Detroit River
INTERNATIONAL CROSSING
S T U D Y

Welcome to the Fourth
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

December 6 and 7, 2006

>> Please Sign In <<

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

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Detroit River
INTERNATIONAL CROSSING
S T U D Y

The Border Transportation Partnership

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 a simple widening of an existing road to something as complex as building a new bridge.

The task of completing the Detroit River International Crossing Environmental Assessment 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.

Canada

U.S. Department of Transportation
Federal Highway Administration

Ontario

MDOT
Michigan Department of Transportation

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Detroit River INTERNATIONAL CROSSING STUDY

Purpose of the DRIC Study

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

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 order to meet the purpose, this study must address the following regional transportation and mobility needs:

- *Provide new border crossing capacity to meet increased long-term travel demand;*
- *Improve system connectivity to enhance the continuous flow of people and goods;*
- *Improve operations and processing capabilities at the border; and*
- *Provide reasonable and secure crossing options (i.e. network redundancy).*

In meeting these needs the Study Team is looking to implement transportation solutions which minimize community and environmental impacts as much as possible.

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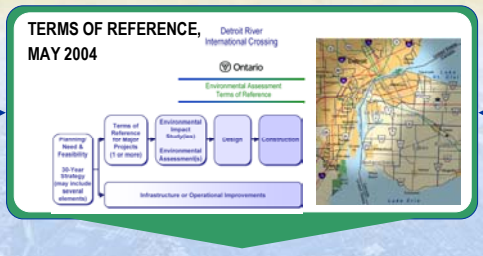
Detroit River INTERNATIONAL CROSSING STUDY

Chronology of DRIC

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

TERMS OF REFERENCE, MAY 2004



Public Information Open House June 2003

Meetings with private sector and agencies

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

MOE Approval September 2004

Coordinate the U.S. and Canadian work programs.

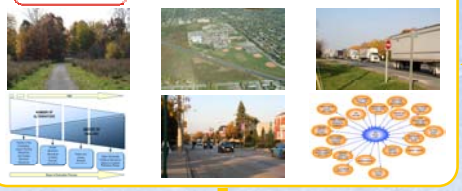
Investigate engineering, social, economic, cultural and natural environment.

Present assessment of impacts for public review.

Incorporate public and agency input.

Detroit River INTERNATIONAL CROSSING STUDY

ENVIRONMENTAL ASSESSMENT



6 Public Information Open Houses scheduled

Meetings with public, private sector and agencies.

Community Consultation Group.

Context Sensitive Solutions.

Meetings with Municipalities.

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Detroit River INTERNATIONAL CROSSING STUDY

Chronology of DRIC

Developed Illustrative 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.

Develop Initial Set of Crossing Alternatives, Plaza Locations & Connecting Routes in Canada and the U.S., Summer 2005

Workshops.

Tours of Detroit River area.

Meetings with public, private sector municipalities and agencies.

Public Information Open House 1, June 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.

Identify Area of Continued Analysis, Summer – Fall 2005

Workshops.

Tours of Detroit River area.

Meetings with public, private sector municipalities and agencies.

Public Information Open House 2, November 2005.

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Detroit River INTERNATIONAL CROSSING STUDY

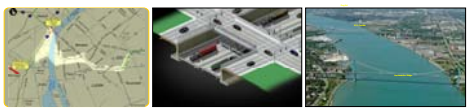
Chronology of DRIC

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

Identified sensitive community features

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

Specific Crossing, Plaza and Access Road Options, Fall 2005 to Spring 2006



Workshops to define specific options and explore Context Sensitive Solutions.

Tours of Detroit River area.

Meetings with public, private sector municipalities and agencies.

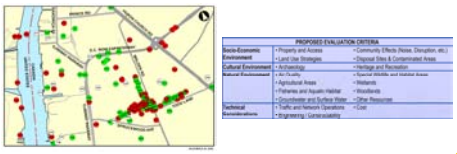
Public Information Open House 3, March 2006.

Study Team sought and gathered information on community features.

Established Guiding Principles in generating alternatives.

Presented Evaluation Factors

Identify Area Features and Opportunities, Spring – Summer 2006



Initial Public Outreach, April 2005

Meetings with public, private sector municipalities and agencies.

Established Community Consultation Group

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Detroit River INTERNATIONAL CROSSING STUDY

Chronology of DRIC

Based on field data (including investigations taken over <area of ACA> sq km), modeling, design work and secondary source info, analysis of the alternatives is to be completed.

Undertake additional foundations investigations.

Compile all analysis data.

Complete Social, Economic, Environmental and Engineering Assessments, Spring 2006 to Summer 2007

Context Sensitive Solutions Workshops.

Tours of Detroit River area.

Meetings with public, private sector municipalities and agencies.

Public Information Open House 4, December 2006.

Workshops

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Detroit River INTERNATIONAL CROSSING STUDY

Components of a New Crossing

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

International Bridge Crossing

The new bridge crossing will accommodate future 2035 traffic demand.

Inspection Plaza:

Plaza layouts on a 120 ha site in proximity to the Detroit River are being analyzed.

Inspection Plaza:

Plaza locations in proximity to the Detroit River and ranging in size from 30 to 40 ha are being analyzed.

Highway Connection:

Interchange connections to I-75 are being analyzed.

Highway Connection:

Freeway/controlled access alternative connecting to Highway 401 in Ontario are being analyzed.

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Detroit River INTERNATIONAL CROSSING STUDY

Public Information Open House #3

The third round of Public Information Open House meetings were held March 28 and March 30, 2006. Over 800 people signed the attendance registry and over 200 comment sheets were received. The public provided feedback on the potential locations for interchanges, local access considerations (including service road options) and cross-sectional alternatives for at-grade, depressed and tunneled roadways.

Most Frequent Comments

Review the Illustrative Alternatives Evaluation Process

Consider Other Alternatives

Protect Community Features

Preserve natural areas (Ojibway, Black Oak)

Consider Safety / Emergency Access

Minimize Air Quality and Noise Impacts

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Detroit River INTERNATIONAL CROSSING STUDY

Consultation March to October 2006

Community Consultation continues to provide us with valuable input and unique perspective. 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 what local communities have to say, addressing their concerns and incorporating their ideas whenever possible.

Consultation March 2006 to end of November:
1 Public Information Open House
29 Workshop, Community Consultation Group and Community Group Meetings
15 Advisory Group Meetings
9 Other Interest Group Meetings

54 Meetings in the last 9 months
Over 100 meetings held since the study commenced

Study Contact List: Over 1,550 Addresses
Mailing Area: 8,000 + Property Owners, Tenants and Businesses

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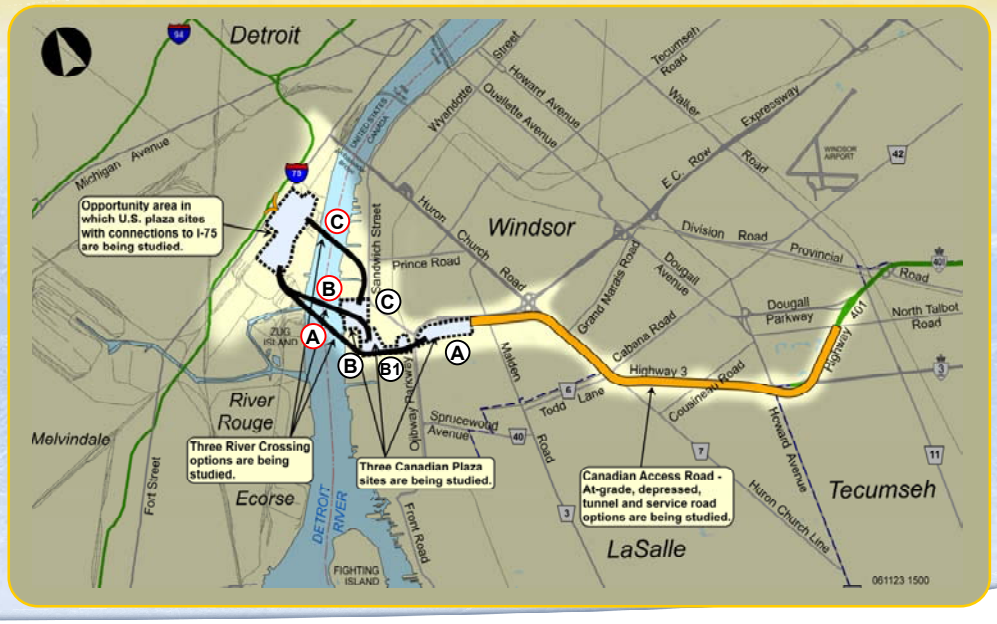
Detroit River INTERNATIONAL CROSSING STUDY

Practical Alternatives



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Detroit River INTERNATIONAL CROSSING STUDY

Summary of Analysis to Date

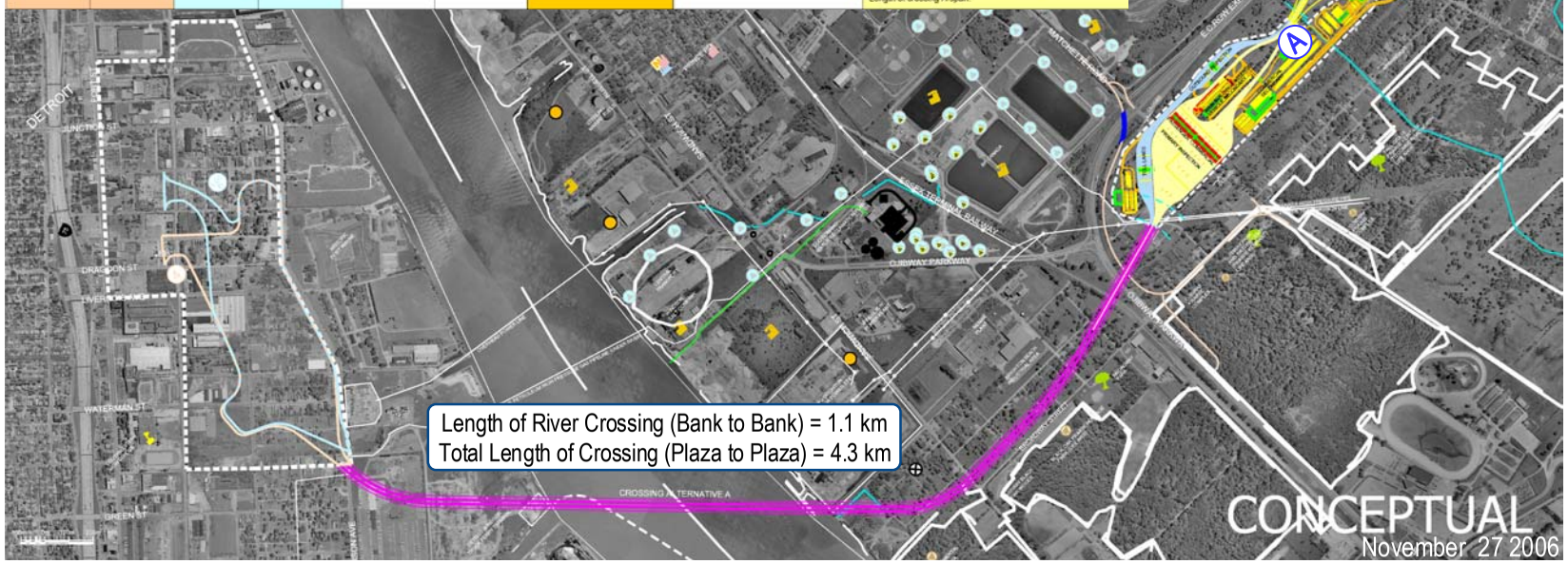
There is more work to do!

This Public Information Open House provides an overview of findings to date. The analysis will be completed in 2007, enabling the Partnership to identify a Technically and Environmentally Preferred Alternative.

Evaluation Factors	Analysis Work Completed	Additional Analysis Work Required
Changes in Air Quality	• Modeling of future conditions in progress for crossings, plazas and access roads • Two air quality monitoring stations installed on HCR/Hwy3	• Complete modelling and analysis • Additional analysis of alternatives, including modeling of interim future years (2015 and 2025) • Further refinement of traffic data, emissions and final QA/QC of results
Protection of Community & Neighbourhood Characteristics	• Surveyed households in ACA; Focus Groups Oct 2006; Traffic and access assessment in progress. • Noise & Vibration modeling of future conditions in progress • Surveyed retail and industrial operations in ACA	• Additional information on community features and characteristics • Assessment of the changes to noise levels associated with the tunnel alternative; assessment for all alternatives will be completed for the 2015 and 2025 traffic scenarios
Consistency with Existing & Planned Land Use	• Analysis of land use conducted for the practical access roads, plazas and crossing alternatives based on secondary sources and field reviews were also conducted to verify current land uses.	• Consultation with municipal planning staff and the local communities to more specifically identify land use impacts associated and mitigation
Protection of Cultural Resources	• Archaeological field work in progress; no substantive finds to date • Built heritage impact assessment underway	• Once the fieldwork is complete, the Stage 2 assessment report will be produced. • Stage 3 archaeological assessment (and possibly Stage 4 archaeological work. • Verification of the heritage significance of those features in the Area of Continued Analysis (research, field reviews, and interviews) • Confirm the location of the underground railway tunnel
Protection of Natural Environment	• Three-season field work completed; presence of endangered/at-risk species have been confirmed in ACA • Detroit River in-water investigation was conducted early in November	• Information collected from background sources and through field investigations will be compiled and used to compare practical alternatives. No further field investigations are planned at this time
Improvements to Regional Mobility	• Detailed Traffic Analysis to assess future conditions for each access road alternative ; assess travel demand at the crossings and plazas. • Interior Plaza modeling in progress	• Refine the access points, interchanges and cross-street intersection configurations • Determine operational improvements for plazas and crossings • Input to the bridge type study
Cost & Constructability	• Value Engineering Exercise • Tunnel Ventilation Requirements • In-progress analysis of bridge types (i.e. Cable-Stayed vs. Suspension) at each crossing location • Deep Borehole Program for international crossing alternatives • Access road foundations investigation program • Conceptual construction staging for each access road alternative • Preliminary Cost estimates, plazas and access roads • Storm water management investigations	• Foundations - Additional Soil Testing along Corridor • Structural - Refine Overpass, Retaining Wall and Tunnel Design and Construction Methods; Assess bridge type options • Tunnel - Develop Concepts for Ventilation Buildings, EMS, etc. • Utilities - Relocation Strategies • Cost Estimates, including Operating Systems • Safety Review • Assess Constructability

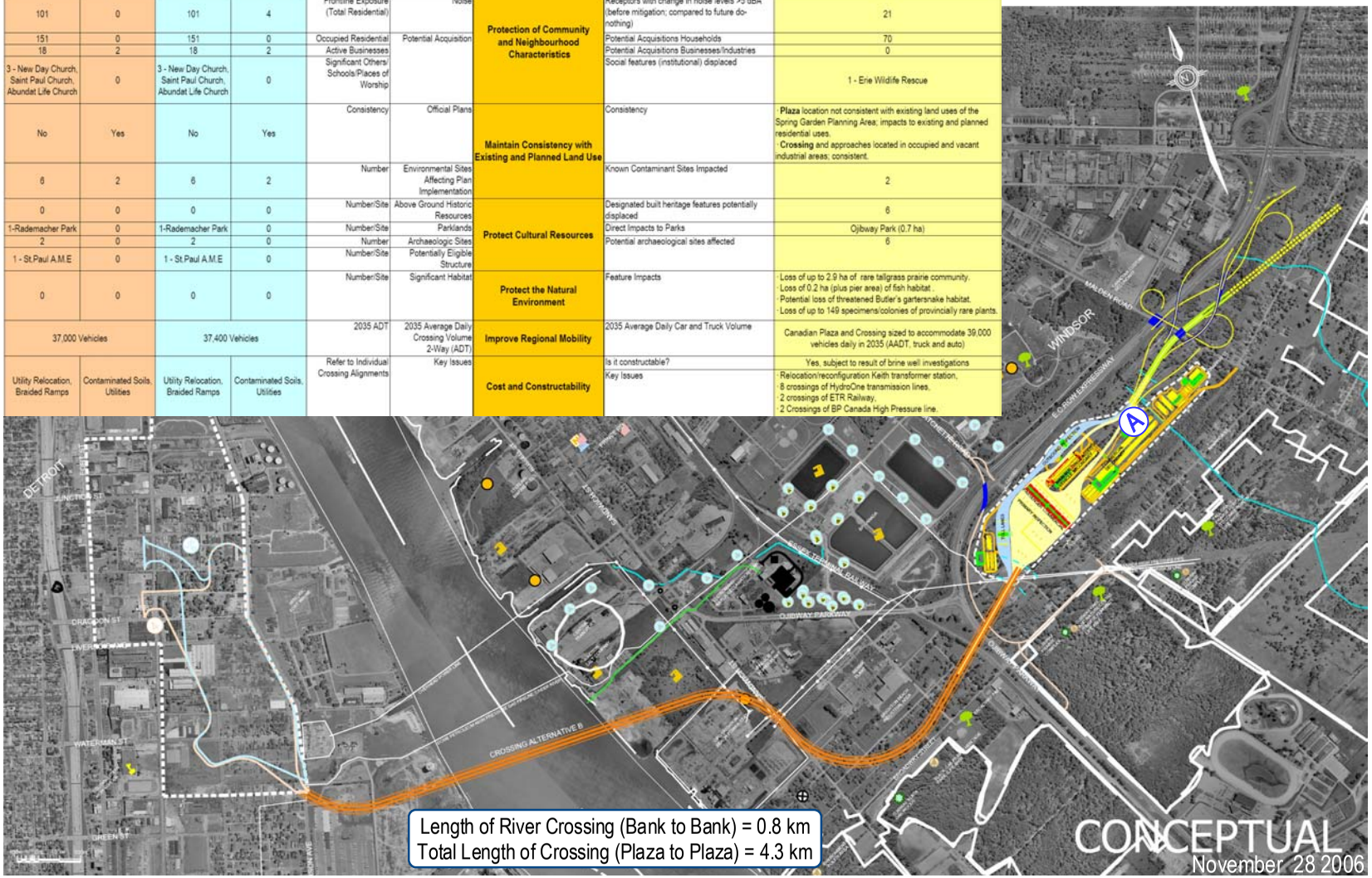
US Plaza – Crossing A – Plaza A
Preliminary Analysis Summary

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	Preliminary Assessment (subject to additional modelling)	Increases in $PM_{2.5}$ and NO_x in vicinity of crossing and approach roadway as well as plaza.
14	0	14	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/closed	7/7
101	0	101	4	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (before mitigation; compared to future do-nothing)	21
151	0	151	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	67
18	3	18	3	Active Businesses			Potential Acquisitions Businesses/Industries	0
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	6
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	6
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 up to 2.9 ha of rare tallgrass prairie community. · Loss of 0.2 ha (plus pier area) of fish habitat . · Potential loss of threatened Butler's gartersnake habitat. · Loss of up to 149 specimens/colonies of provincially rare plants.
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, · 2 crossings of HydroOne Power transmission lines, · 2 grade separated crossings of ETR Railway, · 2 crossings of BP Canada High Pressure line. · Length of crossing A span.



