



Transport for NSW

# Warringah Freeway Upgrade

## Managing construction noise

Fact sheet | May 2021

### About the Warringah Freeway Upgrade

The NSW Government's vision for Sydney is one of an integrated road and public transport network that gives you the freedom to choose how and when you get around, no matter where you live and work.

The Western Harbour Tunnel and Warringah Freeway Upgrade is a major transport infrastructure project that will make it easier, faster and safer to get around Sydney. By creating a western bypass of the Sydney CBD, the Western Harbour Tunnel will take pressure off the Sydney Harbour Bridge, Sydney Harbour Tunnel, ANZAC Bridge and Western Distributor corridors to improve transport capacity in and around Sydney Harbour.

The Western Harbour Tunnel and Warringah Freeway Upgrade project along with Beaches Link, is expected to support around 15,000 full-time equivalent jobs during construction.

**We know our work can be noisy at times which is why we will use a range of measures to reduce the impact of our work when we are close to communities.**

### What is noise?

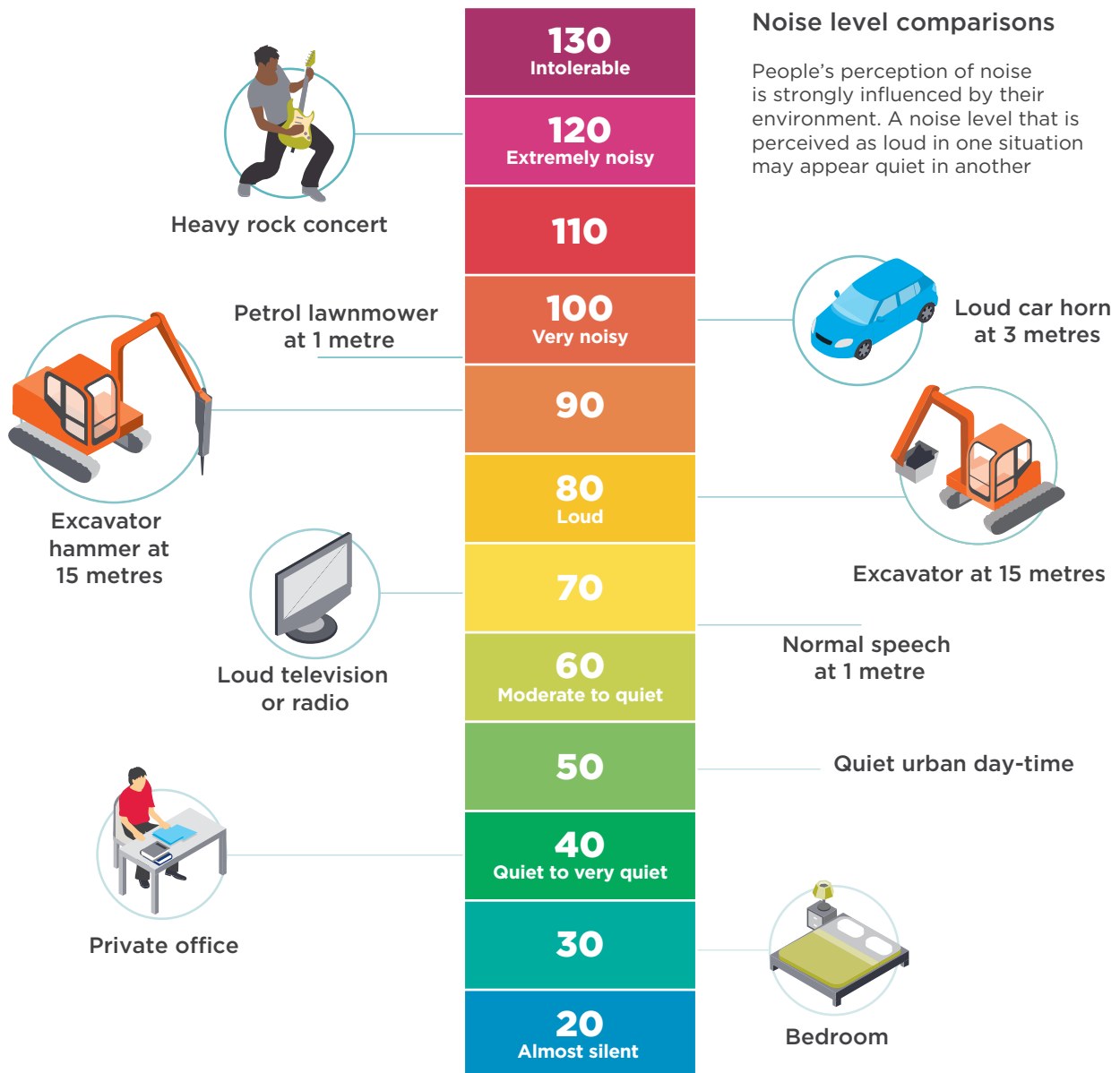
The human ear detects fluctuations in air pressure (i.e. sound) over a considerable range of intensity and frequency. When sound is loud, unpleasant or causes disturbance, it is considered as noise.

