

# Varsity-to-Coolangatta (Gold Coast Airport) Corridor

Technical Review

**Department of Transport and  
Main Roads**

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# 1 Overview

## 1.1 Background

The Department of Transport and Main Roads (TMR) is currently planning an upgrade and expansion of the Pacific Motorway from Exit 85 (Varsity Lakes) to Exit 95 (Tugun), including interchange and bridge upgrades, and a new service road from Palm Beach Avenue to Sarawak Avenue. The motorway would be expanded from its current four-lane (two lanes in each direction) configuration to a six-lane (three lanes in each direction) configuration, and would include auxiliary lanes and ramp changes in both directions from Exit 87 (Southport-Burleigh Road) to Exit 92 (Palm Beach).

## 1.2 Varsity Lakes to Coolangatta Rail Corridor

The Varsity Lakes to Coolangatta (Gold Coast Airport) Corridor is a proposed extension of the Gold Coast Railway that would connect the current terminus at Varsity Lakes Station to the Gold Coast Airport terminal at Coolangatta. The proposed rail corridor was identified in 2009 as part of the TrackStar Alliance and allows for a dual-track railway from Varsity Lakes to Tugun, reducing to a single-track railway along the Tugun Bypass tunnel to the Gold Coast Airport terminal. Proposed stations have also been identified at Tallebudgera, Elanora, Tugun and the Gold Coast Airport.

Figure 1 below shows a reference map of the Pacific Motorway and Gold Coast Railway extension.

## 1.3 Scope of Review

TMR has engaged Aurecon to complete a review of the planned motorway expansion and the rail corridor to identify potential conflicts and constraints between the two projects, noting potential issues that could negatively impact the delivery of the railway in the future.

The objectives of the technical investigation were to:

- Ensure that the concept design and design criteria used are suitable for delivery (including constructability staging) of a future dual-track, electrified passenger rail line with associated stations
- Ensure that the proposed Pacific Motorway road upgrades do not impact on the delivery and constructability of future rail infrastructure from Varsity Lakes Station to Coolangatta (Gold Coast Airport)
- Identify any elements of the proposed Pacific Motorway upgrade concept design or design criteria which require further revision to better accommodate the future rail corridor
- Produce a technical review report (including risks and issues) of the proposed upgrades to the Pacific Motorway between Varsity Lakes and Tugun.

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## 2 Technical Review

### 2.1 Technical Review Methodology

Aurecon's technical review was led by an experienced rail engineer and senior designer who have significant experience with Queensland Rail and TMR technical requirements and railways and roadways, respectively.

Their review was conducted as a desktop review of the General Arrangement (GA) drawings, which only provided horizontal arrangement information between the motorway and railway. Vertical arrangement information between the motorway and railway was unavailable, therefore the understanding of vertical clearances between both projects was limited.

### 2.2 Reference Documents

The following reference documents informed Aurecon's technical review:

- Queensland Rail Civil Engineering Track Standard Version 3 2014
- Queensland Rail Civil Engineering Track Standard Module 8 Version 3.2
- Queensland Rail Standard Drawing 2754: Standard Clearances for New Structures
- Queensland Rail Standard Drawing 2234: Abutment Protection
- Queensland Rail Standard Drawing 2571: Track Formation
- Australian Standard 1742.7:2016 Manual of Uniform Traffic Control Devices, Part 7: Railway Crossings

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## 4.9 Conclusion

The Pacific Motorway upgrade and Gold Coast railway extension are two potential projects that are key to the mobility, vitality and liveability of the Gold Coast and South-East Queensland. Though the motorway will likely be upgraded prior to the delivery of the railway extension, it is important that these neighbouring projects complement each other, with the first project being designed and delivered in a manner that does not frustrate delivery of the second. Doing so should reduce the level of risk and cost borne by the State, and should minimise disruption to the public.

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# Appendix A

## Annotated General Arrangement Drawings

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