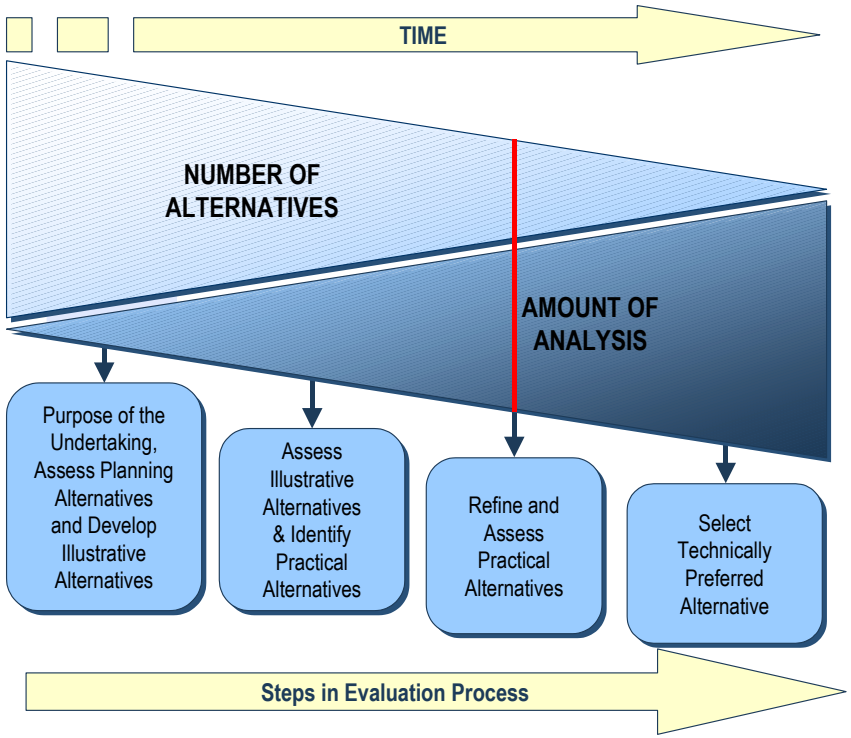
- *Improve quality of life*
- *Take trucks off local streets*
- *Improve traffic movement across the border*

Evaluation Process

The assessment of Crossing, Plaza and Access Road alternatives will be conducted in accordance with the Environmental and Technical Work Plans and will be based on the following factors and measures:

Factors	Performance Measures for Assessment of Practical Alternatives	
Changes to Air Quality	Particulate Matter Gaseous Pollutants	
Protection of Community and Neighborhood Characteristics	Residences and Social Features Existing Businesses Residents and Social Features	Noise and Vibration Community and Neighbourhood Impacts to Access
Maintain Consistency with Existing and Planned Land Use	Land Use (existing and planned) Development Plans Contaminated Sites/Disposal Sites	
Protect Cultural Resources	Built Heritage Features Parklands	Archaeological Features
Protect the Natural Environment	Ecological Landscapes Communities/Ecosystems Population/Species	Surface Water/Groundwater Recharge Areas Other Natural Resources
Improve Regional Mobility	Highway Network Effectiveness Continuous/ongoing River Crossing Capacity Operational Considerations of Crossing System (River Crossing and Plaza)	
Cost and Constructability	Cost Construction Duration	Construction Risk Utility Impacts

Alternatives Generation and Evaluation Process:
start with a broad perspective and become more focused/ detailed as the study progresses



Evaluation Methods

The evaluation process for the Practical Alternatives will involves two methods: **Reasoned Argument Method** and **Arithmetic Method**. The Reasoned Argument is the primary evaluation method with the Arithmetic approach used to substantiate the findings of the Reasoned Argument evaluation.

Reasoned Argument Method

Considers the **advantages** and **disadvantages** of each alternative and the relative significance of the impacts. The rationale to be used to select alternatives over others was derived from the following sources:

- National and international significance of the crossing;
- Government legislation, policies and guidelines;
- Existing Land Use and Municipal policy;
- Technical Considerations
- Issues and concerns identified during consultation; and
- Study Team expertise.

Arithmetic Method

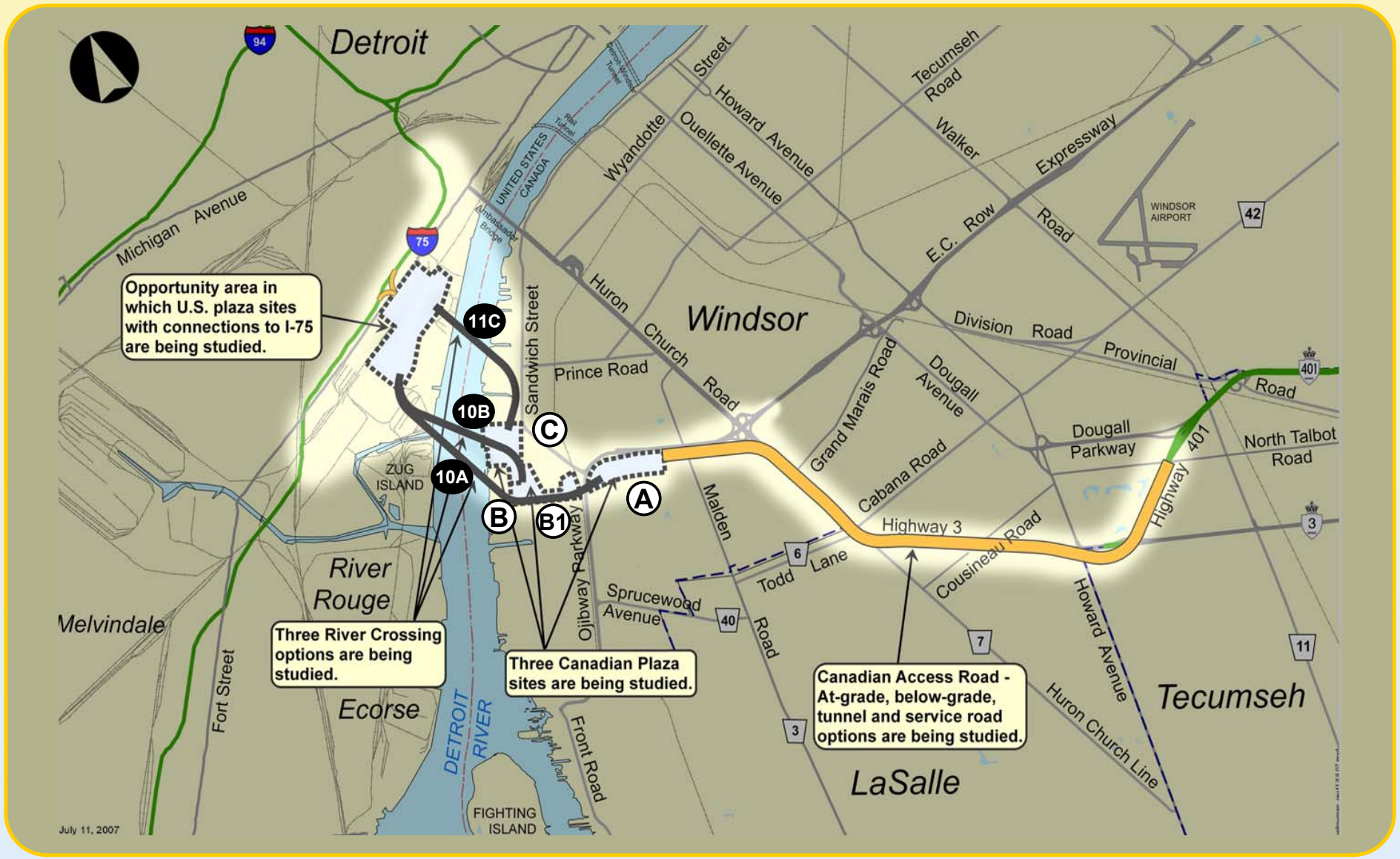
Considers both the level of importance of each environmental attribute (i.e. weight) and the magnitude of the impact or benefit (i.e. score). Generally, more weight is assigned to features that are felt to be more important in assessing impacts.

Weighting scenarios were developed based on feedback from the general public and other stakeholders. The results were presented in the *Draft Generation and Assessment of Illustrative Alternatives Report, November 2005.*

In evaluating alternatives using the Reasoned Argument or Arithmetic Method, the decision-making will:

- Incorporate input from municipalities, communities, stakeholders and government agencies, First Nations and the general public;
- Considers the context of the national and international significance of the Detroit River crossing;
- Be replicable and defensible;
- Use a common set of criteria in both countries for all alternatives;
- Be traceable and open; and
- Reflect the bi-national needs and requirements of the project.

Practical Alternatives



Access Road Alternatives

These images depict the Practical Access Road Alternatives presented at the Public Information Open Houses in March 2006 and December 2006. The Study Team has completed analysis of these five access road alternatives. The results of this analysis are presented on the following displays.

1A One-way service roads on either side of 6-lane freeway at grade.

1B One-way service roads either side of 6-lane freeway below-grade.

3 Cut and cover tunnel below rebuilt Huron Church Road/Highway 3 Corridor.

2A Six-lane freeway at grade, along side Huron Church/Highway 3.

2B Six-lane freeway below-grade, parallel to Huron Church/Highway 3.

Summary of Analysis – Access Road Alternatives

The DRIC Study Team identified seven evaluation factors that would provide the basis for the assessment of alternatives. At the Public Information Open Houses in December 2006 the DRIC Study Team reported on the preliminary results of the analysis of the practical crossing, plaza and access road alternatives based on the seven evaluation factors. The community has also expressed its local goals for the project as:

- **Improving quality of life**
- **Taking trucks off local streets**
- **Improving the movement of traffic across the border**

Conclusions

- The results of the analysis do not support further analysis of an at-grade roadway (Alternatives 1A and 2A)
  - least costly solution and fewer constructability risks
  - fewer benefits in terms of protecting community and neighbourhood characteristics
- The results of the analysis do not support further investigation of an end-to-end tunnelled access road (Alternative 3)
  - limited benefits do not justify additional cost when compared to other alternatives
  - other alternatives are available that offer similar benefits with less cost and less risks
- An enhanced, Parkway with below-grade access road alternative has been developed based on refinements to Alternatives 1B and 2B

The Parkway: A New Option

A Parkway alternative has been developed, based on refinements to the below-grade Practical Alternatives (Alternatives 1B and 2B), and reflecting the study goals and the community input received to date.

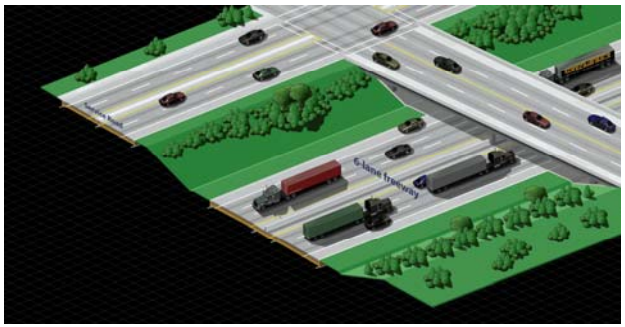
The Parkway will allow communities on both sides of the corridor to reconnect and can provide opportunities for new trails for pedestrians and cyclists and linkages for wildlife. The access road for international traffic would be below-grade from Howard Avenue to E.C. Row Expressway, with a number of short tunnels. The Parkway could address the future transportation and mobility needs of the region and improve traffic operations and safety, protect people and communities.

Summary of Analysis – Access Road Alternatives

The concept of the Parkway, as developed by the study team, can address all of the requirements for the access road identified by the community and the study team listed above. The plan we are showing in August is not the final access road option. We will look to the community for their input on the look and feel of the Parkway. Community input continues to be an essential part of the DRIC study process. Community input helped to lead us to the Parkway and with community input, we can make this refined option even better. Before any final decisions are made, the Parkway will be analyzed in the same level of detail as the initial five Practical Alternatives.

What's Next?

- Refine Parkway alternative and analyze in the same level of detail as the initial five Practical Alternatives.
- Complete the technical and environmental studies and continue to consult with the public.
- With our U.S. partners, present a single technically and environmentally preferred alternative
- Final study documents sent to approving agencies and made available for public review
- Construction could begin in 2010 and a new border crossing system will be complete in 2013.



Detroit River INTERNATIONAL CROSSING STUDY

Summary of Analysis – Access Road Alternatives

FACTOR/ MEASURE	ALTERNATIVE 1A		ALTERNATIVE 1B		ALTERNATIVE 2A		ALTERNATIVE 2B		ALTERNATIVE 3
	 One-way service roads on either side of 6-lane freeway at grade.		 One-way service roads either side of 6-lane freeway below grade.		 Six-lane freeway at grade, along side Huron Church/Highway 3.		 Six-lane freeway below grade, parallel to Huron Church/Highway 3.		 Cut and cover tunnel below rebuilt Huron Church Road/Highway 3 Corridor.
	Option 1 (Widen to North on Hwy 3)	Option 2 (Widen to South on Hwy 3)	Option 1 (Widen to North on Hwy 3)	Option 2 (Widen to South on Hwy 3)	Option 1 (Widen to North on Hwy 3)	Option 2 (Widen to South on Hwy 3)	Option 1 (Widen to North on Hwy 3)	Option 2 (Widen to South on Hwy 3)	
Changes to Air Quality									
Results of modeling to date (before mitigation)	• Predicted concentrations of NO_x are lower in the future compared to today's values due to changes in fuels and vehicular technologies. • Concentrations of Volatile Organic Compounds (VOC's) predicted to be well below provincial standards.		• Predicted concentrations of NO_x are lower in the future compared to today's values due to changes in fuels and vehicular technologies. • Concentrations of Volatile Organic Compounds (VOC's) predicted to be well below provincial standards. • Depressed alternatives result in slightly lower $PM_{2.5}$ concentrations in comparison to the at-grade alternatives.		• Predicted concentrations of NO_x are lower in the future compared to today's values due to changes in fuels and vehicular technologies. • Concentrations of Volatile Organic Compounds (VOC's) predicted to be well below provincial standards.		• Predicted concentrations of NO_x are lower in the future compared to today's values due to changes in fuels and vehicular technologies. • Concentrations of Volatile Organic Compounds (VOC's) predicted to be well below provincial standards. • Depressed alternatives result in slightly lower $PM_{2.5}$ concentrations in comparison to the at-grade alternatives.		• Predicted concentrations of NO_x are lower in the future compared to today's values due to changes in fuels and vehicular technologies but NO_x concentrations are greater compared to non-tunnel alternatives over a broader area (greater dispersion from ventilation stacks) • Concentrations of Volatile Organic Compounds (VOC's) predicted to be well below provincial standards. • Tunnel results in lower concentrations of PM2.5 in vicinity of the first 50m from the ROW compared to the other alternatives.
Protection of Community and Neighbourhood Characteristics									
Potential Acquisitions									
Residences	• 180-230	• 160-210	• 180-230	• 160-210	• 190-230	• 170-220	• 180-230	• 170-220	• 140-180
Businesses	• 31	• 45	• 31	• 45	• 26	• 40	• 26	• 40	• 43-45
Community Features Potentially Displaced	• 3 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church	• 4 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church, Trillium Court Housing (partial)	• 3 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church	• 4 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church, Trillium Court Housing (partial)	• 3 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church (partial)	• 4 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church, Trillium Court Housing (partial)	• 3 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church (partial)	• 4 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church, Trillium Court Housing (partial)	• 4 – Montessori Preschool, Royal Canadian Legion, Heritage Park Alliance Church, Trillium Court Housing (partial)
Noise Receptors with >5 dB increase (after mitigation)	• 1	• 0	• 1	• 0	• 0	• 0	• 0	• 0	• 0
Effect on Access	• 9 road closings • 20 local access connections to new transportation facility • No access to the new corridor from Cabana Road/Todd Lane; no access to Howard Avenue from Highway 401 Eastbound. • Full access to St. Clair College.		• 13 road closings • 14-15 local access connections to new transportation facility • Partial access to/ from the new corridor from/to Cabana Road/Todd Lane. • Full access to St. Clair College • No direct access to Howard Avenue.		• 15 road closings • 15 local access connections to new transportation facility • Full access to/from the new corridor from/to Cabana Road/Todd Lane; no direct access to St. Clair College or Howard Avenue	• 15 road closings • 14 local access connections to new transportation facility • Full access to/from the new corridor from/to Cabana Road/Todd Lane; no direct access to St. Clair College or Howard Avenue	• 14 road closings • 10 local access connections to new transportation facility • Full access to/from the new corridor from/to Cabana Road/Todd Lane; no direct access to St. Clair College or Howard Avenue	• 14 road closings • 11 local access connections to new transportation facility • Full access to/from the new corridor from/to Cabana Road/Todd Lane; no direct access to St. Clair College or Howard Avenue.	• 9 road closings • 13 local access connections to new transportation facility • No access to/from Cabana Road/Todd Lane; No access to Howard Avenue from Highway 401 Eastbound.

Detroit River INTERNATIONAL CROSSING STUDY

Summary of Analysis – Access Road Alternatives

FACTOR/ MEASURE	ALTERNATIVE 1A		ALTERNATIVE 1B		ALTERNATIVE 2A		ALTERNATIVE 2B		ALTERNATIVE 3
	 One-way service roads on either side of 6-lane freeway at grade.		 One-way service roads either side of 6-lane freeway below grade.		 Six-lane freeway at grade, along side Huron Church/Highway 3.		 Six-lane freeway below grade, parallel to Huron Church/Highway 3		 Cut and cover tunnel below rebuilt Huron Church Road/Highway 3 Corridor.
Impact on Community Character/Cohesion	• Overall, similar impacts to community compared to other alternatives • Communities of Spring Garden, Bethlehem Street, Reddock Street and Talbot Road (between Cousineau Road and Howard Avenue) Montgomery-Chelsea Drive and Mero Avenue will experience change to community character and cohesion • The displacement of households within the neighbourhoods will result in a change in character within each community • Reddock Street will experience a change in community character and cohesion due to the access road alignment encroaching into the community • The Bethlehem community will experience a change in character and cohesion due to development of Bethlehem Street to accommodate local traffic traveling from Spring Garden to Huron Church Road		• Overall, similar impact to community compared to other alternatives • Communities of Spring Garden, Bethlehem Street, Reddock Street, Kendleton Court, and Talbot Road (between Cousineau Road and Howard Avenue) and Mero Avenue will experience change to community character and cohesion • Below grade alternative has lower aesthetic impacts than the at-grade options • Reddock Street will experience a change in community character and cohesion due to the access road alignment encroaching into the community • Removes traffic from the viewshed of adjacent neighbourhoods		• Overall, similar impact to community compared to other alternatives • Communities of Spring Garden, Bethlehem Street, Reddock Street and Talbot Road (between Cousineau Road and Howard Avenue) and Mero Avenue will experience change to community character and cohesion • Over half of the households on Reddock Street will be displaced • The residential in-fill area of Kendleton Court will be displaced with option 1; no households will be displaced in Kendleton Court with option 2 • Talbot Road community will experience a change in character and cohesion due to the displacement of one entire side of Talbot Road, with either option 1 or option 2		• Overall, similar impact to community compared to other alternatives • Communities of Spring Garden, Bethlehem Street, Reddock Street and Talbot Road (between Cousineau Road and Howard Avenue) and Mero Avenue will experience change to community character and cohesion • All Kendleton Court households will be displaced with alignment option 1; with alignment option 2 only one Kendleton Court household is displaced • Provides for some aesthetic benefits to the community at large and to adjacent neighbourhoods • Removes traffic from the viewshed of adjacent neighbourhoods		• Overall, similar impact to community compared to other alternatives • Impacts to Spring Garden, Talbot Road, Bethlethem Street, Mero Avenue, and Montgomery-Chelsea Drive neighbourhoods • In the Talbot Road community, the displacement of households is limited to the LaSalle side of Talbot Road; resulting in a change in community character and cohesion as approximately one half of the community is displaced • Tunnel alignment to Plaza A will result in a displacement of 32 out of 48 households on Bethlehem Street; which will result in a change in character and cohesion • Lowest aesthetic impact, but visual impact of ventilation buildings, which are not compatible with the surrounding landscape; residents will have the ventilation buildings and stacks as part of their permanent viewshed
Consistency with Existing & Planned Land Use									
Consistency	• Alternative utilizes Huron Church Road/Highway 3 Corridor (major roadway, historical connection to border crossing); • Proposed facility is consistent with local Official Plans.		• Alternative utilizes Huron Church Road/Highway 3 Corridor (major roadway, historical connection to border crossing); • Proposed facility is consistent with local Official Plans.		• Alternative utilizes Huron Church Road/Highway 3 Corridor (major roadway, historical connection to border crossing) • Proposed facility is consistent with local Official Plans.		• Alternative utilizes Huron Church Road/Highway 3 Corridor (major roadway, historical connection to border crossing) • Proposed facility is consistent with local Official Plans.		• [Alternative utilizes Huron Church Road/Highway 3 Corridor (major roadway, historical connection to border crossing) • Proposed facility is consistent with local Official Plans.
Total area of land use impacts	• 78 ha	• 74 ha	• 75 ha	• 78 ha	• 81 ha	• 78 ha	• 80 ha	• 85 ha	• 65 ha
Contaminated Sites/Potentially impacted area of high potential for contamination	• 17/9 ha	• 17/3.6 ha	• 18/3.5 ha	• 13/3.6 ha	• 17/4 ha	• 17/4 ha	• 16/3.8 ha	• 16/4 ha	• 16/3 ha

Detroit River INTERNATIONAL CROSSING STUDY

Summary of Analysis – Access Road Alternatives

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Protection of Cultural Resources									
Built Heritage Features Displaced	• 7 to 9 field identified built heritage features displaced		• 6 to 8 field identified built heritage features displaced		• 4 to 5 field identified built heritage features displaced		• 4 to 5 field identified built heritage features displaced		• 5 to 8 field identified built heritage features displaced
Disrupted	• 1 to 2 field identified built heritage features disrupted		• 2 field identified built heritage features disrupted		• 4 to 5 field identified built heritage features disrupted	• 5 to 6 field identified built heritage features disrupted	• 3 to 5 field identified built heritage features disrupted		• 2 to 3 field identified built heritage features disrupted
Parks	• 1 Impacted – Property taking • 5 impacted – potential disruption to access	• 6 Impacted – Potential disruption to access	• 1 Impacted – Property taking • 5 impacted – potential disruption to access	• 6 Impacted – Potential disruption to access	• 1 Impacted – Property taking • 5 impacted – potential disruption to access	• 6 Impacted – Potential disruption to access	• 1 Impacted – Property taking • 5 impacted – potential disruption to access	• 6 Impacted – Potential disruption to access	• 1 Impacted – Property taking • 5 impacted – potential disruption to access
Archaeology Disturbance or destruction of known significant archaeological sites	• 7 to 12 small pre-contact habitation sites • 5 to 6 pre-contact findspots	• 9 to 10 small pre-contact habitation sties • 5 to 6 pre-contact findspots • e.g. No known sites of high to moderate significance impacted	• 9 to 10 small pre-contact habitation sites • 5 to 6 pre-contact findspots	• 9 to 1- small pre-contact habitation sites • 5 to 9 pre-contact findspots	• 9 small pre-contact habitation sites • 7 to 9 pre-contact findspots	• 9 small pre-contact habitation sites • 6 pre-contact findspots	• 8 to 9 small pre-contact habitation sites • 7 pre-contact findspots	• 9 small pre-contact habitation sites • 6 pre-contact findspots	• 8 to 10 small pre-contact habitation sites • 5 to 6 pre-contact findspots
Protection of Natural Environment									
Fish and Fish Habitat	• No critical fish habitat impacted by any access road alternatives								
Plant/Vegetation Species	• 0.44 ha to 1.43 ha of provincially rare vegetation impacted	• 0.50 ha to 1.53 ha of provincially rare vegetation impacted	• 0.43 ha to 1.46 ha of provincially rare vegetation impacted	• 0.54 ha to 1.46 ha of provincially rare vegetation impacted	• 1.19 ha to 2.22 ha of provincially rare vegetation impacted	• 1.18 ha to 2.22 ha of provincially rare vegetation impacted	• 0.82 ha to 1.86 ha of provincially rare vegetation impacted		• 0.50 ha to 1.48 ha of provincially rare vegetation impacted
Wildlife Species and Habitat	• 102 to 142 specimens/colonies of species at risk	• 92 to 134 specimens/colonies of species at risk	• 112 to 152 specimens/colonies of species at risk	• 103 to 152 specimens/colonies of species at risk	• 122 to 162 specimens/colonies of species at risk	• 116 to 155 specimens/colonies of species at risk	• 105 to 145 specimens/colonies of species at risk		• 92 to 131 specimens/colonies of species at risk

