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Detroit River International Crossing Study

Development of Illustrative Alternatives

May 29, 2005

Detroit River International Crossing Study
Development of Illustrative Alternatives

Prepared for:

Michigan Department of Transportation
and the
Border Partnership Steering Committee

by
The Corradino Group, Inc.
in partnership with
Parsons Transportation Group

May 29, 2005

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1. Introduction

The Detroit River International Crossing (DRIC) Study requires a structured and well-proven process to evaluate alternatives. This process begins with a determination of those options that will meet the project's purpose and need.

Project Purpose

The Purpose of the Detroit River International Crossing Project is to: (for the foreseeable future, i.e., at least 30 years):

- ***Provide 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 Michigan, Ontario, Canada and the U.S.***
- ***Support the mobility needs of national and civil defense.***

Project Need

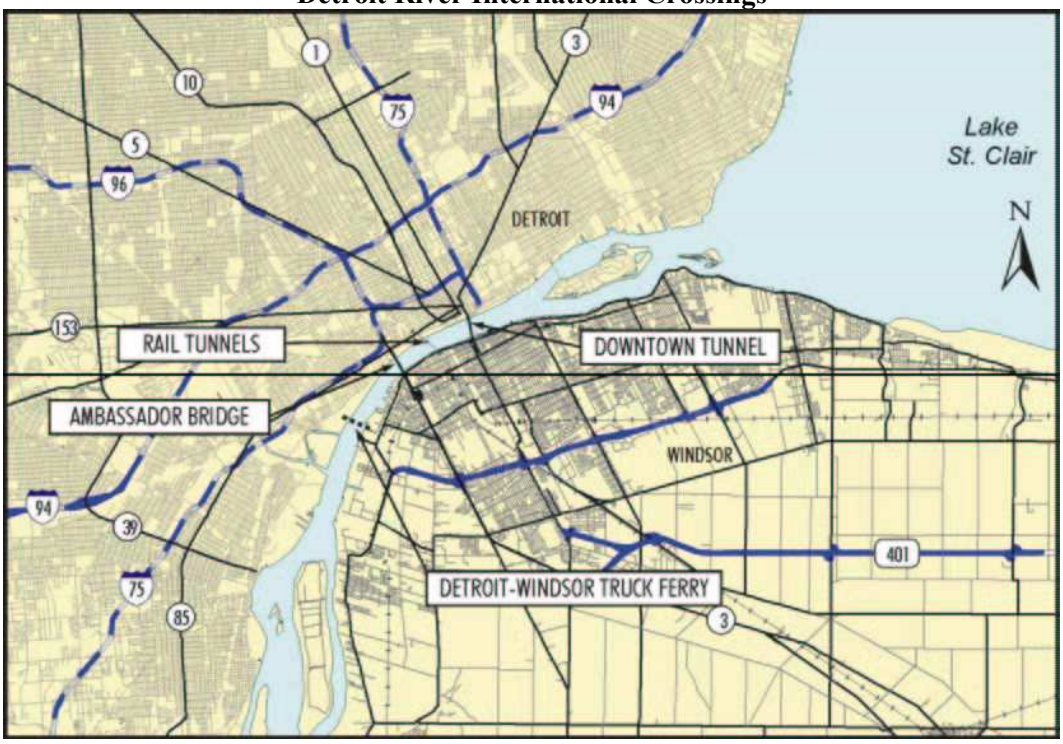
To address future mobility requirements across the Canada-U.S. border, there is a need to:

- ***Provide new border crossing <u>capacity</u> to meet increased long-term demand;***
- ***Improve <u>system connectivity</u> to enhance the seamless flow of people and goods;***
- ***Improve operations and <u>processing capability</u>; and,***
- ***Provide <u>reasonable and secure crossing options</u> in the event of incidents, maintenance, congestion or other disruptions.***

Travel demand modeling results initially produced during the Planning/Needs and Feasibility Study,[1] and recently updated in the current phase of the DRIC Study,[2] indicated roadway-based solutions outside the Detroit River area (Figure 1) do not meet the project's purpose and need, i.e., they do not divert enough traffic from the Detroit River area to render the existing crossings' border capacity adequate through the 30-year planning horizon of this study. And, while continued use is expected of public transit by cross-border travelers/workers, as well as shipping freight by barge and intermodal rail/truck facilities, these modes, in and of themselves, also do not meet the project's purpose and need. On the other hand, roadway/plaza/crossing facilities (bridge or tunnel) meet the purpose and need if they are located between the Belle Isle and Downriver areas. These alternatives, when defined early in the DRIC Study, are labeled Illustrative as they are depicted at a broader level than those to undergo the analysis of transportation, social, economic and environmental conditions required for inclusion in the Environmental Impact Statement (EIS). Nevertheless, Illustrative Alternatives are defined precisely enough to allow a complete range of feasible and prudent options to be examined so those considered to have the most practical opportunity for implementation can be determined and carried forward while others are eliminated from further consideration.

Data on such items as cultural resources, wetlands, housing density and environmentally significant features, plus geotechnical information (including data on salt mines) are studied to define Illustrative Alternatives. Key steps in this process are: 1) determining plaza locations on each side of the Detroit River; 2) connecting the plazas to a nearby freeway; and, 3) connecting the plazas with a river crossing(s). The remainder of this paper, and supporting documentation, documents those steps.

Figure 1
Detroit River International Crossings



[1] Planning Need and Feasibility Study, by URS Corporation, in association with The Corradino Group, IBI Group and FLB Decision Economics, Inc., January 2004.
[2] Detroit River International Crossing Study Travel Demand Forecasts Discussion Paper, IBI Group, May 9, 2005 Preliminary – For Discussion Purposes Only (VERY PRELIMINARY, INTERNAL DRAFT REPORT).

2. Step 1: Locate Plazas

The first step in the analysis process is locating river crossing plazas on each side of the Detroit River. By working with the Department of Homeland Security/Customs and Border Protection Agency and the General Services Administration, the minimum plaza area of 80 to 100 acres has been defined. Then, based on travel demand analysis from the Planning/Needs and Feasibility Study, the riverfront from Grosse Ile to Belle Isle was studied for plaza locations. Aerial photography, data in a Geographic Information System (GIS) of housing, community/land use characteristics, combined with field review of this information were used in this process. Areas with few structures, brownfields or otherwise underutilized tracts of land were a first priority for siting plazas. However, to address the project's purpose and need, more densely developed/more active properties could not be avoided. This is particularly the case in the central part of the study area.

Twelve plazas were located for analysis (Figure 2). Detailed depictions of each site are included later in this report.

3. Step 2: Connect Plazas to Freeway

As plazas define one end of a route from a river crossing, a freeway interchange defines the other. Some plazas are associated with more than one interchange connection to the freeway system to completely explore the list of feasible and prudent alternatives. Figure 3 shows the plazas and the possible freeway interchange locations for the purpose of developing Illustrative Alternatives.

