



BUILDING AUSTRALIA

# Tonkin Highway Extension and Thomas Road Upgrade



#### What is noise?

Noise is commonly defined as 'unwanted sound' and is measured in decibels (dB). Noise is often perceived differently depending on sensitivity and environmental conditions. Traffic noise in general can be influenced by a range of factors, including vehicle type, road surface, traffic volume, and speed.

#### Did you know?

Doubling traffic volume increases noise levels by an estimated 3 decibels.

Most people will perceive a 10 decibel increase as twice as loud.

## **Managing Noise**

As part of planning and delivery of the Tonkin Highway Extension and Thomas Road Upgrade, we are committed to managing potential noise impacts for nearby residents.

#### How do we assess and manage road traffic noise?

Traffic noise is assessed early in project planning through detailed acoustic modelling with acoustic consultants. Traffic noise is assessed on a preliminary design and the best available data in the early phases.

This modelling helps us predict whether noise levels near sensitive land uses – likes homes – may exceed thresholds. As the design progresses and more data becomes available, noise modelling and proposed treatments are reviewed and refined.

**State Planning Policy 5.4 – Road and Rail Noise (SPP5.4)** is what guides Main Roads projects. This

policy details when and how traffic noise should be managed for sensitive land uses. SPP5.4 promotes a reasonable and practical approach, with noise mitigation requirements assessed on a case-by-case basis, considering multiple factors including:

- Trigger distances and predicted noise levels in accordance with SPP5.4.
- Design refinements, such as final road alignment and surface treatment.
- The practicality, effectiveness and intrusiveness of proposed treatments.
- Importantly, individual property characteristics such as location, elevation, structure type, and proximity to other buildings or noise sources.

We're working for Western Australia.

www.mainroads.wa.gov.au



### Sound levels in decibels (approximate)



A number of mitigation measures can be used to reduce noise as much as reasonably possible including:

- Engineering treatments such as road surface types, which can reduce noise for multiple properties.
- Noise walls adjacent to the road or on property boundaries.

As the project design becomes more detailed, we'll continue to refine the treatments that may be needed. This helps us make sure any treatments are practical, effective and tailored to local conditions.

#### What is a noise wall and how does it work?

A noise wall is a specially designed barrier placed between a road and residential areas to help reduce traffic noise. These walls work by blocking or reflecting sound waves, which reduces how much noise reaches nearby properties.



Wall height, location and design depend on a range of factors, including the level and gradient of the road, proximity of nearby homes, results of updated noise modelling and space and design constraints. Noise walls may be located along the road, shared paths or property boundaries.

#### Will residents be consulted?

Yes. If a noise wall or other mitigation measure is being considered next to your property, our team will contact you to discuss.

#### Will noise monitoring happen after construction?

Post construction noise monitoring will be undertaken at selected locations after the road is operational, and traffic patterns have stabilised. This monitoring is carried out by qualified acoustic consultants, who determine the placement of noise monitoring devices based on technical standards and environmental factors.

We understand some noise will still be noticeable especially when there are changes to the surrounding environment from a major road project. However, SPP5.4 does not require mitigation for all noise—only when it exceeds defined thresholds.

# What does a 'reasonable and practical' approach mean?

Main Roads takes a reasonable and practical approach to noise mitigation in accordance with SPP5.4. A mitigation measure is considered practical if it can be designed and built without creating significant challenges around safety, access, constructability or long-term maintenance.

Whether a measure is also reasonable depends on how effective it is in reducing noise for affected properties, compared with its cost and impact. Not all technically possible solutions are suitable or cost-effective in every setting.

#### **Need more information?**

Have questions or feedback? Get in touch direct with the Project team.

W: <u>mainroads.wa.gov.au/projects-initiatives/all-</u> projects/metropolitan/tonkin-highway-extension-andthomas-road-upgrade/

- E: enquiries@mainroads.wa.gov.au
- F: facebook.com/thetruproject

**T:** 138 138

### Subscribe to project updates



www.mainroads.wa.gov.au



- **%** 138 138
- enquiries@mainroads.wa.gov.au
- www.mainroads.wa.gov.au