

Environmental Factsheet: Main Roads Requirements for Road Traffic Noise Assessments

This Factsheet is aimed at acoustic consultants and developers, and outlines what Main Roads assesses when reviewing an acoustic assessment and/or Noise Management Plan for compliance with the State Planning Policy 5.4 Road and Rail Noise.

State Planning Policy 5.4

State Planning Policy 5.4 Road and Rail Noise 2019 (SPP 5.4) promotes mutually compatible land use and transport by road and rail. The objectives of the Policy include protecting the community from unreasonable levels of transport noise and protecting the State's major transport corridors from encroachment by incompatible uses. SPP 5.4 is supported by the Road and Rail Noise Guidelines (Guidelines), which provides information on how to implement the Policy.

Main Roads Western Australia (Main Roads) provides advice on applications for proposed noise sensitive developments within the SPP 5.4 trigger distances along our road network. The minimum standards that Main Roads expects from acoustic assessments and Noise Management Plans are listed in Table 1 (Noise Measurements and Modelling) and Table 2 (Noise Management) below.

Traffic Count Data and Projections

Section 4.2 of SPP 5.4 stipulates that noise modelling is required for sensitive developments located within the trigger distance of an existing main road, and that a 20-year planning horizon must be considered from when the noise assessment is undertaken. For accurate results, the most up-to-date traffic count data, traffic projection and % heavy vehicles are required.

Contact the Main Roads Transport Modelling Section, via TMS@mainroads.wa.gov.au, to obtain the latest traffic projections. Cite the job reference number and date in your report. If traffic projections are not available for your area of interest, you will need to apply another methodology approved by the Transport Modelling Section and describe this in your report.

Road Design

Check with the relevant Main Roads Region:

1. whether future road development or re-development is planned (e.g. additional lane, changed alignment, grade separation) and include this in modelling of future noise,
2. what the current road surface is and whether this is proposed to change, and
3. what the current speed limit is and whether it is proposed to change.

Where the site-specific noise assessment or Noise Management Plan does not meet the technical requirements of this Factsheet, SPP 5.4 and its Guidelines, Main Roads may request revision and resubmission of the document.

Table 1. Main Roads Minimum Standards for Noise Measurements and Modelling¹ (Refer to Appendices 1, 2 and 3 of the [SPP 5.4 Road and Rail Noise Guidelines](#))

ITEM	DESCRIPTION
Equipment Details	Noise measurement procedures followed should be stated and meet Australian Standard 2702-1984 and Australian Standard 2377- 2002.
General Procedures	On-site noise monitoring is mandatory where the road already exists. A statement describing the location of where the noise monitoring was conducted in relation to the road should be included in the report. The report should also include a photograph of the monitors in the field and a map showing where they have been located.
Measurement Date & Duration	For major roads, a minimum of three 'valid' 24-hour weekday periods should be obtained for unattended measurements. Suitable attended measurements may be undertaken at the reasonable discretion of a competent person, at peak noise periods, with appropriate and stated adjustments to estimate typical period levels for both day and night periods. Measurement methodology and definitions of day and night should be compliant with SPP 5.4 and its Guidelines. Noise measurements during school holidays, public holidays or weekends are not to be used. Noise monitoring should be conducted within 2 years of the date of the noise report, unless justification is provided in the report.
Weather Conditions	The acceptability of the weather conditions and therefore the validity of the data collected should be stated. Where adjustments have been made due to weather, should must be clearly outlined.
Noise Monitoring Results	Noise monitoring results should be shown as $L_{Aeq,16\text{ hr (Day)}}$ and $L_{Aeq,8\text{ hr (Night)}}$.
Noise Model Inputs	Inputs should include current and future forecasted traffic volumes, % heavy vehicles, types of trains where applicable, traffic speeds and road surface/track configuration and condition. Road surface descriptions should be consistent with Appendix 2 of the SPP 5.4 Guidelines e.g. 10 mm chip seal, dense graded asphalt. Stating just "chip seal" or "asphalt" is not acceptable.
Noise Modelling Results	Present predicted noise levels throughout the proposed development, preferably as noise level contours. Show predicted noise levels with and without proposed mitigation (e.g. noise barriers) to assist in visualising the performance of various treatments.

¹ These are the requirements where the road already exists.

Table 2. Main Roads Minimum Standards for Noise Management (Refer to Appendix 4 of the [SPP 5.4 Road and Rail Noise Guidelines](#))

ITEM	DESCRIPTION
General Considerations	<p>Noise mitigation options to achieve compliance with SPP 5.4 should be presented. Reasonable and practicable considerations relevant to the noise mitigation measures may be included. Recommendations should be of sufficient detail to be turned into conditions of development.</p> <p>The development should be designed to achieve the indoor noise level target in noise sensitive areas (e.g. bedrooms and living rooms of houses, and school classrooms).</p>
Outdoor Areas	<p>At least one outdoor living area per residential lot or accessible to all residents/occupiers should achieve the SPP 5.4 noise target. Noise levels above the outdoor noise target on any part of the lot will not be acceptable to Main Roads unless reasonable mitigation measures have been included in the proposal in an effort to achieve the noise target or a reasonable degree of acoustic amenity.</p>
Quiet House Treatments	<p>Quiet House Treatments proposed should be consistent with the SPP 5.4 (refer to Table 3 in the Guidelines). Clearly identify lots that require Quiet House Treatments, and the specific type (i.e. A, B or C). If proposing to use acoustic treatments differing from the above, clearly explain and justify the difference.</p>
Noise Walls	<p>Details of any noise wall(s) recommended should be included in the report, particularly specific positioning and height(s). As per Section 4.2.2 of the SPP 5.4 Guidelines, noise walls must have a minimum surface density of at least 15 kg/m², with this explicitly stated in the noise report.</p>
Notification on Title	<p>Where a SPP 5.4 noise target is exceeded on a development lot, regardless of whether any treatments can be applied to reduce noise, a notification on title should be placed on the lot to alert prospective buyers that the lot is affected by traffic noise. Appropriate wording for a notification is provided in Appendix 5 of the SPP 5.4 Guidelines. The noise report should clearly state/show lots that require notification on title.</p>