



# Coffs Harbour bypass project

## Frequently asked questions – noise

December 2020

These FAQs have been developed to provide information about potential road traffic noise impacts as part of the Coffs Harbour bypass project.

### **What is noise?**

Transport for NSW (TfNSW) defines noise as ‘unwanted sound’. Noise is perceived differently from one person to the next and is measured on a scale of units called decibels. We assess noise by averaging the quietest and loudest (actual or predicted) measurements while also considering how the human ear perceives it.

### **What policies and standards do you follow for determining noise?**

The following standards have been applied in generating and validating the noise model used to predict noise impacts for this project:

- Environmental Noise Management Manual (RTA 2001)
- Roads & Maritime Services Noise Mitigation Guideline (2015)
- Roads & Maritime Services Noise Model Validation Guideline (2016)
- Roads & Maritime Services Noise Criteria Guideline (2015)
- NSW Road Noise Policy 2011
- Austroads: An Approach to the Validation of Road Traffic Noise Models (Austroads 2002)
- Australian Standard AS 2702 1984 - Acoustic Methods of Measurement of Road Traffic Noise

### **What are the noise criteria for this project?**

Noise guidelines for the project are set by the NSW Environment Protection Authority (EPA) and change depending on whether the section is a new road on a new alignment or an upgrade on the existing alignment.

Noise guidelines for the new section of the highway are 55 decibels during the day and 50 decibels at night, while for the redeveloped sections they are 60 decibels during the day and 55 decibels at night.

### **How do you predict noise impacts across the project?**

Road traffic noise is investigated during the planning phase of each project. We conduct background noise monitoring and undertake future noise modelling so that we can plan our projects carefully to reduce unwanted sound from vehicles in noise sensitive locations.

In particular we consider landscape features, road location, background noise, traffic projections and their proximity to sensitive receivers.

Where noise is likely to be an issue, we also consider the cost and likely benefit to be provided by noise mitigation measures such as low noise pavement, barriers, walls and mounds or architectural treatments to sensitive buildings.

### **When during the project do you consider road traffic noise impacts?**

We identify and implement road traffic noise mitigation measures at four key project stages:

- During route selection – considering social, economic, engineering and environmental factors
- During environmental impact assessment and preparation of concept designs – looking at road alignment, gradient of road, geography, current and predicted traffic volumes, noise walls/mounds, low noise surfaces and at-house noise treatments
- During detailed design – where any further opportunities are investigated and details of noise walls/mounds and at-house noise treatments are considered
- Post-construction operational noise report - once the Coffs Harbour bypass project has opened to traffic, we will conduct another noise study to determine if the project's noise goals have been achieved.

The route selection and concept design phases provide the best opportunity to identify and implement measures to reduce noise.

### **Where did you conduct noise monitoring?**

The noise monitoring survey for the project was conducted at 21 locations across Coffs Harbour and is considered representative of the noise environment throughout the project.

Locations were chosen taking into account their close proximity to construction and operational noise impacts as well as areas considered to be particularly sensitive to noise.

All monitoring for the project was carried out in accordance with the Secretary's Environmental Assessment Requirements issued by Department of Planning, Industry and Environment and relevant Australian standards.

### **What is considered when assessing noise?**

We consider the location of noise sensitive receivers such as homes, schools, hospitals, nursing homes, places of worship and parks. During planning and when assessing the predicted noise impact we look at:

- Volume and speed of traffic
- Horizontal and vertical road alignment
- Gradient of the road
- Bridge or road surface joints – to ensure they are designed to minimise noise of tyre impact
- Road surface
- Shielding structures such as barriers, walls and mounds

### How do we apply the guidelines?

Operational road traffic noise predictions are based on projected traffic volumes in the year the project is due to open and 10 years after opening. Noise modelling is based on:

- The Calculation of Road Traffic Noise model - this is a mathematical model that has been specifically validated under Australian conditions-
- A three-dimensional road design that reflects the final height of the road, line of sight, including surrounding terrain (such as ridge lines), buildings and noise-sensitive locations
- Traffic speeds and projected volumes
- Proportion of light and heavy vehicles
- Type of road surface
- Height and location of vehicles (tyre, engine and truck exhaust noise)
- Model calibration adjustments from noise monitoring data.

### How do we select noise mitigation measures?

As a first priority, we seek to reduce road traffic noise at the source through careful road design and a selection of a range of reasonable and feasible mitigation measures such as:

- Noise walls
- Design of road pavements
- Opportunities to use excess material from the project to create soil mounds
- Architectural treatments to sensitive buildings such as upgraded window glazing and air-conditioning
- Driver education programs to reduce use of truck engine breaks.

### What does 'reasonable and feasible' mean?

Noise mitigation is feasible if it is practical and capable of being put in place. For example, a noise mitigation measure is feasible if it can be engineered and is practical to build, considering issues such as safety, access and maintenance.

Selecting reasonable noise mitigation measures involves considering the overall noise reduction benefit delivered by different mitigation measures and the overall economic cost of achieving that benefit. Costs of different mitigation measures vary greatly and not every measure that is possible to build is cost effective in every situation.

