Draft
State Planning Policy 5.4
Road and Rail Noise

September 2017

Prepared under Part Three of the Planning and Development Act 2005
by the Western Australian Planning Commission
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1 CITATION

This is a State Planning Policy prepared under Part Three of the Planning and Development Act 2005. It may be cited as State Planning Policy No. 5.4 Road and Rail Noise (the Policy).

2 POLICY INTENT

The purpose of the Policy is to minimise the adverse impact of road and rail noise on noise-sensitive land use and development within the specified trigger distance of major transport corridors. The Policy also seeks to protect the functionality of the State’s transport corridors by protecting them from encroaching incompatible development.

The Policy should be read in conjunction with the State Planning Policy 5.4 Road and Rail Noise - Implementation Guidelines (the Guidelines); and is supported by State Government mapping which specifies the State’s major road and railway corridors and the Policy’s trigger distances which can be viewed at www.dplh.wa.gov.au.

3 BACKGROUND

Road and rail transport corridors play a vital role in moving people and goods safely and efficiently around the State and provide wide-ranging economic and social benefits to the community. However, road and rail noise can have an adverse impact on human health and the amenity of nearby communities, so it is important that it is carefully considered in land use planning and development.

Urban consolidation is placing increasing development pressure on land near busy transport corridors. The Policy ensures acceptable levels of acoustic amenity can be achieved through appropriate interface management when noise-sensitive land use and/or development is located in areas impacted by road and rail noise.

4 POLICY APPLICATION

4.1 When and where it applies

The Policy applies to the preparation and assessment of planning instruments, including region and local planning schemes; planning strategies, structure plans; subdivision and development proposals in Western Australia, where there is proposed:

a) noise-sensitive land use within the Policy’s trigger distance of a transport corridor as specified in Table 1;

b) new or major upgrades of existing primary and secondary roads; or

c) new railways or upgrades of existing railways or any other works that increase capacity for rail vehicle storage or movement.

Table 1:
Transport corridor classification and trigger distances

<table>
<thead>
<tr>
<th>Transport corridor classification</th>
<th>Trigger distance</th>
<th>Distance measured from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Roads (freeways/highways/primary distributors)</td>
<td>300 metres</td>
<td>Road carriageway edge</td>
</tr>
<tr>
<td>Primary Regional Roads (red roads under region schemes)</td>
<td>200 metres</td>
<td>Road carriageway edge</td>
</tr>
<tr>
<td>Freight roads (Perth and Peel regions)</td>
<td>60 metres</td>
<td>Centreline of the closest track</td>
</tr>
<tr>
<td>Regional freight roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Regional Roads (blue roads under region schemes)</td>
<td>200 metres</td>
<td>Road carriageway edge</td>
</tr>
<tr>
<td>District Distributor A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger railways</td>
<td>60 metres</td>
<td>Centreline of the closest track</td>
</tr>
<tr>
<td>Freight railways</td>
<td>300 metres</td>
<td>Centreline of the closest track</td>
</tr>
</tbody>
</table>
4.1.1 Noise-sensitive land use and/or development

This is generally determined by land uses or development as zoned by a local planning scheme or structure plan that is occupied or designed for occupation or use for residential purposes (including dwellings, residential buildings or short-stay accommodation), caravan-park, camping ground, educational establishment, child care premises, hospital, nursing home, corrective institution or place of worship.

4.1.2 Roads

Major roads are identified in appendix 9 of the Guidelines and the Department’s public mapping viewer.

A major upgrade of an existing road involves:

a) physical construction works designed to facilitate an increase in traffic-carrying capacity (such as carriageway duplication or the addition of a traffic lane);

b) substantial change in the alignment that moves the asset closer to existing noise sensitive land use; or

c) modifications which may improve road capacity, performance or function, such as an intersection expansion, grade separation or the like.

4.1.3 Railways

Passenger and freight railways are identified in appendix 9 of the Guidelines and the Department’s public mapping viewer.

An upgrade of a railway means:

a) a proposed realignment, either inside or outside the existing corridor;

b) a rail track duplication; or

c) works such as the installation of switches / turnouts, signalling systems, spurs or passing loops, the modification to the track support structure, crossovers, refuges, relief lines, straightening of curves, or re-sleepering.

4.2 Planning horizon

The application of the Policy should consider future development and associated increases in traffic anticipated for the next 20 years. This includes any transport corridor proposals where there is sufficient certainty regarding the corridor’s alignment and function.