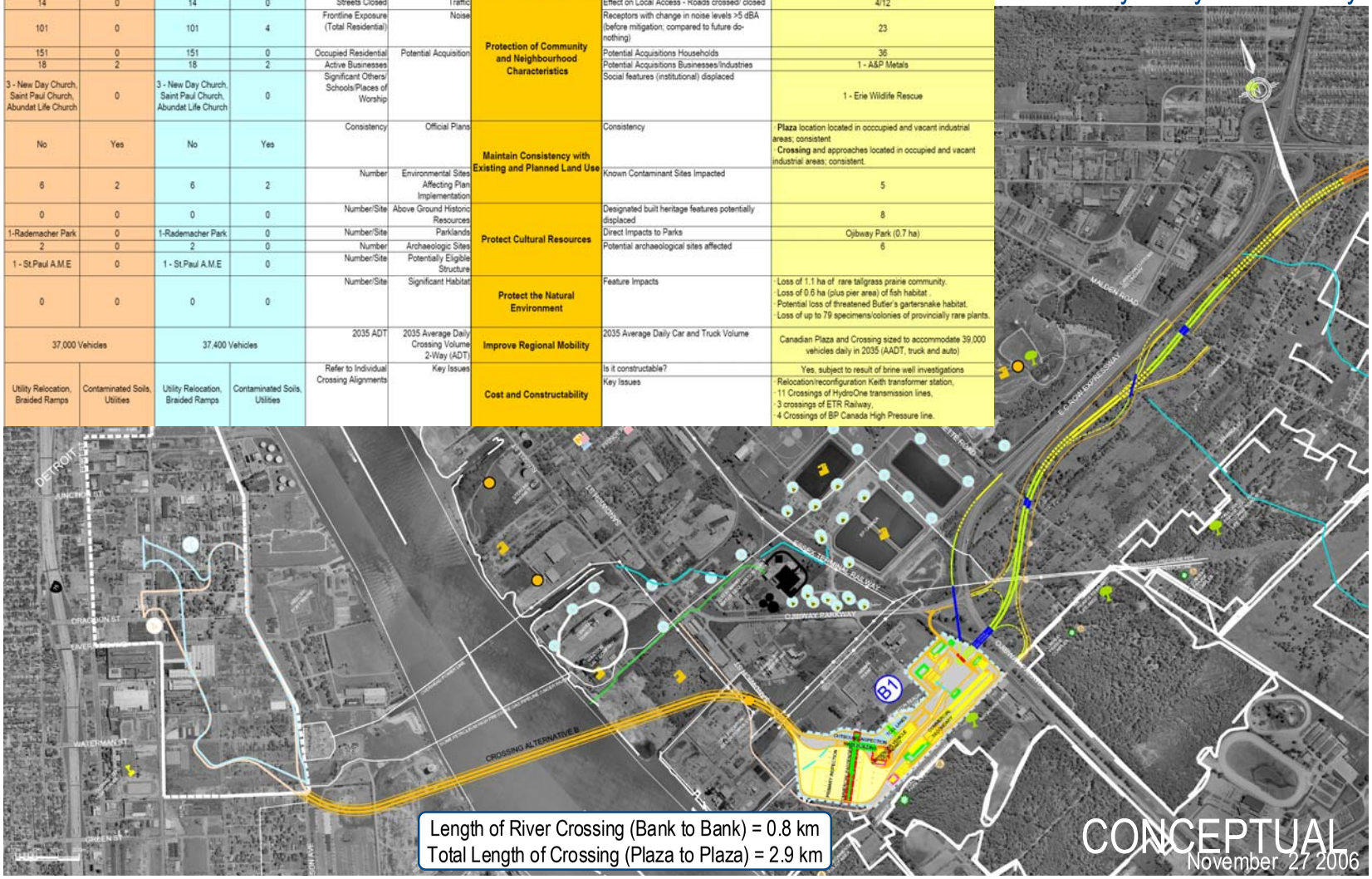
US Plaza – Crossing B – Plaza A Preliminary Analysis Summary

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	Preliminary Assessment (subject to additional modelling)	Increases in $PM_{2.5}$ and NO_2 in vicinity of crossing and approach roadway as well as plaza.
14	0	14	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	4/9
101	0	101	4	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (before mitigation; compared to future do-nothing)	21
151	0	151	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	70
18	2	18	2	Active Businesses			Potential Acquisitions Businesses/Industries	0
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	6
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	6
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 up to 2.9 ha of rare tallgrass prairie community. · Loss of 0.2 ha (plus pier area) of fish habitat. · Potential loss of threatened Butler's gartersnake habitat. · Loss of up to 149 specimens/colonies of provincially rare plants.
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, · 8 crossings of HydroOne transmission lines, · 2 crossings of ETR Railway, · 2 Crossings of BP Canada High Pressure line.



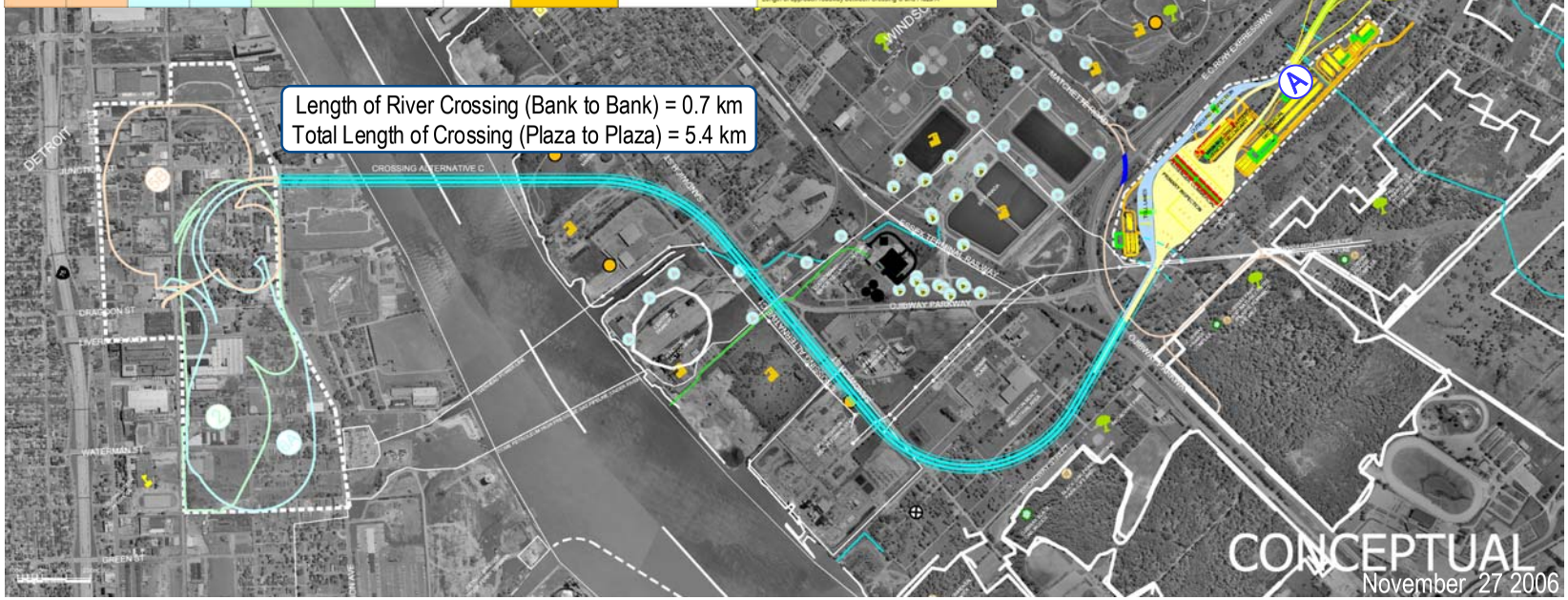
US Plaza – Crossing B – Plaza B1
Preliminary Analysis Summary

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	Preliminary Assessment (subject to additional modelling)	Increases in $PM_{2.5}$ and NO_2 in vicinity of crossing and approach roadway as well as plaza.
14	0	14	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	4/12
101	0	101	4	Frontline Exposure (Total Residential)	Noise		Receptors with change in noise levels >5 dBA (before mitigation; compared to future do-nothing)	23
151	0	151	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	36
18	2	18	2	Active Businesses			Potential Acquisitions Businesses/Industries	1 - A&P Metals
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	8
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	6
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 1.1 ha of rare tallgrass prairie community. · Loss of 0.6 ha (plus pier area) of fish habitat . · Potential loss of threatened Butler's gartersnake habitat. · Loss of up to 79 specimens/colonies of provincially rare plants.
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.



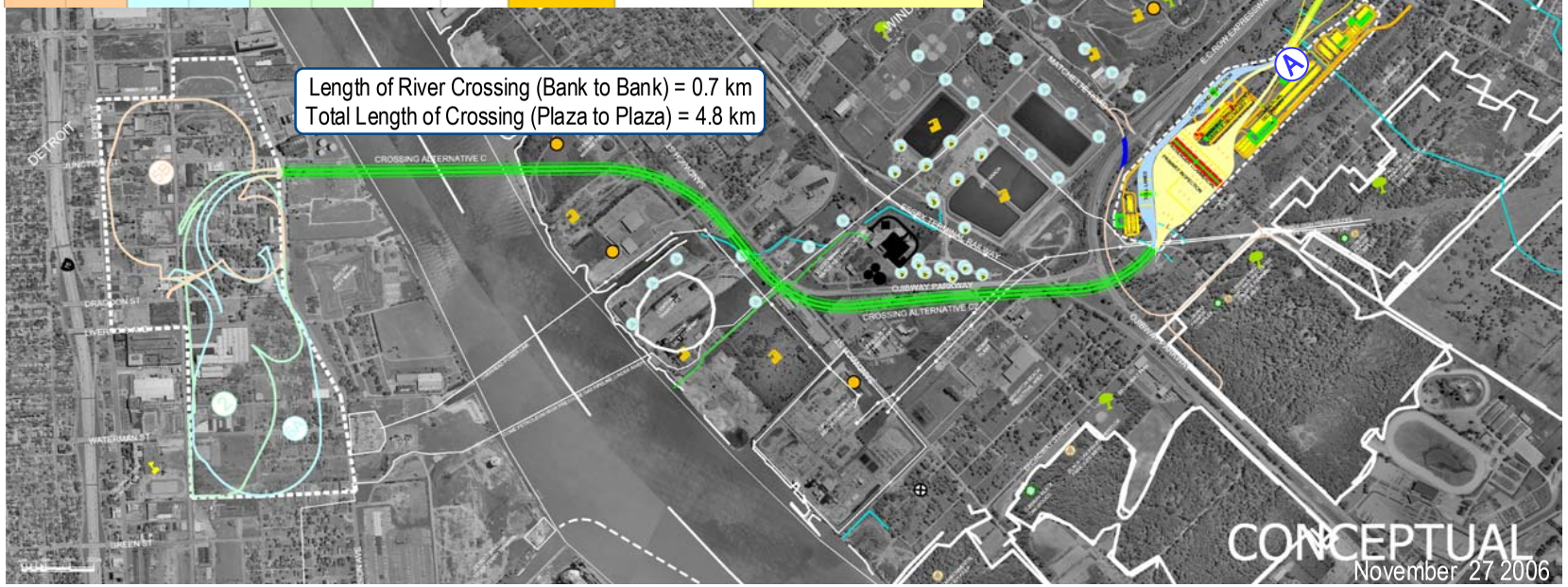
US Plaza – Crossing C (via Brighton Beach) – Plaza A Preliminary Analysis Summary

US Analysis									CDN Analysis	
Plaza 5B	Crossing C	Plaza 6A	Crossing C	Plaza 2	Crossing C	Measure		Evaluation Factor	Measure	Crossing C - Plaza A (via Brighton Beach Industrial Area)
Refer to Graphic		Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Preliminary Assessment (subject to additional modelling)	Increases in $PM_{2.5}$ and NO_2 in vicinity of crossing and approach roadway as well as 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
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)	180
113	0	168	16	160	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	72
26	0	18	3	22	0	Active Businesses			Potential Acquisitions Businesses/Industries	9-Sterling Marine Fuels, K Scrap, Vollmer & Associates, Trucking Operation, Central Transport, OLCO, The Auto Shop, Sure Seal, Prism-Berlie
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	11
0	0	1	1	1	1	Number/Site	Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	8
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	6
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 up to 2.9 ha of rare tallgrass prairie community. Loss of 0.2 ha (plus pier area) of fish habitat. Potential loss of threatened Butler's gartersnake habitat. Loss of up to 149 specimens/colonies of provincially rare plants.
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 Crossing of outlet pipe from Lou Romano Water Reclamation Plant. 6 Crossings of HydroOne Transmission lines 2 Grade separated crossing of ETR Railway. 4 Crossings of BP Canada High Pressure Pipe. Length of approach roadway between Crossing C and Plaza A



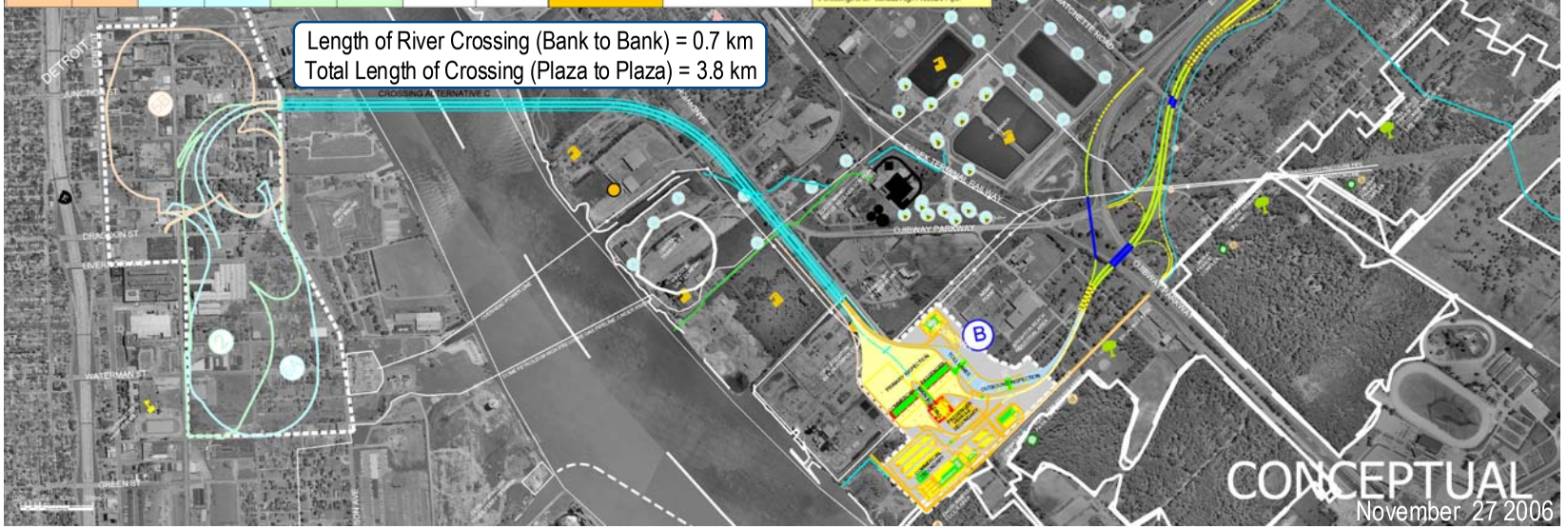
US Plaza – Crossing C (via Ojibway Parkway) – Plaza A Preliminary Analysis Summary

