

Frequently Asked Questions

Ardeer Noise Investigation

What has VicRoads done to consider noise issues raised by residents in this area?

In late 2018, VicRoads undertook a traffic noise investigation in response to noise issues raised by residents in the area. VicRoads has delivered on its commitment to complete additional noise testing and associated actions and provide publicly available information of the results.

What noise monitoring did VicRoads complete and when?

Noise monitoring was undertaken at four locations in the Ardeer area – two at properties near the M80 Ring Road, using sound level meters, and two at a roadside location on the M80 Ring Road south of Ballarat Road, using sound level meters and video cameras.

The property noise monitoring was undertaken for just over three weeks in November and December 2018, while the roadside noise monitoring and camera survey was undertaken on the M80 Ring Road over three nights in November 2018, between 10pm and 5am.

What are the results of the testing?

Property Noise Monitoring

Noise levels were recorded in a variety of weather conditions. The analysis confirmed that under certain conditions, such as westerly winds and rainfall, traffic noise levels were higher than under standard noise measurement conditions¹ with little or no wind / rainfall.

In no case did noise levels exceed the trigger for consideration of noise barrier retrofitting under VicRoads current Traffic Noise Reduction Policy, which is 68 dB(A) L10 (18hr).

M80 Ring Road Noise Monitoring and Camera Survey

Results of the survey included:

- 119 road-based events were recorded (approximately 40 per night) where the individual noise levels recorded spiked above 60dB(A).
- Of the 119 road-based events:
 - 107 were trucks.
 - 27 of the truck related noise events involved engine braking, with the rest being general truck engine noise.
- There are approximately 3000 trucks travelling on the M80 between 10pm and 5am each night (based on data collected between Boundary Road & the Deer Park Bypass). The 40 trucks per night that spiked above 60dB(A) represent less than 2% of overall trucks.
- For the same period, there were 96 non-road-based events where the individual noise levels spiked above 60dB(A). These noise events consisted mostly of aeroplanes and trains, and had peaks significantly louder than the road-based events.

What is the reasoning behind the current noise wall height?

Queries have been raised by residents of Ardeer that just prior to the M80 upgrade works in 2013, residents were advised by the Project team that a 4-metre high noise wall would be built at this location. However, a 2-metre high wall was built (as per the pre-existing wall height).

While early concept plans included a 4-metre-high noise wall, further analysis was undertaken as the project progressed which determined that a 2-metre noise wall would achieve the noise level objectives under VicRoads Traffic Noise Reduction Policy until at least the year 2039.

How will VicRoads manage truck noise along the M80 Ring Road?

To manage heavy vehicle noise and further reduce its impact on our communities, the following actions are being undertaken by VicRoads:

- Installation of 'Trucks Avoid Using Engine Brakes' signage on the M80 Ring Road between Ballarat Road and Tilburn Road (completed November 2018).
- On road surveillance and compliance checks of noisy trucks on the M80 in the Ardeer area. The surveillance targets trucks that emit abnormally high noise levels.
- Road resurfacing to reduce tyre noise on the M80 adjacent to Ardeer as part of the future M80 Upgrade between Princes Freeway and Ballarat Road.

What is happening with the Noise Traffic Reduction Policy Review?

VicRoads conducted a review of its *Traffic Noise Reduction Policy (2005)* during 2014/15, which included online community consultation.

Any changes to the policy need to be carefully considered in the context of Victoria's rapid population growth and significant investment in new transport infrastructure.

The findings of the review and community consultation are being considered and are informing the noise requirements of major road projects.

In the meantime, the existing *Traffic Noise Reduction Policy (2005)* applies.

What can residents do to reduce noise effects at home?

VicRoads has produced "A Guide to the Reduction of Traffic Noise" for use by builders, designers and residents to identify practical opportunities for noise reduction in existing homes.

A copy of this document can be found on VicRoads website at <https://www.vicroads.vic.gov.au/planning-and-projects/environment/noise>

My noise levels are higher than those in the report, why?

We've heard from people using apps on their phone to measure noise and attempt to compare the noise levels obtained from apps, with those in the report or previous reports.

It is important to note that a single reading (i.e. instantaneous noise levels recorded by apps vs L10 (18hr) noise levels) usually does not accurately reflect overall traffic noise in the area.

VicRoads requires any consultant we use to conduct measurements in accordance with the guideline "Traffic Noise Measurement Requirements for Acoustic Consultants." This Guideline outlines requirements that specify the type of instrumentation, calibration, certification, microphone position, measuring parameters, measuring locations and periods, and weather conditions to be used when measurements are undertaken. These requirements are to ensure that measurements are of good quality and consistent over time. Noise levels recorded under these conditions would also enable a fair basis for comparison against the noise objectives in the Traffic Noise Reduction Policy.

Definitions of terms used to describe traffic noise

Due to its nature, traffic noise varies from instant to instant. Statistical terms have evolved to describe its level using a single number value.

dB: This is the abbreviation used for decibel which is the measure of sound pressure level.

dB(A): The (A) denotes that the sound pressure level has been "A" weighted so that the scale approximates the response of the human ear. The ear is less sensitive to high and low frequency sounds than it is to sounds in the mid-range. Most community noise is measured in "A" weighted decibels.

L10: This is the noise level in dB(A) exceeded for 10% of a specified time period. For a one hour period, the level would be exceeded for 6 minutes but would be less for the remaining 54 minutes.

L90: This is the noise level in dB(A) exceeded for 90% of a specified time period. Since this represents 'most' of the time, L90 generally has been adopted as a measure of the ambient baseline noise of the measurement site.

L10 (18hr): It is the arithmetic average of the hourly L10 levels over 18 hours of sampling period, i.e. between 6am and 12 midnight.

L90 (7hr): It is the arithmetic average of the hourly L90 levels over 7 hours of sampling period, i.e. between 10pm and 5am as defined in the current noise investigation study.

¹ Standard noise measurement conditions such as those related to instrumentation and weather conditions are described in "Traffic Noise Measurement Requirements for Acoustic Consultants" issued by VicRoads. Reference is made to this guideline when noise measurements are undertaken in order to ensure that measurements are of high quality and are consistent over time.