We measure noise in decibels (dBA). Our ears generally do not notice changes of one to two decibels. We also do not hear changes in noise incrementally. Many of us can hear a change of 10 decibels as about half or double the previous noise. For example a lawnmower is about 90 decibels and a motorcycle is about 100 decibels however to the ear a motorcycle can be heard as almost twice as loud as a lawnmower.

To build the project we need to use machinery and equipment that will create noise. The table below outlines some of our activities and the machinery and equipment used.

Construction activity	Construction equipment we can use
Utilities investigation (confirming locations of existing underground utilities)	Vacuum truck, light vehicles, hand tools, excavators, road saws
Clearing trees and vegetation	Chainsaw, excavator, truck, elevated work platform
Utilities relocations and removal – trenching to open the road surface	Road saw, excavator, excavator mounted hammer, truck-mounted crane, light vehicles, vacuum truck, road compaction equipment

**dBA levels and  
subjective evaluation**



**Noise level comparisons**

People's perception of noise is strongly influenced by their environment. A noise level that is perceived as loud in one situation may appear quiet in another

**Note:**

- A change of 1 dBA or 2 dBA in the level of a sound is difficult for most people to detect.
- A 3–5 dBA change corresponds to a small but noticeable change in loudness.
- A 10 dBA change corresponds to an approximate doubling or halving in loudness.

## Construction noise

Construction noise is measured, predicted and assessed in accordance with the relevant legislative guidelines. This includes the Interim Construction Noise Guideline (ICNG), Transport for New South Wales Construction Noise and Vibration Guideline (CNVG) and various Australian Standards. Predicted and measured construction noise levels are compared against noise management levels (NMLs) to determine the level of impact from the noise and confirm appropriate mitigation measures to reduce the impact.

### Day and night Noise Management Levels (NMLs)

We use NMLs to assess whether you may be impacted by noise from our work. The NML is the current background noise level (RBL) plus 10 decibels during the day or five decibels for both the evening and night. RBLs were developed for individual noise catchment areas (NCAs) as part of the Environmental Impact Statement (EIS). You are considered to be likely affected by noise if our work is predicted to be above the NML.

Any properties that are identified as impacted by noise are referred to as 'sensitive receivers'.

There are different NMLs for non-residential properties which may be more sensitive to changes in noise levels. These other properties include hospitals, schools, places of worship, childcare centres and recreational areas.

We will work closely with sensitive receivers to manage the potential impact of our work.

The table below outlines the likely noise impact for residents based on the noise level of our work above the NML for work outside of standard construction hours (OOH).