US Analysis								Evaluation Factor	CDN Analysis	
Plaza 5B	Crossing C	Plaza 6A	Crossing C	Plaza 2	Crossing C	Measure			Measure	Crossing C - Plaza A (via Ojibway Parkway)
Refer to Graphic		Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Preliminary Assessment (subject to additional modelling)	Increases in $PM_{2.5}$ and NO_2 in vicinity of crossing and approach roadway as well as 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
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)	180
113	0	168	16	160	0	Occupied Residential/ Active Businesses	Potential Acquisition		Potential Acquisitions Households	67
26	0	18	3	22	0				Potential Acquisitions Businesses/Industries	9-Sterling Marine Fuels, K Scrap, Vollmer & Associates, Trucking Operation, Central Transport, OLCO, The Auto Shop, Sure Seal, Prism-Berlie
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	2
0	0	1	1	1	1	Number/Site	Above Ground Historic Resources	Protect Cultural Resources	Designated built heritage features potentially displaced	8
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	6
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 up to 2.9 ha of rare tallgrass prairie community. Loss of 0.2 ha (plus pier area) of fish habitat. Potential loss of threatened Butler's gartersnake habitat. Loss of up to 149 specimens/colonies of provincially rare plants.
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 Crossing of outlet pipe from Lou Romano Water Reclamation Plant. 6 Crossings of HydroOne Transmission lines. 2 Grade separated crossing of ETR Railway. 4 Crossings of BP Canada High Pressure Pipe. Length of approach roadway between Crossing C and Plaza A



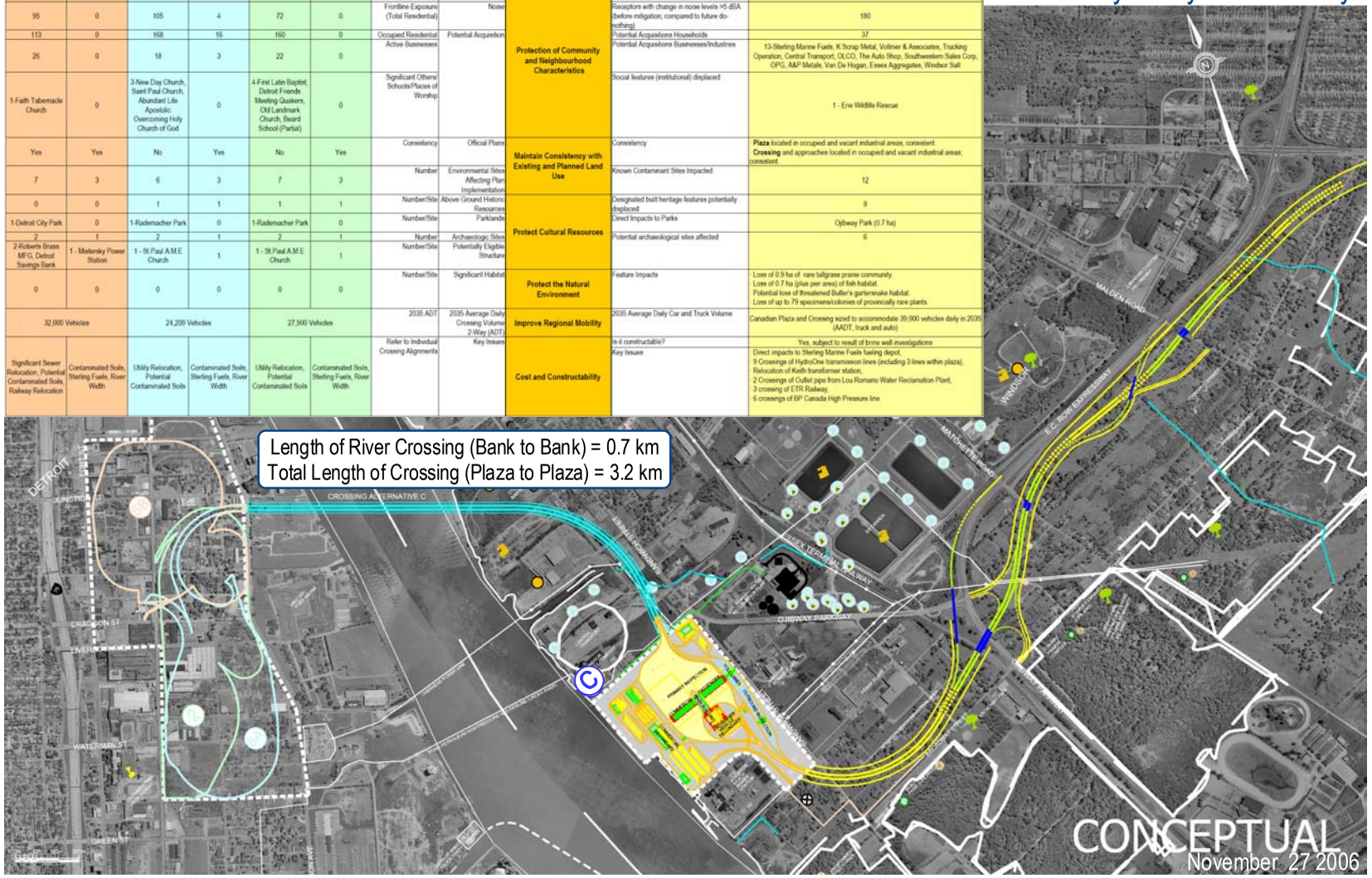
US Plaza – Crossing C – Plaza B Preliminary Analysis Summary

US Analysis						Measure		Evaluation Factor	CDN Analysis	
Plaza 5B	Crossing C	Plaza 6A	Crossing C	Plaza 2	Crossing C				Measure	Crossing C - Plaza B
Refer to Graphic		Refer to Graphic		Refer to Graphic		CO Concentration Hotspots		Changes in Air Quality	Preliminary Assessment (subject to additional modelling)	Increases in $PM_{2.5}$ and NO_2 in vicinity of crossing and approach roadway as well as 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
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)	180
113	0	168	16	160	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	38
26	0	18	3	22	0	Active Businesses			Potential Acquisitions Businesses/Industries	9-Sterling Marine Fuels, K Scrap, Vollmer & Associates, Trucking Operation, Central Transport, OLCO, The Auto Shop, Sure Seal, A&P Metals
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	9
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	6
2-Roberts Brass MFG, Detroit Savings Bank	1 - Metersky 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	Encroachment of Black Oak Woods ANSI Loss of up to 1.4 ha of rare tallgrass prairie community Loss of up to 0.4 ha (plus per area) of fish habitat. Potential loss of threatened Butler's gartersnake habitat. Loss of up to 79 specimens/colonies of provincially rare plants.
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 fueling depot, 2 Crossing of outlet pipe from Lou Romano Water Reclamation Plant, Relocation/reconfiguration of Keith transformer station, 7 Crossings of HydroOne Power transmission lines, 3 Grade separated crossings of ETR Railway, 6 Crossings of BP Canada High Pressure Pipe.



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	Preliminary Assessment (subject to additional modelling)	Increases in $PM_{2.5}$ and NO_x in vicinity of crossing and approach roadway as well as plaza
14	0	17	4	17	0	Streets Closed	Traffic	Protection of Community and Neighbourhood Characteristics	Effect on Local Access - Roads crossed/ closed	13/5
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)	180
113	0	168	16	160	0	Occupied Residential	Potential Acquisition		Potential Acquisitions Households	37
26	0	18	3	22	0	Active Businesses			Potential Acquisitions Businesses/Industries	13-Sterling Marine Fuels, K Scrap Metal, Vollmer & Associates, Trucking Operation, Central Transport, OLCO, The Auto Shop, Southwestern Sales Corp, OPG, A&P Metals, Van De Hogan, Essex Aggregates, Windsor Salt
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	9
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	6
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 0.9 ha of rare tallgrass prairie community. Loss of 0.7 ha (plus per area) of fish habitat. Potential loss of threatened Butler's gartersnake habitat. Loss of up to 79 specimens/colonies of provincially rare plants.
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)
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 fueling depot, 9 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 crossing of ETR Railway, 6 crossings of BP Canada High Pressure line.



Detroit River
INTERNATIONAL CROSSING
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US Plaza Alternatives

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Detroit River
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US Plaza Alternatives

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CORRADINO URS

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US Plaza Alternatives

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Detroit River
INTERNATIONAL CROSSING
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Route Summary

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 depressed.		 Six-lane freeway at grade, along side Huron Church/Highway 3.		 Six-lane freeway depressed, 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)	• Concentrations of Volatile Organic Compounds (VOC's) predicted to be well below provincial standards • Predicted concentrations of NOx associated with the alternatives are lower in the future compared to today's values due to changes in fuels and vehicle technologies • Depressed roadway sections result in lower concentrations of $PM_{2.5}$ and NO_X in vicinity of ROW compared to at grade alternatives • Tunnel results in lower concentrations of $PM_{2.5}$ in vicinity of ROW compared to at grade alternatives, but NO_X concentrations increase over a broader area compared to at grade alternatives (greater dispersion from ventilation stacks)								
Protection of Community and Neighbourhood Characteristics									
Potential Acquisitions									
Residences	• 150-190	• 145-185	• 150-190	• 150-190	• 175-210	• 160-200	• 170-205	• 160-200	• 125-175
Businesses	• 30	• 45	• 30	• 45	• 25	• 40	• 25	• 40	• 44
Community Features Potentially Displaced	3 (Royal Canadian Legion, Heritage Park Alliance Church, Erie Wildlife Rescue)								
Noise Receptors with >5 dB increase (before mitigation)	• 90 +/-	• 50 +/-	• 40 +/-	• 40 +/-	• 140 +/-	• 90 +/-	• 60 +/-	• 60 +/-	• To be determined
Effect on Access	• 10 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;		• 12 road closings • 15 local access connections to new transportation facility • Partial access to/from the new corridor from/to Cabana Road/Todd Lane; No access to Howard Avenue from Highway 401 Eastbound		• 14 road closings • 14 local access connections to new transportation facility • Full access to/from the new corridor from/to Cabana Road/Todd Lane; Access to Howard Avenue from Highway 401 Eastbound	• 15 road closings • 7 local access connections to new transportation facility • Full access to/from the new corridor from/to Cabana Road/Todd Lane; Access to Howard Avenue from Highway 401 Eastbound	• 13 road closings • 10 local access connections to new transportation facility • Full access to/from the new corridor from/to Cabana Road/Todd Lane; Access to Howard Avenue from Highway 401 Eastbound	• 14 road closings • 11 local access connection to new transportation facility • Full access to/from the new corridor from/to Cabana Road/Todd Lane; Access to Howard Avenue from Highway 401 Eastbound	• 8 road closings • 13 local access connections to new transportation facility • No access to/from Cabana Lane/Todd Lane; No access to Howard Avenue from Highway 401 Eastbound
Consistency with Existing & Planned Land Use									
	All alternatives make use of Huron Church Road/Highway 3 Corridor (major roadway, historical connection to border crossing); localized land use impacts with all alternatives Proposed route is consistent with local Official Plans Impacts to existing residential, commercial and vacant lands zoned commercial/residential with all alternatives								
Protection of Cultural Resources									
Built Heritage Features	All access road alternatives potentially displace nine built heritage features								
Parks	All alternatives impact 6 parks (Bellewood Park, Aboriginal (Indian) Memorial Park, Beals Park (Oakwood Bush), Veteran's Memorial Park, St. Clair College Athletic Field, Matthew Rodzick Park)								
Archaeology	No known sites of high to moderate significance are impacted; no notable difference among the alternatives in terms of potential to disturb archaeological features								

PRELIMINARY

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

Detroit River
INTERNATIONAL CROSSING
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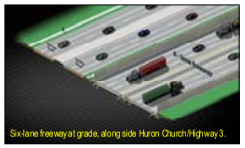
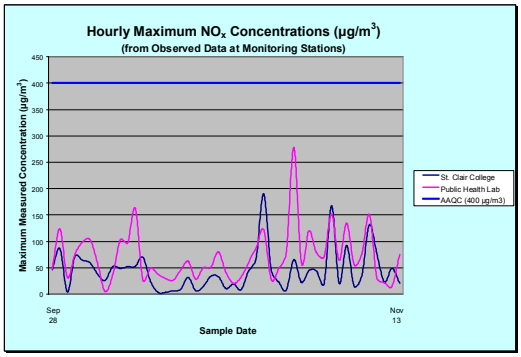
Route Summary

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 depressed.		 Six-lane freeway at grade, along side Huron Church Highway 3.		 Six-lane freeway depressed, 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)	
Protection of Natural Environment									
Fish and Fish Habitat	No critical fish habitat identified for any access road alternatives								
Plant/Vegetation Species	• 0.38 ha to 0.82 ha of tallgrass prairie impacted	• 0.49 ha to 0.92 ha of tallgrass prairie impacted	• 0.43 ha to 0.86 ha of tallgrass prairie and deciduous swamp impacted	• 0.55 ha to 0.84 ha of tallgrass prairie and deciduous swamp impacted	• 1.54 ha to 1.98 ha of tallgrass prairie and deciduous swamp impacted	• 1.54 ha to 1.98 ha of tall grass prairie and deciduous swamp impacted	• 0.92 ha to 1.36 ha of tall grass prairie and deciduous swamp with impacted	• 0.92 ha to 1.36 ha of tallgrass prairie and deciduous swamp impacted	• 0.48 ha to 0.87 ha of tallgrass prairie impacted
Wildlife Species and Habitat	• 70 to 129 specimens/colonies of provincially rare plants impacted	• 60 to 149 specimens/colonies of provincially rare plants impacted	• 70 to 139 specimens/colonies of provincially rare plants impacted	• 60 to 149 specimens/colonies of provincially rare plants with Plaza A connection	• 80 to 159 specimens/colonies of provincially rare plants impacted	• 120 to 159 specimens/colonies of provincially rare plants with Plaza B or C	• 70 to 139 specimens/colonies of provincially rare plants impacted	• 70 to 139 specimens/colonies of provincially rare plants impacted A	• 70 to 139 specimens/colonies of provincially rare plants impacted
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	• Safety of controlled access freeway for access road is greatly increased compared to present arterial roadway with signalized intersections and other entrances/conflict points • Elements of tunnel driving that negatively effect 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 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. • The consequences of a crash in a tunnel are greatly increased over those on an open road, however the frequency of a catastrophic event are low, and the occurrence of general traffic crashes (on a tunneled freeway) is marginally less than on an open road. • The crash risk near the portals of the tunnel is higher than elsewhere within the tunnel • All practical alternatives will provide substantial travel time savings for local traffic when compared to the "do nothing" alternative • All of the service road alternatives provide increased local and regional mobility over the "do nothing" alternative								
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 Construction Cost ($CAD)	$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 Issues	• Traffic management during construction • Utility relocations • Watercourse crossings		• Traffic management during construction • Utility relocations • Watercourse crossings • The high water table and relatively poor ground conditions, particularly towards the north and west ends of the project, complicate access road construction. These problems increase with the depth of construction.		• Traffic management during construction • Utility relocations • Watercourse crossings		• Traffic management during construction • Utility relocations • Watercourse crossings • The high water table and relatively poor ground conditions, particularly towards the north and west ends of the project, complicate access road construction. These problems increase with the depth of construction		• Traffic management during construction • Utility relocations • Watercourse crossings • Construction of the tunnel alternative is more complex and more intense than other alternatives due to the necessity to build the tunnel box, ventilation, electrical and communication systems
Parks	All alternatives impact 6 parks (Bellewood Park, Aboriginal (Indian) Memorial Park, Beals Park (Oakwood Bush), Veteran's Memorial Park, St. Clair College Athletic Field, Matthew Rodzick Park)								
Archaeology	No known sites of high to moderate significance are impacted; no notable difference among the alternatives in terms of potential to disturb archaeological features								

PRELIMINARY

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

Ambient Air Monitoring – Preliminary Results (October 2006)



