

Pacific Motorway (M1) Mudgeeraba to Varsity Lakes upgrade

Frequently Asked Questions

December 2018

Why focus on this section of the Pacific Motorway?

The Pacific Motorway (M1) is one of Australia's busiest highways and is a national freight route. The section between Mudgeeraba (Exit 79) and Varsity Lakes (Exit 85) carries more than 80,000 vehicles per day on average, and is consistently congested during peak periods and when traffic incidents occur. Traffic demand for this section of the motorway is growing and expected to exceed 120,000 vehicles per day by 2026.

The Department of Transport and Main Roads (TMR) has been progressively upgrading the M1. Various interchange improvements were carried out between 2008 and 2010 and motorway widening to six lanes between Nerang (Exit 73) and Worongary (Exit 77) was completed in 2010 and Worongary (Exit 77) to Mudgeeraba (Exit 79) six-laning in 2014. The Mudgeeraba to Varsity Lakes section is the next stage in the overall M1 upgrade plan from the Gateway Motorway to the Tugun.

When will the rest of the motorway be widened?

The upgrade and widening of the Pacific Motorway is being delivered in strategic priority stages as funding becomes available, based on traffic volumes and best value for money.

The Queensland Government has invested \$6.86 million to progress planning to six-lane (three lanes in each direction) the next highest priority section at the southern end of the motorway - between Varsity Lakes (Exit 85) and Tugun (Exit 95). A further \$1.03 billion has been committed by both the Australian and Queensland Governments to complete planning and progress the upgrade to construction.

This project will be delivered in stages as funding becomes available, with some sections starting construction once the M2VL upgrade is completed in mid-2020.

Further information on the VL2T upgrade is expected to be available to the wider community in the first quarter of 2019.

What will the work cost?

An indicative cost for the Pacific Motorway Mudgeeraba to Varsity Lakes upgrade is \$197.5 million as outlined in the *Queensland Transport and Roads Investment Program 2018-19 to 2021-22*.



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Who is funding the upgrade?

In October 2016, the Australian and Queensland governments agreed to fund the design development phase and early works to inform a market-based cost estimate through an Early Tenderer Involvement (ETI) process.

In March 2017, both governments announced a jointly funded roads package for Queensland worth more than half a billion dollars which includes funding to construct the Pacific Motorway upgrade between Mudgeeraba and Varsity Lakes.

The Australian Government's contribution is capped at \$110 million and the Queensland Government will fund the balance. The Queensland Government, through TMR, will manage construction of the project.

What does the upgrade include?

The following key features are part of the Pacific Motorway upgrade from Mudgeeraba to Varsity Lakes:

- widening a 5.7km section of the motorway to
 - three lanes in each direction between Robina (Exit 82) and Varsity Lakes (Exit 85)
 - four lanes northbound between Robina (Exit 82) and The Link Way (Exit 80)
- extending entry and exit ramps to meet current design standards
- reconstructing the Mudgeeraba Creek and Mudgeeraba Creek overflow bridges on the northbound side to better withstand flood events
- removing the right turn movement from The Link Way off-ramp (Exit 80) to The Link Way northbound to improve safety
- constructing a new bridge for Stapley Drive
- combining the southbound exit ramps to Stapley Drive and Reedy Creek Road
- making provision for a future managed motorway system

How does the project benefit me?

The Pacific Motorway Mudgeeraba to Varsity Lakes upgrade will:

- improve safety for all road users
- reduce congestion and potential for traffic incidents
- improve travel time reliability
- maximise freight efficiency and allow adequate capacity for freight
- cater for the projected increase in traffic

When did construction start?

Early work on the Pacific Motorway Mudgeeraba to Varsity Lakes upgrade started mostly off-road in August 2017 and included installing CCTV cameras at the Mudgeeraba (Exit 79), Robina (Exit 82) and Varsity Lakes (Exit 85) interchanges.

Road widening and interchange construction works started in late April 2018 and are expected to continue until mid-2020.

Who was awarded the contract for this project?

Following the Early Tenderer Involvement (ETI) process for the delivery of the project, in late December 2017, Seymour Whyte Ltd was awarded the main construction contract. On-road construction works started after the Gold Coast 2018 Commonwealth Games in April and will continue until mid-2020.

