Background and Aims

This unit introduces students to contemporary issues in transport planning. The concept of sustainable transport is introduced along with the steps in the transport planning process. Supply and demand oriented approaches to addressing transport challenges are reviewed and travel demand management is placed into context. The characteristics of transport modes and travel demand patterns are used to provide a framework for considering the suitability of a particular transport mode for a particular context. Travel survey methods are considered with an emphasis on the role of survey design and administration in the collection of quality travel survey data.

After completing this unit participants will:

- understand the framework within which transport planning is conducted and the foundations for formulation of transport policy,
- appreciate of the range, and potential impact, of supply and demand oriented solutions which can be used to address transport and associated environmental problems within a sustainability context,
- appreciate the performance, impacts and costs of various transport modes (covering both passenger and freight) and the factors influencing the level, pattern and trends in travel demand,
- appreciate the issues relevant to selecting a mode for a particular transport task, and
- understand the factors to be considered in conducting transport surveys including sample design, questionnaire design.

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.

Offered through The Institute of Transport Studies, Department of Civil Engineering Faculty of Engineering, Monash University

ABN 12 377 614 012

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

Geoff Rose is a Professor in the Institute of Transport Studies and the Monash Sustainability Institute at Monash University. Geoff holds a Bachelor of Civil Engineering Degree from the Queensland Institute of Technology and a Master of Science and PhD from Northwestern University in the USA. His research interests cover Sustainable Transport, Intelligent Transport Systems & Travel Behaviour.

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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. An Introduction to Transport Planning and Policy | • understand how transport policy is developed and the primary policy instruments which can be applied in a transport context,  
• be able to define transport planning and appreciate the reasons for undertaking transport planning,  
• appreciate the strategic framework within which transport planning is conducted,  
• be able to identify the steps involved in transport planning,  
• have developed an appreciation of the basic interactions at play in the transport system, and  
• be aware of some of the current issues which are capturing the attention of transport planners and policy makers. |
| 2. Appraisal and Evaluation | • understand the difference between appraisal and evaluation,  
• appreciate the role that appraisal and evaluation play in the context of transport planning,  
• understand the alternative approaches which can be used for appraisal and the extent to which quantitative and qualitative considerations can be included,  
• appreciate the issues to be considered in undertaking evaluation, and  
• be aware of contemporary issues in appraisal and evaluation in a transport context. |
| 3. Objectives and Targets | • understand the different categories of objectives which may be relevant in a transport context,  
• understand the formulation of targets to measure achievement against objectives,  
• appreciate where targets have been used successfully, and  
• appreciate the challenges associated with the application of targets. |
| 4. Transport and Land Use | • understand the importance of the link between the transport and land use systems,  
• understand the notion of accessibility and the tradeoffs involved when accessibility is provided by proximity versus mobility,  
• appreciate the linkages between urban density, area and transport impacts, and  
• be aware of contemporary issues impacting on transport and land use planning. |
| 5. Travel Demand 1: The Fundamentals | • understand the concept of travel as a derived demand and appreciate the extent to which travel demand may be derived,  
• appreciate the range of travel and mobility decisions which individuals can make and the factors which influence those decisions,  
• understand the concept of demand elasticities along with how they are interpreted and applied,  
• understand how individual travel decisions are reflected in aggregate travel demand in urban areas, and  
• appreciate the concept of induced demand and its relevance to transport planning and policy formulation. |
| 6. Travel Demand 2: Surveys | • understand the factors which influence people to respond to surveys and how that knowledge can be used to improve survey response rates,  
• appreciate the steps involved in planning and conducting a transport survey,  
• understand the tradeoffs between data quality and quantity in the context of transport surveys and the implications for survey resources,  
• understand the relative merits of different survey methodologies and the factors to be considered when selecting a methodology for a survey,  
• understand the critical elements of survey instrument design,  
• appreciate the impact of survey instrument design on the quality and quantity of data obtained from a survey, and  
• apply your knowledge to identify and rectify elements of poor questionnaire design. |
| 7. Travel Demand 3 : Travel Demand Management | • understand the meaning of travel demand management and the rationale for seeking to manage travel demand,  
• appreciate the range of strategies which can be employed to manage travel demand,  
• understand the importance of packaging TDM strategies so that they do not have conflicting impacts, and  
• be aware of issues associated with the appraisal and evaluation of TDM measures. |
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| 8. Public Transport Supply and Demand Matching | • understand the range of characteristics which are relevant when considering a particular urban transport mode,  
• appreciate the relative performance of common urban transport modes, and  
• understand the factors to be considered when assessing the suitability of a particular mode for an urban transport task. |
| 9. Road Pricing | • understand the rationale for charging for road use,  
• appreciate the distinction between Electronic Toll Collection (ETC) and Electronic Road Pricing (ERP),  
• appreciate current international experience in the area of electronic road pricing, and  
• appreciate some of the factors likely to impact the potential for electronic road pricing to be trialled in Australia. |
| 10. Freight Transport | • understand the relevance of freight transport and its relationship with logistics and supply chain management,  
• understand the factors driving the demand for freight transport,  
• appreciate the characteristics of the main freight transport modes and the factors influencing freight mode choice,  
• understand the trends predicted for the sector over the next 20 years,  
• appreciate the range of policy instruments available to governments in addressing freight transport problems and opportunities, an  
• appreciate the issues currently impacting the sector. |
| 11. Scenarios in Strategic Transport Planning | • appreciate the significance of uncertainty in the context of strategic transport planning and the need for robust transport strategy decisions in the light of that uncertainty,  
• understand the role of scenario construction in addressing uncertainty in an explicit and structured manner, and  
• understand how scenario construction can be used to facilitate the identification of robust transport strategy decisions and as a tool for organisational learning. |
| 12. Consultation | • understand the nature and role of consultation in transport decision making,  
• understand the key principles for effective consultation and the role of collaboration,  
• understand the elements of a four-step model for community consultation, and  
• be aware of issues that can contribute to the success of consultation in practice. |

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