
Established and supported under the Australian Research Council’s Key Centre Program.
2004 Annual Report

April 2005
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1. ABOUT THE KEY CENTRE

The Institute of Transport Studies (ITS): The Australian Key Centre of Teaching and Research in Transport Management was established in July 1995 as a joint venture between the University of Sydney and Monash University. ITS grew out of two existing Centres – The Institute of Transport Studies within the Graduate School of Business at the University of Sydney, and the Monash Transport Group within the Department of Civil Engineering at Monash University. The Institute at Sydney and the Monash Transport Group were leading Australian Centres in transport management and traffic education and research in their own right prior to the establishment of the Australian Key Centre. In January 1998, ITS Sydney relocated to the Faculty of Economics, renamed in January 2000 as the Faculty of Economics and Business.

ITS has nodes at the University of Sydney and Monash University. The Director of ITS is Professor David Hensher FASSA, Professor of Management at the University of Sydney. Associate Professor Geoff Rose is Director of ITS Monash.

ITS encourages research in areas of transport economics, modelling, passenger and freight, planning and management, and in logistics and supply chain management, across all modes. Many of the research and consulting projects involve several aspects and modes of transport management. Research covers all transport modes including urban transport (both private and public), road, rail, aviation and freight. Areas of research include; transport and logistics economics and management, ownership and performance, competition and competitive strategy, travel choice and demand modelling, travel behaviour, transport and spatial development, environmental evaluation, supply chain management, transport data issues, logistics and freight management, tourism, traffic systems, transport policy, GIS systems, organisational analysis and human resource management, and emergency evacuation and management.

The Key Centre is guided by two Advisory Committees, one for each node, comprising eminent academic, industry and government representatives. The advisory committees’ role (as a group or individually) is to provide advice on any matters referred to it by the Key Centre Executive, as well as to initiate matters for consideration that are of interest to the Key Centre, such as the teaching and research program and opportunities for participation of industry and government. ITS provides education programs at a range of levels: PhD, Masters, Graduate Diploma, Graduate Certificate, continuing education workshops, management development seminars and Certificate programs. In addition, ITS conducts transport, traffic, logistics and supply chain related research. The Institute has an extensive program of related activities including publications, participation at conferences, software development, contract research to industry and government and links to other leading transport and logistics institutes around the world, especially in the USA, UK, Canada, The Netherlands, Chile, Brazil and Sweden.

The Key Centre continues in its present institutional and structural guise to make notable contributions to the research and education profile of Australia under its charter as a Federal Key Centre of Excellence. From 2004 onwards the two nodes have prepared separate annual reports.
2. DIRECTOR’S REPORT FOR ITS-SYDNEY

2004 marks 9.5 years as a Federal Government Key Centre but a much longer time as an Institute at both Sydney and Monash. In these fast pace times, much has happened for ITS over the last 12 months. We have welcomed Dr Stephen Greaves and Dr Miguel Andres Figliozzi as new academic members of staff at ITS-Sydney, farewelled Dr Tu Ton who has concluded his contract under a research fellowship, and increased our administration staff with new appointments to support the growing teaching and research activities of the Institute. Seu Cheng graduated with her PhD in logistics (and is now a lecturer at Wollongong University), John Rose submitted his PhD thesis while a new PhD commenced at both nodes (Louise Knowles). Congratulations to John Rose who has moved to a lectureship in transport and logistics management at ITS-Sydney as well as taking on the new role as Academic Director of the Sydney Industry Programs. Professor Erne Houghton who joined us in early 2004 for a brief time retired in September after 30 years of service to the Faculty.

Research continues to be very active with a number of large grants and contracts currently active. These include an ARC-Discovery Program grant ($250,000) for 2004-06 looking at the mobility and accessibility needs of seniors in an aging population. This is also linked to a successful ARC-Research Network grant on ‘well being’ ($2.5m over 5 years) in which ITS is one of 24 organisations participating throughout Australia. Peter Stopher and his research team in Sydney continue to have success in winning research projects in the broad area of understanding travel behaviour, and especially the evaluation role in the growing number of travel smart projects throughout Australia.

I am pleased to announce that I was the recipient of the School of Business’s inaugural award for research excellence this year. Such a recognition is as much an award to ITS as it is to me personally, since success in research is made possible by the intellectual support of the staff in ITS. A major focus of managed growth in 2005 onwards is the establishment of PhD scholarships (worth $25,000 tax free) to attract high quality research students.

The growth of ITS in Sydney has meant that extra space has been required. In mid-2004 we were successful in securing additional space at our current address and now have levels 2 and 3 of our building, including refurbished lecture rooms, enabling us to breathe better as well expand to a staff portfolio of over 30. A new library and focus group room will be housed in the new ITS precinct, in addition to extra teaching space. Indeed with strong continuing growth of graduate students this is most timely.

David A. Hensher FASSA
Director
3. ENROLMENTS FOR 2004

A summary of student numbers is given below for the various programs. Unlike years prior to 2002 in which we only reported students enrolled in the range of transport and logistics degrees, we have broken with tradition to report the actual number of students enrolled in each unit of study. This more meaningfully records the demand for the transport and logistics units of study. Many of our students are enrolled in other degrees such as the MBus, Mcom, MIB and double Masters degrees.

ITS: Sydney

**Graduate Program**

<table>
<thead>
<tr>
<th></th>
<th>GradCertTM</th>
<th>GradCertLM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Local</td>
<td>Internat.</td>
</tr>
<tr>
<td>1999</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>2000</td>
<td>6</td>
<td>1</td>
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<td>2001</td>
<td>3</td>
<td>0</td>
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<thead>
<tr>
<th></th>
<th>GradDipTM</th>
<th>GradDipLM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Local</td>
<td>Internat.</td>
</tr>
<tr>
<td>1999</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>2000</td>
<td>5</td>
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<tr>
<td>2001</td>
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<tr>
<th></th>
<th>MTM</th>
<th>MLM</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Local</td>
<td>Internat.</td>
<td>Total</td>
</tr>
<tr>
<td>1999</td>
<td>22</td>
<td>11</td>
<td>33</td>
</tr>
<tr>
<td>2000</td>
<td>10</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>2001</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Specialisation</th>
<th>Total</th>
<th>Specialisation</th>
<th>Total</th>
<th>Local</th>
<th>Int'l</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>Transport UoS</td>
<td>207</td>
<td>Logistics UoS</td>
<td>1331</td>
<td>3</td>
<td>5</td>
<td>8</td>
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<tr>
<td>2004</td>
<td>Transport UoS</td>
<td>158</td>
<td>Logistics UoS</td>
<td>1237</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>2004</td>
<td>Joint UoS in T&amp;L</td>
<td>161</td>
<td></td>
<td></td>
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</table>

**Certificate Programs**

<table>
<thead>
<tr>
<th>Year</th>
<th>CTM (bus &amp; coach)</th>
<th>CCM</th>
<th>CLM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>53</td>
<td>167</td>
<td>**</td>
</tr>
<tr>
<td>2000</td>
<td>31</td>
<td>198</td>
<td>***</td>
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<tr>
<td>2001</td>
<td>47</td>
<td>164</td>
<td>15</td>
</tr>
<tr>
<td>2002</td>
<td>56</td>
<td>171</td>
<td>12</td>
</tr>
<tr>
<td>2003</td>
<td>45</td>
<td>135</td>
<td>15</td>
</tr>
<tr>
<td>2004</td>
<td>29</td>
<td>181</td>
<td>****</td>
</tr>
</tbody>
</table>

** Two executive programs were run.
*** No programs except via Deakin Australia.
**** From 2004 onwards, non-award students in logistics enrol directly into graduate units.
4. MEETING OBJECTIVES

Objectives

The primary objective of the Institute is to undertake graduate teaching, management development programs, grant and contract research and development in the fields of transport and logistics management.

The work of the Institute also has the following objectives:

- To provide a focus for University activity in areas of transport and logistics management and to establish an environment attractive to those committed to excellence in graduate transport and logistics management programs and research;
- To collaborate with key players having an interest in transport and logistics management and its applications;
- To offer specialised training courses, workshops, short courses and seminars on topics of interest in the area of transport and logistics management; and
- To seed the development of innovative ideas in transport and logistics management policy and professional practice in Australia, in which the Institute of Transport Studies plays a role.

Achieving objectives

These objectives are achieved by:

- Developing and offering graduate transport and logistics programs, advanced certificates, certificates, management development programs and short courses at both ITS Sydney and ITS Monash;
- Bringing high quality transport and logistics management programs to people outside Sydney and Melbourne as well as widening the offerings of courses in Melbourne and Sydney through access to courses provided by both ITS Monash and ITS Sydney;
- Contributing to Australia’s growing participation in the Australasian and Asia Pacific region in a leadership role in transport and logistics management;
- Widening the range of courses available for middle level professional managers in critical areas of transport and logistics not currently served;
- Equipping managers in all disciplines (e.g. engineering, economics, planning, business), the small business sector and local government to succeed in the face of technological, economic and institutional change;
- Building on the recognised need for stronger links between education of technical specialists and managers in transport and logistics;
- Undertaking research to develop state-of-the-art management practices and technical processes;
• Transferring the knowledge developed through research to client groups through the Institute’s publications, workshops, conferences, seminars, and by participation in networks of transport and logistics managers and engineers; and
• Conducting activities that are directly or indirectly related to the attainment of the above objectives.

Objectives and performance measures

The following table summarises performance measures to show how the Key Centre is meeting its objectives. More detail is provided in specific sections throughout the annual report.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Performance measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian transport and logistics management expertise highly regarded</td>
<td>Requests for working papers.</td>
</tr>
<tr>
<td></td>
<td>Requests for involvement in research and consultancy projects. Strong enrolments in all levels of education programs from PhD, Graduate program, Certificate programs and short courses.</td>
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<tr>
<td></td>
<td>Requests for speaking at a large number of venues.</td>
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<tr>
<td></td>
<td>Editorial positions held by staff on leading international and national journals.</td>
</tr>
<tr>
<td>Programs outside Melbourne/Sydney</td>
<td>Delivery of the Graduate Programs in Transport and Traffic by distance education throughout Australia and internationally.</td>
</tr>
<tr>
<td></td>
<td>Delivery of Transport Management Courses in Bus and Coach Operations.</td>
</tr>
<tr>
<td></td>
<td>Delivery of Education Program in Parking throughout Australia by distance education.</td>
</tr>
<tr>
<td></td>
<td>Introduced web-based courses for Sydney Graduate Programs.</td>
</tr>
<tr>
<td>Contribute leadership in Australasia, Asia Pacific and Beyond</td>
<td>Participation in Asia Pacific and Australasian Conferences.</td>
</tr>
<tr>
<td></td>
<td>Supervision of PhD students in South East Asia.</td>
</tr>
<tr>
<td></td>
<td>Joint venture with NSW Roads and Traffic Authority through an annual Woman in Transport Scholarship for graduate coursework study.</td>
</tr>
<tr>
<td></td>
<td>Quality partnership with Price Waterhouse Coopers in transport economics research through a Doctoral scholarship program.</td>
</tr>
<tr>
<td>Courses in critical areas for middle managers and small business</td>
<td>Executive Programs in Discrete Choice Analysis, Traffic Control, Logistics Management/Supply Chain Management and Freight Management conducted.</td>
</tr>
<tr>
<td></td>
<td>Short courses and workshops conducted to meet specific needs.</td>
</tr>
<tr>
<td></td>
<td>Delivery of a distance program in Logistics and Supply Chain Management with Deakin Prime.</td>
</tr>
<tr>
<td></td>
<td>Advanced Certificate in Transport and Traffic Management (ACTTM).</td>
</tr>
<tr>
<td></td>
<td>Advanced Certificate in Logistics Management (ACLM).</td>
</tr>
<tr>
<td>Link transport engineering and management education</td>
<td>Short courses and workshops integrating engineering and management.</td>
</tr>
<tr>
<td></td>
<td>Short course on travel surveys, transport policy and transport planning.</td>
</tr>
<tr>
<td></td>
<td>Short courses on discrete choice modelling and stated choice methods.</td>
</tr>
<tr>
<td>State of the art research</td>
<td>Many research projects for range of government and private clients.</td>
</tr>
<tr>
<td></td>
<td>Publications in leading international and national journals.</td>
</tr>
<tr>
<td></td>
<td>2 new PhD commencements in 2004.</td>
</tr>
<tr>
<td>Transfer of research to transport community</td>
<td>Through publications including 23 working papers per annum, conferences, journals and books such as Transport: An Economics and Management Perspective, Roads and the Community, Traffic Engineering and Management, Stated Choice Methods: Analysis and Applications, Choice Analysis: A primer, and the 6-volume series of Handbooks in Transport (for Elsevier-Pergamon)</td>
</tr>
<tr>
<td></td>
<td>Published over 25 papers in refereed journals and conference proceedings.</td>
</tr>
<tr>
<td></td>
<td>Through presentations and attendance at conferences and seminars.</td>
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</tbody>
</table>
5. THE ITS TEAM

Academic and Research Staff

ITS Academic Staff
(L to R) Dr Shams Rahman, Dr Andrew Kerr, Professor Peter Stopher, Dr Miguel Figliozzi, Professor David Hensher & Dr Stephen Greaves.
(Not in Photo: Dr Peter Lok, Elizabeth Barber, Assoc Prof Erne Houghton)

David Hensher, Bcom (Hons) PhD UNSW, FASSA FCIT FAITPM CompIEAust MAPA
Professor of Management
Director, Institute of Transport Studies, Associate Dean (Graduate Coursework Programs), and occasional Acting Dean, Faculty of Economics and Business.

A Fellow of the Academy of Social Sciences in Australia, Past President of the International Association of Travel Behaviour Research and a Past Vice-Chair of the International Scientific Committee of the World Conference of Transport Research, David is on the editorial boards of 10 of the leading transport journals and Area Editor of Transport Reviews. David is series and volume editor of the handbook series “Handbooks in Transport” published by one of the world’s most prestigious academic publishing houses – Elsevier/Pergamon press. He has published extensively (over 320 papers) in the leading international transport journals and key journals in economics as well as five books. His most recent books are on the Demand for Automobiles, published by North-Holland the Bus and Coach Business (Allen and Unwin), Transport: An Economics and Management Perspective (Oxford University Press), and Stated Choice Methods (with Jordan Louviere and Joffre Swait – Cambridge University Press). He has recently completed a book on Applied Choice Analysis – A Primer (with John Rose) – with Cambridge University Press, and edited a conference volume on Competition and Ownership of Land Passenger Transport – Elsevier Science – both to be published in 2005. His particular interests are transport economics, transport strategy, sustainable transport, productivity measurement, traveller behaviour analysis, stated choice experiments, information processing, dynamic discrete-continuous choice modelling, privatisation and deregulation. David has recently embarked on a major research endeavour with Prof Stewart Jones that uses advanced discrete choice methods to study the performance of firms with a specific focus on the distress of firms and takeovers. David has advised numerous government and private sector organisations on matters related to transportation especially matters related to forecasting demand for existing and new transportation services, for example the Speedrail project, the Liverpool-Parramatta Transitway, the North-West Sydney Transport Study, the M2,
M4, M4 East, F3 Extension, M5 and cross-city tunnel tollroads. David is regarded as Australia’s most eminent expert on matters relating to travel demand. Appointments have included: a member of the executive committee that reviewed bus transport bids for the Olympic Games, the NSW Government’s Peer Review Committee for the Strategic Transport Plan, Peer reviewer for Transfund (NZ) of the New Zealand project evaluation program, and a member of the executive committee of ATEC, a consortium promoting a freight rail system between Melbourne and Darwin.

Ann Brewer, BA Mcom (Hons) Macq PhD UNSW, MCIT
Long term secondment as Assistant Pro-Vice Chancellor (September 2002-2005). Professor of Organisational Logistics.

A specialist in organisational behaviour, human resource management, Ann has experience in a many industries, with major projects such as teleworking, generational issues in business, value chain management, the impact of the Sydney Olympics on transport, educational needs of adult learners, all of which are pertinent to transport and logistics management. Ann has published many papers and five books. Ann is co-author (with David Hensher) of Operating a Bus and Coach Business (Allen and Unwin, 1997) and Transport: an Economics and Management Perspective, Oxford University Press (2001).

Peter Stopher, Ph.D., FIEAust, FASCE
Professor of Transport Planning, Deputy-Director of the ITS-Sydney Coordinator of ITS-Sydney Doctoral Research Program

A specialist in travel-demand forecasting, travel behaviour research, transport survey methods and transport and environmental issues. Peter has more than 33 years of professional experience as a university teacher and as a professional in transport planning, and has published more than 150 papers in leading international journals and has also published a number of books in transport-related topics. Peter editing a book on Transport Survey Quality and Innovation published in 2003. He has made major contributions to the profession as a founding member of the TRB Committee on Traveler Behavior and Values, of which he was awarded in 2002 Emeritus Membership, and also founded the TRB Committee on Survey Methods. Peter’s current teaching and research cover transport policy and planning, environmental analysis, travel demand modelling, travel forecasting, and survey methods and design. He is pioneering the use of GPS devices in transport data collection, and is also working on standards for household travel surveys and the simulation of travel survey data. Peter has also advised agencies around the world on various aspects of transport planning and data collection. Professor Peter Stopher was elected a Fellow of the American Society of Civil Engineers at the beginning of June. ASCE states: “Election to the ASCE membership grade of fellow recognises an engineer who has made significant technical achievements, is legally registered as a professional engineer or land surveyor, and for at least 10 years has demonstrated notable achievement in responsible charge of engineering activity, as well as continuing professional attainment, following election to the ASCE grade of member.” Peter has been a member of ASCE since 1972, but is not a registered professional engineer or land surveyor. ASCE waives this requirement only in exceptional cases, where an individual has a record of outstanding achievements in the field of civil engineering. Election to Fellow requires nomination by at least five Fellows of the Society and letters of reference from at least three of them, indicating the
attainments and standing of the individual. Currently, out of a membership of 129,000, there are 7,000 Fellows worldwide in ASCE.

**Shams Rahman, MSc Belarus ME Asian IT PhD Exeter**  
Senior Lecturer in Logistics

Shams specialises in the fields of logistics and supply chain management, quality management and business modelling. Prior to joining ITS in 2000, Shams was with the Graduate School of Management at The University of Western Australia and prior to that, he was on the teaching and research staff of Universities in Australia, the United Kingdom and Thailand. Shams has published widely in the international journals which include *International Journal of Physical Distribution and Logistics Management*, *Journal of Operational Research Society*, *European Journal of Operational Research*, *International Journal of Quality and Reliability Management*, *Global Business Review*, *Total Quality Management*, *International Journal of Operations & Production Management*, and has a research interest in the areas of logistics and supply chain management, theory of constraints, quality management in logistics, and policy analysis and deployment of services. He has also worked in a public transport corporation and in various positions in training and development institutes.

**Erne Houghton, Bec (Hons), PhD Sydney**  
Associate Professor of Supply Chain Management, (retired October 2004)

Erne Houghton is Associate Professor of Supply Chain Management in ITS. Erne is Associate editor of the *Global Business & Economics Review*, Committee member of Australian Society of Operations Research, a member of the International advisory panel of BK21, and a member of the International advisory panels for a number of approaching international conferences. Erne has won various teaching and conference awards. He has delivered Management Science courses in conjunction with the William E. Simon Graduate School of Business Administration of Rochester, and was recently Visiting Professor at the Computing Centre of the Russian Academy of Sciences in Moscow. He has published and presented around 80 pieces in refereed journals, books, conference proceedings and seminars, and currently holds a Large ARC Grant investigating the resolution of complex corporate insolvencies. His general research area is Operations Research / Management Science with corresponding interests in operations management, corporate insolvency, transportation processes, and a special interest in performance based contracts in the bus sector.

**Miguel Andres Figliozzi, Meng (Buenos Aires), PhD Maryland**  
Lecturer in Logistics Management

Miguel Andres Figliozzi joined ITS-Sydney as a Lecturer in Logistics in April 2004. He has a Masters in Transportation from The University of Texas at Austin and a PhD from the University of Maryland. Miguel’s work experience includes work on electronic marketplaces for transportation, NAFTA transportation impacts, ports and container movements, and highway planning. Miguel’s research areas are transportation logistics and supply chain management. His current interests are focused on these studies from a strategic perspective, which includes interaction between technology, information, and behavior. Additional areas include, fleet management problems, pricing and auctions, vendor management/inventory routing problems, and online problem in logistics. Miguel’s dissertation, titled “Performance and Analysis of Spot Truck-Load Procurement Markets Using Sequential Auctions,” Earned an Honourable Mention in
the Dissertation Prize Competition of INFORMS’ Transportation Science and Logistics Section. This is the oldest and most prestigious international dissertation competition in Transportation science.

**Stephen Greaves, BA (Hons), MSc, PhD Louisiana State University, MITE**  
Senior Lecturer in Transport Management

Stephen joined ITS-Sydney as a Senior Lecturer in Transport Management in January 2004. Prior to this appointment, he worked for three years as a lecturer in transportation at Monash University after completing his undergraduate studies at Leeds University in England and his PhD at Louisiana State University in the United States. Stephen has teaching experience at both the undergraduate and postgraduate levels, covering statistical methods in traffic and transportation, transportation planning models, traffic engineering and control systems, highway design, and road safety. In addition, he will be involved in the development and delivery of targeted industry-based educational programs and short courses at ITS-Sydney. Stephen has experience in both traditional face-to-face teaching as well as with web-based flexible delivery programs. He has also recently gained a formal university teaching qualification, the internationally-accredited Graduate Certificate in Higher Education, which is demonstration of commitment to quality teaching.

**Tu Ton, BE MengSc PhD UNSW**  
Senior Research Fellow (until March 2004)

Tu has skills in traffic and transport engineering, EIA of transport infrastructure and traffic and transport computer modelling using artificial intelligence technology including object-oriented programming, artificial neural networks and knowledge based expert systems. In 1997 Tu established the ITS Sydney Geographical Information System (GIS) and advanced computing laboratory as well as promoting GIS to bus operators. Tu lead an ITS team developing a strategic transport planning decision support system – The Transport and Environment Strategy Impact Simulator (TRESIS) up to version 4. Tu left ITS at the completion of his contract and has moved to CSIRO in Sydney.