4.3 Policy exemptions

The Policy does not apply:

a) retrospectively to noise from existing railways or roads to an existing noise-sensitive land use and/or development within the Policy’s trigger distance;

b) to subdivision/development proposals that do not result in intensification of land-use, that is, boundary alignments;

c) to increases in road and rail traffic/noise in the absence of physical construction works, however infrastructure providers are encouraged to continuously enhance assets to reduce noise levels;

d) upgrades of existing or new major road and railway construction proposals in existing reserves generally do not require planning approval, however transport infrastructure providers are expected to carry out these works in a manner that is consistent with the Policy;

e) road works such as routine maintenance, re-sealing, minor changes in alignment or minor changes required for safety reasons, unless such works would result in a significant increase in road transport noise levels;

f) for single houses which are exempt under the deemed provisions of the Planning and Development (Local Planning schemes) Regulations 2015. However landowners/proponents are strongly encouraged to consider the incorporation of the Guidelines quiet house design requirements to mitigate the impacts of transport noise;

g) fixed sources of noise such as, but not limited to, horns, warning bells and sirens, safety warning devices installed on road or rail vehicles or any noise produced during the actual construction of new road and rail infrastructure, are governed by the Environmental Protection (Noise) Regulations 1997;

h) to aircraft or watercraft transport noise; and

i) to ground-borne vibration.
5 POLICY OBJECTIVES

The objectives of the Policy are to:

a) protect the community from unreasonable levels of transport noise;

b) protect major transport corridors from incompatible urban encroachment;

c) ensure that noise impacts are addressed as early as possible in the planning process; and

d) encourage best practice noise mitigation design and construction standards for noise-sensitive land use and/or development and/or major road or railway proposals.

6 POLICY MEASURES

The planning process should apply the precautionary principle of avoidance where there is risk of future land use conflict.

Where it is unavoidable to place a proposed noise-sensitive land use and/or development to which the Policy applies, it will be necessary to demonstrate that the noise impact on the proposed noise-sensitive land use and/or development can be adequately mitigated to meet the Policy’s Noise criteria.

6.1 Noise criteria

Table 2 sets out the Noise criteria that are to be achieved by proposals to which the Policy applies using the A-weighted average sound level $L_{Aeq}$ metric.

### Table 2: Noise Criteria

<table>
<thead>
<tr>
<th>Proposals</th>
<th>New/upgrade</th>
<th>Noise Criteria $^1$</th>
<th>Where outdoor criteria must be met</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Outdoor Day $\left(L_{Aeq}(Day)\right)$ (6 am–10 pm)</td>
<td>Indoor Night $\left(L_{Aeq}(Night)\right)$ (10 pm–6 am)</td>
</tr>
<tr>
<td>Noise sensitive land use and/or development</td>
<td>New noise sensitive land use and/or development within the trigger distance of an existing/proposed transport corridor</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td>60 $^1$</td>
<td>55 $^1$</td>
</tr>
<tr>
<td>Roads</td>
<td>New</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td>60 $^1$</td>
<td>55 $^1$</td>
</tr>
<tr>
<td>Railways</td>
<td>New</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td>60 $^1$</td>
<td>55 $^1$</td>
</tr>
</tbody>
</table>

Notes:

1. The Noise Criteria set out above apply to the emission of road and rail noise as received at a noise-sensitive land use and/or development. These criteria apply at the following locations:
   a) for new noise-sensitive land use and/or development proposals, to be measured at one metre from the most exposed, habitable façade of the proposed building, at indoor and outdoor (all floors). If mitigation is not reasonable and/or practicable, then at least one outdoor living area for each dwelling or multiple dwelling development; or
   b) for new or upgrade road or rail infrastructure proposals, to be measured at one metre from the most exposed, habitable façade of the building, at the first two floors (i.e. ground and first floor) and other floors where practicable, is encouraged.

The most exposed habitable façade of a building is that which has the greatest exposure to the noise-source. A habitable room has the same meaning as defined in the National Construction Code. For a residential dwelling, this is any room other than a garage, storage area, bathroom, laundry, toilet or pantry.

2. For all other non-residential noise-sensitive land use and/or development, acceptable indoor noise levels are to meet the recommended design sound levels in Table 1 of Australian Standard/New Zealand Standard AS/NZS 2107:2000 Acoustics — Recommended design sound levels and reverberation times for building interiors (as amended).

3. The $\Delta$B difference in the criteria between new and upgrade infrastructure proposals acknowledges the challenges in achieving noise level reduction where existing infrastructure is surrounded by existing noise-sensitive development.
6.2 Noise Exposure Forecast

When it is determined that the Policy applies to a planning proposal as outlined in Section 4, a preliminary assessment using Table 2: Noise Exposure Forecast in the Guidelines is encouraged to determine the likely noise impacts on noise-sensitive land use and/or development within the trigger distance of a specified transport corridor. Completion of a Noise Exposure Forecast Worksheet may minimise the need for a site specific assessment as part of a Noise Management Plan.

Depending on the outcomes of the noise exposure forecast assessment, the forecast noise level will identify if:

- no further measure is required;
- noise-sensitive land use and development is acceptable subject to mitigation measures;
- noise-sensitive land use and development is not recommended; or
- noise-sensitive land use and development is strongly discouraged.

