

## CIV5314: Transport Planning and Policy

### 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 useful 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 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
- understand the factors to be considered in conducting transport surveys including sample design, questionnaire design and survey administration.
- be able to plan, undertake and report results from a travel survey
- appreciate contemporary issues in transport planning and policy

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

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

ABN 12 377 614 012 CRICOS provider number 00008C

### Enrolment Options

Enrol as a single unit or as part of either the Graduate Certificate in Transport and Traffic, Postgraduate Diploma in Transport and Traffic, or Masters in Transport and Traffic.

### Off-Campus Study Mode

This unit is offered by Off-Campus (distance education) and there is no requirement for participants to attend lectures. Study guides, comprising a comprehensive set of course notes, are sent following enrolment. Further support is provided through a unit web site and via e-mail. The lecturer is available to answer questions and to provide assistance as necessary throughout the semester. Assistance can be arranged by email, facsimile, mail, telephone or through the discussion groups on the unit web site. Assessment comprises two assignments and an examination (worldwide exam venues are available).

### Unit Co-ordinator



Geoff Rose is the Director of the Institute of Transport Studies and an Associate Professor of Civil Engineering at Monash University. Prior to joining Monash in 1994 he was a partner in a consulting practice, lectured at the University of Melbourne and worked in the Commonwealth Departments of Transport and Aviation. 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 Intelligent Transport Systems and Travel Behaviour.

#### **Enrolment or General Course Enquiries:**

Ms Brenda O'Keefe:

Tele: +61 (0)3 9905 9627

Fax: +61 (0)3 9905 4944

Email: [brenda.okeefe@eng.monash.edu.au](mailto:brenda.okeefe@eng.monash.edu.au)

Website: [civil.eng.monash.edu.au/its](http://civil.eng.monash.edu.au/its)



# Structure

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

Topic	<i>After completing this topic, participants will:</i>
<b>1. An Introduction to Transport Planning and Policy</b>	<ul style="list-style-type: none"> <li>• Understand how transport policy is developed and the primary policy instruments which can be applied in a transport context</li> <li>• Be able to define transport planning and appreciate the reasons for undertaking transport planning</li> <li>• Appreciate the strategic framework within which transport planning is conducted</li> <li>• Be able to identify the steps involved in transport planning</li> <li>• Have developed an appreciation of the basic interactions at play in the transport system</li> <li>• Be aware of some of the current issues which are capturing the attention of transport planners and policy makers.</li> </ul>
<b>2. Planning of Transport Surveys</b>	<ul style="list-style-type: none"> <li>• understand the factors which influence people to respond to surveys and how that knowledge can be used to improve survey response rates</li> <li>• appreciate the steps involved in conducting a transport survey</li> <li>• understand the issues to be considered in the preliminary planning of surveys</li> <li>• understand the tradeoffs between quality and quantity in the context of transport surveys and the implications for survey resources</li> <li>• understand the relative merits of different survey methodologies and the factors to be considered when selecting a methodology for a survey.</li> </ul>
<b>3. Sampling and Survey Instrument Design</b>	<ul style="list-style-type: none"> <li>• understand the critical elements of survey instrument design,</li> <li>• appreciate the impact of survey instrument design on the quality and quantity of data obtained from a survey,</li> <li>• apply your knowledge to identify and rectify elements of poor questionnaire design,</li> <li>• understand the stages involved in drawing a random sample from a population,</li> <li>• compare and contrast the different types of random samples which can be drawn,</li> <li>• understand the factors which influence the variance in estimates obtained from surveys, and</li> <li>• perform simple calculations to determine the required sample size and draw a sample.</li> </ul>
<b>4. Coding/Editing, Weighting and Expansion of Survey Data</b>	<ul style="list-style-type: none"> <li>• understand the procedures used to convert the information returned from respondents into data sets which are ready and fit to be analysed,</li> <li>• understand need to carry out weighting and expansion of data, and</li> <li>• be able to perform calculations to determine weighting/expansion factors.</li> </ul>
<b>5. Objectives and Targets</b>	<ul style="list-style-type: none"> <li>• Understand the different categories of objectives which may be relevant in a transport context</li> <li>• Understand the formulation of targets to measure achievement against objectives</li> <li>• Appreciate where targets have been used successfully, and</li> <li>• Appreciate the challenges associated with the application of targets.</li> </ul>
<b>6. Travel Demand</b>	<ul style="list-style-type: none"> <li>• Understand the concept of travel as a derived demand and appreciate the extent to which travel demand is derived</li> <li>• Appreciate the range of travel and mobility decisions which individuals can make and the factors which influence those decisions</li> <li>• Understand the concept of demand elasticities along with how they are interpreted and applied</li> <li>• Understand how individual travel decisions are reflected in aggregate travel demand in urban areas</li> <li>• Appreciate the concept of induced demand and its relevance to transport planning and policy formulation</li> </ul>

<b>7. Travel Demand Management</b>	<ul style="list-style-type: none"> <li>• Understand the meaning of travel demand management and the rationale for seeking to manage travel demand</li> <li>• Appreciate the range of strategies which can be employed to manage travel demand</li> <li>• Understand the importance of packaging TDM strategies so that they do not have conflicting impacts</li> <li>• Be aware of some of the issues associated with the evaluation of TDM programs.</li> </ul>
<b>8. Public Transport Supply and Demand Matching</b>	<ul style="list-style-type: none"> <li>• Understand the range of characteristics which are relevant when considering a particular urban transport mode</li> <li>• Appreciate the relative performance of common urban transport modes</li> <li>• Understand the factors to be considered when assessing the suitability of a particular mode for an urban transport task.</li> </ul>
<b>9. Freight</b>	<ul style="list-style-type: none"> <li>• Understand the rationale for charging for road use,</li> <li>• Appreciate the distinction between Electronic Toll Collection (ETC) and Electronic Road Pricing (ERP),</li> <li>• Appreciate current international experience in the area of electronic road pricing, and</li> <li>• Appreciate some of the factors likely to impact the potential for electronic road pricing to be trialed in Australia.</li> </ul>
<b>10. Transport and Land Use</b>	<ul style="list-style-type: none"> <li>• Understand the relevance of freight transport and its relationship with logistics and supply chain management</li> <li>• Understand the factors driving the demand for freight transport</li> <li>• Appreciate the characteristics of the main freight transport modes and the factors influencing freight mode choice</li> <li>• Understand the trends predicted for the sector over the next 20 years</li> <li>• Appreciate the range of policy instruments available to governments in addressing freight transport problems and opportunities</li> <li>• Appreciate the issues currently impacting the sector.</li> </ul>
<b>11. Pricing</b>	<ul style="list-style-type: none"> <li>• Understand the importance of the link between the transport and land use systems</li> <li>• Understand the notion of accessibility and the tradeoffs involved when accessibility is provided by proximity versus mobility</li> <li>• Appreciate the linkages between urban density, area and transport impacts</li> <li>• Be aware of contemporary issues impacting on transport and land use planning.</li> </ul>
<b>12. Financing and Privatisation</b>	<ul style="list-style-type: none"> <li>• 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,</li> <li>• Understand the role of scenario construction in addressing uncertainty in an explicit and structured manner, and</li> <li>• Understand how scenario construction can be used to facilitate the identification of robust transport strategy decisions and as a tool for organisational learning.</li> </ul>