To assist in examining all feasible and prudent plaza-freeway connections, a computer program known as QUANTM was employed. It uses sophisticated mathematical techniques to generate 50 alignments for every plaza-freeway connection. In doing so, input provided by the study team includes the terrain (topography, roads, railroads, etc.) over which the roadway connection will travel; design criteria (grades, degree of curvature, etc.); and, what are known as "avoidance" areas. For the purposes of the analysis on the U.S. side of the border, avoidance areas are those which are protected by law (parks, National Register-eligible cultural and historic sites). Also, all cemeteries and, on a case-by-case basis, features such as active major active industrial areas, major utilities (such as power plants and sewage treatment plants) and landfills were considered avoidance areas.

As noted above, QUANTM generates 50 alignments for every connection of a plaza to a freeway. For the purposes of QUANTM starting (plaza) and ending (freeway) points were established near each plaza and each candidate interchange. The ultimate connections to the plaza and freeway were developed by engineering design following field investigation.

The 50 alignments generated by QUANTM cover virtually every conceivable routing from a plaza area to a freeway interchange area. The 50 alignments generated by QUANTM tend to cluster. This is particularly true considering the relatively short distances between plazas and interchanges being studied. For example, every time an "avoid" area is encountered in QUANTM, some alignments pass around one side of the area and others pass around the other side. (If there is no other way to go, QUANTM will push through an "avoid" area by moving from the fringe to the center.) The result is a "bunching" of alignments so that the number of distinct routes is much fewer than 50. As the "bunching" is more or less concentrated, 20 "representative" alignments are defined to represent these bunches.

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Figure 2: Preliminary Illustrative Plaza Sites

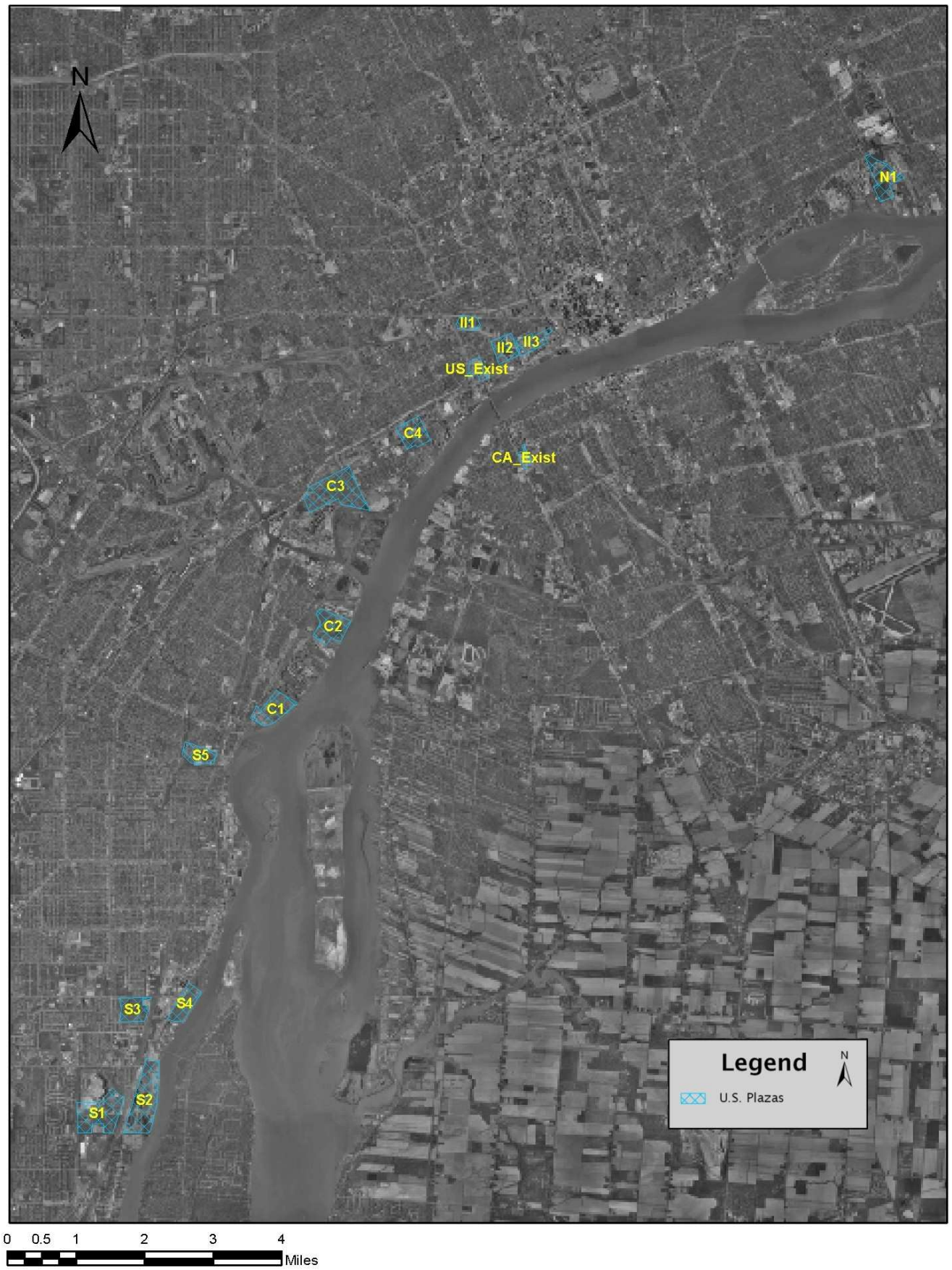
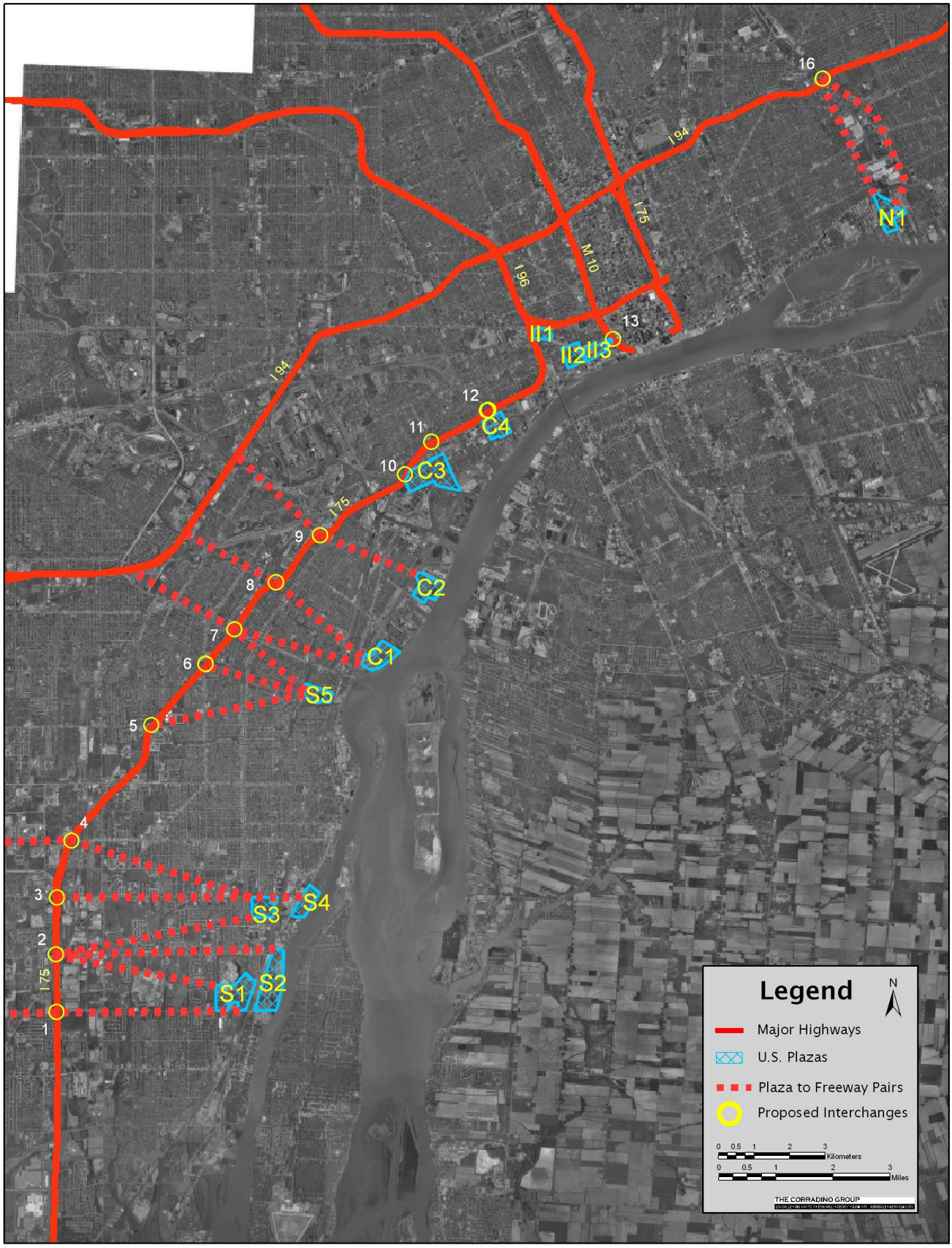