PRELIMINARY

Summary of Analysis – Access Road Alternatives

FACTOR/ MEASURE	ALTERNATIVE 1A		ALTERNATIVE 1B		ALTERNATIVE 2A		ALTERNATIVE 2B		ALTERNATIVE 3
	 One-way service roads on either side of 6-lane freeway at grade.		 One-way service roads either side of 6-lane freeway below grade.		 Six-lane freeway at grade, along side Huron Church/Highway 3.		 Six-lane freeway below grade, parallel to Huron Church/Highway 3.		 Cut and cover tunnel below rebuilt Huron Church Road/Highway 3 Corridor.
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Improvements to Regional Mobility									
Highway Capacity	• Six lane freeway with controlled access and service roads provides sufficient capacity to meet future (2035) travel demand; Peak Hour LOS (2035) = C								
Continuous Capacity	• All alternatives provide comparable access between the service roads and the cross streets with slight differences: • Safety of controlled access freeway for access road is greatly increased compared to present arterial roadway with signalized intersections and other entrances/conflict points • Provides increased local and regional mobility over the "do nothing" alternative • Provides substantial travel time savings for local traffic when compared to the "do nothing" alternative		• Safety of controlled access freeway for access road is greatly increased compared to present arterial roadway with signalized intersections and other entrances/conflict points • Provides increased local and regional mobility over the "do nothing" alternative • Provides substantial travel time savings for local traffic when compared to the "do nothing" alternative		• Safety of controlled access freeway for access road is greatly increased compared to present arterial roadway with signalized intersections and other entrances/conflict points • Provides increased local and regional mobility over the "do nothing" alternative • Provides substantial travel time savings for local traffic when compared to the "do nothing" alternative		• Safety of controlled access freeway for access road is greatly increased compared to present arterial roadway with signalized intersections and other entrances/conflict points • Provides increased local and regional mobility over the "do nothing" alternative • Provides substantial travel time savings for local traffic when compared to the "do nothing" alternative		• Safety of controlled access freeway for access road is greatly increased compared to present arterial roadway with signalized intersections and other entrances/conflict points • Provides increased local and regional mobility over the "do nothing" alternative • Provides substantial travel time savings for local traffic when compared to the "do nothing" alternative • The positive effects of tunnels on safety include elimination of adverse weather conditions and increased driver attention and/or slower speeds due to the confined driving space • Elements of tunnel driving that negatively affect safety may include limited visibility due to tunnel walls and light changes at the portals; it is much more difficult to control events in a tunnel crash; motorists' escape is not simple, and it is harder for emergency response teams to reach the crash site • The consequences of a crash in a tunnel are greatly increased over those on an open road, however, the frequency of catastrophic events is low, and the occurrence of general traffic crashes (on a tunneled freeway) is marginally less than on an open road
Reasonable and Secure Options	• All access road alternatives provide connections to Huron Church Road at E.C. Row enabling choice between new and existing crossings								
Cost and Constructability									
Estimated ($CAD) Construction Cost	$750 M to $920 M		$1.19 B to $1.36 B		$620 M to $790 M		$1.03 B to $1.20 B		$3.6 B to $3.78 B
Key Constructability Issues	• Traffic management during construction • Availability of resources and materials • Utility relocations • Watercourse crossings • 250 m zone requiring soil stabilization techniques		• Traffic management during construction • Availability of resources and materials • Utility relocations • Watercourse crossings • Soil stabilization techniques required over 3600 m		• Traffic management during construction • Availability of resources and materials • Utility relocations • Watercourse crossings • 250 m zone requiring soil stabilization techniques		• Traffic management during construction • Availability of resources and materials • Utility relocations • Watercourse crossings • Soil stabilization techniques required over 3600 m		• Traffic management during construction • Availability of resources and materials • Utility relocations • Watercourse crossings • Soil stabilization required over 7500 m • Testing, commissioning and maintenance of tunnel support systems (ventilation, lighting communications, etc.)

Changes to Air Quality

Summary of Assessment

- Local air quality is more strongly influenced by background sources and transboundary flow than by transportation sources.
- Concentrations of fine particulate are projected to be higher in the corridor than present due primarily to increased road dust as traffic increases. Particulate from vehicle tailpipes are predicted to decrease.
- Tunnel alternative reduces particulate concentrations, but increases concentrations of gaseous pollutants emitted over a larger area beyond the access road corridor from the ventilation buildings.
- Total concentrations of nitrogen oxides (NO_X) are predicted to decrease due to improvements in fuels and engine technologies.
- Below-grade alternatives result in slightly lower particulate and NO_X concentrations in comparison to at-grade alternatives.
- The air quality benefits of a below-grade roadway may be further enhanced through buffer zones, plantings and maintenance practices to reduce road dust.

What's Next?

- Conduct analysis of enhanced Parkway alternative.
- Model additional air pollutants and compare to MOE criteria and guidelines.
- Conduct more detailed analysis of the Technically and Environmentally Preferred Alternative.
- Assess potential construction impacts and recommend mitigation measures.

Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B		Alternative 3
			Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	
Effect on changes in concentration of particulate matter	Change in concentration of $PM_{2.5}$ versus Do Nothing	Subjective assessment at identified receptors versus Do Nothing	While tunnel generally results in the lowest PM2.5 concentrations at sensitive receptors such as schools and residences, local air quality is strongly influenced by background sources and transboundary flow. Thus, all Alternatives result in similar AQ conditions at these locations.								
	Change in the number of 24 hr periods where concentrations of $PM_{2.5}$ is > 30 µg/m^3 versus do nothing in 2015	Distance from Roadway - 50m	-6	-6	-9	-10	-9	-10	-10	-10	-10
		Distance from Roadway - 100m	1	-1	-1	-1	-1	-1	-1	-1	-1
		Distance from Roadway - 250m	0	0	0	0	0	0	0	0	0
		Maximum concentration relative to Do Nothing (at 50m)	95%	94%	89%	87%	89%	83%	82%	83%	71%
		Assessment of Results	All alternatives result in an improvement in concentrations in comparison to "Do Nothing". Depressed alternatives result in slightly lower PM2.5 concentrations in comparison to at-grade alternatives. Tunnel alternatives results in lowest PM2.5 concentrations of all Alternatives. All Alternatives result in similar air quality conditions at 100 m from the roadway. Option 1 and Option 2 Alignments result in similar maximum concentrations and number of relative exceedances.								
	Change in the number of 24 hr periods where concentrations of $PM_{2.5}$ is > 30 µg/m^3 versus Do Nothing in 2025	Distance from Roadway - 50m	-9	-15	-18	-22	-16	-21	-21	-22	-25
		Distance from Roadway - 100m	2	1	-1	1	-2	-2	-3	-2	-3
		Distance from Roadway - 250m	0	0	0	0	0	0	0	0	0
		Maximum concentration relative to Do Nothing (at 50m)	95%	95%	88%	86%	91%	87%	85%	84%	67%
		Assessment of Results	All alternatives result in an improvement in concentrations in comparison to "Do Nothing". Depressed alternatives result in slightly lower PM2.5 concentrations in comparison to at-grade alternatives. Tunnel alternatives results in lowest PM2.5 concentrations of all Alternatives. all Alternatives result in similar air quality conditions at 100 m from the roadway. Option 1 and Option 2 Alignments result in similar maximum concentrations and number of relative exceedances.								
	Change in the number of 24 hr periods where concentrations of $PM_{2.5}$ is > 30 µg/m^3 versus Do Nothing in 2035	Distance from Roadway - 50m	-14	-23	-36	-39	-25	-38	-40	-43	-49
		Distance from Roadway - 100m	4	3	-3	-3	-2	-4	-6	-6	-7
		Distance from Roadway - 250m	0	0	0	0	0	0	0	0	0
		Maximum concentration relative to Do Nothing (at 50m)	96%	95%	85%	84%	93%	86%	82%	79%	64%
		Assessment of Results	All alternatives result in an improvement in concentrations in comparison to "Do Nothing". Depressed alternatives result in slightly lower PM2.5 concentrations in comparison to at-grade alternatives. Tunnel alternatives results in lowest PM2.5 concentrations of all Alternatives. all Alternatives result in similar air quality conditions at 100 m from the roadway. Option 1 and Option 2 Alignments result in similar maximum concentrations and number of relative exceedances.								
	Does the average annual concentration of $PM_{2.5}$ exceed 15 µg/m^3 in 2015	Yes/No	No	No	No	No	No	No	No	No	No
	Does the average annual concentration of $PM_{2.5}$ exceed 15 µg/m^3 in 2025	Yes/No	No	No	No	No	No	No	No	No	No
	Does the average annual concentration of $PM_{2.5}$ exceed 15 µg/m^3 in 2035	Yes/No	No	No	No	No	No	No	No	No	No
	Summary of effect on concentration of particulate matter	Subjective assessment	While tunnel is slightly preferred within the first 50 m from the Right of Way, all Alternatives result in similar AQ conditions at 100 m and beyond from the right of way.								
Effect on changes in concentration of gaseous pollutants	Change in concentration of NOx versus Do Nothing	Subjective Assessment based on changes at identified receptors versus Do Nothing	Local air quality is strongly influenced by background sources and transboundary flow. Thus, all Alternatives result in similar AQ conditions at sensitive receptor locations such as schools, etc that are located greater than 250 m from the Right of Way.								
	Change in the number of 24 hr periods where concentrations of NOx >400 µg/m^3 versus Do Nothing in 2015	Distance from Roadway - 50m	0	0	0	0	0	0	0	0	0
		Distance from Roadway - 100m	0	0	0	0	0	0	0	0	0
		Distance from Roadway - 250m	0	0	0	0	0	0	0	0	0
		Maximum concentration relative to Do Nothing (at 50m)	74%	60%	69%	56%	59%	54%	55%	54%	74%
		Assessment of Results	All predicted maximum concentrations are below the relevant criteria and guidelines at 50 m from the roadway. All alternatives result in an improvement in concentrations in comparison to "Do Nothing". Depressed alternatives result in slightly lower NOx concentrations in comparison to at-grade alternatives. Option 2 Alignments result in slightly lower NOx concentrations than Option 1 Alignments, on average. Tunnel alternatives results in highest Nox concentrations on average along the corridor.								
	Change in the number of 24 hr periods where concentrations of NOx > 400 µg/m^3 versus Do Nothing in 2025	Distance from Roadway - 50m	0	0	0	0	0	0	0	0	0
		Distance from Roadway - 100m	0	0	0	0	0	0	0	0	0
		Distance from Roadway - 250m	0	0	0	0	0	0	0	0	0
		Maximum concentration relative to Do Nothing (at 50m)	61%	54%	58%	51%	55%	52%	52%	50%	60%
		Assessment of Results	All predicted maximum concentrations are below the relevant criteria and guidelines at 50 m from the roadway. All alternatives result in an improvement in concentrations in comparison to "Do Nothing". Depressed alternatives result in slightly lower NOx concentrations in comparison to at-grade alternatives. Option 2 Alignments result in slightly lower NOx concentrations than Option 1 Alignments, on average. Tunnel alternatives results in highest Nox concentrations on average along the corridor.								
	Change in the number of 24 hr periods where concentrations of NOx > 400 µg/m^3 versus Do Nothing in 2035	Distance from Roadway - 50m	0	0	0	0	0	0	0	0	0
		Distance from Roadway - 100m	0	0	0	0	0	0	0	0	0
		Distance from Roadway - 250m	0	0	0	0	0	0	0	0	0
		Maximum concentration relative to Do Nothing (at 50m)	53%	48%	51%	46%	49%	47%	48%	46%	53%
		Assessment of Results	All predicted maximum concentrations are below the relevant criteria and guidelines at 50 m from the roadway. All alternatives result in similar concentrations and reductions in comparison to "Do Nothing" in 2035.								
	Summary of effect on concentration of gaseous pollutants	Subjective assessment	Although all concentrations below the relevant standards and guidelines, the tunnel alternative results in the highest NOx concentrations and thus is least preferred for NOx concentrations. All Alternatives result in similar AQ conditions at 100 m and beyond from the right of way.								
Overall Assessment	Implementation of any Alternative results in a net AQ benefit over "Do Nothing". While tunnel is slightly preferred within the first 50 m from the Right of Way for PM2.5 concentrations, it is least preferred for NOx concentrations. Thus the influence of Nox and PM2.5 cancel each other out, and there is no difference in overall AQ effects between Alt 3 (tunnel) and other alternatives. Also, effects between depressed and at-grade alternatives are similar overall, and thus there is no difference in AQ between any of the alternatives.										

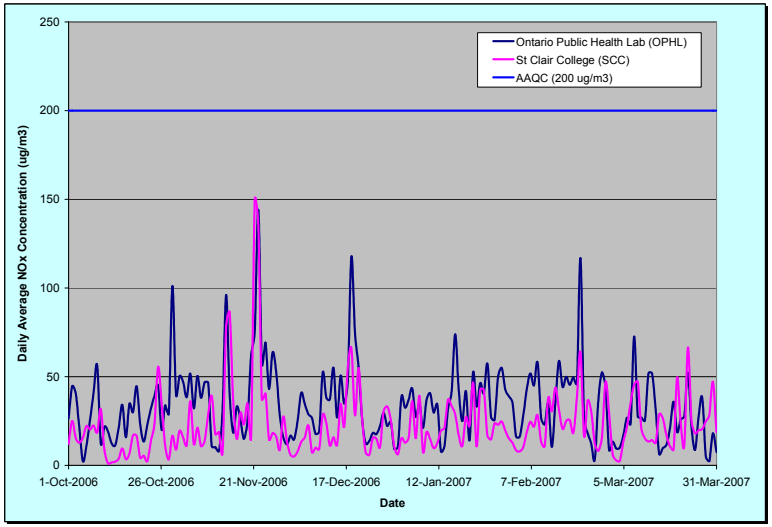
Notes:
1. Do Nothing defined as no transportation improvements other than those already identified/approved
2. Year 2015 reflects effects upon opening of facility
3. Provinicial guideline for acceptable maximum 24-hr average PM2.5 concentration is <30µg/m3
4. Year 2025 reflects effects 10 years post construction
5. Year 2035 reflects effects at 30 year planning horizon
6. Federal objective for acceptable average annual concentration of PM2.5 is < 15µg/m3

Ambient Air Monitoring – Results: October 2006 – March 2007)

- Two ambient air monitoring stations installed in Huron Church Road/Highway 3 corridor
- Adjacent to Ontario Public Health Laboratory and across from entrance to St.Clair College
- Measuring fine particulate matter (I.e. $PM_{2.5}$), nitrogen oxides (NO_x), volatile organic compounds (VOCs) and weather
- Observations from these two monitoring stations are being compared to data obtained from existing MOE monitoring stations located at College & South St. and University Avenue

NO_x Results

24-Hour Average Measured NO_x Concentrations ($\mu g/m^3$)
(from Observed Data at Monitoring Stations)

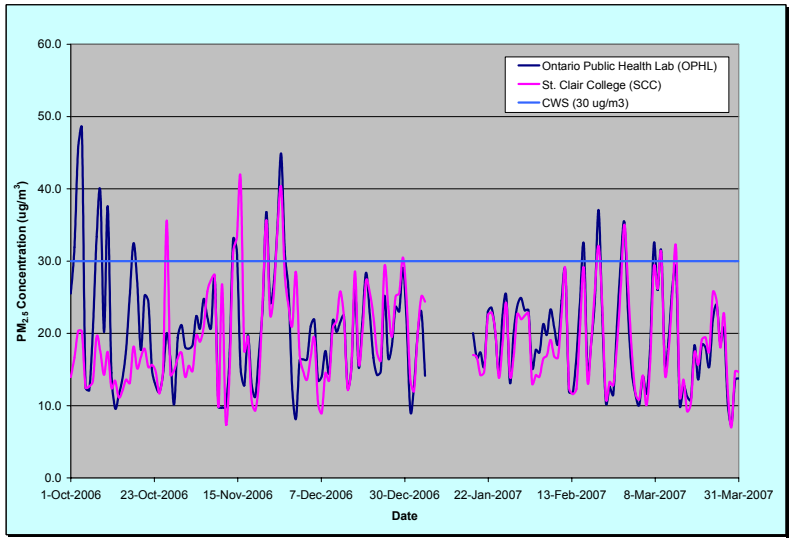


- Measured NO_x concentrations are within the expected range
- No observed exceedances of the 24-hour MOE Ambient Air Quality Criterion (AAQC) for NO_x (200 ug/m^3)
- Concentrations at both stations are slightly elevated in comparison to MOE monitoring stations, but remain well below the criteria
- Observed NO_x concentrations reflect local + transboundary sources, traffic patterns and meteorological conditions

Air Quality Monitoring

$PM_{2.5}$ Results

24-Hour Average Measured $PM_{2.5}$ Concentrations (µg/m³)
(from Observed Data at Monitoring Stations)



- Measured PM2.5 concentrations are within the expected range
- Concentrations at both stations are slightly elevated in comparison to MOE monitoring stations.
- Several observed exceedances of 30 µg/m3 at both sites
- Concentrations are generally similar at both sites
- Observed PM concentrations reflect local + transboundary sources, traffic patterns and meteorological conditions

VOC Results

Daily Max/Min/Average VOC Concentrations (µg/m³)
(from Observed Data at Monitoring Stations)

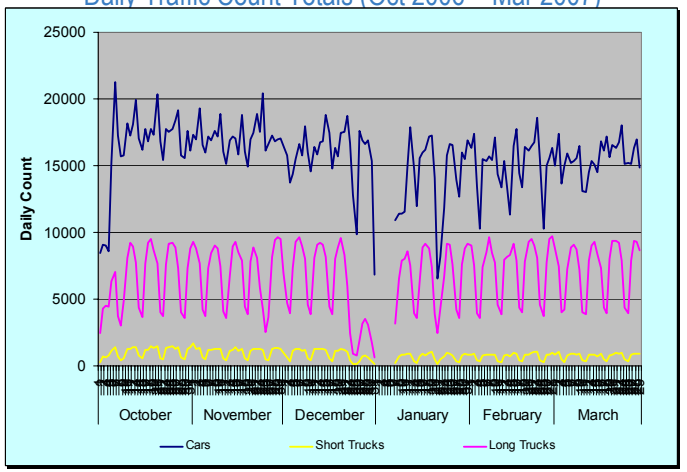
Monitoring Station	Contaminant	MOE 24-hr AAQC (µg/m³)	Maximum Measured Concentration (µg/m³)		Minimum Measured Concentration* (µg/m³)		Average Concentration (µg/m³)	
			Jan-Mar 2007 (Q2)	Sampling Period to-Date (Q1+Q2)	Jan-Mar 2007 (Q2)	Sampling Period to-Date (Q1+Q2)	Jan-Mar 2007 (Q2)	Sampling Period to-Date (Q1+Q2)
Ontario Public Health Laboratory (OPHL)	Acetaldehyde	500	1.2	2.4	0.6	0.3	0.8	1.0
	Formaldehyde	65	2.8	5.0	1.0	1.0	1.8	2.2
	Acrolein	9.6*	2.7	2.7	0.1	0.1	0.4	0.4
	Benzene	60+	1.8	1.8	0.3	0.3	0.6	0.6
St. Clair College (SCC)	Acetaldehyde	500	1.3	2.5	0.6	0.4	0.8	1.1
	Formaldehyde	65	3.2	5.7	0.9	0.8	1.7	2.4
	Acrolein	9.6*	1.5	1.5	0.1	0.1	0.3	0.4
	Benzene	60+	1.3	3.1	0.3	0.3	0.6	0.6

Guideline Limits: * - *converted to 24-hr from 1-hr*
+ - *not a health-based limit*

- Observed VOC concentrations are well below the relevant MOE standards and guidelines.

Traffic Data

Daily Traffic Count Totals (Oct 2006 – Mar 2007)



- Observed traffic patterns are cyclical on a weekly basis, but relatively constant.

Tunnel Ventilation and Contaminant Removal Technologies

The Study Team considered the effectiveness of contaminant removal technologies for the tunnel alternative:

- The primary reason for the use of contaminant removal technologies in other tunnels has been to improve in-tunnel air quality where visibility problems arise, and access to fresh air is difficult.
- Many tunnels with air pollution control systems treat only a portion (i.e. less than 100%) of the tunnel air via a by-pass stream. Most by-pass systems treat only a small portion of the tunnel air, which is typically less than 25%.
- Tunnels that employ particulate removal devices, including electrostatic precipitator devices do so for in-tunnel visibility reasons, not to improve external air quality.
- Electrostatic participators in roadway tunnels do not remove all particulates. The collection efficiencies depend upon air velocity, contamination composition, particle size, and concentrations in the air stream. When used in tunnels, removal efficiencies of fine particulates (i.e. $PM_{2.5}$) are limited due to comparatively low concentrations in relation to the industrial applications for which they were developed.
- Examples around the world that employ nitrogen oxide (NO_X) removal technologies do so to improve in-tunnel air quality, rather than external air quality. There are fewer examples of tunnels employing NO_X removal technologies.

Protection of Community and Neighbourhood Characteristics

Summary of Assessment

- Displaced households (households displaced are primarily located beside the Huron Church Road/Highway 3 corridor)

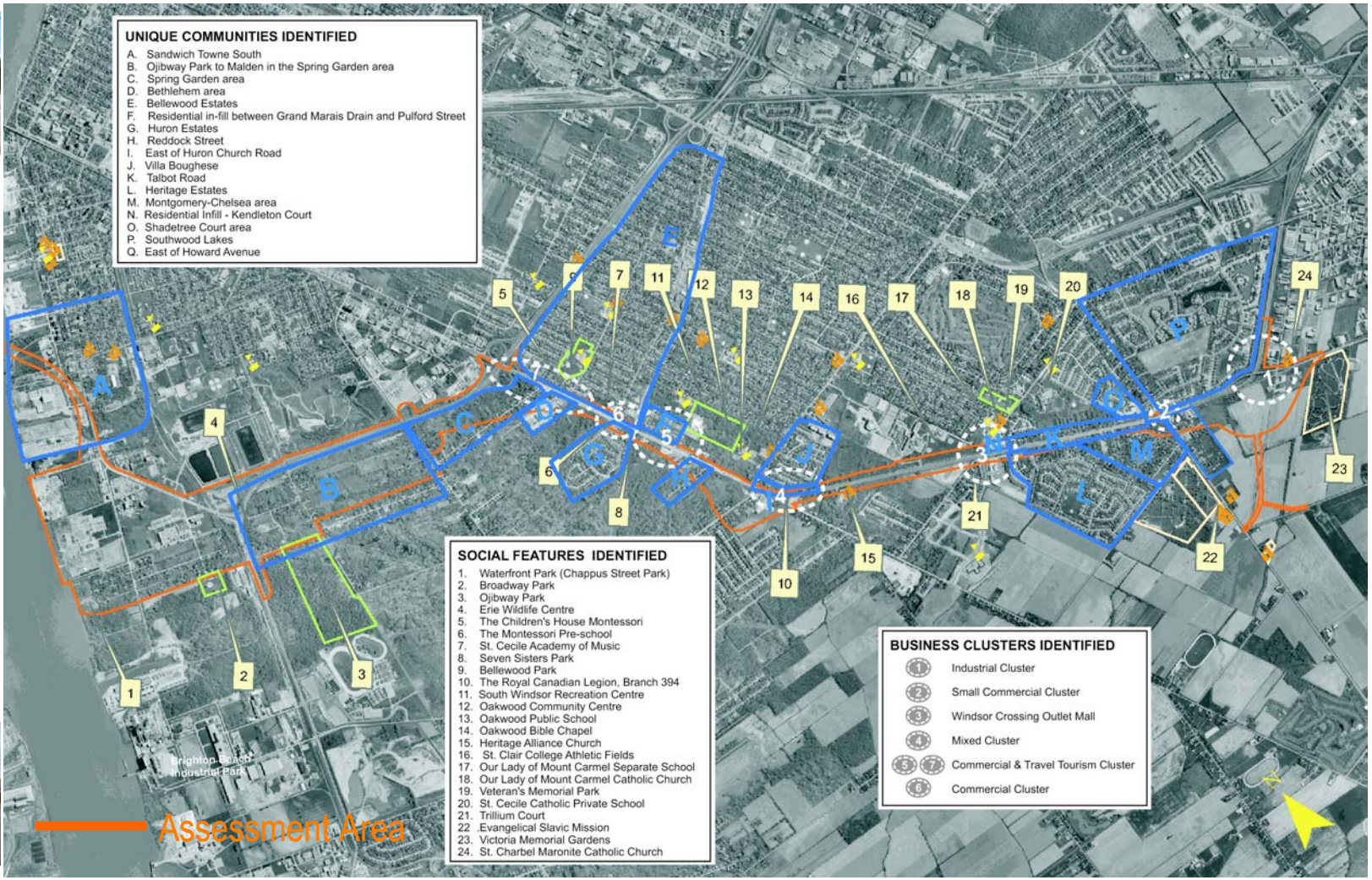
  160 to 230 households for Alternatives 1A and 1B;
  170 to 230 for Alternatives 2A and 2B: and
  140 to 180 for Alternative 3.

