

# Policy – Road Traffic Noise on NT Government Controlled Roads

**Owner:** Road Network Division  
**Manager:** Road Projects

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## 1. Policy

### Objective

To achieve an appropriate balance between providing efficient road transport infrastructure and controlling the adverse affects of road traffic noise on adjacent land uses.

### Background

The Northern Territory Government road network contributes to the economic and social wellbeing of the community and is an essential component of the Northern Territory's transport infrastructure. However, it is important to achieve an appropriate balance between these benefits and the potential for adverse effects from road traffic noise arising from road use.

Excessive noise has been found to affect the quality of life of some people living adjacent to roads. The problem is not limited to urban areas (although most obvious in this environment) but is present whenever vehicle traffic and residential or noise sensitive land uses are in close proximity<sup>1</sup>.

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<sup>1</sup> 1986 OECD report "Fighting Noise": discusses levels of noise and impacts on a population



Road traffic noise arises from two key factors:

- the motor vehicle - engine and other noise from the vehicle; and
- the road - noise is emitted from the tyre-road interface.

The impact of road noise on nearby residents can vary depending on the nature of building construction, the building's separation from the source, the traffic volume, the speed and type of traffic, physical barriers or topography and the sensitivity of residents. In addition, judgement of what is excessive noise is subjective, as nuisance is a matter of a personal reaction to a stimulus such as traffic noise.

The Department of Planning and Infrastructure is committed to working with stakeholders to reduce the overall effects of traffic noise and to limit the impact of noise on nearby residents, where possible, in accordance with the targets and guidelines set out in this Policy. Further, in support of the intention of this Policy, the Department will seek to incorporate appropriate treatments to achieve the best noise reduction outcome for the community in all road project planning and implementation.

### Scope

This policy applies to all roads under the control of the Department of Planning and Infrastructure of the Northern Territory Government.

### Accountability

Accountability for implementation of this policy lies with the Department of Planning and Infrastructure.

### Measurement basis

The Department uses the UK "CoRTN" method of noise measurement, with a correction of -2.2 dB(A) applied to the recorded measurements. Under this Policy, the process of undertaking noise measurements will be conducted in accordance with Australian Standard 2702 –1984 "Acoustics - Methods for the Measurement of Road Traffic Noise". Australian Standard 3671 - 1989 "Acoustics – Road traffic noise intrusion – Building siting and construction" is also relevant to this Policy.

### Noise targets

The table below sets out target noise levels for particular types of road situations for residential and noise-sensitive land uses adjacent to arterial roads. These target levels are not mandatory but are levels which the Department will consider for application within budgetary and physical constraints. These targets will apply from the date of release of this policy.

Table 1-1: Target Road Traffic Noise Objectives for Land Uses Adjacent to Arterial Roads

Land Use Scenario: Road Scenario:	Existing Residential	Existing Noise-sensitive	Future Residential and Noise-sensitive
Existing Road Existing Road – Planned Significant Development Future Road – Currently Planned	No target – no required action	No target – no required action	Responsibility for noise management of developments undertaken adjacent to an existing or planned future road rests with the proponent (private or government agency)
Existing Road – Unplanned Significant Development	Where there is both a predicted increase in noise level of >5 dB(A) and the predicted noise level is >68 dB(A), target 68 dB(A)	Where there is both a predicted increase in noise level of >5 dB(A) and the predicted noise level is >63 dB(A), target 63 dB(A)	
Future Road – Not Currently Planned	Target 63 dB(A)	Target 58 dB(A)	

Explanation of terms

**L<sub>10</sub>(18 Hour) dB(A)** - unless otherwise stated, these values are measured at 1m from the façade of a building in accordance with Australian Standard 2702-1984 “Acoustics - Methods for the measurement of road traffic noise” and the method described above.

**Existing road** – an existing arterial road; includes a road subject to activities such as routine maintenance or minor development including new intersection turn lanes or other upgrading, traffic management measures such as a new roundabout or traffic signals, or normal traffic growth over time.

**Existing road - planned significant development** - a major upgrade to an existing arterial road such as the addition of new lane(s) or carriageway(s) or where the traffic mix or volume is significantly altered as a result of changes at the network level, where the information has been available in the public domain for identification by way of publicly available government (i.e. Departmental) plans or documents at the time of development of the adjacent land.

**Future road - currently planned** - a new road or road corridor which has been identified in publicly available government plans or documents at the time of development of the adjacent land.

**Existing road – unplanned significant development** – an existing road where a significant development as defined above may be proposed at some future stage but which is not currently identified in publicly available government plans or documents at the time of release of this Policy.

**Future road (not currently planned)** - any new roads or corridors which are not currently identified in publicly available government plans or documents at the time of release of this policy.

**Existing residential** - residential land use immediately adjacent to arterial roads.

**Existing noise sensitive** - includes aged care facilities, hospices and nursing homes and may include schools, libraries and hospitals. Commercial accommodation facilities relying on passing trade are not considered as noise sensitive developments under this policy.

