Mount Ousley interchange

Operational noise factsheet

June 2024

Australian Government
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Transport for NSW acknowledges the Dharawal and Wodi Wodi people as the Traditional Custodians of the lands on which we work and pays respect to Elders past and present.

Road traffic noise (also known as operational noise) was assessed as part of the Mount Ousley interchange Review of Environmental Factors (REF) in 2017, the Submissions Report in 2018 and the Addendum REF in 2022. These assessments identified potential operational noise impacts from the project and mitigation measures to manage these impacts including road design, noise walls and at-property noise treatments.

This factsheet is to provide nearby residents with further information about the operational noise mitigation measures that will be delivered as part of the project.

Frequently asked questions

Operational noise

What is operational noise?

The motorway provides a source of road traffic noise in areas nearby. This is what we call operational noise.

The M1 Princes Motorway at the intersection of Mount Ousley Road experiences high traffic volumes, with more than 50,000 vehicles per day using this route. For many of the residents and other sensitive receivers located near the motorway, high levels of operational noise exist as a result.

How is operational noise assessed?

Operational road traffic noise impacts are assessed in accordance with the *NSW Road Noise Policy* (NSW EPA, 2011) the *Road Noise Criteria Guideline* and *Road Noise Mitigation Guideline* (Transport for NSW, August 2023 and March 2022), and the noise mitigation strategies applied to the project are consistent with these policies and guidelines. These documents can be found on the Operational noise page of the project website, transport.nsw.gov.au/MountOusley.

How is operational noise measured?

The measurement unit for sound and noise is decibels (dB). A sound level in dB represents the sound pressure level, which is the amount of sound a listener receives.

As sound levels near a road may vary, such as when a vehicle is driving past, the LAeq (Equivalent Continuous Level) measurement is used to show an average noise level over a given period.

What assessment criteria is being used?

The noise criteria for residential receivers for the upgrade of an existing motorway is $LA_{eq(15hour)}$ 60 dB(A) during the day (7am-10pm) and $LA_{eq(9hour)}$ 55 dB(A) during the night (10pm-7am).

What assessments are carried out during the project?

Operational road traffic noise emissions from the project were assessed as part of the Review of Environmental Factors (REF) issued in 2017. This assessment was subsequently updated in an Addendum REF in 2022. These assessments identified potential operational noise impacts and mitigation measures to be included in the project to achieve noise and vibration objectives, based on a concept design.

During detailed design the noise assessment undergoes refinement to include detailed design elements that influence operational traffic noise to ensure the design still achieves operational road traffic noise and vibration objectives.

How will operational noise be managed?

The most effective way of minimising road traffic noise is at the source. Where at source measures are not practical, or do not achieve the required noise reduction, additional methods are required. Noise barriers are an effective close to source mitigation measure for closely spaced receivers. Where at source and close to source mitigation measures do not reduce operational noise below the criteria as per the *Road Noise Criteria Guideline* (RNCG), at-property noise treatments are considered. For more information refer to the at-property noise treatment section below.

How will we know the operational noise criteria has been achieved?

Noise monitoring will be carried out following project completion. Generally, the locations will be same locations used for the road traffic noise monitoring carried out for the REF.

The results of this monitoring would be used to validate the accuracy of the noise model and predictions. Where a discrepancy in the assessment is noted, the noise assessment would be reviewed and if required, reconducted.

Road design

How do road design features reduce road traffic noise?

Physical features in the project's road design reduce noise by blocking noise paths, these include earth mounds, concrete barriers, retaining and noise walls.

Separating heavy and light vehicles will reduce the deceleration and acceleration generated under the existing conditions. The heavy vehicle bypass lane will flow under the interchange with physical barriers either side reducing the road traffic noise.