**Philip Bullock, BSc (Applied Geography) (Hons), UNSW, MLM Sydney**  
Senior Research Analyst and Project Leader in GPS/GIS Program (on leave without pay)

Philip joined ITS in May 2000, having previously worked in a large wholesale company where he managed transport and distribution. He coordinates a number of research projects for Professor Peter Stopher. Projects include GPS systems as a way of evaluating the reliability of travel survey data, development of GIS software for processing and analysing data collected from buses as well as other travel time research using GPS, and testing the development of synthetic household travel survey data. Philip completed an MLM in 2003 and was awarded a national postgraduate scholarship worth $5500 from the LAA (Logistics Association of Australia) competing successfully with students from all over Australia for one of two inaugural postgraduate awards.
Qingjian Jiang, Beng (Tsinghua University, China), Meng China, PhD Sydney (in progress)  
Research Analyst

Before joining ITS, Qingjian worked for an electronic component manufacturing company where he was engaged in quality management and R&D. He had established a quality system, which is ISO 9001 accredited, and developed applications for household appliances, one of which is holding a patent. Qingjian commenced working at ITS in December 2001. He is working with Professor Peter Stopher on a number of projects including using passive GPS devices in household travel surveys. He is responsible for developing GiSDK programs for automation of data processing and visualization of travel survey data. He also involved in travel survey data processing as well as reviewing the architecture of land use and transport model systems.

John Rose, Bec (Hons), PhD Sydney (submitted)  
Adjunct Lecturer and Senior Research Analyst

John is a final year PhD student whose research interests are in the areas discrete choice modelling and stated choice experiments. As a member of ITS, John has worked on several projects including emergency evacuation in bushfire situations, the modelling of group decision making (Interactive Agency Choice Experiments, IACE), demand and preference analysis for non-existent modes of transport in the North-West of Sydney, and the evaluation of value of travel time savings (VTTS) derived from the introduction of new toll roads in Sydney. As an adjunct lecturer, John has been responsible for creation and teaching of a new quantitative course, titled Analysis Tools for Transport and Logistics, taught in the Postgraduate Masters program, as well as taking over lecturing responsibilities in the Choice Analysis course. John also has several articles published in top Transportation Journals as well as a book coming out in 2005 with Professors David Hensher and Bill Greene called Applied Choice Analysis; A Primer, to be published by Cambridge University Press. In January 2005 John moves to a continuing appointment as a lecturer in transport and logistics management.

Rahaf Alsnih, BSc (Hons), Economic Geography UNSW, Mphil Sydney (in progress)  
Senior Research Analyst

Rahaf has worked on a number of projects such as the standardisation of household travel surveys, the evaluation of Travelsmart® applications in NSW, understanding household evacuation behaviour during bushfire emergencies, and has begun her Mphil which will look at transport needs for seniors in an aging population. She is also interested in qualitative research and attended an ASCPRI qualitative research course, held at ANU, in January. She also attended a Transportation Research Board Mid Year Meeting Workshop, in August, in Park City, Utah. Professor Peter Stopher and Rahaf presented the standards developed for household travel surveys to survey practitioners and transport industry representatives. She attended the 7th International Conference on Travel Survey Methods, in Costa Rica, in August, where she presented a paper on Web based travel surveys. She also attended the NSW Ageing Forum which was held in September at NSW Parliament House.
Camden Fitzgerald, BSC (Hons) Economic Geography UNSW
Research Analyst

Since joining ITS in July 2003, Camden has been involved in developing a nation-wide database on the passenger transport industry. Commissioned by the Bus Industry Confederation, it includes an extensive profile of the public and private bus industry and represents the importance of public transport to the Australian community. He has also been working with Professor Peter Stephe r on a number of projects evaluating TravelSmart programs. Households on the Move in Canberra is a pilot study completed in November using passive GPS devices to measure household travel in this evaluation process. He has also used GPS devices to measure household travel for participants in the Sydney Household Travel Survey, with the aim of measuring the level of under-reporting by the household travel survey diaries. Camden has worked with a GPS manufacturer to test the level of accuracy of their dead-reckoning devices. Working with Professor David Hensher, he has compiled a very large data base of over 1100 studies on direct and cross elasticities for prices and service levels for car and public transport. A meta-analysis will search for sources of systematic variations in the estimates.

Andrew Collins, BA/BSc (Hons) Computer Science UNSW
Research Analyst

Andrew first worked at ITS in 2002, developing a stated preference web survey system. After concluding a Computer Science/Arts degree at UNSW with an Honours project on the interactive web visualization of GIS data, Andrew joined ITS full time in late 2003. His work has included the development of animated, GIS based online travel surveys that visualize journeys recorded by GPS devices; ongoing improvements to the web survey software that facilitates rapid survey development; the construction of a variety of innovative internet and CAPI surveys; and the development of software that generates stated preference datasets of arbitrary size.

Geoffrey Clifton, Bec (Hons) Qld, PhD Sydney (in progress) PWC Scholarship recipient
Research Analyst

Geoffrey is the inaugural recipient of the Price Waterhouse Coopers Doctoral scholarship in transport economics. A graduate in economics from the University of Queensland, Geoffrey commenced his research program in ITS in July 2003, specialising in public transport. Geoffrey holds a Bachelor of Economics with first class Honours in Economic Statistics from the University of Queensland where he graduated in 1999. Prior to joining ITS Geoffrey worked for three years at the Reserve Bank of Australia in Sydney in the Financial System Stability Department. In July 2003 he was awarded the PricewaterhouseCoopers Australia Research Scholarship in Transport Economics to undertake research leading to a PhD. In his role as a Doctoral research student and research analyst in ITS, Geoffrey focuses on public transport issues, in particular the challenge to grow public transport patronage and the role of frequency and connectivity on the demand for bus services along ‘Strategic Bus Corridors’. Research projects in ITS focus on the use of stated choice methods and optimal pricing theories as tools to support the development of public transport outcomes that are both socially optimal as well as financially viable to operators in the presence of optimal subsidy payments. Geoffrey is also involved in the teaching of Analysis Tools for Transport and Logistics.
Min Xu, Beng, China; Meng, University of South Australia, PhD USA (nearing completion)
Research Analyst

Min completed a Bachelor degree in Civil Engineering in Toji University and worked as a consulting structural engineer for several years in China. She then obtained a Masters in Transport Engineering at the Transport Systems Centre, University of South Australia. Following this she studied her PhD in Transportation Engineering at TSC and is currently writing the thesis under the topic of ‘A microsimulation model of travel choices for use in transport corridor analysis’. Min commenced working at ITS in January 2004. She is working with Professor Peter Stopher on several projects, including independent evaluations of travel behaviour change, the use of passive GPS devices in household travel surveys, and a research project of simulating metropolitan area household travel survey data. Her main interests lie in travel demand modelling, travel forecasting and survey methods.

Natalie Lauer, BSc, Economic Geography UNSW
Research Analyst

Natalie began working at ITS in May, 2004 after finishing a science degree at UNSW, majoring in geography and focussing on urban and regional social science. As a member of Professor Stopher’s research team, she has worked predominantly on projects relating to the evaluation of Australian Voluntary Travel Behaviour Change programs. Specifically, this has included contributing to the administration of a large postal survey in the Sydney Metropolitan region and of a GPS survey in the ACT. She has also provided support to Professor Stopher and Dr Greaves in the development of a set of recommendations for an impending National Travel Behaviour Change monitoring program.

Tony Bertoia, Bpsych (Hons), USYD., Ph.D Sydney (in progress)
Research Analyst

Tony holds a Bachelor of Psychology with Honours degree from the University of Sydney and is currently completing his Ph.D with the School of Psychology under the supervision of Dr. Roslyn Markham. In his Ph.D research, Tony is investigating the influence of stereotype activation and cognitive load on source memory. Over the past four years, he has tutored and lectured in psychology at undergraduate level, marked honours level psychology exams and coordinated a postgraduate psychology research conference. In 2003 he presented a paper at the Society of Applied Research in Memory and Cognition (SARMAC) Conference in Scotland and has experience as a volunteer Lifeline telephone crisis counsellor. Tony joined ITS in May 2004 and is currently working with Professor Peter Stopher and Dr Stephen Greaves on a number of projects investigating the use of passive GPS devices in household travel surveys and the effects of environmental air pollution and aircraft noise on health and travel behaviour.
Anne Fernando, ACMA
Finance and Personnel Officer
Anne is responsible for the Institute’s financial and personnel details. Her duties include
day to day operations of the finance section, maintaining and monitoring of financial
records, reconciling monthly statements, ordering stationary, raising invoices, and so
on. She is also responsible for updating ITS budgets, preparation of revised budgets and
interacting with the Director of ITS and the Faculty manager. She is a fully qualified
accountant with professional membership of the Chartered Institute of Management
Accountants (UK).

Gary Mariano, MSCA, MSCE (in progress)
Computer Systems Officer
Gary is the Systems Support Officer for the Institute of Transport Studies. His primary
duties include network administration, desktop support, Exchange Administration and
web design and maintenance. He is also responsible for evaluating, testing and
deploying software and patches, detecting and eliminating existing vulnerabilities from
virus threats to applying and maintaining system security policies and security updates
and patches. Gary is a certified MSCA (Microsoft Certified Administrator) and is
currently studying for his MSCE certification.

Jo Dumergue (nee Sarjana)
Executive Officer & Personal Assistant to the Director
Jo manages the administration of the Institute of Transport Studies including the Office
of the Director/Associate Dean. She coordinates projects as required by the Director
and manages all administrative matters related to students and staff in the transport and
logistics programs. Projects include: coordinating the ITS-Sydney local node Advisory
Committee meetings, prepare the Annual Report for sending to Senate, timetabling for
the graduate program and booking lecture theatres, provides class listings for each UoS,
aranges for UoS course outlines to be printed and are ready for students first day of
class. Jo is also responsible for ensuring that the final results and amended results at the
end of each semester are forwarded to Faculty. Jo produces the Graduate Program
Brochure for the graduate program and coordinates the annual awards evening. Jo
attends fortnightly FMO meetings at Faculty, and is the OH&S representative at ITS.
Prior to joining The University of Sydney in 1997, Jo managed her own business and
information services office in Bali, Indonesia.

Ruth Steel, BA Hons, MSc, Mphil, Bristol, Dip Law Sydney (in progress)
Projects Officer
Ruth joined the Faculty of Economics and Business in September 2003 working with
Professor David Hensher (Associate Dean, Postgraduate Coursework Programs) on a
number of faculty-wide strategic initiatives including the review of graduate programs
and the development of student related policies and procedures. Specific projects
include; the development of review framework for all graduate programs, supporting the
review of the graduate business program, conducting a pilot program for early
identification of students at risk of failing, and monitoring and reporting on graduate
program class sizes. In 2005 Ruth will be working (in conjunction with the Faculty’s
Teaching and Learning Committee and the Centre to Advance Learning in Economics
and Business) on the development of a teaching and learning communications strategy, identifying infrastructure requirements to support graduate programs, reviewing teaching delivery modes with a specific focus on block mode and continuing work on strategies to identify students at risk.

At ITS Ruth is working on various projects related to the development of teaching and learning strategies, including the development of a staff policies and procedures intranet site, developing course administration materials, supporting e-learning initiatives, and providing material for Faculty reviews. She has also undertaken a number of projects in communications and promotions, including the development of the ITS-Sydney Seminar Series, providing editorial direction and support for the ITS website and publications / promotional material, and assisting with the preparation of a publication of a collection of papers on Competition and Ownership of Land Passenger Transport to be edited by Professor Hensher and published by Elsevier. She is responsible for the coordination of the ITS Board of Advice.

Since moving to Sydney from the UK in September 2002 Ruth has completed a number of short term assignments in executive support and education administration at the University of Sydney. Prior to this she worked in the Planning and Management Information Office of the University of Exeter, UK. After completing an undergraduate degree in Politics and Religion at the University of Lancaster she went on to gain her Masters in Ethnic Relations from the University of Bristol. Funded by a scholarship from the Economic and Social Research Council she was recently awarded an MPhil from the University of Bristol. The title of her thesis is: The Host Country, From Protection to Control: UK Refugee Policy and Practice. Ruth worked for two years as an Information Officer for a refugee agency providing reception support to refugees on arrival to the UK, prior to this she worked as a Front of House Manager at a community arts centre and theatre. Ruth is currently studying for a Diploma in Law with the Law Extension Committee of the Legal Practitioners Admission Board, University of Sydney.

Ruth was awarded a career development support grant of $1,580 towards the cost of her Law Diploma.

**Loloma Wren, Bbus, Grad Dip PR & Mktg UTS**

Course Co-ordinator, Industry Programs

Prior to joining the staff of ITS, Loloma’s experience in education administration covered a number of professions including specialist physicians, accountants, the environmental health and building industries and dentists. In addition Loloma has planned and organized a variety of conferences for the medical profession. Her responsibilities with ITS encompass the administration of the industry programs for the bus and coach industry, the ACTTM with the RTA and other government agencies and a number of postgraduate programs. Loloma has a B.Bus from UTS, Ku-ring-gai Campus and a postgraduate diploma in Public Relations and Marketing.
Adjunct Faculty

Elizabeth Barber, MeconSt, Qld

Elizabeth continues an academic career spanning the past twenty three years, teaching at the University of Queensland, Australian National University, University of Canberra and University of New South Wales. Her research interests include project management, transport economics, logistics and supply chain management. For the past ten years Elizabeth has been involved in military logistics researching logistics and supply chain initiatives for the Australian Defence Force. She published a book in mid 2002 on “The Logistics of the East Timor Campaign”. Elizabeth teaches Strategy and Supply Chain Management and the Industry Laboratory at ITS.

Trevor Heaver, BA Oxon MA PhD Indiana

UPS Foundation Professor of Transportation & Director of the Centre of Transportation Studies

Trevor is Professor Emeritus, University of British Columbia. He is a past Chairman of the World Conference on Transportation Research, the Past President of the International Association of Maritime Economists and was recently Francqui Chair Professor, University of Antwerp. Trevor is focusing his research on issues related to ports, shipping and international supply chain management. Particular topics include: performance measurement and benchmarking port terminals; interface problems between container terminals and inland carriers; the restructuring of the liner shipping industry in response to market and regulatory changes; organisational issues for exporters in international supply chain management. Trevor provides advice as required on the Logistics Program and teaches from time to time in International Logistics and Maritime Markets.

Peter Lok, B.App.Sc. MHP, UNSW, MBA, PhD UTS

Dr Peter Lok is Senior Lecturer in Management at the University of Sydney. He teaches in the areas of Managing People, Strategic change management, Strategic HRM and Managerial Practices in Asia. He has extensive working experience in the areas of corporate transformation, productivity evaluation and human resource management in UK, Australia, NZ, China, Hong Kong, Singapore, Malaysia and Taiwan. His consulting activities include many leading firms and he also publishes regularly in management journals. Peter is responsible for the ITS unit in People, Work and Organisation.

Alastair Stone, Beng, PhD University of California, Berkeley

Visiting Fellow
Managing Director, Pacific Infrastructure Corporation

Alastair has over thirty years experience in banking, economics and engineering. He has successfully initiated, implemented and participated in major projects and infrastructure deals. He has also advised various international and domestic agencies and governments; including the Asian Development Bank, World Bank, Jakarta Municipal Government, Shanghai Municipal Government, and several Australian State Governments, on private sector participation policies and strategies. His career has covered all facets of urban affairs including senior positions with the World Bank, Lend
Lease and Merill Lynch. Alastair teaches in the area of joint ventures in public infrastructure projects.

**Andrew Kerr, MBA, Macquarie, DBA Dist, IntMC**

Andrew has an extensive management and consulting background in the areas of operations management, service operations, marketing, services marketing, supply chain management and logistics. His doctoral research involved the strategic ramifications of enterprise outsourcing decisions, both in Australia and overseas. Since late 1987, Andrew has been the Managing Director of Griffin Corporate Services; a Sydney based strategic consulting practice with network offices in several Pacific Rim cities. Previously, he held senior management appointments with Marrickville Holdings, Myer (NSW) Limited, GEC Australia Limited, Digital Equipment Corporation, Sperry Limited and Unisys. Andrew is a visiting fellow at a number of graduate schools and since 1989 has delivered numerous post-graduate programs in Australia and overseas. Formerly Australian and Far East Editor of the International Journal of Physical Distribution & Logistics Management, Andrew remains a member of that Journal’s Editorial Advisory Board. He is an assistant editor of the Gower Handbook of Logistics and Distribution Management. Andrew teaches International Logistics and Logistics Management in the Graduate program.

**Frederic Horst, Master of Transport Management (MTM), Sydney**

Frederic Horst is currently employed as a Manager Global Accounts at Cargolux Airlines, a Luxembourg based all cargo carrier operating a fleet of Boeing 747-400 Freighters. In his position he is responsible for key account development and business planning, and is involved in market research, fleet planning, and some business related crew training projects. Prior to joining Cargolux, Frederic worked as a Consultant for MergeGlobal, a Washington, D.C. based strategy consulting company focused on freight transportation, and after that was involved in several ongoing projects at the Institute of Transport studies and Sydney Ports. He has a Master of Transport Management from the University of Sydney and completed undergraduate studies in business at the University of Duesseldorf. Frederic teaches International Freight Transport in the Graduate Program.

**Full-time PhD Students**

**Alejandra Efron, Beng Argentina MSc Brazil, PhD Sydney (nearing completion)**

An industrial engineer (Argentina), Master in Logistics (Brazil) and a specialist in International Transportation (UNCTAD), Alejandra has worked for Ryder Latin America leading the development and implementation of Toyota’s interplant logistics, ISO9002 certification and other tasks. Her interest is in researching the logistics strategy choice for small and medium firms using Stated Preference techniques. Commenced Doctoral studies in 2001.
**Wafa Dabbas, BSc MSc, PhD Sydney (nearing completion)**

Wafa holds a Bachelor of Science in Civil Engineering and a Master of Science in Engineering from the UK. She has experience in transport policy and planning and has skills in international procurement and projects management. Her current research area is in Transport and the Environment, in particular modelling traffic vehicle emissions for air quality assessment. Commenced Doctoral studies in 2001.

**Melody Ju-Miao Hsiao, BSc MSc, PhD (in progress)**

Melody holds a Bachelor of Science in Business Administration from University of Massachusetts, Lowell, and a Master of Science in Management Science from California State University, Fullerton. She has been a lecturer at Ling Tung College in Taiwan for ten years. Her current research area is in supply chain management, with special interests in buyer-supplier relationship, retail business and supply chain performance. The title of her PhD study is “The Determinants of Supply Chain Performance for Retail Outlets.” Commenced Doctoral studies in 2002.

**John Rose, Bec (Hons), PhD Sydney (submitted)**

Adjunct Lecturer and Research Analyst

John is a final year PhD student whose research interests are in the areas discrete choice modelling and stated choice experiments. As a member of ITS, John has worked on several projects including emergency evacuation in bushfire situations, the modelling of group decision making (Interactive Agency Choice Experiments, IACE), demand and preference analysis for non-existent modes of transport in the North-West of Sydney, and the evaluation of value of travel time savings (VTTS) derived from the introduction of new toll roads in Sydney. As an adjunct lecturer, John has been responsible for creation of a new quantitative course, titled Analysis Tools for Transport and Logistics, taught in the Postgraduate Masters program, as well as taking over lecturing responsibilities in the Choice Analysis course. John also has a book coming out in 2005 with Professors David Hensher and Bill Greene called Applied Choice Analysis; A Primer, published by Cambridge University Press.

**Jaafar Zamhari, BSc.BA (Finance), MBA/A, PhD Sydney (in progress)**

Jaafar holds a Bachelor of Science in Business Administration (Finance) from West Virginia University and a Master of Business Administration in Aviation from Embry-Riddle Aeronautical University, Florida. He is a Licenced Air Traffic Controller by profession, but currently works as an Assistant Director at the Department of Civil Aviation Malaysia. Jaafar’s research interest is in strategic alliances in the airline industry. His thesis topic is “The Stability of Multi-partner Cooperation: A Case of International Airline Strategic Alliances.”

**Sean Puckett, BA (Econ & German) Hons Program (Western Washington University), USA; MA (Economics) (University of Washington), USA; PhD Sydney (in progress)**

Sean holds a Bachelor of Arts in Economics and German from the Honours Programme at Western Washington University, and a Master of Arts in Economics from the University of Washington. Sean collaborates with ITS researchers in the areas of:
goods movement, congestion charging, inference of the effects of the interdependency of decision makers, discrete choice modelling, information processing strategies and impacts of security measures on shipping activity. Sean is a second-year PhD student at ITS, researching the behaviour of decision makers in supply chains involved in urban goods movement, and their responses to changes in levels of service. He is supervised by Prof David Hensher and Prof Peter Stopher. Sean provides tutorial and grading support in Transport and Logistics Economics.

**Geoffrey Clifton, Bec(Hons), Qld PWC Scholarship recipient, PhD Sydney (in progress)**

Geoffrey is the inaugural recipient of the Price Waterhouse Coopers Doctoral Scholarship in transport economics. A graduate in economics from the University of Queensland, Geoffrey commenced his research program in ITS in 2003, his topic is ‘The Influence of Frequency & Connectivity in Growing Bus Patronage: Application to Strategic Corridors in Sydney’. Geoffrey is involved in marking student assignments and has assisted with the consultancy work of ITS. Geoffrey is also involved in the teaching of *Analysis Tools for Transport and Logistics*.

**Louise Knowles, BA (Hons) UNSW, MBA Deakin, PhD Sydney (in progress)**

Louise is undertaking a thesis on reforms in the bus industry with special reference to contract performance and partnerships. Prior to commencing a PhD in June 2004, Louise worked with Professor David Hensher in his role as Associate Dean (Postgraduate Coursework Programs) on a range of Faculty-wide strategic initiatives. Projects included a review of the Faculty web site and the implementation of a peer support and mentoring program for postgraduate students. Her diverse background included market research analysis and Defence logistics. She was awarded the Brookes Scholar Award as Deakin’s top MBA graduate in 2001.

**Part-time PhD Students**

**Seu Cheng, BA MA (Econ) (University of Manitoba), Canada, PhD (USYD) – (Graduated May 2004)**

Seu’s PhD research focuses on the issue of integrated logistics management and its implications on shippers’ choice of freight intermediary service attributes and the valuation of time in the supply chain. Seu submitted her PhD in early 2003 and it was accepted in November 2003. Seu graduated in May 2004 and she now lectures at the University of Wollongong.
Visiting Research Scholars

Professor Alan Horowitz, BS Eng, MS Eng, PhD – (April 2004 – May 2004)

Professor Horowitz is a transportation engineer and an urban planner. His research spans the areas of travel forecasting, transportation benefits, and social and environmental impacts of transportation policy. His research has been widely disseminated in national and international journals and has been presented at numerous professional society meetings.

Prior to completing his doctorate, he was a member of the staff of Technology Service Corporation where he participated in air quality studies for the Environmental Protection Agency and the Federal Highway Administration. In December of 1974, Professor Horowitz joined the staff of General Motors Research Laboratories. While there he served as principal investigator of the “Transportation Systems Measure” project and acted as the co-principal investigator of the “Automobile and Cities” project. His research included analyses of transportation impacts on residential location, development of procedures for psychological scaling of time spent in travel, and fuel efficiency of automobiles.

