

# DETROIT RIVER INTERNATIONAL CROSSING STUDY

## PRESENTATION TO PRIVATE SECTOR ADVISORY GROUP

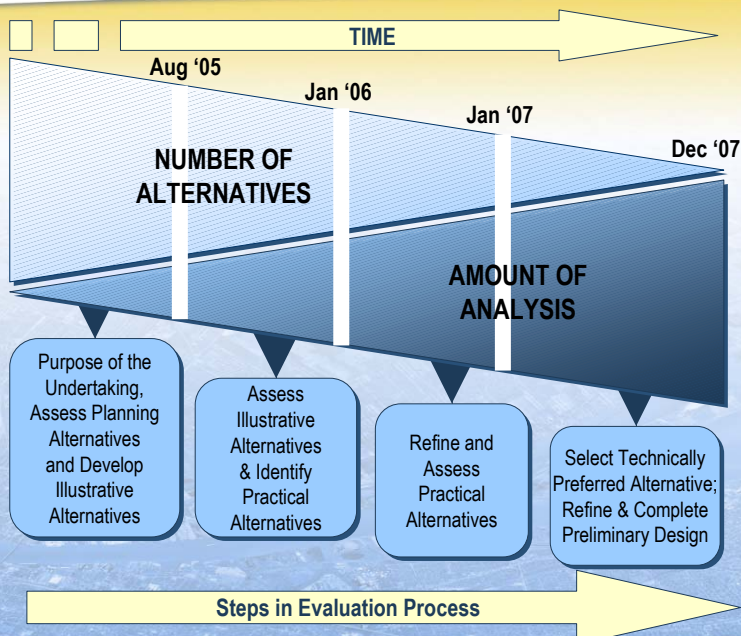
April 6, 2006

## Key Milestones

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

## Evaluation Process

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

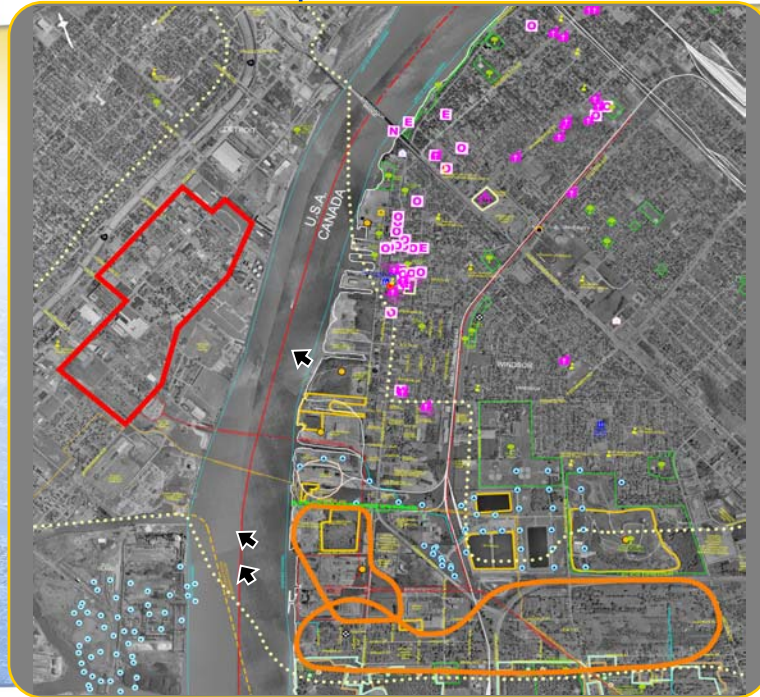


## Area of Continued Analysis (ACA)



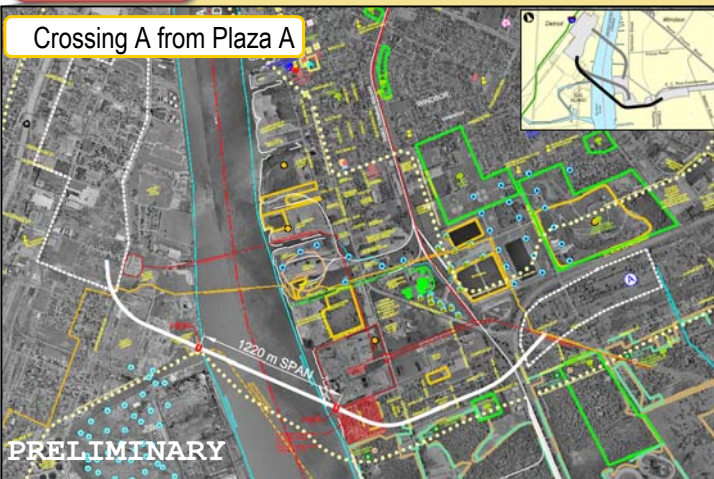


## Development of Plaza and Crossing Options

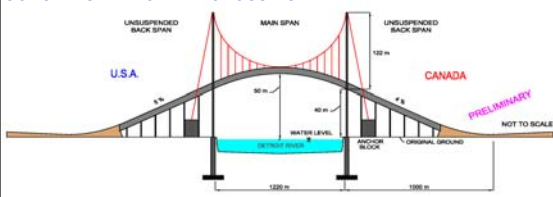


