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**TO: MAYOR J. LEHMAN AND MEMBERS OF COUNCIL**

**FROM: B. ARANIYASUNDARAN, P. ENG., DIRECTOR OF ENGINEERING**

**NOTED: A. BOURRIE, GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT (ACTING)**  
**M. PROWSE, CHIEF ADMINISTRATIVE OFFICER**

**RE: MOTION 18-G-210 – SOUND BARRIERS ALONG HIGHWAY 400 ADJACENT TO RESIDENTIAL AREAS (FILE: T05-HI)**

**DATE: MARCH 18, 2019**

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The purpose of this memorandum is to provide Council with information on sound barriers along Highway 400 adjacent to residential areas per General Committee Motion 18-G-210 (see Appendix "A").

**Background**

Highway 400 falls under the jurisdiction of the Ministry of Transportation (MTO). As part of the environmental planning process leading up to widening of Highway 400, MTO completed a noise assessment as part of the Transportation Environmental Study Report (TESR) Addendum for Highway 400 Improvements from 1 kilometer south of Highway 89 to the junction of Highway 11.

**Noise Assessment Criteria**

MTO completed a noise assessment as required by Section 3.4 of the *MTO Environmental Reference for Highway Design and MTO Environmental Guide for Noise*.

The noise assessment compared projected noise levels generated from 2031 traffic volumes with and without the highway widening utilizing the following process:

1. Determine locations where noise impacts occur:

MTO's guidelines state that noise impacts occur based on the following criteria assessed at identified outdoor living areas:

- a) When future noise levels with highway widening exceed future noise levels without highway widening by 5 dBA (relative impact); and,
- b) When noise levels equal or exceed 65 dBA (absolute impact).

The assessment identified 13 locations with outdoor use areas subject to noise impacts.

2. Assess feasibility of noise barriers:

The identified locations are then investigated to determine if noise mitigation measures within the right of way (ROW) would achieve a 5 dBA noise reduction or greater. In locations where the noise reduction is achievable, noise mitigation measures are reviewed based on the following criteria:

- a) Technical feasibility – the constructability of the mitigation with regards to safety, topography, and the ability to achieve a 5 dBA reduction, among other concerns;
- b) Economic feasibility – the cost / benefit analysis of the mitigation; and,
- c) Administrative feasibility – the ability to locate the noise barrier on publicly owned lands such as the MTO ROW.

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**Noise Assessment Evaluation**

MTO's feasibility assessment identified seven locations for implementation. The remaining locations were not recommended for implementation based on the following rationale:

- a) Area 15: Not technically feasible
- b) Area 17: Not economically feasible
- c) Area 18: Not economically feasible
- d) Area 21: Not technically feasible
- e) Area 23: Not economically feasible
- f) Area 30: Not technically feasible

Appendix "B" contains a map prepared by City staff illustrating the recommended noise barrier locations (1 to 7) and locations which were deemed not feasible (15, 17, 18, 21, 23 and 30).

**Noise Assessment Recommendations**

MTO's noise assessment identified noise barriers for the majority of residential areas that are abutting the highway corridor as illustrated in the attached map (see Appendix "B"). These recommendations will be subject to further assessment as part of detailed design.

**Development Adjacent to Highway 400**

For any new development, the City is responsible in keeping with the Ministry of Environment, Conservation and Parks (MECP) requirements under the Planning Act process to require that developers and builders conduct a noise assessment and provide appropriate noise mitigation such as sound barriers for new residential developments adjacent to Highway 400.

**Next Steps**

City staff will continue to advocate for the implementation of noise barriers through further collaboration with MTO. Implementation of noise barriers will coincide with future Highway 400 corridor improvements.

APPENDIX "A"



City of Barrie  
Direction Memos

70 Collier Street (Box 400)  
Barrie, ON L4M 4T5

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November 26, 2018

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18-G-210      **SOUND BARRIERS ALONG HIGHWAY 400 ADJACENT TO RESIDENTIAL AREAS**

1. That staff in the Engineering Department be requested to provide information concerning the criteria associated with installing sound barriers along the Highway 400 corridor that adjoin residential areas.
2. That staff in the Engineering Department be requested to advocate for the installation of sound barriers in these areas in the City of Barrie when Highway 400 is widened. (Item for Discussion 8.2, November 19, 2018)

**Directions Memo:**  
Director of Engineering - action

APPENDIX "B"

**MTO Preliminary Noise Barrier Location Recommendations**

