

Case Study Project: FTB Traffic Management Analysis

Client: Main Roads Western Australia

Overview

The Fremantle Traffic Bridge (FTB) represents one of two critical river crossing points in the western suburbs of Perth Western Australia.

Like any major infrastructure, important maintenance is required to help maximise asset life and reduce whole of lifecycle costs.

The Study

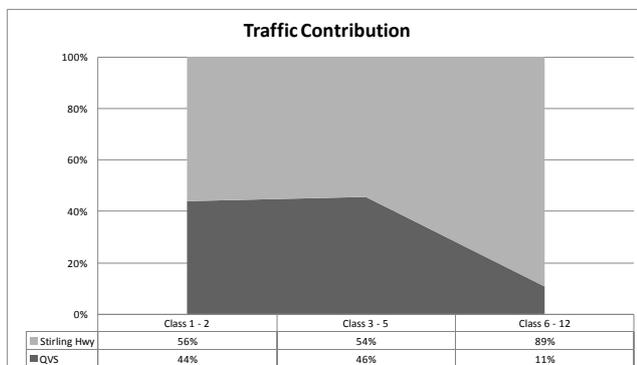
Urbsol was engaged by Main Roads Western Australia to assist with analysis associated with a range of traffic management options for the Fremantle Traffic Bridge to allow important maintenance work to take place.

Analysis was required to help understand:

- Temporal operating characteristics in terms of traffic flow through weekdays and weekends.
- How demands varied though a typical year to identify target months for options.
- Traffic engineering performance impacts from a variety of traffic management options.
- The likely economic cost associated with motorists delays as a result of the traffic management.

The work involved working with a range of data sources including:

- Pneumatic tube (classified) data
- Turning video surveys
- Restricted access vehicle networks
- SCATS data
- Strategic modelling outputs



Traffic composition analysis

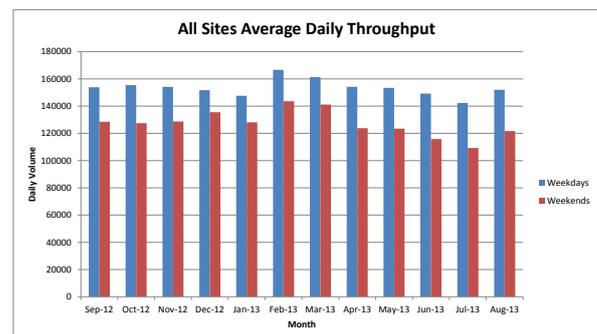


VISSIM modelled network

Simulation

To understand likely operating conditions, Urbsol used VISSIM microsimulation software in combination with SCATSIM to assess the effect the traffic management options would have on traffic flow in the area.

Delay data obtained from the simulation then fed into an economic analysis to monetise impacts of the works in terms of increased vehicle hours of travel.



Monthly throughput analysis

VISSIM was chosen as the most suitable tool for the simulation for a number of reasons:

- SCATSIM interface
- Proper modelling of driver behaviour
- Accuracy of delay per vehicle modelling
- Robust data collection and extraction

The analysis helped identify feasible options and key times of day, days of week and times of year when volumes would reach levels where the delay to motorists would be minimised.

The economic assessment allowed stakeholders to weigh the alternatives in the decision making process and appreciate the impact in terms of community cost of the work.