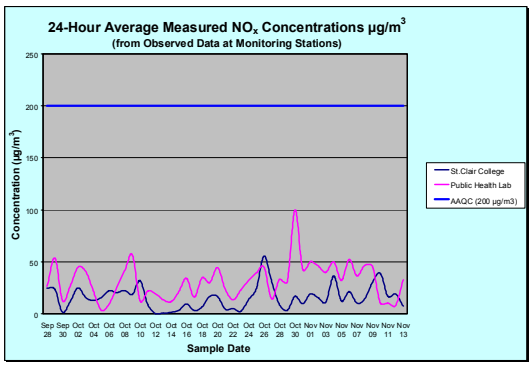
NO_x Results

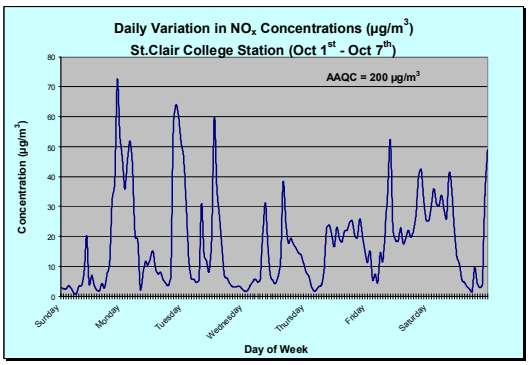
- Two ambient air monitoring stations installed in Huron Church / Highway 3 corridor
- adjacent to Ontario Public Health Laboratory and across from entrance to St.Clair College
- Measuring PM10, PM2.5, NOx, VOCs and weather

- Measured NOX concentrations are within the expected range
- Concentrations at both stations are slightly elevated in comparison to MOE monitoring stations.
- No observed exceedances of the 1-hour MOE Ambient Air Quality Criterion (AAQC) for NOx (400 ug/m3)

Detroit River INTERNATIONAL CROSSING STUDY

Air Quality Assessment





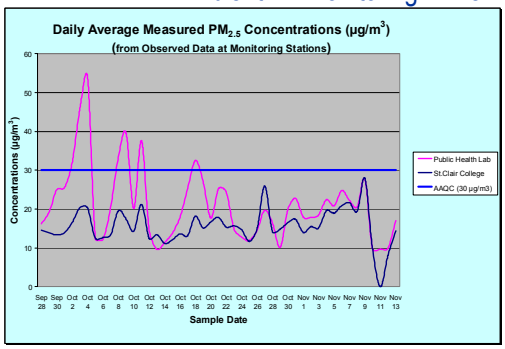
NO_x Results

- No observed exceedances of the 24-hour MOE Ambient Air Quality Criterion (AAQC) for NOx (200 ug/m3)
- Average concentration is slightly higher at the OPHL site in comparison to the SCC site

- NOX concentrations were generally elevated during the morning and afternoon rush hour periods, but remained well below MOE criteria

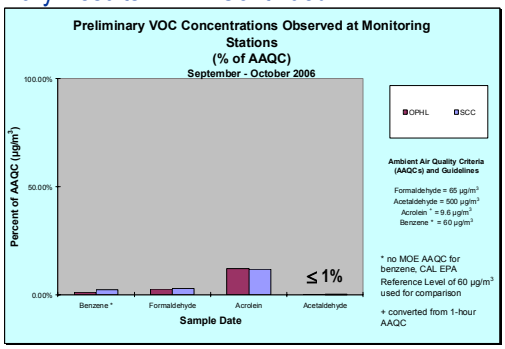
Canada Federal Highway Administration Ontario MDOT URS

Ambient Air Monitoring – Preliminary Results ……Continued



PM2..5 Results

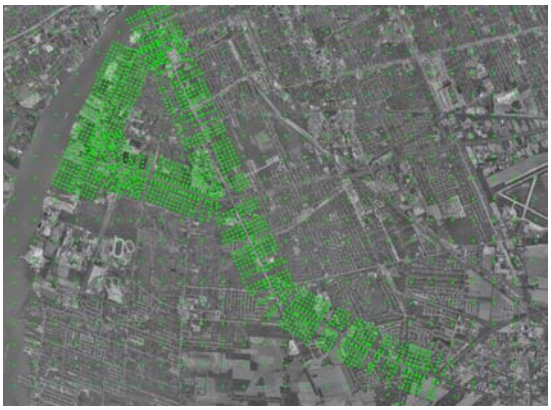
- Measured PM2.5 concentrations are within the expected range
- Concentrations at both stations are slightly elevated in comparison to MOE monitoring stations.
- 7 observed exceedances of the CCME Canada Wide Standard (CWS) of 30ug/m3 at the OPHL site.
- Average concentration is slightly higher at the OPHL site in comparison to the SCC site
- There were no measured exceedances of the CWS at the SCC site



VOC Results

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

Air Dispersion Modelling – Preliminary Results

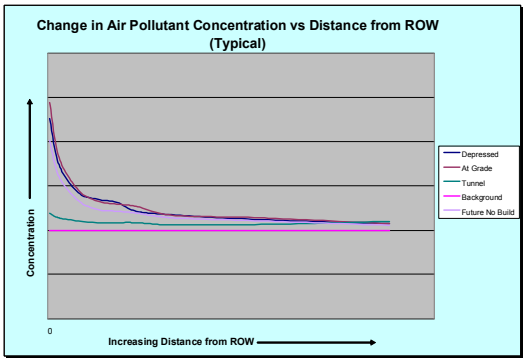


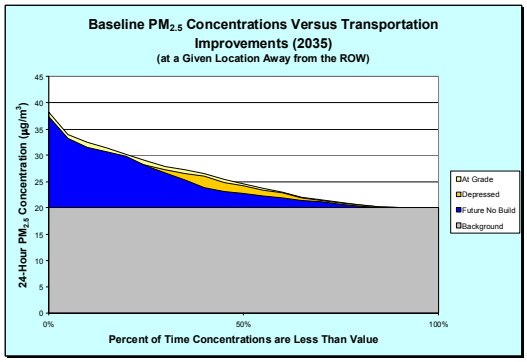
- Modelling is used to assess the impact of future changes
- implementation of alternatives
- changes in fuels, vehicle technologies and traffic volumes
- CAL3QHCR air dispersion model was used for each of the alternatives
  - Connecting route, Plazas, Crossings

- Model is specifically designed for roads and highways
  - Moving vehicles assessed differently from queued, idling vehicles
  - "at grade" sources assessed differently than depressed and bridge sources
  - Model is also appropriate for slowly moving (creeping) vehicles such as those in parking lots and customs plazas
- Results are PRELIMINARY, the analysis is still ongoing
  - results are subject to refinement of alternatives and model inputs
- results do not incorporate mitigation measures
- Model results were produced at almost 2500 receptor locations
  - a fine grid close to the alternatives
- a coarser grid farther away
- Model results were also determined at various "sensitive receptor" locations
  - schools, places of worship, parks, etc.

Air Quality Assessment

Air Dispersion Modelling – Preliminary Results





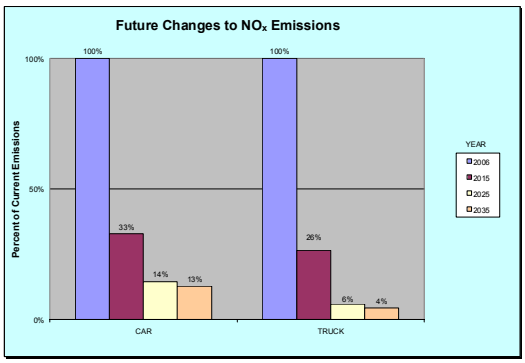
- Concentrations decrease moving away from the Right-of-Way(ROW) for all Alternatives
- Results are similar for depressed and at grade Alternatives
- Concentrations are slightly less for depressed alternatives at a given distance from the ROW compared to at grade
- Tunnel shows least change in concentration with distance compared to other alternatives
- Concentrations increase slightly at farther distances from the ROW

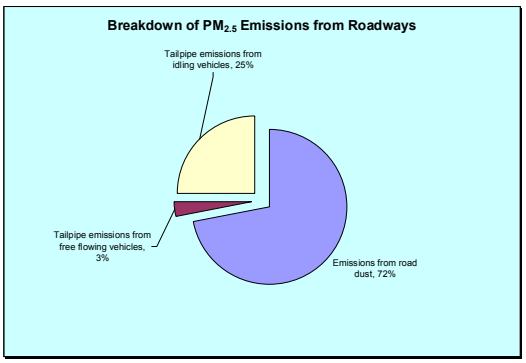
- Most of the time PM2.5 concentrations are dominated by future baseline / background conditions
- Transportation improvements show only slight increases in PM2.5 concentrations compared to future baseline (i.e. no build) conditions

Detroit River INTERNATIONAL CROSSING S T U D Y

Air Quality Assessment

Air Dispersion Modelling – Preliminary Results …Continued





- NOx emissions from cars and heavy trucks will decrease dramatically due to changes in fuels and improvements in vehicle and engine technologies over the next 20 years
- Tailpipe fraction of PM2.5 will also decrease (not shown

- PM2.5 emissions from roads are comprised of two fractions: road dust and tailpipe emissions
- Road dust is the largest contributor
- Idling vehicles emit more PM2.5 than free flowing vehicles

Key Modeling Parameters used in the Analysis of Traffic Noise

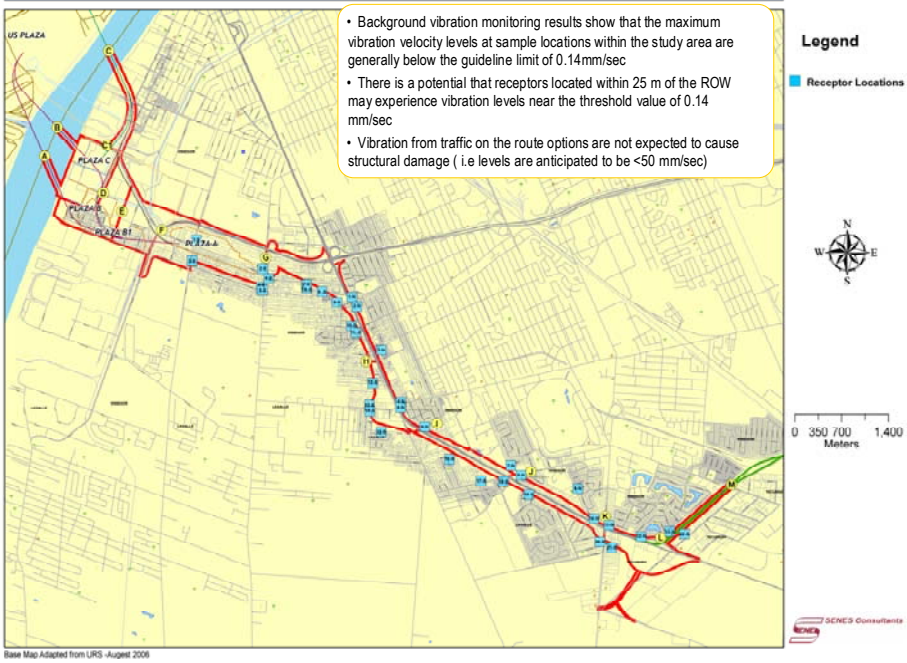
Key Modeling Parameters used in the Analysis of Traffic Noise:

- Annual Average Daily Traffic (AADT)
- Volume of automobiles, medium trucks and heavy trucks;
- Percentage split between daytime (07:00 – 23:00) and nighttime (23:00 – 07:00) traffic; and
- Posted speed limit

Results to date:

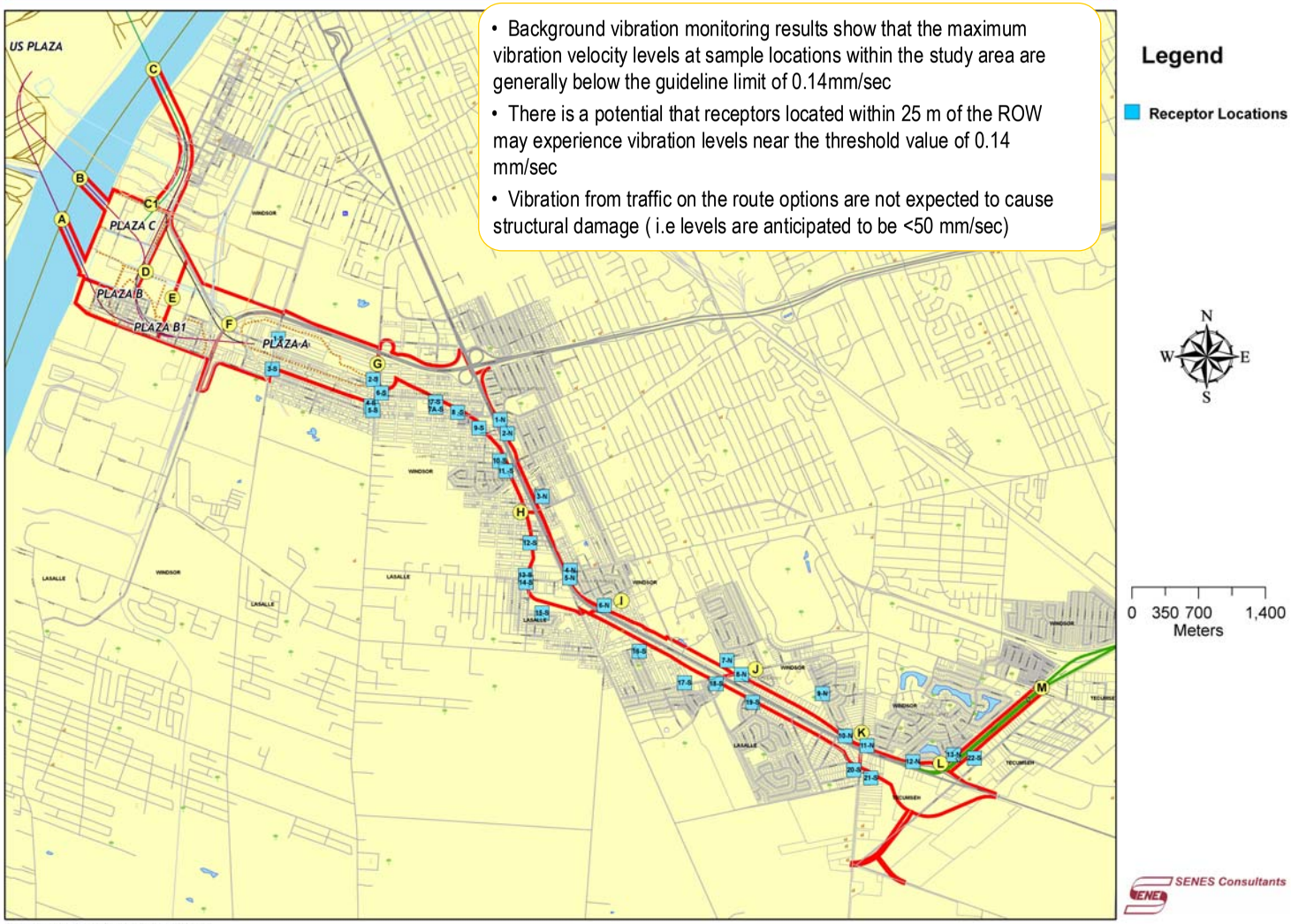
- In general, in comparison with at-grade alternatives (1A and 2A), depressed alternatives (1B and 2B) seem to generate lower noise levels at the receptor locations
- Alternative 2B had the least occurrences where the project sound levels exceeded the background sound levels by greater than 5 dB
- In cases along the access roads where receptors were estimated to receive greater than 5 dB increase in sound levels, additional assessment was undertaken
- For each segment where such exceedance as predicted, the effect of a 5m (16 ft) high noise barrier was estimated for either the receptor with the highest estimated exceedance, or the area within the segment with the highest cluster of homes
- Receptors along the crossing approach roadway from Matchette Road to Malden Road, which connects Plaza B, B1 and C are likely to experience a high noise impact from all access road alternatives; the effectiveness of implementing noise mitigation measures in this area is currently being assessed
- Noise from the plaza locations will not result in significant noise level increases at the receptors closest to the plazas

Receptor Locations for Noise Modeling

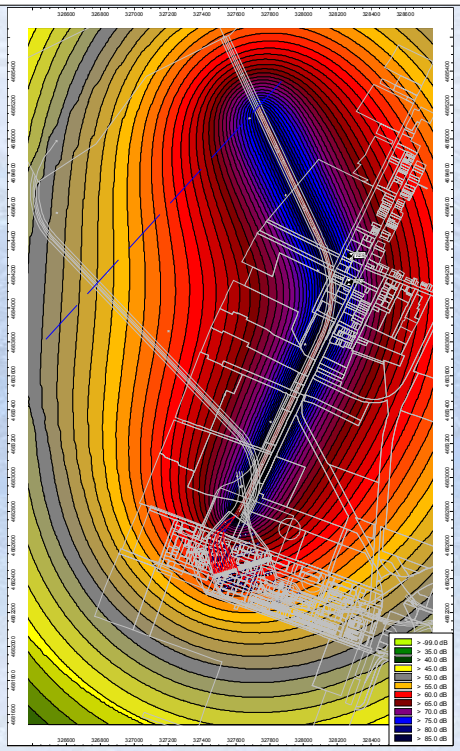


Receptor Locations for Noise Modeling

- Background vibration monitoring results show that the maximum vibration velocity levels at sample locations within the study area are generally below the guideline limit of 0.14mm/sec
- There is a potential that receptors located within 25 m of the ROW may experience vibration levels near the threshold value of 0.14 mm/sec
- Vibration from traffic on the route options are not expected to cause structural damage (i.e levels are anticipated to be <50 mm/sec)

