



2000 ANNUAL REPORT

A report on the 2000 activities of the Institute of Transport Studies: The Australian Key Centre in Transport Management, ITS Sydney and ITS Monash.

Established and supported under the Australian Research Council's Key Centre Program.

**INSTITUTE OF
TRANSPORT STUDIES**

The Australian Key Centre
in Transport Management

The University of Sydney
and Monash University

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1. ABOUT THE KEY CENTRE

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 1998, ITS Sydney relocated to the Faculty of Economics, renamed in January 2000 as the Faculty of Economics and Business.

The Institute of Transport Studies (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. Dr Geoff Rose is Head of ITS Monash.

The Key Centre is guided by an Advisory Committee of eminent academic, industry and government representatives, chaired by Professor John Taplin, AM. Its role 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 and Graduate Diploma, Graduate Certificate, continuing education workshops, management development seminars and Certificate programs. In addition, ITS also conducts transport, logistics and supply chain related research. The Institute has an extensive program of related activities including publications, participation at conferences, software development and links to other leading transport and logistics research institutes around the globe.

The year 2000 marks the completion of the six years of funding from the Federal Government. This is not however the completion of the Key Centre as an entity. Indeed the Centre will continue to make notable contributions to the research and education profile of Australia under the exact same charter it currently has. The University of Sydney has recognised ITS as a Research Strength in its review of areas of research that should be supported.

2. DIRECTOR'S REPORT

The year 2000 marks a threshold in the Institute's history. It is the last year of a six-year funding period from the Federal Government under its Key Centre Program; it also marks the 10th year of ITS-Sydney. Almost as if there is some natural cycle of change every decade, ITS has undergone some major movements in staffing. We have farewelled a number of academic, research and administrative staff who have contributed to the continuing success of ITS. In Sydney Tony Richardson, Rita Seethaler, Bruno Sirianni, Carlos Funes and Lesley Watson; in Monash, Samantha Taylor and Yvonne Correlje moved to new endeavours. We thank them for their sustained input.

During 2000 new staff joined ITS and have already made major contributions to the process of restructuring, such that the team is well positioned for the future. In ITS-Sydney we welcome Professor Peter Stopher (an internationally renowned scholar in transport planning and travel survey methods), Dr Shams Rahman a recognised specialist in Supply Chain Management, Operations Management and Logistics, Kirsten Jakobsen as Personal Assistant to the Director (and a whiz on organisational management and desktop publishing who takes on the role of coordinator of the Graduate Program in Transport and Logistics), Ruth Olip as Finance and Personnel Coordinator (with a wealth of experience in University procedures), Freddy Susanto as a specialist interface programmer in the TRESIS project, Philip Bullock as a Research Analyst, and Milena Romic (Administrative Assistant to Ann Brewer in her role as Associate Dean of Graduate Programs). Jenny King began maternity leave (we all wish her well). At Monash, we have welcomed John Clements who brings extensive experience in distance education to his role as Director of the Bus and Coach Program, and Astrid DeAlwis, who brings a wealth of experience in freight transport to her role in the industry education programs area.

As part of the Director's report it seems appropriate to highlight some of the notable events of 2000. In teaching, ITS has begun the process of reviewing all of its graduate offerings at both nodes with the intention of establishing a flexible degree program in which students can choose units of study from either node. Drawing on Monash University's capability as a major provider of distance education, ITS (Monash) launched its new postgraduate program in transport and traffic by distance education. The program offers three different postgraduate degrees and importantly an alternative entry path for individuals who may not have an undergraduate degree but who have extensive industry experience. While the program is only in its first year of operation it has already attracted enrolments from throughout Australia. Currently selected units offered by ITS (Sydney) are available by distance mode but the longer term plan is to offer all units through a mixture of online, CD-Rom and traditional distance-based notes, studying at one's own pace. ITS-Sydney and Monash have revised their graduate programs for 2001 - we invite you to visit the home pages for an update. The home page has become the dominant information medium to track ITS activities. Slowly we are encouraging our student body to regularly visit the home page as they accustom themselves to the relevance of electronic communication. ITS-Sydney has revamped its administrative procedures and now has a student and staff procedures manual on the home page that provide all the information one might ever want to know about study, forms, who to contact, library facilities etc. We believe that we now have a template for other organisations.

Research activity continues to build and diversify. The release of TRESIS version 1.2 in November and provision of a Licence to the Bureau of Transport Economics marks a major step forward in the ongoing development and implementation of an urban area-wide passenger transport planning capability. Version 1.2 is a strategic-level planning tool for six cities (Canberra, Brisbane, Sydney, Melbourne, Adelaide and Perth). Version 2.0 (to be released in early 2001) is a much more detailed specification for Sydney incorporating new networks for all modes of passenger transport. Version 2.0 will be accessible via a licensing scheme in which all revenue will be used to fund ongoing research and maintenance of the TRESIS suite of

planning tools. The contribution of Dr Tu Ton is especially notable. The year of the Sydney Olympics could not be ignored by ITS. On her own initiative Professor Ann Brewer recognised the need (and a rare opportunity) to monitor the intentions and expectations of Sydney commuters in coping with the large number of users of the transport system during the Olympics. We established a panel of commuters and tracked their plans and intentions at three points in time in 2000 leading up to the Olympics. We also revisited these same 600 commuters after the games to identify the relationship between intentions and what people actually did to cope with the Olympic activity. The findings are extremely valuable for future planning on major events where one uses intentions data in the planning for crowds and use of public transport.

The joint nodes prepared a draft proposal for a Cooperative Research Centre (CRC) on Vehicle, Infrastructure, Safety and the Environment (with University of Melbourne and Industry partners such as Ford Motor Company, Venture Industries, AutoLiv, VicRoads, NRTC and Bus Association of Victoria. While more work is required, ITS is committed to securing a CRC in the near future. The Quality Partnership with the Bus and Coach Association of NSW and the support from Collex are important ongoing joint activities that support our research programs in the bus and logistics industries respectively. Further details of such outputs are set out in this report.

The Transport Management Course in Bus and Coach operations remained a major activity for ITS (Monash) in 2000 with over 1300 students involved in the program. A comprehensive review of the course was undertaken in November with involvement from the Victorian Department of Infrastructure, Bus Association of Victoria and other industry representatives. The review strongly endorsed the distance education format of the course and produced a focused set of recommendations which will be introduced beginning in the 2001 academic year. Importantly the review endorsed a proposal to consolidate the course into four subjects from the existing seven and enhance the case study component of the assessment to reflect the range of operations represented in Victoria.

ITS is proud of its role as host and organiser of the 9th International Association of Travel Behaviour Research Conference, held on the Gold Coast in July. I am especially indebted to Jenny King for her masterful management of the entire Conference and her role in preparation of the CD-Rom and Book associated with the scientific outputs. The accompanying photos attest to its great success.

Staff at both the Sydney and Monash nodes have been very active in Faculty and University wide contributions. Bill Young is Head of Civil Engineering, Ann Brewer is Associate Dean (Postgraduate Coursework Programs), David Hensher is Chair of the Faculty Environment Committee and a Member of the Executive of the School of Business as well as Core Member of the Faculty's Promotion to Full Professor Committee. ITS-Sydney has also been active in assisting the Faculty of Economics and Business in the development of its home page and procedures to track graduate fee income.

On behalf of all ITS staff, I thank our industry and government sector supporters as well as the enormous support from our Faculty in each University and the College and Central Executive of the Universities.

3. ENROLMENTS FOR 2000

A summary of student numbers is given below for the various programs.

