



# Noise Mitigation on Regional Roads

NO. :

Approval Date : May 19, 2005

Last Updated : November 19, 2007

## POLICY STATEMENT:

This policy provides a process for the effective mitigation of traffic noise on Regional Roads.

## APPLICATION:

## PURPOSE:

This policy identifies York Region's requirements for conducting noise assessments, including when and under what conditions mitigation is to be implemented.

## DEFINITIONS:

"Ambient or Background" sound level – is the all-encompassing noise associated with a given environment and comprises a composite of sounds from many sources, other than the source of interest, near and far. In the context of this document, the ambient or existing noise level is the noise level which exists at a receptor as a result of existing traffic conditions without the addition of noise generated by the proposed undertaking or the new source of noise.

"Capital Projects" – where capital road construction projects are being undertaken on Regional Roads.

"Development" – development or redevelopment adjacent to Regional Roads.

"dBA" - a unit of measure to quantify noise levels.

Leq – The Energy Equivalent Continuous Sound Level – is the constant sound level over the time period in question, that results in the same total sound energy as the actually varying sound. It must be associated with a time period. Leq is a measure of total sound energy dose over a specified time period.

Leq (T): Leq (16 hours), Leq (8 hours), Leq (1 hours) means the A-weighted level of a steady sound carrying the same total energy in the time period T as the observed fluctuating sound. The time period T is give in brackets.

"Mature State of Development" - the future build-out of development that fronts or backs onto the Region's right-of-way, based on the ultimate population and traffic capacity forecasts as defined in York Region's official plan.

"Noise" – unwanted traffic sound.

"Outdoor Living Area" – means the part of an outdoor area designated or commonly used for private, exclusive and common use that is easily accessible from the building and designed for the quiet enjoyment of the outdoor environment. For the purposes of this policy, Outdoor Living Areas (OLA's) include, but are not limited to, the following:

- Backyards - the area at grade directly behind the dwelling, measured up to 3 m from the back of the dwelling.
- Outdoor Living Areas combined with front yards for innovative or special house designs, if approved by the Local Municipality for locations, size, fencing, etc...
- Balconies, provided they are the only OLA for the occupant and meet the following conditions:
  - a) Minimum depth of 3 m (or as set by the local municipality);
  - b) Outside the exterior building façade;
  - c) Unenclosed;
- Common OLA's associated with multi-storey apartment buildings or condominiums;
- Passive recreational areas such as parks if identified by York Region or the local municipality.
- Other noise sensitive applications such as residential developments, seasonal residential developments, hospitals, nursing/retirement homes, schools, day care centers or other non-residential land uses containing noise sensitive areas and spaces as approved by York Region.

"Retrofit" - where no capital road projects are being undertaken adjacent to existing residential areas that may warrant noise mitigation.

"Standard Operating Procedures (SOP's)" - York Region's technical guidelines for the assessment and mitigation of noise on Regional Roads.

## DESCRIPTION:

### TECHNICAL AND DESIGN CRITERIA

1. The following technical and design criteria shall be used in determining noise level predictions and modeling:

- a) Future noise levels shall be based on the "Mature State of Development";
- b) The significant noise impact or change in noise levels attributable to implementation of a road or development project shall be calculated as the difference in projected noise levels at the start of construction and the projected noise levels at the "Mature State of Development";

- c) The significant noise impact or change in noise levels for a new development shall be calculated based on the difference between existing noise levels and projected noise levels at the “Mature – State of Development”.
- d) Alternative noise mitigation measures shall be considered prior to making the decision to use noise barriers, i.e. pavement types, alternate alignments, landscaped berms, service road concepts, etc. Noise barriers shall only be used as a last resort, where all other mitigation measures are not feasible. Where noise barriers are required, landscaping is also required. Additionally, policies pertaining to community planning and transit objectives must be fully considered during the evaluation of potential noise mitigation solutions;
- e) For Capital Roads projects, any mitigation deemed necessary shall achieve a minimum reduction of 6 dBA against the greater of either the objective level Leq 16 hours (55 dBA) or the established ambient noise level at the start of construction.
- f) Any mitigation deemed necessary shall attempt to achieve a minimum reduction of 6 dBA against the objective level (55 dBA), Leq 16 (7:00 – 23:00) and the greater of either the objective level or the established ambient noise level in all cases;
- g) The noise impacts from Capital Road projects and in retrofit areas, shall only consider the OLA;
- h) Where noise barriers are deemed appropriate they must be continuous across the adjacent residential properties without breaks or discontinuities and with returns along side lot lines where required to ensure effective noise attenuation; and
- i) Noise mitigation must be constructed in accordance with York Region Standards and SOP's.