How will traffic conditions change during construction?

To ensure the safety of roadwork crews and road users, new traffic arrangements will be put in place during construction. This means that road conditions will frequently change, including:

- narrow lanes and shoulder closures
- 'switches' between traffic lanes
- altered lane merges
- full lane closures
- reduced speed limits
- short duration traffic stoppages

Speed limits will be reduced to 80km/h, 60km/h and 40km/h at various locations and times during construction.

All road users are reminded that roadwork speed limits are enforceable and that they should continue to obey the roadwork signs and traffic controllers. Keeping a safe distance between you and other vehicles; and from traffic barriers, construction equipment and roadwork crews is recommended. While there may be times when there are no roadwork crews onsite or near the motorway lanes, reduced speed limits will remain in place because of the narrowed lanes and shoulders. If you cannot see a road worker, it does not mean you can increase your speed – there may still be hazards.

Roadwork speed limits are in place not only for everyone's safety, but to benefit the community by helping progress construction activities in a timely manner.

Road users should subscribe to the free SMS text message service to get regular updates on changing traffic conditions for this project. Alternatively, you can receive traffic alerts to your email address. Register for either or both services at M2VL@tmr.qld.gov.au or call the project team on 1800 571 817, which is a free call from any landline.

Why are there changed traffic conditions between Robina (Exit 82) and Mudgeeraba (Exit 79)?

As part of the Pacific Motorway Mudgeeraba to Varsity Lakes upgrade, traffic conditions have changed between Robina (Exit 82) and Mudgeeraba (Exit 79). Northbound motorists are now travelling on the southbound carriageway and the speed in this area has been reduced to 60km/h.

In order to fit four lanes on the southbound carriageway, shoulder widths have been reduced and lanes have been narrowed. In addition to these changes, construction equipment and crews are working closer to motorway traffic.

While there may be times when there are no roadwork crews onsite or near the motorway lanes, reduced speed limits will remain in place because of the narrowed lanes and shoulders.

These changed traffic conditions are in place for approx. 15 months during construction of the new bridges.

What is a managed motorway system?

Managed Motorway technologies help to reduce stop-start travel, improve safety and provide more predictable travel times for motorists. These initiatives allow the proactive, real-time management of the south east Queensland road network, with benefits including:

- Managing traffic entering the motorway at congestion points to help keep traffic flowing on the motorway and delay the onset of congestion.
- Providing safer merging conditions for motorists entering the motorway.
- Reducing 'stop-start' travel for motorists and helping to improve travel time reliability.
- Optimising the performance of the motorway and maximising the existing capacity until future upgrades can take place.
- Allowing a proactive and responsive approach to managing network conditions and responding to congestion, incidents or bad weather in real time.
- Providing real-time information that assists in more efficient incident responses.

There are various technologies utilised in Managed Motorways. The most effective and most likely to be implemented on the Pacific Motorway are:

- Ramp metering traffic signals and vehicle detection sensors to manage the rate at which vehicles merge onto the motorway.
- Detection equipment to measure and calculate traffic flow speed and consistency.
- Variable Speed Limit (VSL) signs to display reduced speed limits in response to congestion, incidents or bad weather.
- Additional CCTV cameras to monitor the network and adjust ramp signals where necessary to respond to network congestion.

These technologies will also be installed as part of several major upgrade projects along the M1 and investigations are currently underway to determine the most effective areas and technologies to use.

What are the yellow figurines seen through the project site?

Safety is the number one priority for all of Transport and Main Roads' work sites. The purpose of the large yellow 'workers' is to tap into the psychology of keeping people safe.

The signs help make motorists aware that road workers are close by and they should check their speed. There is a visual connection between the markers and the people working onsite or along the road corridor.

The figurines also serve as a visual reminder to onsite road workers of potential underground and overhead conflicts such as gas mains and powerlines.

The figurines will be installed at roadwork sites along most major state-controlled routes such as the Pacific Motorway.

What can residents expect during construction?

This is an immense program of work and construction is expected to be carried out in stages at various locations for approx. two years. Road crews will not be consistently working in the one location throughout the construction period, with a number of crews working in a number of locations at any given time.