Sydney:

Graduate Program

Year	GradCertTM			GradCertLM		
	Local	Internat.	Total	Local	Internat.	Total
1998	2	0	2	na	na	na
1999	15	0	15	7	0	7
2000	6	1	7	15	0	15

Year	GradDipTM			GradDipLM		
	Local	Internat	Total	Local	Internat	Total
1998	24	3	27	na	na	na
1999	16	2	18	na	na	na
2000	5	1	6	2	1	3

Year	MTM			MLM			PhD		
	Local	Internat.	Total	Local	Internat.	Total	Local	Internat	Total
1998	26	7	33	na	na	na	3	1	4
1999	22	11	33	na	na	na	2	1	3
2000	10	7	17	10	4	14	2	3	5

Certificate Programs

Year	CTM (bus & coach)	CCM	CLM
1998	48	189	27
1999	53	167	**
2000	31	198	***

* GradCertLM, GradDipLM and MLM were introduced during Semester 2, 1999.

** Two executive programs were run.

*** No programs as yet.

Monash:

Year	Postgraduate (Coursework)	MEngSc (Research)	PhD	Industry Programs	
				Parking Management	TMC (Bus and Coach)
1998	18	1	4	10	27
1999	16	4	2	9	1150*
2000	20	3	3	4	908

* This figure updated from 1999 report to include intensive study mode and small operators' enrolments.

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 studies.

The work of the Institute also has the following objectives:

- To provide a focus for University work in areas of transport and logistics management and to establish an environment attractive to those committed to excellence in graduate transport and logistics programs and research;
- To collaborate with key players having an interest in transport and logistics studies 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 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, certificate, 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 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), 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 the objectives outlined in its application. More detail is provided in specific sections throughout the annual report.

Objective	Performance measure
Australian transport and logistics management expertise highly regarded	Requests for working papers and preparation of a 10 year CD-Rom 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 Requests for speaking at a large number of venues Editorial positions held by staff on leading international journals
Programs outside Melbourne/Sydney	Delivery of the Postgraduate Program in Transport and Traffic by distance education throughout Australia Delivery of Transport Management Course in Bus and Coach Operations Delivery of Education Program in Parking throughout Australia by distance education Delivery of Certificates of Bus and Coach Management for Western Australia Offer of distance based programs for New Zealand Introduced five web-based courses for Sydney Graduate Programs
Contribute leadership in Asia Pacific	Participation in Asia Pacific Conferences Aviation and Maritime research for Asia Pacific countries Supervision of PhD students in South East Asia
Courses in critical areas for middle managers and small business	Executive Programs in Logistics Management/Supply Chain Management and Freight Management conducted Design of Certificate of Aviation Management and Logistics Short courses and workshops conducted to meet specific needs Developed a distance program in Logistics and Supply Chain Management with Deakin Australia Developed a distance program in Logistics and Supply Chain Management with Ford International through Deakin Australia Development of a two-day Train the Trainer course for Bus and Coach Personnel Assessment Centre
Link transport engineering and management education	Short courses and workshops integrating engineering and management Short course on travel surveys, transport policy and transport scheduling
State of the art research	Many research projects for range of government and private clients Publications in leading journals 3 new PhD commencements in 2000
Transfer of research to transport community	Through publications including working papers, conferences, journals and books such as <i>Operating a Bus and Coach Business</i> , <i>Roads and the Community</i> , <i>Traffic Engineering and Management</i> and <i>Stated Choice Methods: Analysis and Applications</i> Book contracted with a major publishers on <i>Transport: An Economics and Management Perspective (Oxford University Press)</i> to appear in 2001 Through presentations and attendance at conferences and seminars ITS Sydney organising the 9th International Association of Travel Behaviour Research Conference; held on the Gold Coast, Queensland in July, 2000

5. THE ITS TEAM

ITS Sydney

Academic and research staff

David Hensher, BCom(Hons) PhD, FASSA FCIT FAITPM CompIEAust MAPA
Professor of Management
Director, Institute of Transport Studies (Sydney)

A Fellow of the Academy of Social Sciences in Australia, Immediate Past President of the International Association of Travel Behaviour Research and Vice-Chair of the International Scientific Committee of the World Conference of Transport Research, David has published extensively (over 250 papers) in the leading international transport journals and key journals in economics as well as seven books. He has one book in press - *Transport: An Economics and Management Perspective* (with Ann Brewer), Oxford University Press. One of his books - *Stated Choice Methods* (with Jordan Louviere and Joffre Swait), Cambridge University Press, was published in September.

Major areas of teaching and research are transport economics, transport strategy, transport policy, sustainable transport, productivity measurement, discrete choice methods, stated choice experiments, privatisation and deregulation. David has advised numerous government and private sector organisations on matters related to transportation.

Ann Brewer, BA MCom(Hons) PhD, MCIT
Associate Dean of Postgraduate Coursework Programs, Faculty of Economics and Business
(from 1 July 2000)

Professor of Organisational Logistics, Director, Industry Programs and Director, Graduate Program in Logistics Management

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

In her role as Director of Industry Programs, Transport & Logistics, Ann has developed two distance programs in Logistics and Supply Chain Management, one with Ford International through Deakin Australia and the other with Deakin Australia. Also direct the ongoing bus and coach programs in the Institute of Transport Studies.

Peter Stopher, BEng(Hons) PhD
Professor of Transport Planning (From December 15, 2000)

Peter was educated at the University of London, where he received both his B.Sc. (Eng.) and Ph.D. He has been a professor at Northwestern University, Cornell University, McMaster University, and Louisiana State University and also spent 11 years from 1980 through 1990 as a full-time transportation planning consultant in private industry. Prof. Stopher has 33 years of professional experience in transportation planning, travel forecasting, travel-behaviour modelling, and associated areas. He has an international reputation in travel-demand modelling,

and the development of new procedures for travel forecasting. He was one of the pioneers of the development of disaggregate travel-demand models and was the first to use and apply the logit model in the 1960s. He has been in the forefront of work to assess the shortcomings of conventional travel-forecasting models with respect to the demands of the CAAA of 1990 and the ISTEA of 1991. He has recently published papers on this topic and has identified a number of the needed areas of development of models into non-motorized modes, trip chaining, and shifts in total demand for travel in response to changing travel characteristics. He was selected (with Dr. David T. Hartgen) by the FHWA to develop one of four concept papers on a new paradigm for travel forecasting. He was a founding member of the Transportation Research Board's Committee on Traveller Behaviour and Values, serving as its first Chairman from 1971-1977, and again from 1995-1997; he also founded the series of International Conferences on Traveller Behaviour that began in 1973 and which will hold its next meeting on the Gold Coast of Australia in July 2000.

In addition to work in travel forecasting, Dr. Stopher has also developed a substantial reputation in the field of data collection, particularly for the support of travel forecasting and analysis. He pioneered the development of travel and activity diaries as a data-collection mechanism, and has also written extensively on issues of sample design, data expansion, non-response biases, and measurement issues. He is currently working on standards for travel surveys, use of GPS devices in connection with personal travel surveys, and the creation of synthetic household travel survey data. Dr. Stopher initiated the TRB Subcommittee on Survey Methods, which is now a Committee of the TRB. He co-chaired the international conference on Transport Surveys: Raising the Standard, in Eibsee, Germany in May 1997 and is co-chairing the next conference in Kruger Park, South Africa in 2001.

As a result of a career that has spanned private consulting to the public sector, university teaching and research, and work with state Departments of Transportation, Dr. Stopher brings a unique combination of theoretical, research, and practical skills to model building and data collection.