6.3 Noise Level Contour Map

Where it is determined that noise impacts on noise-sensitive land use and/or development within the trigger distance of Table 1 is likely, then a Noise Level Contour Map can be used to inform planning proposals on the likely impacts of transport noise upon the subject site. The map illustrates the likely noise levels and associated noise exposure categories and can be prepared using the noise level information contained within the Noise Exposure Forecast Table or prepared using site-specific noise level information provided by a suitably qualified acoustic consultant/engineer.

If the Noise Level Contour Map identifies that no part of the site is estimated to be affected by noise levels above the criteria, no further measures are required.

6.4 Noise Management Plan

Preparation of a Noise Management Plan is required early in the planning process to determine actual noise levels across the subject site and demonstrate that the proposal can adequately mitigate the noise impacts through use of noise attenuation measures. Noise Management Plans are required where:

a) a Noise Level Contour Map identifies that part of the site that is noise-sensitive is estimated to be affected by noise levels above the criteria in Table 2 and where it is unavoidable to propose new or additional noise-sensitive development on any part of the site estimated to be affected by noise levels above the criteria;

b) all practicable steps to avoid or minimise transport noise have been taken but the outdoor noise levels are predicted or measured to exceed the Policy’s noise criteria, specific noise mitigation measures should be considered in accordance with any Noise Management Plan;

c) a new noise-sensitive land use and/or development is located adjacent to a specified primary road or railway identified in the Policy’s mapping, which is not yet planned for construction but is anticipated within the Policy’s planning horizon; and

d) a new or major upgrade of a primary road or railway construction proposal is located adjacent to undeveloped land zoned with the potential to accommodate noise-sensitive land use and/or development.

e) for (c) and (d) the Noise Management Plan should include treatments which meet the indoor noise criteria, and outdoor noise criteria 10 dB greater than the noise criteria, as outlined in Table 2.

Noise Management Plans are to be prepared by a suitably qualified professional acoustics engineer or consultant (refer to Guidelines). Noise Management Plans already approved by the relevant state agency responsible for noise regulations at the time of gazettal of this Policy are deemed to be satisfactory.

7 IMPLEMENTATION

As a general principle, noise should be considered at the earliest stages of the planning process and not defer its resolution or management to subdivision or development assessment stage, where mitigation options are more limited.

The level and recommended type of noise management and mitigation measure will be dependent on the severity of the noise source, the intensity of the proposed land use and the information available at the particular stage of the planning process.

There is a general presumption against approving proposals that cannot achieve the Policy’s noise criteria. However it is acknowledged that in some circumstances, it may not be reasonable or practicable for the Policy’s noise criteria to be met. Discretion may be exercised by the decision-maker.

The decision-maker should consider:

- the justification as to why the noise criteria cannot be achieved and whether the noise can be reduced to an acceptable level;
7.3 Subdivision and development

Subdivision and development applications should take into consideration any noise assessment and a Noise Management Plan conducted earlier in the planning process.

Subdivision and development should seek to manage and avoid land use conflict through:

a) the design of the street, lot and building configuration in accordance with the Guidelines;

b) consideration to the preparation of a site specific Local Development Plan; and

c) quiet house requirements in accordance with the Guidelines.

Subdivision and development applications are to be accompanied by the following information prepared in accordance with the Guidelines:

• Noise Exposure Forecast Worksheet; and/or

• Noise Management Plan, where deemed appropriate.

7.2 Region and local planning scheme and amendments, structure plans and activity centre plans

The key objective for the above planning instruments for where noise-sensitive land use and/or development to which the Policy applies, is to address the impact of noise through the:

a) identification of appropriate compatible land use zoning such as Mixed Use zones;

b) design solutions that utilise street and lot configuration to screen and/or buffer noise;

c) consideration of density and built form outcomes that will help alleviate and/or manage noise; and

d) consideration to local planning scheme Special Control Areas with appropriate provisions for land in the vicinity of a transport corridor to ensure more detailed planning is undertaken at the subdivision and development stage, which may include the requirements for a Local Development Plan.

Information to be accompanied by region and local planning scheme and amendments, structure plans and activity centre plans prepared in accordance with the Guidelines:

• Noise Exposure Forecast Worksheet; and/or

• Noise Level Contour Map; and/or

• Noise Management Plan, where deemed appropriate.

7.1 High-order strategic planning

Strategic planning documents such as sub-regional frameworks and strategies, and local planning strategies should:

(a) seek to avoid the risk of future land use conflict with noise by identifying compatible land use zones and/or reserves to provide spatial separation.