Figure 3
Proposed Connections of Plazas to Freeways



A GIS program known as Arc View was then used to determine the impacts of each of the 20 representative routes. Land use and other spatial data were input to Arc View. These include schools, hospitals, places of worship, water features, and many features that define a community. Housing is an underlying layer in the aerial photography of the GIS.

The 20 "representative" alignments are defined as a path 100 meters wide to include the proposed road and enough property to control access to it. Arc View then queries the layers of data in the GIS to determine how many special areas are intersected by each roadway alignment path. The features queried included: the avoidance areas (parks, cemeteries, historic/cultural sites eligible for the National Register of Historic Places or an archaeological site that may contain human remains), plus community centers, fire stations, police stations, libraries, major medical facilities, places of worship, etc. The analysis also includes a determination of the streets crossed by the plaza-to-freeway connection. This last measure indicates the extent to which an alignment potentially disrupts communities.

The data defined by Arc View for each of the 20 potential representative alignments were examined through a limited field review of the alignments. And, the magnitude of the potential effects on any given resource was carefully considered. For example, while a day care center was inventoried as a school, it was considered to have a lesser institutional presence than an elementary school with extensive grounds and facilities. This examination of each of the 20 representative alignments led to a definition of those few considered candidates for designation as Illustrative Alternatives.

3.1 Summary of Analysis Results

The results of the analysis described above are included in the remainder of this document for each plaza-to-freeway connection area.

4. Step 3: Connect Plazas with River Crossings

Analysis of geotechnical considerations has led to the understanding, at the Illustrative Alternatives level of detail, that bridge crossings are viable to connect all the plazas defined on each side of the Detroit River. However, only the tunnel type known as "soft ground bored tunnel" is viable and only in the area along the river from Belle Isle to the south side of Zug Island (Tables 1 and 2).

With these conclusions, tunnels on each side of the river were connected as shown in Figures 4 through 8 and Figure 9, which summarized with end-to-end (U.S.-to-Canada) alternatives.

Table 1
Detroit River International Crossing
Tunnel Characteristics

Category	Southern	Central	Eastern
Soft Ground Bored Tunnel (4 lane)	Not Feasible ■ Insufficient soil depth	Feasible ■ Marginal soil depth	Feasible ■ Adequate soil depth
Soft Ground Bored Tunnel (6 lane)	Not Feasible ■ Insufficient soil depth	Not Feasible ■ Insufficient soil depth	Feasible ■ Marginal soil depth
Rock Tunnel (4 or 6 lane)	Not Feasible ■ Poor rock ■ Deep tunnel/long approaches ■ Poor history	Not Feasible ■ Poor rock ■ Even deeper tunnel/long approaches ■ Poor history	Not Feasible ■ Poor rock ■ Very deep tunnel/long approaches
Submerged Tunnel (4 lane)	Not Feasible ■ Rock excavation required ■ Environmental issues	Feasible ■ Environmental issues	Feasible ■ Environmental issues
Submerged Tunnel (6 lane)	Not Feasible ■ Rock excavation required ■ Environmental issues	Feasible ■ Environmental issues	Feasible ■ Environmental issues

Source: Parsons Transportation Group

Table 2
Detroit River International Crossing
Tunnel Feasibility

Location / Type	South		Central	I-75/I-96	East
	Grosse Ile	Fighting Island			
Soft Ground Bored Tunnel	No	No	Yes	Yes	Yes
Rock Bored Tunnel	No	No	No	No	No
Submerged Tunnel	No	No	No	No	No
Bridge	Yes	Yes	Yes	Yes	Yes

Note: Determinations made in conformance with Feasibility and Prudence standards, as defined in Revised FHWA Section 4(f) Policy Paper dated March 2, 2005.
Source: Parsons Transportation Group

Figure 4

Detroit River International Crossing
Crossing Corridors

- **Four broad corridors:**
  - **Southern Corridor**
  - **Central Section**
  - **I-75/I-96 Section**
  - **Eastern Section**