- None to marginal noise impacts for all access road alternatives (Alternatives 1A and 1B each result in increases in noise levels greater than 5 dB for one receptor). The use of berms and barriers is being considered along the access road alternatives.
- The tunnel alternative is considered to have the highest overall impacts on businesses when considering the number of displacements and reduced visibility of business from the roadway.
- Both the tunnel and below-grade options improve the aesthetics of the corridor by reducing visibility of the roadway from nearby residences.

What's Next?

- Conduct detailed analysis of enhanced Parkway alternative.
- Identify and evaluate displacement and disruption impacts by neighbourhood community.
- Identify and evaluate effects to social features and municipal services disruptions to neighbourhoods, displacement of homes.
- Conduct analysis of the Technically and Environmentally Preferred Alternative.
- Coordination with noise and air disciplines to determine community impacts.
- Assess potential construction impacts and recommend mitigation measures.
- Agency, community stakeholder consultation.
- Investigate opportunities to enhance visibility and signage for businesses along the new access road alternative.

Protection of Community and Neighbourhood Characteristics



Protection of Community and Neighbourhood Characteristics

Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B		Alternative 3
			Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	
Traffic Impacts	Effect on Local Access	No of streets crossed, closed, or connected with an interchange	9 Crossings 11 Closings 20 Connections	9 Crossings 10 Closings 20 Connections	13 Crossing 10 Closings 14 Connections	13 Crossing 9 Closings 15 Connections	10 Crossings 15 Closings 15 Connections	10 Crossings 15 Closings 14 Connections	11 Crossings 14 Closings 10 Connections	11 Crossings 14 Closings 11 Connections	8 Crossings 9 Closings 13 Connections
	Effect on Local Access (out-of-way travel)	Subjective Assessment	Alternative maintains connection to/from the Ambassador Bridge crossing and provides access to/from the new crossing. Local access is improved through the separation of local and international traffic, primarily due to shifting international traffic away from Huron Church Road/Highway 3 corridor and onto the new freeway facility. Travel time on Service Road is at least five minutes less than on Huron Church Road from E.C. Row Expressway to Howard Avenue under the 2035 no-build condition, during the peak hour. One-way Service Roads and new freeway facility require certain crossings, closings and connections (i.e. right-in, right out access) that result in out-of-way travel. Greatest distance between trunaround locations for one-way Service Roads (i.e. out-of-way travel) is 1.5 km, resulting in a trip delay of less than two minutes (50km/h average speed). Impact of out-of-way travel is considered low.		Alternative maintains connection to/from the Ambassador Bridge crossing and provides access to/from the new crossing. Local access is improved through the separation of local and international traffic, primarily due to shifting international traffic away from Huron Church Road/Highway 3 corridor and onto the new freeway facility. Travel time on Service Road is at least five minutes less than on Huron Church Road from E.C. Row Expressway to Howard Avenue under the 2035 no-build condition, during the peak hour. One-way Service Roads and new freeway facility require certain crossings, closings and connections (i.e. right-in, right out access) that result in out-of-way travel. Greatest distance between trunaround locations for one-way Service Roads (i.e. out-of-way travel) is 1.5 km, resulting in a trip delay of less than two minutes (50km/h average speed). Impact of out-of-way travel is considered low.		Alternative maintains connection to/from the Ambassador Bridge crossing and provides access to/from the new crossing. Local access is improved through the separation of local and international traffic, primarily due to shifting international traffic away from Huron Church Road/Highway 3 corridor and onto the new freeway facility. Travel time on Service Road is at least five minutes less than on Huron Church Road from E.C. Row Expressway to Howard Avenue under the 2035 no-build condition, during the peak hour. Service Roads and new freeway facility require certain crossings, closings and connections that result in a maximum out-of-way travel of 1.5km (delay of less than two minutes at an average speed of 50 km/h). Impact of out-of-way travel is considered low.		Alternative maintains connection to/from the Ambassador Bridge crossing and provides access to/from the new crossing. Local access is improved through the separation of local and international traffic, primarily due to shifting international traffic away from Huron Church Road/Highway 3 corridor and onto the new freeway facility. Travel time on Service Road is at least five minutes less than on Huron Church Road from E.C. Row Expressway to Howard Avenue under the 2035 no-build condition, during the peak hour. Service Roads and new freeway facility require certain crossings, closings and connections that result in a maximum out-of-way travel of 1.5km (delay of less than two minutes at an average speed of 50 km/h). Impact of out-of-way travel is considered low.		Alternative maintains connection to/from the Ambassador Bridge crossing and provides access to/from the new crossing. Local access is improved through the separation of local and international traffic, primarily due to shifting international traffic away from Huron Church Road/Highway 3 corridor and onto the new freeway facility. Travel time on Service Road is at least five minutes less than on Huron Church Road from E.C. Row Expressway to Howard Avenue under the 2035 no-build condition, during the peak hour. Service Roads and new freeway facility require certain crossings, closings and connections that result in a maximum out-of-way travel of 1.0km (delay of less than two minutes at an average speed of 50 km/h). Impact of out-of-way travel is considered low.
Noise and Vibration	Receptors with change in noise <5 dBA increase vs Do Nothing (see note 1)	Number of receptors (2035 post mitigation scenario)	30	31	30	31	31	31	31	31	31
	Receptors with change in noise levels >5 dBA to <10 dBA versus Do Nothing	Number of receptors (2035 post mitigation scenario)	1	0	1	0	0	0	0	0	0
	Receptors with change in noise levels >10 dBA versus Do Nothing	Number of receptors (2035 post mitigation scenario)	0	0	0	0	0	0	0	0	0
	Assessment of change in noise levels	Subjective Assessment	Generally, with standard mitigation of a 5m high acoustic barrier, the depressed alternatives (1B and 2B) generate lower noise levels in comparison with at-grade alternatives (1A and 2A). Of all the alternatives, Alternative 3 had the lowest noise levels.								
	# of sensitive receptors with vibration exceeding 0.14 mm/sec vibration frequency (see note 2)	Number of houses	225 (connection to Plaza A) 212 (connection to other plaza)	258 (connection to Plaza A) 245 (connection to other plaza)	228 (connection to Plaza A) 210 (connection to other plaza)	258 (connection to Plaza A) 240 (connection to other plaza)	191 (connection to Plaza A) 185 (connection to other plaza)	169 (connection to Plaza A) 163 (connection to other plaza)	189 (connection to Plaza A) 178 (connection to other plaza)	167 (connection to Plaza A) 156 (connection to other plaza)	251 (connection to Plaza A) 231 (connection to other plaza)
	# sensitive receptors exceeding 50 mm/sec vibration frequency (see note	Number of houses	0	0	0	0	0	0	0	0	0
	Assessment of vibration impacts	Subjective Assessment	Baseline vibration levels measured in 2006 at eight locations indicate vibration levels measured were within the threshold of perception limit of 0.14 mm/sec. Results indicate that no sensitive receptors will experience vibration > 50 mm/sec during operation of new access road; vibration impacts due to construction activities will be reviewed during later design stages.								
DISPLACEMENTS-RESIDENTIAL/SOCIAL											
Displacements of Residents	Number of households/dwellings displaced within the project area	Quantitative assessment of the number of household/dwellings displaced by the proposed ROW	Plaza A - 230 Plaza B/C - 180	Plaza A - 210 Plaza B/C - 160	Plaza A - 230 Plaza B/C - 180	Plaza A - 210 Plaza B/C - 160	Plaza A - 230 Plaza B/C - 190	Plaza A - 220 Plaza B/C - 170	Plaza A - 230 Plaza B/C - 180	Plaza A - 220 Plaza B/C - 170	Plaza A - 180 Plaza B/C - 140
		Quantitative assessment of the total number of people within displaced household/dwelling	332	293	373	297	377	338	324	343	339
		Quantitative assessment of residents potentially displaced and their "attachment" to home (length of tenure, ownership) (see note 4) <5 years	Plaza A - 35% Plaza B/C - 31%	Plaza A - 28% Plaza B/C - 21%	Plaza A - 35% Plaza B/C - 32%	Plaza A - 29% Plaza B/C - 22%	Plaza A - 39% Plaza B/C - 36%	Plaza A - 30% Plaza B/C - 24%	Plaza A - 38% Plaza B/C - 35%	Plaza A - 29% Plaza B/C - 23%	Plaza A - 30% Plaza B/C - 21%
		5-10 years	Plaza A - 18% Plaza B/C - 18%	Plaza A - 17% Plaza B/C - 17%	Plaza A - 18% Plaza B/C - 18%	Plaza A - 17% Plaza B/C - 17%	Plaza A - 19% Plaza B/C - 20%	Plaza A - 18% Plaza B/C - 19%	Plaza A - 19% Plaza B/C - 20%	Plaza A - 18% Plaza B/C - 20%	Plaza A - 16% Plaza B/C - 17%
		11-30 years	Plaza A - 28% Plaza B/C - 30%	Plaza A - 37% Plaza B/C - 44%	Plaza A - 27% Plaza B/C - 29%	Plaza A - 37% Plaza B/C - 43%	Plaza A - 28% Plaza B/C - 28%	Plaza A - 38% Plaza B/C - 42%	Plaza A - 28% Plaza B/C - 29%	Plaza A - 40% Plaza B/C - 43%	Plaza A - 37% Plaza B/C - 46%
		>30 years	Plaza A - 20% Plaza B/C - 20%	Plaza A - 17% Plaza B/C - 17%	Plaza A - 20% Plaza B/C - 20%	Plaza A - 17% Plaza B/C - 17%	Plaza A - 14% Plaza B/C - 15%	Plaza A - 14% Plaza B/C - 14%	Plaza A - 15% Plaza B/C - 15%	Plaza A - 14% Plaza B/C - 14%	Plaza A - 16% Plaza B/C - 15%
		Quantitative assessment of the total "special population" (demography, minority, language, social characteristics) (see note 5) Children	Plaza A - 26% Plaza B/C - 21%	Plaza A - 23% Plaza B/C - 16%	Plaza A - 26% Plaza B/C - 21%	Plaza A - 23% Plaza B/C - 17%	Plaza A - 27% Plaza B/C - 23%	Plaza A - 25% Plaza B/C - 19%	Plaza A - 27% Plaza B/C - 23%	Plaza A - 25% Plaza B/C - 19%	Plaza A - 25% Plaza B/C - 20%
		Adults > Age 65	Plaza A - 22% Plaza B/C - 19%	Plaza A - 24% Plaza B/C - 20%	Plaza A - 22% Plaza B/C - 19%	Plaza A - 24% Plaza B/C - 20%	Plaza A - 18% Plaza B/C - 16%	Plaza A - 20% Plaza B/C - 17%	Plaza A - 19% Plaza B/C - 18%	Plaza A - 20% Plaza B/C - 18%	Plaza A - 21% Plaza B/C - 16%
		Special Needs	Plaza A - 4% Plaza B/C - 3%	Plaza A - 5% Plaza B/C - 4%	Plaza A - 4% Plaza B/C - 3%	Plaza A - 5% Plaza B/C - 4%	Plaza A - 3% Plaza B/C - 2%	Plaza A - 5% Plaza B/C - 3%	Plaza A - 3% Plaza B/C - 2%	Plaza A - 5% Plaza B/C - 3%	Plaza A - 6% Plaza B/C - 3%

Notes:
1. Change in noise levels determined in accordance with MTO/MOE protocol; considers outdoor living area (OLA); change <3 dBA is considered imperceptible; areas where change in noise levels >5dBA warrant consideration for mitigation
2. Vibration frequency of 0.14mm/sec represents level at which average person feels vibration
3. Sustained vibration frequency of >50 mm/sec can lead to structural damage
4. Based on results of questionnaires sent to residences within ACA; analysis is ongoing
5. Based on results of questionnaires sent to residences within ACA, interviews and census data; analysis is ongoing

Protection of Community and Neighbourhood Characteristics

Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B		Alternative 3
			Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	
Displacement of Social Features (e.g. school, community centres, daycare centres, extended care facilities)	Social features (institutional, recreational) within the project area	Number of social features (institutional, recreational) displaced	3 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church (partial property taking - 0.1ha)	4 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church (partial property taking - 0.1ha), Trillium Court Housing (partially - 14 dwellings)	3 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church (partial property taking - 0.1ha)	4 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church (partial property taking - 0.1ha), Trillium Court Housing (partially - 14 dwellings)	3 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church	4 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church (partial property taking - 0.1ha), Trillium Court Housing (partially - 14 dwellings)	3 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church	4 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church (partial property taking - 0.1ha), Trillium Court Housing (partially - 14 dwellings)	4 - Montessori Pre-School in Lambton Plaza, Royal Canadian Legion, Heritage Park Alliance Church (partial property taking - 0.1ha), Trillium Court Housing (partially - 14 dwellings)
		Qualitative assessment of impacts on the use of displaced facility (characterization of use, number and location of users, facility access and catchment area, etc.)	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated.	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated. Loss of geared-to-income housing units could reduce the availability of such housing in the community (presently there's a waiting list for geared-to-income housing).	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated.	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated. Loss of geared-to-income housing units could reduce the availability of such housing in the community (presently there's a waiting list for geared-to-income housing).	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated.	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated. Loss of geared-to-income housing units could reduce the availability of such housing in the community (presently there's a waiting list for geared-to-income housing).	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated.	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated. Loss of geared-to-income housing units could reduce the availability of such housing in the community (presently there's a waiting list for geared-to-income housing).	Displacement of pre-school education programing; memorial cenotaph & social programming; these social features can be relocated in the community with minor impacts to users and programming; entrance-way to Church can be relocated. Loss of geared-to-income housing units could reduce the availability of such housing in the community (presently there's a waiting list for geared-to-income housing).
DISRUPTIONS-SOCIAL											
Disruption of day-to-day use and enjoyment of residential property	Disruption of day-to-day use and enjoyment of property for residents during and post construction	Quantitative assessment of nuisance impacts (noise, dust, air) significance of effect of number of people affected Noise (no build compared to project in 2035)	No difference in nuisance noise effects anticipated across all access route alternatives.								
		Air (no build compared to project in 2035)	Generally, improvement in local air quality predicted with all alternatives vs. no build. However, nuisance impacts are predicted with all alternatives under certain conditions in the vicinity of E.C. Row/Malden Road and Chelsea area (Hwy 3 and Howard Ave).								
Disruption of Social Features (e.g. schools, community centres, daycare centres, extended care facilities)	Effect on institutional features (schools, community facilities, churches)	Quantitative assessment of the total number of institutional features disrupted by the project	7 - The Children's House Montessori, St. Cecile Academy of Music, Oakwood Public School, Heritage Park Alliance Church, Our Lady of Mount Carmel Separate School, Trillium Court Housing and St. Charbel Maronite Catholic Church	8 - The Children's House Montessori, St. Cecile Academy of Music, Oakwood Public School, Heritage Park Alliance Church, Our Lady of Mount Carmel Separate School, St. Clair College Athletic Field, Trillium Court Housing and St. Charbel Maronite Catholic Church	7 - The Children's House Montessori, St. Cecile Academy of Music, Oakwood Public School, Heritage Park Alliance Church, Our Lady of Mount Carmel Separate School, Trillium Court Housing and St. Charbel Maronite Catholic Church	8 - The Children's House Montessori, St. Cecile Academy of Music, Oakwood Public School, Heritage Park Alliance Church, Our Lady of Mount Carmel Separate School, St. Clair College Athletic Field, Trillium Court Housing and St. Charbel Maronite Catholic Church	7 - The Children's House Montessori, St. Cecile Academy of Music, Oakwood Public School, Our Lady of Mount Carmel Separate School, St. Clair College Athletic Field, Trillium Court Housing and St. Charbel Maronite Catholic Church				8 - The Children's House Montessori, St. Cecile Academy of Music, Oakwood Public School, Heritage Park Alliance Church, Our Lady of Mount Carmel Separate School, St. Clair College Athletic Field, Trillium Court Housing and St. Charbel Maronite Catholic Church
	Effect on use of institutional feature	Qualitative assessment of impacts on the use of feature (characterization of use, number and location of users, facility access and catchment area, etc.)	Uses maintained at all disrupted features but potential for reduced access during construction and nuisance effects; . Permanent change to St. Charbel Church access via Industrial Park as Outer Drive is closed at Highway 3.								
	Effect on recreational uses (parks, community centres)	Quantitative assessment of impacts on the use of feature (characterization of use, number and location of users, facility access and catchment area, etc.)	6 - Bellewood Park, Seven Sisters Park, South Windsor Recreational Centre, Oakwood Community Centre, Veteran's Memorial Park and St. Clair College Athletic Field				5 - Bellewood Park, Seven Sisters Park, South Windsor Recreational Centre, Veteran's Memorial Park and St. Clair College Athletic Field	6 - Bellewood Park, Seven Sisters Park, South Windsor Recreational Centre, Oakwood Community Centre, Veteran's Memorial Park and St. Clair College Athletic Field			
	Effect on use of facility	Qualitative assessment of impacts on the use of feature (characterization of use, number and location of users, facility access and catchment area, etc.)	Uses maintained at all features; potential for reduced access during construction and nuisance effects (noise, dust); one-way access roads on either side of highway means doubling back to access facilities such as the South Windsor Recreation Complex for some users		Uses maintained at all features; potential for reduced access during construction and nuisance effects (noise, dust); one-way access roads on either side of highway means doubling back to access some facilities for some users.		Uses maintained at all features; potential for reduced access during construction and nuisance effects (noise, dust)				
Community/Neighborhood Impacts	Community cohesion, character	Qualitative assessment of the impact of the alternative on the function of the existing neighborhood/ community (e.g. community functions, school and community centre catchment areas, pedestrian routes)	Significant change in character to Plaza A area as natural park-like setting replaced by freeway; limited change in character on remaining route due to existing transportation corridor; significant loss of cohesion for Talbot Road residents, but limited to loss of cohesion for other communities adjacent to the transportation corridor.								
	Impacts to Municipal Services	Number of public transit routes affected	5 (South Windsor 7, Dominion 5, Dougall 6 Express, Dougall 6, Walkerville 8)								
		Qualitative assessment of effect on delivery of public transit	Interruption of service may be experienced during construction phase, and a new location for a bus stop may be required at the Outlet Mall								
		Effect on school bus routes	1 (Oakwood PS) Route alteration required - no access to Huron Church Road from Spring Garden Road								
		Effect on the delivery of emergency services (police fire, ambulance)	No entrance/egress from Todd Lane to the proposed highway; northbound Howard Ave. access. Increased response times to adjacent neighbourhood and freeway								

Protection of Community and Neighbourhood Characteristics

Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B		Alternative 3
			Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	
DISPLACEMENTS-BUSINESS											
	Businesses Displaced	Number of Businesses Displaced	31 - Century Fire Equip., Garry St.John, Blue Bell Motel/Restaurant, Comfort Inn, Golden Griddle, Feelgoods, King Kone, Petro Canada, Euro Tech, Aqua Turf, Lambton Plaza (10 businesses), Tim Horton's, Fred's Farm Fresh, Best Western, Sand Castle, LA Collision Auto Service, Mac's, Town and Country Animal Clinic, XTR Gas, Vachon Bakery Outlet, Nature Health Consulting, Sleep Factory	45 - Century Fire Equip., Garry St.John, Blue Bell Motel/Restaurant, Comfort Inn, Golden Griddle, Feelgoods, King Kone, Petro Canada, Euro Tech, Aqua Turf, Lambton Plaza (10 businesses), Tim Horton's, Fred's Farm Fresh, Best Western, Sand Castle, LA Collision Auto Service, Mac's, Town and Country Animal Clinic, XTR Gas, Vachon Bakery Outlet, Nature Health Consulting, Sleep Factory, and 15 stores of the Windsor Crossing Outlet Mall	31 - Century Fire Equip., Garry St.John, Blue Bell Motel/Restaurant, Comfort Inn, Golden Griddle, Feelgoods, King Kone, Petro Canada, Euro Tech, Aqua Turf, Lambton Plaza (10 businesses), Tim Horton's, Fred's Farm Fresh, Best Western, Sand Castle, LA Collision Auto Service, Mac's, Town and Country Animal Clinic, XTR Gas, Vachon Bakery Outlet, Nature Health Consulting, Sleep Factory	45 - Century Fire Equip., Garry St.John, Blue Bell Motel/Restaurant, Comfort Inn, Golden Griddle, Feelgoods, King Kone, Petro Canada, Euro Tech, Aqua Turf, Lambton Plaza (10 businesses), Tim Horton's, Fred's Farm Fresh, Best Western, Sand Castle, LA Collision Auto Service, Mac's, Town and Country Animal Clinic, XTR Gas, Vachon Bakery Outlet, Nature Health Consulting, Sleep Factory, and 15 stores of the Windsor Crossing Outlet Mall	26 - (Century Fire Equip., Blue Bell Motel & Restaurant, Comfort Inn, Golden Griddle, Lambton Plaza (10 businesses), Euro Tech, Aqua Turf, Best Western, Sand Castle, LA Collision Auto Service, Joe's Woodcraft, Mac's, Town County Animal Clinic, XTR Gas, Vachon Bakery Outlet, Natures Health Consulting & Sleep factory	40 - (Century Fire Equip., Comfort Inn, Golden Griddle, Lambton Plaza (10 businesses), Euro Tech, Aqua Turf, Best Western, Sand Castle, LA Collision Auto Service, Joe's Woodcraft, Mac's, Town County Animal Clinic, XTR Gas, Vachon Bakery Outlet, Natures Health Consulting, Sleep factory& 15 stores of the Windsor Crossing Outlet Mall.	26 - (Century Fire Equip., Blue Bell Motel & Restaurant, Comfort Inn, Golden Griddle, Lambton Plaza (10 businesses), Euro Tech, Aqua Turf, Best Western, Sand Castle, LA Collision Auto Service, Joe's Woodcraft, Mac's, Town County Animal Clinic, XTR Gas, Vachon Bakery Outlet, Natures Health Consulting & Sleep factory	40 - (Century Fire Equip., Comfort Inn, Golden Griddle, Lambton Plaza (10 businesses), Euro Tech, Aqua Turf, Best Western, Sand Castle, LA Collision Auto Service, Joe's Woodcraft, Mac's, Town County Animal Clinic, XTR Gas, Vachon Bakery Outlet, Natures Health Consulting, Sleep factory& 15 stores of the Windsor Crossing Outlet Mall.	45/43 - (Garry St. John, Blue Bell Motel & Restaurant, Comfort Inn, Golden Griddle, Feelgood's, King Kone, Petro Canada, Lambton Plaza (10 businesses), Euro Tech, Aqua Turf, Tim Hortons, Fred's Farm Fresh, Best Western, Sand Castle, LA Collision Auto Service, Mac's, Town County Animal Clinic, XTR Gas, Vachon Bakery Outlet, Natures Health Consulting, Sleep factory& 15 stores of the Windsor Crossing Outlet Mall. If the Alignment with Plaza A is used, only 43 are displaced (Garry St. John and Blue Bell Motel are not displaced in this scenario)
		Number of employees affected; impact on gross revenues; impact on property values	239+/- employees; $28+/- Million in revenues, and $16+/- million in lost property assessment	335+/- employees; $41+/- Million in revenues, and $26+/- million in lost property assessment	239+/- employees; $28+/- Million in revenues, and $16+/- million in lost property assessment	335+/- employees; $41+/- Million in revenues, and $26+/- million in lost property assessment	200+/- employees; $19+/- Million in revenues, and $13+/- million in lost property assessment	296+/- employees; $32+/- Million in revenues, and $24+/- million in lost property assessment	200+/- employees; $19+/- Million in revenues, and $13+/- million in lost property assessment	296+/- employees; $32+/- Million in revenues, and $24+/- million in lost property assessment	333/327+/- employees; $40/39+/- million in revenues, and $27/28+/- million in lost property assessment
DISRUPTIONS-BUSINESS											
Direct Effects on Existing Businesses in Area of Continued Analysis	Businesses disrupted (partial property impacts)	Number of Businesses	51	37	51	37	57	43	57	43	36/37
		Subjective assessment of impact of disrupted businesses considering impact to employment, revenues and property values	For the businesses in Windsor Crossing, change in access and visibility would have negative effects. Potential for change in types of businesses located at this facility. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.	For the businesses in Windsor Crossing, change in access, visibility and displacement of 15 stores would have negative effects. Potential for change in types of businesses located at this facility. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.	For the businesses in Windsor Crossing, change in access and visibility would have negative effects. Potential for change in types of businesses located at this facility. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.	For the businesses in Windsor Crossing, change in access, visibility and displacement of 15 stores would have negative effects. Potential for change in types of businesses located at this facility. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.	For the businesses in Windsor Crossing, change in access and visibility would have negative effects. Potential for change in types of businesses located at this facility. Tim Hortons, Feelgoods, Petro Canada and Freds Farm Fresh would also likely be moderately affected. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.	For the businesses in Windsor Crossing, change in access, visibility and displacement of 15 stores would have negative effects. Potential for change in types of businesses located at this facility. Blue Bell Motel, Tim Hortons, Feelgoods, Petro Canada and Freds Farm Fresh would also likely be moderately affected. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.	For the businesses in Windsor Crossing, change in access and visibility would have negative effects. Potential for change in types of businesses located at this facility. Tim Hortons, Feelgoods, Petro Canada and Freds Farm Fresh would also likely be moderately affected. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.	For the businesses in Windsor Crossing, change in access, visibility and displacement of 15 stores would have negative effects. Potential for change in types of businesses located at this facility. Blue Bell Motel, Tim Hortons, Feelgoods, Petro Canada and Freds Farm Fresh would also likely be moderately affected. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.	For the businesses in Windsor Crossing, change in access, visibility and displacement of 15 stores would have negative effects. Potential for change in types of businesses located at this facility. For other businesses along corridor, many are highway/ tourism oriented and able to relocate elsewhere in vicinity of access road.
Indirect Impact on Businesses outside Area of Continued Analysis	Regional business impacts - Industrial	Subjective Assessment	Regional economic impacts, beyond the ACA, are mostly postive. Industrial businesses, especially those located in industrial areas close to the proposed crossing and access route, will be positively affected as a result of less traffic congestion and improved transportation for the movement of Goods. Most Industrial land in the area will become more attractive and likely more valuable.								
	Potential opportunity for future commercial development	Subjective Assessment	The nature of the retail businesses affected is such that the commercial businesses that were displaced within the ACA and the jobs lost will likely be replaced elsewhere in the Windsor area through both existing and new developments. Furthermore, commercial bussinesses outside ACA will be slightly better off due to an increase of non-local traffic coming through the area and the decrease in congestion. Some of the positive impacts will be off-set by, as a result of the improved transit through Windsor to and from the border, less non-local traffic making unplanned stops or stopping for any significan period of time.								
	Potential Opportunties for travel and tourism related development	Subjective Assessment	Similar to commercial businesses outside the ACA, tourism related businesses will also benefit from less traffic congestion and an increase in tourists travelling through the region. Again, some of the positive impacts will likely be offset due to a decrease in non-local people making unplanned and/or lon stops in the area.								
Summary of Impact Assessment											

