

## Managing noise and vibration

Sydney Gateway is a new, above ground, toll-free connection from St Peters Interchange to the International and Domestic terminals, and beyond.

This fact sheet provides information on how we're managing noise and vibration while we build Sydney Gateway.

To build Sydney Gateway, we'll be using different types of machines and equipment which at times will generate noise and sometimes vibration.

### Our work activities that may create noise and vibration

**Ground investigations** to test the soil by drilling rigs and vacuum trucks.

**Utility investigations or 'potholing'** to locate underground services like water, power and gas using road saws, vacuum truck and excavator hammers.

**Trenching** to install or move utility services using jack hammers, excavators, road saws, excavator hammers and compaction machines.

**Clearing tree, shrubs and plants** to create space using chainsaws, chippers, excavators and elevated working platforms.

**Demolition** of existing buildings and road barriers using excavator hammers, excavators, road saws and rattle guns.

**Moving soil and rocks** to clear and level our work areas using excavator hammers, excavators, vibratory rollers, bulldozers and rock crushers.

**Piling work** to drill and drive piles into the ground to create permanent bridge structures and foundations using piling rigs, cranes, excavators and concrete trucks.

**Road intersection upgrades and changes** using milling machines, excavator hammers, steel cutters, vibratory rollers and compaction equipment.

### How we measure 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 an increase of 10 decibels as about double the previous noise.

For example a lawnmower is about 90 decibels and a motorcycle is about 100 decibels. To the ear a motorcycle can be heard as almost twice as loud as a lawnmower. The Noise Level Chart below shows the different levels of noise levels we all experience.



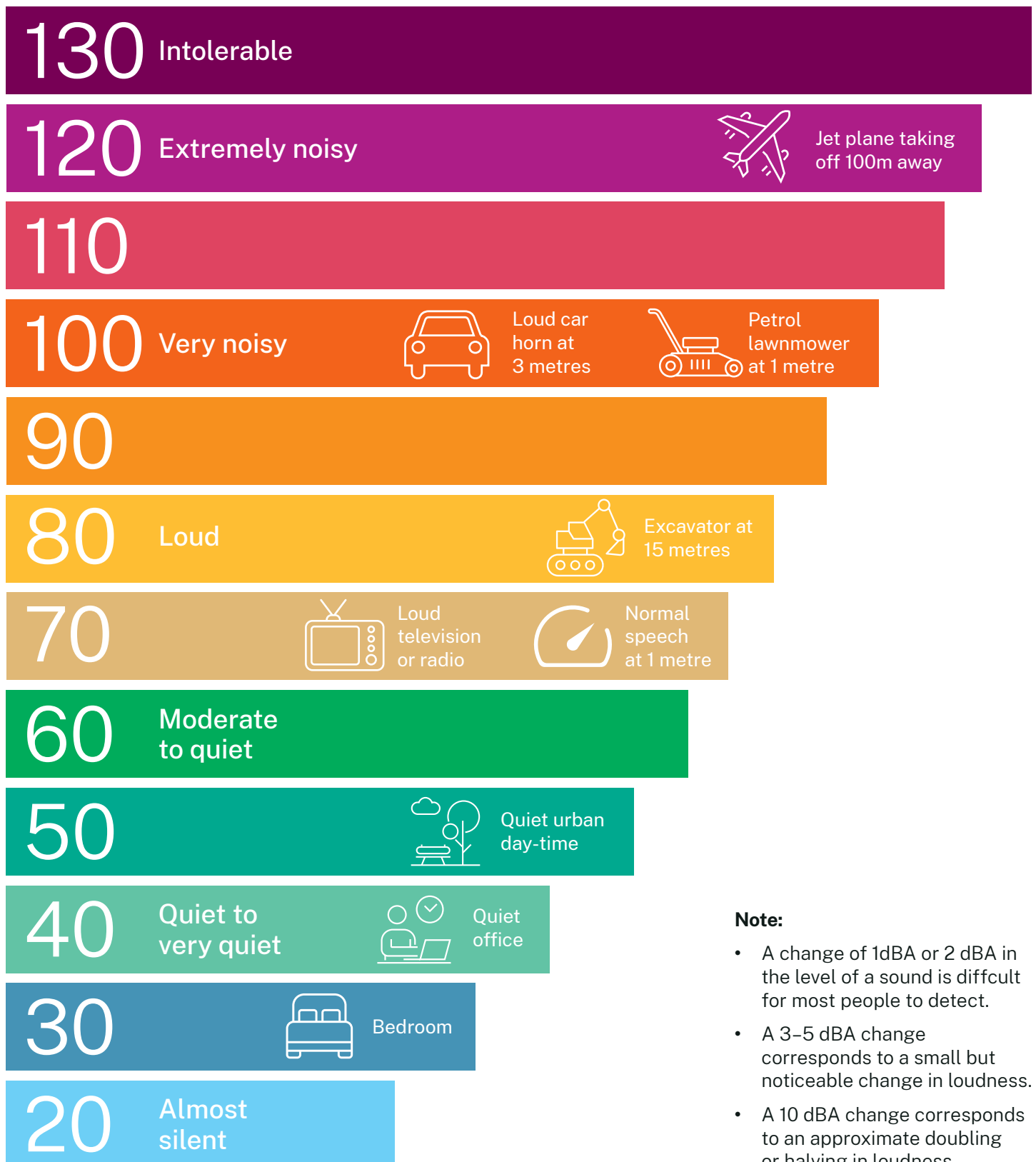
Artist's impression of Tempe noise wall

# Noise level chart

## 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.

### dBA levels and subjective evaluation



**Note:**

- A change of 1dBA 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.