## Crossing Alternative A

### Crossing A from Plaza A



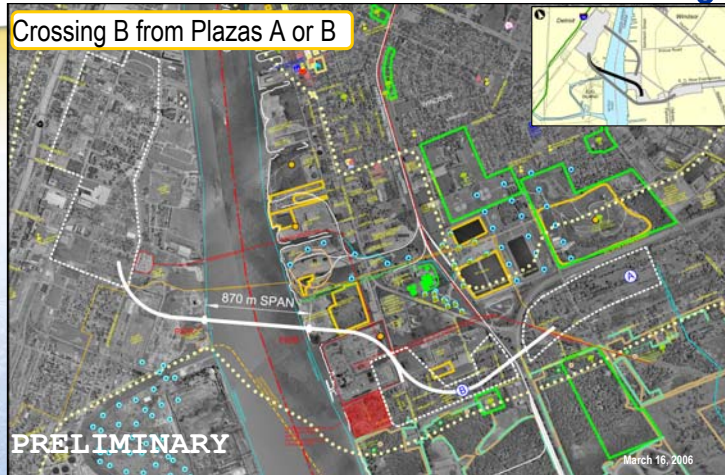
## CONCEPTUAL PROFILE – CROSSING A



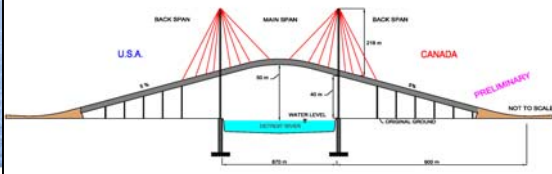
	Connecting to <b>PLAZA A</b>
<b>Main Span Length:</b>	1220 m
<b>Number of Lanes:</b>	6
<b>Distance to Touchdown:</b>	1000 m
<b>Maximum Height over River:</b>	50 m
<b>Approx Height over River at Shoreline:</b>	40 m
<b>Approx. Height of Towers:</b>	160 m
<b>Distance from River to Plaza:</b>	1740 m

