Detroit River
INTERNATIONAL CROSSING
S T U D Y

Improvements to Regional Mobility

"Improvements to Regional Mobility" is one of the seven major factors the Detroit River International Crossing (DRIC) study team is using throughout the study. As part of this assessment, a review of transportation systems in south-western Ontario and south-eastern Michigan was undertaken. This review identified the improvements to mobility for international traffic (both truck and auto traffic) through increased capacity, improvements to border processing facilities, providing continuous access to the border crossing, and providing options in the border transportation network (redundancy) as compared to the "do nothing" alternative.

How the Analysis was Done

The detailed traffic analysis incorporates an assessment of existing traffic operations at key locations as well as a detailed assessment of future traffic conditions for 2015, 2025 and 2035 horizon years. Passenger and commercial traffic volume forecasts were obtained from the Travel Demand Model developed for this study.

Existing traffic volumes were collected from a variety of sources including traffic surveys undertaken by the study team in February 2006. The Practical Alternatives were assessed for measures of effectiveness such as levels of service, intersection delays, travel times, network flexibility/local connections and anticipated changes to travel patterns.

Modelling software was used to predict traffic operations for various traffic, road network and horizon year scenarios. The analysis was undertaken for the intersections, arterial roadway sections as well as freeway segments within the Area of Continued Analysis (ACA).

Existing Conditions

Highway 3 and Huron Church Road are high-order arterial roadways. In addition to providing a connection between Highway 401 and Highway 3 to the Ambassador Bridge, the road provides access to commercial and residential areas, as well as community and institutional uses.

Both Highway 3 and Huron Church Road generally operate with some congestion and near capacity during the peak hours. The proportion of trucks is largest nearest to the Ambassador Bridge plaza. During off-peak periods the proportion of trucks is as high as 60 per cent and is approximately 30 per cent during peak hours. While enhancements to border processing, such as Free and Secure Trade (FAST), pre-notification requirements and additional primary inspection booths, have reduced occurrences of queuing on Huron Church Road, the transportation system remains fragile.

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 about 50 per cent. If no new crossing facility is built, significant road capacity problems are expected to begin to occur by 2015. Conditions will deteriorate further by 2035 with most intersections

operating over capacity. Unacceptable delays will be experienced, with travel times nearly doubling over existing conditions.

Without improvements, it is expected that capacity problems will be widespread and not limited to particular locations on Highway 3 and Huron Church Road. By 2035, a significant amount of international traffic will divert to other Windsor/LaSalle area roads to avoid congestion on Highway 3 and Huron Church Road.

Findings to Date

Practical Alternatives

All Practical Alternatives for the access road incorporate a new six-lane freeway between the Highway 401/Highway 3 interchange and the new inspection plaza. The proposed six-lane freeway will meet future demands to year 2035 and beyond and operate under free flow traffic conditions. The six-lane freeway will be flexible to include designated lanes for streaming of border traffic (e.g. separate lanes for FAST/NEXUS traffic).

Service roads will also be incorporated to enhance local access and mobility. All of the service roads will be two lanes in each direction with turning lanes where required. All of the service road alternatives provide increased local and regional mobility over the "do nothing" alternative. This is primarily due to the creation of new capacity and shifting international traffic onto the new freeway. All Practical Alternatives will provide substantial travel time savings for local traffic when compared to the "do nothing" alternative.

A Safety Assessment undertaken by specialists found that transferring long distance traffic from existing Huron Church Road to a controlled access freeway would be a significant safety benefit. The study suggests freeways have a lower crash risk than arterial roads. There are no substantive differences in the safety performance between a 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.

Practical Alternatives 1A and 1B provide one-way service roads on each side of the freeway between Howard Avenue and the E.C. Row Expressway. Practical Alternatives 2A and 2B provide a parallel two-way service road beside the freeway. Major side streets will be connected across the new freeway and access ramps will connect the service roads to the freeway at key locations. Practical Alternative 1B provides the most opportunities for connections between the service roads and the freeway. Practical Alternative 3 is an end-to-end tunnel option that would have the two-way service road at-grade and generally above the tunnel itself. Existing side-street connections between Howard Avenue and Labelle Street/Spring Garden Road could remain in place under this alternative. Side street connections in the other alternatives would require modification, resulting in minor out-of-way travel.

In summary, all alternatives provide a significant 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 which can be designed to meet the needs of the community.

Plaza Alternatives

In terms of providing improved border processing facilities to meet future travel demand and security requirements at the border crossing, both the Canadian and U.S. study teams are developing plaza alternatives that are much larger than those currently existing at the Ambassador Bridge and the Detroit-Windsor Tunnel. The plazas will be designed to serve the future (2035) travel demands at the border crossing. These new plazas are being developed in consultation with Canada Border Services Agency and the U.S. Department of Homeland Security Customs and Border Protection Branch to provide sufficient areas for primary inspection lane booths and on-site secondary inspection of people and goods. All plaza alternatives will allow for dedicated NEXUS and FAST lanes and provide for a substantial improvement of border processing capabilities.

U.S. and Canadian border agencies have reviewed and tested functional layouts of the plaza alternatives to confirm their suitability under future traffic conditions. All plaza alternatives were found to be acceptable.

Crossing Alternatives

The new Detroit River crossing is being developed as a six-lane bridge, providing three Canada-bound lanes and three U.S.-bound lanes. The capacity of the new crossing will accommodate future travel demand, both in terms of meeting capacity and providing flexibility to stream traffic on the crossing to improve border processing (e.g. designated NEXUS/FAST lane).

Remaining Activities

The next steps for the access road are to refine the alignment, profile, access points, interchanges and cross-street intersection configurations to improve operations and reduce impacts, where possible. Refinements to the Highway 3 interchange are ongoing in consultation with municipalities.