

Updated Results of the Analysis of the Seven Evaluation Factors: Practical Alternatives

At the initial stages of the environmental assessment, the study team identified seven evaluation factors that would provide the basis for the assessment of alternatives. At the Public Information Open Houses (PIOHs) in December 2006 the Canadian study team reported on the preliminary results of the analysis of the practical crossing, plaza and access road alternatives based on the seven evaluation factors. The community has also expressed its local goals for the project as:

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

The analysis of the Practical Alternatives for the access road has been completed. Key findings of the analysis are summarized as follows:

Changes to Air Quality

- The access road corridor is only one source of air emissions in the Windsor-Essex County region, and so it has limited influence on regional air quality. Local air quality is more strongly influenced by background sources and transboundary flow than by transportation sources.
- With changes to fuels and technology and by placing the access road below grade, air quality adjacent to the Highway 3/Huron Church Road corridor will improve.
- The benefits offered by an end-to-end tunnel in reducing particulate concentrations are offset somewhat by increases in concentrations of gaseous pollutants emitted over a larger area beyond the access road corridor from the ventilation buildings and these cannot be captured with current pollution control technology.

Other findings:

- Overall, concentrations of fine particulate are projected to be higher in the corridor as traffic volumes increase. For the Practical Alternatives, the increase is primarily attributed to increased road dust caused by the free flow of traffic in the corridor. Particulate from vehicle tailpipe emissions are predicted to decrease.
- Total concentrations of nitrogen oxides (a gaseous pollutant associated with vehicle emissions and other sources) are predicted to decrease due to improvements in fuels and engine technologies, even though traffic volumes will increase.
- At 100 m (328 ft) from the right-of-way, there is little difference in maximum PM_{2.5} concentrations predicted for the end-to-end tunnel and below-grade alternatives.
- Below-grade alternatives result in slightly lower particulate and nitrogen oxide concentrations compared to at-grade alternatives.
- Levels of particulate adjacent to the corridor may be further reduced through the establishment of buffer zones and landscape plantings. Modification of maintenance practices may assist in reducing dust levels from the road surface.

Protection of Community and Neighbourhood Features

- The range in number of households displaced is similar for all alternatives (between 160-230 households for alternatives 1A and 1B, 170 to 230 for alternatives 2A and 2B, and 140 to 180 for Alternative 3).
- The households displaced are primarily located beside the Highway 3/Huron Church Road corridor; however, community neighbourhoods at Spring Garden Road, Bethlehem Avenue, Reddock Avenue and Talbot Road (Highway 3) will experience a greater change in character and cohesion than other smaller communities located along the corridor.
- After mitigation, noise impacts would be marginal with any of the access road alternatives.
- The end-to-end tunnel alternative is considered to have the highest impacts on businesses in terms of the number of businesses displaced and the reduction in visibility for businesses that remain in the corridor.
- All alternatives have a similar impact on social features.
- All alternatives provide a provincial freeway facility connecting Highway 401 to the international crossing for international traffic and will therefore, remove international traffic from local streets.
- Both the end-to-end tunnel and below-grade options improve the aesthetics of the corridor by reducing the visibility of traffic for the adjacent communities. The visual characteristics of the tunnel ventilation buildings would not be consistent with the surrounding landscape and may be considered an aesthetic intrusion for nearby residents.

Consistency with Existing and Planned Land Use

- All alternatives make use of the existing Highway 3/Huron Church Road corridor, which is the historical connection to the border, and the proposed route is consistent with official plans.
- Impacts to the various types of land uses along the corridor are considered to be similar for all alternatives. This is primarily due to the similarity in the property requirements associated with each of the alternatives. Overall, it is anticipated that the majority of land uses within Windsor, LaSalle and Tecumseh displaced by the access road alternatives can be re-established in other areas of their respective municipalities.
- Introducing a six-lane freeway with service roads and widening the transportation corridor will have localized influences on land use resulting in changes to land use or rezoning requirements to certain parcels of land.
- There are no known contaminated/disposal sites among the impacted properties along the access road corridor.

Protection of Cultural Resources

- No features with any recognized heritage status are impacted, so all access road alternatives are considered to have a low impact. In total, up to 11 built heritage features will be potentially displaced by the access road alternatives. Of these, two features (a pre-1900 farmhouse and the Royal Canadian Legion) are of potential heritage significance. These two features are affected by all the access road alternatives.

- All alternatives impact six parks/recreation areas, although only one (St. Clair College ball diamonds and soccer fields) will be directly impacted. The other parks are subject to potential disruption of access.
- Based on the assessment of the number and significance of archaeological sites found in the lands surveyed, as well as for previously known archaeological sites, there is little to no difference between access road alternatives in terms of impact to archaeological features. Given that no access road alternatives have sites with human remains or large pre-contact Aboriginal (village) sites (based on the evidence to date), all access road alternatives are assessed to have low to medium impact to known archaeological sites.

Protection of the Natural Environment

- None of the access road alternatives directly impact any designated Areas of Natural and Scientific Interest (ANSIs) including the Ojibway Prairie Complex.
- Access road alternatives that connect Plazas B and C with the existing Highway 401 have relatively low impacts because these alternatives result in less displacement of provincially rare vegetation communities and species at risk in the Malden Road area.
- Access roads that connect Plaza A with the existing Highway 401 have relatively moderate impacts because these alternatives have the potential to displace more provincially rare vegetation communities and species at risk in the Malden Road area.
- There is no significant difference among at-grade, below-grade and end-to-end tunnel alternatives because footprint impacts are comparable. An end-to-end tunnel may increase the potential risk to nearby natural heritage areas due to dewatering requirements.
- Access roads alternatives 1A and 1B and 3 encroach on the St. Clair College Prairie Environmentally Sensitive Area (ESA) and access road alternatives 2A and 2B do not.