Tony Richardson, BE(Hons) MEngSc PhD
Professor of Transport Planning (until 30 June 2000)

Tony's research interests cover the broad areas of Transport Planning and Management and Travel Behaviour. He has researched and published widely in the area of Transport Planning and is recognised internationally as an expert in the design, conduct and analysis of large-scale travel surveys. He is principal author of the most widely recognised text on travel survey methods. In addition to his transport research activities, Tony is also an accredited trainer/facilitator in Lateral Thinking and the Six Thinking Hats methods developed by Edward de Bono.

Tu Ton, BE MEngSc PhD
Senior Research Fellow

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 computing laboratory as well as promoting GIS to bus operators. Tu is leading an ITS team developing a new strategic transport planning decision support system – ITS' Transport and Environment Strategy Impact Simulator (TRESIS). In 1999 Tu edited a book on *GIS Applications in Transportation*.

Shams-ur Rahman, MSc Belarus ME Asian IT PhD Exeter
Senior Lecturer (from 1 January 2001)

Shams will be starting at ITS Sydney on January 1 2001. Shams specialises in the field of operation management, quality management and business modelling. His most recent appointment 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. He has published research articles in international journals, and has a research interest in the areas of business process re-engineering, systems modelling, quality management and service facility deployment analysis. He has worked in a public transport corporation, and in various positions in training and development institutes. His publications include "Theory of Constraints: A Review of the Philosophy and Its Implications" *International Journal of Operations and Production Management*, 1998 and "A Conceptual Framework for Variation Reduction" in B. Abraham (ed) *Quality Improvement Through Statistical Methods*, 1997.

Jenny King, BBuild (Hons) GradDipCom UNSW MTM Sydney
Senior Research Analyst

Jenny coordinates various research program in ITS. Jenny has skills in survey design, data collection and analysis, and desktop publishing. She is currently involved in managing ITS' International Benchmarking Program in Bus and Coach as well as a number of research and consultancy projects, such as the M2 Marketing study, parking strategies for the CBD, and the ABCA Fact sheet.

Rahaf Almghawech, BSc(Hons)
Research Analyst (from 16 October 2000)

Rahaf first joined ITS in January 1999. After a period overseas from June 1999, she rejoined ITS from 16 October. She completed her Bachelor of Science degree, in applied economic geography, at the University of New South Wales in 1998. Her major interests lie in the transport land use area, especially in relation to the concept of ecologically sustainable development (esd). She worked on a number of projects investigating issues in telecommuting and management difficulties, in family owned bus, coach and road freight businesses.

Kirk Bendall, BBus. MTM Sydney, MCIT JP
Research Analyst

Kirk joined ITS in November 1997 after completion of the Master of Transport Management at The University of Sydney. He is working on the TRESIS project; acquiring primary data, acquiring ABS Census data, data transformation to fulfil TRESIS required inputs, electronically mapping Sydney rail, bus, light rail and ferry route systems, developing digital networks of Sydney's major roads with lane, capacity and speed attributes, and modifying GIS spatial resolution to suit modelling requirements. Support to other staff with Census and Journey to Work maps and data is provided as required. Documentation and coordination with the TRESIS team and visiting interns rounds out the scope of activities. His professional fields of interest include intelligent transportation systems and advanced traveller information systems (ATIS). Kirk is also the Consumers Federation of Australia representative on the Standards Technical Committee for Transport Information and Control Systems. He was also a NOC Assistant Volunteer for the Egyptian Olympic team during the Sydney 2000 Olympic Games.

Philip Bullock, BSc(Applied Geography) (Hons)
Research Analyst

Philip joined ITS in May 2000. He is providing research and administrative support to the Director and ITS academics. He is currently providing research assistance for a series of surveys designed to monitor commuter coping strategies during the Sydney Olympics. This is being conducted for the Olympic Road and Traffic Authority. He has previously worked in a large wholesale company where he managed transport and distribution.

Carlos Funes, BE
Research Analyst (until 11 February 2000)

Carlos joined ITS in March 1998. He is programming the core model and the User Interface for the TRESIS project. He has developed a vehicle replacement system for bus companies which uses vehicle data from bus companies and predicts a replacement order for vehicles over a user specified period. His interests lie in transport engineering and Visual C++ Object-Oriented computer programming. In 1997 Carlos completed his Bachelor of Engineering, majoring in Traffic and Transport Engineering, at Monash University. He was awarded the Scholars Award for Victoria at the 1997 Australian Institute of Transport Planning and Management Conference in Melbourne and the Best Undergraduate Paper at the 19th Conference of Australian Institutes of Transport Research, also held in Melbourne in 1997.

Cam Ngo, BEngSc Vietnam MEng USA MEngSc PhD
Research Analyst

Cam joined ITS in September 1998. Cam's major field is highway, traffic and transport engineering and local area traffic management. His interests lie in artificial intelligence and knowledge-based expert systems. He is working on the TRESIS project; which included entering the speed data and lane data into the Sydney road network, collecting and entering bus-headway of bus routes in Sydney into the bus route database, entering bus routes into map layers, preparing and creating busway layer for rapid bus routes, analysing and classifying the vehicle data for the scrappage model, estimating public transport cost, and creating zone to zone length (access/egress and bus route lengths), travel times (access/egress and bus times) and bus fare matrices.

Michelle Coulson, BA MTM Sydney, MCIT, CTM
Course Co-ordinator, Industry Programs

Michelle joined ITS in January 1998. She commenced work in the bus industry as a trainee at John J Hill Bus Service prior to commencing employment with the Busways Group of Companies. Michelle was more recently employed as the Operations Manager (Sydney Region) with Busways. Michelle's tertiary qualifications include a Bachelor of Arts from The University of Wollongong and a Master of Transport Management from The University of Sydney. Michelle is the first point of client contact for ITS' Industry programs and coordinates the industry programs on a daily and continuous basis; including the revision of notes, marking of assignments, providing help desk services, liaising with lecturers, clients and participants, marketing, conducting major mail outs and booking venues.

Gary Mariano
Computer Systems Officer

Gary is responsible for server administration at the network level and user support and workstation maintenance at the user level. He is also responsible for the design and maintenance of the homepage.

Jeff Leal, BSc

Computer Programmer (Part-time until 30 June 2000)

Jeff is working on the TRESIS project, where he is programming the core model and the User interface. This involves creating, testing and modifying C++ objects (programs) which contain the transport and land use models.

Freddy Susanto, BSc

Computer Programmer (from 24 July 2000)

Freddy is working on the TRESIS project, where he is involved in building the user interface for the TRESIS program and map object programming.

Full-time PhD students

Chackrit Duangphastra, MTM Sydney

Chackrit is a scholar from Thailand. He holds a Bachelor degree in Business Administration from Chulalongkorn University, Thailand and a Master of Transport Management from the University of Sydney. Before joining the PhD program at ITS, he worked for the Ministry of Transport and Communications and taught at Chulalongkorn University. His PhD research is on 'Developing strategies for the ASEAN aviation sector post the 1998 economic downturn'.

Baojin Wang, MEng

A registered engineer in civil engineering, Baojin has experience in highway and transport engineering. He has consulted on 26 engineering projects and has skills in project management. His PhD research is on the development of risk taking modelling framework for road safety.

Alejandra Efron, BEng Argentina MSc Brazil

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.

Wafa Dabbas, BSc MSc

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.