Since coming to the University of Wisconsin – Milwaukee in January 1979, Professor Horowitz has been continuing his research into values of travel time, and conducting new research about urban trip tours, land-use impact assessment, single-route ridership forecasting, trip assignment, sub area focusing, ride quality of highways, intermodal passenger transfer facilities, transportation benefits, freight planning, applications of GIS to transportation networks, hazardous materials routing, and travel forecasting methodology.

Dr Truong Truong, Beng MA MengSc LLB PhD – (April 2004 – June 2004)

Dr Truong is a senior lecturer from the School of Economics at the University of New South Wales. His current research interest is in the area of Computable General Equilibrium (CGE) modelling, especially when applied to the area of energy-economy-environment interaction. Prior to this, Dr Truong also did some joint works with Prof David Hensher in the area of valuation of travel time savings using a discrete choice model. The integration of, or interaction between, ‘bottom-up’ discrete choice modelling and ‘top-down’ CGE modelling is one area of interest which provides a main focus for Dr Truong’s current visit to the Institute. Dr Truong holds a Bachelor of Engineering degree from the University of Western Australia, an MA, MengSc, and LLB from Sydney University, and a PhD in Economics from Macquarie University.

Professor Essam Radwan, PhD (Purdue University), MSCE, BSCE, - (August 2004 – November 2004) Sbus 2004 Visiting Professor

Professor Radwan is the Executive Director of the Centre for Advanced Transportation Systems Simulation and Chair of the Civil and Environmental Engineering Department at the University of Central Florida.

Essam’s research interests are focused on the use of driving simulators to conduct traffic engineering studies to enhance the operation and safety of highways and streets. He has
also conducted research in numerous transportation applications including Intelligent Transportation Systems (ITS), highway safety, computer simulation of traffic flow and operations, transportation of hazardous materials and hazardous wastes including nuclear spent fuels, and regional freight transportation modelling. Essam has taught courses related to transportation engineering, traffic engineering, and computer applications in traffic operations. At ITS he taught *Traffic Systems Management and Control* in the graduate program.

Essam was awarded three awards from the Office of Sponsored Research, UCF. One is called the “Master of Juggler Award” for being a department chair for 14 years and also running CATSS (the transportation center). The second award for being a member of Millionaire’s Club “bringing in more than one million Dollars per year in research” and the third award was “three year in a row member of the Millionaire’s Club.

**Professor Michiel Bliemer – (November 2003 – March 2004)**

Professor Bliemer is an Associate Professor in Transportation Modelling at Delft University of Technology (DUT) in The Netherlands. Michiel lectures the Transportation & Spatial Modelling course and the Transport Economics course in Delft. After his Masters degree in Econometrics and receiving his PhD in transportation planning and traffic engineering 3 years ago, Michiel continued his main research on dynamic network modelling at DUT and TNO (the largest not-for-profit research institute in The Netherlands), leading to an operational analytical multiclass dynamic traffic assignment model called INDY. Furthermore, he is project leader of a project on dynamic road pricing in The Netherlands. Other research interests are dynamic queuing models, game theory, traffic simulation models, discrete choice theory, travel behaviour of heterogeneous travellers with uncertainty. At ITS, Mike participated in joint research on stated choice methods and optimal sampling.

**Stefan Mabit, Visiting PhD student, - (September 2004 – January 2005)**

Stefan is a PhD Student at Centre for Traffic and Transport (CTT) at The Technical University of Denmark. He began this study after completing his Masters degree in Mathematics in 2003 at The University of Copenhagen and is at ITS on an Andersens Travel Scholarship to Mathematicians. This is a 1-year scholarship making study possible at relevant institutes around the world. His PhD is concerned with activity based modeling in the context of road pricing. Another research interest of Stefan’s has evolved along with the PhD project – the study of the value of time (VOT). During his time at ITS he worked on two projects on the value of travel time savings (VTTS) both based on SP data and presented two seminars while at ITS where on both occasions received very useful feedback.
Visitors to ITS – Industry Programs

Mr Gad Bachrach made a brief visit to discuss the Institute’s Certificate of Coach Management and Certificate of Transport Management programs. Gad’s interest in these courses has been generated by his 20 year involvement in a program of professional education courses for managers of bus companies in Israel where he is the director of BRD College of Professional Management. The college offers courses in road transport specialising in public transport, particularly buses, and road haulage. Gad was particularly interested in the teaching methodology of the industry programs which is a combination of self study with only four days of face to face lectures, and felt that the students who enrol in BRD College’s courses would find this way of learning difficult as they are mainly mature students. He also noted that the size and organisation of the passenger transport industry in Israel is vastly different from that of NSW.
6. RESEARCH AND POLICY

New in 2004

Carrots and Sticks: Finding Ways to Grow Public Transport Use and Investment in Outer Metropolitan Areas in Sydney (David Hensher)

New housing in the outer urban areas of Sydney is being constructed at a rapid pace, with housing approvals exceeding 100 per week. At the same time the investment in new public transport infrastructure and service levels is occurring at a snails pace, if at all. Meanwhile new residents are settling in, adapting to their car-dependent environment and enjoying the accessibility delivered by automobility as they seek out new networks of activity locations spread throughout the Sydney network in a growing circumferential style. The new tollroads have added to the accessibility gain with impressive time savings out of peaks. In the peaks the story is different. A road network straining to cope (e.g. Windsor Road in the North-West) and increasing delays in even getting to local amenities. What can be done? Government appears to be short of funds for public transport, the private sector has limited interest unless there is a road involved and/or substantial government subsidy support and meanwhile the system ultimate customer is suffering (so we are told). But are they? It may appear bad but is it? This research takes a closer look at the main issues that have been raised to support more investment in public transport infrastructure and services before new housing is occupied and residents adapt to the lack of public transportability.

Assessing sources of variation in travel demand elasticities: a Meta analysis (David Hensher & Camden Fitzgerald)

Ongoing since 2003, this project is documenting studies that have established empirical estimates of direct and cross elasticities for public transport service and cost. The aim is to explain differences in the estimates as way of understanding the influence on methods, data paradigms and context in influencing variations in estimates.

Buying speed: A reassessment of the characterisation of congestion on an urban road network – some theoretical suggestions and illustrative experiments (David Hensher & Truong Truong)

An investment or pricing decision affecting a particular link of a network is expected to have repercussions throughout the network. It is thus important to consider the issue of ‘capacity’ and ‘congestion’ in a network as a matter of interconnections between substitutable and/or complementary links within the network. To do this, we must clarify the important concepts of capacity and congestion in the context of a general economic equilibrium between the interconnected links. Once these concepts are properly defined, we can then consider the issues of supply and demand for transport activities conducted through these links and analyse the problem of congestion as a process of balancing the forces of supply and demand. The short run issue of interconnected tolls or congestion pricing for the network as a whole to relieve congestion at specific points in the network can then be considered as well as the long term investment to increase capacity at specific links (or nodes) in the transport network. We show how the theoretical approach can be applied within the Sydney transport network. Importantly the approach promotes the emergence of speed as the overriding...
determinant of a congestion index and its role in establishing optimal congestion charges.

ARC Discovery Program Grant on the Mobility and Accessibility Expectations of Seniors in an Aging Population (2004-2006) (David Hensher & Rahaf Alsnih)

Populations of post-industrial nations are aging. With a growing number of people living well into their 80’s and maintaining active lives, the transportation system will have to start focussing more closely on understanding their mobility and accessibility needs, so as to ensure that specific requirements of this large segment are not being ignored through the promotion of traditional ‘solutions’ and historical assumptions. This research takes a close look at the evidence on the mobility needs and travel patterns of individuals over 64, distinguishing between the “young” elderly (aged 65 to 75 years) and the “old” elderly (over 75 years). This distinction is particularly useful in recognising the threshold of health change that impacts in a non-marginal way on mobility needs. This distinction also focuses transport planning and policy on a commitment to understanding the different needs of these subgroups of the population, identifying services and facilities that better cater for these groups. We review the evidence, in particular, on the mobility characteristics of the over 75 years age group, including how they secure support through migration and settlement patterns. We use the empirical evidence from a number of western nations to identify the role of conventional and specialised public transport as an alternative to the automobile in meeting mobility and accessibility needs. In addition to the review study above, we have a three year project (2004-06) funded by the ARC Discovery Program.

Seniors in an ageing population (SAPS) are a significant and growing segment of the population. As (relatively) cash rich and time poor, they have very high expectations in respect of levels of accessibility and mobility required from the transport system, as well as from other supporting networks. We currently lack policy-rich travel demand models to assist in understanding the complex dynamics that influence the travel activities of SAPS. Using ideas from stated choice methods, interactive agency choice experiments, panel econometrics and behavioural discrete choice models we propose a research program designed to understand these demands. Special focus is given to support networks and the ways in which these impact on the demand for car and public transport use, as well as meeting the access needs to health-support and leisure facilities and to supporting networks of family and friends.

Accounting for Heterogeneity in the Variances in Mixed Logit (David Hensher, John Rose & Bill Greene)

The growing popularity of mixed logit to obtain estimates of willingness to pay (WTP) has focussed on the distribution of the random parameters and the possibility of estimating deep parameters to account for heterogeneity around the mean of the distribution. However the possibility exists to add further behavioural information associated with the variance of the random parameter distribution through parameterisation of its heterogeneity (or heteroskedasticity). In this paper we extend the mixed logit model to account for heterogeneity and illustrate the implications this has on the moments of the willingness to pay for travel time savings in the context of commuter choice of mode. The empirical study highlights the statistical and behavioural gains but warns of the potential downside of exposing the distribution of the
parameterised numerator and/or denominator of the more complex WTP function to a sign change over the range of the distribution.

**Generalised Mixed Logit** *(David Hensher & Bill Greene)*

Mixed logit models are now recognised as the most behaviourally rich specification of discrete choice models. Developments in simulation methods and the computational power that is now available have enabled such open-form models to be estimated with relative ease. The popular random parameter form of mixed logit models has been used to identify preference heterogeneity which itself can be decomposed through the mean and/or variance (see Greene et al 2004). However this formulation critically depends on the selection of random parameters to reveal such heterogeneity, with any residual heterogeneity forced into the constant variance condition of the EV1 distribution of the classical multinomial logit model. In this research we extend the mixed logit model to capture additional alternative-specific unobserved variance, in terms of its mean and heterogeneity around the mean, that is independent of sources revealed through random parameters attached to observed attributes. We refer to this as the generalised latent kernel effect. The additional parameterised term for each alternative identifies the standard deviation that is commonly associated with the underlying inclusive value parameter estimated under a closed-form nested-logit model. Depending on how we set up the relationship between these standard deviations across the set of alternatives, we can empirically reveal the underlying inclusive value of the standard nested logit model, the cross (or generalised) nested logit or the heteroscedastic extreme value logit model. This generalisation of mixed logit may offer the way forward in empirically separating scale from variance.

**Implications of Respondent’s Ignoring Attributes on Willingness to Pay** *(David Hensher & John Rose)*

Individuals processing the information in a stated choice experiment are typically assumed to evaluate each and every attribute offered within and between alternatives and to choose their most preferred alternative. It has always been thought though that some attributes are ignored in this process for many reasons including a coping strategy to handle their perception of the complexity of the choice task. Nonetheless, analysts generally proceed to estimate discrete choice models as if all attributes have influenced the outcome to some degree. The cognitive processes used to evaluate trade-offs are complex with boundaries often placed on the task to assist the respondent. These boundaries can include adding up attributes (eg components of travel time and cost), prioritising attributes and focussing on the primary influences and ignoring specific attributes. In this research we investigate the implications of bounding the information processing task by attribute elimination through ignoring one or more attributes. Using a sample of car commuters in Sydney we estimate mixed logit models which assume that all attributes are candidate contributors, and models which assume that certain attributes are ignored (based on supplementary information provided by respondents). We derive individual-respondent parameters using a conditional choice specification of mixed logit, and compare the value of travel time savings distribution under alternative information processing regimes. As expected, assuming that all attributes are not ignored and duly processed, leads to biased estimates of parameters which over-estimate willingness to pay (WTP).
Competitive Tendering as a Contracting Mechanism for Subsidising Transportation: The Bus Experience (David Hensher)

Competitive tendering (CT) is a popular mechanism for the provision of transport services where a major objective is the containment of the cost to government of service provision. Although the primary focus is recognised as cost efficiency, whereby the cost outcome should be conditional on a given level of service, difficulties in establishing appropriate tests for service level compliance has become a cause of concern about the effectiveness of the CT paradigm as a value for money initiative. While recognizing the growing evidence that competitive tendering can reduce levels of subsidy, typically in the 20-30% range, what is lacking in the support is an explicit statement that such gains are usually a windfall gain when first introducing CT, and especially when the incumbent is a public supplier (or a public operator almost exclusively dependent on government funding), and that financial gains through re-tendering are notably absent. Furthermore the risk of discouraging investment back into the provision of services because of uncertainty of continuity is starting to show up as incentive-incompatible and a discouragement to quality operators who would in the normal course of business re-invest much more. This has led to a growing interest in and support for performance based contracts (PBCs) in which the incentive structure is more conducive to the growing the business (under a trusting partnership between the regulator and the operator) and where CT is a last resort non-compliance strategy. This research reviews the international successes and failure of CT as a subsidy reduction strategy within the bus sector, and promotes the idea of PBCs as a way of recognizing the real role of subsidy under the umbrella of a value for money objective.

Travel Smart Pilot evaluation in selected locations in Sydney (Peter Stopher, Natalie Lauer, Rahaf Alsnih & Camden Fitzgerald)

Funded by the NSW government and the Australian Greenhouse Office, this project is one of a number being undertaken by ITS to evaluate the effectiveness of a number of incentives to attract specific individual identified as high-probability switchers to use public transport. The study is joint with consultants, Helen Battellino (freelance) and Elizabeth Ampt (SDG). This is part of a very active program of research into travel behaviour modification within ITS.

Long-Range Monitoring of Travel Behaviour (Peter Stopher)

As part of the program of strategies to reduce the emission of greenhouse gases in Australia, the South Australian, Victorian, Queensland and ACT governments have joined together in partnership with the Australian Greenhouse Office to undertake a program of voluntary travel behaviour change (VTBC) strategies, the purpose of which is to reduce greenhouse gas emissions by encouraging environmentally friendly travel behaviour. ITS was awarded the opportunity to develop and scope a methodology for the long range monitoring program of the VTBC strategies being undertaken by the States. Primarily, the task for ITS was to develop survey methods to produce a simple measure of the reduction in vehicle kilometres travelled in each of the member states as a result of the VTBC programs. However, additional information relating to the nature of household travel would be of great interest to the member states for future planning and development. Developing the monitoring methodology required consideration of a wide range of complex statistical and practical challenges in survey design and
ITS completed the development and scoping of the monitoring methodology in late 2004, providing the project partners with a comprehensive overview of the options available and the options recommended for the purpose.

**TravelSmart “Households on the Move”, Travel Behaviour Change Pilot Project, Canberra (Peter Stopher, Rahaf Alsnih & Philip Bullock)**

TravelSmart is a travel behaviour modification program whereby households are informed of travel mode alternatives and provided with other relevant travel information that may be used to save households time and money, as well as reduce greenhouse gas emissions. The Institute of Transport Studies along with Steer Davies Gleeve will conduct the project for the Australian Capital Territory Planning and Land Authority. The key difference of this project, to other TravelSmart applications, is that travel information will be made available to households about to move (pre-movers), and to households which have recently moved (movers), to another suburb within Canberra. The hypothesis to be tested is whether providing travel information to these households will prevent households from developing old travel habits that previously resulted in lengthy and unnecessary car trips. The key statistic to be measured is vehicle kilometres travelled. This project is the first of its kind in terms of assessing households’ travel behaviour after they relocate to another suburb/area. ITS will be involved in the evaluation of the results coming from a GPS survey and 2-day travel diary.

**Bushfire Research; the effects of visual and audio prompts on Stated Preference (SP) experiments (Peter Stopher, John Rose & Rahaf Alsnih)**

SP experiments usually provide verbal descriptions of alternatives to respondents from which they have to choose from. The verbal descriptions are created by using attributes and specific levels of each attribute. In most applications of SP in transport, the attributes of interest have been such things as travel time, waiting time, fare or toll, unreliability of arrival time, etc. These are abstract concepts for which audio and visual prompts would not be relevant. However, in recent work at ITS, we have applied SP to determine the likely behaviour of a household in respect of evacuating from a bushfire threat. In conducting focus groups prior to designing the SP experiments, participants suggested that the use of photographs of similar bushfires would be helpful in prompting respondents to recall what a bushfire is really like. Thus, this new research looks at the effects of audio and visual prompts on the results of a Stated Preference experiment in relation to household bushfire evacuation behaviour. A small sample of households from Terrey Hills and Duffys Forest, in Sydney, were recruited to take part in the study. CAPI interviews were conducted whereby respondents are shown a mix of scenarios with verbal descriptions of bushfires, still images of bushfires and short video clips of bushfires. This project is funded by a School of Business research grant.

**Determinants of Corporate Distress: An Experimental Analysis (David Hensher & Stewart Jones)**

In a recent study, Jones and Hensher (*The Accounting Review*, October, 2004) introduce the mixed logit model, to accounting and finance. A major conclusion of JH is that while an extensive literature on financial distress prediction has emerged over the past three decades, the discrete choice modelling techniques used are less developed than other fields of the social sciences. An important direction for future research is to develop
corporate distress prediction models using more innovative methodologies, particularly stated choice experiments. Very little, if any, experimental research has been conducted specifically in the context of financial distress prediction.

**Spatial Alliances of Public Transit Operators: Establishing Operator Preferences for Area Management Contracts with Government** (David Hensher, Louise Knowles, Andrew Collins & John Rose)

Scheduled transit services in many countries are provided by operators within geographical jurisdictions protected from competition with other public transit operators, although unprotected from competition by other modes, especially the car. This increased competition in many developed economies has led to a loss of market share of urban transit and contributed to the growing crisis in escalating costs of service provision (leading to pressure for increasing subsidy support). The response to this throughout the 1990s has seen governments progressively introducing market reforms centred on competitive tendering and economic deregulation. In more recent years, performance-based contracts have become popular variants, with an increasing number of incentive payment criteria introduced to not only promote cost efficiency but also aimed at growing patronage. Where such reform has involved area wide contracts, the boundaries of the contract areas have been essentially preserved. In recognition of the growing support for bus-based transit systems (variously referred to as bus rapid transit, busways and transitways), which offer increasing promise in growing public transit patronage, the NSW government in Australia has introduced reforms that require existing operators in the Sydney metropolitan area each currently holding an area contract (87 contracts) to work together under fifteen new spatial contracts. These new contracts overlay the existing contract areas and give incumbent operators the first option to participate. In this research we assess ways in which operators might coalesce to deliver ongoing and new ‘regional’ services. Operator business preferences and potential barriers to cooperation are identified through stated preference experiments.

**Travel choices and the risk of exposure to toxic airborne particulates** (Stephen Greaves, Tony Bertoia & Qingjian Jiang).

There is compelling evidence of a causal link between exposures to particulate matter less than 2.5 microns in aerodynamic diameter (PM2.5) and adverse health consequences. More recently, new medical evidence has emerged that suggests peak exposures of less than one hour in duration may be most relevant in assessing health effects, rather than the 24-hour average levels that underpin Australian standards for this pollutant. It is thought that much of these elevated levels occur while traveling and it is therefore critical from an overall health perspective to understand how travel choices (e.g., mode, departure time, route selection) impact potential exposure to PM2.5. Measurement methods have restricted most previous studies into this problem to the trip level. This is acceptable if a trip is relatively homogenous in terms of the key factors thought to impact PM2.5 levels, but the reality appears to be the case. With this in mind, the current study provides unique insights into the intra-trip variability of PM2.5 through combining a personal GPS receiver with a portable PM2.5 counter, which is capable of recording second-by-second concentrations.
**Synthetic Data in Victoria** *(Stephen Greaves & Tony Bertoia)*

This work continues the exploration of whether it is feasible, viable and cost-effective to simulate travel survey data as a supplement for current data collection. This particular project was sponsored by VicRoads and marked the first phase of an effort to do this using the VATS data in Victoria.

**Recent Research Achievements**

**Prof David Hensher**

School of Business Research Grant, *Predicting Financial Distress of Firms.*

School of Business Research Grant, *Developments in Mixed Logit Models.*

ARC Discovery Grant 2004-6, *Mobility & Accessibility Expectations of Seniors in an Aging Population.*

**Prof David Hensher and Assoc Prof Erne Houghton**

School of Business Research Grant, *Implementing Performance-Based Quality Contracts in the Bus Sector: The Transition from Cost Plus Contracts*

**Dr Stephen Greaves and Prof Peter Stopher**

School of Business Research Grant, *Simulating Trip Tours in Urban Areas*

**Assoc Prof Erne Houghton**

College of Humanities & Social Sciences, Overseas Conference Travel Grant

Faculty of Economics & Business, Overseas Conference Travel Grant Scheme

School of Business, Conference Travel Grant

**Prof Peter Stopher, Dr Stephen Greaves, Min Xu, Natalie Lauer**

Queensland Transport, *Long-Term Monitoring for the National Travel Behaviour Change Program – Stage 1.*

**Prof Peter Stopher, Rahaf Alsnih, Camden Fitzgerald, Natalie Lauer**

Department of Infrastructure Planning & Natural Resources. *NSW TravelSMART Pilot Evaluation*

**Prof Peter Stopher, Min Xu, Camden Fitzgerald, Natalie Lauer**

ACT Planning and Land Authority, *TravelSmart Pilot Evaluation: Households on the Move*
Prof Peter Stopher, Min Xu, Dr Stephen Greaves, Natalie Lauer
Won a 3 year evaluation project on travel behaviour changes, to the value of $550,000.

Prof Peter Stopher, Rahaf Alsnih, Andrew Collins, John Rose
School of Business Research Grant, *Effect of Visual and Audio Cues on Stated Preference Responses*

Dr Shams Rahman
School of Business Research Grant *Towards a Theory of Reverse Logistics*
Faculty of Economics & Business, Overseas Conference Travel Grant Scheme
School of Business, Conference Travel Grant

Dr Miguel Figliozzi
School of Business Research Grant, *Impact of Advance Information on Transportation Service Costs*

John Rose
ITS Award for Academic Excellence in the Transport & Logistics Management Program

Sean Puckett
Sir Hudson Fysh Award for Achievement in Transport Management and Logistics

**Journal Citations:**

Peter Stopher’s congestion paper was the eighth most frequently downloaded paper in the July-December 2004 period, even though it was only a corrected proof sent in November and was not published in 2003. This was the only unpublished paper in the top 10 papers.