#### CAPITAL ROAD PROJECTS

2. In connection with the implementation of capital road projects, the following shall be used as a guideline in considering mitigation of noise impacts:

- a) For projected noise level increases from 0 - 5 dBA on adjacent residential properties, no mitigation be considered unless projected noise levels are greater than 60 dBA (Either at the start of construction or at the mature state of development);
- b) For projected sound levels at the start of construction greater than 55 dBA, and projected future noise level increases greater than 5 dBA, the feasibility of noise reduction measures shall be investigated where a minimum attenuation of 6 dBA can be achieved;
- c) If it is deemed that noise mitigation is to be implemented, York Region shall assume the full cost of implementing the noise control measures;
- d) York Region shall assume the ownership and maintenance of any noise control measures when constructed under the Capital Program;
- e) Noise mitigation implemented as part of Capital Road projects will only be permitted along the property line at the extreme outer edge of York Region's ultimate right-of-way or along the flanking ends of the subdivision where required; and
- f) When noise mitigation is warranted on the basis of projected noise levels not exceeding 60 dBA, the mitigation may be deferred until noise levels exceed 60dBA.

#### DEVELOPMENT

3. In connection with the approval of development applications adjacent to Regional Roads:

- a) Noise attenuation reports in accordance with the York Region Noise Policy and SOP's, approved and recommended by the local municipalities must be provided to York Region during the submission of draft plan of subdivision or prior to Site Plan Approval, in order that noise attenuation measures can be evaluated during review of the draft/site plan;
- b) Alternate methods of reducing the noise impact shall be considered prior to considering noise barriers;
- c) Noise attenuation barriers shall be constructed along the extreme outer edge of the landowners/homeowners property line provided it is a minimum of 2.2 metres in height. However, the Commissioner of Transportation and Works can approve noise attenuation barriers up to a maximum height of up to 3.0 metres in situations where deemed appropriate and where recommended by the Local Municipality; and
- d) Noise barriers are only to be used as a last resort where no other options are feasible. In these situations enhanced warning clauses shall be provided to warn purchasers including specific maintenance obligations and the municipalities' recourse to take corrective actions, should the owner fail to maintain the noise barriers in a state of good repair.

#### RETROFIT

4. In connection with the retrofit of existing developed areas adjacent to Regional Roads where no Capital Road projects are planned and no noise attenuation measures exist, but are requested by residents, the following shall be used as a guideline in considering mitigation of noise impacts.

To be eligible for retrofit the requirements of the Municipal Act must be satisfied as per the following conditions:

1. Existing noise levels are greater than 60 dBA.
2. At least 5 continuous dwellings are affected.
3. The proposed improvement must achieve at least 6 dBA improvement.
4. At least 2/3 of affected residents support application (including the 50% of cost).

In cases where existing noise walls are ineffective due to design deficiencies, they can become candidates for the Retrofit Program if the new mitigation can achieve a recommended benefit of 6 dBA over the existing noise barrier and all other

existing retrofit conditions are satisfied.

Applications that satisfy retrofit criteria will be ranked, priced and submitted to Council for funding approval as part of the yearly Capital Budget cycle. Based on approved funding, improvements will be made based on highest ranking. If approved funding is limited, qualified applications not implemented shall be re-budgeted in the next year's budget cycle and implemented based on new rank and approved funding.

**EXISTING PRIVATELY OWNED NOISE BARRIERS**

5. In connection with severely deteriorated privately owned noise barriers that are located adjacent to the Regional Roads, the following process shall be used in addressing potentially unsafe situations adjacent to public areas:

- a) Potential hazards shall have owners directed by the Local Municipality as soon as the hazard has been identified by Regional forces to correct the problem within a fixed time period.
- b) Failure to comply shall result in Regional staff working with Local Municipal staff to have unsafe sections dismantled and have removed materials either disposed of or stockpiled on or adjacent to the owner's property. All costs incurred will be back charged to the homeowner with the assistance of the governing Local Municipality via the Property Standards Act.

**RESPONSIBILITIES:**

All administrative and financial procedures shall conform to the Regulations under the Municipal Act and the provisions of this policy.

**REFERENCE:**

Draft Approval (Transportation and Works Committee Report 5, Clause 6, May 19, 2005)

**CONTACT:**

General Manager, Roads – Transportation and Works Department.

**APPROVAL INFORMATION**

<b>CAO Approval Date:</b>	April 20, 2005		
<b>Committee:</b> Transportation and Works	<b>Clause:</b> 6	<b>Report No:</b> 5	
<b>Council Approval:</b>	<b>Minute No.</b> 84	<b>Page:</b> 6	<b>Date:</b> May 19, 2005
<b>By-law No:</b>	<b>Minute No.</b>	<b>Page:</b>	<b>Date:</b>

Printed Today : Thursday, November 20, 2008