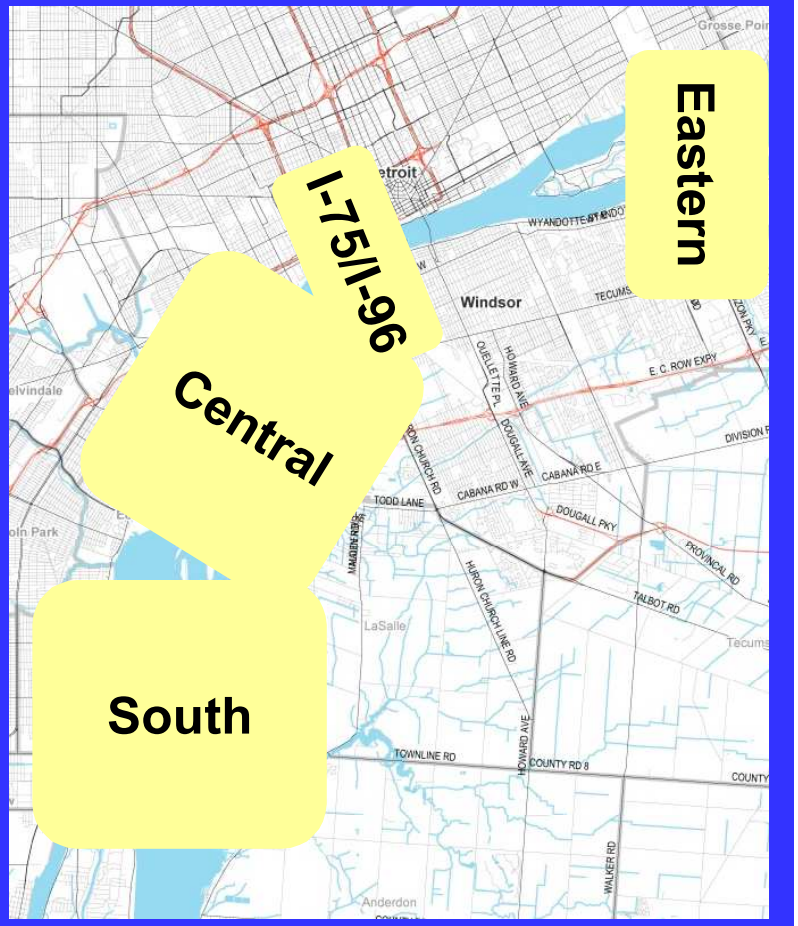


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Figure 5

Detroit River International Crossing
Southern Corridor

- River Width up to 3.25 miles (17,000 Feet)
- Piers in the River
- Pier on Grosse Isle
- Towers Height Impacts on Flight Paths of:
  - Grosse Isle Municipal Airport
  - Migratory Birds

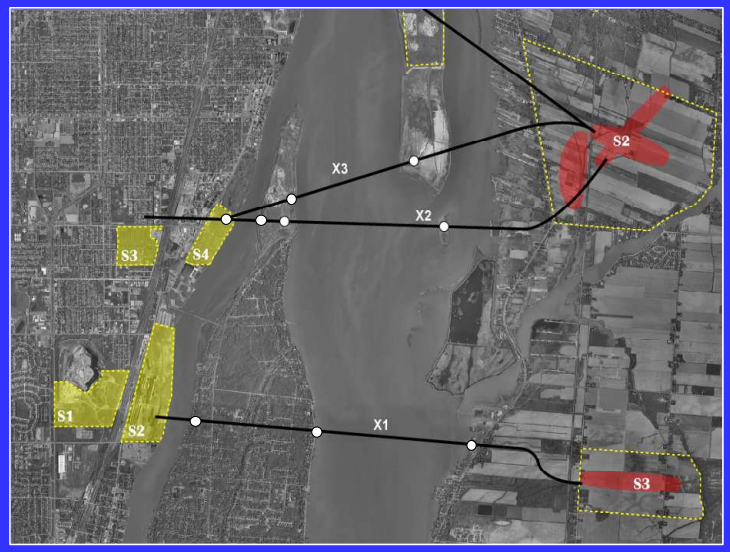

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Figure 6

Detroit River International Crossing
Central Corridor

- River Width up to 1.8 Miles (9,500 Feet)
- Piers in River
- Piers on Fighting Island