David Hensher’s paper: *The Mixed Logit model: The state of practice* was the second paper most downloaded from the Transportation web site in 2003, and the TRESIS paper was fifth most downloaded.
Awards:

- David Hensher was awarded an SBUS Research Achievement Award for 2003 by the SBUS Executive Committee to the value of $2,500.
- Alejandra Efrón was awarded the Journalism Award 2004 from the Australia-Latin America Business Council in October and was nominated by the Logistics Association of Australia for her monthly column in their newsletter.

Alejandra Efrón accepting her award from the Australia-Latin America Business Council.

Continuing from 2003

ARC Discovery Program Grant on Freight Transport and Supply Chain Alliances
(David Hensher & Sean Puckett)

ITS Sydney was successful in securing a 5-year ARC-DP grant (2002-2006) to investigate the relationship between urban freight transport and the environment. The aim is to develop a new approach to modelling the key travel choices associated with the movement of urban freight. A central focus is on understanding the interactive agency aspect of the supply chain within which freight movement decisions are made. Thus the decision on choice of supply chain alliance and structure precedes the specification and modelling of trip decisions such as routing and chaining. The long term goal is to have a suite of choice models that can be used to evaluate the impact of transport policies such as congestion pricing on freight movements. A particular short run focus is on the development of a time of day of freight distribution model in which congestion charging (cordon based and kilometre based) is assessed. Detailed
theoretical and econometric frameworks (including CAPI SP experiments) have been developed with empirical work commencing in 2005.

**Use of Advanced Discrete Choice Models in Finance and Accounting Applications**  
*David Hensher & Stewart Jones*

This research is part of a suite of projects involving advanced discrete choice models (i.e., nested logit, mixed logit and latent class MNL) to assess their relevance in accounting research. We consider the particular analytical strengths and limitations of these models relative to standard logit procedures widely used in previous research. We draw on new data sets in areas of financial distress and to show that advanced choice models provide significantly greater explanatory and statistical power than standard logit. Moreover, use of advanced choice models can lead to fundamentally different behavioural interpretations of the role and influence of explanatory variables and parameter estimates in model estimation. The research is also linked to the preparation of a book on financial decisions.

**Deriving Bayesian-Like Individual Parameters from Classical Inference Methods**  
*David Hensher, John Rose & William Greene*

There is a small but growing literature that promotes the derivation of distributions of willingness to pay estimates using information specific to each individual observation, referred to as individual conditional distributions, in contrast to approaches that rely on unconditional distributions that use random assignment in the construction of WTP distributions within a sampled population. The interest in alternative specifications is in large measure attributed to the search for empirical ways of deriving the WTP distribution that satisfies a behaviourally acceptable sign and range over the entire domain. In this research we examine both conditional and unconditional approaches to establishing WTP distributions within the context of a random parameter logit model. We find that calculating WTP measures from ratios of individual-level parameters in contrast to drawing them from unconditional population distributions empirically reduces the incidence of extreme values. Our results suggest that while problematic estimates cannot be ruled out, the use of the extra information on each individual’s choices is a valuable input into the derivation of WTP distributions. This research is joint with Prof Bill Greene of the Stern School of Business, New York University.

**Respondent Burden in Choice Experiments: Does Temporal Burden-Spreading Help?**  
*John Rose, David Hensher & Ian Black*

A feature of choice experiments that continues to concern many analysts is the impact of the choice task itself on choice responses. As we show the behavioural merits of increasingly more demanding choice tasks to evaluate, we impose additional burdens on respondents. While in reality individuals seem able to make decisions by evaluating alternatives in complex (often sub-conscious) ways, we still struggle with how best to replicate that process in a way that captures the data necessary to formally model the choice process. This research investigates the variability in choice response when we offer choice experiments under a number of alternative data collection paradigms. The alternatives are based on the number of choice experiments and the elapsed time between requests for data response. Holding the actual design alternatives and attributes fixed, we compare a 32 choice set in which we offer all 32 at one time, 16 sets over two settings, and 8 sets over four settings. We space the sequenced interviews apart by 7, 14
and 21 days. The main hypothesis is the impact on variability of choice response and a range of valuation outputs of exposure to a specific number of choice sets over a period of time ranging from all at once to a spread of 21 days. We use a convenience sample of 90 respondents (yielding 960 observations per setting or 2880 in total) and a toll vs free road trade off on toll cost, travel time, and travel time variability (ie reliability) for three unlabelled alternatives.

**Stated Choice Design Generator (John Rose, David Hensher & Andrew Collins)**

Stated choice (SC) methods have become a popular means of eliciting the behavioural responses of individuals, households and organizations over various choice contexts and have been used in such diverse fields as marketing, transport and environmental and health economics. It is usual in SC experiments for sampled respondents to be asked to choose from amongst a number of labelled or unlabelled alternatives defined on a number of attribute dimensions, each in turn described by pre-specified levels drawn from some underlying *experimental design*. Yet despite the popularity of SC methods, the generation of an *experimental design* underlying a choice task is both complex and little understood by practitioners and academics alike. In order to simplify the generation of *experimental designs* and make SC methodologies more accessible to a wider audience, ITS has developed software that can generate various forms of experimental designs. Further, ITS has developed an internet based capability to automatically generate stated choice designs for online surveys as well as to use the design in other data collection modes. The research is continuing with refinements and applications to assess the robustness of the technology.

**Using Passive GPS to Collect Household Data (Peter Stopher, Philip Bullock & Qingjian Jiang)**

Data on the daily travel of people living in metropolitan areas are essential for developing models, policies and determining where transport problems are likely to occur in the future. However, people generally have difficulty in providing precise information about the geographic locations of the places to which they travel (aside from home, work, and school/university). Obtaining information about routes people use, the duration of their travel and their time spent under congested conditions through questionnaires is extremely burdensome, and is also notoriously inaccurate. This project is being undertaken on behalf of the New South Wales Roads and Traffic Authority (RTA) and involves the use of a passive, non-intrusive Global Positioning System (GPS) unit to measure where people travel and to determine the conditions under which the travel takes place. The record from the GPS will form the basis of a subsequent interview to obtain additional information about the travel that cannot be recorded on the GPS device, such as trip purpose and mode of travel. This research will allow us to determine how such data from a sub sample of households could be used to correct or factor the data collected by more conventional diary surveys. In addition, we will be able to explore questions of route choice, and congestion impacts on travel, and the variability of travel from day to day. Current status: This study will be integrated with the much larger Sydney HTS, which is administered by the Transport Data Centre. This integration make will allow the results to be directly comparable to the Sydney HTS. The project has been on hold since late last year, mainly due to restructuring with the TDC, however it is set to recommence as part of the next wave of the Sydney HTS, beginning in July/August.
Simulating Household Travel Data in Australia (Peter Stopher & Mix Xu)

Household travel data is a critical component of the travel demand forecasting process. Travel surveys have always been a problematic, high cost activity for metropolitan planning organisations. In research undertaken by Professor Peter Stopher, a method was developed to synthesize household travel survey data from a combination of data sources from the US Census and the 1995 National Personal Transportation Survey (NPTS). This involved creating distributions of pertinent variables (numbers of trips by purpose, mode of travel, etc) from NPTS data and applying them to a sample of local region residents (drawn from Census data). The results of the simulation were then compared with actual travel surveys undertaken in the simulated regions. This research represents a continuation of this work. Using a similar methodology, household travel data are being synthesised for a number of Australian cities using a combination of data from the ABS Census and local travel surveys. This process holds out considerable promise for replacing the collection of larger and more expensive samples of household travel data, particularly for small and medium sized urban areas.

NCHRP 8-37: Standardising Personal Travel Surveys (Peter Stopher & Rahaf Alsnih)

This project is being managed by Professor Peter Stopher, with a team comprising Louisiana State University, Westat, Inc., The Franklin Hill Group, and a team of expert advisors, including Professor Martin Lee-Gosselin (Canada), Werner Broeg (Germany), Kay Axhausen (Switzerland), Joanne Pratt (U.S.A.) and Alan Pisarski (U.S.A.). The project is funded by the National Cooperative Highway Research Program of the U.S. National Academy of Sciences/National Academy of Engineering. The objectives of this NCHRP project are to develop objective standards that would lead to an overall increase in the quality and reliability of transport surveys performed at household and person levels, and would also improve the comparability between surveys. These standards will provide guidance on how to select cost effective survey methods, how to implement the survey itself, how to analyse the results, and how to report measures that allow the assessment of the quality of the data. By establishing consistent and objective standards, comparability of data from place to place and time to time will be enhanced. The reliability of the data will be increased, and doubts as to the applicability of data should be able to be removed. It is also an objective of this research to identify the costs and tradeoffs for the procedures and assessment measures that are identified in this research, and to establish whether specific procedures and assessment measures are worthwhile to introduce as standards. Phase I of the project, involving the identification of opportunities for standards and guidelines, development of a classification of those opportunities, and development of a scope of work for Phase II implementation, has been completed and an interim report has been submitted to NCHRP. The draft final report is currently being reviewed by the NCHRP Panel. It is expected that the project will be completed by the end of January 2005.

Quality Partnership with the BCA NSW (David Hensher)

The quality partnership between ITS Sydney and the Bus and Coach Association of NSW (BCA) commenced in 2000. It is a five-year (renewable) agreement with an annual donation to ITS Sydney of $50,000. The commitment of ITS Sydney to this quality partnership involves a series of discrete activities, all of which support the objectives of the BCA and provide advice and information in various forms. In 2004, these activities included reviews and advice on the Bus Reform process, especially the
draft Unsworth Report (including meetings with Barrie Unsworth and MoT staff) and general contribution through Conferences such as ABIC, ATRF and Thredbo series, providing intelligence to the BCA on many matters of interest, and providing commentary and input on a range of policy agendas.

**TRESIS (Transport and Environmental Strategy Impact Simulator) (David Hensher)**

This project is currently on hold. ITS has been developing its urban passenger transport model system called TRESIS – Transport and Environmental Strategy Impact Simulator, since 1995. The model system is a combined set of models for representing travel, location and vehicle decisions of individuals and households to reflect the growing interest in the environment. The urban passenger transport system contributes to the achievement of broader goals of urban management and the performance of urban areas. It also supports the evaluation of an expansive set of identified policy instruments. The system differentiates and evaluates both aspatial and spatial strategies via Geographical Information Systems (GIS) and system linkage, as well as urban versus spillover impacts beyond the urban area. It emphasises the system-wide impacts of particular policies as well. The current project team members are David Hensher, Tu Ton (Project Coordinator), Freddy Susanto and Cam Ngo.

The new version of TRESIS (Tresis V1.4) was released in February 2004 for Sydney only. It is a version for evaluating at a strategic level, impacts of a large number of transport and non-transport policy instruments on the performance of cities as measured by changes in accessibility, greenhouse gas emissions, modal shares for commuting, car use, consumer surplus and many more outputs indicators. TRESIS version 1.4 with enhanced capabilities in the areas of non-work travel, traffic assignment, mapping displays, input and output interfaces and base year data update to 1998 is a major overhaul of V1.2, extending it to include a joint mode-departure time choice model, expansion from commuting to all trips, more detailed methods of incorporating synthetic households and a new user interface for inputs and outputs. Version 2.0, with capability to forecast patronage in the Sydney context at a traffic zone level is in progress. The current team concluded its activities in early 2004 and the project is on hold pending financial support.

**Other Activities and Projects**

In the role of Associate Dean (Postgraduate Coursework Programs) Professor Hensher has undertaken a number of Faculty-wide strategic initiatives:

- Continuing role as Web Sponsor in next stage of content review and update;
- Development of a student-at-risk pilot program;
- Monitoring of a Faculty-wide pilot study into the provision of a combined peer support and mentoring program for postgraduate students;
- Review of postgraduate student feedback mechanisms and opportunities for benchmarking (ongoing);
• Development of a template for the review of graduate programs.
• Development of a strategic proposition for the creation of a Graduate School of Management and re-introduction of an MBA in 2006.
• Participation in AACSB and EQUIS documents that resulted in Faculty Accreditation in 2004.
7. EDUCATION

The Education program at ITS Sydney includes:

- PhD program;
- Masters (Mphil) by Research Program;
- Graduate Transport & Logistics Management Program;
- Certificate and Advanced Certificate Programs; and
- Executive Short Courses.

ITS offers a fully articulated set of programs in transport and logistics management education, as shown below. Note that articulation between programs is not automatic. An Mphil (Transport & Logistics Management) is also available as a research degree.

**PhD program**

Students in the PhD program at ITS (at the end of 2004) include:

*Full-time*

Sean Puckett  (2003)  Interactive agency choice, supply chain alliances and urban freight systems.

**Graduate Transport and Logistics Management Program**

The transport management program includes

- the Master of Transport Management or Logistics Management (8 units),
- the Graduate Diploma in Transport Management or Logistics Management (6 units) and
- the Graduate Certificate of Transport Management or Logistics Management (4 units).
The demand for the units of study remains very high. Many of the students are enrolled in a major or minor in logistics and/or transport management via the Mbus, Mcom and MIB as well as the transport and logistics degrees.

**Courses**

ITS taught the following transport and logistics management courses in 2004:

(Students in each unit of study are given in parenthesis, excluding non-award and ITS research staff who undertook a number of graduate units)

**Summer Session (3-25 February)**
- Logistics Management (140)
- Choice Analysis (8)
- Logistics & the Environment (32)

**Semester 1 (8 March 11 June)**
- People, Work and Organisation (239)
- Strategy and Supply Chain Management (207)
- Transport Economics and Management (39)
- Transport Policy, Decision Making and Environment (24)
- Analysis Tools for Transport & Logistics (108)
- Land Use & Transport Planning (9)
- Logistics Management (148)

**Winter Session (7 July – 29 July)**
- International Logistics (94)
- International Freight Transport (70)

**Semester 2 (27 July – 9 November)**
- Survey Design and Management (11)
- Logistics Systems (159)
- Geographical Information Systems for Planning and Marketing (55)
- The Industry Laboratory (206)
- International Logistics (142)
- Analysis Tools for Transport & Logistics (144)
- Traffic systems, Management & Control (16)
- Logistics Management (128)
Course Work Student

Helping to keep people safe on Sydney’s trains, buses and ferries is what David Elrick does best. He is in the first semester of his Graduate Certificate in Transport Management. This will lead onto a Graduate Diploma and finally a Masters in two years time. Elrick has almost 20 years of industry experience in the transport and safety field and a degree in Civil Engineering, but his course advisors suggested he take a step by step approach to his postgraduate studies, so that he would not be overwhelmed after a substantial absence from the rigours of regular assignments, study and exams.

“I have acquired a whole range of practical experience in my working life but I felt I needed to acquire more formal education so I could access a range of additional business and analytical tools,” he says. Elrick chose to study at Sydney University because it has the best recognised postgraduate qualification in transport in Australia. So far Elrick is completing a subject in applied Mathematics. Each subject is taught in block mode over five days throughout the semester. His employer at the Independent Transport Safety and Reliability Regulator provides financial assistance and time off to attend lectures and exams. “Most of the students on his course are from overseas and younger than him but incredibly bright”, he says. Elrick’s current full-time job is as the manager of safety projects, although he recently worked for five years as a management consultant with Booz Allen Hamilton and before that for more than a decade at State Rail. Now that he has returned to the public sector, he believes that having a postgraduate qualification will assist him in further progressing his career and promotion opportunities within management. “Taking on postgraduate studies in the middle of your career demonstrates that you are serious and committed to your professional development and that of the industry”, says Elrick.

David Elrick, Project Safety Officer at the Independent Transport Safety and Reliability Regulator offices September 6, 2004 in Elizabeth St, Sydney.
Initiatives

The Institute of Transport Studies (Sydney) home page: http://www.its.usyd.edu.au/

New Web Initiatives

Have your say on Sydney transport

“Sydney’s transport problems and challenges have become headline news in recent years. The problems with the passenger rail network (poor on time running, cancellation of services etc.), the debate as to whether we should build light rail or bus rapid transit (the latter as dedicated road space for bus systems as in Brisbane), the growing levels of traffic congestion and whether we should introduce congestion charging like that in the City of London, and the general decline in funding from governments of all persuasions to invest in a more relevant and sustainable public transport system that we can be proud of. My Institute has felt the need to have a venue for input to the debate (opinions, views etc) on ways that Sydney’s transport system (both passenger and freight movements) can be improved, being realistic about costs and benefits. This new site is designed to encourage sensible debate. We hope to be able to identify some directions for change that are convincing to readers, such that government and/or the private sector may take up the challenge and improve the transport systems and its services in Sydney. I invite you to contribute”. Professor David A. Hensher
ITS would like to invite you to contribute to the Institute's new online forum on Sydney Transport. What do you think are the big transport issues facing Sydney over the next few years? Which problem needs tackling most urgently? We invite you to debate the issues and ask the questions that matter. Use this webpage to raise issues important to you and put forward ideas or comment on what others have said. We can make a difference if we speak out.

*Register of Students seeking casual research experience*


From time to time ITS has opportunities for casual work for students who are currently enrolled in one or more units of study at ITS. This work supports the research work of the Institute in transport, logistics and supply chain management and is a good opportunity for students to gain work experience in these fields. A variety of work may be available including data entry, library research, cataloguing, assisting with mail outs etc. Pay rates and hours are variable according to the work required.

*Mentoring Program*

Students were asked whether they would like the opportunity to be involved in the new mentoring program. Copies of the program for students to fill out if they were interested in being mentors were made available.
ITS Sydney 2004 Annual Evening of Awards Presentation

The 2004 Institute of Transport Studies – Sydney Annual Presentation of Awards was held on Saturday 27 March at the Forum Restaurant, The University of Sydney. This annual function, attended by 125 guests, provides an opportunity for the industry, guests and the Institute to acknowledge the achievements of students in the Institute’s graduate and industry programs.

This year the Institute’s Director, Professor David Hensher, welcomed the Honourable Barrie Unsworth as guest speaker. In his address, Mr Unsworth spoke about his role in amending the NSW Passenger Transport Act 1990 – a role in which he was asked to reform arrangements to the planning, contracting and funding of bus services throughout the state.

Following his address, Mr Unsworth presented the Institute of Transport Studies (ITS) prize for excellence in graduate coursework or for research in transport or logistics management 2003 to ITS PhD student, John Rose.

Other awards and certificates presented during the evening were:

- The Logistics Association of Australia (LAA) Logistics Prize for outstanding achievement in the logistics program 2003 was awarded to Edwin Chan and presented by Mr Allan Murray, LAA.

- The Chartered Institute of Logistics & Transport (CILT) Ken Hillyar Award for meritorious performance in the Masters program with a major in transport or logistics management 2003 was awarded to Nathan Fraser and presented by Mr Len Harper, Executive Director, CILT.
• The Chartered Institute of Logistics & Transport (CILT) Sir Hudson Fysh Award for meritorious performance in the Masters program with a major in transport or logistics management in 2003 was awarded to Sean Puckett and presented by Ms Dorothy Koukari, Chairman, NSW CILT.

• Australian Institute of Traffic Planning & Management (AITPM) Award for best overall performance in graduate studies with a major in the transport program in 2003 was awarded to John Fernandes and presented by Professor David Hensher.

• The Bus & Coach Association (NSW) prize for a student with the highest grade in the 2003 Certificate of Transport Management program for 2003 was awarded to Kristy Deigan of Deane’s Buslines, Queanbeyan and presented by Mr Darryl Mellish, Executive Director, Bus & Coach Association (BCA).

Mr Paul Forward, Executive Director, RTA presented certificates to the 2003 Advanced Certificate in Transport & Traffic Management students, whilst Mr Darryl Mellish presented certificates to students who completed the 2003 Certificate of Transport Management course.

Awards Recipients for 2003:

-Mr Unsworth presented the ITS prize for excellence to ITS PhD student, John Rose.
Mr Allan Murray, LAA presented the LAA Logistics Prize for outstanding achievement in the logistics program to Edwin Chan.

Mr Len Harper, Executive Director, CILT presented the Ken Hillyar Award for meritorious performance in the Masters program to Nathan Fraser.
Ms Dorothy Koukari, Chairman, NSW CILT and Mr Len Harper, Executive Director, CILT presented the Sir Hudson Fysh Award for meritorious performance in the Masters program to Sean Puckett.

Professor David Hensher presented the AITPM Award for best overall performance in graduate studies with a major in the transport program to John Fernandes.
Mr Darryl Mellish, Executive Director, (BCA) presented the BCA (NSW) prize for a student with the highest grade in the CTM program to Kristy Deigan of Deane’s Buslines.

PhD Student Travel Awards

- John Rose received a Post Graduate Research Support Scheme PhD travel grant of $2000 for travel to Costa Rica in August 2004.
- Wafa Dabbas received a Post Graduate Research Support Scheme PhD travel grant of $1,500 for travel to Wellington, New Zealand for the ‘Towards Sustainable Land Transport’ conference on 21-24 November 2004. The conference was promoted by the NZ Road Controlling Authorities Forum and supported by a wide range of sponsors associated with the transport industry.
Certificate of Recognition

Students who had completed four or more TPTM UoS, had majored in either Transport or Logistics and who had achieved 75% or higher in their overall grade (ie a Distinction average or better) received a Certificate of Recognition as well as a congratulatory letter from the Director, ITS.

**Recipients from 2003 who were awarded a Certificate of Recognition in 2004 were:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms Patthira Pinanong</td>
<td>Thailand</td>
<td>Logistics</td>
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<tr>
<td>Mr Anawat Peng-Udom</td>
<td>Thailand</td>
<td>Logistics</td>
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<tr>
<td>Ms Sirapa Dhanasamsombati</td>
<td>Thailand</td>
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<tr>
<td>Ms Sirirat Srerattanamongkon</td>
<td>Thailand</td>
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<tr>
<td>Ms Zainab Ali Abdullah Al-Balushi</td>
<td>Oman</td>
<td>Logistics</td>
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<tr>
<td>Mr Jean Baptiste-Ferey</td>
<td>France</td>
<td>Transport</td>
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<tr>
<td>Ms Pornvadee Pornmingmast</td>
<td>Thailand</td>
<td>Logistics</td>
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</tbody>
</table>
Certificate programs

Certificate of Transport Management – Bus and Coach (CTM)

Established in conjunction with the Bus and Coach Association (NSW) and the NSW Government, this program has been designed to meet the requirements of accreditation for NSW bus and coach companies operating under the 1990 Passenger Transport Act and enables operators to be accredited for all route bus, coach and tourist vehicle operations.

The program has recently undergone a review and rewrite which has resulted in a more streamlined program and one which, in 2004, reflected the NSW government’s bus reform agenda. As they are implemented, the CTM program material will be updated to take into account these reforms.

