



**Michael Oliver**  
Graduate Engineer

## Professional Overview

Recently graduating from the University of South Australia (UniSA) with Honours in Civil and Transport Engineering has provided myself with the foundations of knowledge to continue my journey to becoming a professional engineer.

Since joining SMEC Australia Pty Ltd at the beginning of 2018 as a Graduate Engineer in the Roads and Highways division, exposure to real world engineering projects in the transport sector has enabled me to broaden my technical knowledge and skills to be able to assist the team in providing engineering and traffic solutions that not only benefit our clients but the wider community as well.

Working on a number of local and state government jobs which are outlined under relevant project experience, I have had the ability to develop several technical crucial skills such as:

- SIDRA Intersection Analysis
- Local Area Traffic Management
- Road Management Plans
- Traffic Impact Assessments
- Data Analysis
- Report Writing
- Document Control

## Interests to be a Traffic / Transport Professional

My ambition to become a professional engineer in the area of transportation is one that is motivated by being able to be part of a process that focuses on planning, designing, constructing and maintaining transport systems (i.e. roads, highways, airports, trains etc.) that will provide strategic and efficient movements of people.

Having a strong interest in problem solving and providing innovative solutions through the use of analytical thinking allows myself to continually provide new outlooks to projects that will ultimately benefit vehicles and pedestrians as part of our greater road network.

## Australian Institute of Traffic Planning and Management Ltd (AITPM)

The opportunity to attend the 2019 National Conference would be beneficial for myself in the early stages of my professional career as it would enable me to be broaden my knowledge of the traffic and transport profession, whilst being exposed to both experienced and young professionals around the country.

Exposure to a range of technical papers delivered by numerous experienced professionals will provide great insight to new ideas and innovative solutions being applied on a variety of projects.

I have a keen willingness to not only be apart of the AITPM network, but to also sit on the State Branch Committee as a Young Professional representative as this would

## Years of Industry Experience

1.5 years

## Qualifications and Memberships

- Bachelor of Engineering (Civil and Transport) (Honours)
- Occupational Health and Safety (CITC) Construction Induction (White Card)
- Workplace Health and Safety (WHS) – e3Learning
- Member, Engineers Australia (Current)

## Key Skills and Competencies

- SIDRA Intersection
- Local Area Traffic Management
- Road Management Plans
- Traffic Impact Assessments
- Document Control
- Report Writing

## Professional History

2018 – Present | SMEC  
Graduate Engineer

2017 – 2018 | UniSA Civil  
Engineering Laboratory  
Assistant

## Referees

Tim Warren  
Manager – Roads and  
Highways SA/WA  
SMEC (Member of the  
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Andy Townsend  
Senior Associate Engineer  
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Tim Golding  
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University of South Australia  
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allow myself to be involved in building my professional network which will allow myself to develop a variety of skills and gain a greater understanding of how the transport industry functions.

### Relevant Project Experience

#### **Right Turn Lane Extension Concepts (Traffic Assessment & SIDRA Modelling), SA**

**Client:** Department of Planning, Transport and Infrastructure (DPTI)

SMEC were engaged by the Department of Planning, Transport and Infrastructure (DPTI) to undertake SIDRA intersection analysis on a number of intersections which exhibited frequent overflow issues on particular right hand turn lanes.

This resulted in partial blocking in the adjacent through lanes and impacted on the varying intersections capacity and increased the potential of rear end and side swipe crashes.

The project incorporated an assessment on the extension of right hand turn lanes to improve intersection efficiency and reliability in terms of delay reduction, safety and increased capacity.

**Role:** Traffic Engineer / Modeller

Undertook site inspections of the varying intersections under analysis to gain an understanding as to the existing conditions, behavioural patterns of both vehicle and pedestrian users on site and severity of overflows issues in the identified right hand turn lanes.

Also analysed the varying intersections utilising the SIDRA INTERSECTION 7 software package to calibrate base models to reflect on site conditions and project case models to provide proposed concepts to effectively improve the efficiency and reliability of the intersections.

These proposed concepts were also developed in the form of concept reports with attached plans detailing the approach taken to calibrating models, and the proposed treatments deemed suitable for implementation.

