

Projects

Bribie Island Bridge Cost-Benefit Analysis

NineSquared undertook a cost-benefit analysis for the Bribie Island Bridge upgrade at multiple stages throughout the planning process.



LOCATION

Bribie Island

CLIENT

Department of Transport and Main Roads

Cost-benefit Analysis

Background

The existing Bribie Island bridge consists of 2 traffic lanes and a narrow pedestrian pathway. A new bridge has been proposed as part of the broader strategy to upgrade the Caboolture-Bribie Island Road to a 4-lane standard.

During an incident, there can be significant delays crossing the bridge, particularly where one lane is required to close. This has a sizable impact to the local community as the bridge is the only way on and off the island. Further, the bridge is used for active modes of transport, such as walking and cycling. However, the existing infrastructure does not meet current requirements.

The Department of Transport and Main Roads engaged NineSquared to undertake a cost-benefit analysis of various options for upgrading the Bribie Island Bridge.

Our role

NineSquared undertook the cost-benefit analysis at the Preliminary Evaluation and Business Case stages of the planning process.

At the Preliminary Evaluation stage, a rapid cost-benefit analysis was undertaken to help identify preferred options from an initial shortlist. This compared options using the existing infrastructure against completely new infrastructure. As a result of this work, two options were shortlisted for more detailed analysis in the next stage.

At the Business Case stage, a detailed cost-benefit analysis was undertaken to inform an investment decision. The cost-benefit analysis was driven by NineSquared's Cost-Benefit Analysis Tool for Transport.

This analysis captured impacts such as improvements in travel time, changes in vehicle operating costs, safety improvements, environmental impacts, and reliability improvements. Additional modelling was also undertaken to determine the impact to road users during an incident, such as a crash.

Extensive engagement was undertaken with TMR, both from the region and Brisbane, to ensure that the economic analysis was fit for purpose. This was important given the large volumes of traffic and the potential for sizable delays throughout the network when capacity is lowered. Consideration was required for the reasonableness of traffic conditions in the future and whether land-use opportunities may be stifled if the transport network is unable to accommodate demand.

Project Outcomes

NineSquared provided a report which documented the approach taken, the headline results and key findings of the analysis. Recommendations for future analysis and considerations to be made during design were also provided. Insight was provided as to the timing of future works, as delaying the need to provide a wider bridge until the existing bridge reaches its service life provides a flexible and cost-effective approach to investment.

FOR FURTHER INFORMATION

For more information, find one of our experts at ninesquared.com.au/people