Noise level	Likely noise impact for closest residents for OOH work
<5 dBA above NML	Noticeable
5-15 dBA above NML	Clearly audible
15-25 dBA above NML	Moderately intrusive
>25 dBA above NML	Highly intrusive

### Assessment of construction noise

Before we start our work, we apply mitigation and management measures to minimise any potential impacts. This includes measures to help reduce noise at the source. We then assess the noise levels to determine the overall impact to receivers. Where we predict that you may experience noise levels over the NMLs, we will put additional mitigation measures in place and monitor our noise levels to determine their effectiveness.

Our assessments of noise levels are conservative and always assess the worst-case scenario. For example, when we assess construction noise, we assume all machinery and equipment is used at the same time and in the location on site where it would have the highest impact on residents. This scenario is unlikely to regularly occur as we will stage work to reduce the overlap of noisy work activities where possible. We often find when we are working the noise generated is less than we predicted.

A Construction Noise and Vibration Impact Statement (CNVIS) will be developed to address the various stages of our work and will be used to assess the potential impacts of our work and document measures to reduce these impacts.

### To predict the potential noise levels from our work the CNVIS considers:

#### Ground features

hills, slopes and depressions



#### Existing buildings

houses, apartments and structures such as walls

#### Time of day

when work is taking place



Distance from noise source to you

#### Types of noise

generated from machinery



### The CNVIS includes:

- identification of potentially impacted sensitive receivers
- an outline of all construction noise conditions and requirements
- details of all mitigation measures that will be implemented in areas where the construction noise and vibration impact may exceed guidelines
- procedures for managing noise and providing respite periods when works at night and early in the morning are required.

The CNVIS will be developed by the Sydney Program Alliance who is delivering the service and utility relocation work for Warringah Freeway Upgrade on behalf of Transport for NSW.

### Reducing the impact of our work

Our work can be noisy at times but we will do everything we can to reduce its impact. To minimise the impact of this work we will:

- turn off machinery when not in use
- plan traffic flow, parking and loading/unloading areas to minimise reversing movements within the site
- use quieter and less vibration-emitting construction methods where feasible and reasonable
- use equipment which is well maintained and that does not result in unnecessary noise emissions

- lay out our sites so noisy equipment is shielded by other buildings and/or stockpiles, where possible
- install hoarding around our temporary construction sites, where feasible
- use acoustic blankets to minimise noise, where feasible
- direct temporary lighting down and away from houses
- plan activities close to residents to occur during standard construction hours or early evening, where possible
- fit equipment with devices to minimise noise, particularly non-tonal reversing beepers
- monitor noise periodically so we can manage any potential impacts and adjust our work as required.

A Noise and Vibration Management Sub-plan (NVMP) has been developed in consultation with the Department of Planning, Industry and Environment (DPIE). The NVMP provides an overview of how noise impacts will be managed across the project. The NVMP is available on our portal: [nswroads.work/whportal](https://nswroads.work/whportal) under the 'Project approval documents' tab.



Temporary noise hoarding during construction of NorthConnex



## Monitoring noise

Throughout construction we regularly monitor noise from our work at different times of the day and night to ensure noise is within our predicted noise levels.

This monitoring lets us know if we need to change our construction methods, adjust our mitigation measures or adjust our predictions.

Our monitoring and any adjustments are reviewed and audited by the site environmental staff, independent appointees, and can be requested by the EPA and DPIE.

## Work outside standard construction hours

To construct the Warringah Freeway Upgrade we need to carry out a large amount of surface work within a limited space. To maintain safety for road users and workers, and to keep people moving on the busy Warringah Freeway during peak travelling times, a lot of our work will need to be carried out at night. We will work closely with affected residents to minimise the impact of our work. Where possible work is always carried out during standard construction hours (**from 7am to 6pm Monday to Friday and from 8am to 6pm on Saturdays**).

### Out of hours work survey

We welcome any queries or feedback you may have regarding our out of hours work plans. Use the QR code below to complete our survey. Please include the work location. Please contact us if you wish to complete a hard copy of the survey.