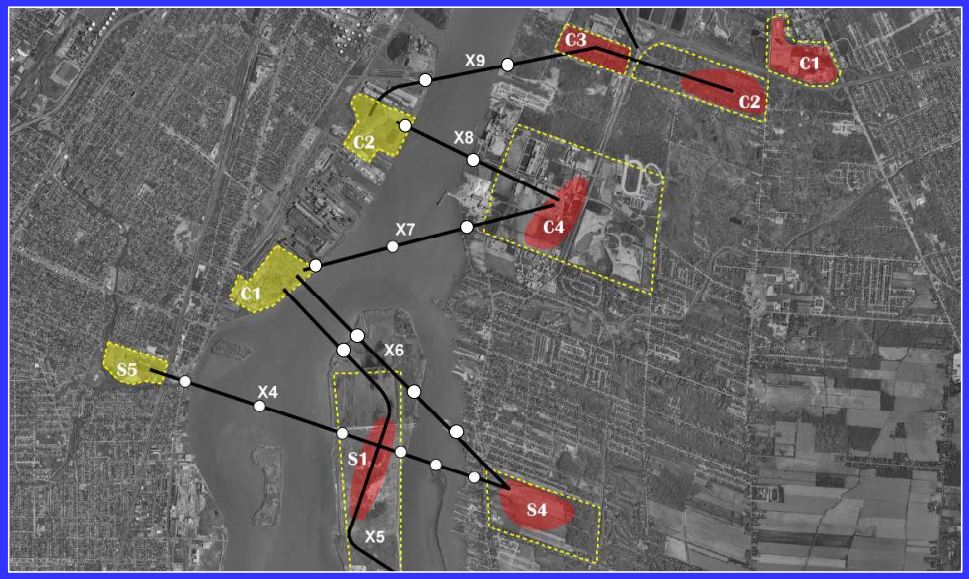

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Figure 7

Detroit River International Crossing
I-96/I-75 Corridor

- **River Width up to 0.4 Miles (2,300 Feet)**

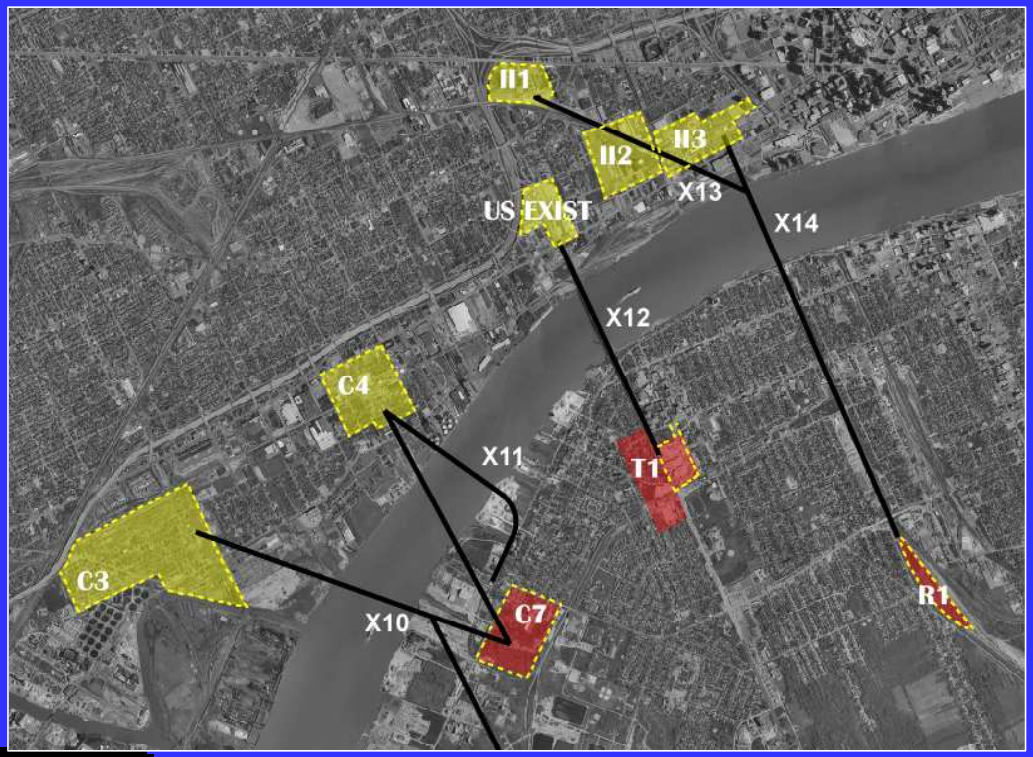

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Figure 8

Detroit River International Crossing
Eastern Corridor

- River Width up to 1.1 Miles (6,200 Feet)
- Piers in the River
  - Proximity to Belle Isle
  - Piers on Belle Isle
- Tower Height Impacts on Wildlife and Detroit City Airport

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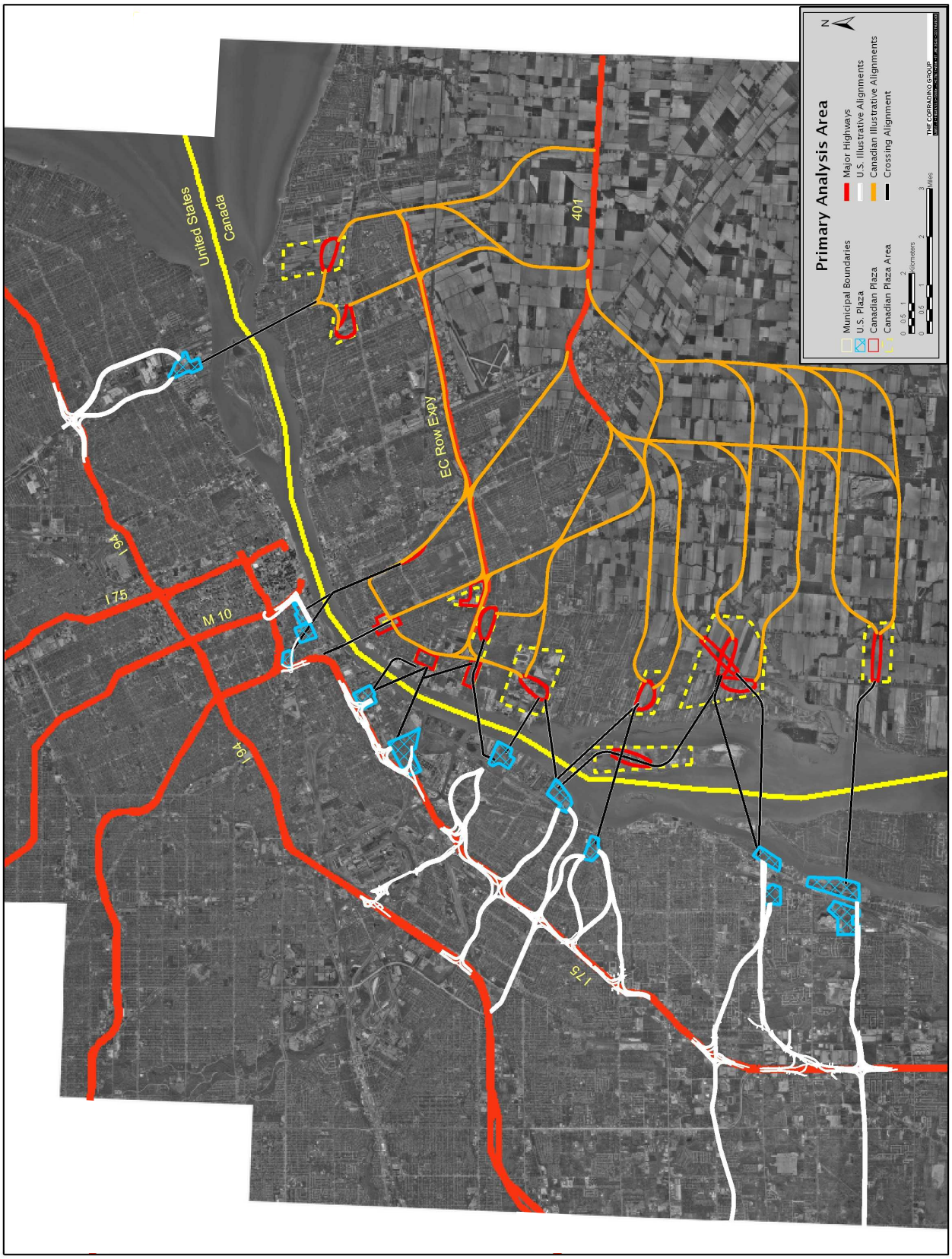
Figure 9
Preliminary End-to-End Illustrative Alternatives



5. Next Steps

The preliminary Illustrative Alternatives proposed here are now subject to review by the Border Study Partnership Working Group and Steering Committee. They will then be revised to prepare them for review by the Local Advisory Council (June 20), city councils in Canada , and the general public (the week of June 20, in Canada and the week of June 27 in the US). Then, once refined again, the Illustrative Alternatives will be subject to evaluation consistent with the methodology included in Appendix A.

Appendix A

DRAFT
(May 29, 2005)
Detroit River International Crossing Study
Proposed Evaluation Factors and Performance Measures
Illustrative Alternatives Phase

1. Introduction

The Detroit River International Crossing Study requires a structured and well-proven process to evaluate alternatives. It must be consistent with laws/regulations governing such analyses. It must also allow decisions to be made such that: 1) a Draft Environmental Impact Statement can be published by the end of 2006; 2) a Preferred Alternative approved by the Partnership Steering Committee by mid-2007, if not sooner; and, 3) an FEIS completed by the end of 2007 (Figure 1).

This evaluation process begins with a determination by the Partnership Steering Committee, with input from the Working Group and Consultants,[1] of only those options that will meet the project's purpose and need. The project's purpose is stated as follows:

- Provide 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 Michigan, Ontario, Canada and the U.S.

- Support the mobility needs of national and civil defense.

The project's need is based on these four factors:

- Provide new border crossing capacity to meet increased long-term demand;

- Improve system connectivity to enhance the seamless flow of people and goods;

- Improve operations and processing capability; and,

- Provide reasonable and secure crossing options in the event of incidents, maintenance, congestion or other disruptions.