CTM topics:

- The operating environment
  - Industry envirnment
  - Institutional settings
  - Record keeping obligations
  - MOT accreditation

- Operations and marketing
  - Performance assessment
  - Knowing your costs
  - SSTS
  - Marketing

- Employment issues & maintenance
  - Employment relations
  - Driver authority & coach operations
  - Maintenance and safety
  - Fleet age & DDA

- Finance and OHS
  - Occupational health and safety
  - Financial management & GST
  - Financial decision making
A total of 29 students attended the 2004 course. This year had smaller numbers than previously, in part due to the uncertainties in the industry during a period of bus reform. We expect the greater certainty in 2005 to lead to an increased number of participants in the CTM. In evaluating the four-day program students made the following comments:

- Professor Hensher’s positive views on the future of the industry
- MOT accreditation presentation very good
- Well informed and interesting lectures
- Overall the course was well balanced and informative
- Lecturers presented their subjects in an interesting and enthusiastic manner which captured my interest
- The entire course has been beneficial
- It is good to have confirmation that what we are doing in our business is correct
- Presenters were well versed in their respective topics

**Certificate of Coach Management (CCM)**

The Institute’s Certificate of Coach Management was also been developed in association with the Bus and Coach Association (NSW) to meet accreditation requirements for the NSW bus and coach companies operating under the 1990 Passenger Transport Act. It has been developed specifically for operators accredited for long distance and tourist vehicle services.

**CCM topics:**

- The operating environment
  - Industry environment
  - MOT accreditation
  - Costing your service
- Operations and marketing
  - Driver authority: process and responsibilities
  - Coach operations: driving hours, VMD
  - Employment relations
  - Marketing
- OHS & maintenance
  - Occupational health and safety
  - Workers compensation
  - Maintenance and safety
  - DDA
- Finance and record keeping
  - Financial management
  - Financial decision making
  - GST
  - Management information systems

During 2004 three programs were offered in February, attracting 62 students (June with 59 enrolments and November with 60 enrolments). The review and rewrite of material which commenced in 2003 was completed by the first of the 2004 CCM programs.
The Institute acknowledges the support it has received from both the Bus and Coach Association, the NSW Ministry of Transport and the team of industry professionals who are not only involved as lecturers in both the Certificate of Coach Management and Certificate of Transport Management programs, but who also undertook the review and rewrite of the lecture material and handbook.

In evaluating the four-day program students made the following comments:

- The overview of accreditation requirements and what my responsibilities are as owner will be of immense help
- Costing your service session (David Hensher) was detailed yet explained in a simple way
- Good, informative presenters
- David Hensher conducted a very good session as he got the audience involved
- Loads of relevant information
- The very informative discussion and Q&A time with Ralph Otto (MOT accreditation)
- Despite the European taxi driver in the front row, who tried to rattle Ralph Otto with his technical questions, Ralph was able to get his message across
- All topics were interesting and informative and most questions were answered and explained well. Barry Nancarrow was very good
- Peter Bell (OH&S) and Geoff Ferris (management information systems) are both very knowledgeable in their areas of expertise and presented their session well
- Adam’s style of presenting the topic was excellent considering accounting is usually a boring subject

**Advanced Certificate in Transport & Traffic Management (ACTTM)**

The second Advanced Certificate in Transport & Traffic Management program designed specifically to meet the needs of staff of the Roads & Traffic Authority attracted 15 students. Of these, 10 completed the course and five withdrew. Whilst some modifications were made to the 2003 program, the format for 2004 was the same and comprised four modules: transport and traffic systems; traffic systems control and management; transport economics, travel choice, demand and valuation; and transport policy, decision making and the environment. Two new lecturers; Dr Stephen Greaves and John Rose were involved in the program for the first time this year, together with Professors Stopher and Hensher.

The 2005 course will be modified to cater for students coming from other transportation areas.
MODULE 1 – TRANSPORT AND TRAFFIC SYSTEMS

This module begins by reviewing and refreshing participant’s skills and knowledge in various aspects of mathematics, probability, and statistics. We then define each of transport systems; passenger and freight transport systems; the transport task; roles and responsibilities in the transport systems of Australia; planning, design, construction, maintenance, and operation of transport systems. We introduce 30 key points of transport systems to illustrate the issues in this module and to set the stage for the subsequent modules. We introduce the basics of traffic analysis: speed, volume, density, capacity, interrelationships among these, and the development of level of service concepts. Issues of traffic flow and shock waves are also introduced. Participants will solve some simple problems relating to traffic analysis.

Duration: 3 days of class time, plus 1 day of tutorials, and 1 day of in-class homework and reading time.

MODULE 2 – TRAFFIC SYSTEMS CONTROL AND MANAGEMENT

This module introduces issues of shock waves, gap acceptance, and the construction and use of time-space diagrams. We introduce the need for control of the transport system; elements of control: lane markings, signs, signals, geometric designs; intersections and intersection problems; vehicle actuated and fixed time signals; signal progression and area control; freeway controls. We introduce the issue of facilities for and accommodation of bicycling and walking. We discuss the need to estimate highway capacity and discuss some of the methods to estimate capacity. We also introduce levels of service for the highway system; AustRoads standards and procedures; vertical and horizontal alignments and impacts on safety and control; traffic calming; high occupancy vehicle lanes; and parking provision. We introduce Intelligent Transport Systems: definition, types, discussion of value and contribution to traffic control and management. Participants will solve some simple problems relating to traffic signal timing, capacity estimation, and level of service.

Duration: 3 ½ days lecture, 1 day of in-class homework and reading, and 1 day of tutorial.

MODULE 3 – TRANSPORT ECONOMICS, TRAVEL CHOICE, DEMAND AND VALUATION

This module introduces concepts in transport economics related to travel demand, traffic forecasts, revenue projections, valuation (e.g., value of travel time savings), trip purposes, time of day issues, etc. for all modes of transport in urban and non-urban settings. We discuss how trip tables are developed for use in traffic planning and forecasting. Key behavioural parameters of the model are discussed. Participants will get hands on experience in the definition of a travel choice problem, data requirements, data preparation, model specification, model estimation (multinomial and nested logit) and model application. We discuss important practical issues such as how to introduce new transport alternatives, how private sector consortia use outputs of behavioural travel demand models in patronage determination and what patronage evidence makes a project bankable. The hands-on travel demand modelling uses a recent data set of choice between existing modes (car, train, bus, busway) and potentially new alternatives (new light rail, extended rail, extended busway) in Sydney.
Duration: 4 days of formal instruction, 1 day of tutorials, 1 day of homework and reading time.

**MODULE 4 – TRANSPORT POLICY, DECISION MAKING, AND THE ENVIRONMENT**

This module introduces transport policy development and the relationship of transport to other sectors of the economy; the nature of decision making and models of decision making; effect of decision making characteristics on technical transport planning and engineering; performance measurement and policy; external policies and their impact on the transport sector. This module will discuss new organisational arrangements for transport, with particular reference to what is currently happening in NSW. Among the policy issues that will be discussed in this module are: investing in additional highway capacity; investing in public transport, including busways, transit lanes, and other special bus options; travel behaviour modification and transport demand management strategies; management of congestion; road user charges and congestion pricing; and issues relating to fuel taxes and alternative fuels.

Duration: 4 days of formal instruction, 1 day of tutorials, 1 day of homework and reading time.
8. PUBLICATIONS

Staff disseminate research and policy work through a wide range of publications from books, journal articles, conference proceedings, working papers and project reports.

_Sbus Executive Committee has awarded Professor David Hensher the Sbus Research Achievement Award for 2003. This is a prize of $2,500._

_“ITS leads the way in publication productivity in the School of Business”_

![Graph showing publication productivity](image)

**Handbooks in Transport (ITS Sydney)**

David Hensher was appointed in 1999 as volume and series editor for a series of Handbooks in Transport with Ken Button (George Mason University) by Elsevier Science Ltd. Six handbooks have been published under the Pergamon and Elsevier imprint over a period of five years. This now completes the series.

Vol 1 – Handbook of *Transport Modelling*, published in 2000;
Vol 5 – Handbook of *Transport Geography and Spatial Systems*, published in 2004;
“The Handbook of Transport Modelling is a superb resource for transport researchers, planners, operators and educators, covering all aspects of transport – demand, costs, performance, valuation – and a wide range of modelling techniques in one comprehensive volume. The editors have called on a group of experienced modellers to report the state-of-the-art of a range of models and their application to passenger and freight transport, across all modes.

“The handbook is a valuable contribution at a time when the need for sound data and rigorous analysis of transport proposals are essential antidotes to projects promoted through hyperbole and/or ideology. Recommended for University libraries, consultants’ offices and government agencies.” – Professor Derek Scrafton, Transport Systems Centre, University of South Australia and former Director General of Transport, South Australia.

“Edited by two of the leading figures in transportation research and dissemination, these handbooks are likely to become the essential reference work in the field. Volume 1 on Transport Modelling contains entries by an impressive range of experts and will be of use both to those new to the field and to established practitioners.”

Dr John Preston, Director, Transport Studies Unit, University of Oxford.

“The Handbook of Logistics and Supply-Chain Management – Logistics and Supply-Chain Management have become key strands of competitive strategy for most leading firms as we enter the new millennium. There has been a growing recognition that without closely integrated logistics and supply-chain strategies it is unlikely that firms will succeed in today’s global marketplace. This book is impressive in its coverage of the field and it addresses many of the key issues that logistics and supply-chain professionals must cope with to achieve and sustain competitive advantage.”

Professor Martin Christopher, Cranfield School of Management.

“Edited by two of the leading figures in transportation research and dissemination, these handbooks are likely to become the essential reference work in the field.”

Dr John Preston, Director, Transport Unit, University of Oxford.

“succeeds remarkably in its aim to provide information that is authoritative, accessible and valuable. ... the editors have done an outstanding job. ... [The contributors are] an impressive array of well-known and highly respected researchers ... a valuable resource for researchers and professionals alike and a “must-buy” for academic and research libraries.”

“The Handbook of Transport Systems and Traffic Control continues the excellence of this Handbook series at bringing its readers up-to-date, readable expositions of significant topics by an impressive collection of authors. The volume demonstrates the power of combining the strengths of social sciences, planning, and engineering to understand transportation as a system. From networks to equity from traffic flow to traffic calming, the individual articles each promise to provide a first-rate introduction and reference, while together giving a comprehensive understanding of how the parts of the transportation system fit together.”

Kenneth A Small, University of California at Irvine, CA, USA.

“Edited by two of the leading figures in transportation research and dissemination, these handbooks are likely to become the essential reference work in the field.”

Dr John Preston, Director, Transport Studies Unit, University of Oxford.

Each chapter in the Handbook of Transport and the Environment was specially commissioned from an acknowledged world expert on its topic. Each offers an overview and useful insights to those familiar with the area as well as those new to it. Systematic and thorough in its creation, current and accessible in its content, and authoritative and international in its authorship, the Handbook of Transport and the Environment will be the definitive reference work on this important subject.

This volume was constructed using a meta-analysis of relevant journal contributions to identify the key themes it would have to address. The outcome was 43 chapters. These chapters cover environmental concepts (physical and economic); key environmental concerns (global warming, air quality, noise, safety, amenity and severance); the role of fuel sources and vehicle technology (including intelligent transport systems) as means of reducing environmental externalities; appraisal, valuation and impacts of externalities; institutional and political settings and policies designed to combat growing environmental concerns; and the role of environmental legislation.

A number of chapters highlight some specific themes that cut across many of the topic areas listed above (for example travel and tourism, gender, public attitudes and greening of the local environment).

Early in the handbook seven chapters overview the contribution of each main transport sector to the consumption of energy and creation of emissions.


Applied Choice Analysis – A Primer. Almost without exception, everything human beings undertake involves a choice. In recent years there has been a growing interest in the development and application of quantitative statistical methods to study choices made by individuals with the purpose of gaining a better understanding both of how choices are made and of forecasting future choice responses. In this primer the authors provide an unintimidating introduction to the main techniques of choice analysis and include detail on themes such as data collection and preparation, model estimation and interpretation and the design of choice experiments. A companion website to the book provides practice data sets and software to estimate the main discrete choice models such as multinomial logit, nested logit and mixed logit. This primer will be an invaluable resource to students as well as of immense value to consultants and professionals, researchers and anyone else interested in choice analysis and modelling.
Refereed Publications:

A1. Books (including edited books) (Refereed)

Published

(L to R) John Rose, Professor Bill Greene (Professor of Economics at Stern School of Business, New York University) with Professor David Hensher during Prof Greene’s visit to ITS in July 2004 to discuss ongoing research in discrete choice modelling.

In Press


B1. Book Chapters (Refereed)

Published


In Press


C1. Journal Articles (Refereed)
Published


Pointer, G, Stopher P & Bullock P ‘Monte Carlo Simulation of Sydney Household Travel Survey Data with Bayesian Updating Using Different Local Sample Sizes’, *Transportation Research Record*, #1870 pp 102-108.


**In Press**


Hensher, DA ‘Revealing differences in behavioural response due to the dimensionality of stated choice designs: an initial assessment’, *Journal of Environmental and Resource Economics*.

Hensher, DA & Puckett, S ‘Refocussing the Modelling of Freight Distribution in Urban Areas: The Role of Supply Chain Alliances in Addressing the Challenge of Traffic Congestion for City Logistics’, *Transportation*.

Hensher, DA, Rose, J & Greene, W ‘The Implications on Willingness to Pay Respondents Ignoring Specific Attributes’, *Transportation*.


Ray, PK & Rahman, S ‘Transnational Corporations, Local Adaptation and Inter-firm linkages in Developing Countries: Some Contrasts with local Enterprises in India’, *Transnational Corporations*.


Wilmot, CG & Stopher, PR ‘Transferability of Transportation Planning Data’, *Transportation Research Record*.

Hensher, DA, Shore, N & Train, K ‘Household’s willingness to pay for water service attributes’, *Environmental and Resource Economics*.

Stopher, PR & SP Greaves ‘Data Collection for Current and Future Travel Demand Models: Where are we going?’ *Transportation Research Part A*.

Revised and re-named Houghton, E & Portougal, V ‘Storage Capacity Management in a Dynamic Environment’. Accepted for publication in the September 2005 issue of *Global Business & Economics Review (GBER)*.
D1 Proceedings of Conferences (Refereed)

Published


In Press


Murakami, E, Greaves, SP & Ruiz, T ‘Moving Panel Surveys from Concept to Implementation’, resource paper for the 7th International Steering Committee Travel Survey Conference, Costa Rica, (August).

Stopher, PR, Greaves, SP & Xu, M ‘Using Nationwide Household Travel Data for Simulating Metropolitan Area Household Travel Data’, paper accepted for presentation at the National Household Travel Survey Conference, Washington DC, November, 2004.


Material Completed under Editorial Consideration (Refereed Sources)

Journal Articles


Alsnih, R, Rose, JM & Stopher, PR 2004 ‘Understanding household evacuation decisions using a stated choice survey – Case Study of Bush Fires’
Greene, W, Hensher, DA & Rose, J ‘Accounting for Heterogeneity in the Variance of the Unobserved Effects in Mixed Logit Models’


Hensher, DA & Jones, S ‘Predicting the Financial Distress of Firms: An Assessment of the Performance of Conditional and Unconditional Outcomes within a Mixed Logit Framework’.


Hensher, DA ‘How do Respondents Handle Stated Choice Experiments? – Information processing strategies under varying information load’.

Hensher, DA ‘Competitive Tendering as a Contracting Mechanism for Subsidising Transportation: The Bus Experience’.

Hensher, DA ‘The implications on preference revelation of stated choice design dimensions and respondent information processing strategies’.

Hensher, DA & Jones, S ‘The relevance of advanced choice models in accounting research’.

Hensher, DA, Greene, WH & Rose, JM ‘Deriving WTP estimates from observation-specific parameters using classical inference methods’.


Houghton, E & Portougal, V ‘Optimising capacity cost in batch manufacturing’.

Jones, S & Hensher, DA ‘Predicting Corporate Failure: Do Reported Cash Flows Matter?’


Rahman, S ‘Quality Management in Logistics: A Comparison of Practices between Manufacturing & Retail Companies and Logistics Firms’.

Rose, J & Black I ‘Response time influences on Stated Preference Choice Experiments’ a paper accepted for the European Marketing Academy (EMAC) conference in Spain this year.


Stopher, P, and Collins A ‘Conducting a GPS Prompted Recall Survey over the internet’ accepted for presentation to TRB meeting January 2005, to be reviewed for publication

Stopher, P, Alsnih, R & Ampt E ‘Evaluating Voluntary Travel Behaviour Change Strategies – A case study’ accepted for presentation to TRB meeting January 2005, to be reviewed for publication

Stopher, P, Greaves, S & Xu, M ‘Using Nationwide Household Travel Data for Simulating Metropolitan Area Household Travel Data’ presented to NPTS Conference 2004, under review for Journal of Transportation Statistics

Truong, TP & Hensher, DA ‘A reassessment of the characterisation of congestion on an urban road network – some theoretical suggestions and illustrative experiments’

**Conferences and Conference Proceedings**

Alsnih, R, Rose, JM & Stopher, PR, ‘Dynamic Travel Demand for Emergency Evacuation: The Case of Bushfires’, submitted to the Transportation Research Board


Rose, JM ‘Using Microsoft Excel as an alternative survey instrument: International and Local Perspectives’ and ‘The Design of Stated Choice Experiments: The State of Practice and Future Challenges’ papers presented at the 7th International Conference on Travel Survey Methods, Los Suenos, Costa Rica, (1-6 August).

**Books, Book Chapters, Journal Articles and Conference Papers (in progress)**

Alsnih, R & Hensher, DA ‘Emerging Issues in Understanding the Transport Mobility, Accessibility and Safety Requirements of Seniors’.

Hensher, DA & Alsnih, R ‘An Empirical Profile of the Travel Activity of Ten-Year Cohorts in Sydney’.
Hensher, DA & Fitzgerald, C ‘Elasticities of Demand for Public Transport Fares and Service Levels: A Meta Analysis’.

Hensher, DA & Jones, S ‘Combining Data Sources In The Assessment Of Business Risk’.

Hensher, DA & Jones, S ‘Matched Pair Samples In Financial Distress Assessment: A Critique’.


Hensher, DA ‘Fully integrated Generalised Mixed Logit Accounting for IPS attribute exclusion and WTP in the positive domain’.

Hensher, DA ‘Imposing a signed constraint on a willingness to pay function’.

Hensher, DA, & Alsnih, R ‘Establishing A Context for Investigating the Mobility Needs of Seniors: Focus Groups’.


Hensher, DA, Shore, N & Train, K ‘Willingness to pay for water services’.


Houghton, E & Portougal V ‘Integrating warehouse capacity management and buying policies in catalogue retailing’.

Houghton, E & Portougal V ‘Warehouse operations scheduling’.


Jones, S & Hensher, DA ‘Credit Risk: Quantitative Methods and Analysis’ (A Reference Work).


Rahman, S ‘A taxonomic review of reverse logistics research’.

Rahman, S ‘Integrating Thinking Process and Six Sigma for identification, measurement and improvement of supply chain metrics: A case study’.

Rahman, S ‘Logistics and the Environment’.

Rahman, S ‘Positioning and integration of supply chain and their effect on agility: a structural equation model’.

Rahman, S ‘World class logistics: estimating its influence on environmentally focused logistics practices’.

2004 Annual Report 65
Material Presented to Conferences and other Venues (Non-refereed)


Rose, J & Hensher, DA ‘Accounting for individual specific non-availability of alternatives in respondent’s choice sets in the construction of stated choice experiments’. (Sesqui 2004 grant), International Conference on Survey Methods, Costa Rica, (September).


Alsnih, R ‘Characteristics of Web Based Travel Surveys and Applications in Travel Research’ Resource paper presented at the 7th International Conference on Travel Survey Methods, (1-6 August), Costa Rica.

Stopher, PR, Wilmot, CG, Stecher, C & Alsnih, R ‘Household Travel Surveys: Proposed Standards and Guidelines’ Keynote paper presented at the 7th International Conference on ‘Travel Survey Methods, (1-6 August), Costa Rica.


Jiang, Q presented an abstract titled ‘GPS Applications in Transport Research and Diverse Research Activities in ITS’ for 4th International Conference of Chinese Transportation Professionals, Wu Han, China (15-19 June).

Stopher, PR, Wilmot, CG, Stecher, C & Alsnih, R 2004 ‘Standards for Household Travel Surveys; Proposed Guidelines and Standards’, keynote paper presented at the 7th International Conference of Travel Survey Methods, Costa Rica, (1-6 August).

Other Publications

ITS Working Papers*

All Working Papers may be purchased from ITS. Working Papers from 2002 to current are available without charge as .pdf files from the ITS website (www.its.usyd.edu.au/publications).

**ITS-WP-04-01**

*Information Processing Strategies in Stated Choice Studies: The Implications on Willingness to Pay of Respondents Ignoring Specific Attributes* (Hensher)

**Abstract:**
Individuals processing the information in a stated choice experiment are typically assumed to evaluate each and every attribute offered within and between alternatives and to choose their most preferred alternative. It has always been thought though that some attributes are ignored in this process for many reasons including a coping strategy to handle their perception of the complexity of the choice task. However analysts proceed to estimate discrete choice models as if all attributes have influenced the outcome to some degree. The cognitive processes used to evaluate trade-offs are complex with boundaries often placed on the task to assist the respondent. These boundaries can include adding up attributes (eg components of travel time and cost), prioritising attributes and focussing on the primary influences and ignoring specific attributes. In this paper we investigate the implications of bounding the information processing task by attribute elimination through ignoring one or more attributes. Using a sample of car commuters in Sydney we estimate mixed logit models which assume that all attributes are candidate contributors, and models which assume that certain attributes are ignored (based on supplementary information provided by respondents). We derive individual-respondent parameters using a conditional choice specification of mixed logit, and compare the value of travel time savings distribution under alternative information processing regimes. As expected, assuming that all attributes are not ignored and duly processed, leads to biased estimates of parameters which over-estimate willingness to pay (WTP).

**ITS-WP-04-02**

*Melbourne’s Public Transport Franchising: Lessons for PPPs* (Stanley & Hensher)

**Abstract:**
The paper reviews the recent franchising of public transport services in Melbourne, Australia, to assess the extent to which the objectives of the franchising were achieved. The major franchisee has failed only a short time into the franchise period. Some financial benefits from franchising have been realised, largely at the expense of franchisee shareholders. These savings are not sustainable. Some aspects of service delivery have improved. Overall, however, franchising has fallen well short of government expectations. The paper asks what can be
learnt from this experience to improve future public/private partnerships in public transport. It is critical of the franchising process, in terms of unrealistic expectations and an insufficiently critical acceptance of competitive tendering to deliver outcomes. Changes in the nature of the relationship between the regulator and service provider are proposed, to incorporate a stronger planning focus, closer partnership basis and a greater reliance on negotiated contracts, along lines used in some infrastructure PPPs.