Maintain Consistency with Existing and Planned Land Use

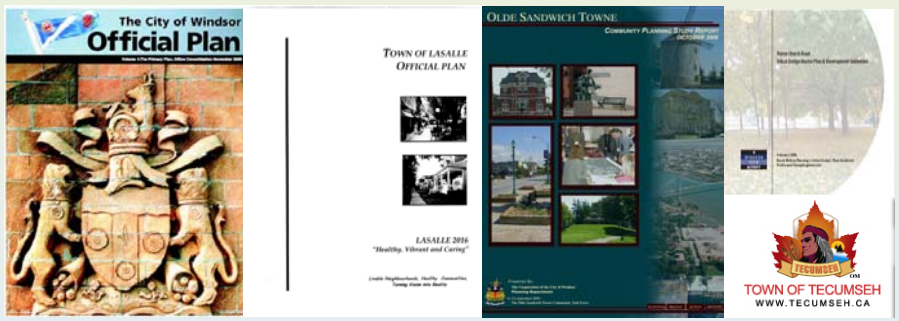
Summary of Assessment

- All alternatives use existing Huron Church Road/Highway 3 corridor – the historical connection to the border.
- Impacts to the various types of land uses along the corridor are considered to be similar for all alternatives. It is anticipated that the majority of land uses displaced can be re-established in other areas.
- All alternatives may cause localized influences on land use, requiring rezoning of certain parcels of land.
- No known contaminated/disposal sites impacted by any of the access road alternatives. All alternatives have similar impacts to areas of high to moderate potential for contamination.

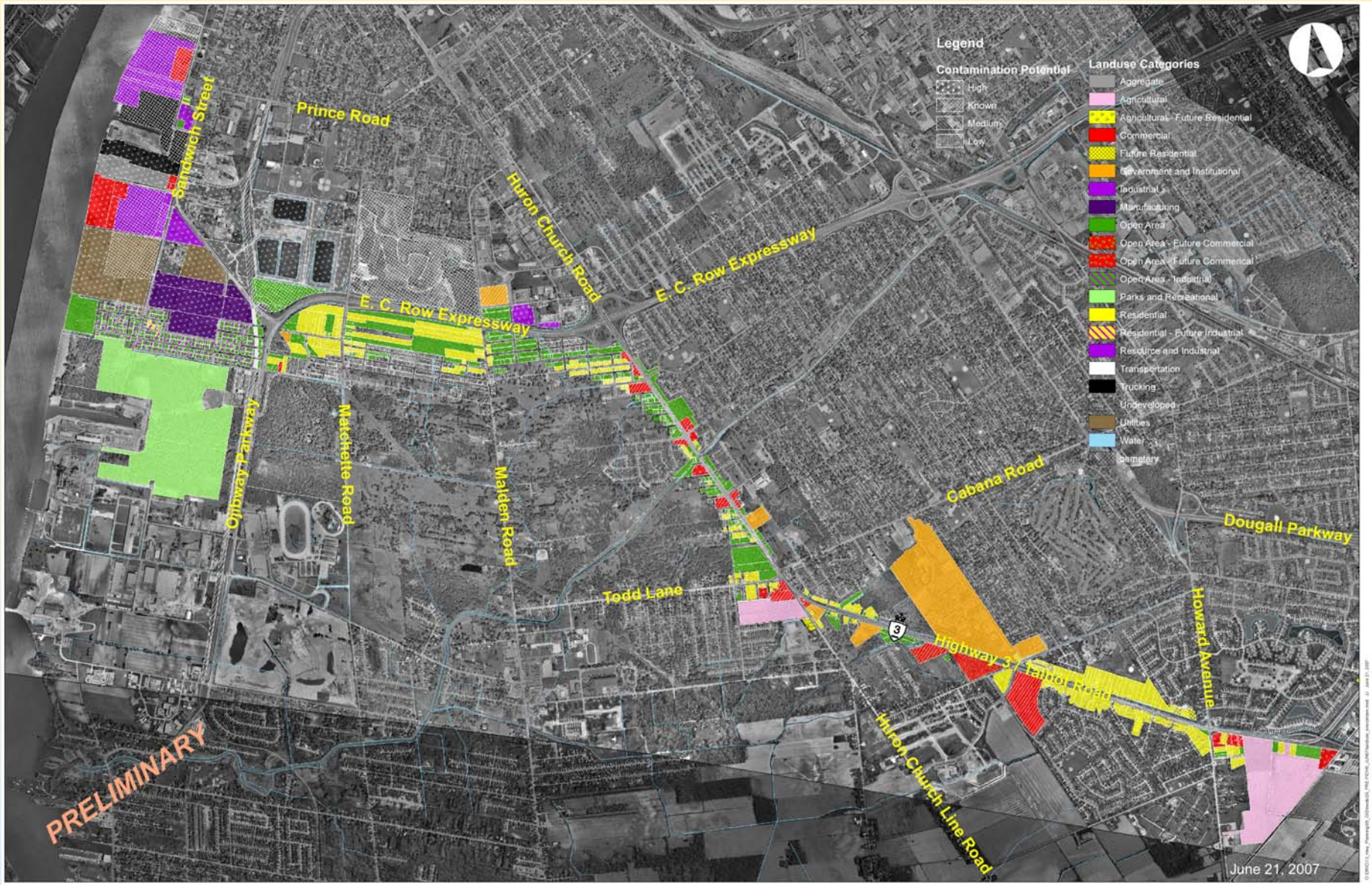
What's Next?

- Monitor new development plans and changes to zoning within the Area of Continued Analysis (ACA).
- Conduct analysis of enhanced Parkway alternative
- Conduct detailed analysis of the Technically and Environmentally Preferred Alternative.
- Assess potential construction impacts and recommend mitigation measures.

Land use documents consulted:



Maintain Consistency with Existing and Planned Land Use



Maintain Consistency with Existing and Planned Land Use

Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B		Alternative 3
			Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	
LAND USE (Existing and Planned)	Type of land use impacted: residential	Hectares	16	16	16	17	21	18	21	25	13
	Type of land use impacted: commercial	Hectares	9	9	9	10	9	10	9	10	8
	Type of land use impacted: industrial	Hectares	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Type of land use impacted: recreational	Hectares	0	0	0	0	0	0	0	0	0
	Type of land use impacted: government and institutional	Hectares	5	1	3	1	3	2	3	3	1
	Type of land use impacted: vacant	Hectares	37	38	37	40	37	37	36	36	34
	Type of land use impacted: agricultural	Hectares	10	9	9	9	10	10	10	10	8
	Availability of vacant/developable land in vicinity of project area	Subjective assessment	Vacant land located near Spring Garden Road and adjacent to Huron Estates residential development is zoned for residential development, with a hold provision which places a hold on the issuance of a building permit until specific development preconditions have been satisfied. Future residential and highway commercial development is planned in the Town of LaSalle on lands opposite St. Clair College.								
	Special Policy Areas		New access route impacts Windsor Special Policy Area for Huron Church Road Corridor; this special policy identifies setbacks to roadway for new residential uses and guides location for new commercial uses along corridor. New access route impacts City of Windsor Spring Garden Planning Area (OPA #5); the policies of this planning area include identifying setback distances for residential and commercial development along Huron Church Road, restrictions on direct access to Huron Church Road for commercial uses and offsets to designated sensitive natural features.								
	Consistency with Land Use	Subjective assessment based on existing and future land use designations	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact to institutional land uses (St. Clair College) and residential land uses on north side of Highway 3 between Cousineau and Howard	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact to residential land uses on south side of Hwy 3 between Cousineau and Howard; impacts to commercial land uses (Windsor Crossing Outlet Mall)	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact institutional land uses (St. Clair College); residential land uses on north side of Highway 3 between Cousineau and Howard	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact to residential land uses on south side of Highway 3 between Cousineau and Howard; commercial land uses (Windsor Crossing Outlet Mall)	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact to residential land uses located north of Hwy 3 between Howard Ave and Cousineau Road; impacts to vacant (undeveloped) land located south of Highway 3 between Cousineau and Huron Church Line.	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact to residential land uses located south of Hwy 3 between Howard Ave and Cousineau Road; impacts to vacant (undeveloped) land located south of Highway 3 between Cousineau and Huron Church Line.	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact to residential land uses located north of Hwy 3 between Howard Ave and Cousineau Road; impacts to vacant (undeveloped) land located south of Highway 3 between Cousineau and Huron Church Line.	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact to residential land uses located south of Hwy 3 between Howard Ave and Cousineau Road; impacts to vacant (undeveloped) land located south of Highway 3 between Cousineau and Huron Church Line.	Use of existing transportation corridor (Highway 3 and Huron Church Road) is generally consistent with the existing land use planning; greater impact to residential land uses located south of Hwy 3 between Howard Ave and Cousineau Road; impacts to commercial land uses (Windsor Crossing Outlet Mall), highway oriented commercial land uses.
DEVELOPMENT PLANS	Impact to present and approved development applications in the project area	Qualitative and quantitative assessment; number and type	Impact to one large residential development (Matchette Rd. and E.C. Row Expressway). Residential development has been halted due to the uncertainty of the location of the proposed plaza and crossing location.								
CONTAMINATED SITES/ DISPOSAL SITES	Displacement and/or disruption to ***known*** contaminated sites/disposal sites	Impacted area in ROW/total area of ROW properties, in ha./no. impacted properties	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
	Displacement and/or disruption to areas of high potential for contamination	Impacted area in ROW/total area of ROW properties, in ha./no. impacted properties	9.0/25.3/17	3.6/9.9/17	3.5/10.0/18	3.6/10.0/13	3.9/9.8/17	4.1/9.8/17	3.8/9.8/16	4.0/9.8/16	3.1/9.8/16
	Displacement and/or disruption to areas of moderate potential for contamination	Impacted area in ROW/total area of ROW properties, in ha./no. impacted properties	4.4/15.8/27	7.8/25.9/28	6.3/25.5/26	6.0/19.1/26	6.6/14.3/17	7.6/23.2/18	6.6/15.3/19	7.6/24.2/20	5.9/25.2/25
	Displacement and/or disruption to areas of low potential for contamination	Impacted area in ROW/total area of ROW properties, in ha./no. impacted properties	63.2/190.6/533	62.2/182.7/557	65.0/194.3/599	64.1/184.5/567	68.2/186.7/612	65.0/124.6/571	66.8/185.5/599	71.8/191.8/632	56.43/178.7/500

Protect Cultural Resources

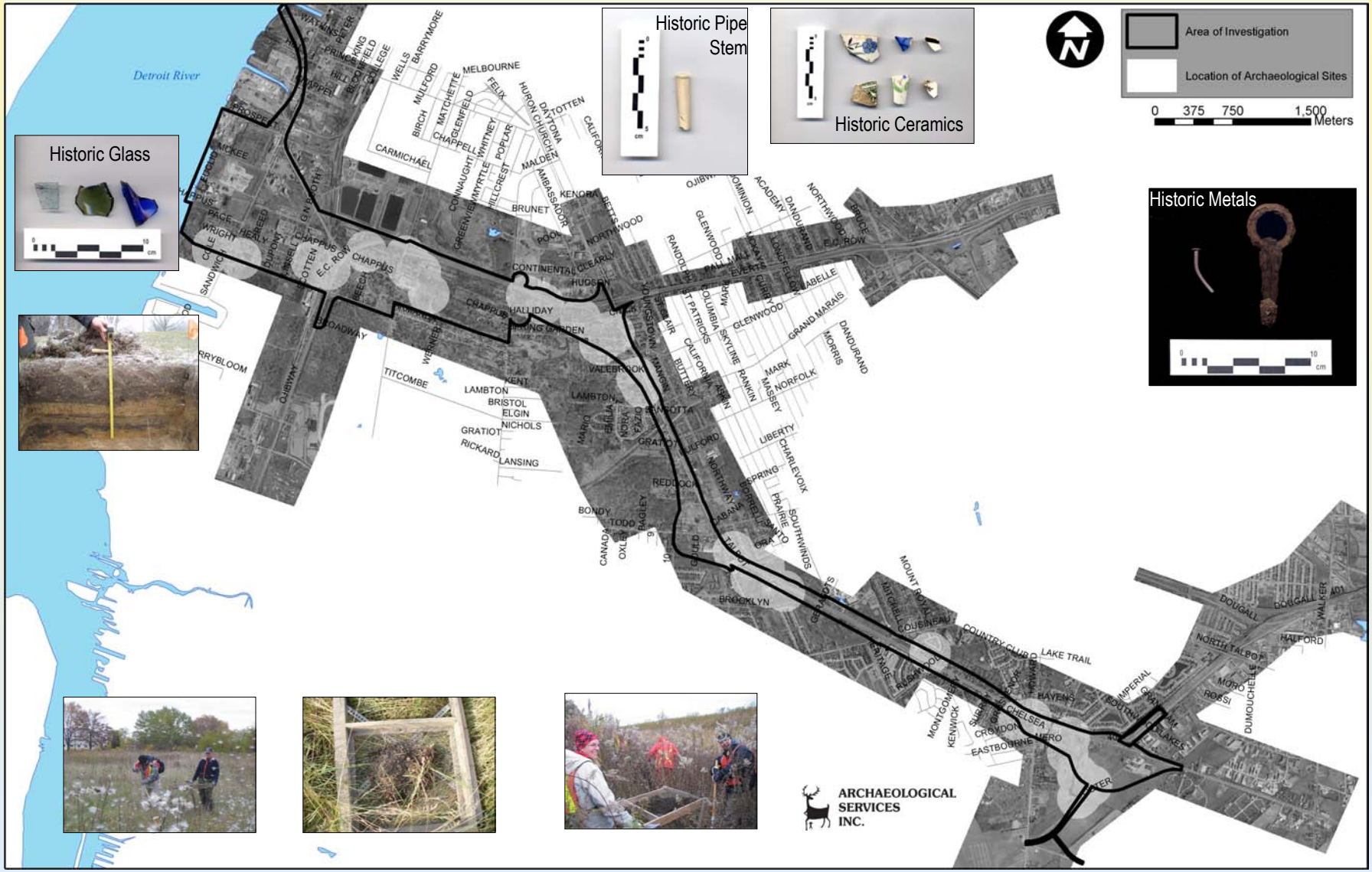
Summary of Assessment

- Potentially impacted features are without any recognized heritage status – all alternatives are considered to have a low impact.
- All access road alternatives impact six parks/recreation areas. Alternative 2A will disrupt access to the St. Clair College baseball and soccer fields. Other parks/recreation areas will experience minor disruptions.
- Little to no difference between access road alternatives in terms of impact to archaeological features. All access road alternatives have low to medium impact to known archaeological sites.

What's Next?

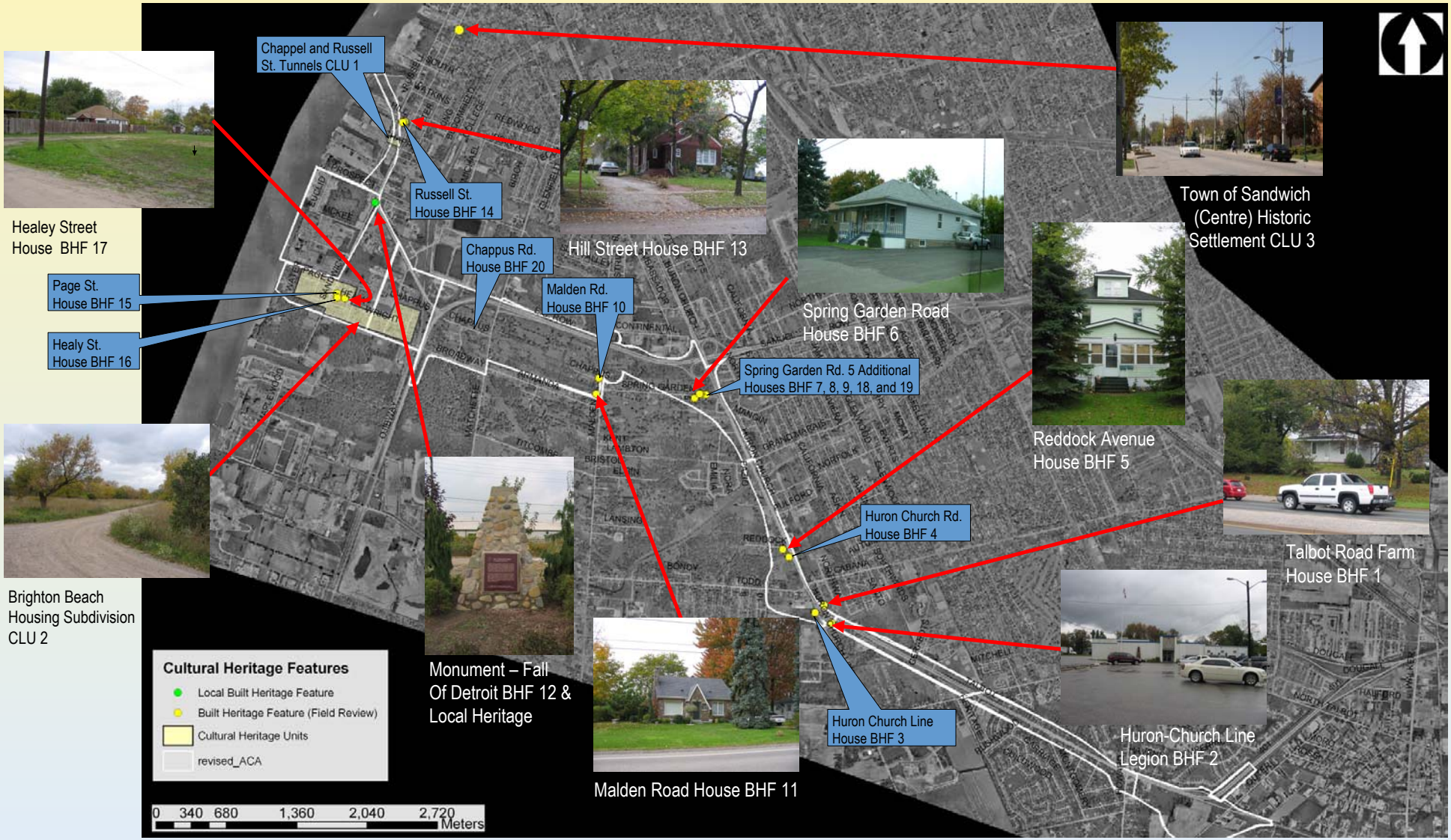
- Conduct analysis of enhanced Parkway alternative
- Conduct more detailed analysis of the Technically and Environmentally Preferred Alternative.
- Conduct an archaeological site-specific assessment (test unit excavation) on sites within the Technically and Environmentally Preferred Alternative
- Assess potential construction impacts and recommend mitigation measures.
- Stage 2 and 3 Archaeological Assessments for the Technically and Environmentally Preferred Alternative as required.

Protect Cultural Resources– Archaeological Features



Detroit River
INTERNATIONAL CROSSING
S T U D Y

Protect Cultural Resources – Built Heritage Features



Healey Street House BHF 17

Hill Street House BHF 13

Spring Garden Road House BHF 6

Town of Sandwich (Centre) Historic Settlement CLU 3

Reddock Avenue House BHF 5

Talbot Road Farm House BHF 1

Brighton Beach Housing Subdivision CLU 2

Monument – Fall Of Detroit BHF 12 & Local Heritage

Malden Road House BHF 11

Huron-Church Line Legion BHF 2

Protect Cultural Resources

Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B		Alternative 3
			Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	
BUILT HERITAGE FEATURES	Displacement of built heritage features	a) Number of national historic sites displaced	0	0	0	0	0	0	0	0	0
		b) Number of provincially designated properties displaced	0	0	0	0	0	0	0	0	0
		c) Number of features with heritage easements displaced	0	0	0	0	0	0	0	0	0
		d) Number of municipally listed built heritage features displaced	0	0	0	0	0	0	0	0	0
		e) Number of locally identified built heritage features displaced	0	0	0	0	0	0	0	0	0
		f) Number of field review identified built heritage features displaced	7 to 9	7 to 9	6 to 8	6 to 8	4 to 5	4 to 5	4 to 5	4 to 5	5 to 8
	Disruption of built heritage features (see Note 1)	a) Number of national historic sites disrupted	0	0	0	0	0	0	0	0	0
		b) Number of provincially designated properties disrupted	0	0	0	0	0	0	0	0	0
		c) Number of features with heritage easements disrupted	0	0	0	0	0	0	0	0	0
		d) Number of municipally listed built heritage features disrupted	0	0	0	0	0	0	0	0	0
		e) Number of locally identified built heritage features disrupted	0	0	0	0	0	0	0	0	0
		f) Number of field review identified built heritage features disrupted	1 to 2	1 to 2	2	2	4 to 5	5 to 6	3 to 5	3 to 5	2 to 3
		g) Subjective assessment	The impacted features are without any recognized heritage status, so all alternatives are considered to have a low impact. Two impacted features of greatest potential for heritage significance (a pre-1900 farmhouse and the Royal Canadian Legion building). Generally, the access road options connecting to Plaza A have less impact to built heritage features than those options connecting to Plaza B or C.								
CULTURAL LANDSCAPE UNITS	Displacement or disruption of built cultural landscape features	a) Number of cultural landscapes displaced	0	0	0	0	0	0	0	0	0
		b) Number of cultural landscapes disrupted	0	0	0	0	0	0	0	0	0
PARKLANDS	Impacts to National, Provincial and local parks/recreation areas	Number of known sites affected; area	Results indicate disruption to 6 parks through partial property taking and/or impact on access with all alternatives: Bellewood Park, Aboriginal (Indian) Memorial Park, Beals Park (Oakwood Bush), Veteran's Memorial Park, St. Clair College Athletic Field, Matthew Rodzick Park								
ARCHAEOLOGICAL FEATURES	Disturbance or destruction of known significant archaeological sites	a) Number of known Rank 1 archaeological sites affected (sites with human remains [or potential for burials] or on National Inventory	0	0	0	0	0	0	0	0	0
		b) Number of known Rank 2 archaeological sites affected (large pre-contact habitation sites [villages])	0	0	0	0	0	0	0	0	0
		c) Number of known Rank 3 archaeological sites affected (small pre-contact habitation sites [e.g. campsites] or Euro-Canadian homestead sites)	7 to 12	9 to 10	9 to 10	9 to 10	9	9	8 to 9	9	8 to 10
		d) Number of known Rank 4 sites archaeological sites affected (pre-contact findspots)	5 to 6	5 to 6	5 to 6	5 to 9	7 to 9	6	7	6	5 to 6
		e) Percentage of acreage with archaeological site potential affected	> 50%	> 50%	> 50%	> 50%	> 50%	> 50%	> 50%	> 50%	> 50%
		f) Subjective assessment	All alternative access roads are similar in impact for archaeological features with an average of 8-9 small pre-contact Aboriginal campsites or euro_Canadian homesteads and an average of 6 pre-contact findspots within the footprint of every access road.								