To address these issues, an alternative's performance in a number of transportation information categories, such as "capacity," must be assessed. For example, travel demand modeling results produced in the earlier Planning/Needs and Feasibility Study (P/N&F), and updated for the ongoing environmental analysis work, indicate road-based solutions outside the Detroit River area (Figure 2) do not meet the project's purpose and need, i.e., they do not divert enough traffic from the Detroit River area to render the existing crossings' border capacity adequate. And, while continued use is expected of public transit by cross-border travelers/workers, as well as shipping of freight by barge and intermodal rail/truck facilities, these modes, in and of themselves, also do not meet the project's purpose and need. On the other hand, road/plaza/crossing facilities (bridge or tunnel) meet the purpose and need if they are located in the Detroit River Area.

[1] The Partnership Steering Committee is comprised of representatives of the Federal Highway Administration, Transport Canada, the Ministry of Transportation Ontario and the Michigan Department of Transportation. The Consultant teams are led by URS Canada (Canadian Team) and The Corradino Group of Michigan (U.S. Team).

Figure 1
Evaluation Process

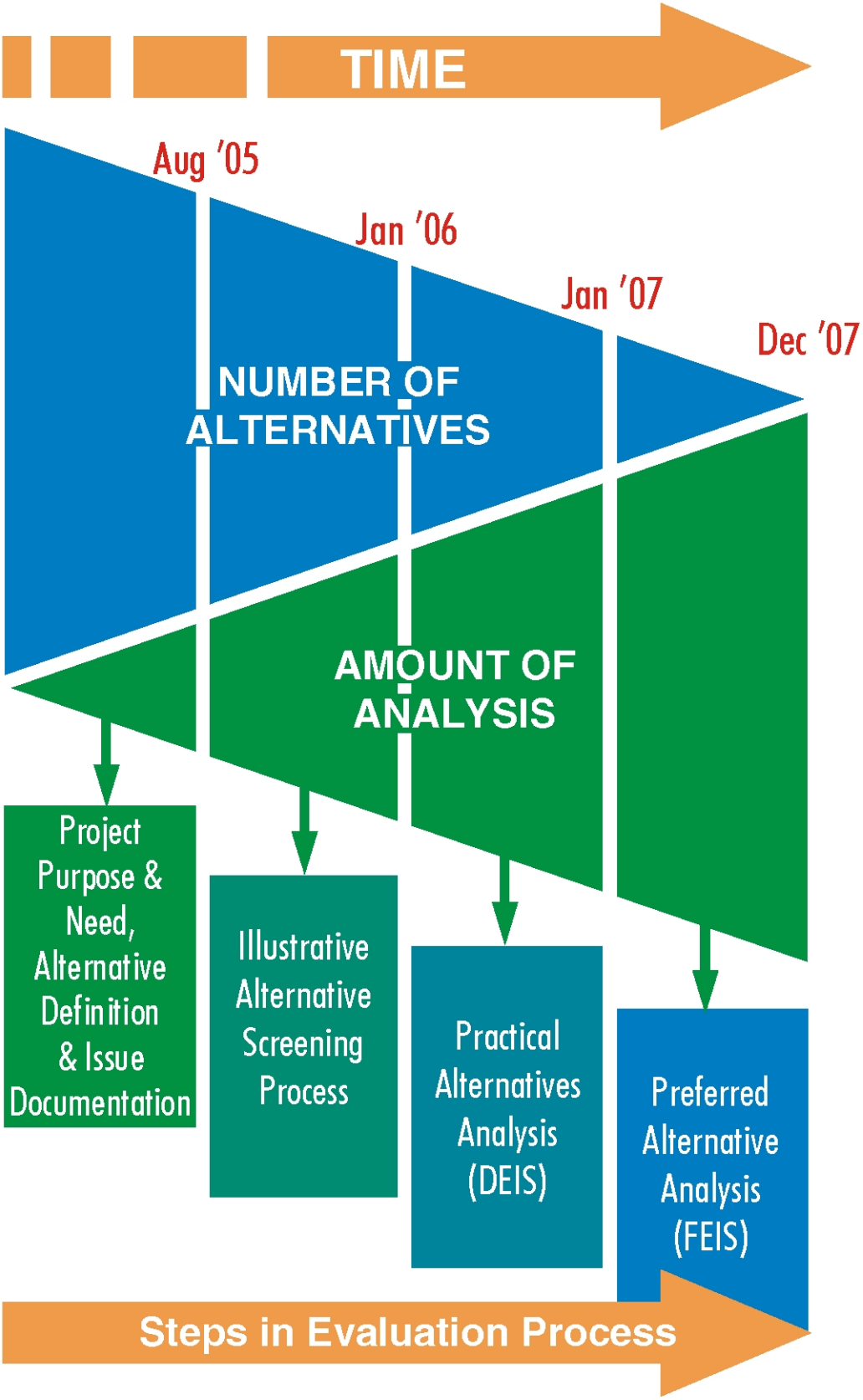
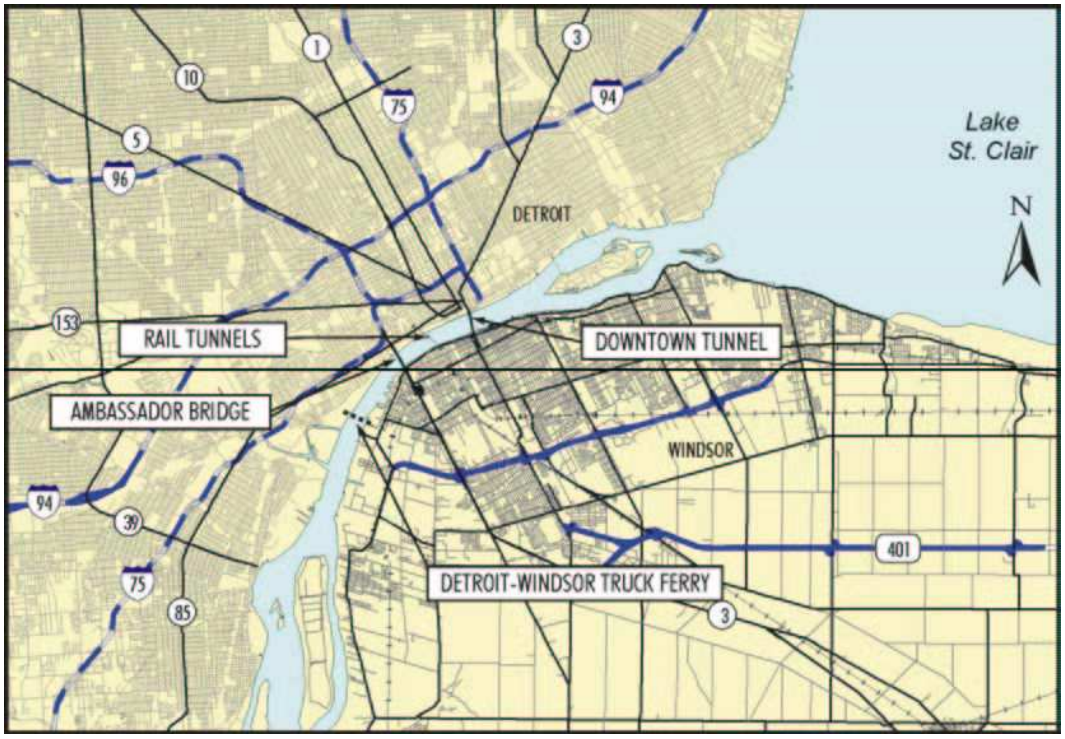


