

## Projects

# Cost benefit analysis of the Edmonton to Gordonvale Road Upgrade

Assessing the economic merit of road upgrades to the Queensland community



### LOCATION

Cairns, QLD

### CLIENT

Department of Transport and Main Roads

COST-BENEFIT ANALYSIS

## Background

The section of the Bruce Highway between Edmonton and Gordonvale in North Queensland near Cairns is congested during the morning and afternoon peaks. As with much of the Bruce Highway, both regional and local traffic utilise this corridor throughout most of the day. As the Cairns population continues to grow, peak traffic volumes will also grow, leading to longer delays. This section of the network is also known to have a high crash rate.

To provide better transport connections for the community, TMR investigated the expansion of the corridor to a four-lane highway. This would ease capacity constraints and significantly reduce the interfaces with properties, the North Coast rail line and arterial roads.

## Our role

NineSquared was engaged to undertake an economic appraisal of the proposed [Edmonton to Gordonvale \(E2G\) Road Upgrade](#). This economic appraisal was underpinned by an economic cost-benefit analysis. The purpose of the cost-benefit analysis was to assess the economic merit of the project to the community. Economic modelling was based on the principals of the Transport and Main Roads guidelines, Building Queensland guidelines, Australian Transport Assessment and Planning tools and parameter values, and the Infrastructure Australia guidelines.

The analysis draws from each element of the wider project assessment, including the cost estimate, risk analysis, demand modelling, traffic modelling and project staging.

The cost-benefit analysis monetised benefits including improved journey times, changes in operating costs, improved safety and changes in environmental impacts and externalities. This was compared to the project costs including the upfront capital investment and ongoing maintenance requirements.

As a result of this analysis, the business case was accepted by TMR. A formal submission to Infrastructure Australia was prepared, including the various project proposal report requirements. Headline statistics including benefit cost ratio, net present value, internal rate of return and first year rate of return were calculated. This provided decision makers with information regarding the economic merit of the project and potential timing implications.

Since the Cost Benefit Analysis was completed, funding has been allocated to the project and construction is underway.

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## **FOR FURTHER INFORMATION**

For more information, find one of our experts at [ninesquared.com.au/people](https://ninesquared.com.au/people)