Part-time PhD students

Seu Cheng, BA MA (Econ) University of Manitoba, Canada

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.

Visiting Research Students

Richard Johnsson

Richard is a PhD student from the Department of Economics at University of Uppsala, Sweden and an active member of the Centre for Transport Economics (CTEK), Borlänge, Sweden. As part of his PhD research, Richard is currently developing a Computable Equilibrium model.

Hermann Buchen

Hermann is a student from the University of Technology Dresden, Germany pursuing a Diploma Certificate of Transport Engineering. As part of his course, he is undertaking a 13 week internship at ITS Sydney and preparing a scientific report on opportunities and problems in the transportation sector during and following major event investments like the Olympic Games.

Administrative staff*Kirsten Jakobsen, BSc/BA(Hons) ANU*

Personal Executive Assistant (from 29 May 2000)

Kirsten provides administrative and secretarial support to the Director and ITS academics, coordinates the day to day administration of the graduate program, coordinates the ITS Systemwide and local node Advisory Committee meetings, produces desktop materials for the graduate program, certificate program, short courses, ITS functions and generic ITS flyers. Her background lies in university administration for both The University of Sydney and The Australian National University.

Bruno Sirianni, BIT&C

Administration Associate/Finance Coordinator (until April 2000)

Bruno is responsible for all of the Institute's finances, personnel and travel details. He maintains and assists in the design of the accounts database, processes purchase orders, invoices, receipts and banking, and maintains all personnel records of all staff. He is also responsible for budgeting and financial planning, reconciliation of monthly statements and provides accounts and general administrative support.

Kathie Rasmussen

Finance Coordinator (from April until August 2000)

Kathie filled the Financial Officer position on a temporary basis, taking over from Bruno Sirianni.

Ruth Olip

Finance and Personnel Officer (from 9 August 2000)

Ruth assumes all the responsibility held previously by Bruno Sirianni. She has been employed in various positions at the University of Sydney since 1996.

Lesley Watson, BA GDipLib/IM

Resources Officer and Graduate Programs Advisor (until 31 March 2000)

Leslie is responsible for ITS' library resources, looking after all aspects of student support in graduate programs, undertaking library searches, participating in the web-based learning system for distance education as well as providing research support.

Hetty Read, BA(Hons) Camtab

Research Assistant (until 30 May 2000)

Hetty provides research, administrative and secretarial support to the Director and ITS academics. She is assisting in a research project as part of the development of an assessment centre for State Transit Authority, New South Wales. She completed her Bachelor of Arts degree in Social Anthropology at Cambridge University in 1996 and is working at ITS as part of a year-long trip abroad.

Milena Romic, BA MA (Psychology)
Assistant to Associate Dean (from late July 2000)

Milena is assistant to Ann Brewer in her role as Associate Dean of Postgraduate Coursework Programs, Faculty of Economics and Business. A graduate of the University of Sydney, she has previously undertaken administrative work around Sydney and London.

Adjunct Faculty

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.

John M.C. King, LLB ANU MTM Sydney
Managing Director, Aviation and Tourism Management

John is a consultant who concentrates on aviation and tourism policy, strategy and management. He is the Chairperson of the Travel Compensation Fund and has in the past served as an advisor or Board member of a number of industry associations, including the Pacific Asia Travel Association, the Board of Airline Representatives of Australia, Australia National Travel Association (now Tourism Council of Australia). John's clients include The World Bank, The World Tourism Organisation, foreign governments, international and domestic airlines and a number of travel agencies. He has worked as a consultant in the following countries – Samoa, Papua New Guinea, Pakistan, Ethiopia, Thailand, Philippines, China and the South Pacific generally. Prior to setting up his own consultancy, John worked for 20 years as an airline executive.

Jay Sankaran, B.Tech Madras M.S Iowa PhD Chicago
Visiting Lecturer

Senior Lecturer in Operations Management, Faculty of Business and Economics, University of Auckland

Jay is Senior Lecturer in Operations Management at the Faculty of Business and Economics, University of Auckland. Jay is currently pursuing both empirical and modelling-based research in logistics and supply chain management. The former concerns an inductive investigation into third party logistics contracts. The latter concerns the application of mathematical models for inventory control at a leading Australasian manufacturer of printed circuit boards. Jay runs an intensive 4 week course on Logistics Management in the graduate program.

Alastair Stone, MSc DEng
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 Merrill Lynch. Alastair teaches in the area of joint ventures in public infrastructure projects. Alastair presents in the graduate program in the Transport Policy Workshop with Ann Brewer and in the Infrastructure Planning, Financing and Tendering course with Rodney Swan.

Rodney Swan, BSc (Hons) Mtech
Visiting Fellow
Managing Director, BGP Pty Ltd

Rodney is one of Australia's leading strategists in competitive bidding for public and private sector service projects, with a number of successful infrastructure projects to his credit. He is highly experienced in the financial and operational requirements of projects, with expert knowledge of opportunities in the transport, health and environment sectors. Rodney teaches in the graduate program in infrastructure planning and outsourcing.

Prabir Bagchi, BSc Calcutta MSc Tennessee PhD Tennessee
Visiting Fellow
Professor of Logistics and Operation Management, School of Business and Public Management, George Washington University

Prabir's research interests include logistics, operations and materials management, and systems modelling. He has worked in various management and consultant positions in operations and logistics management for 15 years with Philips and Digital Equipment Corporation. He has served as Vice President of the Council of Logistics Management Washington and Baltimore Roundtables. His recent publication (with Professor Tage Skjott-Larsen of Copenhagen Business School), *European Logistics in Transition: Some Insights*, was adjudged the best logistics paper and was awarded the Andersen Consulting award.

Dr Tu Ton and Kirsten Jakobsen are funded by the Key Centre.

ITS Monash

Geoff Rose, BEng MSc PhD, MIEAust CPeng
Senior Lecturer (40% at ITS)
Head, ITS Monash

Geoff's professional interests cover intelligent transport systems, travel behaviour and non-motorised transport. His experience spans government, consulting and academia. He is Director of the new postgraduate program in transport being offered by distance education and is the author of two subjects (Intelligent Transport Systems and Transport Network Models) offered as part of that program in the 2000 academic year. Active research projects relate to travel time forecasting on motorway networks, impacts of intelligent transport systems on travel behaviour and strategic planning of field service systems.

William Young, BE GradDipMgt MSc PhD, FIEAust FCIT CPeng
Head, Department of Civil Engineering, Monash University

Bill is a recognised specialist in parking and transport land use interaction. His research interests also cover infrastructure management and computer systems. Since being promoted to the Chair in Civil Engineering, Bill has taken on the role of Head of the Department of Civil Engineering.

Samantha Taylor, BE MEngSc (Hons), GradIEAust MITE
Lecturer (100% ITS) (until 31 May 2000)

Samantha has a keen interest in a variety of transportation areas and has published in the areas of traffic engineering, porous pavements, life-cycle costing, transport policy and her specialty of urban goods movement. She is currently international secretary of the World Conference on Transportation Research, Special Interest Group in urban goods movement (WCTR SIG UGM), and is also Chair of The Institution of Engineers, Transport Branch (Victoria). Samantha is joint editor with Professor Ken Ogden of the textbook *Traffic Engineering and Management* (1996), successor to the extremely popular *Traffic Engineering Practice* (1989).

Yvonne Correlje
Program Director, Transport Management Course in Bus and Coach Operations (until June 2000)

Yvonne joined ITS Monash in July 1999. She previously worked with Lend Lease Corporation and the ANZ Bank and her background is in human resource management and adult education/training. Prior to joining the ITS Monash staff Yvonne had contributed to the module on human resource management that forms part of the Transport Management Course.

