Urbsol

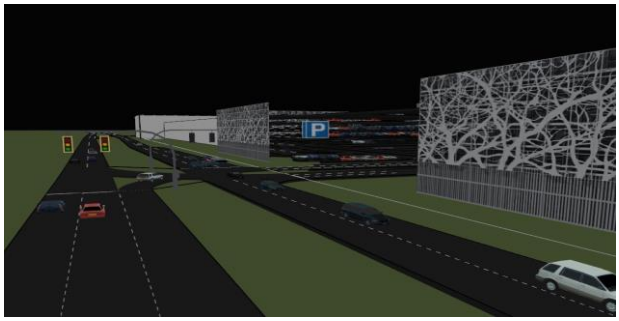
Case Study Project: QEII Car Park

Client: Brookfiled Multiplex/Macquarie Bank

Overview

The redevelopment of the QEII Medical Centre site represents a milestone in the Western Australian Healthcare industry. As part of this exciting redevelopment there is a need to ensure efficient transportation infrastructure provision that complements and enhances the site.

While much work had been conducted in this precinct in the past, the majority of the focus was centred on how the site will impact on and be impacted by the greater transport network. The purpose of this analysis was to consider how this site will function in its own right to a level of detail that considered individual users and their access requirements.



External view of car park from Winthrop Avenue

The Study

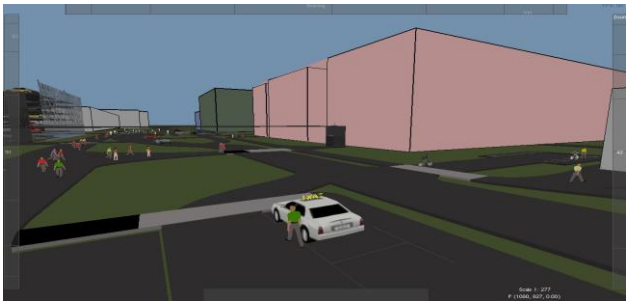
The aim of the study was to assess the operational performance of a proposed ~2,500 bay multi-storey car park and the impact this new structure would have on the overall site. With the construction of such a structure there is an invariable need to reconfigure a number of existing site elements, from bus stop and taxi rank locations to the position of road crossing points for pedestrians.

Car park entry operation

Public transport passenger influx at pedestrian crossing

Simulation

Simulation allowed for the visualisation and analysis of how the overall site would operate and how the new car parking structure would be integrated within the site to ensure connectivity for all users.



Taxi rank operation

Commuter was chosen as the most suitable tool for this work for a number of reasons:

- Treatment of complex multi-storey car park modelling including entry and exit service time delays.
- The ability to integrate the trips made by people between a variety of modes – the ability to convert a vehicle trip into an end destination pedestrian trip.
- The ability for all trips (including pedestrian) to be dynamically assigned according to a shortest cost of travel. This allowed for the determination of critical road crossing points for pedestrians and conflicting vehicle volumes.
- Simulation of taxi rank operation, vertical transportation and emergency vehicle access

The work involved the simulation of 2 different user groups (staff and visitors) travelling by 7 different modes (car as driver, car as passenger, drop off, taxi, bus, cyclists and pedestrians) for both in and outbound directions.