Figure 2
Detroit River International Crossings



The purpose of the environmental study process that is a key part of the current phase of work is to evaluate impacts of alternatives and to feed this information back to the alternatives selection process. This information will assist the Partnership to refine alternatives and to reduce impacts. The goal is to avoid, minimize or mitigate impacts to the extent practicable. Additionally, the analysis process may uncover impacts that are so significant to be deemed "fatal". In such case the alternative associated with a fatal flaw would be eliminated from further consideration. However, at this time, reconnaissance in the P/N&F, and new work on the environmental phase, do not indicate any "fatal flaws" associated with road-based crossings in this area.

These preliminary conclusions will be reviewed by the Partnership Working Group and Steering Committee. At that time they will also consider each proposed alternative's international and national importance from economic and travel/transportation (including freight) perspectives. The national/international issues may be overriding considerations throughout the evaluation.

2. Defining Illustrative Alternatives

The alternatives remaining from the first screening, i.e., those which meet purpose and need and have no fatal flaw, will be defined at an "Illustrative" level of detail of specific crossing/plaza/access roadway combinations. Existing data on such items as housing density, cultural resources, wetlands, and other environmentally significant features, plus geotechnical information (including data on salt mines) will be studied to define the Illustrative Alternatives.

A key step in this process is locating the crossing plaza on each side of the Detroit River. Defining plaza functions and footprint/size will be done in concert with Customs and Border Processing Agencies. Locating the plaza alternatives will be accomplished through engineering/planning analysis and field work, again using data such as those listed above (i.e., housing, environmental factors, etc.). The definition of Illustrative Alternatives will be completed by the end of May 2005 to be presented to the public in June 2005.

The evaluation of the Illustrative Alternatives will be conducted in the summer of 2005 for: 1) the plaza; and, 2) the crossing links (bridge/tunnel and connecting roadways). The results of this two-part screening will then be combined to form end-to-end solutions connecting both sides of the border with Detroit River crossings. Table 1 displays the list of factors to be used in these evaluation processes. Performance Measures Categories are included to further define each factor. They are to be used, along with a spectrum of qualitative and quantitative measures, to aid in alternatives definition/refinement and, therefore, to inform the decision-making process. The summary definition of each evaluation factor listed on Table 1 is presented next.

2.1 Evaluation Factors

Maintain Air Quality – Under the U.S. Clean Air Act, the SEMCOG region is now classified as non-attainment for the $PM_{2.5}$ standard and is in marginal non-attainment for the eight-hour ozone standard. To assess the relative effect of Illustrative Alternative transportation proposals on key roadway links (to be specified in cooperation with MDOT and MTO), the border crossing plaza, and for the regional system overall, pollutant burdens will be calculated for carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen (NOx), and particulates of 10 microns (PM_{10}), $PM_{2.5}$, Diesel Particulate Matter (DPM), carbon dioxide (CO_2), and air toxics (benzene, 1,3-butadiene, formaldehyde, acetaldehyde, and acrolein). Hotspot analyses at the plaza and key locations along the roadway system connecting to the border crossing will be conducted through dispersion modeling for carbon monoxide $_{for}$ the U.S. Other pollutants to address precursors of Green House Gases (GHG) will be added to the dispersion modeling products in Canada.

Protect Community/Neighborhood Characteristics – The transportation network of the future will have traffic volumes on the crossing, plaza and connecting highway links that are expected to be different from those of today, if a new/expanded border crossing is developed. To measure the effects of the Illustrative Alternatives on plaza and key roadway links in or near neighborhood areas, the forecast volumes by vehicle type on selected roadway segments will be determined. Additionally, the change in local access will be defined, including that for emergency services. Sensitive receptors (residences, churches, schools, libraries and similar institutions/land uses) that might be negatively affected by noise will be sited and the noise impacts on them determined. Potential acquisition of residential, business, and institutional structures (churches, libraries and the like), and farm property/structures will be determined. Areas of significant numbers of minority and low-income people will be identified and the intrusion of new roadway development into these areas will be evaluated. Finally, the public safety concerns related to the plaza will be addressed.

Table 1
Detroit River International Crossing Study
Proposed Evaluation Factors and Performance Measures
Illustrative Alternatives Phase

Evaluation Factor	Performance Measure Categories	Performance Measure
Maintain Air Quality	Regional Burden	Mobile 6.2 analysis based on traffic model results.
	Dispersion (CO in U.S./Canada and other Green House Gases/pollutants in Canada)	CALQ3HC hotspot analysis for key roadway links.
Protect Community/Neighborhood Characteristics	Traffic Impacts ▪ Volumes by Vehicle Type	Peak period volumes on specific links by mode (cars, trucks, and int'l. trucks).
	▪ Local Access	Number of streets crossed, closed, or with an interchange.
	Noise	TNM2.5 model analysis based on traffic model results for key roadway links.
	Community Cohesion/Community Character	Encroachment/severance on neighborhood based on professional judgment. Impact on delivery of community services (function of road closures) based on professional judgment.
	Acquisitions ▪ Residential	Number of dwelling units (du) by type; population estimate based on average persons per du.
	▪ Business	Number of business establishments; employment estimate based on average employees per business for area.
	▪ Institutions	Number of institutions by type (church schools, etc.).
	▪ Farm Property/Structures	Operations/structures affected.
	Environmental Justice	EJ areas (census tracts) affected.
	Public Safety/Security (Plaza Only)	Assessment based on professional judgment.
Maintain Consistency with Local Planning	Land Use (existing and planned)	Designation of "consistent," "not consistent," or "not applicable" with goals, objectives and/or policies based on review of official planning documents.
	Development Plans	Designation of "compatible," "not compatible," or "not applicable" with plans for upcoming development that may not be covered by official plans.
	Contaminated Sites/Disposal Sites	Number of documented sites affected.

