

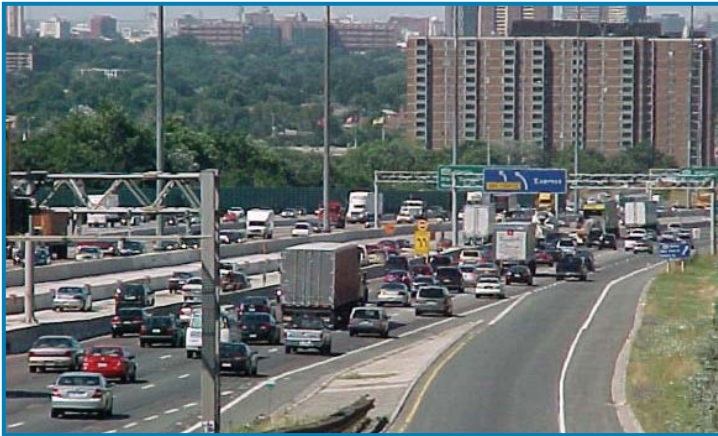
QEW Credit River Bridge EA



Noise

BACKGROUND

The Ministry of Transportation (MTO) follows an Environmental Guide for Noise, developed in partnership with the Ministry of the Environment (MOE), for investigating and mitigating noise impacts along provincial highways.



For any noise sensitive areas (NSAs) that may experience a significant increase in the level of noise the Noise Guide requires MTO to:

- Investigate possible noise control measures on the right-of-way;
- Mitigate noise levels if administratively, economically and technically feasible; and
- Achieve a minimum reduction of five decibels averaged over the first row noise receivers, with mitigation measures.

HOW DO WE IDENTIFY AND MEASURE NOISE?

Noise is considered an undesired or unwanted sound and is measured in decibels (dB). When measuring noise impacts, the decibel scale is often weighted using an "A" frequency adjustment factor because it is the frequency best heard by the human ear. Noise is considered an environmental impact if it adversely affects a NSA.

The Noise Guide identifies a typical NSA as:

- An outdoor living area of a residence at a height of 1.2 m in the backyard, normally 3 m from the rear facade; or
- A communal living area of an apartment building; or
- Hospitals, nursing homes, etc.

Typical noise levels are:

Sound Level	Area Sound Level Found
60 to 75+ dBA	Next to Provincial Freeway
60 to 65 dBA	Near a large urban arterial roadway
55 to 60 dBA	Near a King's Highway such as Highway 35
50 to 55 dBA	Background urban sound level
45 to 50 dBA	Background suburban sound level
40 to 45 dBA	Background rural sound level

Projected noise impacts are determined by a qualitative/quantitative analysis or assessment to:

- Identify the study area;
- Determine NSAs based on the number of existing and approved residential developments;
- Calculate ambient sound levels;
- Calculate future "no build" and future "build" sound levels and assess noise impacts;
- Determine noise mitigation requirements; and/or
- Assess construction noise and vibration impacts.

Highway improvements that increase noise levels by more than 5 decibels above the ambient (existing) noise level or exceed 65 dBA, require the investigation of noise mitigation measures in the highway right-of-way. The determination of whether or not mitigation is provided is based on a review of technical, economic and administrative feasibility:

- Technical Feasibility – Review the constructability of the noise mitigation (i.e. design of wall, roadside safety, shadow effect, topography, achieve a 5 dBA reduction, ability to provide a continuous barrier, etc.);
- Economic Feasibility – Carry out a cost/benefit assessment of the noise mitigation (i.e., determine cost per benefited receiver); and,
- Administrative Feasibility – Determine the ability to locate the noise mitigation on lands within public ownership (i.e., provincial or municipal right-of-way).

Noise

NOISE BARRIERS

A noise barrier may be a noise wall or noise berm. Noise barriers must meet safety and structural standards, and must be installed in accordance with the MTO Road Side Safety and Clear Zone Policy, to avoid becoming a roadside hazard.



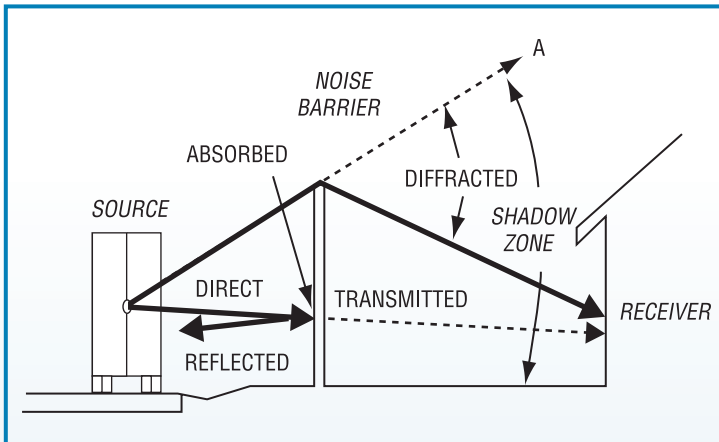
Noise Wall



Noise Berm

HOW A NOISE BARRIER WORKS

The following figure illustrates how a noise barrier works. The barrier is used to alter the path between the noise source and the receiver.



If the noise barrier blocks the line of sight between the source and the receiver there is a five decibel reduction. There is an additional 1.5 decibel reduction for each additional metre of wall that is above the line of sight.

HOW NOISE WILL BE CONSIDERED DURING THIS STUDY

- We recognize that noise is an issue to the adjacent community.
- All alternatives will have different impacts on the adjacent community from a noise perspective.
- Noise will be one of the issues considered in the evaluation.
- Once a preferred alternative is selected, a more detailed noise analysis will be undertaken. This will include examining the technical and economical feasibility of providing noise mitigation.
- This more detailed analysis will be presented at Public Information Centre #3.

FOR FURTHER INFORMATION CONTACT

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