## How we're managing construction noise and vibration

Our Infrastructure Approvals and Environmental Protection Licence (EPL) requires us to manage noise levels as best as possible while we're working and within our approved noise limits.

Our work may be noisy at times so we will work in ways to reduce the impact of noise when we are working close to your area.

We're also developing a Construction Noise and Vibration Management Plan, which identifies the potential impacts of our work. It also provides solutions which the project will follow to reduce these impacts.

Some of these include:

- limiting the duration of higher noise activities as much as possible
- stopping higher noise activities earlier in the night where possible
- limiting the use of multiple equipment at the same time and location
- using squawker reversing alarms on equipment
- installing temporary noise blankets with fencing around our work areas and machinery, if possible
- installing a temporary noise wall within Tempe Lands
- turning off plant and equipment when not in use
- using two-way radios to avoid shouting
- training staff to be noise conscious and regular toolbox talks to the workforce.

We will consult with the community about these through the PDLP process and suggest keeping this factsheet specific to construction noise and vibration.

We'll carry out noise and vibration monitoring during our work to ensure we're working within our predicted noise levels. We'll inform all impacted residents of the work before it takes place.

We've contacted all eligible properties near our construction sites to arrange a noise assessment of their properties and property condition survey.

## Construction hours

Both day and night work will be ongoing within our construction sites and local roads for the duration of the project.

Our standard daytime work hours are:

**Monday to Friday**      **7am – 6pm**  
**Saturday**                **8am – 6pm**

Our standard night-time work hours are:

**Sunday to Thursday**    **9pm – 5am**

Work may take place outside of these hours in line with our license conditions. Where we can, we will seek agreement from our communities for work times that best suit them.

## Vibration you may feel

We have carried out a thorough vibration assessment examining the potential impact vibration could have on you.

Unlike noise, it is difficult to predict vibration. Soil type, material below the surface, building types and the equipment being used are just some variables that can alter the scale of its impact.

We assessed for:

- how your comfort might be affected
- potential structural impacts to buildings
- potential impact to sensitive equipment in surround buildings.

Vibration monitors will be used where required to provide real-time readings of vibration levels.

Where vibration needs to be monitored, we will ensure those nearby to our monitoring are notified in advance of us setting up our equipment.



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.



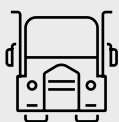
### Emergency

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).



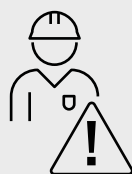
### Service and utility disruptions

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.

## Frequently Asked Questions

### What are day & night Noise Management Levels (NML)?

We use NMLs to assess whether you'll be impacted by noise from our work. The NML is the current noise level at the quietest time of the day or night, plus 10 decibels during the day or five decibels at night. You're considered to be affected by noise if our work is predicted to be 10 decibels more than your current noise levels during the day and five decibels more at night.

### What does it mean to be highly noise affected?

You're considered to be highly noise affected when the noise levels are predicted to be over 75 decibels. 75 decibels is comparable to the noise made by a vacuum. We'll look at ways to further reduce noise if you've been assessed as highly noise affected.

### Why do we need to carry out night work?

Most of our work is only approved at night to maintain the safety of our workers and the surrounding community to carry out work that can not be done during peak traffic periods or to reduce impacts to airport operations. Night work may also include emergency and utility improvement work for power, water, sewer or gas.

In addition to assessing night time NMLs, we also consider sleep disturbance criteria to account for occasional 'bangs and clangs' that may wake people from their sleep. Where required, additional mitigation measures will be implemented, such as providing rest periods.

### How will I be notified of upcoming night work?

We'll always let you know ahead of time about night work happening near you. We will do this normally five days in advance by post, email and updating our website.

## Acknowledgement of Country

Transport for NSW acknowledges the Gadigal, Wangal and Bidjigal people of the Eora Nation as the Traditional Custodians of the lands on which we work and pay respects to Elders past and present.



### For more information or enquiries



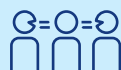
[nswroads.work/SydneyGateway](https://nswroads.work/SydneyGateway)



1800 654 446 (24/7)



[SydneyGateway@jhs.com.au](mailto:SydneyGateway@jhs.com.au)



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 654 446 (24/7)**.



Visit the Sydney Gateway online portal to subscribe