## Crossing Alternative B

Crossing B from Plazas A or B



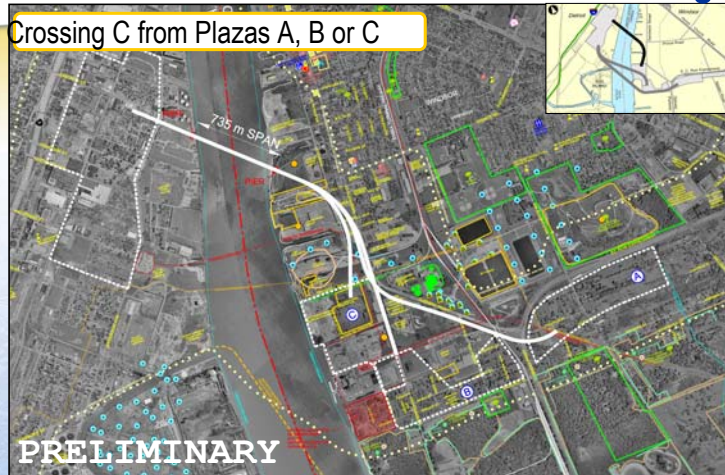
CONCEPTUAL PROFILE – CROSSING B AS CABLE-STAYED BRIDGE



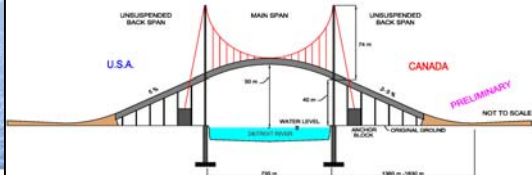
	Connecting to <b>PLAZA A</b>	Connecting to <b>PLAZA B</b>
Main Span Length:	870 m	870 m
Number of Lanes:	6	6
Distance to Touchdown:	1120 m	975 m
Maximum Height Over River:	50 m	50 m
Height over River at Shoreline:	40 m	40 m
Height of Towers:	125–260 m	125–260 m
Distance from River to Plaza :	2120 m	760 m

## Crossing Alternative C

Crossing C from Plazas A, B or C



CONCEPTUAL PROFILE – CROSSING C AS A SUSPENSION BRIDGE



	Connecting to <b>PLAZA A</b>	Connecting to <b>PLAZA B</b>	Connecting to <b>PLAZA C</b>
Main Span Length:	735 m	735 m	735 m
Number of Lanes:	6	6	6
Distance to Touchdown:	1830 m	1920 m	1360 m
Maximum Height over River:	50 m	50 m	50 m
Height over River at Shoreline:	45 m (CAN)	45 m (CAN)	45 m (CAN)
Height of Towers:	115 – 225 m	115 – 225 m	115 – 225 m
Distance from River to Plaza:	2935 m	1955 m	1275 m

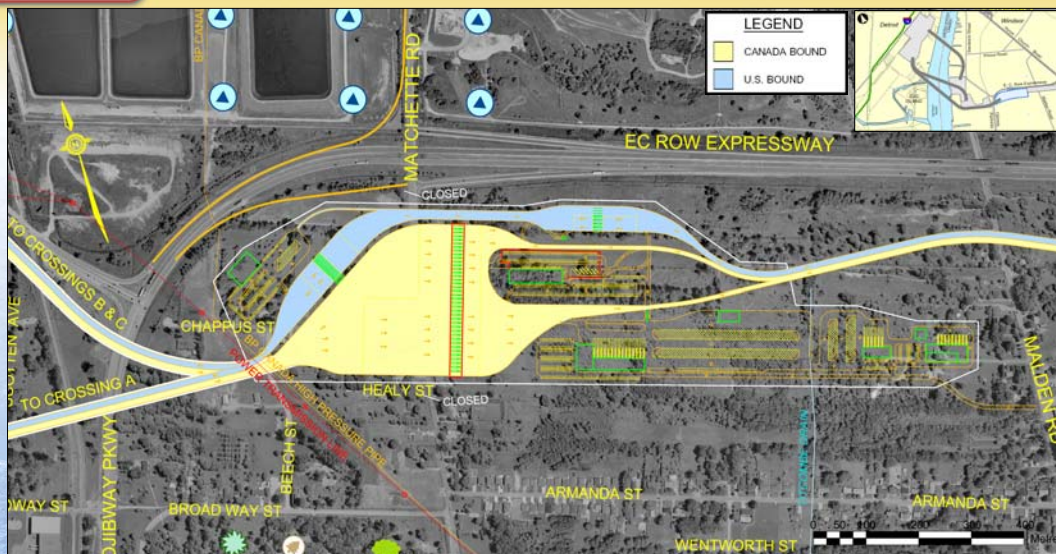


## Example X-11 Visualization



## Inspection Plaza Alternative A

### Detroit River INTERNATIONAL CROSSING STUDY



**Area:** Approx. 35 ha (85 acres)

**Primary Inspection Lanes:** 20 Passenger; 19 Commercial.

**Other Major Functions:** Secondary Inspection (Passenger/Commercial); Vehicle and Cargo Inspection System (VACIS); Agriculture Inspection; Toll Facilities.