Notes:
1. Disruption to a feature is defined as the introduction of a physical, visual, audible or atmospheric elements within 50 m that are not in keeping with the resources and/or their setting.

Protect the Natural Environment

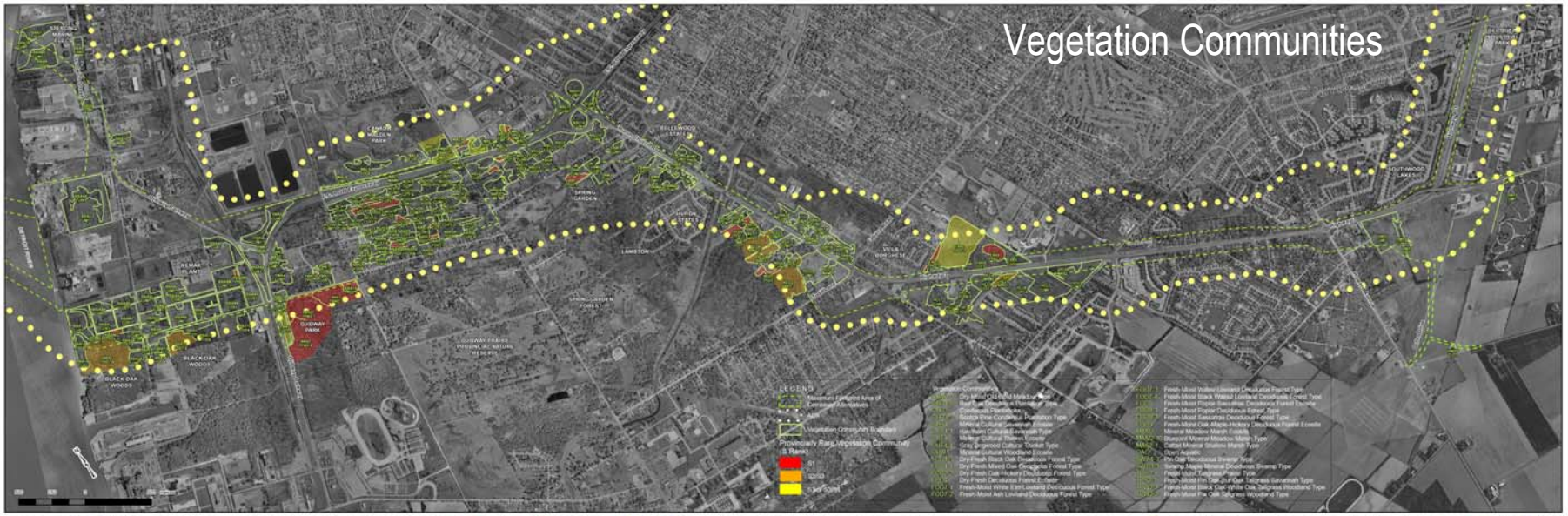
Summary of Assessment

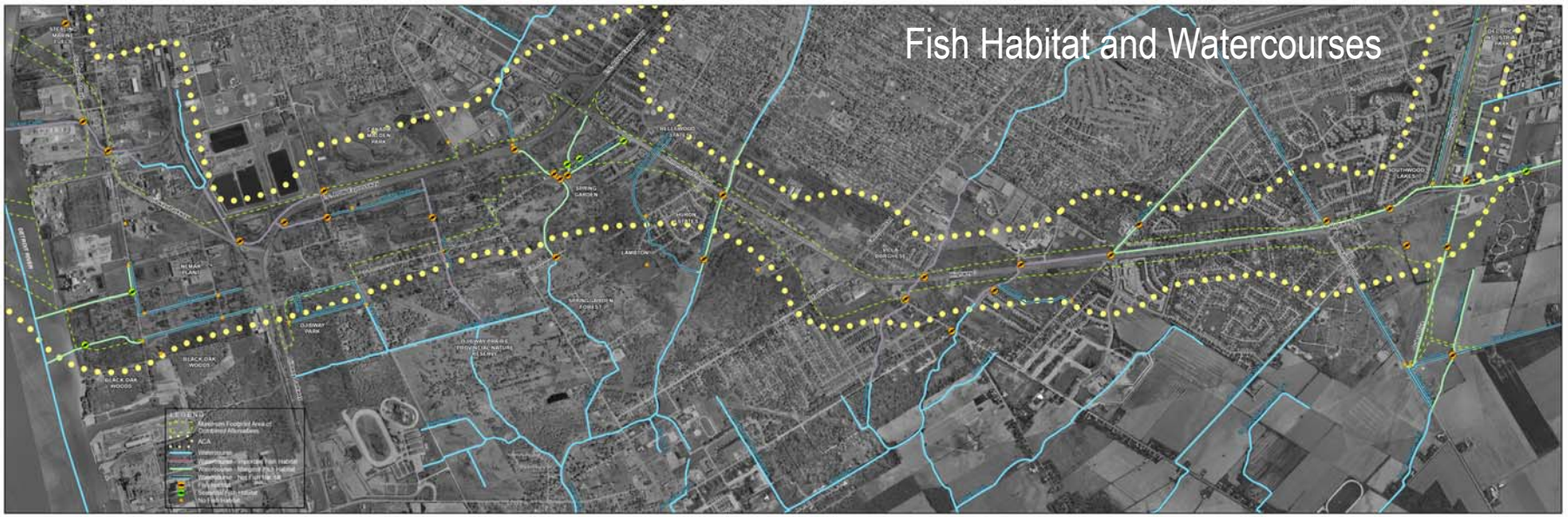
- There is no significant difference among the alternatives because footprint impacts are comparable.
- None of the access road alternatives directly impact any designated Areas of Natural and Scientific Interest (ANSIs) including the Ojibway Prairie Complex.
- Access road alternatives connecting to Plazas B and C have relatively low impacts.
- Access roads alternatives connecting to Plaza A have relatively moderate impacts, as these displace more provincially rare vegetation communities and species at risk in the Malden Road area.
- Below-grade alternatives (Alternatives 1B and 2B) and tunnel alternative (Alternative 3) may increase the potential risk to nearby natural heritage areas due to dewatering requirements.
- Alternatives 1A, 1B and 3 encroach on the St. Clair College Prairie ESA.

What's Next?

- Conduct analysis of enhanced Parkway alternative.
- Conduct detailed analysis of the Technically and Environmentally Preferred Alternative.
- Perform a site-specific impact assessment and identify environmental protection measures.
- Perform supplemental field investigations where required to identify opportunities for compensation, restoration and enhancement.
- Meet with regulatory agencies to discuss environmental protection measures and secure approvals-in-principle.
- Identify site-specific impacts and environmental protection measures.

Protect the Natural Environment



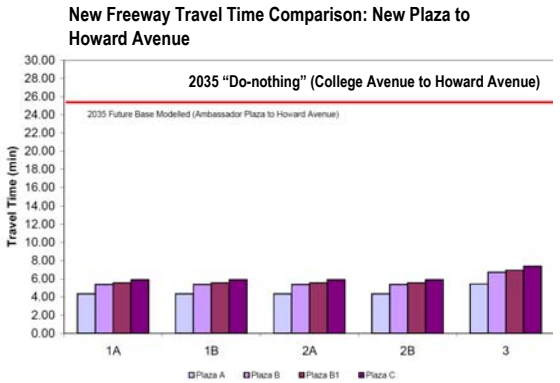


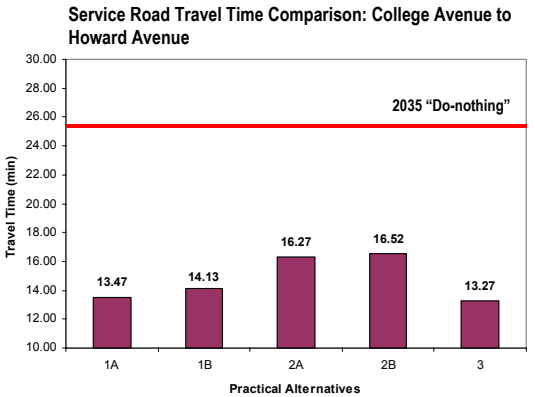
Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A				Alternative 1B				Alternative 2A				Alternative 2B				Alternative 3	
			Option 1		Option 2		Option 1		Option 2		Option 1		Option 2		Option 1		Option 2			
			To Plaza A	To Plaza B or C	To Plaza A	To Plaza B or C	To Plaza A	To Plaza B or C	To Plaza A	To Plaza B or C	To Plaza A	To Plaza B or C	To Plaza A	To Plaza B or C	To Plaza A	To Plaza B or C	To Plaza A	To Plaza B or C	To Plaza A	To Plaza B or C
Ecological Landscapes	Impacts to Ecological Landscapes	Impact area (in hectares) of tallgrass prairie	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19	Moderate - 3 Low - 19
Communities/Ecosystems	Impacts to Terrestrial Communities/ Ecosystems	Area of impact to features of high significance	1.43 ha	0.44 ha	1.53 ha	0.50 ha	1.46 ha	0.43 ha	1.46 ha	0.54 ha	2.22 ha	1.19 ha	2.22 ha	1.18 ha	1.86 ha	0.82 ha	1.86 ha	0.82 ha	1.48 ha	0.50 ha
		Area of impact to features of moderate significance	7.25 ha	3.14 ha	7.79 ha	3.68 ha	7.29 ha	3.18 ha	7.29 ha	3.82 ha	7.66 ha	3.64 ha	7.80 ha	3.79 ha	7.60 ha	3.60 ha	7.75 ha	3.75 ha	7.41 ha	3.40 ha
		Area of impact to features of low significance	16.35 ha	13.51 ha	17.32 ha	14.41 ha	17.03 ha	13.69 ha	17.04 ha	14.92 ha	18.35 ha	14.92 ha	18.66 ha	15.46 ha	17.61 ha	14.28 ha	18.23 ha	14.90 ha	14.36 ha	11.46 ha
		Total area of impact	25.03 ha	17.10 ha	26.63 ha	18.58 ha	25.78 ha	17.30 ha	25.79 ha	19.28 ha	28.22 ha	19.75 ha	28.68 ha	20.43 ha	27.07 ha	18.70 ha	27.84 ha	19.47 ha	23.25 ha	15.36 ha
	Impacts to Aquatic Communities/ Ecosystems	Area of impact to features of high significance	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha	0 ha
		Area of impact to features of moderate significance	0.39 ha	0.39 ha	0.31 ha	0.31 ha	0.40 ha	0.40 ha	0.40 ha	0.28 ha	0.38 ha	0.38 ha	0.08 ha	0.08 ha	0.38 ha	0.38 ha	0.38 ha	0.38 ha	0.37 ha	0.37 ha
		Area of impact to features of low significance	0.85 ha	0.74 ha	0.45 ha	0.17 ha	0.83 ha	0.74 ha	0.84 ha	0.18 ha	0.67 ha	0.71 ha	0.26 ha	0.16 ha	0.87 ha	0.77 ha	0.87 ha	0.77 ha	0.39 ha	0.28 ha
		Area of impact to features of "none" significance	0.06 ha	0.03 ha	0.09 ha	0.03 ha	0.06 ha	0.03 ha	0.07 ha	0.03 ha	0.05 ha	0.02 ha	0.05 ha	0.02 ha	0.05 ha	0.02 ha	0.05 ha	0.02 ha	0.06 ha	0.02 ha
		Total area of impact	1.29 ha	1.16 ha	0.85 ha	0.51 ha	1.32 ha	1.17 ha	1.32 ha	0.49 ha	1.30 ha	1.11 ha	0.40 ha	0.26 ha	1.31 ha	1.17 ha	1.31 ha	1.17 ha	0.82 ha	0.67 ha
Populations/Species	Impacts to Species at Risk	Quantitative assessment of impacts	loss of 142 provincially rare specimens/ colonies	loss of 102 provincially rare specimens/ colonies	loss of 134 provincially rare specimens/ colonies	loss of 92 provincially rare specimens/ colonies	loss of 152 provincially rare specimens/ colonies	loss of 112 provincially rare specimens/ colonies	loss of 152 provincially rare specimens/ colonies	loss of 103 provincially rare specimens/ colonies	loss of 162 provincially rare specimens/ colonies	loss of 122 provincially rare specimens/ colonies	loss of 155 provincially rare specimens/ colonies	loss of 116 provincially rare specimens/ colonies	loss of 145 provincially rare specimens/ colonies	loss of 105 provincially rare specimens/ colonies	loss of 145 provincially rare specimens/ colonies	loss of 105 provincially rare specimens/ colonies	loss of 131 provincially rare specimens/ colonies	loss of 92 provincially rare specimens/ colonies
Designated Natural Areas	Impacts to Designated Natural Areas located off site	Area (in hectares)	54.49	44.34	54.82	44.67	54.18	44.10	54.51	44.62	55.54	46.07	55.26	45.79	53.88	44.41	53.61	44.14	53.50	43.38
Surface Water	Changes in surface water conditions (quality and quantity)	Area (in hectares) of surface drainage altered by each alternative	54.0		54.0		54.0		54.0		33.9		33.9		35.3		35.3		27.3	
		Number of surface water drainages crossings by stream type	3 - Basin - Mangin/Turkey 1 - Lennon 2 - Cahill		3 - Basin - Mangin/Turkey 1 - Lennon 2 - Cahill		3 - Basin - Mangin/Turkey 1 - Lennon 2 - Cahill		3 - Basin - Mangin/Turkey 1 - Lennon 2 - Cahill 1 - Wolfe Drain		3 - Basin - Mangin/Turkey 1 - Lennon 2 - Cahill 1 - Wolfe Drain		3 - Basin - Mangin/Turkey 1 - Lennon 2 - Cahill 1 - Wolfe Drain		3 - Basin - Mangin/Turkey 1 - Lennon 2 - Cahill 1 - Wolfe Drain		3 - Basin - Mangin/Turkey 1 - Lennon 2 - Cahill 1 - Wolfe Drain		N/A	
		Number of encroachments on or severances of surface water drainages	2-Cahill 1 - Wolfe Drain		2-Cahill 1 - Wolfe Drain		Turkey Lennon Cahill Wolfe Drain		Turkey Lennon Cahill Wolfe Drain		Turkey Lennon Cahill Wolfe Drain		Turkey Lennon Cahill Wolfe Drain		Turkey Lennon Cahill Wolfe Drain		Turkey Lennon Cahill Wolfe Drain		N/A	
		Degree of compliance with Provincial and Federal Water Quality Guidelines and Stormwater Management requirements (Protection level: Enhanced, Normal or Basic)	Enhanced (80% long-term Total Suspended Solids; removal and quantity control to be provided)																Enhanced (oil/grit separation/80% Total Suspended Solids; removal to be provided)	
Groundwater	Change in groundwater conditions (quality and quantity)	Area of infiltration zones affected	33 ha		33 ha		39 ha		39 ha		33 ha		33 ha		39 ha		39 ha		18 ha	
		Area of groundwater recharge affected	33 ha		33 ha		39 ha		39 ha		33 ha		33 ha		39 ha		39 ha		18 ha	
		Areas of seepage affected	n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a		n/a	
		Area of water table affected by each alternative (draw down zone)	Area of drawdown without mitigation may reach 88 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.		Area of drawdown without mitigation may reach 88 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.		Area of drawdown without mitigation may reach 120 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.		Area of drawdown without mitigation may reach 12 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.		Area of drawdown without mitigation may reach 88 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.		Area of drawdown without mitigation may reach 88 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.		Area of drawdown without mitigation may reach 12 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.		Area of drawdown without mitigation may reach 12 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.		Area of drawdown without mitigation may reach 12 ha Degree of drawdown depends on wall type. Drawdown may be mitigated significantly and difference between options may be negligible. Permanent drawdown only to affect water pressures in silt & clay upper soil profile and not bedrock aquifer.	
		Proximity of alternative to public and private drinking water wells	Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.		Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.		Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.		Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.		Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.		Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.		Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.		Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.		Eight wells are mapped within the MOE Water Well Database within 300 m of the alternative. All wells are likely bedrock aquifer wells. Status of the wells is unknown. Drawdown (above) likely will not affect water wells.	
Other Natural Resources	Impacts to mineral, petroleum, granular (quarry) lands/ easements	Area (in hectares) within ROW	None found		None found		None found		None found		None found		None found		None found		None found		None found	

Summary of Assessment

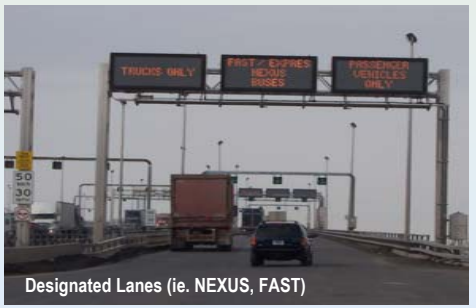
- All alternatives provide a significant improvement to regional mobility by getting long distance truck traffic off local streets and providing full freeway access to and from the border.
- With the tunnel, existing side-street connections could remain in place. Street connections in the other alternatives would require modification, which in some cases results in some minor out-of-way travel.
- There are no substantive differences in the safety performance between a tunnel and non-tunnel alternatives. Studies suggest that frequency of crashes in a tunnel may be less than a non-tunnel, but the consequences of crashes within a tunnel are generally more severe and challenging for emergency services.
- All alternatives provide a safety benefit compared to "do-nothing" by transferring long distance traffic from existing Huron Church Road to a controlled access freeway.





What's Next?

- Assess refinements to alternatives with ongoing consultation with municipalities, including ongoing analysis of Highway 3 interchange.
- Conduct analysis of enhanced Parkway alternative.
- Conduct more detailed analysis of the Technically and Environmentally Preferred Alternative.



Designated Lanes (ie. NEXUS, FAST)

Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B		Alternative 3
			Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option1	Option 2	
Highway Network Effectiveness	Transportation service on access road (See Note 1)	Level of Service (LOS), Travel Time, Average Speed (peak direction/peak hour)	Overall, good operations on freeway LOS C or better Travel time: 5.4 min Avg Speed: 100 km/h		Overall, good operations on freeway LOS C or better Travel time: 5.4 min Avg Speed: 100 km/h		Overall, good operations on freeway LOS C or better Travel time: 5.4 min Avg Speed: 100 km/h		Overall, good operations on freeway LOS C or better Travel time: 5.4 min Avg Speed: 100 km/h		Overall, good operations on freeway LOS C or better Travel time: 6.0 min Avg Speed: 90 km/h
	Transportation service on service roads (See Note 1)	Level of Service, Travel Time, Average Speed (peak direction/peak hour)	Overall, good operations on service road, LOS B or better Travel time: 7.0 - 7.8 min Avg Speed: 50 - 58 km/h		Overall, good operations on service road, LOS B Travel time: 7.6 - 8.1 min Avg Speed: 48 - 53 km/h		Overall, good operations on service road, LOS C or better Travel time: 7.6 - 9.3 min Avg Speed: 43 - 51 km/h		Overall, good operations on service road, LOS C or better Travel time: 8.2 - 9.6 min Avg Speed: 41 - 48 km/h		Overall, good operations on service road, LOS B Travel time: 8.1 - 8.3 min Avg Speed: 48 - 49 km/h
	Operations at interchanges and intersections	Subjective assesment based on analysis	Overall, service roads operate well		Overall, service roads operate well		Overall, service roads operate well. Localized congestion at the Cabana/Todd/Highway 401 interchange (queues on Cabana/Todd)		Overall, service roads operate well. Localized congestion at the Cabana/Todd/Highway 401 interchange (queues on Cabana/Todd)		Overall, service roads operate well
Continuous/ongoing river crossing capacity (i.e. redundancy)	Assessment of access to/across access road in cases of incidents/emergency/maintenance	Qualitative	Probability of incidents are reduced in comparison to do nothing; there is a safety benefit from alternatives maintaining connection to/from the Ambassador Bridge crossing and providing access to/from the new crossing; improved regional mobility through addtional capacity and separating international and local traffic.								
			All alternatives provide comparable access between the service roads and the cross streets with slight differences: - direct access is not provided between the service road and Bethlehem Street and Labelle Street. Direct access between Huron Church Road and Huron Church Line is not provided and there is only right-in, right-out access at Surrey Drive and Grosvenor Drive (the intersection in the base case condition allows for all moves) on the Highway 3 section. This will require minor out-of-way travel.		All alternatives provide comparable access between the service roads and the cross streets with slight differences: - provides access to all cross streets, but with only right-in, right-out access at Surrey Drive and Grosvenor Drive (the intersection in the base case condition allows for all moves) on the Highway 3 section. This will require minor out-of-way travel		All alternatives provide comparable access between the service roads and the cross streets with slight differences: - no direct access Montgomery Drive, Surrey Drive and Grosvenor Drive do not provide direct access to the service road via these streets. This will require some out-of-way travel for residents of the neighborhood bounded by Highway 3, Howard Avenue, 6th Concession and Sandwich West Parkway		All alternatives provide comparable access between the service roads and the cross streets with slight differences: - intersection treatments at Montgomery Drive, Surrey Drive and Grosvenor Drive do not provide direct access to the service road via these streets. This will require some out-of-way travel for residents of the neighborhood bounded by Highway 3, Howard Avenue, 6th Concession and Sandwich West Parkway.		All alternatives provide comparable access between the service roads and the cross streets with slight differences: - provides good access to all cross streets
			An access point between the freeway and service road is provided at only at St. Clair College. There is no direct access at Todd Lane Road/Cabana Road West or Howard Avenue. Freeway is readily accessable from Service Road		Provides highest degree of access with two major access points between the freeway and service road. A fully directional interchange at St. Clair College and a partial interchange at Todd Lane Road/Cabana Road West Freeway is readily accessable from Service Road		An access point between the freeway and service road is provided at only at Todd Lane Cabana. There is no direct access at St. Clair College or Howard Avenue. Freeway is readily accessable from Service Road		An access point between the freeway and service road is provided at only at Todd Lane Cabana. There is no direct access at St. Clair College or Howard Avenue. Freeway is readily accessable from Service Road		An access point between the freeway and service road is provided at only at St. Clair College. There is no direct access at Todd Lane Road/Cabana Road West or Howard Avenue. Access in situations of incidents, emergency and maintenance is further limited by physical separation between the service road above and tunneled freeway below.
	Degree of separation of international and local traffic	Qualitative	Good separation of local and international traffic for all practical alternatives								

Notes:
1. Range based on 2035 northbound AM peak hour, and 2035 southbound PM peak hour.

Summary of Assessment

- All access road alternatives are constructable. Traffic flow can be reasonably maintained in the Huron Church Road/Highway 3 corridor throughout the construction period.
- Construction is complicated by the high water table and relatively poor ground conditions, and those problems increase with the depth of construction.
- Cost estimate ($CDN for year 2011) access road alternatives from Highway 401 to Malden Road is:
  - At-grade alternatives: $620 million to $920 million
  - Below-grade alternatives: $1.0 billion to $1.4 billion
  - Tunnel alternative: $3.6 billion to $3.8 billion
- Complexity of construction, risks to schedule and overall project costs are greatest for a tunnelled option.

What's Next:

- Conduct analysis of enhanced Parkway alternative
- Conduct detailed analysis of the Technically and Environmentally Preferred Alternative.
- Conduct preliminary design for Technically and Environmentally Preferred Alternative.
- Complete the geotechnical deep borehole program to confirm the integrity of the underlying bedrock and any impacts from past salt mining activities in the area for Crossings B and C.