## There are several reasons why we would need to carry out work outside standard construction hours, including:



### Safety

For motorists, pedestrians and workers when we are building over and next to roads and live traffic to reduce interactions between these groups.



### Emergency

There may be times when we are directed by NSW emergency services or by utility providers for safety reasons to undertake road work at night (including injury or loss of life, to avoid damage or loss of property, or to prevent environmental harm).



### Service and utility disruptions

To minimise disruption to essential services and utilities for local communities.



### Oversized deliveries

To allow delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads.



### Managing traffic

Working next to, over or on existing roads means traffic may be stopped, detoured or reduced to one lane while work is carried out. Where possible we will carry out work during the day, however, there will be times when we will need to carry out this work at night to minimise delays and journey times so motorists are less impacted.

The project's Environmental Protection Licence (EPL) and approvals permit us to do work at night **up to three nights per week**, with **only two consecutive nights per week** and **no more than 10 nights per month** when predicted noise levels exceed the NMLs.

Generally night work takes place between **8pm and 5am**. We aim to complete high noise activities before midnight, where possible.

We will notify you of these nights in our construction notifications and email updates.

There may be occasions where we look to minimise the overall duration of our work in a specific area by increasing the number of nights we work outside standard construction hours so we can complete the overall work sooner. We will consult with the community and seek approval from the EPA before making any changes to the out of hours work periods as outlined above.

## Keeping you informed

We will notify you via a letterbox notification, which includes a three month look ahead regarding our night work, and weekly website updates about our day and night work in your area. We will also let you know which nights in the month we are working so you can be prepared.

We are required to keep you up to date with this work. If you have any feedback on the type or method of communication provided, please let us know by completing the out of hours work survey.

**We apologise for any inconvenience and thank you for your patience during this important work.**

## How to make a complaint

To make an enquiry or a complaint about the project, you can call our community information line, which is available 24 hours a day and is attended during project operation hours. Enquiries and complaints may also be received by the project email and by post.

## Learn more

You can learn more about construction and noise in the Interim Construction Noise Guideline. This has been developed by a number of government agencies and provides comprehensive information about noise: [www.environment.nsw.gov.au/resources/noise/09265cng.pdf](http://www.environment.nsw.gov.au/resources/noise/09265cng.pdf)

You can also learn more about noise on our project via our online portal: [nswroads.work/whportal](http://nswroads.work/whportal)

## Stay in touch with us



[nswroads.work/whportal](http://nswroads.work/whportal)



1800 931 189



[whtbl@transport.nsw.gov.au](mailto:whtbl@transport.nsw.gov.au)



**Customer feedback**  
Transport for NSW, Locked Bag 928  
North Sydney NSW 2059



**If you need help understanding this information, please contact the Translating and Interpreting Service on 131 450 and ask them to call us on 1800 931 189.**

### Making a complaint about our work

To make an enquiry or a complaint about the project, you can call our community information line, which is available 24 hours a day and is attended during project operation hours. Enquiries and complaints may also be received by the project email and by post.

**Privacy Statement:** Transport for NSW ("we") are collecting your personal information in connection with public consultation on the Western Harbour Tunnel, Warringah Freeway Upgrade and Beaches Link projects ("the Program"). We will retain and use this information for consultation purposes, including communications and analysis in connection with the Program. We may share your submission or complaint with another NSW government agency where relevant having regard to the nature of the submission or complaint. Otherwise, except for anonymous information which does not identify you, we will not publish or disclose your personal information to any third parties without your consent unless authorised by law. Providing your personal information is voluntary but if you do not provide it we may not include you on our stakeholder database and you might miss further consultation opportunities. Your personal information will be held and managed by Transport for NSW in accordance with the Privacy and Personal Information Protection Act 1998 and you can contact us to access or correct it. Please email us at [whtbl@transport.nsw.gov.au](mailto:whtbl@transport.nsw.gov.au), write to us at Transport for NSW, Locked Bag 928, North Sydney NSW 2059, or call us on 1800 931 189.