While the project team will make every effort to minimise noise and disruption, an innovative aspect of this upgrade involves programming a large component of the works at night to shorten the construction timeframe and minimise impacts to traffic.

Lighting towers will be required during night works, but will be directed away from residences wherever possible. Reverse beepers and flashing light beacons on machinery and vehicles are a safety requirement and must continue to be used during night time works.

Heavy machinery will be in use throughout the upgrade. The contractor will identify where high vibration is expected and undertake a risk assessment to determine protection measures. A project team member will be in contact with those residents prior to construction starting.

The project team is committed to keeping everyone informed with timely and accurate information to minimise disruption to neighbouring communities. Advance notice will be provided to residents via letterbox flyers or face-to-face meetings when work is approaching your area or if access is temporarily disrupted or changed.

Residents are also urged to register their email address to receive electronic quarterly project updates such as progress against milestones, timeframes, upcoming works and the like. Alternatively, a free SMS text message service is available for updates on traffic conditions during construction. Register for either or both services at M2VL@tmr.qld.gov.au or call the project team on 1800 571 817, which is a free call from any landline.

Why remove the right turn to Link Way?

The upgrade will widen the M1 between Mudgeeraba (Exit 79) and Varsity Lakes (Exit 85). A fourth northbound lane will also be constructed between the Robina Interchange (Exit 82) and The Link Way (Exit 80). This additional lane will improve driver safety by minimising weaving and merging movements between the two exits.

To enable the motorway widening, including the fourth northbound lane, The Link Way off-ramp will be realigned and shortened. The geometry of this off-ramp will change to assist drivers in reducing their speed from 100km/h to the posted 60km/h speed limit within the shorter distance. As a result of the changed geometry of the off-ramp, there is insufficient deceleration lane distance to safely turn right into The Link Way northbound.

To incorporate a safe right-turn movement, The Link Way intersection would require extensive infrastructure amendments. As there are several existing and safe alternative routes to access Mudgeeraba Village, retaining a right-turn movement was not considered a best value-for-money solution for the project and community. Furthermore, traffic counts have indicated that the current configuration at the roundabout intersecting Railway Street and The Link Way will cater for the additional traffic volumes to 2031.

How do I access the Caltex and McDonald's at Reedy Creek North?

The direct entry and exit ramps on the M1 for the Reedy Creek North Caltex/McDonald's site permanently closed on 16 November 2018. Access to the businesses from the M1 is now well-signed directing motorists to take the Reedy Creek (Exit 85) off-ramp and follow Old Coach Road to Gemvale Road.

This change needed to take place as a new and longer northbound on-ramp at Varsity Lakes (Exit 84) is being constructed on the M1 as part of the upgrade as well as extending the northbound off-ramp at Robina (Exit 82). These works will bring both ramps closer together which makes the M1 entry and exit ramps for the Reedy Creek North Caltex/McDonald's site no longer viable due to their proximity.

How will Stapley Drive (Exit 84) be improved?

As part of the upgrade there will be changes made to the Stapley Drive overpass that will assist with traffic flows and congestion at this busy interchange.

A new bridge is being constructed over the M1 that will provide two lanes eastbound and two lanes westbound. The right-turn from Old Coach Road to the overpass eastbound will be reconfigured to provide two right-turn lanes (one shared through and right-turn lane, and one dedicated right-turn lane). The traffic signals will be adjusted to cater for this changed shared lane.

At the same time that this work is happening, the Exit 84 southbound off-ramp is being reconstructed on a slightly different alignment and will become a combined off-ramp with Exit 85 Reedy Creek. A new intersection also needs to be constructed at the off-ramp to match into the new Stapley Drive bridge, as well as constructing the new bridge spans on this side of the motorway.

Whilst this work is being conducted the southbound off-ramp at Exit 84 is closed for approx. 12 months. An alternative route for motorists is half a kilometre further south at Exit 85 (Reedy Creek).

It is important to note that Bridgman Drive and Old Coach Road are local council roads under the jurisdiction of City of Gold Coast. Any further improvements to these roads are a matter for council to address. City of Gold Coast can be contacted by emailing mail@goldcoast.qld.gov.au or by calling 1300 465 326.