**Can Connect with:** Crossings A, B & C

**Land Uses Directly Affected:** Residential; Industrial; Commercial.

**Displacements:** 66 Residential Existing; 19 Residential Under Construction

**Utility Easements/ROWS:** Power Transmission Line; BP Canada High Pressure Pipe

**Realignments/Closures:** Chappus St.; Beech Street; Healy St.; Matchette Rd.

## Inspection Plaza Alternative A



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## Inspection Plaza Alternative B



**Area:** Approx. 35 ha (85 acres)

**Primary Inspection Lanes:** 20 Passenger; 19 Commercial.

**Other Major Functions:** Secondary Inspection (Pass/Comm); Supplementary Inspection (VACIS); Agriculture Inspection; Toll Facilities.

**Can Connect with:** Crossings B & C

**Land Uses Directly Affected:** Brighton Beach; OPG Parking; Transformer Station; Nemak; Ojibway Natural Area.

**Displacements:** 12 Residential; 1 Manufacturing; 1 Utilities

**Existing Easements/ROWs:** Power Transmission Line

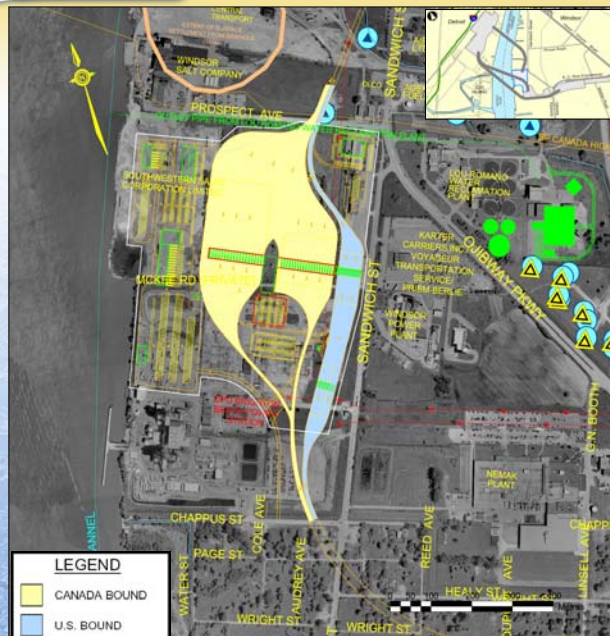
**Realignments/Closures:** Water St; Scott Ave; Cole Ave; Audrey Ave; Sandwich St; Chappus St.; Page St.; Wright St.; Broadway St.; Healy St.; Reed Ave.; Dupont St.