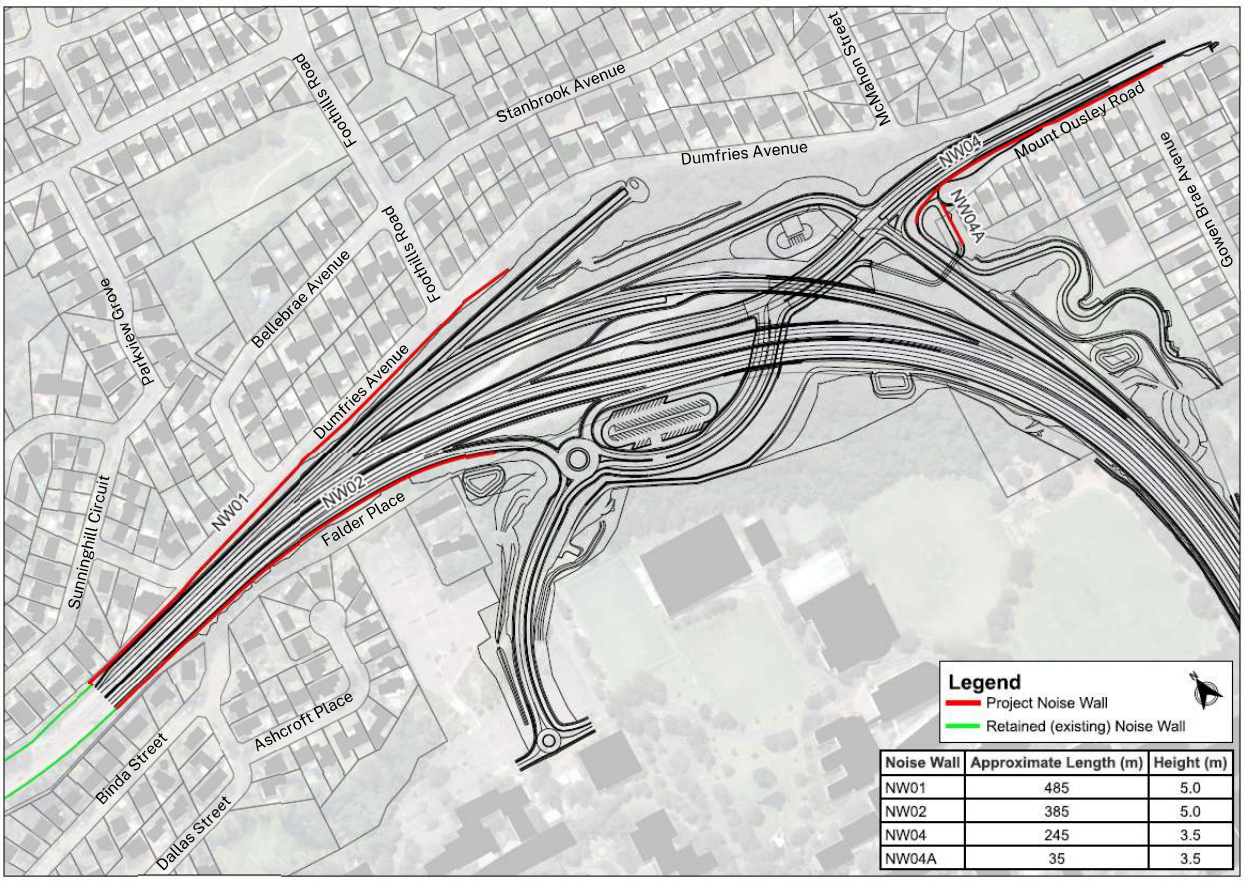
During detailed design, we look at ways to adjust the vertical and horizontal alignments and grade to further reduce road traffic noise.

Noise walls

Where are noise walls being built?

We will be building new or extending existing noise walls in three locations to mitigate noise impacts.

- Five metre high noise wall along the northern side of the motorway and the southern side of Dumfries Avenue (NW01)
- Five metre high noise wall and along the southern side of the motorway and northern side of Falder Place (NW02)
- Three and a half metre high noise walls along the southern side of Mount Ousley Road, between Gowan Brae Avenue and the cul-de-sac at the western end (NW04 and NW 04A).



Noise Wall	Approximate Length (m)	Height (m)
NW01	485	5.0
NW02	385	5.0
NW04	245	3.5
NW04A	35	3.5

Locations, length and height of noise walls.

How were the heights of the noise walls determined?

Based on feedback obtained through the REF display, the noise walls heights were determined balancing the predicated noise levels, structural and construction constraints, visual and urban design impacts. Details on this can be found in the REF Submissions Report.

What will the noise walls look like?

The noise walls along the M1 Princes Motorway and Dumfries Avenue; and along Mount Ousley Road and the western end cul-de-sac will sit on retaining walls which will be visible from the motorway.

The noise wall posts will be a similar profile as the safety screens to be installed as part of the project to provide a consistent overall aesthetic of structural elements. The top of the walls will have a continuous flowing line.

The noise walls will be built of solid and transparent panels. Consideration has been given to balance visual impacts, maintaining a level of privacy of residents and future maintenance.

The solid portion of the noise walls on the resident side will be coated with an anti-graffiti paint and the resident side will be similar colour to the existing walls.

Vegetation screening will also be provided on both sides of the walls, where space allows. However, it would take time to establish and screen the noise walls.

The Urban Design and Landscape Strategy Report considers pattern, colour and artwork on the motorway side of the noise walls and retaining walls that acknowledges Aboriginal history and helps establishes a connection to Country. We will be engaging with local Aboriginal knowledge holders and stakeholder groups as part of the detailed design process.

Artist's impressions and further information about the noise walls, retaining walls and landscaping is captured in the Urban Design and Landscape Strategy Report which can be found on the project website.

At-property noise treatment

What is at-property noise treatment?

At-property noise treatment refers to architectural measures installed at properties to achieve internal noise levels in accordance with the road traffic noise criteria defined in the project's REF.

Depending on the property and predicated noise levels, treatment could include mechanical fresh air ventilation, upgrades window and door seals, sealing of wall vents and eaves, and in some instances updates to windows and doors.

How and when will eligibility for at-property noise treatment be assessed?

During detailed design, further assessments will be carried out to identify nearby properties where noise levels trigger the consideration for noise mitigation .

The project team will be in contact with owners of properties where noise levels are predicted to exceed the road traffic noise criteria to arrange an acoustic consultant to psychically inspect the property to determine eligibility for at-property noise treatment in accordance with the *NSW Road Noise Policy* and Transport for NSW guidelines.

If a property is eligible, how is treatment determined?

Treatment recommended for a property will be based on the predicted noise levels and Transport for NSW guidelines. Every property is different and, in consultation with owners, treatment scope will be developed that considers the property type, indoor habitable spaces facing road, existing windows and doors. Outdoor spaces such as pergolas, verandas and other outdoor living spaces are not eligible for consideration of treatment.

A second inspection will then be carried out to determine the suitability of the proposed treatment for that specific property. Then a tailored treatment scope would be recommended to the property owner for consideration. Some properties may already have the recommended treatments and as such noise criteria may already be achieved and treatment may not be required.

Contact us

If you have any questions or would like more information, please contact us on:

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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 792 918.