Cost & Constructability

Analysis Results

Performance Measure	Criteria/Indicator	Measurement/Units	Alternative 1A		Alternative 1B		Alternative 2A		Alternative 2B		Alternative 3
			Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	
Preliminary Construction Costs Assessment of Constructability	Length of Alternative (Hwy 401 to Malden)	Kilometres	9		9		9		9		9
	Preliminary Construction Costs (property costs not included)	$ millions CAD (2011)	920.0 (Plaza A)		1.360 (Plaza A)		790.0 (Plaza A)		1.200 (Plaza A)		3.780 (Plaza A)
			750.0 (Plaza B and C)		1.190 (Plaza B and C)		620.0 (Plaza B and C)		1.030 (Plaza B and C)		3.610 (Plaza B and C)
	Life Cycle Cost	Qualitative	The life cycle cost for Alternative 1A is approximately 13% higher than Alternative 2A.		The life cycle cost for Alternative 1B is approximately 58% higher than Alternative 2A.		Alternative 2A has the lowest life cycle cost.		The life cycle cost for Alternative 2B is approximately 43% higher than Alternative 2A.		The life cycle cost for Alternative 3 is four times higher than Alternative 2A. This is primarily due to higher maintenance costs associated with safety support systems.
	Site constraints (eg. utilities, watercourse crossings)	Qualitiative	All alternatives will require a similar degree of utility relocation prior to construction. Watercourses can be crossed by constructing a bridge at Grand Marais Drain / Turkey Creek, and culverts at Cahill and Lennon drains. 4 Pumping Station & 10 SWM Ponds required		All alternatives will require a similar degree of utility relocation prior to construction. Relocation of utilities for below grade alternatives such as Alternative 1B may be slightly more complex as additional excavation may be required. Watercourses will be crossed by constructing a short tunnel section under Grand Marais Drain / Turkey Creek, and syphons at Cahill and Lennon drain. 5 Pumping Stations & 8 SWM Ponds required		All alternatives will require a similar degree of utility relocation prior to construction. Alternative 2A will have a slightly less impact on utilities since some utilities parallel to Highway 3/Huron Church Road can be retained, since most of the existing road will be maintained at the current location. Watercourses can be crossed by constructing a bridge at Grand Marais Drain / Turkey Creek, and culverts at Cahill and Lennon drains 4 Pumping Stations & 8 SWM Ponds required		All alternatives will require a similar degree of utility relocation prior to construction. Alternative 2B will have a slightly less impact on utilities since some utilities parallel to Highway 3/Huron Church Road can be retained, since most of the existing road will be maintained at the current location. However, relocation of utilities for below grade roadways may be slightly more complex as additional excavation may be required. Watercourses will be crossed by constructing a short tunnel section under Grand Marais Drain / Turkey Creek, and syphons at Cahill and Lennon drain.	AAll alternatives will require a similar degree of utility relocation prior to construction. Relocation of utilities for below grade alternatives such as Alternative 3 may be slightly more complex as additional excavation may be required. Watercourses will be crossed by constructing a tunnel under Grand Marais Drain / Turkey Creek, Cahill and Lennon drain. 4 Pumping Stations & 3 SWM Ponds required
	Geotechnical considerations	Qualitative and quantitative assessment of subsurface conditions	Existing soil conditions become progressively softer and less favourable for conventional construction methods north of Grand Marais Drain. The construction of below grade cross-sections should be feasible up to a depth of 10m without undertaking additional measures to control soil.								
		Lengths of above grade, at grade, depressed and tunnel sections	0.6 km above grade, 3.8 km at grade, 4.6 km below grade, 0 km tunnel.		0.6 km above grade, 1.5 km at grade, 6.8 km below grade, 0.1 km tunnel.		0.6 km above grade, 4.1 km at grade, 4.3 km below grade, 0 km tunnel.		0.6 km above grade, 1.3 km at grade, 7.0 km below grade, 0.1 km tunnel.		0.6 km above grade, 1.9 km at grade, 0.5 km below grade, 6.0 km tunnel.
	Construction staging/duration	Qualitiative assessment of staging duration for access road, plaza and crossing	Construction staging associated with constructing retaining wall systems is complex and will require a moderate effort to construct. At grade alternatives will require a moderate to long duration to construct. Access to and from affected properties can be maintained during construction.		Construction staging associated with constructing extensive retaining wall systems and short tunnel section below Grand Marais Drain / Turkey Creek is complex and will require a moderate to high effort to construct. Below grade alternatives will require a moderate to long duration to construct. Access to and from affected properties can be maintained during construction.		Construction staging associated with constructing retaining wall systems is complex and will require a moderate effort to construct. At grade alternatives will require a moderate to long duration to construct. Access to and from affected properties can be maintained during construction.		Construction staging associated with constructing extensive retaining wall systems and short tunnel section below Grand Marais Drain / Turkey Creek is complex and will require a moderate to high effort to construct. Below grade alternatives will require a moderate to long duration to construct. Access to and from affected properties can be maintained during construction.		Construction staging associated with the tunnel alternative is the most complex and will require the most intense effort to construct. The tunnel will require the longest duration to construct. Access to and from affected properties can be maintained during construction.
	Assessment of construction risks	Qualitative and quantitative assessment of effects of traffic management, utility relocations, subsurface conditions on completion of construction within project timeframe (2013)	Moderate to high resource requirements result in a moderate to high risk that the tunnel will not be completed within the 2013 time frame.		Moderate to high resource requirements result in a moderate to high risk that the tunnel will not be completed within the 2013 time frame.		Moderate to high resource requirements result in a moderate to high risk that the tunnel will not be completed within the 2013 time frame.		Moderate to high resource requirements result in a moderate to high risk that the tunnel will not be completed within the 2013 time frame.		Higher construction complexity and resource requirements result in a high risk that the tunnel will not be completed within the 2013 time frame.
	Degree of impact on traffic during construction	Qualitative and quantitative assessment of ability to maintain access to existing crossings during construction	Access to and from existing crossings can be maintained for all alternatives. New structures will be constructed for the main crossing roads.								
	Maintenance requirements	Qualitative assessment of costs and disruption due to maintenance operations	Yearly operation and maintenance requirements for at grade alternatives are lower than the tunnel. Pumping stations require routine maintenance measures and monitoring to provide debris trapping removal and sediments handling and removal. Typical features for monitoring include: high water in the wet well, number of starts for each motor, leakage, sediments level, motor/ engine failure, smoke, gases, etc.		Yearly operation and maintenance requirements for below grade alternatives are lower than the tunnel. Some additonal maintenenace is required for syphons under Cahill and Lennon drains. Pumping stations require routine maintenance measures and monitoring to provide debris trapping removal and sediments handling and removal. Typical features for monitoring include: high water in the wet well, number of starts for each motor, leakage, sediments level, motor/ engine failure, smoke, gases, etc.		Yearly operation and maintenance requirements for at grade alternatives are lower than the tunnel. Pumping stations require routine maintenance measures and monitoring to provide debris trapping removal and sediments handling and removal. Typical features for monitoring include: high water in the wet well, number of starts for each motor, leakage, sediments level, motor/ engine failure, smoke, gases, etc.		Yearly operation and maintenance requirements for below grade alternatives are lower than the tunnel. Some additonal maintenenace is required for syphons under Cahill and Lennon drains. Pumping stations require routine maintenance measures and monitoring to provide debris trapping removal and sediments handling and removal. Typical features for monitoring include: high water in the wet well, number of starts for each motor, leakage, sediments level, motor/ engine failure, smoke, gases, etc.		Yearly operation and maintenance requirements for the tunnel including safety support systems (ventilation, lighting, CCTV) are high. Pumping stations require routine maintenance measures and monitoring to provide debris trapping removal and sediments handling and removal. Typical features for monitoring include: high water in the wet well, number of starts for each motor, leakage, sediments level, motor/ engine failure, smoke, gases, etc.

Detroit River
INTERNATIONAL CROSSING
S T U D Y

Geotechnical Explorations and Analyses – Access Roads

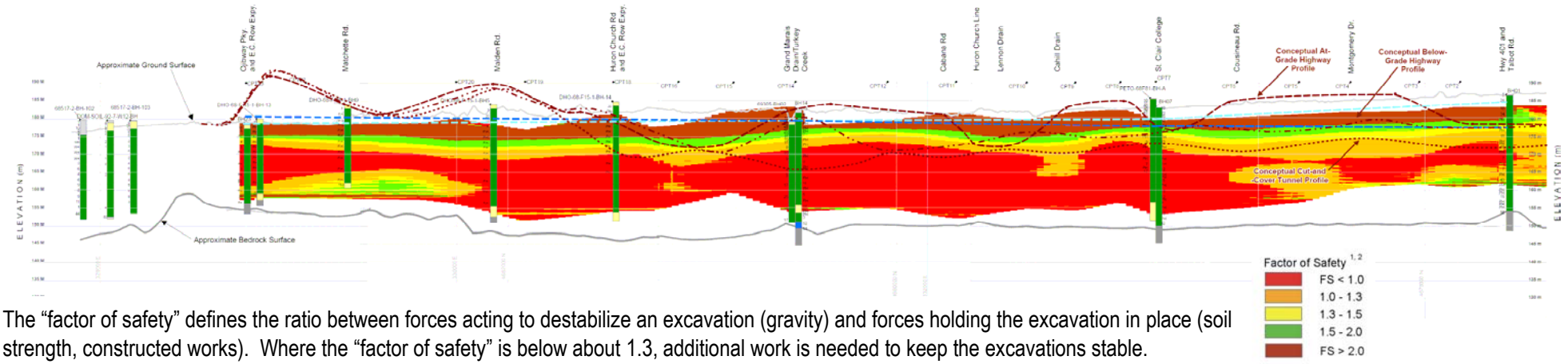
Underground Construction

The ground conditions influence constructability and cost because:

- The silt and clay soils have a strong “crust” in the top 5 to 10 m, below which they become much weaker
- Groundwater in the bedrock produces hydrogen sulphide gas when exposed to air

Construction methods suitable for constructing below-grade retaining walls:

- Conventional retaining walls (< 5 m)
- Soldier-piles and lagging (limited applications)
- Secant-pile or concrete diaphragm walls (deep excavations)



The “factor of safety” defines the ratio between forces acting to destabilize an excavation (gravity) and forces holding the excavation in place (soil strength, constructed works). Where the “factor of safety” is below about 1.3, additional work is needed to keep the excavations stable.

Connecting Communities

The Parkway, with a below-grade access road and a number of short tunnels, could address the future transportation and mobility needs of the region, improve traffic operations and safety, protect people and communities.

The Study Team is currently seeking comments on the Parkway alternative. In developing this alternative, two goals were identified based on the transportation and mobility needs and community input:

1. Improve Regional Mobility
   - ➢ Provide connections to and from new and existing border crossings and maintain separation of international and local traffic
2. Reduce/eliminate the potential for the access road to act as a 'barrier' between communities
   - ➢ Maintain/enhance local access and maintain/enhance community connections

The following display identifies areas where the Study Team is considering enhancements to reduce impacts and enhance the benefits of a new access road corridor. Your comments on the locations for enhancement opportunities and the types of enhancements under consideration are encouraged.

The Parkway-A New Option

Based on your feedback and ideas, the Study Team identified requirements of local residents in selecting access road alternatives:

- Takes trucks off local streets
- Reduces the amount of pollutants in the air
- Improves the movement of border-bound traffic
- Is not intrusive
- Is state-of-the-art
- Will not be determined on cost alone
- Improves the quality of life
- Provides a long-term solution

A new Parkway alternative has been developed for the access road, reflecting the study goals and the community input. Described as a green transportation corridor, the access road for international traffic would be below-grade with a number of short tunnels. It can address all of the requirements for the access road identified by the community and the study team listed above. This plan not the final access road option. We will look to the community for their input on the look and feel of the Parkway.

Before any final decision are made, the Parkway will be analyzed in the same level of detail as the initial five Practical Alternatives.

Other features of the Parkway include:

- People-friendly spaces including wider bridges to allow communities on both sides of the corridor to connect
- New trails for pedestrians and cyclists
- Linkages for wildlife
- Landscaped buffer zones
- Entrance points for local traffic
- Reduced impact of international traffic on neighbourhoods
- Opportunities to create a signature

Context Sensitive Solutions (CSS)

A collaborative, interdisciplinary approach to transportation planning that considers the greater context within which a transportation improvement project will exist. CSS involves all stakeholders in the development of a transportation facility that fits its physical setting and preserves the scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility.

CSS is a key component of the development of practical alternatives for DRIC. CSS workshops and activities held over the course of the study included:

- **Inspection Plaza Location Development** – January 2006
- **Access Road Refinement** – February 2006 and April 2006
- **Context Sensitive Solutions Concept Preference** – June 2006
- **Bus Tour of Bridges, Toledo, Ohio and Port Huron, Michigan** – June 2006
- **Bus Tour of Freeway Types, Detroit, Michigan** – June 2006
- **Access Road and Plaza CSS Themes** – October 2006
- **Crossing Concepts and Preference Survey** – November 2006
- **Crossing Concepts and Preference Survey** – August 2007 (U.S. Side)

Detroit River INTERNATIONAL CROSSING STUDY

Summary of Analysis – Crossing and Plaza Alternatives

Update

The environmental and technical analysis completed to date are presented in the following displays.

The foundations investigations near the known brine well areas are nearing completion. This information is necessary to make a sound decision on the location of the new river crossing Once the findings of this work are available, the Partnership will be in a position to recommend a preferred crossing location.

Changes in Air Quality

- Each plaza results in increases in fine particulates and nitrogen oxides (N0x) up to 250m from the plaza
- In the vicinity of Plaza A, implementation of any alternative results in increased $PM_{2.5}$ and NO_x concentrations in relation to the No Build Alternative
- Plaza A results in marginally higher $PM_{2.5}$ and NO_x concentration than Plaza B
- The effects of Plazas B, B1 and C are predominantly seen in the area to the west of Ojibway Parkway/E.C. Row Expressway interchange at non-sensitive receptors.
- None of the plaza options would result in a discernible difference in the maximum predicted concentrations for Sandwich Towne.

Protection of Community and Neighbourhood Characteristics

- Plaza A alternatives result in the highest residential displacements (between 62-66 households); Plazas B, B1 and C result in 35-38 households displaced
- The noise generated from the plaza locations is not expected to cause a high noise impact for areas closest to the plazas after mitigation
- With Crossing C, over 100 households will increase in > 5dB before mitigation; however, an acoustic barrier on the crossing can reduce noise impacts to <5dB. The cost effectiveness of this barrier, as well as other mitigation measures will be considered.
- Crossing C alternatives displace 5-6 businesses, the other crossings displace one business

Consistency with Existing & Planned Land Use

- Plaza A is the least consistent with existing land use, which consists of predominately residential/natural areas
- Crossing B alternatives and Plaza C/Crossing C disrupt water dependent land uses (marine fuelling station)
- Plaza C/Crossing C has the greatest impact to known contaminant sites

Protection of Cultural Resources

- Of the remaining lands to be examined, half have no archaeological potential, and a portion of Plaza B, B1 and C are within the area of a 1749 French Settlement.
- There are no significant differences among the options in terms of impacts to historical, cultural and archaeological features.

Summary of Analysis – Crossing and Plaza Alternatives

Protection of Natural Environment

- Plazas C/Crossing C has the least impacts to natural features while Plaza A alternatives have the highest impacts to natural features

Improve Regional Mobility

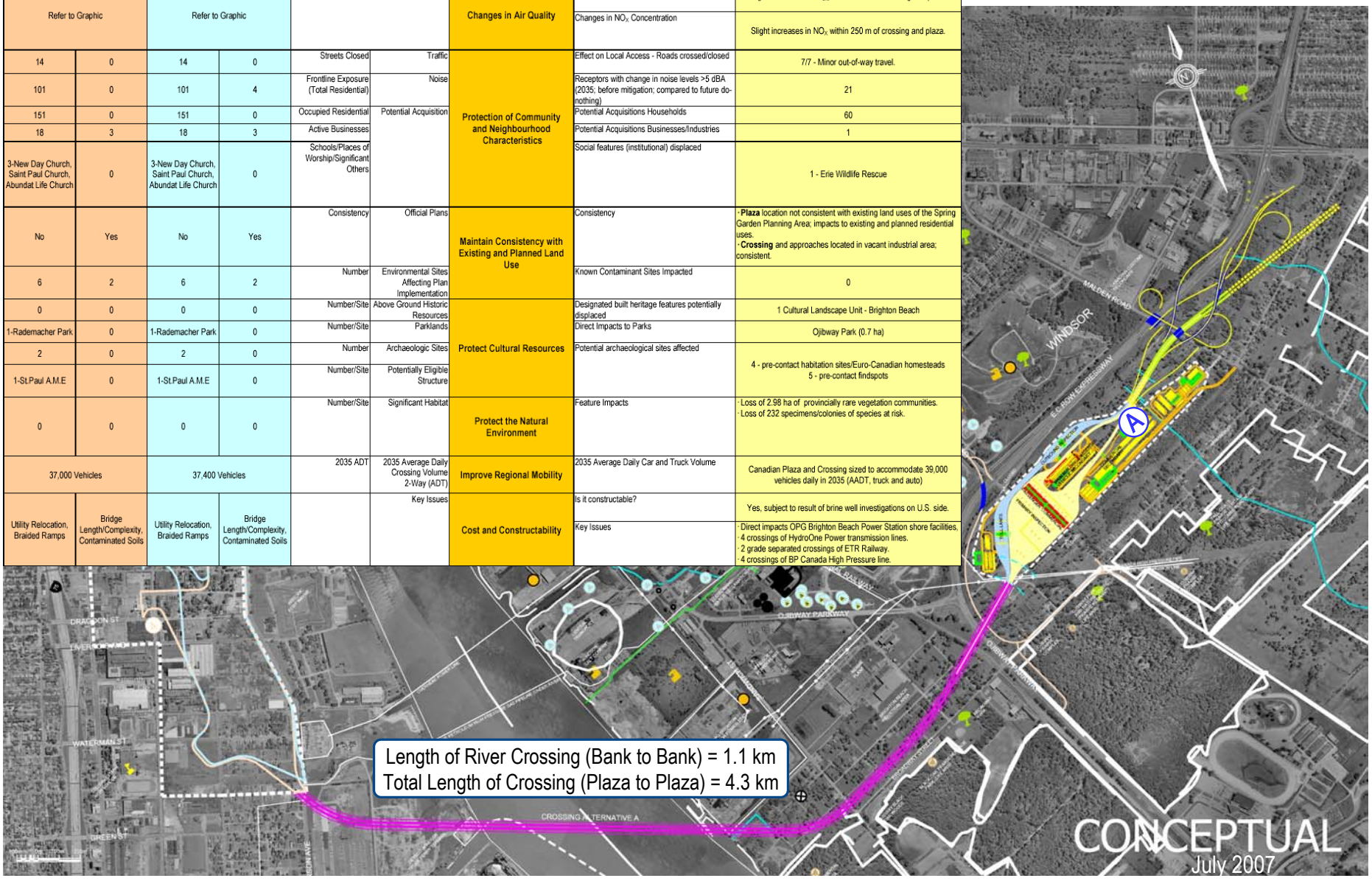
- All alternatives can accommodate the future (2035) travel demands
- Distance between the border and plaza is the greatest with the Plaza A alternatives
- Proximity to marine fuelling station with Crossing C is a manageable risk

Cost and Constructability

- Based on consultation with Canadian and U.S. agencies and shipping industry representatives, the Study Teams are not considering any alternative with piers in the Detroit River. The new crossing will clear span the entire river.
- The cost estimates for the Canadian inspection plazas and crossings are as follows:
  - Plazas: $180 mil to $280 mil (Yr 2011 CAD)
  - Crossings:
    - Crossing A: $770 mil to $920 mil (Yr 2011 USD)
    - Crossing B: $430 mil to $540 mil (Yr 2011 USD)
    - Crossing C: $450 mil to $580 mil (Yr 2011 USD)
- Crossing C approach roadway crosses known brinewell areas while Crossing B is located adjacent to known brinewells. Final results of the Geotechnical Investigations are expected to available by early 2008. This information is necessary to make a sound decision on the location of the new river crossing. Once the findings of this work are available, the Partnership will be in a position to recommend a preferred crossing location.

US Plaza – Crossing 10A – Plaza A
Preliminary Analysis Summary

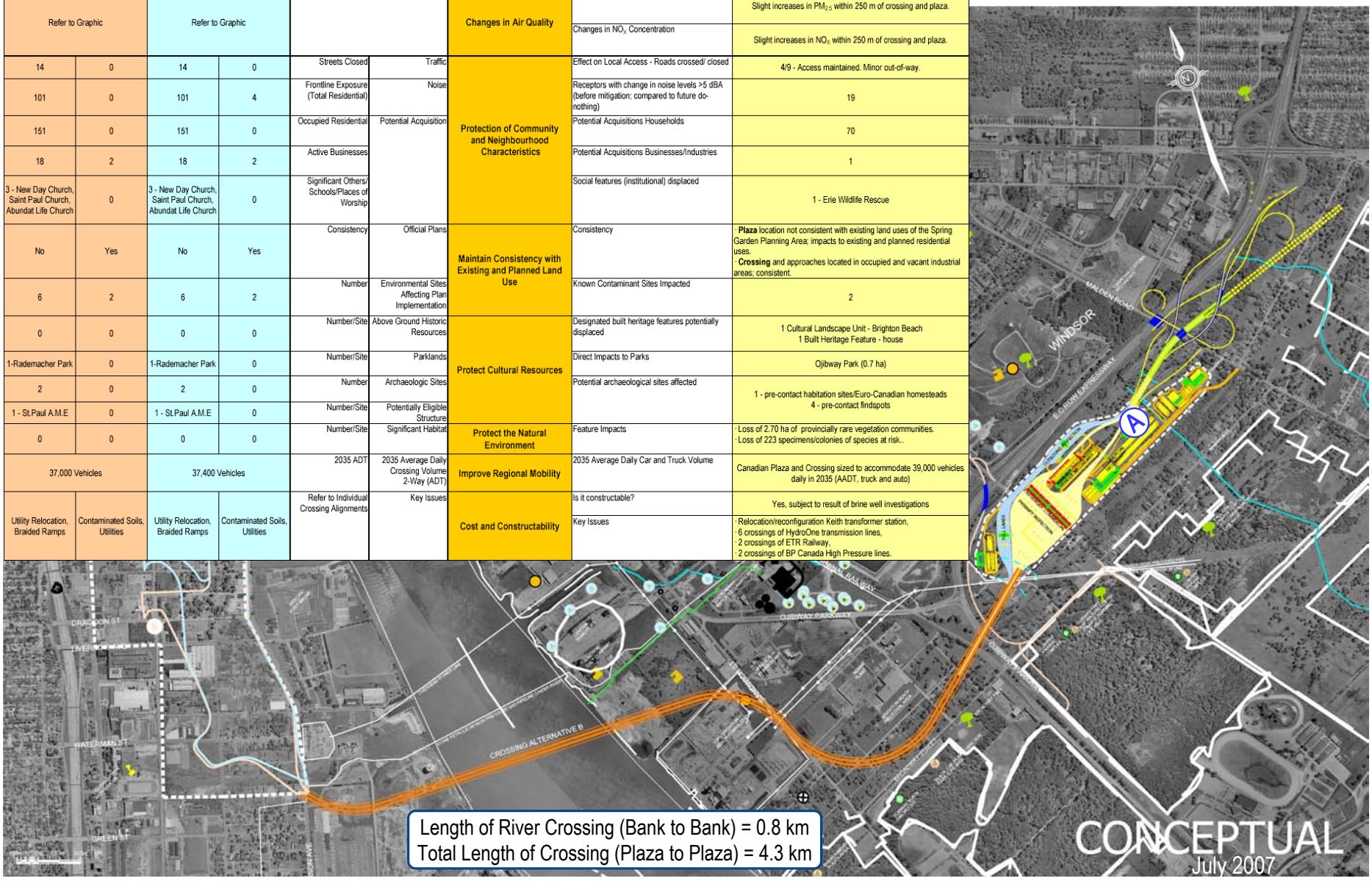
US Analysis*						Evaluation Factor	CDN Analysis*	
Plaza 4	Crossing A	Plaza Loc 6	Crossing A	Measure			Measure	Crossing A - Plaza A
Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Changes in $PM_{2.5}$ Concentration	Slight increases in $PM_{2.5}$ within 250 m of crossing and plaza.
							Changes in NO_X Concentration	Slight increases in NO_X within 250 m of crossing and plaza.
14	0	14	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/closed	7/7 - Minor out-of-way travel.
101	0	101	4	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (2035; before mitigation; compared to future do-nothing)	21
151	0	151	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	60
18	3	18	3	Active Businesses			Potential Acquisitions Businesses/Industries	1
3-New Day Church, Saint Paul Church, Abundat Life Church	0	3-New Day Church, Saint Paul Church, Abundat Life Church	0	Schools/Places of Worship/Significant Others			Social features (institutional) displaced	1 - Erie Wildlife Rescue
No	Yes	No	Yes	Consistency	Official Plans	Maintain Consistency with Existing and Planned Land Use	Consistency	· **Plaza** location not consistent with existing land uses of the Spring Garden Planning Area; impacts to existing and planned residential uses. · **Crossing** and approaches located in vacant industrial area; consistent.
6	2	6	2	Number	Environmental Sites Affecting Plan Implementation		Known Contaminant Sites Impacted	0
0	0	0	0	Number/Site	Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	1 Cultural Landscape Unit - Brighton Beach
1-Rademacher Park	0	1-Rademacher Park	0	Number/Site	Parklands		Direct Impacts to Parks	Ojibway Park (0.7 ha)
2	0	2	0	Number	Archaeologic Sites		Potential archaeological sites affected	4 - pre-contact habitation sites/Euro-Canadian homesteads 5 - pre-contact findspots
1-St.Paul A.M.E	0	1-St.Paul A.M.E	0	Number/Site	Potentially Eligible Structure			
0	0	0	0	Number/Site	Significant Habitat	Protect the Natural Environment	Feature Impacts	· Loss of 2.98 ha of provincially rare vegetation communities. · Loss of 232 specimens/colonies of species at risk.
37,000 Vehicles		37,400 Vehicles		2035 ADT	2035 Average Daily Crossing Volume 2-Way (ADT)	Improve Regional Mobility	2035 Average Daily Car and Truck Volume	Canadian Plaza and Crossing sized to accommodate 39,000 vehicles daily in 2035 (AADT, truck and auto)
Utility Relocation, Braided Ramps	Bridge Length/Complexity, Contaminated Soils	Utility Relocation, Braided Ramps	Bridge Length/Complexity, Contaminated Soils		Key Issues	Cost and Constructability	Is it constructable?	Yes, subject to result of brine well investigations on U.S. side.
							Key Issues	· Direct impacts OPG Brighton Beach Power Station shore facilities, · 4 crossings of HydroOne Power transmission lines. · 2 grade separated crossings of ETR Railway. · 4 crossings of BP Canada High Pressure line.