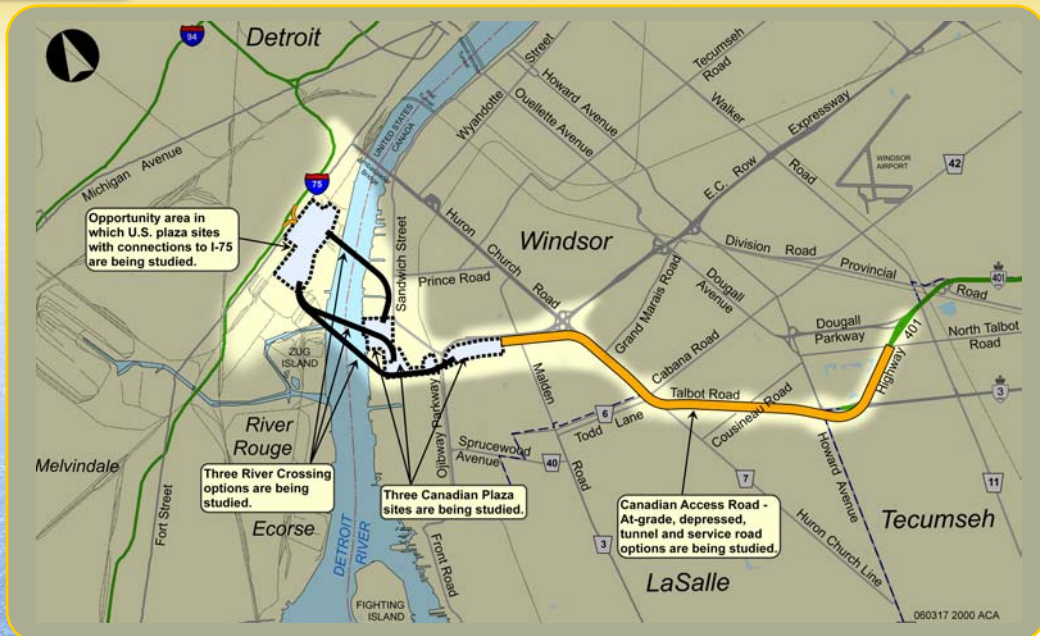
## Inspection Plaza Alternative B



## Inspection Plaza Alternative C



- Area:** Approx. 35 ha (85 acres)
- Primary Inspection Lanes:** 20 Passenger; 19 Commercial.
- Other Major Functions:** Secondary Inspection (Pass/Comm); Supplementary Vehicle Inspection (VACIS); Agriculture Inspection; Toll Facilities.
- Land Uses Directly Affected:** Hydro One Transformer Station; Aggregate Operation; Windsor Salt; OPG Parking
- Displacements:** Hydro One Transformer Station, Aggregate Operation; OPG Parking
- Easements/ROWs Relocation:** Power Transmission Lines
- Realignments/Closures:** Prospect Ave.; McKee St.; Euclid Ave.







1a

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



1b

One-way service roads either side of 6-lane freeway depressed.



2a

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



2b

Six-lane freeway depressed, parallel to Huron Church/Highway 3.





3

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

### Acoustical and Vibration

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

### Air Quality

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

### Natural Heritage

- Field Surveys – i.e. fisheries, migratory birds, and vegetation
- Conduct Effects Assessment
- Consult with Agencies and Stakeholders
- Develop Mitigation Strategies

### Social Impact

- Individual Household Interviews
- Consultation with Residential Community Associations/Groups

## What's Next? – Additional Analysis

### Archaeological

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

### Built Heritage

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

### Waste and Waste Management

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

### Economic Impact

- Individual Business Interviews
- Consultation with Business Associations/Groups

## What's Next? – Additional Analysis

### Technical Considerations

- Conduct Geotechnical Surveys
- Develop Preliminary Geometric Design
- Develop Preliminary Construction Staging Plans
- Develop Preliminary Cost Estimates
- Consult with Municipalities, Agencies, and Stakeholders
- Develop Geometric Design Mitigation Strategies