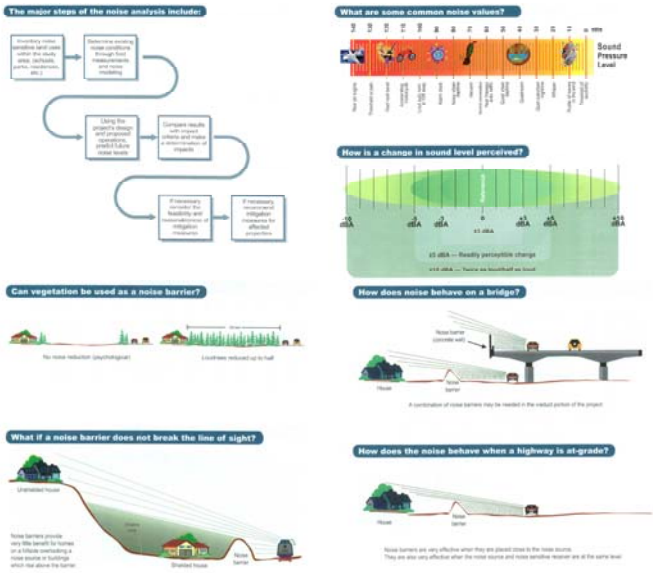


Base Map Adapted from URS -Augest 2006

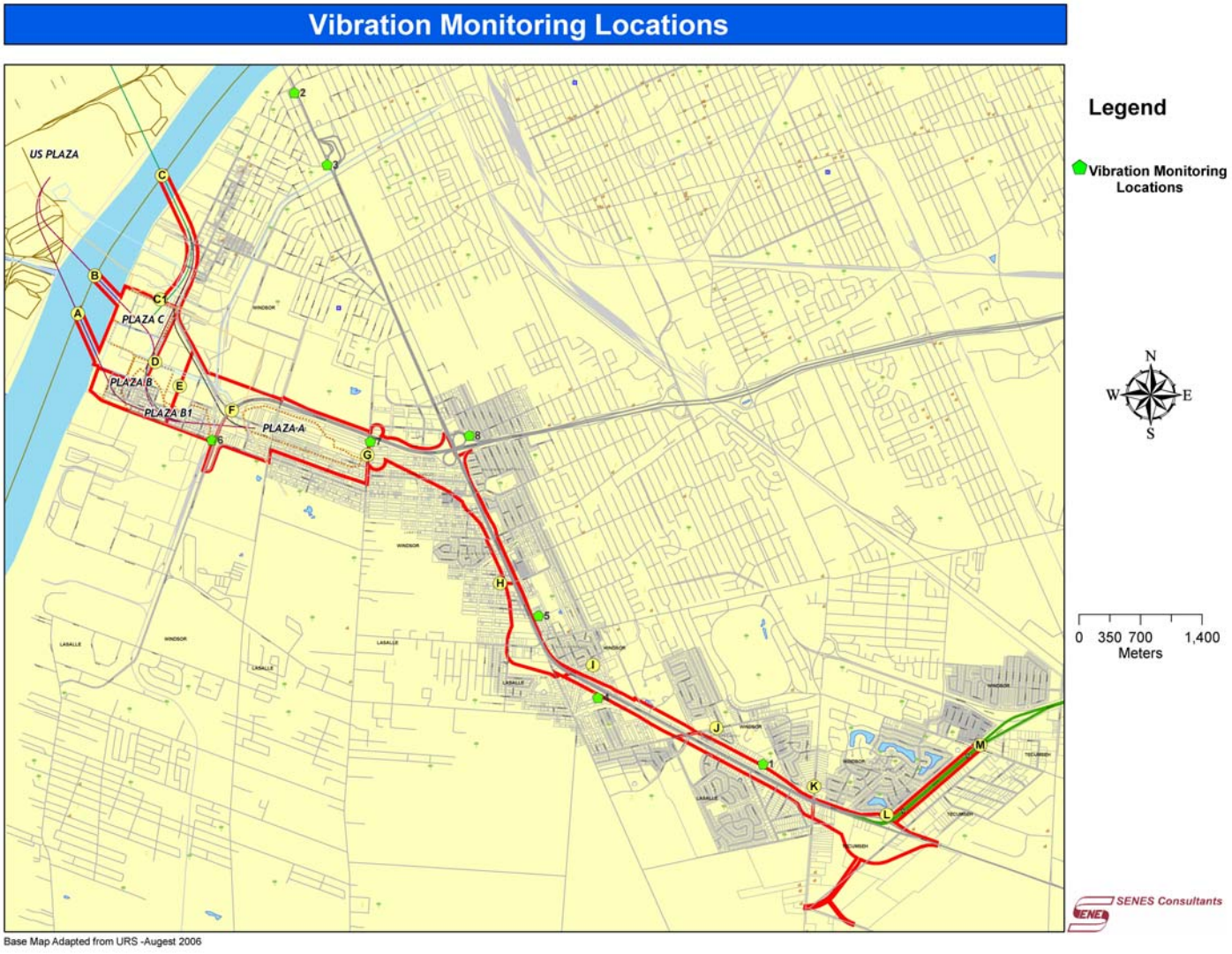


Sample Cadna-a Noise Model for Plaza B1 – Crossing C

What is Traffic Noise & How is it Studied?



Community - Vibration



Community - Social Impact Assessment

Households Potentially Displaced: Characteristics

- 37.5% of respondents lived in their home <5 yrs; 26.9 % lived in their home between 11 and 30 years
- Households with children under 18 represent 32% of total households;
- Households with adults over 65 years of age account for 26% of total households

Social Features Potentially Displaced

- 3 potentially along the access route alternatives: uses relate to religious functions, community outreach, recreation and leisure

Households Disrupted

- Both short term (during construction) and long term (post-construction) may be experienced. This assessment considers the results of noise and vibration, air and traffic, and limitations in access to properties

Social Features Disrupted

- Both short term and long term may be experienced
- Features within close proximity to one or more of the practical alternatives include parks, recreation fields and facilities, schools, places of worship, and a cemetery

Community - Economics

Purpose of the Economic Impact Analysis
- -identify potential positive and negative effects on the local and regional economy
- -Focus on the effects on businesses along or close to the access route and at the plazas
- -Analysis based on surveys of businesses, direct discussions, field work and map and property data

Retail Area along Huron Church Road, north of EC Row
- -No direct impact from the access route or crossing
- -potential positive and negative indirect impacts from reduce traffic. Some loss of business is expected by those relying on cross-border and truck traffic. Reduced truck traffic will make Huron Church Road a more attractive location for local consumers.

Overall, long-term effects on total business activity are not expected to be large in this area.

Retail Area along Talbot Road-Huron Church Road
- -approximately 83 businesses: mostly highway-oriented, such as restaurants, accommodation, retail and gas stations
- -Over 30% of businesses here would be displaced regardless of the option; some others would be adversely affected by a reduction in traffic access or visibility

Effects vary according to route alternative:
- -tunnel is least preferred, displacing over 50% businesses as well as significant reduction in highway access and visibility for the remaining businesses
- -at-grade with service roads (option 2A) is preferred since it displaces fewest businesses; it maximizes access and visibility for the remaining businesses

Industrial Area west of Huron Church Road
- -Businesses in this area are some of Windsor's largest employers
- -Direct effect of access route on business activity is minimal
- -Plaza A and Crossing A would have little effect on businesses. Crossing C has the greatest impact; it has the potential to displace up to 100 jobs
- -Area businesses relying on truck access, especially cross-border trucks, will benefit from improved accessibility

Economic Impacts in the Greater Windsor Area
- -Regional economic impacts, beyond the ACA are mostly positive
- -The industrial business climate will improve as a result of less local traffic congestion and improved goods movement

Commercial business, including tourism, will experience benefits as a result of reduced congestion and increased travel in the region.

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Land Use

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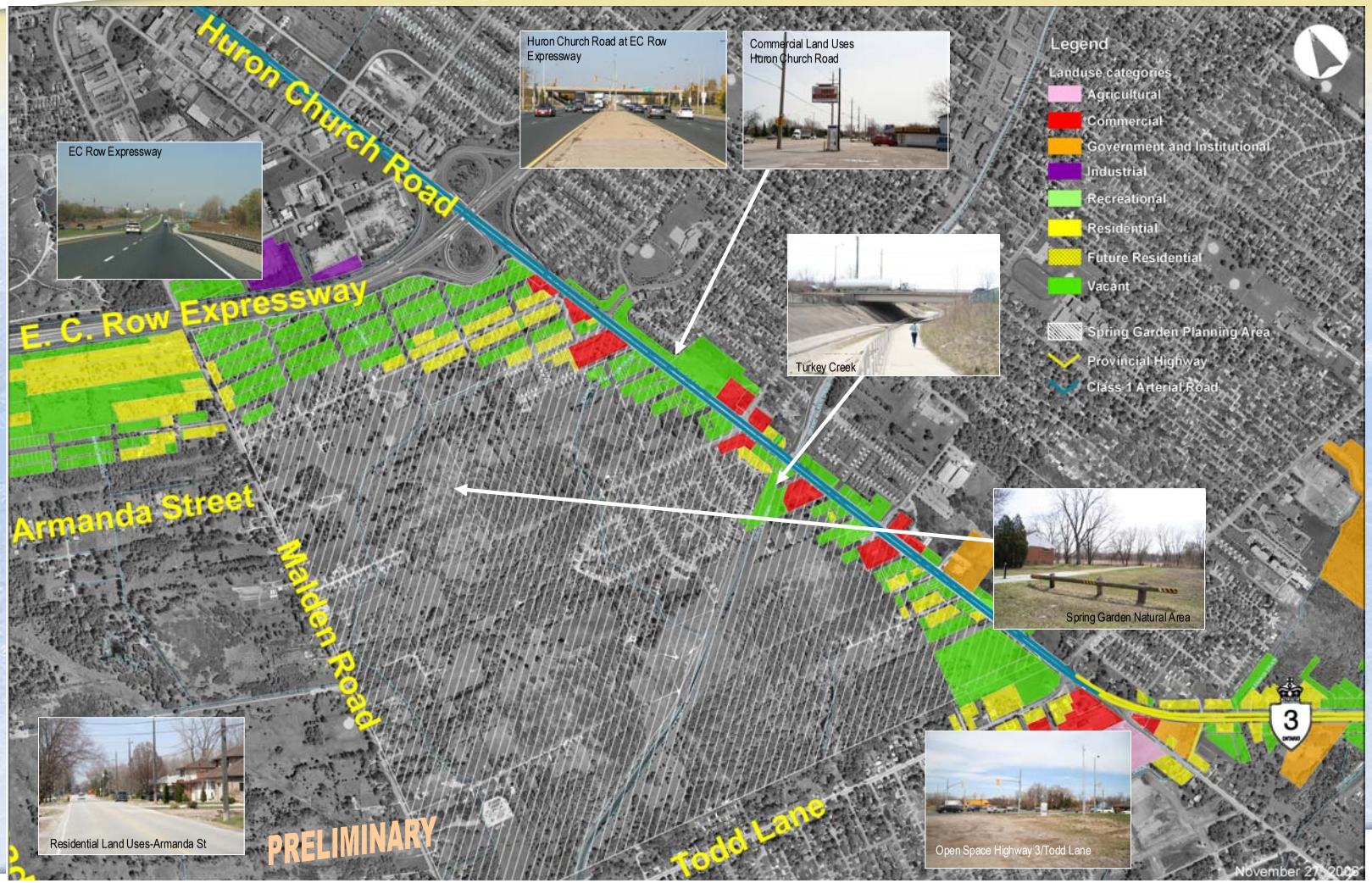
Land Use



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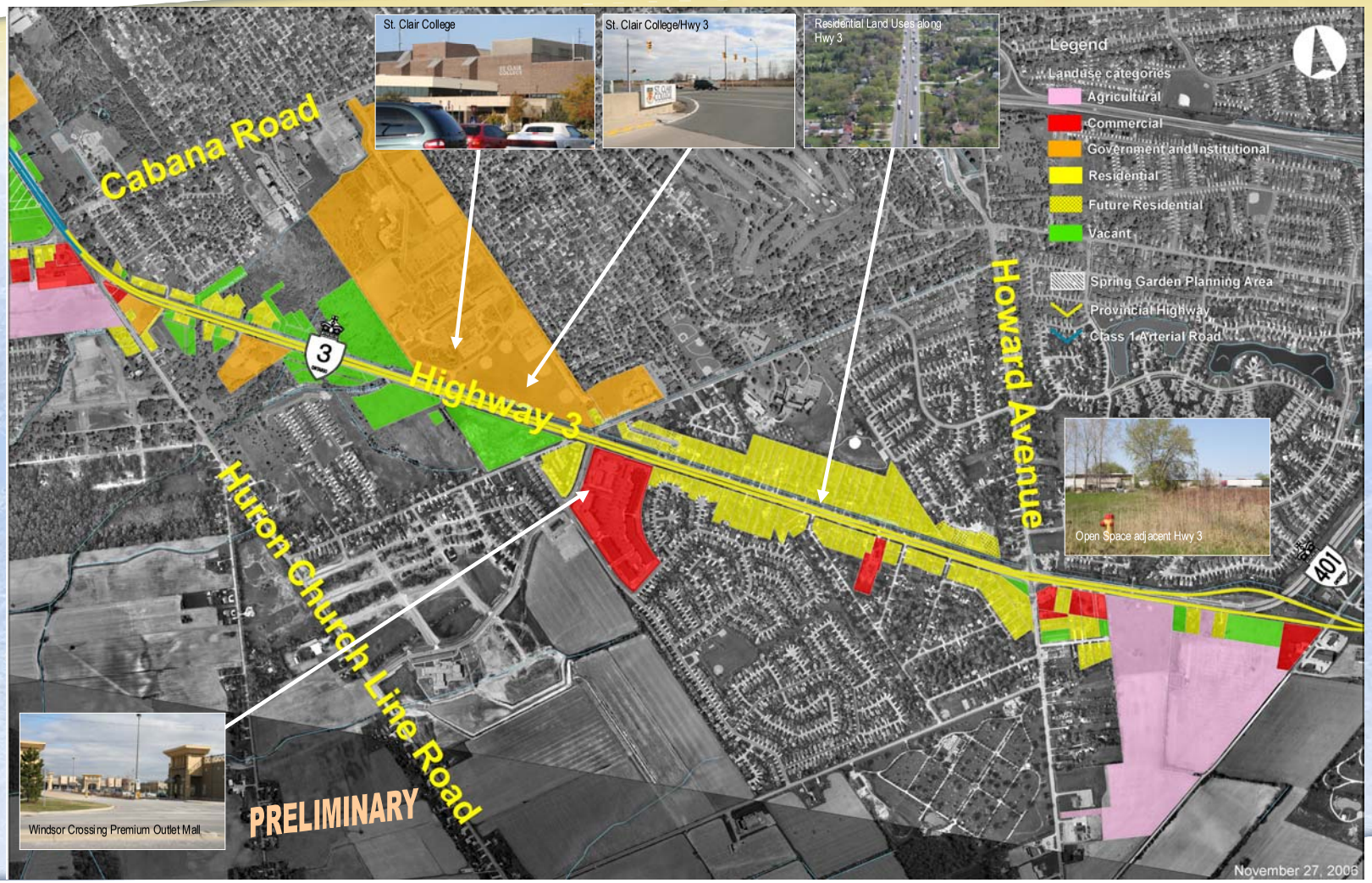
Land Use



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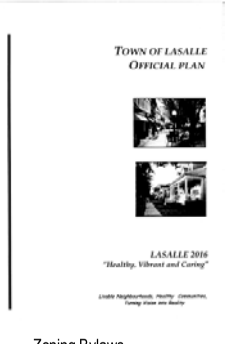
Land Use

