



BULLA ROAD INTERCHANGE

Client: Major Road Projects Victoria (MRPV, now VIDA Roads)

Project lifecycle stage: Strategise and Development

Location: VIC, Australia

Duration: June 2021 to March 2023

Value of services: \$330,000

At a glance: The Bulla Road Interchange is a grade separated full diamond interchange on the Tullamarine Freeway in Essendon Fields. The interchange is located immediately south of DFO Essendon and is the last untolled exit on the Tullamarine Freeway before entering CityLink southbound. Prior to the upgrade, this interchange experienced significant congestion, with extensive queuing on Bulla Road from traffic trying to access CityLink toward the CBD.

Objectives

The Bulla Road interchange experienced significant congestion throughout the day due to competing demands between commuters and shoppers. The objective of the project was to develop an interchange layout that would reduce delays and queues for all users, improving traffic performance and safety. The upgrade also needed to allow for future development of DFO and Essendon Airport.

Our services

In 2021, MRPV engaged SmedTech to assess the Bulla Road interchange's performance and identify opportunities to improve traffic flow and reduce delays. In this role, SmedTech conducted microsimulation modelling and traffic optioneering to address current and future operational issues. At a high level, our services included:

- Engagement with MRPV/VIDA regarding existing issues and future development plans for DFO and Essendon Airport.
- On-site investigations and data collection to gain a better understanding of the issues and their causes.
- Development of a microsimulation model which was calibrated and validated to DTP guidelines.
- Liaison with key stakeholders from DFO and Essendon Airport.
- Development of volume scenarios based future development at both DFO and Essendon Airport, including sensitivity tests to allow for higher or lower development.

- Development of a range of options to address the future traffic demands. These options ranged from minor treatments to significant redevelopment of the interchange. Alternate access arrangements were also investigated to make the most of the existing footprint and limit the amount of redevelopment required.
- Testing of options within the microsimulation model, with refinement and improvement of the options based on the outputs of the models.
- Presentation of outputs in a user-friendly format so that non-technical stakeholders could understand the benefits and impacts of each of the potential options.
- Extract performance results suitable for user within the Business Case.

Our impact

Through SmedTech's engagement, four intervention options were developed, ranging from minimal to substantial upgrades. SmedTech assisted in identifying a preferred option which was incorporated into the Business Case.