**Future residential or noise sensitive** - any residential or noise sensitive land use adjacent to or in the vicinity of arterial roads which does not exist at the time of the release of this policy.

## 2. Guidelines

### Exclusions under this policy

The noise targets in this policy do not apply to properties which are developed for residential or noise sensitive uses after a new or upgraded road has been opened to traffic.

Similarly, noise management measures on land which is developed for residential or noise-sensitive use adjacent to a planned arterial road after the road has been publicly defined are not the responsibility of the Department.

Any noise management regimes and ameliorative measures for developments adjacent to planned or existing roads shall be in accordance with the requirements of the approval issued under the land use planning process, and shall be contained fully within the properties concerned. The Department has no responsibility under this Policy for undertaking any noise amelioration measures which are required due to a failure by a proponent to take account of noise generated by an existing road, a planned significant development of an existing road or a future road which is currently planned.

### Limits in the Department's responsibilities

This policy aims to control noise levels in accordance with the targets outlined in Table 1-1 by actions within the road reserve under the control of the Department. In some instances however it may be more cost effective to modify existing properties to address identified noise issues.

Where a noise reduction of 4-5 dB(A) cannot be achieved for a reasonable cost through treatments within the road reserve, then solutions involving building modification or work within the property boundary may be considered

in accordance with the guidance of AS 3671 and the requirements of this Policy, and with the agreement of the landowner. Should an economic treatment be possible only within the property and no such agreement is forthcoming from the property owner, the Department shall not be liable for any other action.

## Mitigating road noise

### Overview

The following noise level criteria set out in this document may be addressed through consideration of:

- the road network;
- traffic noise emissions; and
- the development and use of adjacent land.

Noise emissions from individual vehicles also impact on road traffic noise levels. Vehicle noise emissions are regulated nationally under the Australian Design Rules (ADRs) for new vehicles. In service regulations require vehicles to continually comply with ADRs as well as setting acceptable noise emission levels for older vehicles. Vehicle noise emissions are not within the scope of this policy.

Any noise mitigation planning will include appropriate consultation with relevant government agencies, community groups and affected members of the community.

Selection of noise mitigation measures will depend on cost, physical restrictions, planning controls and adjacent land usage.

## **The Road Network**

### Road design and standards

Noise minimisation may be achieved through consideration of appropriate design features including: road corridor selection, adjustments to vertical geometry and choice of surfacing material. Road cuttings and/or lowering of a designed road level may contribute to a reduction in noise levels generated by a road development.

Asphalt shall be used on all roads in residential and noise-sensitive areas where practicable. The use of open graded asphalt will be considered where noise levels (predicted or current) are likely to exceed target levels and where it is cost effective and practical.

### Barriers, fences, walls and earth mounds

The Department will be responsible for the construction and maintenance of any barrier, fence, wall and/or earth mound erected on the existing road reserve and any associated landscaping. Barriers or other devices erected on adjacent private land outside the road reserve are the responsibility of the landowner.

Where sufficient land is available then the use of earth mounds and landscaping should be considered as a preferred option to fences and barriers for visual amenity and community safety reasons (particularly in cyclone prone areas).

All construction must comply with relevant building regulations and construction standards.

### Traffic noise emissions

The generation of road noise from vehicular traffic is influenced by the types of vehicles, the speed of the traffic flow and the volumes present. In some instances, bans on the operation of heavy vehicles during certain hours have been found to be an effective countermeasure to excessive noise. Lower speed limits may also assist in reducing the impact of traffic noise.

Any application of such measures to address the generation of road noise should only occur after careful consideration of the role of the road in the network.

### Development and use of adjacent land

New land development adjacent to an arterial road should be planned and developed in accordance with the provisions of the approval issued under the land use planning process stipulating an appropriate target  $L_{10}(18\text{hour})$  dB(A) noise level. The guidance provided by AS 3671 for managing internal noise levels associated with road traffic noise within a building should be taken into consideration.

The additional matters below should also be considered:

- noise attenuation measures on new developments (including new subdivisions and residential or noise-sensitive developments) that are adjacent to an existing arterial road are solely the developer's responsibility;
- where a land use has been changed or is proposed to change to a more noise-sensitive use (e.g. industrial to residential), a review of relevant issues should include: an assessment of the adjacent road type, the existence or otherwise of planned significant developments for the road, and the potential to create additional traffic and its contribution to the expected noise environment. An analysis of noise amelioration measures which may be used within the development should also be considered; and
- developers should consider the use of orientation, double glazing, selection of building materials and/or other design aspects to control or reduce noise impact (in line with AS 2107 and AS 3671).

### Contacts

Contact with the Department in the first instance may be made by e-mail at

[Roadnetwork.DPI@nt.gov.au](mailto:Roadnetwork.DPI@nt.gov.au), or by telephone to (08) 8924 7531.

The Manager – Road Network Planning of the Department is responsible for the issue of and any subsequent amendments to this Policy.

Approved

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