John Clements BCom, Dip.Ed., MEc.,
Program Director, Transport Management Course in Bus and Coach Operations (from July 2000)

John joined ITS Monash in July 2000 after spending many years on the staff at RMIT University. Prior to joining ITS (Monash), John was Acting Head of the School of Marketing at RMIT University, and had previously been Head of the Department of Marketing, Logistics and Property and a Principal Lecturer responsible for the Transport and Logistics management Group at RMIT. John is a Fellow of the Chartered Institute of Transport, a Member of the Logistics Association of Australia and an Associate Fellow of the Australian Institute of Management. His major academic and research/consulting interests are in transport economics, policy and management. He has professional and consulting experience in the public sector, including the Victorian Ministry of transport, the public transport operating authorities and water resource boards.

Astrid de Alwis, BA (MU), GradDipTr&DistMgt (RMITU), MCIT
Assistant Lecturer (100% ITS) (from September 2000)

Astrid is a consulting logistician with a strong interest in Transport Systems, which she has taught or practised during the last twelve years. She has worked as a transport consultant to several commercial organisations, and published key documents for some of them. Astrid's chief strength lies in her varied and cross-disciplinary educational and experiential background. Having worked in governments, industry and academia, and on local and international projects, Astrid brings to the ITS a broad blend of skills and aptitudes. While currently assisting with the ongoing development and delivery of the Transport Management Course in Bus and Coach Operations, Astrid continues to maintain her research interest in transport infrastructure and its contribution to economic growth.

Andrew Haines, BSc
Technical Support

Andrew provides technical support in the computing and systems area.

Brenda O'Keefe

Administrative Manager

Brenda is responsible for managing administrative support at ITS Monash. She has a major involvement in the Transport Management Course in Bus and Coach Operations where she handles general course enquiries, student enrolment and record keeping as well as all written communications with students throughout the semester. She manages the production of all distance education material and supports other ITS activities including seminars, workshops and public lectures.

Adjunct Faculty

Professor Ken Ogden

Manager (Public Policy), RACV

Ken has over 30 years of experience in transport and public policy. He founded the transport group at Monash University in 1969 and was a Professorial Fellow when he left in 1996 to join the Royal Automobile Club of Victoria (RACV). He currently Group Manager (Public Policy) in the RACV, where he has responsibility for the Club's advocacy activities and research in such areas as road and vehicle safety, traffic engineering, transport planning and policy and traffic safety education. He is heavily involved in the organising committee for the World Congress on Intelligent Transport Systems which will be held in Australia in 2001.

Dr Rahmi Akcelik, CivEng (ITU), PhD (Leeds), Fellow IEAust, Fellow ITE
Director, Akcelik and Associates Pty Ltd

Dr Akcelik is an Adjunct Professor in the Department of Civil Engineering at Monash University and a leading scientist and software developer in the area of traffic management, with over 190 technical publications in his area of expertise. His recently formed research and software company specialises in the areas of road traffic operations, traffic engineering, management and control. Dr Akcelik is a member of the Signalised Intersections Subcommittee of the UK Transportation Research Board Committee on Highway Capacity and Quality of Service, and is also on the Transportation Research Board Committee on Traffic Signal Systems. His current areas of activity include software development, training workshops and consultancies on traffic signals, roundabout design options and greenhouse gas abatement through traffic management measures.

Visiting Research Scholars

Associate Professor Eric Hildebrand, *University of New Brunswick, Canada (Visiting ITS Monash: December 2000 to March 2001).*

Eric Hildebrand, PhD, PEng, is an associate professor in the Civil Engineering Department at the University of New Brunswick (UNB), Canada. Eric has worked as a consultant and researcher for a number of years in the road safety area. He is a coordinator of the UNB Accident Research Team and has undertaken a number of road safety studies dealing with topics such as vehicle crash worthiness, human factors, highway design, and traffic engineering. While at ITS (Monash) he is undertaking research on bus safety.

Professor Masao Kuwahara, ME (Univ. of Tokyo), PhD (Univ. of California, Berkeley)
Professor of Traffic Engineering, Institute of Industrial Science, University of Tokyo (Visiting ITS Monash: December 2000 to May 2001)

Professor Kuwahara's research interests include traffic control, highway capacity, network analysis, traffic simulation and ITS related research. He is currently working on traffic signal

control for an oversaturated network, travel time provision, dynamic network assignment, and parameter tuning of traffic simulation models. He has been appointed a member of various committees of ministries, local government, and public corporations on transportation planning and traffic management. He has served as a board member of ITS World Congress, an International Advisory Committee member of ISTTT, etc. His recent publication, entitled “Dynamic User Optimal Assignment with Physical Queues for a Many-to-Many OD Pattern,” is to appear in the near future in Transportation Research. (Part B).

Esmael Ayati; MSc, Civil Eng. (Teheran Uni), 1968); MPhil, Structural Eng.,(London Uni., 1974); PhD, Transportation Management, (Aston University, Birmingham, UK, 1988) (Visiting ITS Monash: December 2000 to May 2001)

Associate Professor Ayati has worked as a consultant in the UK and Iran and has also served as Executive deputy in Port and Shipping Organization of Iran, Planning Deputy Minister of Road and Transportation Ministry of Iran, and Research Vice-Chancellor of Ferdowsi Uni. of Mashad (Iran). He has been teaching in the University of Science and Technology(Tehran) and Ferdowsi University of Mashad, for the last 25 years. At present he is the full time Associate professor in Ferdowsi University. His main field of research work is traffic safety, and has finalized three comprehensive research projects in this field and has another one under way. He has published more than fifteen papers in domestic and international journals and conferences. He is a member of REAAA and PIARC.

PhD students

Darryn Paterson

Darryn’s PhD research is focused on the prediction of travel time on motorway networks. A macroscopic queuing model has been combined with real-time data from operational motorways to provide improved accuracy in travel time prediction. After submitting his thesis for examination in 2000, Darryn began working with Booz Allen Hamilton in their Melbourne Office.

Jim Youngman

Jim’s PhD research is focused on the strategic planning of field service operations, specifically the determination of operating boundaries for field service teams. Jim has many years of experience in operations research and field service management through a long career with the RACV.

Merle Chan

Merle is examining the impact of in-vehicle navigation systems on travel behaviour. The study focuses on the mobility impacts of these devices but recognises that there are related safety impacts through changes to exposure. She completed her undergraduate degree in civil engineering at the University of Auckland.

6. RESEARCH AND POLICY

New in 2000

Commuter Coping Strategies During the Sydney Olympics (ITS Sydney)

The Olympics Road and Traffic Authority has provided partial funding for a four-wave survey of Sydney commuters, designed to monitor their intentions leading up to the Olympics and to observe actual plans during the Olympics in respect of how they will cope with the increased traffic and disruption. Through a four panel we can identify how reliable stated intentions are prior to the Olympics. We specifically focus on the range of coping strategies of commuters, the support they get from their employers as well as employer constraints that limit the options. As well we have investigated how effective the marketing campaigns have been in reducing the amount of commuting travel during the Olympics.