Factors	Performance Measures
<b>Changes to Air Quality</b>	<ul style="list-style-type: none"> <li>• Effect on concentration of particulate matter</li> <li>• Effect on concentration of gaseous pollutants</li> </ul>
<b>Protect Community and Neighborhood Characteristics</b>	<ul style="list-style-type: none"> <li>• Displacement of Residences and Social Features</li> <li>• Direct Impacts on Existing Businesses</li> <li>• Disruption to Residents and Social Features</li> <li>• Noise and Vibration Impacts</li> <li>• Community and Neighbourhood Impacts</li> <li>• Traffic Impacts</li> <li>• Municipal Impacts</li> <li>• Displacement of Businesses</li> <li>• Disruption of Businesses</li> <li>• Other Effects on Businesses</li> </ul>
<b>Maintain Consistency with Existing and Planned Land Use</b>	<ul style="list-style-type: none"> <li>• Impacts to Land Use (existing and planned)</li> <li>• Impacts to Development Plans</li> <li>• Impacts to Contaminated Sites/Disposal Sites</li> </ul>
<b>Protect Cultural Resources</b>	<ul style="list-style-type: none"> <li>• Impacts to Built Heritage Features</li> <li>• Impacts to Cultural Landscape Units</li> <li>• Impacts to Parklands</li> <li>• Impact to Archaeological Features</li> </ul>
<b>Protect the Natural Environment</b>	<ul style="list-style-type: none"> <li>• Impacts to Ecological Landscapes</li> <li>• Communities/Ecosystems</li> <li>• Population/Species</li> <li>• Surface Water/Groundwater Recharge Areas</li> <li>• Other Natural Resources</li> </ul>
<b>Improve Regional Mobility</b>	<ul style="list-style-type: none"> <li>• Assessment of Highway Network Effectiveness</li> <li>• Assessment of Continuous/ongoing River Crossing Capacity</li> <li>• Operational Considerations of Crossing System (River Crossing and Plaza)</li> </ul>
<b>Minimize Cost</b>	<ul style="list-style-type: none"> <li>• Preliminary Construction Cost</li> <li>• Assessment of Constructability</li> </ul>



## Consultation with Municipalities, Agencies, First Nations Interest Groups and U.S. Project Team

Ongoing

### Obtain Comments on Crossing, Plaza and Access Road Options

March - April '06

PIOH3 Meeting at Ciociaro Club

March 28

PIOH3 Meeting at Novelletto Rosati Complex

March 30

Workshop at Ciociaro Club *(Please Register to Attend)*

April 11

Workshop at Novelletto Rosati Complex *(Please Register to Attend)*

April 12

### Assess Options

Spring/Summer '06

Meetings to be scheduled for May, June and August

Other meetings upon request

### Present Results of Assessment

Nov./Dec. '06

PIOH 4 and Workshops

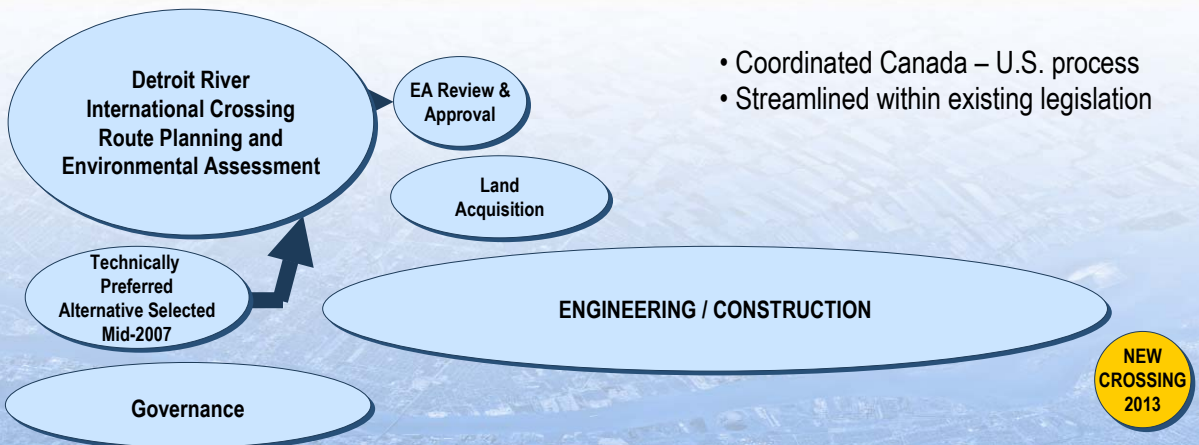
To be Scheduled

### Present Selection of Technically and Environmentally Preferred Alternative

Spring '07

PIOH5 and Workshops

2005	2006	2007	2008	2009	2010	2011	2012	2013
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