Are more noise barriers being installed?

The Transport Noise Management Code of Practice

Road traffic noise is managed under the *Transport Noise Management Code of Practice Volume 1, Nov 2013* (the Code) (<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Transport-noise-management-code-of-practice.aspx>) and implementation of the Code is a legislative requirement under the *Transport Infrastructure Act 1994*. The Code prescribes that TMR does not provide noise attenuation measures until there is an exceedance of 68dB(A) L_{A10} (18 hour). The L_{A10} (18 hour) level is determined by averaging the 18 L_{A10} (1 hour) levels between 6am and midnight, with the L_{A10} (1 hour) level representing the highest six minutes in each of those hours. Measuring between these hours ensures that road traffic noise assessments reflect the loudest L_{A10} levels of noise in a 24 hour period, that is, traffic is busier during this 18 hour period than between midnight and 6am, and therefore generates higher noise.

Noise monitoring

Post-construction noise monitoring was conducted at various locations in June 2015 once the southbound motorway widening between the Mudgeeraba (Exit 79) and Robina (Exit 82) interchanges was completed. Monitoring equipment was installed at properties that were considered to best represent the properties most exposed to road traffic noise in that particular area

As part of the Pacific Motorway Mudgeeraba to Varsity Lakes (M2VL) upgrade, acoustic engineers, external to TMR, conducted noise monitoring at various locations along the 5.7km upgrade route. This monitoring was carried out from 13 to 22 February 2017 to determine current road traffic noise levels.

Noise modelling

When constructing major road upgrades, TMR must also look at the lifespan of the upgrade and predict what the road traffic noise levels may reach by the end of that lifespan. The time horizon for the M2VL upgrade is 2031 and acoustic engineers have extrapolated, or modelled, the road traffic noise levels to that period, taking into account the upcoming changes in the road surface, vertical and horizontal road alignment, surrounding buildings, increased general and heavy vehicle traffic volumes and so on.

TMR has received the Operational Noise Impact Assessment report from the external acoustic engineers. It does indicate that some properties along the route will exceed the 68dB(A) criterion and TMR is currently assessing noise mitigation measures that will be most beneficial and cost effective at those locations. A timeframe for installing noise barriers or in-house noise treatments has not yet been determined, however TMR will be in touch with those affected landowners once the assessment is completed.

Noise monitoring post-construction

TMR acknowledges that residents adjacent to the motorway are impacted by road traffic noise and, as normal practice following a road upgrade, will conduct post-construction noise monitoring at the same or similar locations as carried out in February 2017. It is expected the post-construction monitoring will be carried out when the M2VL upgrade is completed and traffic patterns have returned to normal. In the unlikely event that these measurements exceed TMR's criterion level, additional sound attenuation measures will be considered then.

Heavy vehicle noise

TMR is aware that some residents may perceive an increase in noise generated by truck compression air braking. It is important to note that noise barriers are not capable of addressing this type of low-frequency noise. The L_{A10} (18 hour) noise descriptor is considered to best represent typical road traffic noise exposure. However, it does not fully assess the impact of road traffic noise due to isolated noise events such as heavy vehicles, as engine braking events are generally too short to affect long-term noise descriptors such as the L_{A10} (18 hour) criteria. TMR is unable to provide strategies to reduce noise events generated by heavy vehicles as they are usually due to driver behaviour or vehicle maintenance. Attempting to reduce this type of noise to acceptable levels is not technically feasible, reasonable or cost-effective.

It is also relevant to note that heavy vehicle compression braking processes significantly reduce brake wear and prevent heat induced brake fade or failure. Due to safety implications,

compression braking cannot be prohibited and signs requesting drivers to limit compression braking are not legally enforceable. TMR has found that these signs do not have a measurable effect in limiting exhaust braking noise in the immediate vicinity, and because the Pacific Motorway on the Gold Coast has many closely spaced exits and a proliferation of signage already, TMR will not be installing such signage as part of the M2VL upgrade.

Removal of trees and vegetation clearing

Vegetation clearing and removal of trees is often required to make way for new or to access existing infrastructure, visibility to signage and CCTV cameras, and for improving line of sight for motorists.