Freight Strategy 2010 for NSW (ITS Sydney)

The Road and Traffic Authority commissioned David Hensher to design and facilitate a one-day consultative workshop on the NSW Freight Strategy 2010, held on 15 February 2000. A report was prepared following the workshop that integrated all of the discussion. Key themes developed included the broadening of the freight task to recognise the complexities of the entire logistics chain, the growing emphasis on a multi modal perspective and the move away from the unproductive debate on road vs. rail, the need for more research to gain a better understanding of the industry and opportunities for change, and the major constraints on the freight task due to badly location of inefficient terminals and hubs. Follow on work integrating this workshop information into the Freight Strategy document was also undertaken.

Modelling of Induced Demand (ITS Sydney)

Prepared for the Roads and Traffic Authority of NSW (Traffic Technology Division), the objective of this study was to identify an appropriate mechanism for empirically estimating the magnitude of induced traffic demand in the presence of new road infrastructure. There were three key elements to the review process – 1. the establishment of an appropriate functional form for a generative model of travel demand that explicitly accounts for changes in levels of service (typically represented by an index of generalised cost), 2. the nature of data required to estimate such a model to reveal appropriate elasticities of demand, and 3. in the absence of an ability to estimate the generative model locally, to source elasticities from the extant literature that represent the range over which local evidence is most likely to reside.

Cross City Tunnel Project (ITS Sydney)

David Hensher was appointed as a special adviser to Warburg Dillon and Read venture on the proposed cross city tunnel project.

Melbourne-Brisbane Section of the Australian Inland Railway (ITS Sydney)

David Hensher gave specialist technical advice to ATEC (Australian Transport and Energy Corridor Ltd.) on the pre-feasibility study of the Melbourne-Brisbane Section of the Australian Inland Railway.

Quality Partnership with the BCA NSW (ITS Sydney)

The quality partnership between ITS Sydney and the Bus and Coach Association of NSW (BCA) commenced in 2000. It is a five-year 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 2000, these activities included the development of a methodology and pilot testing to establish a meaningful and administrative feasible measure of service quality (SQI), actively promoting SQI to the Director-General of Transport, giving presentation of the pilot SQI study to John Stott, the CEO of State Transit (STA), working with STA and a number of private operators in developing the SQI approach further as a tool readily available and operational for both PAR and the broader interests on knowing one's customers, design of a 2-day training program for recruitment officers which is jointly badged as an ITS-BCA initiative, general contribution through Conferences such as ABCA, ATRF and Thredbo series, providing intelligence to the BCA on many matters of interest, and providing commentary and input into the planned program to update the non-commercial contract costing and case for revised contract fees.

Parking in multi-use facilities (ITS Monash)

This study investigates the application of parking modelling to the design and enhancement of multi-storey parking facilities. The PARKSIM model is used as a base and vehicle movement in multi-storey facilities modelled to enhance its present capabilities. The multi-storey simulation model considers different user and vehicle types within a mixed use development as well as different types of parking operations. It incorporates algorithms for route choice, car following and lane-changing within the car park and external road network.

Equilibrium modelling of land use activities (ITS Monash)

This study builds on the development of the LAND package. It investigates the role and use of equilibrium modelling on improving the prediction of land values and location preference of residents and businesses. The model will be applied to the Brisbane region.

Transport policy and people with disabilities (ITS Monash)

The project looks at the needs of people with disabilities and the ability of the transport system to meet these needs. In particular, the present level of infrastructure and the need for retrofitting of equipment will be investigated.

Accuracy and traffic simulation modelling (ITS Monash)

This project looks at the reliability of traffic simulation models. In particular it investigates the assumptions made in the model and their impact on the output. Particular attention will be paid to assumptions about drivers risk taking.

Continuing from 1999

TRESIS (ITS Sydney)

ITS is developing an urban passenger transport model system called TRESIS – Transport and Environmental Strategy Impact Simulator. 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 project team members are David Hensher, Tu Ton (project coordinator), Jeff Leal (until 30 June), Freddy Susanto (from 24 July), Kirk Bendall, and Cam Ngo.

The first version of TRESIS (TresisV1.2) was released in November 2000. It is a beta version for evaluating at a strategic level impacts of a large number of transport and non-transport policy instruments on the performance of cities (Sydney, Melbourne, Adelaide, Brisbane, Canberra and Perth) as measured by changes in accessibility, greenhouse gas emissions, modal shares for commuting, car use, consumer surplus and many more outputs indicators.

Road and Public Transport Networks (ITS Sydney)

As part of the development of TRESIS, ITS Sydney has developed and released its road and public transport networks for Sydney. Known as SydNet-Roads, SydNet-Bus, SydNet-Rail, SydNet-Ferry, SydNet-Light Rail and SydNet-Transitways, these can be purchased under a licence agreement.

Equipment Grant (ITS Sydney)

ITS Sydney won a University equipment grant to develop the new IWISH program which is linked to the on-line teaching program.

Development of Assessment Centre (ITS Sydney)

For State Transit Authority, New South Wales, ITS Sydney is undertaking the development of an assessment centre. This project continued from 1999. The tools were developed and implemented in November.

Parramatta CBD Parking and Public Transport Surveys (ITS Sydney)

The Parramatta City Council engaged ITS Sydney to undertake the design and analysis of a Stated preference and revealed preference survey of commuters and non-commuters travelling to/from the Parramatta City Centre by car and public transport. A series of SP-RP surveys were undertaken in 1999 and the data used in the estimation of nested logit models that produce utility expressions for parking off-street, on-street and using bus and train. The report for the project was prepared and finalised in the year 2000.

Web-based learning (ITS Sydney)

ITS Sydney received a \$15,000 grant entitled "Interactive Learning (Problem-Based Learning) PLB Module: A Prototype" from the Education Sub-Committee of the Information Technology Centre, The University of Sydney to develop web-based materials and resources.

Identifying Policies to Reduce Car Use in New Zealand (ITS Sydney)

Funded via Dr Carolyn O'Fallon of Pinnacle Research (NZ), ITS undertook a study into identifying policies to reduce car use in New Zealand. A stated preference design was developed to evaluate alternative options to car use for various trips when faced with a range of levels of parking availability and price, public transport fares, fuel prices, etc.

Valuation of Travel Time Savings for Car Drivers in New Zealand (ITS Sydney)

For Transfund New Zealand in conjunction with Booz Allen, ITS developed a computerised stated choice experiment to evaluate the trade-offs in travel time decomposed into free flow, congested circumstances, uncertainty of arrival time, operating costs and other road user

charges. The data collected was used to estimate a series of discrete choice models to obtain new estimates of value of time for each trip purpose for urban and long distance settings, distinguishing mean estimates and variances due to the distribution of reliability and congestion.

Estimation of the Sydney Travel Model System – Stages 1 and 2 (ITS Sydney)

In partnership with Hague Consulting Group (HCG) estimated the new suite of travel demand models for commuting behaviour as input into the updated STM system, being implemented for the Transport Data Centre of the NSW Department of Transport.

Shiftwork Study (ITS Sydney)

ITS was commissioned by Cumberland Health and Research Centre to investigate shiftwork in Sydney and to recommend the shiftlength and rostering for a large temporary workforce for the 2000 Olympic Games.

Service Quality Indicator (SQI) for Urban Bus Services (ITS Sydney)

As part of a review of the proposed amendments to the NSW 1990 Passenger Transport Act that will require a greater focus on performance assessment, ITS undertook a major survey of 32 bus operators in Sydney in 1999 seeking data on their financial position as well as data from a sample of passengers. A Stated choice experiment was developed based on attributes of importance to users of bus services, and used to obtain a customer-based indicator of service satisfaction. This indicator was used in a cost model to identify the incremental cost to an operator of improving service levels in accordance with compliance with a performance assessment regime based on benchmarking best practice. Further SQI surveys (with revised questionnaires) were conducted in November 2000 with the participation of bus operators through a subscription arrangement.