**ITS-WP-04-03**

Performance Based Contracts (Hensher & Houghton)

Abstract:

The 90s saw a noticeable growth in the use of competitive tendering as a way of selecting bus operators to deliver a range of services that had previously been supplied by governments, mainly driven by pressures to reduce the budget cost impact of service provision. The focus was typically on minimising costs to government (under the label of cost efficiency), rather than on delivering specific service quality outcomes. Negotiated performance-based contracts (PBCs) have emerged in recent years as an alternative to competitive tendering (CT) in its various guises (including tendered PBCs) as a framework within which the broader economics and social outcomes have moved to centre stage under the labels of value for money and maximising the benefits of government subsidy to society as a whole. This paper, a report from the 8th International Conference on Competition and Ownership of Land Passenger Transport held in Rio de Janeiro in September 2003, details the relative merits of negotiated and tendered PBCs, highlighting the context within which each type of PBC is best positioned to service the broader goals of public transport policy.

**ITS-WP-04-04**

A Review of the Procedures Associated with Devising Emergency Evacuation Plans (Alsnih & Stopher)

Abstract:

The incidence of freak weather and geological events, such as earthquakes and volcanic eruptions, has increased over the past thirty years. Coupled with an increase in the populations located in the path of these natural disasters, the imminent danger posed by naturally occurring phenomena has also risen. Given the potential dangers, it is wise for policy administrators to ensure that appropriate emergency plans are in place that aim to minimize the negative consequences associated with these disasters. Effective emergency planning and management should successfully combine the skills and knowledge of law enforcement agencies, transport planners as well as the knowledge and skills of emergency planning professionals.

In Australia, there has not been a thorough investigation of the emergency impacts on the transport infrastructure nor have emergency plans adequately integrated the transportation aspect. Which transport routes should evacuees and emergency
vehicles use is a question that needs to be answered urgently to avoid situations:

- Where evacuees are trapped in their vehicles,
- When emergency personnel are unable to gain access to the people in need, and
- When emergency vehicles are not able to get onto the road network due to traffic congestion.

Thus in a case of a suburban bush fire (wild fire), a fire that may have been easily extinguished or controlled is left to engulf more bush land and increase in ferocity.

This paper critically assesses the many emergency evacuation models developed and also describes the important information required to devise the models. It is clear, however, that more research needs to be undertaken that specifically investigates the effects of a mass evacuation on current transport networks.

**ITS-WP-04-05**  
*Monte Carlo Simulation of Sydney Household Travel Survey Data with Bayesian Updating using different local sample sizes*  
(Pointer, Stopher & Bullock)

**Abstract:**  
There is increasing interest in the potential to simulate household travel survey data as an alternative to collecting large sample household travel surveys, or as a means to augment sample sizes, well beyond what can usually be considered. In prior research on simulating such data, it has been shown that it is possible to reproduce, within reasonable bounds of accuracy, an actual household travel survey. It has also been found that the procedure of updating the distributions of the simulated variables, using Bayesian updating with subjective priors, can provide significant improvement in the accuracy with which an actual household travel survey can be simulated. In work performed to date, it has not been determined what the optimal size would be for the update sample to be used in the Bayesian updating. Rather, prior work has used a sample of approximately 500 households, largely as a matter of convenience and cost. In this paper, we report on further research that compares different sample sizes for the local update data. It was found that a reasonable updating could be obtained from a sample as small as 300 households, chosen through a stratified sampling procedure, and that results improved substantially when the update sample was increased to 500. However, an increase in the sample to 750 did not produce very much additional improvement, suggesting that sample sizes of this size and larger may not be economically justified. At the same time, the research suggests that there may be room for a more targeted sampling procedure which could allow smaller samples to be more cost-effective.
ITS-WP-04-06

TRESIS (Transport and Environmental Strategy Impact Simulator): Application to a Case Study in NE Sydney (Hensher, Stopher, Bullock & Ton)

Abstract:
This paper presents an integrated microsimulation urban passenger transport model system (TRESIS) for evaluating the impact of a large number of interrelated policy instruments on urban travel behavior and the environment. The model system has four integrated modules defining household location and automobile choices, commuter workplace and commuting travel choices, non-commuting travel activity, and worker distributed work practices. The demand model system, estimated as a set of discrete and continuous choice models, is combined with a set of equilibrating criteria in each of the location, automobile and commuting markets to predict overall demand for passenger travel in various socio-economic segments, automobile classes and geographic locations. The current version has been developed to operate at a high level of aggregation for the Sydney region, comprising a 14-zone system, with a spider-web network, and is designed to explore the impacts of broad strategic directions. The model system is embedded within a decision support system to make it an attractive suite of tools for practitioners. We illustrate the usefulness of TRESIS to a major investment option in Northeast Sydney, to replace a bottleneck opening bridge with either bridge improvements together with improvements to a number of intersections on the roads serving the region, or several possible tunnel options, including different levels of tolls for the tunnels. The application of TRESIS to this case was considered a success, with the model providing useful outputs on the revenue implications of various alternative tolls, the impacts of the proposals on regional travel, and the likely effects on public transport ridership.

ITS-WP-04-07

Monitoring Traffic and Emissions by Floating Car Data (Gühnemann, Schäfer, Thiessenhusen & Wagner)

Abstract:
Intelligent traffic management is widely acknowledged as a means to optimise the utilisation of existing infrastructure capacities. A major requirement for intelligent traffic management is the collection of high quality data on traffic conditions in order to generate accurate real-time traffic information. The approach to be described here generates this information by a fleet of taxis equipped with GPS which act as Floating-Car-Data (FCD) provider for a number of metropolitan areas. The first part of this paper describes the methodology of setting up this data base. The information collected enables various applications such as real-time traffic monitoring, time-dynamic routing and fleet management. The second part of the paper proposes a framework for using these data additionally to include environmental effects into intelligent traffic management systems. To this end, a mapping
between travel times and traffic flows is proposed. Some challenges related to the computation of emissions from velocity profiles are discussed. Equipped with these ingredients, an environmentally friendly intelligent traffic management might be in reach.

**ITS-WP-04-08**


**Abstract:**
Response rates are used by analysts to assess survey quality: higher response rates are usually desired to reduce the incidence of non-response bias. The response rate is simply defined as the ratio of the number of completed interviews divided by the number of eligible sample units. However, due to the inconsistency of the definition of response rates often quoted in travel surveys, it is difficult to explicitly state that declining response rates are the result of less people willing to participate in surveys or are attributed to the calculation of response rates. It is most likely to be a combination of these two factors.

This paper describes two well known formulas used to calculate response rates; the Council of American Survey Research Organizations (CASRO) formula and the American Association for Public Opinion Research (AAPOR) formula. The real difference between these formulas lies in the estimate of eligible sample units amongst the sample units of unknown eligibility. Through examination of two call history files, the recruitment phase for two household travel surveys, eligibility rate estimates for the sample units of unknown eligibility were calculated and used in the response rate formulas.

It was found that the rates of eligibility for the sample units of unknown eligibility were higher than the eligibility rates for the units of known eligibility. These results were not expected and further confirm that agencies need to treat units of unknown eligibility carefully when calculating response rates.

**ITS-WP-04-09**

*The Design of Stated Choice Experiments: The State of Practice and Future Challenges* (Rose & Bliemer)

**Abstract:**
Since the work of Louviere and Woodworth (1983) and Louviere and Hensher (1983), stated choice (SC) methods have become the dominant data paradigm in the study of behavioural responses of individuals and households as well as other organizations, in fields as diverse as marketing, transport and environmental and health economics, to name but a few. In SC experiments, it is usual for sampled respondents to be asked to choose from amongst a number of labelled or unlabelled alternatives defined on a number of attribute dimensions, each in turn described by pre-specified levels drawn from some underlying experimental design. The choice task is then
repeated a number of times, up to the total number of choice sets being offered over the experiment. Several experimental design strategies are available to the practitioner, however, within the transport literature, it appears that the most common form of experimental design used are orthogonal fractional factorial designs. In this paper we review the properties of such designs, and demonstrate that these properties are unlikely to be retained through to the estimation process. We also discuss an alternative design construction strategy, used to construct statistically optimal designs.

**ITS-WP-04-10**

*Labour Pooling: Impacts on Capacity Planning* (Houghton & Portougal)

**Abstract:**
Cross-training workers to perform multi-skilled jobs is one of the modern trends in job design. As companies engage in downsizing, the remaining workforce is expected to do more and different tasks. This paper presents a formal definition and a practical solution for optimizing the size and cost of the pool of multi-skilled workers for production units operated under batch manufacturing. The pool size is optimized through a search procedure applied separately to just-in-time (JIT) and Level production plans, which are derived from the stones heuristic. The method allows direct calculation of the cost savings from labour pooling. This paper was inspired by consulting in the food industry, where implementation of these results has significantly reduced labour costs.

**ITS-WP-04-11**

*New Technology and Travel Surveys: The Way Forward* (Alsnih)

**Abstract:**
Traditional survey methods are fast reaching their “use by” dates. It is much harder for researchers to contact households through the telephone as a result of call screening and answering machine devices. In relation to face to face interviews, housing estates and buildings are increasingly becoming fenced off and protected by security systems making it virtually impossible for the researcher to enter the premises, if not expected, as well as the fact that more often than not, householders are not available at the time when the survey is being conducted. In addition, the over use of marketing surveys has led people to believe that every survey they are asked to complete is of this type. Together, these difficulties have led to rising item and unit non-response, and consequently, rising unit costs. This is not only a phenomena associated with travel surveys, but rather the entire realm of social science research.

Development of the World Wide Web has had some dramatic impacts on the global environment, in relation to communication, information and research. The development of web based surveys (internet-based or e-mail), is commonly seen as a combative measure to rising costs and the declining
response problem faced by most survey practitioners. Despite the phenomenal uptake of this technology by industry and individuals, some people are still to embrace this new medium. This poses some interesting questions for researchers wanting to utilise this technology to combat low response rates.

One of the major concerns today, in relation to web based surveys, is sample bias. Internet users are usually of higher socio-economic status. In addition, people who have access to the internet are not always certain of their ability to utilise the internet, let alone complete a web based survey. These are important issues that need to be considered if web based surveys are to be used.

**ITS-WP-04-12** Identifying the Influences of Stated Choice Design Dimensionality to Pay for Travel Time Savings (Hensher)

*Abstract:*

This paper explores the influence of the dimensions of stated choice (SC) designs on the value of travel time savings. Utilising principles of experimental design, 16 choice designs are embedded within a global design in which we vary the number of choice sets, the number of alternatives in each choice set, the number of attributes per alternative, the number of levels of each attribute and the range of attribute levels. A mixed logit model is estimated in which design dimensions are interacted with the attribute parameters to explore the influence of these dimensions on willingness to pay (WTP) for travel time savings. The evidence in the context of a sample of respondents in Sydney choosing amongst trip attribute bundles for their car commuting trip suggests that design dimensionality does influence variations in WTP; with higher overall mean values of travel time savings associated with more complex designs (in terms of the number of items to process). Given evidence external to the SC design that most individuals tend to add up the components of travel time in processing bundles of attributes, we interacted aggregate travel time with a choice complexity index as a more general test of the directional impact on VTTS due to the net effect of all positive and negative design influences. The prior finding was confirmed. Importantly, the evidence should not be taken to suggest that simpler designs (i.e., less items) are preferred, but rather that individuals process the information in SC designs in ways that appear to support at least two hypotheses, one related to coping strategies and the other related to behavioural relevance. We recommend, however, that the selection of the design specifications (e.g., relevant attributes and their range) should be guided by, at least, the specific application setting.
ITS-WP-04-13  The Knowledge Management Gap In Australian Public Transport (Currie)

Abstract: The development and sharing of knowledge is an essential part of any business particularly one as complex as the public transport industry. This paper suggests there are problems in the way knowledge is developed and shared within the Australian public transport industry. It shows that knowledge sharing is limited due to the lack of centralised coordination and distribution of information. It also highlights weakness with how knowledge is developed. Most knowledge development is restricted to state based, mainly government, operators and their consultants. Knowledge development and sharing is very limited for these groups who emphasise shorter term operating issues and commercial objectives. The paper shows how other Australian industries such as Austroads have a coordinated program of knowledge development and sharing. It also shows how the Australian public transport industry is lagging behind the rest of the world in this area. The implications for the Australian public transport industry are identified and a model for addressing the problem suggested.

ITS-WP-04-14  How do Respondents Handle Stated Choice Experiments? – Information Processing Strategies under Varying Information Load (Hensher)

Abstract: The popularity of stated choice (SC) experiments has spurned a large number of design strategies within which to study choice behaviour. When the amount of information provided increases, we often wonder how an individual handles such information in making a choice. Defining the amount of information (or ‘complexity’) as the product of the number of attributes and number of alternatives associated with each choice set, we investigate how this information is processed as we vary the amount of information. Four ordered heterogeneous logit and mixed logit models are developed, each for a fixed–attribute design, in which the dependent variable is the difference between the maximum (fixed) number of attributes in the design and the actual number that were maintained by the respondent in their information processing strategy (IPS). We have found that individuals adopt a range of ‘coping’ or editing strategies that are consistent with how we normally process information in real markets. Importantly, we should not argue that more information is necessarily undesirable; indeed such information may be necessary to give meaning (i.e., relevancy) to a choice context even if an individual invokes an IPS that involves excluding specific attributes and even aggregating them. That is, individuals invoke procedural strategies in the form of rules that they draw on as useful devices to process information in real or hypothetical markets. Indeed aggregating does not imply that we should provide the aggregated attribute in the design, but rather that this information is often useful (it
is not ignored), and a respondent prefers to be aware of it and add it up in the processing of the SC experiment. This should not be seen necessarily as cognitive burden – indeed limited information may in itself be especially burdensome where it is an incomplete representation of the attribute space that matters to an individual. The evidence suggests that aligning ‘choice complexity’ with the amount of information to process is misleading. Relevancy is what matters.

**ITS-WP-04-15**  
*Freight Distribution in Urban Areas: The Role of Supply Chain Alliances in Addressing the Challenge of Traffic Congestion for City Logistics* (Hensher & Puckett)

**Abstract:**  
The distribution of freight is a major contributor to the levels of traffic congestion in cities, yet it is much neglected in the research and planning activities of government, where the focus is disproportionately on passenger vehicle movements. Despite the recent recognition of the contribution of freight transportation to the performance of urban areas under the rubric of *city logistics*, we see a void in the study of how the stakeholders in the supply chain associated with the distribution of goods (whose destination is an urban location) might cooperate through participation in distribution networks, to reduce the costs associated with traffic congestion. Given that transport costs are typically over 45% of all distribution costs, with congestion contributing a substantial amount of cost in the urban setting, the importance of establishing ways in which supply chain partnerships might aid in reducing the levels of freight vehicle movements in urban areas has much merit. This paper sets out a framework to investigate how agents in the supply chain might interact more effectively to reduce their costs of urban freight distribution. We propose an interactive agency choice method as a way of formalising a framework for studying the preferences of participants in the supply chain to support specific policy initiatives. Such a framework is a powerful way of investigating the behavioural response of each agent to many policies including congestion pricing as a way of improving the efficient flow of traffic in cities.

**ITS-WP-04-16**  
*Dynamic Travel Demand for Emergency Evacuation: The Case of Bushfires* (Stopher, Rose & Alsnih)

**Abstract:**  
There are two types of emergencies; those which can be anticipated and those that cannot. Among those that can be anticipated are such events as cyclones, floods, bush fires, and tsunamis. When such events are anticipated, one course of action that may be taken is the evacuation of residents from a threatened area. When evacuation takes place, there often remains a need to provide access for emergency vehicles and personnel to the threatened area creating a conflict between the needs to maximise capacity for evacuation, while continuing to provide access to the threatened area. Relatively little is known
about when residents will decide to evacuate. A model of evacuation behaviour is needed that would predict the proportions of the population that would leave within certain time periods, thus leading to the development of an evacuation travel demand model. Under a contract from Emergency Management Australia, the authors developed a method to predict evacuation decisions by residents from bush fires. This paper describes the methods used to determine when a household would evacuate, and describes the resulting model that predicts how many partial and full evacuations will take place by time period from when the emergency is first perceived.

**ITS-WP-04-17**

_Evaluating Voluntary Travel Behaviour Interventions_ (Stopher, Alsnih, Bullock & Ampt)

**Abstract:**

Considerable interest in the policy of voluntary travel behaviour change interventions, known as by the generic name of TravelSmart®, has emerged. Measuring its effectiveness and determining its cost-benefit ratios is a major issue. Several difficulties arise in this process. First, it requires both a before and an after survey, sufficiently far apart to detect stable change in household travel behaviour. Second, it requires estimates of numbers of trips and activities, distance travelled by mode, time spent travelling by mode, and the modes of travel used. These are poorly reported in household travel surveys, introducing serious potentials for error in evaluation. Third, are issues relating to sample sizes to detect changes of the order of 5 to 10 percent in various travel behaviours, with acceptable accuracy. After discussing these issues in some detail, we describe a potential survey process, using GPS devices, that can overcome a number of the problems. We describe the information that can be obtained through the GPS and its associated prompted recall survey, demonstrating some of the benefits associated with this procedure. We conclude that evaluation is a significant issue that requires substantial funding to be done effectively, but that the GPS survey offers a high level of reliability in the information obtained.

**ITS-WP-04-18**

_GPS Surveys and the Internet_ (Stopher, Collins & Bullock)

**Abstract:**

ITS has been pioneering the use of GPS to provide more accurate data on where and when people travel, their routes, travel distance, and travel time. GPS provides no information on the number of people travelling together, trip purposes, and travel costs. ITS has pioneered the development of a method of collecting this additional information called the prompted recall survey, designed to be conducted some days after the GPS data are collected, using maps and tabular presentations from the GPS records to prompt the respondent’s memory. We describe these surveys and document some of the results. As an improvement on the paper and pencil version, we developed an
internet-based survey. This provides animation of each GPS trip, and gives respondents the ability to stop the trip part way through to indicate a trip end that the analysis of the GPS data had not detected, to restart the trip, and to indicate that a stop was only a traffic stop, not a destination. The paper describes the animation, shows the types of data that can be collected, and describes the advantages offered. Some examples are provided of the results of people using the prompted recall survey version.

**ITS-WP-04-19**

*Standards for Household Travel Surveys – Some Proposals*  
(Stopher & Alsnih)

**Abstract:**

Rising costs of household travel surveys and the critical need for good quality data, has led to questions about how best to obtain a quality survey that provides data comparable to other household travel surveys. To provide answers to these questions, the U.S. National Cooperative Highway Research Program sponsored development and recommendations of standards for household travel surveys. After reviewing briefly the state of practice of standards for surveys, a number of proposed standards are outlined. These proposals have been developed in the U.S. context, but offer potential for other countries, e.g., Australia, and New Zealand. A number of potential standards are discussed in the paper. The first are concerned with the initial design phases of a survey. The second are concerned with instrument design and the third with survey methodology. The fourth relate to non-response and the final to the analysis of survey results. Illustrations are provided of the consequences of not having standards and the difficulties and loss of quality that have arisen in past surveys. It is concluded that household travel survey quality could be enhanced significantly by adopting standards in all of the areas discussed in this paper.

**ITS-WP-04-20**

*Sample Size Requirements for Measuring a Change in Behaviour*  
(Stopher & Greaves)

**Abstract:**

Before and after surveys are designed to detect a change in travel-behaviour following an intervention policy, such as a travel-modification program. Longitudinal panel surveys are the preferred method for detecting such changes, because the variance of the difference between the before and after surveys is substantially reduced, enabling changes to be detected with smaller sample sizes than if a repeated cross-sectional survey is used. A key issue concerns the size of sample required to be able to generalise the Panel results to the population; that is to state, with 95% confidence that if there is a ?% change in behaviour for the sample, there is a ?%± e% change in the behaviour of the population, where e is the sampling error. In this paper we present the rationale for an alternative formulation and demonstrate its applicability both
hypothetically and then empirically using data from the Puget Sound Transportation Panel. The results have important ramifications both for those implementing future behaviour change programs and those interpreting the results reported in previous studies.

**ITS-WP-04-21**  

**Abstract:**
Most surveys using GPS devices to collect data have focused on the device and its effectiveness for collecting reliable and accurate data. Another dimension to be considered with this form of data collection is whether the people who consent to carry the GPS devices differ from those who do not. Using active or passive GPS devices for data collection entails some degree of respondent burden. Even a passive device, must be carried by the respondent and be kept charged as necessary. In this paper, we test the hypothesis that there are statistically significant differences between GPS participants and non-participants and consider whether differences may introduce response bias to the GPS survey. The data are from the ongoing Sydney HTS and an associated project comparing the quality of personal travel data collected through the HTS with data collected through the use of GPS devices. Because the participants in the GPS study were recruited from those who already agreed to participate in the HTS, sociodemographic characteristics of both participants and non-participants are available. Identifying potential response bias will assist in developing specialised programs to encourage participation of those most likely to refuse, raising the response rate, and reducing the response bias.

**ITS-WP-04-22**  
*The use of third party logistics services by large Australian manufacturers: current status and trends* (Rahman, Barber & Ray)

**Abstract:**
Based on a revised questionnaire developed originally by Lieb (1992), an empirical research was conducted to investigate the use of third-party logistics (TPL) services by large manufacturing companies in Australia. Using a sample drawn from Australia’s Top 500 companies, the study examined the extent to which TPL services used, the type of logistics services used, the impact of the use of TPL services on customer satisfaction, costs and employee morale of the user companies. The results revealed that about two-thirds of the companies who have responded use TPL services from one or more TPL providers, and over 85% of the companies were satisfied with the services provided by the TPL service providers. The results also indicated that the most frequently used logistics functions were warehouse management, order fulfillment and fleet management.
Project Reports


9. INDUSTRY PARTICIPATION

Participation in External Conferences, Workshops and Seminars

- David Hensher was invited by Macquarie Bank Investment Banking Group and the Connect East consortium (with Thiess) to give seven talks in Melbourne on stated choice methods and Value of travel time savings. Each of the talks was with a different bank as part of promoting the methods to banks in developing models to forecast patronage on toll roads. Presentations were made to Bank of Scotland, National Australia Bank, Commonwealth Bank, ABN Amro, Societe Generale, United Overseas Banking Group, and KBC (7-8 January).

- Shams Rahman addressed issues such as reverse logistics as a profitable and sustainable business strategy at the Logistics Association Australia dinner meeting (21 April).