Summary of Preliminary Land Use Analysis

	Alternative 1A Option 1	Alterative 1A Option 2	Alternative 1B Option 1	Alternative 1B Option 2	Alternative 2A Option 1	Alterative 2A Option 2	Alternative 2B Option 1	Alternative 2B Option 2	Alternative 3	Plaza A from Crossing A	Plaza A from Crossing B	Plaza A from Crossing C (C-G)	Plaza A from Crossing C (C-E-G)	Plaza B from Crossing C	Plaza B1 from Crossing B	Plaza C from Crossing C
Land Use	Approximate Area of Impact (in hectares)															
Residential	16	16	16	17	21	18	21	25	13	19	19	19	19	<1	12	12
Commercial	9	9	9	10	9	10	9	10	8	0	1	<1	<1	<1	1	9
Industrial	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	10	9	21	8	39
Recreational	0	0	0	0	0	0	0	0	0	<1	0	0	0	1	0	0
Government and Institutional	5	1	3	1	3	2	3	3	1	<1	<1	<1	<1	0	<1	<1
Vacant (Residential and Commercial)	37	38	37	40	37	37	36	36	34	25	23	20	23	12	28	16
Agricultural	10	9	9	9	10	10	10	10	8	0	0	0	0	0	0	0

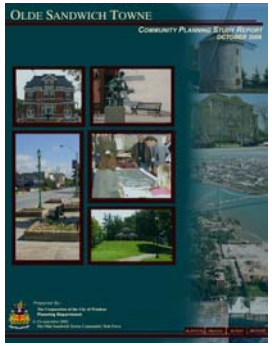
Land Use Documents Consulted:

Zoning Bylaws



Zoning Bylaws

Official Plans
Zoning Bylaws



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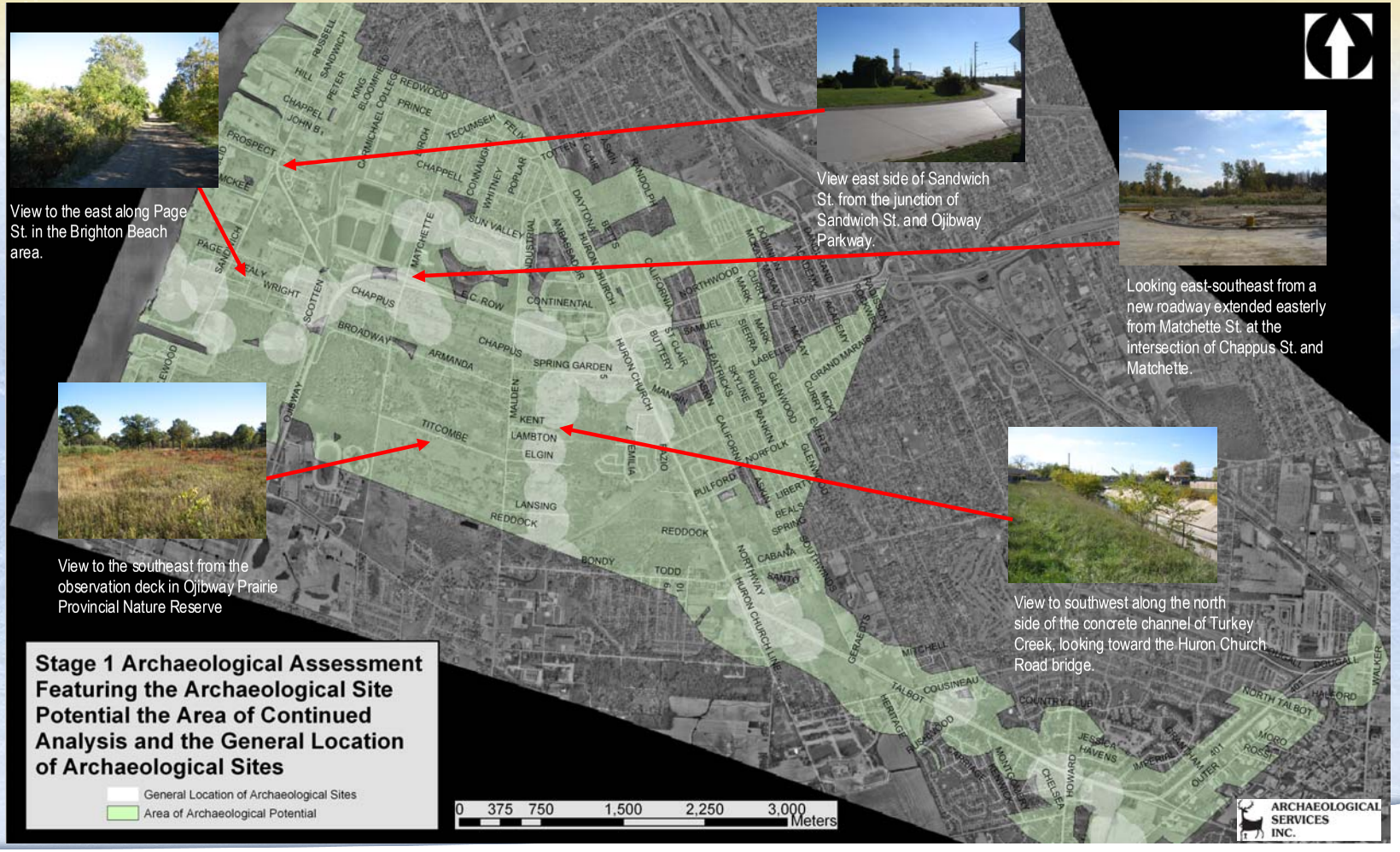
Cultural - Archaeological



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Cultural - Archaeological

Find Identifier	Description	Survey Type When Find Made	Date of Find	Preliminary Recommendation for Next Steps
P1	Aboriginal scatter	Pedestrian	6/12/2006	Register site with Ministry of Culture, then no further work
P2	Aboriginal Isolated find	Pedestrian	6/12/2006	Register site with Ministry of Culture, then no further work
H1	Euro-Canadian scatter	Pedestrian	6/12/2006	Artifact examination and archival to better interpret find prior to making recommendations
H2	Euro-Canadian scatter	Test pit	6/12/2006	Artifact examination and archival to better interpret find prior to making recommendations
Site 1	Aboriginal Isolated find	Test pit	6/26/2006	No Further work
Site 2	Euro-Canadian scatter	Test pit	7/10/2006	Artifact examination and archival to better interpret find prior to making recommendations
Site 3	Euro-Canadian scatter	Test pit	7/10/2006	Artifact examination and archival to better interpret find prior to making recommendations
Site 4	Euro-Canadian domestic rtefact scatter	Test pit	Sept. 13	Artifact examination and archival to better interpret find prior to making recommendations
Site 5	Euro-Canadian domestic artifact scatter	Test pit	Sept. 14 – 15	Further testing (auger) required. Artifact examination and archival to better interpret find prior to making recommendations
Site 6	Euro-Canadian/Modern domestic rtefact scatter	Test pit	Sept. 19	No further work
Site 7	Unknown Euro-Canadian and Aboriginal	Test pit	Sept. 19	Artifact examination and archival to better interpret find prior to making recommendations
Site 8	Aboriginal Isolated find	Test pit	Sept. 20	No further work
Site 9	Aboriginal Isolated find	Test Pit	Sept. 21	Artifact examination and archival to better interpret find prior to making recommendations
Site 10	Aboriginal scatter	Test Pit	Sept. 21	Artifact examination and archival to better interpret find prior to making recommendations

Find Identifier	Description	Survey Type When Find Made	Date of Find	Preliminary Recommendation for Next Steps
Site 11	Aboriginal Isolated find	Test Pit	Sept. 21	Artifact examination and archival to better interpret find prior to making recommendations
Site 12	Unknown – Aboriginal and Euro-Canadian	Test pit	Sept. 25	Recommend Stage 3 Assessment – controlled surface pick-up
Site 13	Euro-Canadian	Test pit	Sept. 26	Artifact examination and archival to better interpret find prior to making recommendations
Site 14	Aboriginal	Test pit	Sept. 26	Artifact examination and archival to better interpret find prior to making recommendations
Site 15	Aboriginal	Test pit	Sept. 27	Artifact examination and archival to better interpret find prior to making recommendations
Site 16	Aboriginal	Test pit	Sept 28	Artifact examination and archival to better interpret find prior to making recommendations
Site 17	Aboriginal	Test pit	Oct. 3	Artifact examination and archival to better interpret find prior to making recommendations
Site 18	Euro-Canadian	Test pit	Oct. 3	Artifact examination and archival to better interpret find prior to making recommendations
Site 19	Euro-Canadian	Test pit	Oct. 11	Artifact examination and archival to better interpret find prior to making recommendations
Site 20	Aboriginal	Test pit	Oct 12	Artifact examination and archival to better interpret find prior to making recommendations
Site 21	Euro-Canadian	Test pit	Oct. 18	No further work
Site 22	Euro-Canadian	Test pit	Oct. 30	Artifact examination and archival to better interpret find prior to making recommendations
Site 23	Aboriginal	Test pit	Oct. 31	Artifact examination and archival to better interpret find prior to making recommendations
Site 24	Aboriginal	Test pit	Nov. 1	No Further work

Detroit River
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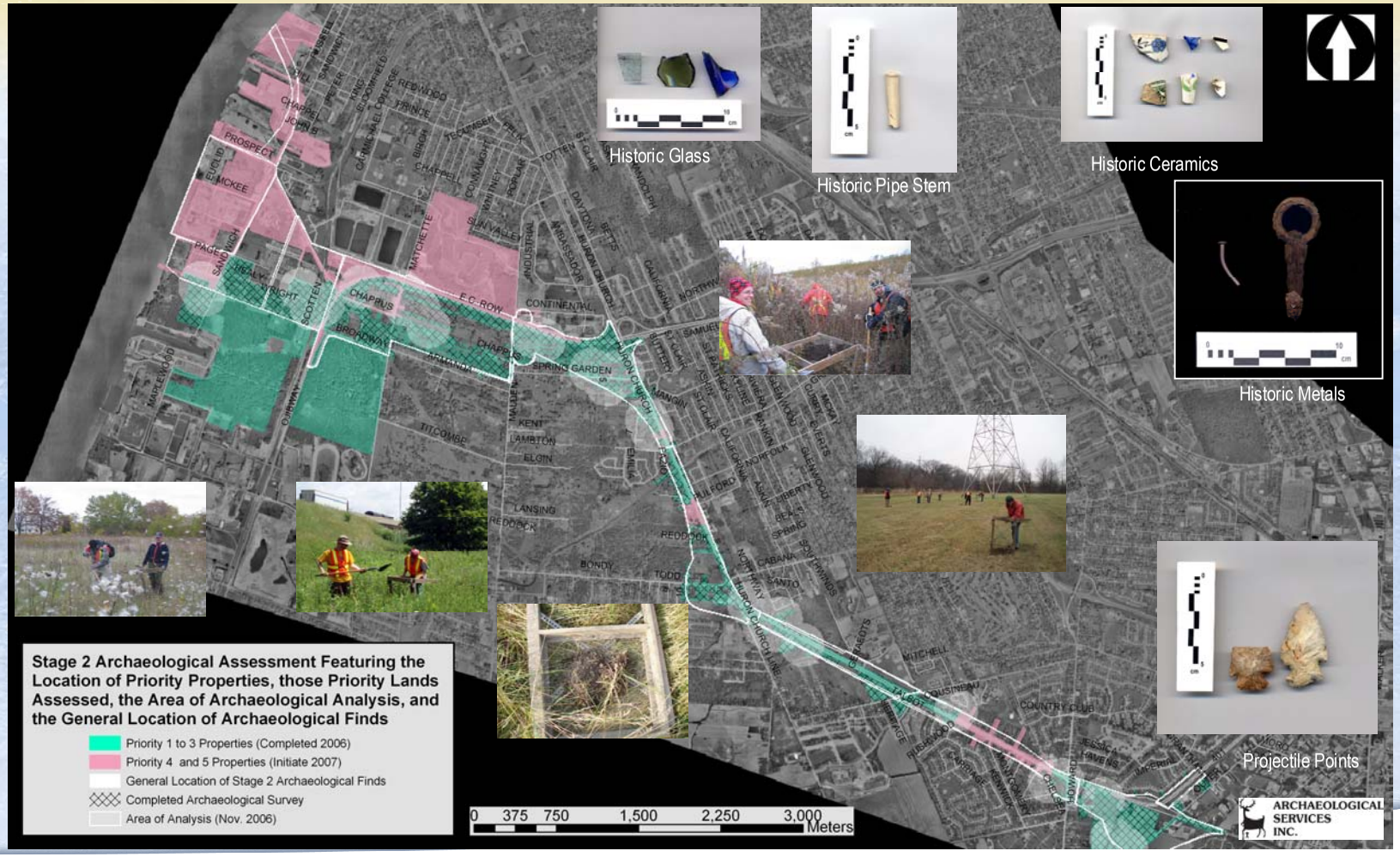
Cultural - Archaeological



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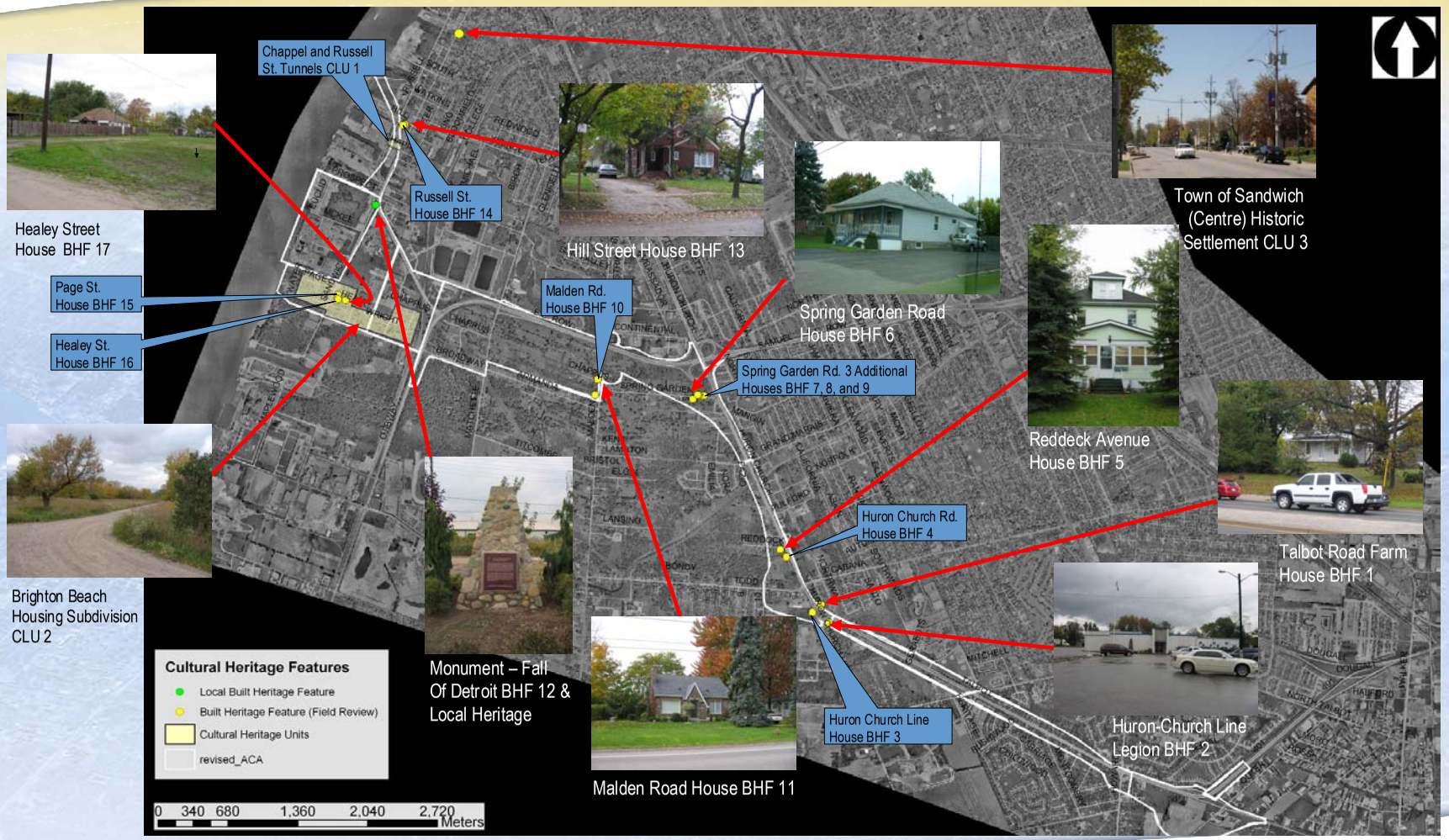
Cultural - Built Heritage



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Cultural - Built Heritage

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Cultural - Built Heritage

Identified Cultural Heritage Resources in the ACA Built Heritage Features (BHF) and Cultural Landscape Units (CLU)