ITS International Bus and Coach Performance Benchmarking Program (ITS Sydney)

This is an on-going program launched by the Institute of Transport Studies in November 1995. There were 8 subscriptions received for the year 1998/99.

Travel Time Prediction on Motorways (ITS Monash)

Melbourne's Drive Time system provides motorists with an indication of the travel time to various exits along the freeway and a colour-coded indication of the level of congestion in-between exits. The Drive Time system relies on speed data received each 20 seconds from inductive loop detectors located about every 500 metre along the freeway. This speed data is used to estimate the travel time along each segment of the freeway. This project has focused on improving the core algorithm used to compute the travel times. The enhanced algorithm enables more accurate travel time estimates to be obtained in the pre- and post-peak periods by using a deterministic queuing approach to anticipate the build up and decay of queues. As part of the calibration and validation of the enhanced model travel time data have been collected using a timed numberplate survey. This has enabled the performance of the existing and enhanced algorithms to be compared. The travel time surveys have highlighted the inherent variability in actual travel times. The results suggest that the improved algorithm is able to provide more reliable predictions of "average" travel times in the peak period.

Estimating Real Time Travel Time on Freeways Using Artificial Neural Network Techniques (ITS Monash)

The rapid development of technology and in particular Artificial Intelligence (AI) has brought the concept of calculating real time travel time a step closer to attainment. This research project

focuses on using Artificial Neural Network to estimate real travel time. The research's goal is to predict the travel time from a point A to a point B on an urban highway route as accurately as possible.

The Modelling and Intelligent Optimisation of Field Service Territories (ITS Monash)

Field service is concerned with the delivery of services to customers who are spatially distributed. Common examples are emergency services (police, fire and ambulance), photocopier or computer repair, home maintenance (e.g. plumbers and electricians) and roadside vehicle breakdown services. For a variety of reasons, it is common for service staff (henceforth referred to as "units") to be assigned to territories each of which is manned by one or more units. Two distinct forms of travel occur in field services. In cases such as ambulance and fire services the requests are often so urgent that there must be a small probability that no units are available when the request is received. This implies that utilisation will be small and units would normally return to their base station at the end of a job: "round trips". The focus of this project will be the "sequential" trip situation where utilisation is much higher and units usually travel directly from one job to the next. The aim of the project is to find a process for subdividing any region into territories that results in near minimal response times for service requests, assuming the total number of staff available is fixed.

Impact of In-vehicle Navigation Systems on Drivers' Travel Behaviour (ITS Monash)

In-vehicle navigation systems (IVNS) are now available in Australia as a result of the production of navigable map databases for major Australian cities. These devices provide synthetic voice turn-by-turn guidance to assist the driver in navigating to a nominated destination.

These in-vehicle devices have the potential to improve safety and mobility. This project focuses on the mobility aspect by exploring the extent to which devices of this form can influence decisions relating to trip timing, trip frequency, destination, mode choice and route choice. The extent of impact will be determined by the data collected from a field study. Private car drivers will be recruited to receive a trial usage of an IVNS for up to three weeks. The participants will be required to keep a travel diary. The recorded trips will facilitate a comparison of their travel behaviour before and after the usage of IVNS. To capture their route choice behaviour, two interviews will be conducted to understand the decision process employed by each participant during route planning. The last part of data collection requires the participant to indicate their stated choices of destination and trip timing and their willingness to pay for the IVNS in a self-completion questionnaire.

Level of Service in residential streets (ITS Monash)

Knowledge of driver's perception of the level of service of residential streets is required in order to design residential networks. This project has investigated residential and non-resident perception of the level of service of a number of roads. It has shown that drivers consider the safety, speed and provision of parking in determining the level of service.

Performance based standards for heavy vehicles (ITS Monash)

This study has explored the role and potential for performance based standards in improving the economic, safety and environmental performance of the road system. This study is part of an Austroads project on Performance Based Standards for Heavy Vehicles.

Other activities and projects

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. Three handbooks will be published under the Pergamon imprint over a period of 3 years. The first of these handbooks is on Transport Modelling, the second is on Logistics and Supply-Chain Management and the third is on Transport Systems and Traffic Control. Handbook of Transport Modelling will be published in 2000.

The second volume – Handbook of Logistics and Supply Chain Management which will be published in 2001 has been adopted by The Institute of Logistics and Transport (ILT). ILT is the result of the Institute of Logistics merging with the UK Chartered Institute of Transport. Ann Brewer is a co-volume editor and reviewer of the second volume.

IATBR 2000 Conference (ITS Sydney)

David Hensher was the Conference Chair for the 9th International Association of Travel Behaviour Research Conference (IATBR 2000) which was held in the Gold Coast in July 2000. Ann Brewer, Geoff Rose, Tu Ton, and Jenny King was involved in the planning and organisation of the Conference. It was a very successful conference attended by a total of 171 delegates from 25 different countries; including US, UK, France, Sweden, Japan and Germany, as well as a good representation from Australia. Following the conference, David Hensher and Jenny King has been appointed as editors of a book (to be published in 2001) titled “The Leading Edge of Travel Behaviour Research” by Elsevier Science Ltd. under the Pergamon Press imprint. The book will comprise the conference resource papers, workshop reports and selected papers from the conference.

Photos from the IATBR 2000 Conference



Photo 1: At a workshop session



Photo 2: Prof. David Hensher (Conference Chair) and Prof. Hani Mahmassani, University of Texas, Austin (President, IATBR)



Photo 3: Main table, Conference Dinner



Photo 4: Some delegates, Conference Dinner



Photo 5: Some delegates, at a tea break



Photo 6: Dr Tu Ton and Dr Peter van der Waerden, Eindhoven University of Technology, The Netherlands

CRC Proposal: Vehicle, Infrastructure, Safety and the Environment (ITS Sydney and ITS Monash)

ITS Sydney has joined with the Department of Manufacturing and Mechanical Engineering, University of Melbourne and ITS Monash to submit a CRC proposal titled “Vehicle, Infrastructure, Safety and the Environment” in the latest round. Key industry partners are Ford Australia, Autoliv Australia, Venture Industries Australia, VicRoads, Roads and Construction Supplies of Australia, NRTC and Bus Association of Victoria. If successful, 7 years of funding to develop TRESIS in greater detail will be received with the creation of up to 6 new research positions.

Improving Safety in Road Transport of Freight (ITS Sydney)

David Hensher was invited by National Road Transport Commission (NRTC) to a one day think tank in Melbourne on 16 August on “Improving Safety in Road Transport of Freight”. The invitation was linked to earlier ITS research on long-distance drivers on-road performance.

Sustainable Transport (ITS Sydney)

David Hensher participated in the Warren Centre’s Sustainable Transport Program throughout 1999/2000.

Bus and Coach Association of NSW Bulletin (ITS Sydney)

David Hensher contributed, quarterly, a one page titled ‘Transport Research and Education’ in the Bus and Coach Association of NSW Bulletin.

Sydney Olympics Volunteer Work (ITS Sydney)

Kirk Bendall was a volunteer during the Sydney Olympics. He was NOC assistant for the Egyptian Olympic team with the broad aim of helping the team participate in the Olympic Games and to live in the Olympic city. The many tasks that he performed in his role included

facilitating travel, liaising with the drivers, advising on where to obtain help, accompanying team members to the polyclinic and media interviews, seeing that accommodation issues were sorted out and seeing that phones were answered. Kirk described his role as challenging but satisfying. Kirk was one of the 6 Olympic Volunteers surprised to be invited for a visit to Cairo in January 2001, as recognition of all volunteers' hospitality. Kirk reports the visit was marvellous, and recommends Egypt as a place to visit.