Improvements to Regional Mobility

- All alternatives provide a similar level of improvement to regional mobility by getting long distance truck traffic off local streets and providing full freeway access to/from the border. The local and regional function of the existing Highway 3/Huron Church Road corridor is improved by providing parallel service roads that can be designed to meet the needs of the community.
- Practical Alternative 1B provides the most opportunities for connections between the service roads and the freeway. With Alternative 3, existing side-street connections between Howard Avenue and Labelle Street/Spring Garden Road could remain in place. Street connections in the other alternatives would require modification, resulting in minor out-of-way travel.
- There are no substantive differences in the safety performance between an end-to-end tunnel and non-tunnel alternatives. While research suggests the frequency of crashes in a tunnel are less than a non-tunnel, the consequences of crashes within a tunnel are generally more severe and challenging to deal with for emergency services.

Cost and Constructability

- All access road alternatives are constructible, and traffic flow can be reasonably maintained in the Highway 3/Huron Church Road corridor throughout the construction period.

- Construction is complicated by the high water table and relatively poor ground conditions, and those problems increase with the depth of construction.
- The cost estimate (\$CDN 2011) of the three alternatives from Highway 401 to Malden Road is:
 - At-grade alternatives: \$620 million to \$920 million
 - Below-grade alternatives: \$1.0 billion to \$1.4 billion
 - End-to-end tunnel alternative: \$3.8 billion.
- The increased costs for the end-to-end tunnel relate directly to the increase in excavation and concrete required to build the end-to-end tunnel, as well as the ventilation, electrical, drainage, communications and other Emergency Management Systems.
- The complexity of construction and associated risks to schedule and overall project costs are greatest for an end-to-end tunnelled option.

Conclusions

The assessment of the Practical Alternatives based on the seven evaluation factors does not support further analysis of either an end-to-end at-grade roadway or tunnel at this time.

Although an at-grade solution was found to be the least costly solution and carried fewer constructability risks, this alternative offered fewer benefits in terms of protecting community and neighbourhood characteristics in comparison to the other alternatives.

Similarly, the results of the analysis do not support further investigation of an end-to-end tunnelled access road (Alternative 3). This conclusion is based on the results of the analysis of Practical Alternatives, including:

- All of the access road alternatives will address the future transportation and mobility needs of the region, which was one of the primary objectives for the project. Providing a freeway will separate international and local traffic, reduce the likelihood of international traffic infiltrating other local roads to access the border and eliminate the need for the international truck traffic to stop and start up at the many traffic signals. This will greatly improve operations and safety for all motorists in this area.
- The end-to-end tunnel alternative was found to offer no real advantages in terms of reducing impacts to properties, land use, natural features or cultural features.
- While an end-to-end tunnel alternative offers some advantages to air quality in the immediate corridor through lower particulate concentrations compared to the do-nothing alternative, through improvements to fuels and technology all the alternatives provide this same benefit to some degree.
- The benefits offered by an end-to-end tunnel in reducing particulate concentrations are offset somewhat by increases in concentrations of gaseous pollutants emitted over a larger area beyond the access road corridor from the ventilation buildings and these cannot be captured with current pollution control technology.
- The cost of the end-to-end tunnel was found to be three to six times more expensive than the other alternatives under consideration, representing a difference of between \$2.5 and \$3 billion. These costs are reflective of both the increased effort and materials needed to construct an end-to-end tunnel as well as the increased construction risks and complexities.

- We have always said that we are focussed on pursuing the solution that best balances impacts and benefits. The limited additional benefits of an end-to-end tunnel solution do not justify the associated enormous additional cost, when other solutions are available that offer similar benefits at less cost and with less risks during construction.

A Parkway alternative, a green transportation corridor with a number of short tunnels, has been developed based on refinements to Practical Alternatives 1B and 2B, reflecting the study goals and community concerns we have been hearing on the project. For details on the Parkway, see the information sheet entitled "*The Parkway: A New Option.*"

With community input we developed this Parkway to improve the movement of traffic, keep trucks off local streets and to improve quality of life in the community. We encourage the community to get involved to help us will make this option even better.

Next Steps

The Parkway will be refined based on comments received through the public consultation activities arranged through the summer and analyzed in the same level of detail as the initial five Practical Alternatives.

The DRIC study team will complete the technical and environmental studies and continue to consult with the public. Workshops will take place following the PIOHs. We will continue to work with local municipalities and the public to develop the best access road solution. Your input is important to us.

The results of the technical and environmental studies together with input from ministries, agencies, municipalities and stakeholders as well as the general public, will be incorporated in the evaluation of the Practical Alternatives and will shape the decisions made in selecting a single technically and environmentally preferred alternative.

All alternatives will be evaluated based on the seven major evaluation factors.

The study team is seeking the alternative that provides the best balance of advantages and disadvantages when considering the transportation and mobility benefits, the impacts to social, cultural, economic and natural features, as well as cost and constructability. The evaluation of all options will be considered in the context of the international and national significance of the Detroit River crossing in terms of the economy, security, and ability to provide continuous river crossing capacity.

With our U.S. partners, the DRIC study team will present a single technically and environmentally preferred alternative for the access road, plaza and crossing. Final study documents will be sent to approving agencies and made available for public review. Following approvals, construction will take place and a new border crossing system will be completed.

For more information on the Detroit River International Crossing study, including reports, maps and public meeting notices, please visit our website at www.partnershipborderstudy.com.