Feature	Address	Feature Type	Approx. Age
BHF 1	Talbot Road	Farmhouse	1860-1880
BHF 2	Huron Church Line	Legion	1961
BHF 3	Huron Church Line	House	1901-1939
BHF 4	Huron Church Road	House	1901-1939
BHF 5	Reddeck Avenue	House	1901-1939
BHF 6	Spring Garden Road	House	1901-1939
BHF 7	Spring Garden Road	House	1901-1939
BHF 8	Spring Garden Road	House	1901-1939
BHF 9	Spring Garden Road	House	1901-1939
BHF 10	Malden Road	House	1901-1939
BHF 11	Malden Road	House	Pre-1900
BHF 12	Ojibway Parkway at Sandwich Street	Monument	
BHF 13	Hill Street	House	1901-1939
BHF 14	Russell Street	House	1901-1939
BHF 15	Page Street	House	1901-1939
BHF 16	Healy Street	House	1901-1939
BHF 17	Healey Street	House	Pre-1900
CLU 1	Chappel Street and Russell Street Unconfirmed oral report	Tunnels	Pre-1900
CLU 2	Water Street to the west, Chappus to the north, Scotten to the east and Broadway/Wright to the south	Brighton Beach housing subdivision	
CLU 3	Town of Sandwich	Historic settlement	

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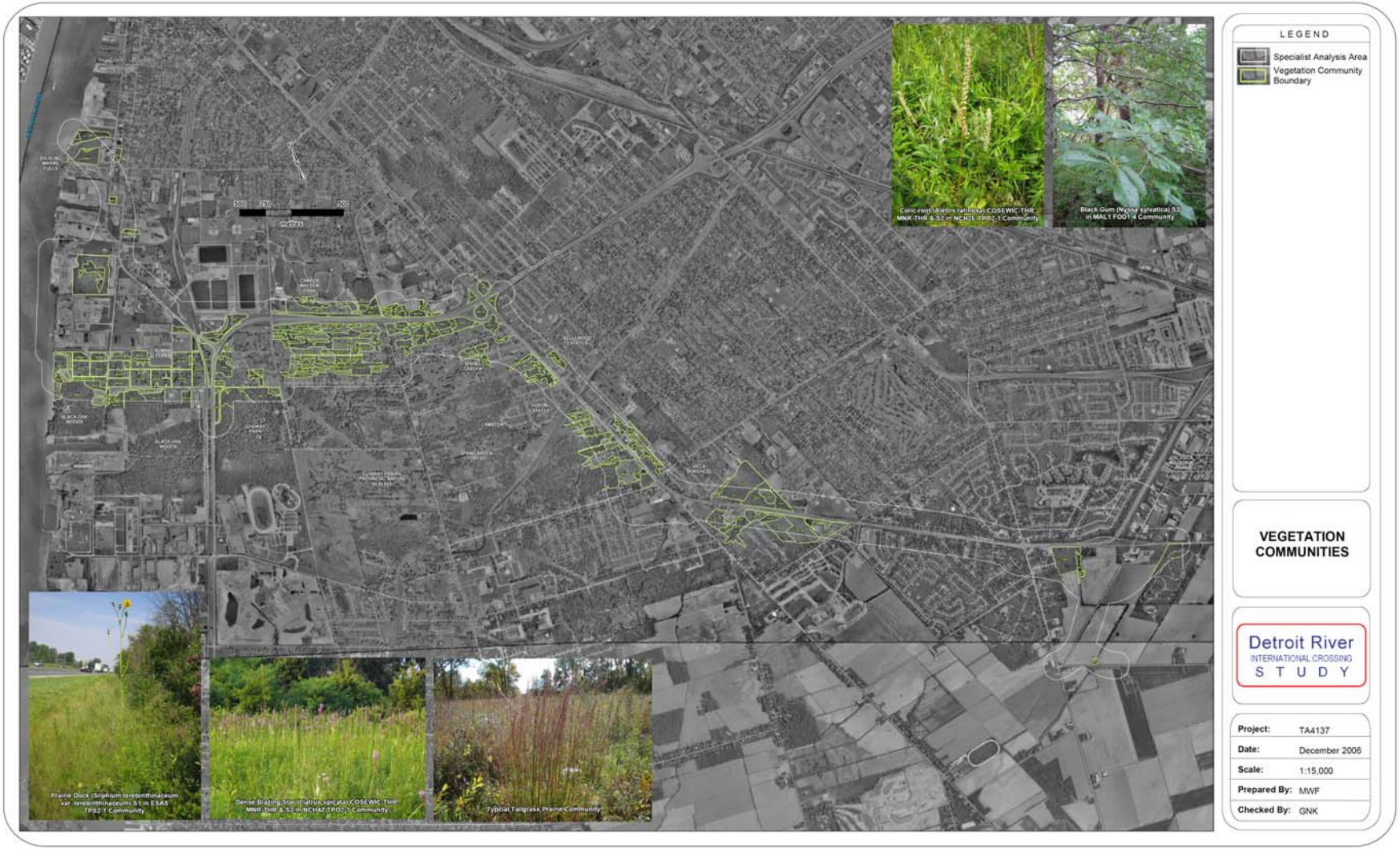
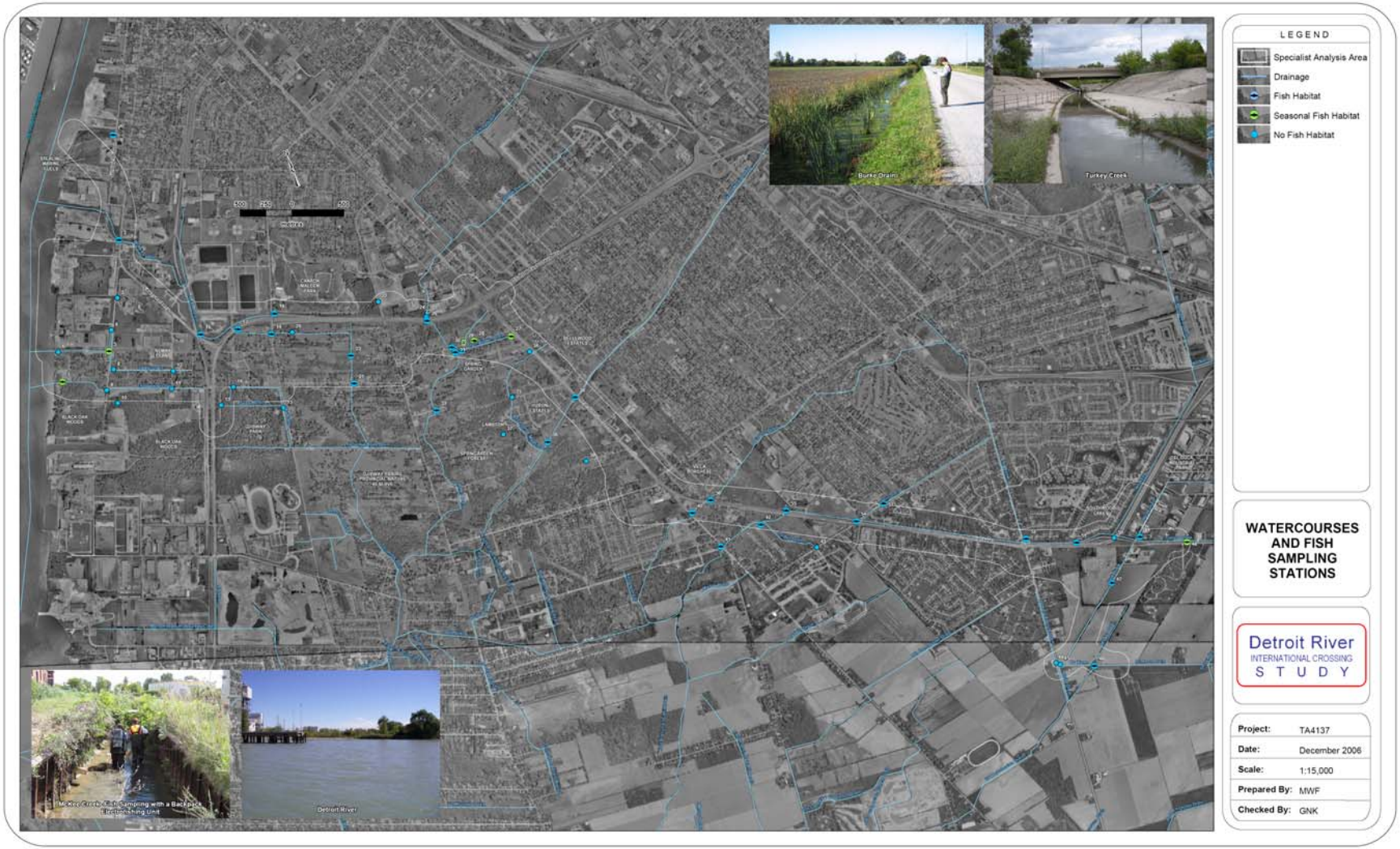
Natural Environment



Natural Environment



Natural Environment

As part of the environmental assessment of the Detroit River International Crossing (DRIC) Study, a detailed traffic analysis was completed to assess existing and future (2015, 2025 and 2035) traffic conditions. The practical alternatives were assessed for levels of service, intersection delays, travel times, network flexibility, local connections and anticipated changes to travel patterns.

All crossing, plaza and access road alternatives will meet future travel demand and provide a greater improvement to mobility compared to *Do Nothing*.

Existing Conditions

Huron Church Road/Highway 3 operates with some congestion and near capacity during the peak hours. The proportion of trucks is largest nearest to the Ambassador Bridge plaza and during off-peak periods is as high as 60% and is approximately 30% during peak hours.

Future Conditions

By 2035, both international car and truck traffic through Windsor-Detroit is expected to grow significantly.

- Afternoon peak hour truck traffic is expected to more than double
- International car traffic is expected to increase by 50%

Future PM Peak Hour Traffic Volumes (U.S. to Canada)

Crossing	Year	Cars		Trucks		Total	
		Volume	% Growth	Volume	% Growth	Volume	% Growth
Ambassador Bridge	2004	1,180	0%	390	0%	1,570	0%
	2015	1,500	27%	510	31%	2,010	28%
	2025	1,670	42%	680	74%	2,350	50%
	2035	1,880	59%	770	97%	2,650	69%
Detroit-Windsor Tunnel	2004	930	0%	10	0%	940	0%
	2015	1,220	31%	40	300%	1,260	34%
	2025	1,310	41%	60	500%	1,370	46%
	2035	1,300	40%	150	1400%	1,450	54%
Total	2004	2,110	0%	400	0%	2,510	0%
	2015	2,720	29%	550	38%	3,270	30%
	2025	2,980	41%	740	85%	3,720	48%
	2035	3,180	51%	920	130%	4,100	63%

Detroit River INTERNATIONAL CROSSING STUDY

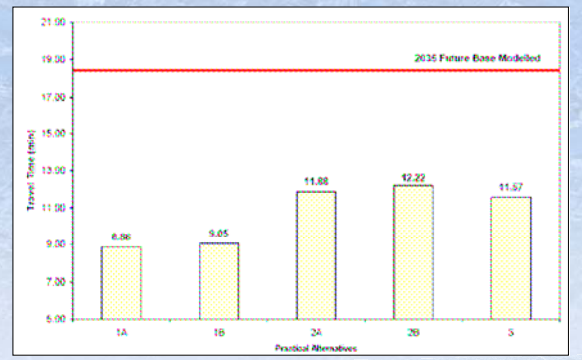
Regional Mobility

Future Conditions (Cont'd)

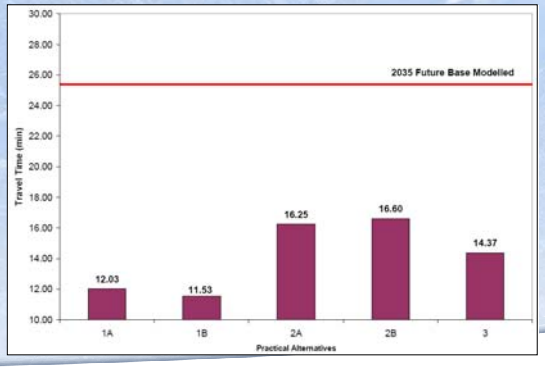
If no new crossing facility is built:

- Significant road capacity problems can be expected by 2015;
- Conditions will deteriorate further by 2035 to a point where most intersections will operate over capacity;
- Unacceptable delays with travel times nearly doubling over existing conditions;
- Excess traffic (international, regional and local) would overflow onto other roads in to avoid congestion on Huron Church Road and Highway 3.

Travel Time Comparison Highway 3 / Huron Church Road: Westbound/Northbound AM Peak Hour, Howard Avenue to College Avenue



Travel Time Comparison Highway 3 / Huron Church Road: Eastbound/Southbound PM Peak Hour, College Avenue to Howard Avenue



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Cost & Constructability

Practical Alternatives	Cost ($ millions CDN 2011)	Key Issues
Access Roads HWY 401 to Malden Road	620 to 3,780	Complex construction staging will also be required for alternatives at the Grand Marais Drain/Turkey Creek.
At-Grade – Alternatives 1A, 2A	620 to 920	
Below-Grade – Alternatives 1B, 2B	1,030 to 1,360	
Tunnel – Alternative 3	3,610 to 3,789	Increased costs related to greater excavation, concrete required, ventilation, electrical, drainage, communications and Emergency Management Systems.
Inspection Plazas Including Access Road connection from Malden Road to Plazas	180 to 280	Plaza B and C require a longer freeway link from Malden Road. Cost does not include the relocation of the Keith Transformer Station.
International Crossing	TBD	Costs are being developed in collaboration with the U.S. team.

Constructability - *All the alternatives are constructible*. Traffic flow can be 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, particularly towards the north and west ends of the project. These problems increase with the depth of construction.

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Construction Staging

Sequence

1. Utilities - Relocation of utilities (e.g. Hydro, Bell, Union Gas, cable television, watermains, storm sewers, municipal drains and sanitary sewers).

2. Service Roads - Focus on building service roads, realignment of the existing municipal roadways, and construction temporary staging roads. During this phase, traffic will remain primarily on existing Huron Church Road/Highway 3.

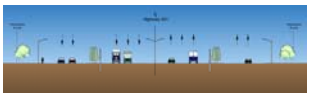
3. New Highway 401

Objectives

Maintain existing traffic within the corridor.

Maintain access to and from all major crossing roads, commercial and residential entrances.

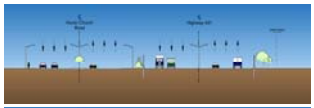
1a



1b

At-grade sections constructed using conventional freeway methods typical on 400-series highways. Depressed sections constructed using excavation techniques suitable for urban areas. Variety of methods available to minimize the overall property requirements of the project.

2a



2b

Methods similar to 1A and 1B. With the alignment beside the existing roadway, there will be less utility relocation and realignment of roadways.

3

First step focuses on realignment of existing roadways and temporary staging roads. Traffic would remain primarily on existing Huron Church Road/Highway 3. The next phase of construction focuses on the construction of the tunnel structure itself using the cut and cover tunnel method. The below grade and tunnel alternatives require significantly more complex construction than the at grade alternatives.

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Tunneling

Cut and Cover Construction *(Bottom-up Method)*

This construction method utilizes drilling rigs to install caissons, which form part of the tunnel walls. The soil between the walls is excavated to a depth below the tunnel floor. The floor slab is poured, followed by the side walls, constructed from 'bottom-up'. Roof construction follows, and the surface roadway on top is completed.

Tunnel Safety Considerations:

Ventilation systems and buildings;

Illumination;

Closed Circuit Television (CCTV);

Intelligent Transportation Systems (ITS);

Emergency access between tunnels;

Tunnel/Surface Emergency access and egress

Ice prevention at portals and ramps;

Emergency telephone systems;

Containment of spills;

Flood prevention system;

Smoke detector, carbon monoxide and dioxide monitoring system;

Fire sprinkler system;

Emergency power supply;

Storage for emergency supplies; and

Additional training for Emergency Services staff and education for motorists.

Detroit River INTERNATIONAL CROSSING STUDY

Tunneling Ventilation

Why is Tunnel Ventilation Required?

Air quality within a tunnel;

Air emissions from the tunnel's entrance and exit portals; and,

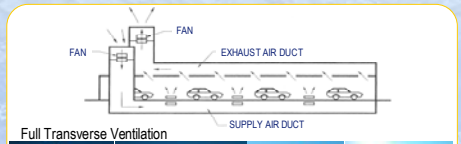
Fire and/or emergency conditions within the tunnel.

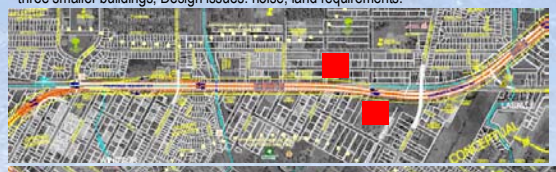
Ventilation Design Options

✖ **Natural Ventilated Tunnels** - Tunnels less than approximately 150 to 200 metres in length can be ventilated naturally.

✓ **Mechanically Ventilated Tunnels –** *Longitudinal Ventilation* (e.g. jet fans) and *Full Transverse Ventilation* systems would be practical methods for the tunneled access road alternatives, as they could accommodate the 6 km (approximate) length the alternatives.