For example, in densely populated areas located close to a road, a noise wall or mound may prove to be a reasonable solution as many sensitive receivers will be benefited. However, in low density rural or residential areas where sensitive receivers may be located several hundred metres from a new road, a noise wall or mound may not be reasonable or feasible due to the prohibitive cost of building a wall or mound long enough, or high enough, to deliver any significant noise reduction benefit. In this situation, at-house noise treatment may be a reasonable solution.

## What noise mitigation measures will be installed on the Coffs Harbour bypass project?

Noise mitigations include:

- Low noise pavement along the entire length of the project
- Eight noise walls totalling more than eight kilometres in length and ranging from 4.5 to 5 metres high
- Earth mounds
- At-house noise treatments

## Who qualifies for at-house noise treatment?

Properties who have qualified for noise treatment were identified in the Updated Noise and Vibration Assessment (Volume 2B, Appendix B) of the project's Amendment Report, which was released in June 2020 and is available at [www.pacifichighway.nsw.gov.au/coffsharbourbypass](http://www.pacifichighway.nsw.gov.au/coffsharbourbypass).

Based on the current concept design, 619 properties near the project alignment are eligible for treatment.

Eligible property owners will be contacted by phone, letter or doorknock by a TfNSW representative to discuss installation.

## It's noisier at my place but I'm not receiving at-house noise treatment. Why?

We acknowledge there will be additional noise impacts with every major highway upgrade and that some residents who notice this increase might not be eligible for treatment.

We are bound by guidelines set by the EPA which are designed to ensure fair and equitable treatment across NSW.

In situations where the modelling predicts noise levels are below the criteria these houses are not eligible for at-house noise treatment, even though there may have been an increase in overall noise levels.

Once the Coffs Harbour bypass project has opened to traffic, we will conduct another noise study to determine if the project's noise goals have been achieved. Further noise treatment may be offered as a result of that report.

## How do I qualify for treatment?

Criteria for treatment is based on predicted noise levels 10 years after opening, meaning that if road traffic noise at a property in 2034 is expected to exceed the criteria set by the EPA, and it meets other specific conditions, the property is eligible for at house noise treatment.

## What noise mitigation will I receive?

The type of mitigation offered depends on how far above the noise guidelines the property is and what materials the property is made from.

Treatments may include air-conditioning, acoustic window seals, seals around window architraves and door jambs, external solid core doors with acoustic seals, laminate and insulation.

### **When will I receive the noise treatment?**

At-house noise treatment is designed to mitigate road traffic noise, it is not designed to mitigate construction noise.

However, residents will receive benefits during construction, so at-property treatments will be offered to those residences entitled to them prior to, or during the early phases of, major construction.

This will be offered depending on such things as the property's locality to the project, expected construction schedule/staging, expected construction noise impacts and level of disturbance.

Installation of at-resident treatment to 619 properties will take a considerable time to complete. However, we will endeavour to install treatments as soon as possible prior to, and during the early phases of, major construction.

### **What is the process for receiving treatment?**

A TfNSW representative will carry out an initial assessment to confirm the property is eligible for treatment and a preliminary letter of offer will be issued to each property owner.

Upon acceptance by the property owner, a sub-contractor will visit the property to complete a detailed assessment and scope and design the level of treatment based on set criteria. TfNSW will explain the proposed treatment and seek owner acceptance.

If the owner accepts the offer of treatment, a formal scope of work is drafted and presented to the property owner.

Should the owner wish to proceed with the treatment offered by TfNSW, a building contractor is engaged by TfNSW to complete the work.

Once treatments are installed and the owner is satisfied with the work, it is signed-off by the property owner.

TfNSW will supervise all building treatment work to ensure compliance with all relevant building standards and codes.

### **Will installing noise treatments cost me anything?**

TfNSW will cover the cost of installing property treatments within the agreed scope.

Property owners will be responsible for ongoing costs, such as electricity costs to run air-conditioning if it is installed as part of the treatment.

### **How do you reduce noise impacts from construction?**

A Construction Noise and Vibration Management Plan will be implemented to reduce impacts to residents. The project will work closely with local residents and stakeholders to minimise the impacts of noise and vibration.

### **What about noise from building the tunnels?**

Work in the tunnels will occur over 24 hours. However, noise and vibrations impacts to receivers from tunnel work will be negligible. There will also be strict controls in place on when and how workers leave/arrive at tunnel work sites.

### Where can I find out more information about noise?

Project specific noise information can be found in the environmental impact statement and Amendment Report, which can be found in the Document Library on the project website – [www.pacifichighway.nsw.gov.au/coffsharbourbypass](http://www.pacifichighway.nsw.gov.au/coffsharbourbypass).

General noise information, including links to guidelines and policies, can be found on the TfNSW website [www.rms.nsw.gov.au/about/environment/reducing-noise/index.html](http://www.rms.nsw.gov.au/about/environment/reducing-noise/index.html).

To contact the Coffs Harbour bypass project team please call 1800 550 621, email [coffsharbourbypass@transport.nsw.gov.au](mailto:coffsharbourbypass@transport.nsw.gov.au) or visit the display office at 11a Park Avenue, Coffs Harbour.