Table 1 (continued)
Detroit River International Crossing Study
Proposed Evaluation Factors and Performance Measures
Illustrative Alternatives Phase

Evaluation Factor	Performance Measure Categories	Performance Measure
Protect Cultural Resources	Historical	Number of listed sites affected.
	Parklands	Number of parks by type; number of acres affected. Includes subset for Coastal Zone Management sites.
	Archaeological	Number of sites affected.
Protect the Natural Environment	Environmental Significant Features	Number of acres affected by type.
	Surface Water Quality/Groundwater	Number of acres of floodplains affected; number of water crossings (including secondary rivers and streams); Detroit River channel alteration; number and general location of in-water piers; number of water intakes affected.
	Environmentally Significant Species/Habitat	Number of acres affected by type; list of species; other significant features.
	Farmland/Prime Agricultural Soils	Number of acres by soil type.
	Other Natural Resources	Underground area affected measured by area of roadway above.
Improve Regional Mobility	Highway Network Effectiveness ▪ Service Levels	Miles by LOS classification by major facility type.
	▪ Vehicle Miles of Travel	By major facility type.
	▪ Vehicle Hours of Travel	By major facility type.
	▪ Distance Traveled	Average miles for car, local truck, and international truck.
	Continuous/ongoing river crossing capacity	Miles of detour to alternate crossing. Redundancy assessment.
	Operational Considerations of Crossing System (River Links and Plaza)	To be determined.
Assess How Project Can Be Built	Constructability	Site constraints; geotechnical constraints; construction staging/duration; traffic maintenance; risk assessment.

Maintain Consistency with Local Planning – The existing and future land use patterns of affected communities will be examined to assess the degree of consistency of the proposed transportation improvements. This will include development known through other documents publicly available but not included in "official plans." Finally, the intrusion of a plaza or new roadway that is part of the border crossing system on contaminated sites/disposal sites will be evaluated.

Protect Cultural Resources – The use for transportation facilities of properties of historic and/or archaeologic significance and publicly-owned parklands is protected by various U.S. and Canadian laws/regulations. The transportation systems' use of such sites/properties, including those areas covered by Coastal Zone Management programs, will be defined for each Illustrative Alternative.

Protect the Natural Environment – There is potential to affect wetlands, surface and groundwater resources and other ecologically sensitive areas, including those which may be populated by threatened and/or endangered species. This is particularly true along the Detroit River and the International Wildlife Refuge. The acreage of these areas possibly intruded upon by an Illustrative Alternative will be quantified and the species potentially impacted will be identified. Likewise, the potential use of productive resources, such as farmland (Ontario Class 1-3 soils) or mineral mines, will be determined. Water quality issues will also be addressed in this category by defining the water crossings affected, floodplain acres intruded upon, and possible impacts to the Detroit River, including the release of contaminated sediments. If any water intakes would be potentially affected, they will be enumerated.

Improve Regional Mobility – The purpose of the Detroit River International Crossing Project is, in part, "to provide 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 Michigan, Ontario, Canada and the U.S." Therefore, the ability of the overall highway network to move vehicles efficiently will be evaluated on a number of key roadway links using Highway Capacity Manual terminology (e.g., service volumes at LOS E). Regional vehicle miles, vehicle hours of travel, and travel distances will also be calculated. In the U.S., the "region" will likely be a subarea of the SEMCOG seven-county area to better define variations among alternatives. Also included here will be an assessment of: 1) ability of an alternative to provide continuous/ongoing river crossing capacity; and, 2) the operational considerations of the system (plaza and crossing).

Assess How Project Can Be Built – In this category, an assessment will be made based on professional judgment of the constructability of the proposed alternative (bridge and roadway system) and its border plaza. The measures to be defined are site constraints, geotechnical constraints, construction staging/duration, traffic maintenance, and risk assessment.

3. Evaluation Process

An example "scoring form" is shown on Table 2. It, and the scoring process in which it is used, have been applied successfully on a number of projects in Southeast Michigan. This scoring process will only apply to evaluation factors. It will be done independently by the public and the Project Team (Steering Committee, Working Group and Consultants combined). The "performance" of each Illustrative Alternative will be measured by the Consultants. So, the "bottom line" score of each alternative will be a result of combining the Consultant's performance score by evaluation factor multiplied by the weight of that factor established by 1) the public, and 2) the Project Team. So, two scores will be available per alternative to compare and contrast the technical and non-technical assessment of evaluation factors.

It is noteworthy that cost will be applied after the evaluation scoring to determine "cost effectiveness," defined as "score (points) per dollar." Cost will be developed on an order-of-magnitude basis from unit construction costs (e.g., dollars per square meter or per linear meter). Factors will be applied to the basic construction cost to account for right-of-way costs, design, construction administration, contingencies and the like.

At the end of the determination of performance of the Illustrative Alternatives (evaluation scoring) and cost effectiveness, the Steering Committee will again examine the alternatives according to how well each addresses the objective of providing for the mobility requirements across the US-Canada border consistent with issues of international and national importance so that the end-to-end proposals can be determined and a "short list" of Practical Alternatives established. Following public input, these will be subject to detailed analysis and documentation in the Environmental Impact Statement (U.S.) for eventual selection of a Preferred Alternative. That is scheduled to occur in mid-2007, but every effort will be made to accelerate that timetable.

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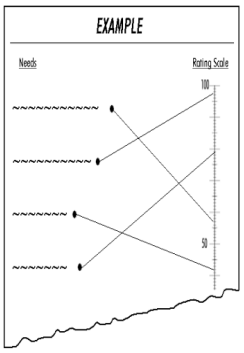
Detroit River International Crossing Project
Scoring Form – Evaluation Factors

How Important Are These Items?



We want to know how you value the seven evaluation factors listed below. To provide us your opinion, please rate them on the scale of "1" through "100", with the highest rating indicating the item you believe is most important. Draw a line from the dot (•) following each factor on the left, to the scale on the right, to indicate your opinion. It you choose, you can have all factors at the same point on the scale at the right. When finished, return your form to a project representative, or by email, or by fax at the addresses listed at the bottom of this form.

Your opinions will be used to evaluate the impacts of the Illustrative Alternatives of the Detroit River International Crossing Project. In that process the Detroit River International Crossing Partnership must also consider the project's Purpose and Need Statement (attached). Therefore, a proposed river crossing alternative's international and national importance from economic and travel/transportation (including freight) perspectives may be overriding considerations throughout the evaluation. Thank you.

Factor		Rating Scale
Maintain Air Quality	●	100
Protect Community/Neighborhood Characteristics	●	
Maintain Consistency with Local Planning	●	
Protect Cultural Resources	●	50
Protect the Natural Environment	●	
Improve Regional Mobility	●	
Assess How Project Can Be Built	●	0

Please return the completed form by July 31, 2005.

Name of Person Completing Form: _____

www.partnershipborderstudy.com
Hotline: 800.900.2649
Fax: 248.799.0146

Project Purpose

The Purpose of the Detroit River International Crossing Project is to: (for the foreseeable future, i.e., at least 30 years):

- ***Provide 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 Michigan, Ontario, Canada and the U.S.***
- ***Support the mobility needs of national and civil defense.***

Project Need

To address future mobility requirements across the Canada-U.S. border, there is a need to:

- ***Provide new border crossing <u>capacity</u> to meet increased long-term demand;***
- ***Improve <u>system connectivity</u> to enhance the seamless flow of people and goods;***
- ***Improve operations and <u>processing capability</u>; and,***
- ***Provide <u>reasonable and secure crossing options</u> in the event of incidents, maintenance, congestion or other disruptions.***