***Cdn analysis updated to reflect results of analysis to date; U.S. analysis in this exhibit unchanged from that presented in Dec. 2006**

US Plaza – Crossing B – Plaza A Preliminary Analysis Summary

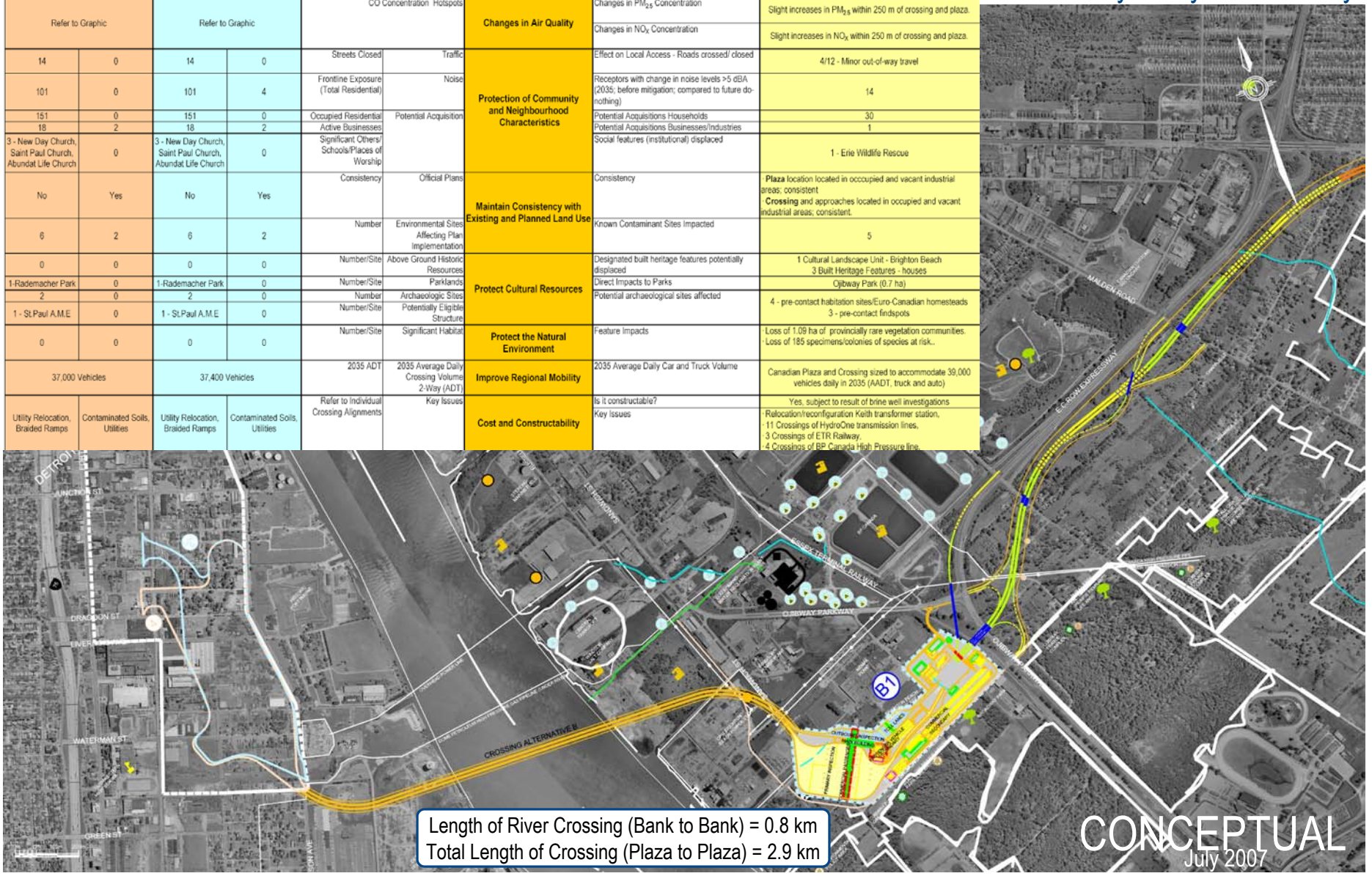
US Analysis *						Evaluation Factor	CDN Analysis*	
Plaza 4	Crossing B	Plaza Loc 6	Crossing B	Measure			Measure	Crossing B - Plaza A
Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Changes in $PM_{2.5}$ Concentration	Slight increases in $PM_{2.5}$ within 250 m of crossing and plaza.
							Changes in NO_x Concentration	Slight increases in NO_x within 250 m of crossing and plaza.
14	0	14	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	4/9 - Access maintained. Minor out-of-way.
101	0	101	4	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (before mitigation; compared to future do-nothing)	19
151	0	151	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	70
18	2	18	2	Active Businesses			Potential Acquisitions Businesses/Industries	1
3 - New Day Church, Saint Paul Church, Abundat Life Church	0	3 - New Day Church, Saint Paul Church, Abundat Life Church	0	Significant Others/ Schools/Places of Worship			Social features (institutional) displaced	1 - Erie Wildlife Rescue
No	Yes	No	Yes	Consistency	Official Plans	Maintain Consistency with Existing and Planned Land Use	Consistency	· **Plaza** location not consistent with existing land uses of the Spring Garden Planning Area; impacts to existing and planned residential uses. · **Crossing** and approaches located in occupied and vacant industrial areas; consistent.
6	2	6	2	Number	Environmental Sites Affecting Plan Implementation		Known Contaminant Sites Impacted	2
0	0	0	0	Number/Site	Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	1 Cultural Landscape Unit - Brighton Beach 1 Built Heritage Feature - house
1-Rademacher Park	0	1-Rademacher Park	0	Number/Site	Parklands		Direct Impacts to Parks	Ojibway Park (0.7 ha)
2	0	2	0	Number	Archaeologic Sites		Potential archaeological sites affected	1 - pre-contact habitation sites/Euro-Canadian homesteads 4 - pre-contact findspots
1 - St.Paul A.M.E	0	1 - St.Paul A.M.E	0	Number/Site	Potentially Eligible Structure			
0	0	0	0	Number/Site	Significant Habitat	Protect the Natural Environment	Feature Impacts	· Loss of 2.70 ha of provincially rare vegetation communities. · Loss of 223 specimens/colonies of species at risk..
37,000 Vehicles		37,400 Vehicles		2035 ADT	2035 Average Daily Crossing Volume 2-Way (ADT)	Improve Regional Mobility	2035 Average Daily Car and Truck Volume	Canadian Plaza and Crossing sized to accommodate 39,000 vehicles daily in 2035 (AADT, truck and auto)
Utility Relocation, Braided Ramps	Contaminated Soils, Utilities	Utility Relocation, Braided Ramps	Contaminated Soils, Utilities	Refer to Individual Crossing Alignments	Key Issues	Cost and Constructability	Is it constructable?	Yes, subject to result of brine well investigations
							Key Issues	· Relocation/reconfiguration Keith transformer station, · 6 crossings of HydroOne transmission lines, · 2 crossings of ETR Railway, · 2 crossings of BP Canada High Pressure lines.



***Cdn analysis updated to reflect results of analysis to date; U.S. analysis in this exhibit unchanged from that presented in Dec. 2006**

US Plaza – Crossing B – Plaza B1 Preliminary Analysis Summary

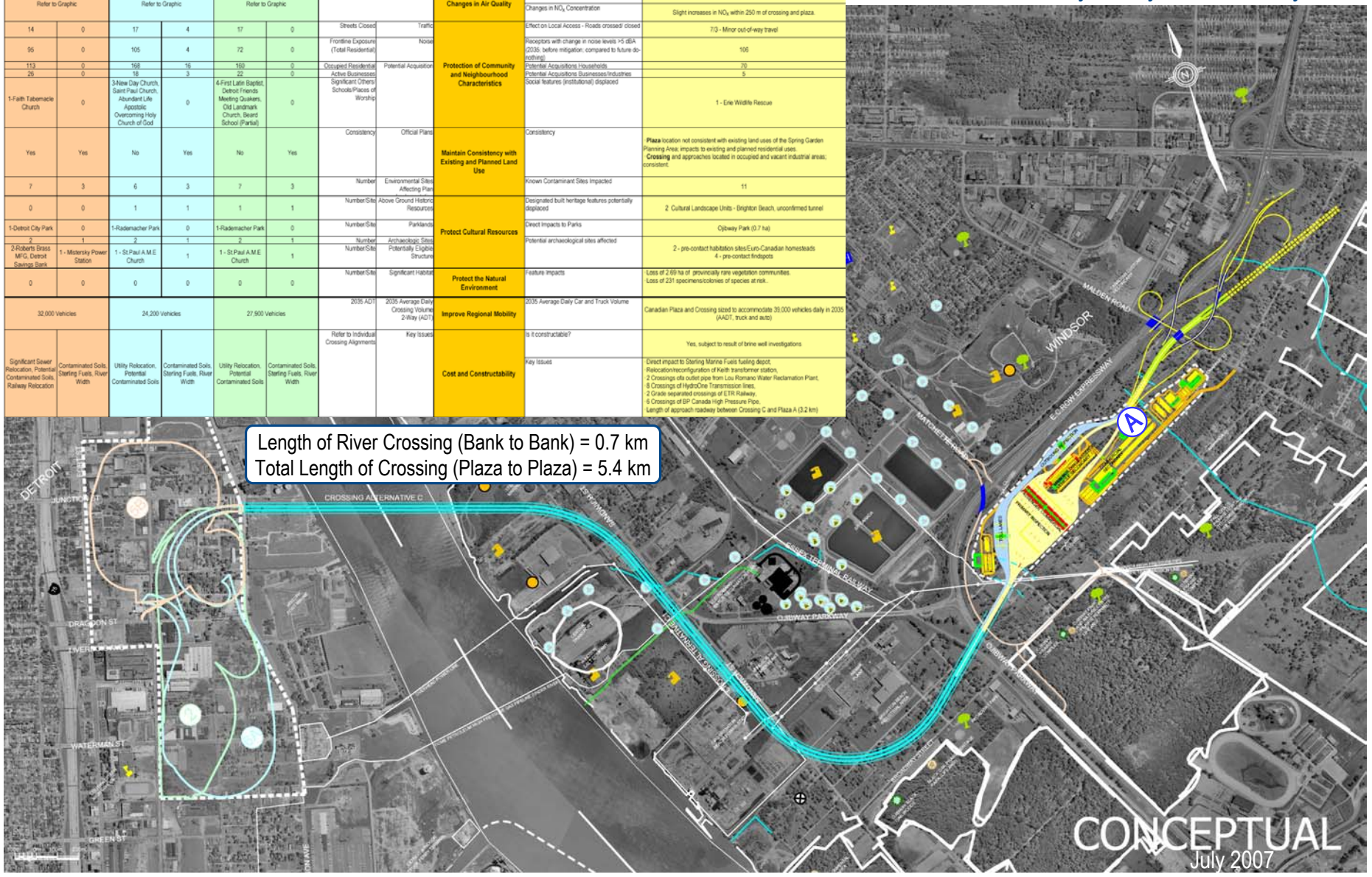
US Analysis *						Evaluation Factor	CDN Analysis*	
Plaza 4	Crossing B	Plaza Loc 6	Crossing B	Measure			Measure	Crossing B - Plaza B1
Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Changes in $PM_{2.5}$ Concentration	Slight increases in $PM_{2.5}$ within 250 m of crossing and plaza.
							Changes in NO_X Concentration	Slight increases in NO_X within 250 m of crossing and plaza.
14	0	14	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	4/12 - Minor out-of-way travel
101	0	101	4	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (2035; before mitigation; compared to future do-nothing)	14
151	0	151	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	30
18	2	18	2	Active Businesses			Potential Acquisitions Businesses/Industries	1
3 - New Day Church, Saint Paul Church, Abundat Life Church	0	3 - New Day Church, Saint Paul Church, Abundat Life Church	0	Significant Others/ Schools/Places of Worship			Social features (institutional) displaced	1 - Erie Wildlife Rescue
No	Yes	No	Yes	Consistency	Official Plans	Maintain Consistency with Existing and Planned Land Use	Consistency	· **Plaza** location located in occupied and vacant industrial areas; consistent · **Crossing** and approaches located in occupied and vacant industrial areas; consistent.
6	2	6	2	Number	Environmental Sites Affecting Plan Implementation		Known Contaminant Sites Impacted	5
0	0	0	0	Number/Site	Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	1 Cultural Landscape Unit - Brighton Beach 3 Built Heritage Features - houses
1-Rademacher Park	0	1-Rademacher Park	0	Number/Site	Parklands		Direct Impacts to Parks	Ojibway Park (0.7 ha)
2	0	2	0	Number	Archaeologic Sites		Potential archaeological sites affected	4 - pre-contact habitation sites/Euro-Canadian homesteads 3 - pre-contact findspots
1 - St.Paul A.M.E	0	1 - St.Paul A.M.E	0	Number/Site	Potentially Eligible Structure			
0	0	0	0	Number/Site	Significant Habitat	Protect the Natural Environment	Feature Impacts	· Loss of 1.09 ha of provincially rare vegetation communities. · Loss of 185 specimens/colonies of species at risk..
37,000 Vehicles		37,400 Vehicles		2035 ADT	2035 Average Daily Crossing Volume 2-Way (ADT)	Improve Regional Mobility	2035 Average Daily Car and Truck Volume	Canadian Plaza and Crossing sized to accommodate 39,000 vehicles daily in 2035 (AADT, truck and auto)
Utility Relocation, Braided Ramps	Contaminated Soils, Utilities	Utility Relocation, Braided Ramps	Contaminated Soils, Utilities	Refer to Individual Crossing Alignments	Key Issues	Cost and Constructability	Is it constructable?	Yes, subject to result of brine well investigations
							Key Issues	· Relocation/reconfiguration Keith transformer station, · 11 Crossings of HydroOne transmission lines, · 3 Crossings of ETR Railway, · 4 Crossings of BP Canada High Pressure line.



***Cdn analysis updated to reflect results of analysis to date; U.S. analysis in this exhibit unchanged from that presented in Dec. 2006**

US Plaza – Crossing C (via Brighton Beach) – Plaza A Preliminary Analysis Summary

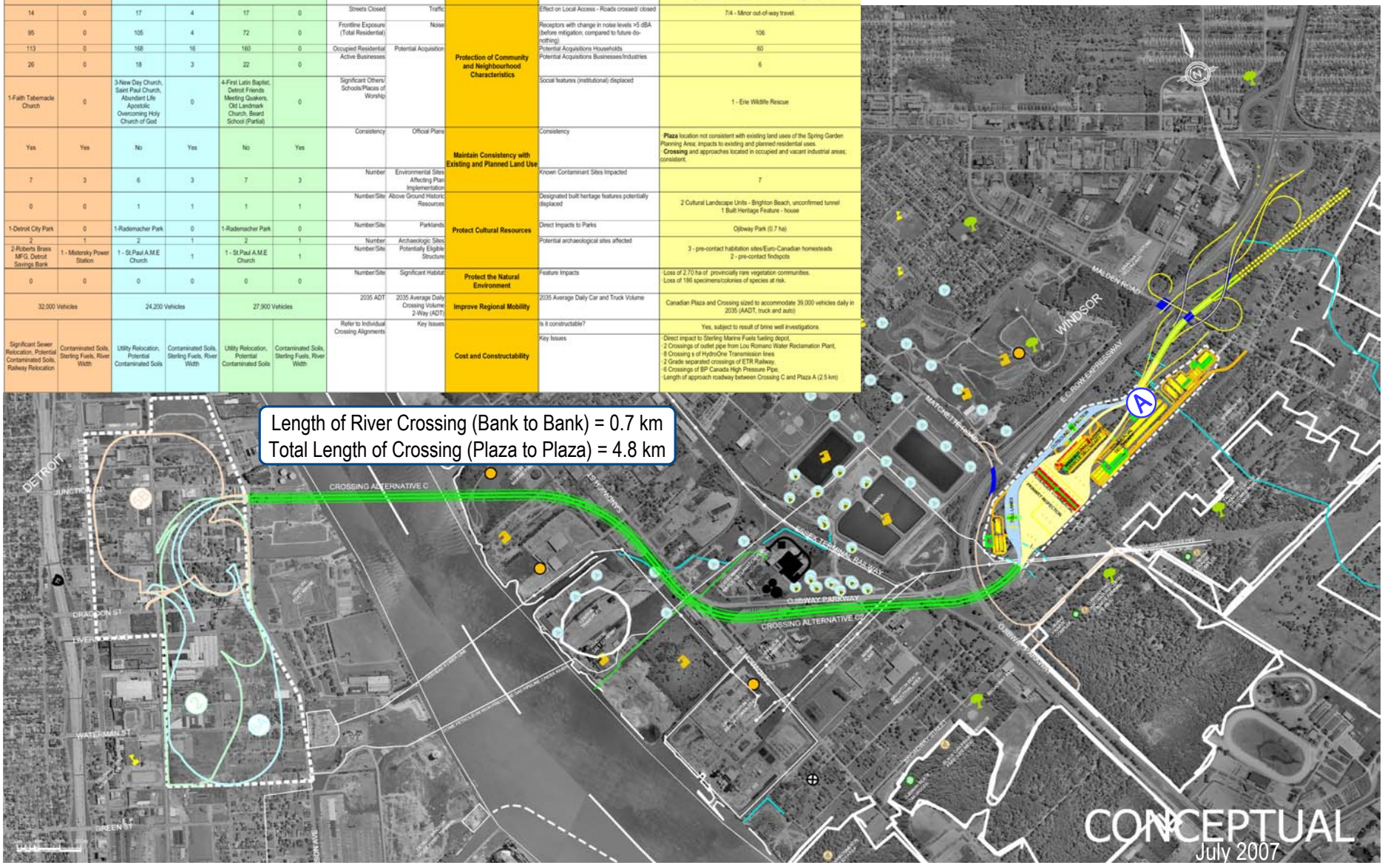
US Analysis *						Measure		Evaluation Factor	CDN Analysis *	
Plaza 5B	Crossing C	Plaza 6A	Crossing C	Plaza 2	Crossing C				Measure	Crossing C - Plaza A (via Brighton Beach Industrial Area)
Refer to Graphic		Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Changes in $PM_{2.5}$ Concentration	Slight increases in $PM_{2.5}$ within 250 m of crossing and plaza.
									Changes in NO_2 Concentration	Slight increases in NO_2 within 250 m of crossing and plaza.
14	0	17	4	17	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	7/3 - Minor out-of-way travel
96	0	105	4	72	0	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (2035, before mitigation; compared to future do-nothing)	106
113	0	168	16	160	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	70
26	0	18	3	22	0	Active Businesses			Potential Acquisitions Businesses/Industries	5
1-Faith Tabernacle Church	0	3-New Day Church, Saint Paul Church, Abundant Life Apostolic Overcoming Holy Church of God	0	4-First Latin Baptist, Detroit Friends Meeting Quakers, Old Landmark Church, Beard School (Partial)	0	Significant Others Schools/Places of Worship			Social features (institutional) displaced	1 - Erie Wildlife Rescue
Yes	Yes	No	Yes	No	Yes	Consistency	Official Plans	Maintain Consistency with Existing and Planned Land Use	Consistency	**Plaza** location not consistent with existing land uses of the Spring Garden Planning Area; impacts to existing and planned residential uses. **Crossing** and approaches located in occupied and vacant industrial areas; consistent.
7	3	6	3	7	3	Number	Environmental Sites Affecting Plan		Known Contaminant Sites Impacted	11
0	0	1	1	1	1	Number/Site	Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	2 Cultural Landscape Units - Brighton Beach, unconfirmed tunnel
1-Detroit City Park	0	1-Rademacher Park	0	1-Rademacher Park	0	Number/Site	Parklands		Direct Impacts to Parks	Ojibway Park (0.7 ha)
2	1	2	1	2	1	Number	Archaeologic Sites		Potential archaeological sites affected	2 - pre-contact habitation sites/Euro-Canadian homesteads 4 - pre-contact findspots
2-Roberts Brass MFG, Detroit Savings Bank	1 - Mistersky Power Station	1 - St.Paul A.M.E Church	1	1 - St.Paul A.M.E Church	1	Number/Site	Potentially Eligible Structures			
0	0	0	0	0	0	Number/Site	Significant Habitat	Protect the Natural Environment	Feature Impacts	Loss of 2.69 ha of provincially rare vegetation communities. Loss of 231 specimens/colonies of species at risk.
32,000 Vehicles		24,200 Vehicles		27,900 Vehicles		2035 ADT	2035 Average Daily Crossing Volume, 2-Way (ADT)	Improve Regional Mobility	2035 Average Daily Car and Truck Volume	Canadian Plaza and Crossing sized to accommodate 39,000 vehicles daily in 2035 (AADT, truck and auto)
Significant Sewer Relocation, Potential Contaminated Soils, Railway Relocation	Contaminated Soils, Sterling Fuels, River Width	Utility Relocation, Potential Contaminated Soils	Contaminated Soils, Sterling Fuels, River Width	Utility Relocation, Potential Contaminated Soils	Contaminated Soils, Sterling Fuels, River Width	Refer to Individual Crossing Alignments	Key Issues	Cost and Constructability	Is it constructable?	Yes, subject to result of brine well investigations
									Key Issues	Direct impact to Sterling Marine Fuels fueling depot. Relocation/reconfiguration of Keith transformer station. 2 Crossings ofa outlet pipe from Lou Romano Water Reclamation Plant. 8 Crossings of HydroOne Transmission lines. 2 Grade separated crossings of ETR Railway. 6 Crossings of BP Canada High Pressure Pipe. Length of approach roadway between Crossing C and Plaza A (3.2 km)



*Cdn analysis updated to reflect results of analysis to date; U.S. analysis in this exhibit unchanged from that presented in Dec. 2006

US Plaza – Crossing C (via Ojibway Parkway) – Plaza A Preliminary Analysis Summary