(b) where it is unavoidable to place a proposed noise-sensitive land use and/or development within the trigger distance of a transport corridor to which the Policy applies, it will be necessary to:

i. identify the location of relevant transport corridors on the maps;

ii. outline why alternative design solutions are not suitable; and

iii. demonstrate that the noise impact on the proposed noise-sensitive land use and/or development can be adequately mitigated through planning mechanisms at the next stage of the planning process to meet the Policy’s noise criteria.

• the intent and objectives of this Policy;

• the requirements of other relevant plans and policies;

• the impact of proposed mitigation measures on the amenity of the built environment;

• the seasonality of train movements, particularly in regional towns; and

• advice received from relevant referral agencies.

The Guidelines assist in outlining ways in which some reasonable and practicable limitations can be addressed in a manner that also minimises transport noise.
Notifications on title should also be required as a condition of subdivision (including strata subdivision) and development approval informing of the existence of transport noise where noise levels are forecasted or estimated to exceed the Policy’s outdoor noise criteria following the implementation of noise mitigation measures.

7.4 Major road and railway construction proposals

To achieve overall noise management outcomes proposals for new or major upgrade of major roads and railways should consider:

a) route selection and alignment that maximises separation distances from existing or future noise-sensitive land uses;

b) natural topography to shield the transport corridor, reducing the reliance on noise walls; and

c) acquiring or preserving adequate space in the corridor reserve to ensure that a suitable set-back to receivers or other mitigation measure can be achieved.

The following information should accompany a proposal for a major road and railway in accordance with the Guidelines:

• A Noise Management Plan to determine actual noise levels across the subject land accounting for any relevant adjacent zoning under an applicable region or local scheme.

• Demonstrate that the proposal can adequately mitigate the noise impacts through utilising noise attenuation measures.

7.5 Local planning policies

Local governments may prepare local planning policies to supplement or elaborate on measures associated with the implementation of this policy. Local planning policies should be consistent with the objectives and intent of this policy, as reflected in local planning strategies and schemes.

7.6 State authority advice on noise

The advice of the State authority responsible for noise regulation is to be sought and considered by the decision-maker in the preparation and determination of all proposals outlined in Sections 7.1 to 7.4 where:

a) compliance with these policy measures is unlikely to be achieved;

b) additional/alternative noise mitigation measures are proposed; and/or

c) assumptions informing Noise Management Plans are not agreed to by a decision-maker.

Proposals in the vicinity of a State Agreement shall be referred to the relevant agency responsible for the administration of the State Agreements Act.
8 DEFINITIONS

A-weighted level  A level which includes the frequency-weighting network 'A' (see AS IEC 61672.2-2004) to approximate the frequency response of the normal human ear.

dB  Decibel. A unit used to measure the intensity of a sound.

development  As defined in the Planning and Development Act 2005. Development includes land use, but for the purpose of this Policy does not include subdivision.

Guidelines  Refers to the most recent version of the Guidelines published by the Western Australian Planning Commission that accompany this Policy.

L_{Aeq}  The equivalent steady-state, A-weighted sound level which in a specified time period contains the same acoustic energy as the time-varying level during the same period.

L_{Aeq}(Day)  The $L_{Aeq}(16 \text{ hour})$ for the time period 6 am to 10 pm.

L_{Aeq}(Night)  The $L_{Aeq}(8 \text{ hour})$ for the time period 10 pm to 6 am.

major road  • Roads classified as one of the following:
• State Roads (freeways/highways/primary distributors)
• Primary regional roads under a region Scheme (Red Roads)
• Freight roads in the Perth and Peel Region and regional freight roads
• Other regional roads under a region scheme (Blue Roads)
• District Distributor A (typically carrying 15,000 – 35,000 vehicles per day).

major transport corridor  Land identified for the movement of road and/or rail traffic, including railways, and major roads.

noise  Sound that is unwanted, unpleasant or loud. For the purposes of this Policy, noise does not include regenerated noise or vibration.

Noise Exposure Forecast  See Section 3.4 of the Guidelines.

Noise level Contour Map  See Section 3.3 of the Guidelines.

Noise Management Plan  See Section 3.5 of the Guidelines.

noise-sensitive land use and/or development  Land uses or development occupied or designed for occupation or use for residential purposes (including dwellings, residential buildings or short-stay accommodation), caravan park, camping ground, educational establishment, child care premises, hospital, nursing home, corrective institution or place of worship.

outdoor living area  Is defined in the Residential Design Codes of Western Australia as the area external to a single house, grouped or multiple dwelling to be used in conjunction with that dwelling such that it is capable of active or passive use and is readily accessible from the dwelling.

reasonable and practicable  See Section 3.2.1 of the Guidelines.

transport infrastructure provider  An agency responsible for the design, construction and/or management of transport infrastructure as identified by this policy, including local and State government agencies.

trigger distance  The distance which determines if and when the Policy applies and the requirement for further investigation based on noise measurement data and the extent of noise from each corridor classification (Table 1 and 2).