- Peter Stopher gave a talk at the Traffic & Transport Engineering/Planning Education Workshop for the AITPM NSW Education Seminar, UTS (May).

- David Hensher gave a talk at the 2004 National PT Summit, Coffs Harbour – Title: Carrots and Sticks – Attracting Outer Suburban Residents ‘back’ to public transport. What might have happened if PT provision preceded land development? Can it still happen anyway? (17-18 May).

- Peter Stopher addressed the NSW Branch of the AITPM at the University of Technology Sydney, ‘Education and the Profession’. The workshop identified areas where further courses / subjects were required to allow traffic engineers and transport planners the necessary education to deal with the problems facing Sydney. Group discussion on the differing roles / skills required by our industry in local government, state government and the private sector. AITPM Public Affairs Manager, David Brown, facilitated the meeting (18 May).

- Qingjian Jiang is a committee member of the 4th International Conference of Chinese Transportation Professionals (ICCTP-2004) and chaired one of the discussion sections at the conference which was held at Wu Han, the capital city of Hu Bei province, China. The organizers were Wu Han University of Technology and the North America Chinese Overseas Transportation Association (NACOTA) (15-19 June).

- David Hensher gave a talk at the Building and Retaining Public Transport Patronage – Transport Seminar, Booz Allen and Hamilton (30 June)

- David Hensher gave a video conference on ‘Using Values of Travel Time Savings for Toll Roads: Avoiding some common errors’ at the AC21 –
Sustainable Transport in Sustainable Cities conference, the Warren Centre Conference, Seymour Centre, Sydney (July).

- David Hensher & Sean Puckett attended a working lunch hosted by the Australian Road Federation to discuss Sydney’s road infrastructure and possible technological and funding strategies, ‘Sydney’s Roads – Heading in the Right Direction?’ In addition David Hensher gave a talk on Pricing Strategies, Darling Park, Sydney (August). See http://www.aroadf.com.au/syd%20lunch.htm

- Peter Stopher was elected as the co-chair of the 7th International Conference on Travel Survey Methods, which is to be held in Costa Rica. In connection with this, Peter visited Costa Rica at the end of July, together with co-chair Cheryl Stecher and Local Organising Committee Chair Carlos Arce, to inspect possible sites for the conference and to kick off preliminary planning for the conference, (August).

- David Hensher was the session chair at the Session 35 Transport Economics seminar at The University of Sydney. He also presented a paper ‘How do Respondents Handle Stated Choice Experiments? – Information processing strategies under varying information load’ (28 September).

- Peter Stopher chaired one of the sessions at the 27th Annual Meeting of the Australasian Transport Research Forum in Adelaide (28 September -1 October).

- Melody Hsiao attended a seminar ‘Promote Business Global Logistics Management to Enhance Global Competitive Advantage: The case of Netherland’, Taiwan Association of Logistics Management (13-14 October).


- Stopher, P attended the 27th Annual Meeting of the Australasian Transport Research Forum in Adelaide from September 28 to October 1. He participated in the presentation of five papers to the Forum, along with co-authors Stephen Greaves, Andrew Collins, and Renee Hawkins of Hunter Valley Research Foundation.

- Jones, S presented a paper ‘Modelling Corporate Failure: A Multinomial Nested Logit Analysis for Unordered Outcomes’ written jointly with Hensher, DA and presented at the Discipline’s seminar series (October).
ITS Sydney – Inhouse Seminars

ITS-S-04-01

Dynamic traffic modelling and road pricing on motorway networks
Professor Michiel Bliemer, Delft University of Technology, The Netherlands
ITS-Sydney Visiting Professor

Abstract: Using dynamic traffic assignment models, we are able to forecast travellers’ behaviour on networks for long-term planning purposes. These models consist of two main parts, namely a traffic simulator describing the congestion effects and delays, and a route choice (and departure time choice) model. This model framework can also be used to predict effects of dynamic road pricing measures. Using game theory and bi-level optimisation, first-best and second-best road pricing schemes can be analysed and optimised. In the presentation, the components of the developed network model INDY will be described, some specific areas of application will be mentioned, and the road pricing study currently conducted in The Netherlands will be discussed.

Presentation can be found at:
(Includes the Presentation – Video 1 – Video 2 – Video 3)

Date: 26 February 2004

ITS-S-04-02

Effect of sample sizes in stated choice experiments for estimating multinomial logit models
Professor Michiel Bliemer, Delft University of Technology, The Netherlands
ITS-Sydney Visiting Professor

Abstract: After designing a stated choice experiment, one has to determine how many respondents one needs for obtaining sufficiently accurate model parameter estimates. This question hardly received any attention in the literature, usually a lucky guess or budget reasons are used for determining the number of respondents. In the presentation we will focus on the widely used multinomial logit (MNL) model and present preliminary findings on the effect of the sample size on the asymptotic efficiency of parameter estimates. In total more than 30 different stated choice experiments – with different combinations of the number of alternatives, attributes, and attribute levels – have been analysed in a Monte Carlo setup, and the final aim will be to provide general guidelines for the number of respondents needed for a given stated choice experiment. Also some preliminary results regarding the effect of the range of the attribute levels and non-orthogonality in the data set will be discussed.

Date: 22 March 2004

ITS-S-04-03

Induced Technical Change and Climate Control Policy
Dr Truong Truong, Senior Lecturer, School of Economics, University of NSW
ITS-Sydney Visiting Fellow
Abstract: Technological change plays an important role in climate control policies. To constrain climate change, emissions from the usage of fossil fuels must be reduced. This can come about partly from an improvement in energy efficiency but beyond a certain limit, significant reductions in emissions can only be achieved if there are significant shifts away from carbon-based to carbon-free fuels. Such a shift will happen only if there are technological advances in the use of efficient technologies and cleaner fuels. How and when such technological advances can come about depends on the workings of two competing forces. On the one hand, the long term benefit of cleaner activities will encourage more investment towards the development of clean technologies, but on the other hand, the short term costs of stringent climate control policies may discourage such investment. Understanding the relative strengths of these two competing forces is important for the design of optimal climate control policies. In this paper, a model which is used to analyse these two competing effects is described, and the results from an experiment using this model will be discussed.

Date: 27 April 2004

A Critical Review of Intercity Freight Forecasting Models in the US
Professor Alan Horowitz, Professor of Civil Engineering, University of Wisconsin
ITS-Sydney Visiting Professor

Abstract: Governmental planning agencies in the United States have begun to recognize the need for better intercity freight forecasting models for developing and managing transportation infrastructure. A recent review of all intercity freight forecasting models by public agencies in the US (performed for the National Cooperative Highway Research Program) revealed a wide variety of approaches and data sources. A dominant paradigm has not emerged. Many of the models are conveniently derived from the methods of passenger travel forecasting and do not necessarily reflect current thinking about carrier or shipper behaviors. Three prevalent styles of intercity freight forecasting in the US are critiqued and future avenues for model improvement are suggested.

Date: 4 May 2004

AUSTRANS – The Smart People Mover – for Today
Piers Brogan, Commercialisation Manager, Bishop Austrans

Abstract: A short video will be played initially which describes the key components of the Austrans system and how it can provide a new 21st century public transport solution to compliment the existing heritage modes. The presentation then illustrates the broad financial attributes of Austrans; the very significant passenger benefits; and its outstanding environmental credentials. The presentation then focuses on a series of real life case studies where Austrans is compared with a city rail service; a light modern rail application; and a busway or transitway. The comparisons cover financial, passenger benefits and environmental performance. The presentation concludes with a brief discussion of the way forward for Austrans.

Presentation – Video 1 – Video 2 – Video 3 can be found at:
How do Respondents Handle Stated Choice Experiments? – Information processing strategies under varying information load

Professor David Hensher, Professor of Management, Director

ITS-Sydney

Abstract: The popularity of stated choice (SC) experiments has spurned a large number of design strategies in which researchers use increasingly more ‘complex’ choice settings within which to study choice behaviour. When the amount of information provided increases, we often wonder how an individual handles such information in making a choice. Defining the amount of information (or ‘complexity’) as the product of the number of attributes and number of alternatives associated with each choice set (or treatment), we investigate how this information is processed as we vary the amount of information. Four ordered heterogeneous logit and mixed logit models are developed, each for a fixed–attribute design, in which the dependent variable is the difference between the maximum (fixed) number of attributes in the design and the actual number that were maintained by the respondent in their information processing strategy (IPS). Potential influences are the dimensionality of the SC experiment (i.e. number of levels of each attribute, numerical range of these levels, the number of alternatives, the number of choice sets), the deviation of the design attribute levels from the reference (or overtly experienced) alternative, the use of ‘adding up’ attributes where this is feasible (e.g. travel time components) and other contextual effects such as the socioeconomics characteristics of the respondent. We have found that individuals adopt a range of ‘coping’ strategies that are consistent with how we normally process information in real markets. Importantly we should not argue that more information is necessarily undesirable; indeed such information may be necessary to give meaning (i.e. relevancy) to a choice context even if an individual invokes an IPS that involves excluding specific attributes and even aggregating them. Indeed aggregating does not imply that we should provide the aggregated attribute in the design but rather that this information is often useful (it is not ignored), and a respondent prefers to be aware of it and add it up in the processing of the SC experiment. This should not be seen as necessarily cognitive burden – indeed limited information may in itself be especially burdensome where it is an incomplete representation of the attribute space that matters to an individual. The evidence suggests that aligning ‘choice complexity’ with the amount of information to process is misleading. Relevancy is what matters.

Date: 1 June 2004

Field Robotics Automation – GPS/INS Navigation

Professor Eduardo M. Nebot, Australian Centre for Robotics

Abstract (not available)

Date: 8 June 2004
Markov Chain Monte Carlo Methods (MCMC) and the Gibbs Sampler for solving Bayesian statistical modelling problems.

Dr Simon Washington, Associate Professor of Engineering, University of Arizona

Abstract (not available)

Date: 24 June 2004

Airfreight Market Overview and Challenges for Intercontinental Freighter Operators

Mr Frederic Horst, Lecturer in International Freight Transport

ITS-Sydney

Abstract: International airfreight remains concentrated around and between major gateways in North and Southeast Asia, North America and Western Europe. All other markets, including Australia, are small in the “grand scheme” of things. Nevertheless, small markets can generate interesting business opportunities for network based freighter operators. This seminar discusses the structure of the worldwide air cargo market, as well as examining some of the critical success factors of profitable intercontinental freighter operations.

Date: 14 July 2004

What you measure is not necessarily what you get! The mediating role of socialization in strategic buyer/supplier relationships

Professor Paul Cousins, Chair in Management (Operations Management), CIPS Professor of Strategic Supply Management, Head of Supply Chain, Innovation & Policy Research Group, The Queen’s University of Belfast

Abstract: This paper conceptualises and empirically examines the impact of performance measures and socialization mechanisms on the achievement of shared performance outcomes within strategic buyer-supplier relationships. Prior research has pointed to the importance of using performance measures to manage supplier relationships. However, we argue that inter-organizational socialization mechanisms, which establish communication channels and facilitate information sharing, may play an important role in mediating the relationship between performance measures and shared performance outcomes. A structural equation model, using a sample of 142 manufacturing firms based in the United Kingdom, indicates that socialization mechanisms fully mediate the effects of operational-based performance measures on shared performance outcomes. Socialization was not, however, found to be a mediating variable for communication-based performance measures. Managerial implications and future research directions are discussed.

Date: 17 August 2004
Modelling of Emergency Evacuation of Transportation Networks

Professor Essam Radwan, Professor and Chair of Department of Civil and Environmental Engineering, Executive Director, Center for Advanced Transportation Systems Simulation
University of Central Florida
ITS-Sydney Visiting Professor

Abstract: Emergency situations can require a regional ability to move large numbers of people in a safe and timely manner. A region’s evacuation strategy encompasses a variety of areas and needs, many of these interdependent and interrelated. The main objective of this research project is to examine the policies, procedures, and components that affect and are affected by emergency evacuation events. Tasks outlined for this study include: thoroughly review the literature for past studies, identify available transportation evacuation models that are in the public domain, formulate the framework for emergency evacuation, and test the proposed framework on a selected site in the central Florida region.

Thorough evaluation of the literature revealed that most emergency evacuation models adopt a loading curve for the transportation network that follows an “S” curve. Published studies on human behavior lacked the data to support this assumption about the “S” curve and it appears that there is a need to carry out further investigations on this subject. Further investigation showed that top level optimization algorithms are limited in scope and there is room for improvement to these models. A scoring system may be used to identify areas with highest priority for evacuation. A GIS system supplemented by contour line mapping can be used to identify traffic bottlenecks downstream of an evacuation route. By addressing these problem points first a smoother evacuation process may be developed that will reduce network clearance time.

Two separate tools and techniques for evaluating and improving evacuation planning for regions and situations are being assessed. The proposed framework will be tested on the City of Daytona Beach, a major coastal metropolitan area that is subject to a variety of threats, including hurricanes.

Date: 7 September 2004

Evaluating TravelSmart Initiatives in both the Short and Long Term

Professor Peter Stephe, Professor of Transport Planning
ITS-Sydney

Abstract (not available)

Date: 5 October 2004

Development of a Framework for Roadspace Reallocation in Relation to Transit Priority

Dr Majid Sarvi, Lecturer, ITS-Monash

Abstract: The re-allocation of available roadspace to provide priority for transit is increasing at a rapid rate worldwide. The case for re-allocation of roadspace to transit is
clear where service and passenger volumes are substantial. However at lower volumes, the need is less clear since the benefits to transit are small but the impacts on other road traffic large. This work summarises the major elements of a research project aimed at defining a balanced framework for road space reallocation in relation to transit priority. The framework aims to clarify the trade-offs required in developing transit priority systems in a range of traffic circumstances and to provide a balanced allocation of road space based on the full range of impacts. In particular, the approach focuses on people travel and not vehicle travel. It utilizes advanced traffic micro-simulation approaches to better understand the on-road operational implications of alternative transit priority measures and develops a social cost benefit analysis framework to comprehensively value the benefits and costs of priority measures to transit and traffic travellers. The impacts on general road congestion and wider environmental, economic and social impacts are considered.

Paper can be found at: http://www.its.usyd.edu.au/seminars/presentations/majids.pdf
Date: 19 October 2004

ITS-S-04-14
Travel Choices and the Risk of Exposure to Toxic Airborne Particulate Matter
Dr Stephen Greaves – Senior Lecturer in Transport
ITS-Sydney
Abstract: Increasing international evidence suggests that in the daily time spent travelling (typically one hour) an individual may be exposed to significantly higher levels of toxic airborne particulate matter (PM) than are currently reported from readings taken at ambient fixed site monitors (FSMs). Of particular concern are PM less than 2.5 microns in diameter (known as PM2.5) associated with sources such as diesel smoke and road-dust, which are known to contribute to respiratory disease, cardiovascular disease and (ultimately) premature mortality. Despite this concern, limited empirical evidence exists on the precise nature of the relationships between individual travel choices (transportation mode, departure time, and route), ambient conditions, exposure to PM2.5 and (ultimately) the health ramifications. This has primarily been due to the difficulty of collecting PM2.5 in mobile environments and linking this precisely to travel choices. With this in mind, the seminar begins by reviewing the key factors associated with the production, measurement and impact assessment of particulates. Following this, initial insights are provided from a small, on-going study in which participants are provided with a portable PM2.5 logger linked to a Global Positioning System (GPS) device, while travelling to/from work by various modes and routes. In addition to providing an appealing and low-burden method to collect pollution data, the ability to drill down to particular episodes on a trip (e.g., driving in congested traffic, cycling behind a diesel vehicle) provides valuable information for travellers and policy-makers alike.
Date: 26 October 2004

ITS-S-04-15
The Struggle for Microeconomic Reform in the Private Bus Industry of NSW
Mr Mark Duffy – Director Sustainable Transport Policy, NSW Ministry of Transport.
Abstract (not available)
Prior to this appointment, he held the position of Director, Sustainable Transport in the Ministry. He has also worked as a key consultant to the Ministerial Inquiry into Sustainable Transport (Parry Inquiry) and to Treasury’s Market Implementation Group.
He has also provided consultancy services to TransGrid and Frontier Economics. Mr Duffy is a member of the Rail infrastructure Corporation, Trustee on the First State Superannuation Board and a former Board member of Pacific Power and the State-Compensation Board. He was Chief Policy Adviser and Joint Chief of Staff to Treasurer Michael Egan from March 1995 – April 1998.

**Date:** 16 November 2004

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**ITS-S-04-16**

**Transportation Shipment / Lane Network Sharing and Pricing: A Review of Models and Open Problems**

**Dr Miguel Andres Figliozzi** – Lecturer in Logistics Management

**ITS-Sydney**

**Tuesday 30 November**

**Abstract:** Effective collaboration and information sharing is a clear way to build more efficient supply chains and cut down on logistics costs. Recent technological advances are enabling new procurement structures to better match shipments (transportation demand) and carriers (transportation supply). The availability of improved information and communication technology also allows greater integration and collaboration among shippers, carriers, and shippers/carriers. This talk will review allocation models and issues regarding network sharing/pricing agreements (including auctions).

Dr Miguel Andres Figliozzi joined ITS in June 2004. Miguel holds a PhD from University of Maryland College Park. His research has been recently awarded by the prestigious INFORMS Transportation Science and Logistics dissertation committee. He has pioneered the study of sequential auctions in transportation and has published in the area of transportation auctions, real-time vehicle routing, and international freight transportation.

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**PhD Presentations:**

Each Doctoral student must present a seminar each year as part of the progress review of their research program. Seminars are chaired by each student’s PhD supervisor.

**Tuesday 6 July 2004 – Alejandra Efron**


**Tuesday 27 July – Geoffrey Clifton**

The Influence of Frequency & Connectivity in Growing Bus Patronage: Application to Strategic Corridors in Sydney

**Tuesday 24 August – Melody Hsiao**

Impact of Buyer-Supplier Cooperation and Decision-Making Uncertainty on Retail Supply Chain Performance: A Structural Equation Model

**Tuesday 14 September – John Rose**

Discrete Choice Modelling & Stated Preference Experimental Designs
Tuesday 12 October – Jaafar Zamhari
Strategic Alliances in the Airline Industry

Tuesday 2 November – Wafa Dabbas
Modelling Vehicle Pollutants Interdependencies: An Urban Air Quality Perspective

Tuesday 23 November – Qingjian Jiang
Evaluation of Validity of Minimum Travel Time Path Method in Route Choice Using GPS Technology

Tuesday 7 December – Sean Puckett
Inter-Agent Decision Making in Urban Supply Chains: Estimating Joint Preferences & the Impacts of Congestion Charging

Tuesday 14 December – Stefan Mabit (visiting international student from Denmark)
Does estimating the Value of Travel Time Savings (VTTS) on car driver Stated Preference (SP) observations cause sample selection bias?

Media and Meetings

- Shams Rahman appeared in The Independent, ‘Victoria University holds seminar’. The Victoria University of Australia organised a seminar at its Dhaka Study Centre. (15 January).

- Shams Rahman appeared in the Bangladesh Observer ‘Better in-process cost control emphasised’. Dr Rahman gave the keynote speech at a seminar on ‘Impact of recent security measures on international supply chains’ which was organised by the Victoria University, Melbourne and held in Bangladesh. (15 January).

![Dr Shams Rahman at the Victoria University of Technology 12 January 2004](image-url)
• David Hensher met with Barry Unsworth and Bill Grant to discuss reform of the bus industry in NSW (22 January).

• David Hensher, John Rose, Sean Puckett, Geoffrey Clifton, Alejandra Efron and Professor Mike Bliemer (Visiting Academic from Holland) met with Vic Adamowicz (University of Alberta, Canada) (9 February).

• David Hensher was interviewed by Jackie May, Producer – Earthbeat, ABC Radio National to discuss the 1st year of operation of the London congestion charge & how environmental factors had been considered in the analysis, and whether there was a place for traffic taxing in cities here & whether current transport policy in states like NSW is encouraging more rather than less car use. (1 March).

• David Hensher was interviewed by Alexandra Smith, SMH, “Road traffic to and from the airport when incoming/outgoing flights occur” (23 March).

• David Hensher was interviewed by Ben Sandilands, AFR, on “The second or alternative airport prospects of Australian cities and Surface Transport” (1 April).

• Peter Stopher was interviewed by Alexandra Smith, SMH, “Can’t wait to get on the road again ... on my own if you don’t mind” (7 July).

• David Hensher was interviewed by Joseph Kerr, SMH, on “Bus Reform” (14 July).

• David Hensher met with Becky Dan, a visiting US student interested in the impact of the Sydney Olympics (16 July).

• Peter Stopher was interviewed by Alexandra Smith, SMH, “Love your traffic jam,... it's progress” (2 August).

• David Hensher was quoted in the SMH ‘Humbled Carr apologises to angry commuters’ Anne Davies and Alexandra Smith (11 November).

• David Hensher & Peter Stopher met with Dan Brand, a Principal with Charles River Associates (CRA) in Boston, Massachusetts. Dan is a travel-demand modeller, who has been working in the field since mid 1960s and has published quite extensively in the field (15 November).

• David Hensher & Stephen Greaves met with Paul Gibson, MP Chairman, for the public hearing of the STAYSAFE Committee at Parliament House, to examine matters arising from the inquiry into road safety administration in New South Wales (22 November).

• David Hensher appeared live on the ‘Sunrise’ program Channel 7, and discussed Sydney’s transport problems (2 December).

• David Hensher was quoted in the Newcastle Herald ‘Buses for trains in corridor proposed’ by Melissa Chan (3 December).
Other

10. INDUSTRY LINKAGES

Other activities by ITS which contribute to industry and community linkages include positions in conference organisations, international committees and editorial positions, as well as overseas visits and public lecture series.

- Peter Stopher attended the 83rd Annual Meeting of the Transportation Research Board in Washington, DC from 11-15 January. During the meeting, he presented three papers in formal sessions, entitled “Monte Carlo Simulation of Sydney Household Travel Survey Data with Bayesian Updating Using Different Local Sample Sizes”; “TRESIS: Application to a Case Study in NE Sydney”, and “A Review of the Procedures Associated with Devising Emergency Evacuation Plans”. In addition, Professor Stopher made two presentations in committee meetings, one on “A Decision Support System for Bushfire Evacuation” and the other on “Standards for Personal Travel Surveys”. (January).

- David Hensher and Geoffrey Clifton met with representatives of Busways and the BCA (14 January).

- Professor Vic Adamowicz, University of Alberta (Canada) visited ITS and met with David Hensher, John Rose, Sean Puckett and Geoffrey Clifton. (February).