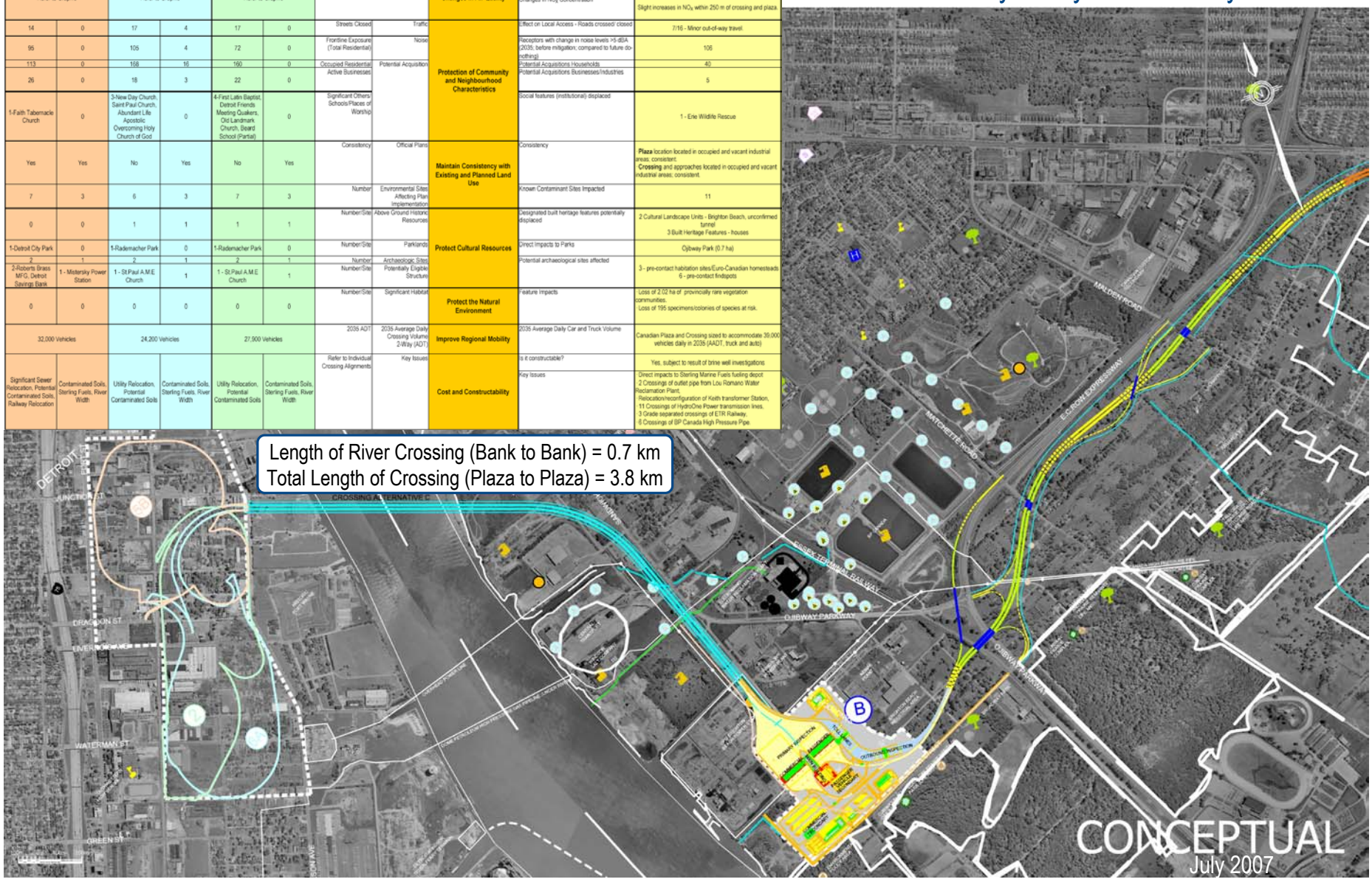
US Analysis*						Measure		Evaluation Factor	CDN Analysis*	
Plaza 5B	Crossing C	Plaza 6A	Crossing C	Plaza 2	Crossing C				Measure	Crossing C - Plaza A (via Ojibway Parkway)
Refer to Graphic		Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Changes in $PM_{2.5}$ Concentration	Slight increases in $PM_{2.5}$ within 250 m of crossing and plaza.
									Changes in NO_2 Concentration	Slight increases in NO_2 within 250 m of crossing and plaza.
14	0	17	4	17	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	7/4 - Minor out-of-way travel.
95	0	105	4	72	0	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (before mitigation; compared to future do-nothing)	106
113	0	168	16	160	0	Occupied Residential Active Businesses	Potential Acquisition		Potential Acquisitions Households	60
26	0	18	3	22	0				Potential Acquisitions Businesses/Industries	6
1-Faith Tabernacle Church	0	3-New Day Church, Saint Paul Church, Abundant Life Apostolic Overcoming Holy Church of God	0	4-First Latin Baptist, Detroit Friends Meeting Quakers, Old Landmark Church, Beard School (Partial)	0	Significant Others/ Schools/Places of Worship			Social features (institutional) displaced	1 - Erie Wildlife Rescue
Yes	Yes	No	Yes	No	Yes	Consistency	Official Plans	Maintain Consistency with Existing and Planned Land Use	Consistency	Plaza location not consistent with existing land uses of the Spring Garden Planning Area; impacts to existing and planned residential uses. Crossing and approaches located in occupied and vacant industrial areas; consistent.
7	3	6	3	7	3	Number	Environmental Sites Affecting Plan Implementation		Known Contaminant Sites Impacted	7
0	0	1	1	1	1	Number/Site	Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	2 Cultural Landscape Units - Brighton Beach, unconfirmed tunnel 1 Built Heritage Feature - house
1-Detroit City Park	0	1-Rademacher Park	0	1-Rademacher Park	0	Number/Site	Parklands		Direct Impacts to Parks	Ojibway Park (0.7 ha)
2	1	2	1	2	1	Number	Archaeologic Sites		Potential archaeological sites affected	3 - pre-contact habitation sites/Euro-Canadian homesteads 2 - pre-contact findspots
2-Roberts Brass MFG, Detroit Savings Bank	1 - Mistersky Power Station	1 - St.Paul A.M.E Church	1	1 - St.Paul A.M.E Church	1	Number/Site	Potentially Eligible Structure			
0	0	0	0	0	0	Number/Site	Significant Habitat	Protect the Natural Environment	Feature Impacts	Loss of 2.70 ha of provincially rare vegetation communities. Loss of 186 specimens/colonies of species at risk.
32,000 Vehicles		24,200 Vehicles		27,900 Vehicles		2035 ADT	2035 Average Daily Crossing Volume 2-Way (ADT)	Improve Regional Mobility	2035 Average Daily Car and Truck Volume	Canadian Plaza and Crossing sized to accommodate 39,000 vehicles daily in 2035 (AADT, truck and auto)
Significant Sewer Relocation, Potential Contaminated Soils, Railway Relocation	Contaminated Soils, Sterling Fuels, River Width	Utility Relocation, Potential Contaminated Soils	Contaminated Soils, Sterling Fuels, River Width	Utility Relocation, Potential Contaminated Soils	Contaminated Soils, Sterling Fuels, River Width	Refer to Individual Crossing Alignments	Key Issues	Cost and Constructability	Is it constructable?	Yes, subject to result of brine well investigations
									Key Issues	Direct impact to Sterling Marine Fuels fueling depot, 2 Crossings of outlet pipe from Lou Romano Water Reclamation Plant, 8 Crossing s of HydroOne Transmission lines 2 Grade separated crossings of ETR Railway, 6 Crossings of BP Canada High Pressure Pipe, Length of approach roadway between Crossing C and Plaza A (2.5 km)



*Cdn analysis updated to reflect results of analysis to date; U.S. analysis in this exhibit unchanged from that presented in Dec. 2006

US Plaza – Crossing C – Plaza B
Preliminary Analysis Summary

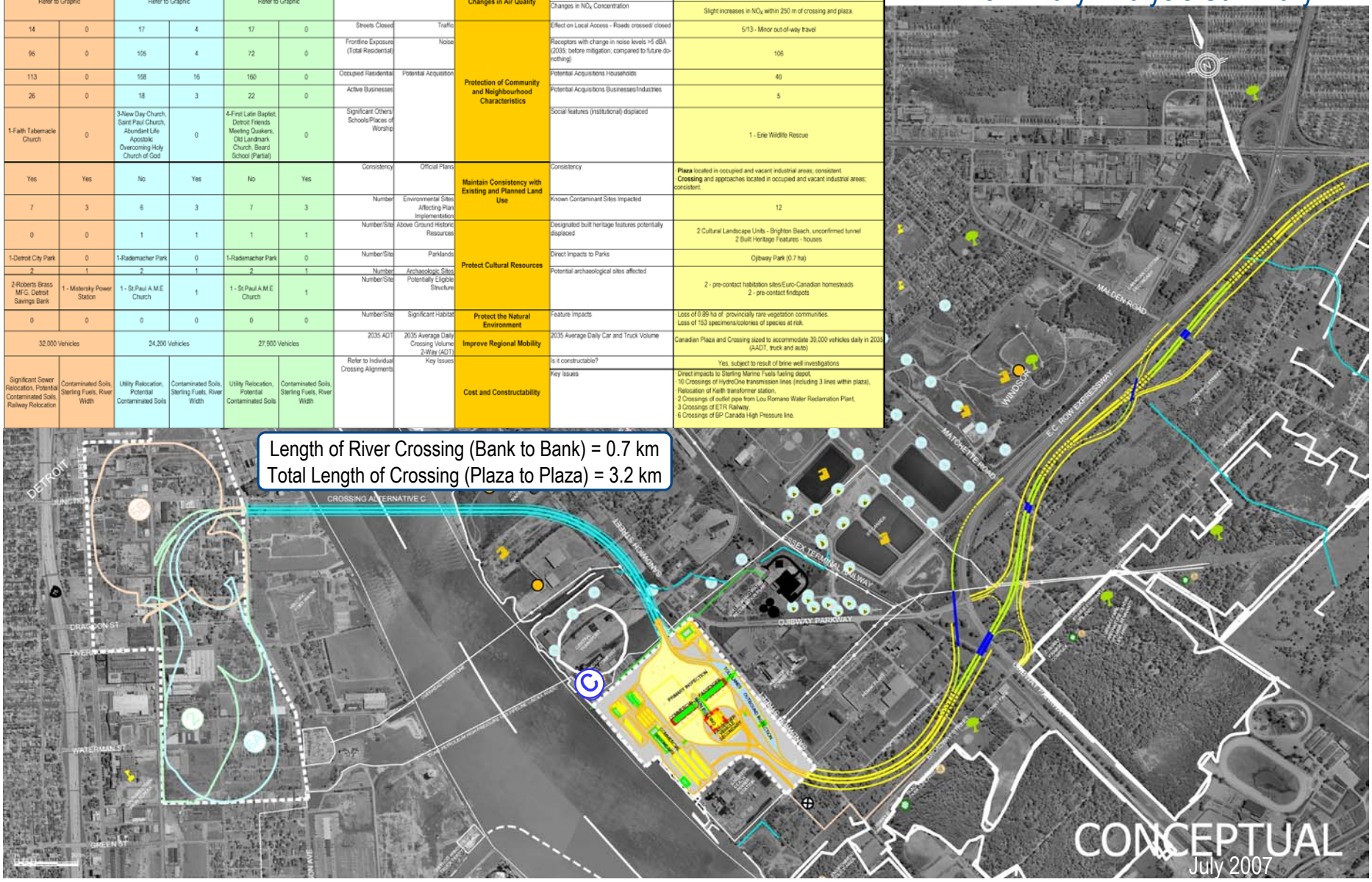
US Analysis*								CDN Analysis*	
Plaza 5B	Crossing C	Plaza 6A	Crossing C	Plaza 2	Crossing C	Measure	Evaluation Factor	Measure	Crossing C - Plaza B
Refer to Graphic		Refer to Graphic		Refer to Graphic		CO Concentration Hotspots	Changes in Air Quality	Changes in $PM_{2.5}$ Concentration	Slight increases in $PM_{2.5}$ within 250 m of crossing and plaza
								Changes in NO_x Concentration	Slight increases in NO_x within 250 m of crossing and plaza
14	0	17	4	17	0	Streets Closed / Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	7/16 - Minor out-of-way travel
95	0	105	4	72	0	Frontline Exposure (Total Residential) / Noise		Receptors with change in noise levels >5 dBA (2035; before mitigation; compared to future do-nothing)	106
113	0	168	16	160	0	Occupied Residential / Potential Acquisition		Potential Acquisitions Households	40
26	0	18	3	22	0	Active Businesses		Potential Acquisitions Businesses/Industries	5
1-Faith Tabernacle Church	0	3-New Day Church, Saint Paul Church, Abundant Life Apostolic Overcoming Holy Church of God	0	4-First Latin Baptist, Detroit Friends Meeting Quakers, Old Landmark Church, Beard School (Partial)	0	Significant Others Schools/Places of Worship		Social features (institutional) displaced	1 - Erie Wildlife Rescue
Yes	Yes	No	Yes	No	Yes	Consistency / Official Plans	Maintain Consistency with Existing and Planned Land Use	Consistency	Plaza location located in occupied and vacant industrial areas; consistent. Crossing and approaches located in occupied and vacant industrial areas; consistent.
7	3	6	3	7	3	Number / Environmental Sites Affecting Plan Implementation		Known Contaminant Sites Impacted	11
0	0	1	1	1	1	Number/Site / Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	2 Cultural Landscape Units - Brighton Beach, unconfirmed tunnel 3 Built Heritage Features - houses
1-Detroit City Park	0	1-Rademacher Park	0	1-Rademacher Park	0	Number/Site / Parklands		Direct Impacts to Parks	Ojibway Park (0.7 ha)
2	1	2	1	2	1	Number / Archaeologic Sites		Potential archaeological sites affected	3 - pre-contact habitation sites/Euro-Canadian homesteads 6 - pre-contact findspots
2-Roberts Brass MFG, Detroit Savings Bank	1 - Mistersky Power Station	1 - St.Paul A.M.E. Church	1	1 - St.Paul A.M.E. Church	1	Number/Site / Potentially Eligible Structure			
0	0	0	0	0	0	Number/Site / Significant Habitat	Protect the Natural Environment	Feature Impacts	Loss of 2.02 ha of provincially rare vegetation communities. Loss of 195 specimens/colonies of species at risk.
32,000 Vehicles		24,200 Vehicles		27,900 Vehicles		2035 ADT / 2035 Average Daily Crossing Volume 2-Way (ADT)	Improve Regional Mobility	2035 Average Daily Car and Truck Volume	Canadian Plaza and Crossing sized to accommodate 39,000 vehicles daily in 2035 (AADT, truck and auto)
Significant Sewer Relocation, Potential Contaminated Soils, Railway Relocation	Contaminated Soils, Sterling Fuels, River Width	Utility Relocation, Potential Contaminated Soils	Contaminated Soils, Sterling Fuels, River Width	Utility Relocation, Potential Contaminated Soils	Contaminated Soils, Sterling Fuels, River Width	Refer to Individual Crossing Alignments / Key Issues	Cost and Constructability	Is it constructable?	Yes, subject to result of brine well investigations
								Key Issues	Direct impacts to Sterling Marine Fuels fuelling depot 2 Crossings of outlet pipe from Lou Romano Water Reclamation Plant. Relocation/reconfiguration of Keith transformer Station. 11 Crossings of HydroOne Power transmission lines. 3 Grade separated crossings of ETR Railway. 6 Crossings of BP Canada High Pressure Pipe



*Cdn analysis updated to reflect results of analysis to date; U.S. analysis in this exhibit unchanged from that presented in Dec. 2006

US Plaza – Crossing C – Plaza C
Preliminary Analysis Summary

US Analysis *								Evaluation Factor	CDN Analysis *	
Plaza 5B	Crossing C	Plaza 6A	Crossing C	Plaza 2	Crossing C	Measure			Measure	Crossing C - Plaza C
Refer to Graphic		Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Changes in $PM_{2.5}$ Concentration	Slight increases in $PM_{2.5}$ within 250 m of crossing and plaza.
									Changes in NO_x Concentration	Slight increases in NO_x within 250 m of crossing and plaza.
14	0	17	4	17	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	5/13 - Minor out-of-way travel
96	0	105	4	72	0	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (2035, before mitigation; compared to future do-nothing)	106
113	0	168	16	160	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	40
26	0	18	3	22	0	Active Businesses			Potential Acquisitions Businesses/Industries	5
1-Faith Tabernacle Church	0	3-New Day Church, Saint Paul Church, Abundant Life Apostolic Overcoming Holy Church of God	0	4-First Latin Baptist, Detroit Friends Meeting Quakers, Old Landmark Church, Beard School (Partial)	0	Significant Others: Schools/Places of Worship			Social features (institutional) displaced	1 - Erie Wildlife Rescue
Yes	Yes	No	Yes	No	Yes	Consistency	Official Plans	Maintain Consistency with Existing and Planned Land Use	Consistency	Plaza located in occupied and vacant industrial areas; consistent. Crossing and approaches located in occupied and vacant industrial areas; consistent.
7	3	6	3	7	3	Number	Environmental Sites Affecting Plan Implementation		Known Contaminant Sites Impacted	12
0	0	1	1	1	1	Number/Site	Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	2 Cultural Landscape Units - Brighton Beach, unconfirmed tunnel 2 Built Heritage Features - houses
1-Detroit City Park	0	1-Rademacher Park	0	1-Rademacher Park	0	Number/Site	Parklands		Direct Impacts to Parks	Ojibway Park (0.7 ha)
2	1	2	1	2	1	Number	Archaeologic Sites		Potential archaeological sites affected	2 - pre-contact habitation sites/Euro-Canadian homesteads 2 - pre-contact findspots
2-Roberts Brass MFG, Detroit Savings Bank	1 - Mistersky Power Station	1 - St.Paul A.M.E Church	1	1 - St.Paul A.M.E Church	1	Number/Site	Potentially Eligible Structure			
0	0	0	0	0	0	Number/Site	Significant Habitat	Protect the Natural Environment	Feature Impacts	Loss of 0.89 ha of provincially rare vegetation communities. Loss of 153 specimens/colonies of species at risk.
32,000 Vehicles		24,200 Vehicles		27,500 Vehicles		2035 ADT	2035 Average Daily Crossing Volume 2-Way (ADT)	Improve Regional Mobility	2035 Average Daily Car and Truck Volume	Canadian Plaza and Crossing sized to accommodate 39,000 vehicles daily in 2035 (AADT, truck and auto)
						Refer to Individual Crossing Alignments	Key Issues	Cost and Constructability	Is it constructable?	Yes, subject to result of brine well investigations
Significant Sewer Relocation, Potential Contaminated Soils, Railway Relocation	Contaminated Soils, Sterling Fuels, River Width	Utility Relocation, Potential Contaminated Soils	Contaminated Soils, Sterling Fuels, River Width	Utility Relocation, Potential Contaminated Soils	Contaminated Soils, Sterling Fuels, River Width				Key Issues	Direct impacts to Sterling Marine Fuels fueling depot. 10 Crossings of HydroOne transmission lines (including 3 lines within plaza). Relocation of Keith transformer station. 2 Crossings of outlet pipe from Lou Romano Water Reclamation Plant. 3 Crossings of ETR Railway. 6 Crossings of BP Canada High Pressure line.



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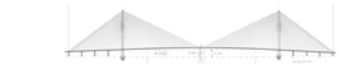
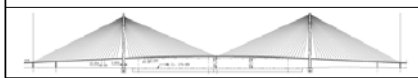
Detroit River
INTERNATIONAL CROSSING
S T U D Y

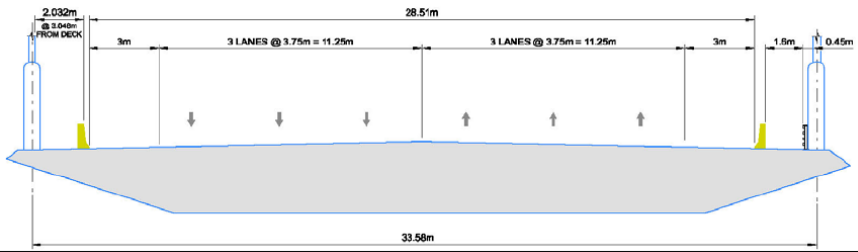
Bridge Type Study

The Canadian and U.S. Study Teams recently completed a study of the types of bridges to be considered for the new Detroit River crossing. The study considered 11 different crossing options, and based on an assessment of initial cost, constructability and safety and security, five crossing options (shown below) were identified for further study.

Canadian Side Image
Suspension Bridge
X10B

Type Study Option Evaluation	Type Study Option	Bridge Type	Main Span Length	U.S. Approach Length	CAN Approach Length
		X10(A)			
	Option 1	Suspension	1,300 m	929 m (3048 ft)	1771 m (5810 ft)
		X10(B)			
	Option 4	Cable Stay	860 m	637 m (2090 ft)	387 m (1270 ft)
	Option 7	Suspension	870 m	1022 m (3353 ft)	592 m (1942 ft)
		X11(C)			
	Option 9	Cable Stay	750 m	391 m (1283 ft)	Plaza B: 1151 m (3776 ft) Plaza C: 956 m (3136 ft)
	Option 10	Suspension	750 m	785 m (2575 ft)	Plaza B: 1514 m (4967 ft) Plaza C: 1316 m (4318 ft)

Typical Detroit River Crossing Cross Section



All alternatives feature 6 traffic lanes and a clear span of the Detroit River.

Canadian Side Image
Cable Stay Bridge
X11C

Next Steps

- Completion of foundations investigations to verify feasibility/constructability.
- Consultation with the public on Context Sensitive Solutions (CSS).
- Additional engineering as required to determine cost and impacts, and appropriate mitigation measures for inclusion in evaluation of practical alternatives.
- Once a preferred crossing is identified, initiate concept design of preferred crossing.

U.S. Study Progress to Date

Since December 2005, the U.S. Study Team, together with the Canadian Study Team, has defined, refined, and evaluated the proposed plaza, interchange and crossing alternatives. The "zone" within which the plazas would be located was determined at public workshops.

In early 2007, with public input and through engineering peer evaluations, plus review of input by the U.S. General Services Administration/Customs Border Protection Agency, the 15 alternatives identified on the U.S. side were evaluated and acceptance criteria were developed to rank each of the interchange alternatives.

Criteria for performance included:

- Access to/from plaza;
- Traffic operations on I-75;
- Local access within corridor;
- Local traffic operations; and
- Bridge geometry/retaining wall.

The acceptance criteria included:

- Protect Community/neighbourhood characteristics;
- Impact to neighbourhoods to north and south;
- Constructability;
- Impact to utilities;
- Driver comfort; and,
- Impact to Delray.

The evaluation conducted on the 15 U.S. alternatives led to a decision to retain only those with the best opportunity to be implemented. The attached table shows each alternative with its corresponding interchange/plaza configuration, and the reasons for its elimination from further analysis. The elimination of seven alternatives, leaves eight to undergo further analysis. No crossings have been eliminated.

Status of Interchanges and Plazas following Value Planning, GSA/CBP and Public Input

Alternative	Interchange	Plaza	Crossing	Proposed Status
#1	A	P-a	X-10	Retain for future analysis
#2	B	P-a		Retain for future analysis
#3	C	P-a		Retain for future analysis
~~#4~~	~~D~~ [1,2]	P-a		Eliminate from further analysis[1,2]
#5	E	P-a		Retain for future analysis
~~#6~~	A	~~P-b~~ [3,4]	X-11	Eliminate from further analysis[3,4]
#7	A	P-c		Retain for future analysis
~~#8~~	B	~~P-b~~ [3,4]		Eliminate from further analysis[3,4]
#9	B	P-c		Retain for future analysis
~~#10~~	C	~~P-b~~ [3,4]		Eliminate from further analysis[3,4]
#11	C	P-c		Retain for future analysis
~~#12~~	~~D~~ [1,2]	~~P-b~~ [3,4]		Eliminate from further analysis[1,2,3,4]
~~#13~~	~~F~~ [1]	~~P-d~~ [4]		Eliminate from further analysis[1,4]
#14	G	P-a	X-10	Retain for future analysis
~~#15~~	~~H~~ [2]	P-a	X-10	Eliminate from further analysis[2]

[1]Unacceptable community impacts.
[2]Unacceptable engineering impacts.
[3]Unacceptable impacts on Fort Wayne due to proposed utility placement.
[4]Unacceptable impacts as judged by U.S. General Services Administration/Customs and Border Protection Agency input.

Contact Information - U.S. Study Team

Michigan Department of Transportation

Mr. Mohammed Alghurabi
Senior Project Manager

Tel. (517) 373-7674
alghurabim@michigan.gov

The Corradino Group

Mr. Joe Corradino
DRIC Project Manager

Tel. (248) 799-0140
jccorradino@corradino.com

DRIC Consultant Team Project Office
The Corradino Group
20300 Civic Center Drive, Suite 410

Southfield, Michigan, 48076
Tel. (248) 799-0140
Field Office Tel. (313) 843-0730 ext.228
Fax (248) 799-0146

www.partnershipborderstudy.com
1-800-900-2649 (Toll Free)

Public Information Open House #4

The fourth round of Public Information Open House meetings were held December 6 and 7, 2006. The public provided feedback on the analysis of Practical Alternatives.

Frequently Provided Comments

Air quality should be the primary consideration

Crossing C is too close to Sandwich Towne

Federal and Provincial government should cover costs of project; not Windsor residents

Plaza A has high community impact; too close too Armanda Street, Spring Garden Road and Malden Road

Protect natural habitats; protect endangered and rare species

Tunnel as much of the route as possible




| Attendance: *500 +* | Comment sheets received: *50 +* | Venues: *Holiday Inn Select Hotel & Ciociaro Club* |

| Related meetings: *CANAAG, PSAG, MAG* | Workshops: *January 9 & 10, 2007* |

Consultation

Community Consultation continues to provide valuable input and unique perspectives. The concerns of residents, business owners, municipalities and politicians are important as suggestions made by the public are factored into the overall decision-making and assessment process. We are committed to listening to communities, addressing their concerns and incorporating their ideas whenever possible.

Over 190 meetings held since the study commenced

Study Contact List: Over 1,800 Addresses
Mailing Area: 37,000+ Property Owners, Tenants and Businesses