

SER-009-027

Traffic Noise

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Resolution No: 1079/92; 527/2007

Lead Role: Chief Commissioner

Replaces: N/A

Last Review Date: June 12, 2007

Next Review Date: 2010

Administrative Responsibility: Engineering & Environmental Planning

Policy Statement

A consistent framework is necessary for the assessment and, as necessary, the attenuation of forecasted or actual traffic noise in residential neighborhoods.

Definitions

- A. Outdoor Criterion Sound Level for new residential development - 55 dBA.
- B. Outdoor Trigger Criterion Sound Level for existing residential development - 65 dBA
- C. Receiver location - 5 metres from the rear facade of the dwelling and 1.5 metres above the ground elevation at that point
- D. Road Design Capacity – For the purpose of this Policy, projected traffic volumes to be used for the calculation of projected noise levels on arterial roads are:
 - 4 lane arterial road - 27,000 vehicles per day
 - 6 lane arterial road - 40,000 vehicles per day
- E. Sound Level Descriptor - The sound level descriptor to be used in all assessments will be the 24 Hour Energy Equivalent Sound Level or Leq (24 Hour) expressed in A-weighted decibels or dBA. All sound levels in this policy are Leq (24 Hour).
- F. Vicinity - the depth of 2 residential lots and will be the nearest residential lots to the roadway regardless of commercial, light industrial or green space screening
- G. Residential Urban Village - compact, walkable, mixed-use neighbourhoods, as designated in the Area Concept Plans and Area Structure Plans.

Guidelines

- A. Attenuation of Traffic Noise for Proposed New Residential Development
 - 1) A Noise Impact Assessment, satisfactory to the Manager of Engineering and Environmental Planning, is required for all residential development to be constructed within the vicinity of existing and proposed major roadways.
 - 2) The assessment must address background noise levels, the impact of current traffic levels and the impact of traffic at projected road design capacity. The assessment will identify the attenuation measures necessary to meet the Outdoor Criterion Sound Level.

B. Attenuation of Traffic Noise for Existing Residential Areas

- 1) No measures will be undertaken for residential neighbourhoods until the measured noise levels 5 metres from the rear facade of the dwelling and 1.5 metres above the ground elevation at that point, exceed 65 dBA.
- 2) No protection will be provided for second or subsequent storeys of houses unless such protection can be achieved by a maximum of a 2.5 metre wall on the existing grades at the road right-of-way limit.

C. Attenuation of Traffic Noise for Residential Urban Villages

- 1) A Noise Impact Assessment, satisfactory to the Manager of Engineering and Environmental Planning, is required for all residential development to be constructed within the vicinity of existing and proposed major roadways.
- 2) Noise attenuation will be provided through building orientation and privacy walls and fences.

Procedures**A. Attenuation of Traffic Noise for Proposed New Residential Development**

- 1) Developers will be required to provide a design for a 55 dBA maximum noise level. The Manager of Engineering and Environmental Planning, at his sole discretion, may relax the design in the interests of practicality, however, under no circumstances shall the attenuation measures as designed permit greater than 60 dBA at design road capacity 5 metres from the facade of the nearest dwellings and 1.5 metres above the ground elevation at that point.
- 2) Traffic noise levels will be estimated using the Strathcona County Traffic Noise Prediction Model. When traffic noise predictions are made, print-outs from the model containing the input data and predicted sound levels will be attached to the Noise Impact Statement for consideration and acceptance by the County. Electronic "reports" will also be acceptable if compatible with County equipment and systems.
- 3) The traffic volumes used for the noise prediction will be the Road Design Capacity traffic volumes. Percentages of medium and heavy trucks for use in the model will be based on existing traffic counts.
- 4) The Developer shall construct or provide funds for the construction of the attenuation measures to meet the road design capacity.
- 5) Where the predicted noise levels are below the 55 dBA level without the provision of an attenuation facility, the minimum requirement acceptable is a 1.8 metre high double board wood fence. At the sole discretion of the Manager of Engineering and Environmental Planning this may be relaxed in circumstances where the vicinity of the house is screened from the roadway by sufficient vegetation to provide a design noise level no greater than 55 dBA, 5 metres from the nearest dwelling's facade and 1.5 metres above the ground elevation at that point. The screening property must be municipal reserve, environmental reserve, public utility lot or other such designation or use that would not reasonably be expected to change during the design life of the dwellings.
- 6) Wherever possible absorptive materials will be preferred over reflective noise attenuation measures. Developers are encouraged to explore the availability of alternative construction material for the construction noise attenuation facilities and use vegetation in the development for screening of the arterial from the residence.

- 7) Achievement of C.M.H.C. recommended noise levels inside buildings is not controllable by the County. Home owners concerned about these noise levels are expected to take their own mitigative measures and should refer to Part 11 of the Alberta Building Code that specifies the use of sound insulation for the interior living areas. If requested, the Manager of Engineering and Environmental Planning may authorize home interior testing for the determination of the building attenuation measures required.
- 8) The developers of any multi-storey residences planned for "the vicinity" of a major roadway must use sound insulation for the interior living areas that conform to Part II of the Alberta Building Code.

B. Attenuation of Traffic Noise for Existing Residential Areas

- 1) In areas where the Outdoor Trigger Sound Level Criterion of 65 dBA noise level is exceeded, Council will consider, on a priority and availability of funds basis, the construction of such noise attenuation measures that are determined by Administration to have the desired attenuating effect.
- 2) Where residents would prefer a more expensive attenuation measure than that proposed by the County, they may petition on a local improvement charge basis to pay the difference in cost for the enhanced facility.
- 3) Where residents would prefer a noise attenuation facility in advance of the County's ability to provide it, in accordance with the Municipal Government Act, RCA 2000, M-26, they may petition for the construction of such noise attenuation measures at any time on a 100% local improvement charge basis.
- 4) The residents will be assisted by Engineering and Environmental Planning staff in the determination of the design and estimated cost of such noise attenuation measures. In conjunction with the petition process, all residents adjacent to the property line on which the facility will be constructed must sign a working easement agreement prior to implementation of the project.

C. Attenuation of Traffic Noise for Residential Urban Villages

- 1) Developers will be required to provide a design for a 55 dBA maximum noise level to the outdoor amenity area and deck areas.
- 2) Traffic noise levels will be estimated using the Strathcona County Traffic Noise Prediction Model. When traffic noise predictions are made, print-outs from the model containing the input data and predicted sound levels will be attached to the Noise Impact Statement for consideration and acceptance by the County. Electronic "reports" will also be acceptable if compatible with County equipment and systems.
- 3) The traffic volumes used for the noise prediction will be the Road Design Capacity traffic volumes. Percentages of medium and heavy trucks for use in the model will be based on existing traffic counts.
- 4) Developers must use sound insulation for the interior living areas that conform to Part 11 of the Alberta Building Code.