The Code outlines there needs to be a dense planting of trees with an understory of shrubs at least 30 metres in width before there is an appreciable noise reduction. Effectively, a 30 metre width of shrubs may result in a decibel reduction of 3dB(A).

The parcels of clearing required for this upgrade have been less than 30 metres in width.

What environmental protections are in place?

TMR is committed to managing its road network in a manner that optimises environmental outcomes for natural, social and built environments. The department uses a range of environmental expertise to develop detailed management plans to ensure all of its road projects are environmentally sustainable.

For these road upgrades, an Environmental Impact Assessment is undertaken during the planning stages. At the construction stage an Environmental Management Plan (EMP) is developed and implemented by the contractor; addressing aspects such as the management of native flora and fauna, as well as measures to minimise construction impacts such as noise and dust. This plan ensures that contractors working on this project comply with current environmental legislation and industry best-practice.

Tree clearing for any transport infrastructure improvement works are kept to a minimum and only carried out where necessary. In this case, some trees have been removed to make way for new infrastructure or to improve road safety where visibility was limited. Further vegetation clearing will also be required during construction works.

How will flooding be minimised at Mudgeeraba Creek?

TMR and the contractor must follow strict environmental legislation in regards to any works completed within or surrounding waterways, including the design of any structures such as bridges, and how they are constructed. The bridges are designed to minimise upstream impacts specifically in relation to flooding. This also includes ensuring wherever possible that there is minimal alteration to the waterway's natural flow pattern, possible damming effects, the hydraulic capacity and extent of flooding upstream.

As part of the Pacific Motorway Mudgeeraba to Varsity Lakes upgrade, the northbound road level will be raised to a similar height as the southbound carriageway, meaning the Mudgeeraba Creek and overflow bridges will be constructed to a similar height as the existing southbound bridges. TMR has completed detailed flood modelling on these new heights to ensure the design meets the aforementioned legislative requirements, as well as Queensland Government and Australian Bridge Design Codes.

The contractor has installed a temporary crossing for access to both sides of Mudgeeraba Creek during construction activities in this area. The access track has been built with a large pipe under a permeable rock fill which allows water to flow and fish passage to continue. TMR has confirmed that the contractor has a waterway barrier permit in place, approved by the Department of Natural Resources, Mines and Energy (DNRME), for the temporary access track.

The temporary creek crossing will be removed once construction in this area is completed. However, in the meantime the contractor will continue to observe ongoing weather patterns and is required to routinely monitor the creek's water flows and levels as part of the DNRME permit.

Can I claim compensation for lost trade?

As a state government department, TMR is lawfully authorised to carry out roadworks to improve the road network for the benefit of the whole community.

These road network upgrades are necessary to improve the efficiency of vital transport routes for the state of Queensland, and will also be of future benefit to business operators in the area.

TMR is always mindful of the impacts of roadworks and does everything that can be reasonably expected to minimise inconvenience to adjacent businesses. The department does not compensate businesses for loss of trade resulting from roadworks.

The project team is committed to keeping everyone informed with timely and accurate information to minimise disruption to the community, including local businesses. Advance notice of disruptive works will be provided to business operators via flyers and face-to-face meetings.

TMR recommends that business operators register their email address to receive electronic quarterly project updates such as progress against milestones, timeframes, upcoming works and the like. Alternatively, a free SMS text message service is available for updates on traffic conditions during construction. Register for either or both services at M2VL@tmr.qld.gov.au or call the project team on 1800 571 817, which is a free call from any landline.

How can I get more information?

To see a drive-through video simulation of the completed upgrade visit the TMR project page (<https://www.tmr.qld.gov.au/Projects/Name/P/Pacific-Motorway-M1-upgrade-Mudgeeraba-to-Varsity-Lakes>).

Residents and motorists are encouraged to subscribe to the free SMS and email traffic alert service to keep up-to-date on the Pacific Motorway Mudgeeraba to Varsity Lakes upgrade.

To register, contact the project team on the details below:

Phone: 1800 571 817 (during business hours)
Email: M2VL@tmr.qld.gov.au
Web: www.tmr.qld.gov.au
Post: Department of Transport and Main Roads
PO Box 442
Nerang QLD 4211