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Canada-United States-Ontario-Michigan Border Transportation Partnership

Noise and Vibration Impact Assessment

The Recommended Plan Analysis

Technical Memorandum

December 2008

1. Introduction

The purpose of this memorandum is to update the information contained in the *"Noise and Vibration Impact Assessment - Technically and Environmentally Preferred Alternative (December 2008)"* TEPA report. The purpose of that report was to summarize the assessment of impacts and proposed mitigation for the TEPA (i.e. The Windsor-Essex Parkway, Plaza B1 and Crossing X-10B).

Subsequent to the preparation of the above noted report several refinements were developed based on further technical analysis and stakeholder consultation, with the objectives of further enhancing the benefits or mitigating the effects of the TEPA. These refinements together with a description of how the refinement improves the TEPA are discussed in the next section of this memorandum.

The combination of the TEPA and associated refinements along with the proposed mitigation measures are referred to collectively as the Recommended Plan.

2. TEPA Refinements

Howard Avenue Diversion

The southern portion of Howard Avenue has been diverted to The Windsor-Essex Parkway interchange.

Key benefits of this refinement include the following:

- Regional traffic is diverted away from Howard Avenue.
- Regional mobility improvements with direct connection of Howard Avenue to The Windsor-Essex Parkway / Highway 3 interchange.

This refinement provides a benefit from the perspective of noise and vibration as compared to the original TEPA. Receptors along Howard Avenue in the areas from which traffic have been diverted are expected to experience a reduction in traffic noise.

Highway 3 Roundabout

A roundabout is included in The Windsor-Essex Parkway/Howard Avenue Diversion/Highway 3 interchange.

Key benefits of this refinement include the following:

- Optimum traffic operations at this junction.
- Reduced number and severity of collisions.
- Reduced engine idling.
- Reduced traffic queuing.
- Potential location for gateway features.

This refinement provides a benefit from a noise and vibration perspective as compared to the original TEPA. Although there are no receptors in the immediate vicinity of the roundabout, reduced engine idling and traffic queuing resulting from the roundabout is expected to result in a reduction in noise levels in this area.

Huron Church Line Intersection Relocation

A cul-de-sac design for local residential access and relocation of the proposed Huron Church Line intersection has been incorporated. Expanded buffer zones have been provided.

Key benefits of this refinement include the following:

- Increased buffer for residences near the intersection of Huron Church Line and the new service road.
- Safer and more convenient access for residences in close proximity to the intersection.

This refinement provides a benefit from a noise and vibration perspective as compared to the original TEPA. An increased buffer zone between the service road and nearby receptors is expected to result in reduced noise and vibration levels at these receptors.

Expanded Windsor-Essex Parkway Buffer Zones

Expanded buffer zones have been provided at various locations along the Windsor-Essex Parkway corridor.

Key benefits of this refinement include the following:

- Additional separation between residents and the new freeway and service road.
- Increased green space creation.

This refinement is a benefit from a noise and vibration perspective because it increases the separation between residents and the new freeway and service road thus resulting in potentially lower noise and vibration exposure for frontline receptors. The additional green space provides additional options for noise mitigation such as landscaped berms.

3. Conclusion

Overall, the refinements described above are expected to provide improvements from a noise and vibration perspective as compared to the original TEPA.