#### **Glenelg Waste Water Treatment Plant (Traffic and Pedestrian Review), SA**

**Client:** SA Water

SMEC were engaged by SA Water to undertake a traffic and pedestrian review across SA Water's Glenelg Waste Water Treatment Plant site. The study focused on the existing vehicle and pedestrian movements to gain an understanding of the travel behaviours of users and to identify any potential risks.

Considerations were taken into account in relation to possible improvement options to the current road infrastructure and traffic management arrangements, to address key issues highlighted by SA Water and onsite operators and contractors.

Such issues addressed on site came in the form of pedestrian and vehicle interface/conflicts adjacent to the administration building where sightlines and general visibility was considered to be poor.

**Role:** Traffic Engineer

Conducted a site inspection to gain an understanding as to the existing conditions, and behavioural patterns of both vehicle and pedestrian users on site. In conjunction, provided of a concept report and plan detailing the proposed treatments deemed suitable for implementation.

#### **OZ Minerals Port Augusta CTP Traffic Assessment (Traffic Assessment & SIDRA Modelling), SA**

**Client:** OZ Minerals

SMEC were engaged by Lycopodium, on behalf of OZ Minerals, to analyse the level of performance of the proposed new access to the Augusta Highway utilising the SIDRA INTERSECTION 7 software package.

A Technical note prepared by SMEC provided a brief summary and commentary regarding the approach to calibration and the likely performance and influence of the unsignalised intersection on the surrounding traffic flows and distributions, as indicated in the SIDRA model prepared for the intersection.

**Role:** Traffic Engineer / Modeller

Undertook analysis of the proposed new access (unsignalised intersection) to the Augusta Highway utilising the SIDRA INTERSECTION 7 software package.

In conjunction, developed a technical note detailing the performance of the unsignalised intersection and its likely influence on the surrounding traffic flow in the region.

#### **The Esplanade, Christies Beach (Traffic Study), SA**

**Client:** City of Onkaparinga

SMEC were engaged by the City of Onkaparinga (Council) to undertake a traffic and pedestrian review of the existing traffic control devices (road cushions) and general traffic management arrangements installed along the Esplanade between Beach Road, Christies Beach and Saltfleet Street, Port Noarlunga.

Subsequently, Council also requested SMEC undertake a traffic impact review of the proposed removal of road cushions installed along Sydney Crescent, Christies Beach, and provide commentary on the appropriate alternative traffic management treatments that could be implemented to control vehicle speeds and volumes.

The study focused on the existing vehicle movements to gain an understanding of the travel behaviour of road users, whilst evaluating the likely impacts that changes to the existing road cushions may have on the local road network.

**Role:** Traffic Engineer

Conducted a site inspection to gain an understanding as to the existing conditions, and behavioural patterns of both vehicle and pedestrian users on site. In conjunction, provided of a concept report and plan detailing the proposed treatments deemed suitable for implementation.

#### **Floodways – Copley to Balcanoona Road (Detailed Design), SA**

**Client:** Department of Planning, Transport and Infrastructure (DPTI)

SMEC were engaged by the Department of Planning, Transport and Infrastructure (DPTI) to undertake a detailed design for the future construction of ten floodways at varying locations along Gammon Ranges Road between Copley to Balcanoona.

As stated by DPTI, the intent of the works will improve accessibility resulting in a reduction in road closures so that floodways will require little or no maintenance following water ways.

The objective of the design was to provide a 'fit for purpose' approach, rather than improving the existing geometry of the road, with the principle reason to be to minimise earthworks.

**Role:** Graduate Engineer

Development of a Detailed Design Report which emphasised the fundamental requirements and regulations at which the project was designed and adhered to. These included aspects such as: existing site conditions, design givens and criteria and design methodology.

A safety in design register which emphasised the key safety risks identified by the design team for the following stages of the project: construction, maintenance, demolition and operation was also provided.

### **University Projects**

#### **Civil Engineering Design Project - O-Bahn City Access Project (Stage 1) (Tender, Feasibility, Detailed Design), SA**

**Client:** University of South Australia (UniSA) / Department of Planning, Transport and Infrastructure (DPTI)

Structural Engineer responsible for the preparation of a tender, feasibility study and detailed design for a solution to the O-Bahn City Access Project tunnel and adjacent shared use pedestrian / bicycle bridge. Utilised and enhanced prior skills to create an economical design that was structurally sound and fit within its urban surroundings.

**Role:** Structural Engineer