Background and Aims
The unit will explore the fundamentals and role of road safety engineering theory and practice. An appreciation of the design of traffic elements on the road network and a rigorous detective approach to investigating road crash data will be developed. Participants will learn applied skills to find road crash data and analyse it to determine the nature and extent of road crash problems at any given site. An ability to translate road crash data into meaningful information, determine counter measure options from thorough analysis of information and prioritise and evaluate counter measure implementation programs will be cultivated

After completing this unit participants will:

- understand why road safety is important, how improvements can be achieved,
- understand the complexity of the human/vehicle/road system and how the interrelationships work to influence safety,
- be able to undertake accident investigations, collect accident data and know what to look for in quality data,
- be able to analyse accident data, turn it into information and develop cost effective, practical counter measures,
- know how to be proactive in preventing accidents before they occur.

Details of the structure of the unit are provided over the page.

Enrolment Options
Enrol in either the Master of Transport or Master of Traffic or as a single unit. Exit options are also available for the Graduate Certificate in Transport and Traffic or the Graduate Diploma in Transport and Traffic.

Off-Campus Study Mode
The program is taught by off-campus learning which means you can balance your work and study while attaining your qualification with Monash University. There are no classes to attend so you can study where and when you like. Students from all over the world study in the postgraduate program, thanks to its flexible off-campus learning mode. Students and graduates can be found throughout Australia, New Zealand, the Middle East, Europe, North America and Africa.

A combination of printed study material and electronic communications are used in the delivery of the program. Academic assistance can be obtained by email or telephone. Discussion groups and other forms of on-line communication are also available for communicating with staff and other students.

Unit Co-ordinator
Keith is a Principal Transportation Engineer at GHD. He also is a Director of Midson Traffic P/L, a Tasmanian based traffic engineering, transport planning and road safety company. In addition to this, Keith is also an Honorary Associate with the University of Tasmania where he has lectured the subject Transportation Engineering to undergraduate civil engineering students since 2005. Keith has over fifteen years’ experience in traffic engineering and transport planning. Keith has a Civil Engineering degree with the University of Tasmania, as well as Master of Traffic & Master of Transport degrees with Monash University.

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Structure

The unit is structured around 12 topics which are generally associated with one week of study

<table>
<thead>
<tr>
<th>Topic</th>
<th>After completing this topic, participants will:</th>
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| 1. A context for road safety | • have an understanding of the road safety problem facing Australia, and  
• appreciate the benefits gained by considering road safety within an overall strategic context. |
| 2. Road safety and the law | • be able to explain the concept of duty of care, and  
• be able to outline the role of the law in road safety. |
| 3. A complex system | • be able to name the various components of the driver task and explain how drivers process information, and  
• be able to identify the information needs of drivers and articulate design measures to ensure this information is delivered. |
| 4. Safety management systems | • be able to discuss the concepts of “cure”, “cause” and “blame”, and  
• be able to outline general road safety strategies and effective programs. |
| 5. Collection and use of road crash information | • be able to differentiate between data and information,  
• be able to list and describe the main sources of crash data, their limitations, interactions and availability, and  
• be able to describe how data is accessed and used by road safety practitioners. |
| 6. Finding the problem | • be able to explain the underlying basis of detective approach to accident identification, and  
• be able to list and discuss the five generic steps involved in applying the detective approach to road safety investigation. |
| 7. Treatment of hazardous locations | • be able to diagnose crash patterns from crash data, and  
• be able to propose countermeasures based on underlying crash patterns. |
| 8. Assessment of countermeasures | • be able to identify the economic costs and benefits of crash treatments, and  
• understand the importance of countermeasure monitoring and evaluation. |
| 9. Road design for safety | • recognise various road design elements and document their effects on road safety, and  
• be able to provide quantitative ranges of accepted design values for these elements. |
| 10. Road environment safety | • recognise the contribution of the road environment to safe mobility, and  
• be able to assess appropriate treatments for individual roadside hazards. |
| 11. Vulnerable road users | • be able to explain why vulnerable road users differ from other road users, and  
• recognise and discuss shortcomings in design practice which affect vulnerable road users. |
| 12. Road safety audit | • be able to describe the differences between accident investigation and road safety audit, and  
• be able to undertake a limited road safety audit. |

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