- Miguel Figliozzi met with the Dean of the Economics Department, Embassy of Mexico, Port of Manzanillo to discuss an overview of the Mexican Logistics Industry, focusing on the development of the Port of Manzanillo, Mexico’s Gateway to the Pacific. An opportunity to identify potential suppliers, partners and investment opportunities in Australia’s largest trade partner in Latin America. (27 May).

- Peter Stopher attended the mid-year meeting of the Transportation Research Board Planning and Data Committees in Park City, Utah.

- Miguel Figliozzi, Erne Houghton and Sean Puckett met with Terry Johnston (Business Development Manager) and Tony Davidson (Division Manager Intermodal) of Mannway Intermodal Facilities, Villawood. (21 July).

- Stephen Greaves attended the Land Use and Transport Planning Stakeholder Meeting, Department of Environment and Conservation, to discuss strategies to reduce air pollution. The session comprised short presentations and workshops to recommend potential strategies. The outcomes of the meeting will now go forward for consideration at the Clean Air Forum to be held in November. (26 August).

- Stephen Greaves attended the NSW Clean Air Forum. The forum provides the impetus for many of the policy directions, which will be developed with respect to clean air over the next 3 years. (November).

- Peter Stopher has been active in building relationships with RTA (NSW), Department of Transport (SA), Department of Infrastructure (Vic) and Department of Transport (Qld).
Positions

Conference Organisation

• Conference Chair, International Steering Committee for Transport Survey Conferences, International Conference on Transport Survey Quality and Innovation (Stopher).

• Executive and International Chair, 9th International Conference of Competition and Ownership of Land Passenger Transport, Lisbon, Portugal to be held in September 2005 (Hensher).

• Member, Scientific Committee, 25th Australasian Transport Research Forum, Canberra, September (Hensher, Stopher).

• Member, Scientific Committee, 26th Australasian Transport Research Forum, Canberra, September (Greaves, Hensher, Stopher).

• Member, Scientific Committee of the International Association of Travel Behaviour Research Conference 2004.

International Positions

• Member, World Conference on Transport Research Society (Hensher, Stopher)

• Founding member, US Transportation Research Board Committee on Traveller Behaviour and Values (Hensher).

• Member, US Transportation Research Board Committee on Travel Forecasting (Hensher).

• Past President, International Association for Travel Behaviour Research (Hensher).

• Member Emeritus, Transportation Research Board’s Committee on Traveller Behaviour and Values (Stopher).

• Vice Chair, Committee on Planning, American Society of Civil Engineers (Stopher).

• Member, TRB Committee on Survey Methods (Stopher).

• University Representative to the Transportation Research Board for ITS Sydney (Stopher).

• Member Institute of Transportation Engineers (US), (Stopher).

• Member, American Statistical Association (Stopher).
Australian Positions

- Member, Faculty of Economics and Business Executive Committee (Hensher).
- Chair, Graduate Studies Board, Faculty of Economics and Business, The University of Sydney (Hensher).
- Member, School of Business Executive and Research Committee (Hensher).
- Member, The University of Sydney Faculty Restructuring Working Party (Hensher).
- Member, Transport and Population Data Centre, Technical Advisory Committee, NSW (Hensher).
- Member, The University of Sydney Faculty of Economics and Business, Research Committee (Stopher).
- Executive Committee Member, Inland Freight Railway Study (Melbourne to Brisbane) (Hensher).
- Core Member, Faculty Promotions Committee to Professor (Level E), University of Sydney, Central (Hensher).
- Fellow, Australian Institute of Traffic Planning and Management (AITPM) (Hensher).
- Fellow, Chartered Institute of Logistics and Transport (Hensher)

Editorial Positions

- David Hensher is Area Editor of Transport Reviews; and is on the editorial boards of Transport Policy; Transportation; Transportation Research Part A; International Journal of Transport Economics; Transportation Research Part E; Journal of Transport Economics and Policy; Transportation Planning and Technology; Journal of Retail and Consumer Services, Journal of Transport and Statistics and Cooperative Transportation Dynamics (online journal). David is also volume and series editor for Elsevier Handbooks in Transport.
- Peter Stopher is on the Editorial Board of Transport Reviews.
Reviews of Papers

- Staff reviewed papers for a wide range of transport journals and conferences.
- Peter Stopher refereed papers for *Transportation, Transportation Research, Transportation Research Board* and *Transport Review.*

Other Activities

- TRB University Representatives Program. ITS Sydney and ITS Monash have been included in the TRB University Representatives program. This program includes university representatives from the United States, Canada, Japan, Kuwait, Mexico, Peoples Republic of China, Philippines, Slovakia, Thailand, and the United Kingdom.
- Stephen greaves acted as an external examiner on a PhD Thesis from the University of Canterbury.
11. MANAGEMENT STRUCTURE

The management structure of the Key Centre is shown in the diagram below.

The role of the Advisory Committees at each node is to provide advice on any matters referred to it by the Key Centre Executive, as well as to initiate matters for consideration that are of interest to the Key Centre, such as the teaching and research program and opportunities for participation of industry and government.
ITS Sydney Advisory Committee

Professor David Hensher
Director, Institute of Transport Studies

Professor Peter Stopher
Professor of Transport Planning, Institute of Transport Studies

Professor Peter Wolnizer
Dean, Faculty of Economics & Business, The University of Sydney

Professor Phil Goodwin
University College, London

Mr John King
Managing Director, Aviation & Tourism Management Pty Ltd

Mr Doug Dean
Managing Director, Collex Waste Management Pty Ltd

Mr Don Telford
Divisional Director, Logistics, Toll Logistics

Mr Darryl Mellish
Executive Director, Bus & Coach Industrial Association (NSW)

Dr Alastair Stone
Director, Stonecorp Pty Ltd

Mr Paul Forward
CEO, Roads & Traffic Authority

Mr John Stott
Executive Officer, State Transit Authority of NSW
12. FINANCIAL STATEMENTS

The University of Sydney
N.S.W. 2006

Institute of Transport Studies

Statement of Financial Position as at 31 December 2004
(University account codes: F0701 00000, 11111, F0702 00000)

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td><strong>CURRENT ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash Balances (including Funds in Reserves earning Uni. Pool Interest)</td>
<td>1,928,597</td>
<td>1,769,441</td>
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<tr>
<td>Petty Cash Advance</td>
<td>800</td>
<td>800</td>
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<tr>
<td><strong>Total Current Assets</strong></td>
<td>1,929,397</td>
<td>1,770,241</td>
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<tr>
<td><strong>CURRENT LIABILITIES</strong></td>
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<tr>
<td>Accrued Expenses</td>
<td>5,918</td>
<td>-</td>
</tr>
<tr>
<td><strong>Net Assets</strong></td>
<td>1,923,478</td>
<td>1,770,241</td>
</tr>
<tr>
<td><strong>EQUITY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accumulated Funds</td>
<td>723,478</td>
<td>570,241</td>
</tr>
<tr>
<td></td>
<td>723,478</td>
<td>570,241</td>
</tr>
<tr>
<td>Reserves</td>
<td>1,200,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td><strong>Total Equity</strong></td>
<td>1,923,478</td>
<td>1,770,241</td>
</tr>
</tbody>
</table>

Sukumar Narayanan, CPA
College Manager, Finance & Resources
College of Humanities and Social Sciences
10 March 2005
Institute of Transport Studies

Statement of Financial Performance for the year ending 31 December 2004

(University Account Codes: F0701 00000 & 11111, F0702 00000)

<table>
<thead>
<tr>
<th>INCOME</th>
<th>2004</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Operating Grant</td>
<td>74,801</td>
<td>74,801</td>
</tr>
<tr>
<td>Student fees</td>
<td>902,785</td>
<td>742,556</td>
</tr>
<tr>
<td>Other Fees - Short courses &amp; Conferences</td>
<td>330,192</td>
<td>314,940</td>
</tr>
<tr>
<td>- Testing and Consulting</td>
<td>157,093</td>
<td>167,929</td>
</tr>
<tr>
<td>Donations</td>
<td>50,000</td>
<td>65,000</td>
</tr>
<tr>
<td>Allocations - Faculty of Economics &amp; Business</td>
<td>460,500</td>
<td>466,833</td>
</tr>
<tr>
<td>Sale of Publications</td>
<td>2,060</td>
<td>4,242</td>
</tr>
<tr>
<td>Interest</td>
<td>49,050</td>
<td>38,730</td>
</tr>
<tr>
<td>Miscellaneous Income</td>
<td>23,203</td>
<td>6,596</td>
</tr>
<tr>
<td><strong>Total Income</strong></td>
<td><strong>2,049,686</strong></td>
<td><strong>1,881,626</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPENDITURE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Oncosts</td>
<td>1,204,262</td>
<td>868,185</td>
</tr>
<tr>
<td>Contractors - Casual Teaching</td>
<td>206,679</td>
<td>154,566</td>
</tr>
<tr>
<td>Equipment, Repairs &amp; Maintenance</td>
<td>101,941</td>
<td>73,683</td>
</tr>
<tr>
<td>Travel &amp; Conference</td>
<td>72,494</td>
<td>65,244</td>
</tr>
<tr>
<td>Consumables</td>
<td>37,246</td>
<td>34,234</td>
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<tr>
<td>Communication</td>
<td>27,394</td>
<td>14,591</td>
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<tr>
<td>Photocopying &amp; Printing</td>
<td>53,869</td>
<td>50,790</td>
</tr>
<tr>
<td>Advertising</td>
<td>9,203</td>
<td>5,342</td>
</tr>
<tr>
<td>Catering &amp; Hiring Charges - Conference &amp; Seminars</td>
<td>41,646</td>
<td>28,042</td>
</tr>
<tr>
<td>Commuter Survey Expenses</td>
<td>51,000</td>
<td>24,000</td>
</tr>
<tr>
<td>Entertainment</td>
<td>3,158</td>
<td>2,315</td>
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<tr>
<td>New Staff Appointment &amp; Relocation Costs</td>
<td>20,311</td>
<td>-</td>
</tr>
<tr>
<td>General Expenses</td>
<td>15,590</td>
<td>12,877</td>
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<tr>
<td>Reference Materials</td>
<td>762</td>
<td>12,543</td>
</tr>
<tr>
<td>Student Costs</td>
<td>48,927</td>
<td>46,223</td>
</tr>
<tr>
<td>Staff Development &amp; Training</td>
<td>1,967</td>
<td>2,664</td>
</tr>
<tr>
<td><strong>Total Expenditure</strong></td>
<td><strong>1,896,449</strong></td>
<td><strong>1,395,299</strong></td>
</tr>
</tbody>
</table>

| Surplus/ (Deficit) | 153,237 | 486,327 |

| Accumulated Funds as at 1 January 2004 | 570,241 | 283,913 |
| Transfer to Reserve | - | (200,000) |
| **Accumulated Funds as at 31 December 2004** | **723,478** | **570,241** |

Note: Research grant accounts are not included in this statement.

Sukumaran Narayanan, CPA
College Manager, Finance & Resources
College of Humanities and Social Sciences
10 March 2005
13. WHAT ITS MEANS TO OUR STAKEHOLDERS...

I undertook my PhD studies at the ITS as a part-time student under the supervision of Professor David Hensher. As a key centre in transport research and training, ITS offered me a stimulating environment where I could critically discuss and share my research experience with leading transport and logistics academics, industry partners and fellow students. I thoroughly enjoyed my studies at ITS and I have no hesitation in recommending it to those who seek the challenge of cutting edge research in transport and logistics.

(Seu Keow Cheng, Lecturer in Economics, School of Economics and Information Systems, University of Wollongong)

Hi David, Its amazing how these things go. Just got your e-mail (as amazingly quick response as ever and much appreciated) and then had lunch with John Bates. Had a really good time talking to him. I asked him what he thought of modelling and transport planning in Aus and NZ. He replied that thanks to the efforts of especially you, not only as a world leading academic, but also as someone who has done such a good job of educating graduates, it was as good as anywhere else! Thought I’d let you know. Cheers Pete

(Pete Clark, Auckland Regional Council, Te Rauhitanga Taiao, Vodafone House, 21 Pitt Street, Private bag 92 012, Auckland, NEW ZEALAND).

Peter, I have just read your working paper on the above. A well rounded argument that I have distributed to many colleagues for consideration. Transport policy is run by ideologues, rather than rational thinking and thus gets caught in this spiral towards self defeat. Focussing on niche targets and accepting limitations is the only way to go with PT, and accepting the car would make life far easier for DIPNR, rather than having to pretend to ignore it while catering for it, leading to sub-optimal urban and traffic designs. Thanks for putting some sense back into my day. Cheers,

(Terry Lee-Williams, Project Manager Operations, Transitways).

Hi Loloma, I just wanted to send you a quick note to sincerely thank you for all your help that you have offered not only me, but the whole RTA class. Your efforts and kind nature certainly made things easier for us all during our visits to ITS. People doing these types of courses are very lucky to have someone like you helping them and guiding them through. I look forward to catching up with you again next year. Best wishes and kind regards,

(Damon)

Dear JO How are you? I am the student who lost my student card in the exam room, LT1. Thanks for your consideration and timely help. When I see your email, I really appreciate your responsibility very much. In fact, I had contact with the student who picked up my lost ID and kept for me. Therefore, I will get my ID back. Thanks for your great favor again. Best regards

(Lei)

Peter, I am aware that we shall be meeting again and evaluate your course, but I had thought it will be best for me to write to you because when we are evaluating your course we are not talking to you, but rather we may be talking about you. Thank you for taking me through in Survey Design and Transport Policy, Decision making & Environment while i was doing my graduate degree at ITS-Sydney Uni. You really have left a mark in life. I felt we were so privileged to get a professor who is so capable, i really doubt that in the future they might have someone like you. You made us to appreciate things that we thought were so difficult. One thing i will never forget about you is that you want people to really think about what they are doing or saying, you were able to make us to think even from what we thought was obvious (look at your questions for the transport policy unit of study). All the time you were teaching me i was able to relate the things we learnt in class to my country situation. Even though as developing countries we are behind from the standards of the materials we were covering, i was able to see how far we can catch with the current status in the developed world. Next month i am going back to Swaziland, i have to get back to my work since i was given a study leave for one year .I hope i will be able to contact you even from that end. Once again thank you for assistance and kind attention.

(Lovemore Magagula)

Dear Dr Lok , I am a Chinese student who came to University of Sydney last year and my name is Kunming Wei. After finishing the exam today, I am sure I will miss you and your class in the future. The case you provided in the exam is very good, a real Hong Kong Chinese company with strengths and weaknesses. Especially the last question: If you were a CEO in the company, what different actions would you take to sustain the change and why. You really give the freedom to students to say something. You know, I have to say I really have learnt a lot in your class, it is your class that gave me what I want from a class. You are definitely one of the best teachers in the University. What I really like is the leadership session of the book; I find it is an art to be a competent leader. And you give me the
confidence to a leader, if I could in the future when I go back to China. I will miss you and your class. Thank you very much!

(Your Student: Kunming Wei)

Dear Shams, I hope my letter finds you in your usual good spirits in spite of your busy teaching schedule. Well, I came back to Zimbabwe and unfortunately due to the unfortunate political dimension that the food situation has taken, the programme scaled down considerably, and subsequently most of the staff have left or been redeployed elsewhere. I was not able to rejoin, but we continue to live here rather than go home to Kenya because my wife is still with WFP here. However, I have been offered a consultancy in Sudan as a Logistics Officer, also with the World Food Programme (WFP), to assist with the current humanitarian crisis in the Darfur province. I was hoping to stay clear of trouble spots, but it now appears I have a high affinity for them after having worked with the UN peacekeeping mission in the former Yugoslavia during the war in ‘92/’93; in southern Sudan initially delivering humanitarian aid on river barges where I got shot in 1999 during a rebel attack on the barge; and again in Sudan coordinating the WFP food airdrop operation into the war torn south. I presume the culprit for this is my previous 14 year military service. So, I am now heading back to Sudan, though am told the region is not as volatile as it once was for the on going peace initiatives. I have accepted the appointment much as it means separation from the family. However, because the station is categorized ‘hardship’, I will be getting 7 days of ‘rest’ every 6 weeks, ticket and allowance paid for, when I can travel to see my family. I am optimistic of getting an appointment that will get me out of field work; to this end I intend to apply with other UN agencies in due course. However, I ran out of referees when completing my CV online as the new UN electronic format does not allow supervisors (of which I have numerous since my Navy days) be listed as referees as well. Therefore, I would be sincerely grateful for your authority to list you as one of my referees. I am grateful in many ways for the sacrifice I made to study for the MLM course – for one, my new salary scale has more than doubled. Secondly, and more importantly is that it places one at a vantage point from where I am able to see the broader picture of logistics issues. Given that the course is relatively new in many educational institutions, I would not be surprised that initially I may be one of very few, if not only one, to possess a similar qualification within WFP. I do not expect that work will be easier; on the contrary as the lessons progressed and I tried to relate theory to logistics practices (at WFP), in retrospect there are many issues that require greater in depth analysis from a logistics perspective, but which the experienced may take offence. For this reason, I intend to treat cautiously, but admittedly there are positive and very realistic lessons in logistics that the organization imparts on an individual. I therefore consider myself lucky indeed to have the benefit of both theory and practical, and wish to thank you sincerely for your guidance and support while at ITS. I hope to hear from you soon,
Kind regards,
(Gerald Walker)

Dear Professor Hensher, Greetings from California! I just wanted to say that my students last semester enjoyed your book ‘Transport: an economics and management perspective.’ As the focus of our program is international business, they particularly liked the comparative cases and a perspective from outside the US. Thank you again for being so responsive to my questions earlier in the year, and for sharing your syllabus and slides. I really appreciate it. Best wishes for a productive academic year ahead! Sincerely, Carol
(Carol Reade, Assistant Professor, California State University, Maritime)

Dear Professor David Hensher, This is the greeting from Simon, the guy you met on the orientation. I am a freshman, majoring in Logistics Management. It was great to join the well organized orientation day. Also it was my great pleasure to know you have my advice on your units chosen for this semester. I really appreciate that I will quit my job and fully involve in the studies. My target is becoming one of the top 5. Also I will choose the unit taught by you next semester. You will see me then. Best wishes,
(Simon Wu, Master of Logistics Management program 2004).

Dear Professor Essam, I just wanted to thank you for your support throughout this course. Traffic Management has been a challenge for me, but I can tell you that even if my grades are not the best, I have learned a lot and feel very pleased that you are my lecturer. This lecture proved to me that there are no limitations when we set a goal and make an effort. Good Luck and have a safe trip back.
(Derrick Smith – student attending Prof Essam Radwan’s UoS (Visiting Academic during 2004).

Dear David,
Yesterday escaped me completely (last minute rush with marketing requirements) and I didn’t get a chance to congratulate you on an excellent interview on the Sunrise Program on Channel 7. I only caught the last few minutes but I thought it was an outstanding demonstration that the Faculty and the University are leading the way with real, practical solutions to the topical issues that impact our lives. Makes my job as a marketer so much easier when there are professionals such as you, who are able to represent the Faculty in such a way. Have a good day.
(Deanna Lane, Head, Faculty Marketing, Faculty of Economics and Business, The University of Sydney)
Comments from students studying TPTM6360 (Traffic Systems Management & Control – Sem 2 – Professor Essam Radwan, Lecturer)

“This was a challenging and rewarding course. The expertise of the visiting professor is a credit to ITS and I enjoyed the course immensely.”

“I learnt a lot from this unit of study. The class is small so this allows us the opportunity to ask questions and share information. I like it very much. This unit of study is my last one. I really enjoyed studying in ITS.

Thank you.”

“I was pleased to have a lecturer with so much real world experience and who had the patients to walk me through topics I did not understand.”

Comments from students studying TPTM6260 (International Logistics – Sem 2 – Dr Andrew Kerr, Lecturer)

“The “real world” perspective of this unit made it different and more valuable than the other units I’ve taken.”

“Andrew is an excellent lecturer and an asset to the Institute. He demands high quality work and participation from his students. In the class room he is strict but fair.”

“I feel content with this subject. Andrew makes it interesting. He is strict, knowledgeable and always guides us in the right direction.”

“I think this course opened my eyes to both my academic career, especially on global logistics.”

“It is one of the best subjects and the teacher I had in the entire program. The lecturer was professional, clear, objective and very effective to communicate his experience in the ‘real world’ environment.”

The following student comments are taken from the USE forms which are handed to each student on the last day of class:

Semester 1, 2004

Dr Peter Lok – People, Work & Organisations

“Very deceptive course. First impression / perception was “this is a no brainer”. Came out really fascinated / impressed as to the course “real life”, much appreciated.”

“Organisation behaviour always an interesting subject especially with Dr Lok’s real life example.”

Professor David Hensher – Transport Economics & Management

“David is an excellent lecturer. I did learn something in this area. Thanks David & Sean! I enjoy every class.”

“David is a very good professor and his teaching is very good and makes me clearly know about everything.”
Dr Shams Rahman – Logistics Management

“Great teaching and terrific team work!”

“Shams is a very active lecturer. He keeps everyone involved by allowing student to communicate. I wish other lecturers can learn from him.”

Professor Peter Stopher – Transport Policy, Decision Making and Environments

“Good topics chosen and very well prepared. The teacher absolutely knew what he was talking about. Real life examples for the topic explained.”

“Peter is not only a professional scholar but also a good teacher. His teaching method is what we need.”

Mr John Rose & Assoc Professor Erne Houghton – Analysis Tools for Transport & Logistics

“Good. Practical and supportive for subjects like Logistics Management. It’s not too hard to understand. Thanks to John and Erne for your kindness.”

Winter School, 2004

Dr Andrew Kerr – International Logistics

“Dr. Kerr provided an excellent unit mainly through a focus on ideas based on real experiences as opposed to theory alone. I found this to be particularly interesting and useful.”
End of Year Function:
4 December 2004

The ITS end of year function was held at the home of David and Johanna Hensher. Staff, partners and their children were invited and the day was well-attended by all.

Professor Peter Wolnizer, Dean sent a message which was conveyed to guests at the Christmas party.

Quote:

...Colleagues, friends,

I’d like to say, again, how truly delighted and proud I am of all your achievements under the wonderful leadership of David, very ably supported by Peter. ITS or should I say ITLS is a jewel in the crown of the Business School and the Faculty. Your scholarly excellence in teaching and research, and strategically directed entrepreneurial engagement with industry and government is exemplary. Together with the broader business and professional communities, this is precisely the space the Faculty needs to occupy. I’d also like to add a very sincere personal word of appreciation for the tremendous leadership David provides across the Faculty and, indeed, to the University community. As Associate Dean Postgraduate David is at the epicenter of strategy and action in this Faculty and the results are there for all to see. David I can but say, again, “thank you”.

Peter Wolnizer, Dean
Faculty of Economics & Business
The University of Sydney