- **Longitudinal Ventilation** – 6 km tunnel would require approximately 300 jets; Suitable for low traffic volumes; Design issues:effectiveness of limiting portal emissions and fan noise;
- **Full Transverse Ventilation** – 6 km tunnel tunnel would require one large building two or three smaller buildings; Design issues: noise, land requirements.





Potential Sites for Ventilation Building

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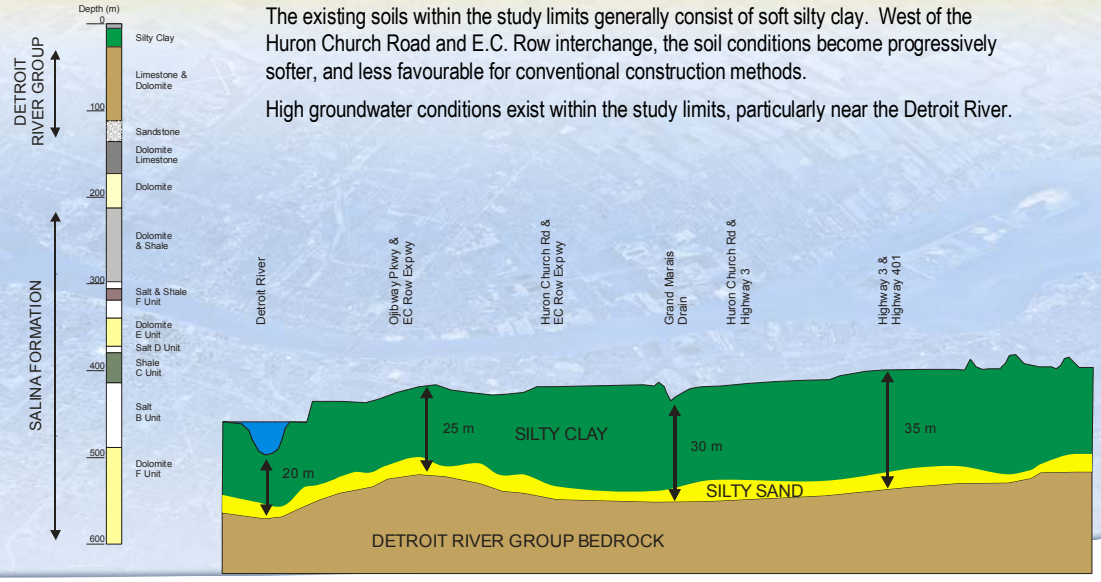
Detroit River INTERNATIONAL CROSSING STUDY

Foundations

Existing Soil and Groundwater Conditions

The existing soils within the study limits generally consist of soft silty clay. West of the Huron Church Road and E.C. Row interchange, the soil conditions become progressively softer, and less favourable for conventional construction methods.

High groundwater conditions exist within the study limits, particularly near the Detroit River.



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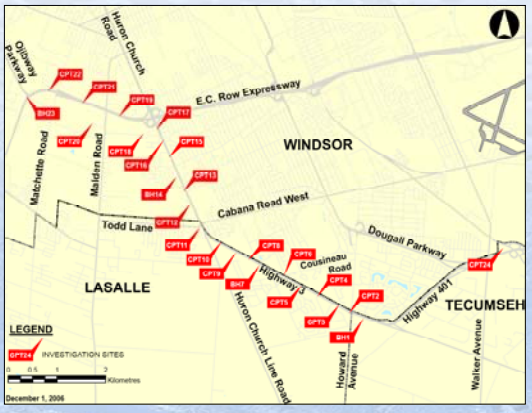


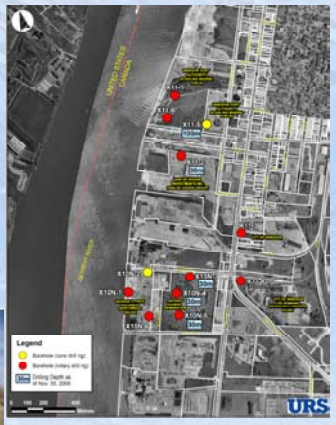
Foundation Investigation Program for the Access Road Practical Alternatives

Completed in November 2006. Program included drilling 24 boreholes along the access road corridor. The boreholes extended to a maximum depth of 35m. Most of the boreholes were located within existing road allowances. Boreholes are required to provide additional information on existing soil types and preliminary design recommendations for various structural components of the practical crossing route alternatives, including walls, roof, floor slabs and footings for tunnels, retaining walls for depressed sections, and bridge abutments.

Foundation Investigation Program for the International Bridge Crossing

Being undertaken to better understand the effects of solution mining and confirm integrity of the underlying bedrock to support a new international bridge. Drilling operations are currently underway in Canada and on the U.S. side of the river.

Canadian program includes 12 deep boreholes in the vicinity of practical alternative crossings 'B' and 'C'. Each borehole will be drilled to a depth of up to 500m.



Coring on Sterling Fuels Property, Nov 2006 (left)
Cable Tool Rig on OPG Property, Nov 2006 (Right)

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Detroit River International Crossing STUDY

CSS Consultation Activities

Context sensitive solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist.

- U.S. Federal Highways Administration

CSS is a key component of the development of practical alternatives for DRIC. Beside is a table outlining the various CSS activities held over the course of 2006.

Workshop Date/Topic	Workshop Agenda
January 2006 Inspection Plaza Location Development	• Participants were asked to define preferred inspection plaza locations • Several locations were mapped based on community input
February 2006 Access Road Refinement	• Participants were asked to provide input into the design aesthetic look of the new freeway • Participants suggested berming and noise wall treatments
April 2006 Access Road Refinement	• Participants provided input regarding refining the design the access road alternatives
June 2006 Context Sensitive Solutions Preference Workshop	• Participants were asked for their preferences/ opinions regarding the type/and look of the new crossing, aesthetic treatment options in and around the plazas, and the landscape treatment options along the access road alternatives • Participants indicated what concepts they preferred; what themes the new access road, plaza and crossing should convey
October 2006 Access Road and Plaza Theme Examples	• Workshop built upon concepts shown at the June 2006 workshop • Participants were shown examples of landscape treatments as they relate to three focus areas of the access roads, and landscape treatments for the plazas • Three themes were developed: Rose City, Carolinian, and Motor City • Participants were asked for their preferences/opinions regarding the themes developed for the aesthetic treatments of the access road and plazas
November 2006 Crossing Type Preference	• Joint workshop with U.S. DRIC team; drop-in format; participants used computer workstations, hands on drawing areas to produce drawings for the physical preferences of a new crossing • Focused on bridge crossing type, lighting treatment options, crossing theme, colour of bridge crossing

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Detroit River INTERNATIONAL CROSSING STUDY

Context Sensitive Solutions – June 2006

Workshop sessions were held on June 23, 2006 and June 24, 2006 to gather the public's preferences/opinions regarding the type and look of the new crossing, aesthetic treatment options for the plaza alternatives, and landscape treatment options along the access road alternatives. There was a total of 189 participants.

Crossing Alternatives suggestions:

Preference for suspension or cable-stayed split;

incorporate native plantings; naturalized look around the base of the bridge

Heritage and history and friendship elements of both cities should be included in the bridge design

Plaza Alternatives suggestions:

Include naturalized berms in areas between plaza and existing land uses

Incorporate native plantings; naturalized look

Include sounds walls

Access Road Alternatives suggestions:

Vegetation should be low maintenance; attractive and native

Include Rose City themed motifs

Include automotive/industrial elements into landscape design

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Detroit River INTERNATIONAL CROSSING STUDY

Context Sensitive Solutions – October 2006

Workshop sessions were held on October 2, 2006 and October 3, 2006 to gather the public's preferences/opinions regarding the themes developed for the aesthetic treatment of the access road and plaza alternatives, as well as input on other aesthetic or landscape elements not presented at the workshop sessions. There was a total of 167 participants. From these three themes, the public's preference for the aesthetic treatment of the new access road and plaza alternatives was the naturalized look of the CarolinianTheme. The public's secondary preference was for the Rose City theme followed by the Motor City theme.

CAROLINIAN

Reminiscent of the natural heritage of the Detroit River and of Windsor-Essex. Provides the most naturalized look, with native trees, shrubs and grasses. Main comments expressed include:

- plant along entire access road corridor
- incorporate native plantings; maintain a naturalized look
- considered low maintenance; easy to maintain

Rose City

Includes formal plantings, brick and iron accents, and a focus on roses. Reminiscent of classical turn of the century parks and gardens. Main comments expressed include:

- plant along linear areas; plant near pedestrian-oriented areas (i.e. schools, residential areas)
- incorporate into the at-grade alternatives
- viewed as high-maintenance; expensive to maintain

motor city

Includes aspects of both past and future technologies, includes linear plantings, glass, steel, and concrete accents and state-of-the-art lighting and signage. Main comments expressed include:

- vegetation should be low maintenance; attractive
- include automotive/industrial elements
- modern; urban; contemporary feel; may look dated in the future

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Context Sensitive Solutions Bridges – November 2006

Workshop sessions were held on November 2nd in Detroit and November 15th in Windsor to gather the public's preferences/opinions regarding the aesthetics of suspension and cable-stayed bridge alternatives. There was a total of 194 participants. Participants documented their preferences with visualization programs and provided input to bridge artists & architects.

Preferences asked for each bridge type:

- Theme
- Colour
- Light Stands
- Barriers types
- Lighting treatments

Results:

- History theme dominated the option for Suspension (62%)
- Friendship theme dominated the option for Cable-stayed (68%)

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Value Engineering Workshop on Access Road Alternatives

Value Engineering (VE), is a systematic and function-based approach to improving the value of products, projects, or processes.

On highway projects, improvements to value might include enhancing safety in a design or reducing impacts to the public by providing ideas for shortening the duration of a construction project.

A Value Engineering Workshop was conducted from September 6-8 and 12-15, 2006 with various Canadian and American experts in the environmental and engineering disciplines, including local municipal staff representatives.

Members of the VE Team were independent of the Study Team, so that a review of the roadway approach to the new Detroit River International Crossing could be undertaken from a "fresh" perspective.

Generally, the VE Workshop confirmed the findings of the DRIC study team including :

- Need for a 6-lane freeway and 4-lane service road cross-section;
- Bored tunnels are not practical based on the required size of the tunnel boring machine;
- Geotechnical concerns with below grade crossings of the Grand Marais Drain/Turkey Creek;

Study Team currently reviewing 50+ design refinements and suggestions from the VE Team including:

- Interchange design options at Highway 401/ Highway 3;
- Crossing of the Grand Marais Drain/Turkey Creek; and
- Additional community linkages.

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Detroit River INTERNATIONAL CROSSING STUDY

What's Next?

Environmental Assessment Key Study Activities

- ✓ Identify Study Area Features, Opportunities & Constraints
- ✓ Developed Initial Set of Crossing Alternatives, Plaza Locations & Connecting Routes in Canada and the U.S.
- ✓ Define Area of Continued Analysis
- ✓ Present Specific Crossing, Plaza and Access Road Options
- Complete Social, Economic, Environmental and Engineering Assessments
- Identify Preferred Crossing Location, Plaza Locations & Connecting Routes in Canada and the U.S.
- Finalize Engineering and Mitigation Measures
- Document Study and Submit for Approvals

Public Meetings:

Dec 5, 5pm, Southwestern High School, Detroit – U.S. Public Meeting

Dec 6, 2 to 8pm, Holiday Inn Select, Windsor – Public Information Open House #4

Dec 7, 2 to 8pm, Ciociaro Club, Oldcastle – Public Information Open House #4

Proposed Public Meetings:

Jan 2007 – Public Information Open House #4 Workshops (register today)

Summer 2007 – Public Information Open House #5

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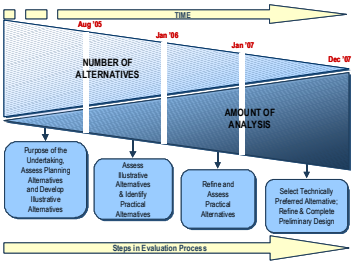
Detroit River INTERNATIONAL CROSSING STUDY

Evaluation Process

The assessment of Crossing, Plaza and Access Road options 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	•Effect on concentration of particulate matter •Effect on concentration of gaseous pollutants	
Protection of Community and Neighborhood Characteristics	•Displacement of Residences and Social Features •Direct Impacts on Existing Businesses •Disruption to Residents and Social Features •Noise and Vibration Impacts •Community and Neighbourhood Impacts	•Traffic Impacts •Municipal Impacts •Displacement of Businesses •Disruption of Businesses •Other Effects on Businesses
Maintain Consistency with Existing and Planned Land Use	•Impacts to Land Use (existing and planned) •Impacts to Development Plans •Impacts to Contaminated Sites/Disposal Sites	
Protect Cultural Resources	•Impacts to Built Heritage Features •Impacts to Cultural Landscape Units	•Impacts to Parklands •Impact to Archaeological Features
Protect the Natural Environment	•Impacts to Ecological Landscapes •Communities/Ecosystems •Population/Species	•Surface Water/Groundwater Recharge Areas •Other Natural Resources
Improve Regional Mobility	•Assessment of Highway Network Effectiveness •Assessment of Continuous/ongoing River Crossing Capacity •Operational Considerations of Crossing System (River Crossing and Plaza)	
Cost and Constructability	•Primary Construction Cost	•Assessment of Constructability

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



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Detroit River INTERNATIONAL CROSSING STUDY

Evaluation Process

- Incorporated input from municipalities and communities, stakeholders and government agencies, First Nations and the general public
- Considered in the context of the national and international significance of the Detroit River crossing
- Replicable and defensible decision-making
- Common set of criteria used in both countries for all alternatives
- Two evaluation methods
- Traceable and open
- Bi-national

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Detroit River INTERNATIONAL CROSSING STUDY

Evaluation Methods

The evaluation process for the Practical Alternatives will involves two methods: **Reasoned Argument Method** and **Arithmetic Method**. The Reasoned Argument (trade-off) is the primary evaluation method with the Arithmetic approach used to substantiate the findings of the Reasoned Argument (trade-off) 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 (i.e., Official Plans);
- Technical Considerations (i.e. degree to which the identified transportation problems are solved);
- 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 those 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.

- Scores will be assigned by qualified Study Team specialists with expertise in impact assessment;
- Relative impacts will range from those that are positive (benefit the environment) to negative (detrimental to the environment);
- 1 to 7 scoring scale will be used to identify magnitude of an impact/benefit whereby:

1 = high impact	5 = low benefit	
2 = moderate impact	4 = neutral/no impact	6 = moderate benefit
3 = low impact	7 = high benefit	

- The weight is multiplied by the score to obtain a weighted score. The weighted scores will be compared to determine the preferred alternative.

- Incorporates input from municipalities and 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
- Replicable and defensible decision-making
- Common set of criteria used in both countries for all alternatives
- Traceable and open
- Bi-national

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Detroit River INTERNATIONAL CROSSING STUDY

Property Acquisition

After the preferred alternative is identified in the Summer of 2007, the Ministry will begin to work with homeowners and businesses to acquire property in a mutually agreeable way. The acquisition process would follow the following general steps:

- Notification to affected property owners;
- Land survey of the property requirements;
- Appraisal of the property according to fair market value;
- Offer of compensation;

Compensation is based on the market value of the property. Market value is based on what similar land in the neighbourhood might be expected to sell for if sold on the open market by a willing seller to a willing buyer. If a property owner is not satisfied with the offer of compensation presented, there is a legislated appeal process available.

For more information on property purchasing speak to representatives present at this meeting or contact:

Ministry of Transportation
Windsor Border Initiatives Implementation Group
659 Exeter Road, 2nd Floor, London ON N6E1L3
Phone 519.873.4800 Fax 519.873.4789

Contact: Amy Viragos, Property Supervisor
Phone 519.873.4798 amy.viragos@ontario.ca

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Detroit River INTERNATIONAL CROSSING STUDY

PIOH 4 Workshop Registration

Workshops are being arranged to provide interested persons with opportunities to discuss the crossing, plaza and access road alternatives as well as study issues in greater detail with the Study Team.

- The workshops are tentatively scheduled for Tuesday January 9 and Wednesday January 10, 2007.
- Proposed topics of discussion include:
  - Engineering and environmental issues relating to the international bridge crossing, plaza and access road alternatives
  - Analysis of impacts for the Practical Alternatives
  - Measures for reducing impacts and increasing benefits of the project
  - Refinements to Practical Alternatives
- If you are interested in attending one of these workshops, please provide your contact information on the registration form available at this PIOH.
- For further information, please visit **www.partnershipborderstudy.com** or speak to a member of the Study Team.

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Detroit River INTERNATIONAL CROSSING STUDY

Canadian Study Team

Ministry of Transportation

Windsor Border Initiatives Implementation Group

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Visualization Crossing A

Visualization Crossing B

Suspension

Visualization Crossing B

Cable-Stayed

Visualization Crossing C

Visualization Crossing C