Photo 7: Kirk Bendall on his Olympic duties (second from left)

7. EDUCATION

ITS Sydney

The Education program at ITS Sydney includes:

- PhD program;
- Masters by Research Program;
- Graduate transport & logistics management program;
- 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

Chackrit Duangphastra graduated in October with his thesis titled “Developing strategies for the ASEAN aviation sector post the 1998 economic downturn”.

Students in the PhD program at ITS (at the end of 2000) include:

Full-time

Seu Cheng (1992): Interactive agency choices in domestic freight movements

Baojin Wang (1998): Development of risk taking modelling framework for road safety

Alejandra Efron (2000): Supply chain and stated preference methods

Wafa Dabbas (2000): Air quality modelling for urban areas

Graduate transport 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).

There are currently over 50 students in the graduate program. 17 students graduated in 2000.

11 new Masters students and 9 new Graduate Certificate students enrolled in 2000.

Courses

ITS taught the following transport and logistics management courses in 2000:

Summer Session (7-9 February)

- Special Topic in Transport Management: Public Transport Systems

Semester 1

- Transport Policy Workshop
- People, Work and Organisation
- Transport Economics and Management
- Graduate Skills Workshop

Winter Session (June - July)

- Logistics Management

Semester 2

- Strategy & Supply Chain Management
- The Industry Laboratory
- Logistics Systems
- Environment Systems Assessment
- Geographical Information Systems for Planning and Marketing
- Aviation Management & Logistics

Student awards

Dante Villareal received the Institute of Transport Studies prize for excellence in full-time study in the MTM program. Michelle McCormick received the Chartered Institute of Transport Ken Hillyar award for best Year 1 student in the MTM program and Morgan Noon received the Chartered Institute of Transport Sir Hudson Fysh award for best Year 2 student in the MTM program. Richard Connors received the Australian Institute of Traffic Planning and Management prize for best student in the Graduate Diploma program.

The Industry Logistics Prize was awarded to Richard Spanos.

The awards were presented at the Institute of Transport Studies annual presentation dinner on March 3, 2001 attended by students, alumni students, staff and supporters of the Institute.

Certificate programs**Certificate of Transport Management (Bus/Coach)**

The CTM was established in conjunction with the Bus and Coach Association (NSW) to provide managerial training for the bus and coach industry. It is the only program to meet the accreditation requirements under the NSW 1990 Passenger Transport Act.

In 2000, ITS conducted 1 CTM course with an intake of 31 students.

Certificate of Coach Management

The Certificate of Coach Management (CCM) is specifically designed for coach operators accredited for long distance and tourist vehicle services (including overnight charter work).

In 2000, over 190 students completed the 4 day program. There were 3 CCM intakes in 2000.

Certificates of Logistics Management, Freight Management and Supply Chain Management

This management program first introduced in 1997 meets the needs of professionals involved in logistics, maritime, supply chain management, retail and freight transportation management. The program structure was revised in 1998 with the introduction of two new courses Certificate of Maritime Logistics and Certificate of Retailing Logistics.

Student awards

In 3 March, 2001, the CTM, CCM and CLM Certificate Presentation Dinner was held in conjunction with the Institute of Transport Studies end-of-year dinner.

The Bus & Coach Industrial Associations' - BCA Prize for the best student in the Certificate of Transport Management program, worth \$250 in 2000, was awarded to Philip Parker.

Short Courses and Workshops

Public Transport Systems

On 7 - 9 February, Professor Avi Ceder ran a 3 day workshop on Public Transport Systems at ITS Sydney. It was attended by 24 participants. The workshop presented new methods which have significant potential for improving the cost-effectiveness of short range public transport planning, compared between traditional operations and service planning, including scheduling procedures, and new approaches as well as dealt with persistent and realistic public transport problems.

Supply Chain Management: Contemporary Perspectives

On 14 August, a seminar on Supply Chain Management: Contemporary Perspectives was conducted by Professor Prabir Bagchi. The seminar traced the history of the evolution of the concept of supply chain management and deal with its importance both from the individual firm and country perspectives. It also discussed recent supply chain design issues and ended with some leading edge thinking in systemic development. It was attended by 30 participants.

Distance Education

CTM (Bus and Coach) and CCM (Coach) Western Australia

In 1998 ITS introduced a distance education format for CTM and CCM in Western Australia with the full support of the Department of Transport (Western Australia) and Bus and Coach Association (Western Australia). In 2000, 8 operators completed the Level 1 program and 6 operators completed the Level 2 program by distance education.

ITS Monash

The education program at ITS Monash includes:

- PhD program;
- Master of Engineering Science by research;
- Master of Transport and Traffic;
- Transport Industry Education Programs; and
- Short courses and workshops.

PhD program

Students engaged in PhD research at ITS Monash (at the end of 2000) included:

Darryn Paterson: Travel Time Prediction on Instrumented Freeways

Jim Youngman: The Modelling and Intelligent Optimisation of Field Service Territories

Merle Chan: Impacts of In-Vehicle Navigation Systems on Travel Behaviour

Tan Yan Weng (external): A study of parking movements in multi-storey parking systems

Master of Engineering Science by research

Students engaged in Masters research at ITS Monash (at the end of 2000) included:

Ed Chandra (external): Equilibrium modelling of land use activities

Saf Kabbara: Freeway travel time prediction using artificial neural networks

Postgraduate Degrees by coursework

In 2000, the new distance education program in Transport and Traffic was introduced. This program offers three postgraduate coursework degrees: Graduate Certificate (4 subjects), Postgraduate Diploma (8 subjects) and Masters (12 subjects). Articulation paths are available and an entry option is available to students who have not completed a Bachelors Degree. The first student graduated with the Master of Transport and Traffic in 2000 after transferring from the previous Master of Engineering Science (Coursework and Minor Thesis).

Courses

Subjects taught by ITS Monash staff included:

Semester 1

- Quantitative Methods
- Intelligent Transport Systems
- Parking Policy and Design

Semester 2

- Transport Network Models
- Road Safety Engineering

Student awards

The following prizes were awarded to students:

- Egis Highway Design prize was awarded to Markham Lewis, Kate Mould, Andrew Slande and Eloise Gordon
- Richardson prize in Transport to Bill Tsoumbanos
- VicRoads prize in transport Engineering to Anita Curnow
- Turnbull and Fenner prize to Bill Tsoumbanos

Transport Industry Education Programs

Transport Management Course in Bus and Coach Operations

The Transport Management Course in Bus and Coach Operations was launched in March 1999 and now has more than 1300 students involved in the program. It is a distance education program and forms part of the industry accreditation system which came into effect in Victoria from 1 May 2000. The distance education delivery is supplemented by an introductory 'face-to-face' session at the beginning of each semester.

There are two streams of the course available to operators. One stream is for small operators with five or fewer buses operating school services and charter to those schools (within school hours) only. The regular course is for all operators who engage in charter, tour, or route services, or who have more than five vehicles. The subjects offered in the course are:

- Introduction to bus and coach operations; small operators
- Introduction to bus and coach operations; legislation, safety and maintenance
- Financial management
- Human Resource Management, and
- Marketing, planning and operations for bus and coach operations
- Marketing, planning and operations for bus operations
- Marketing, planning and operations for coach operations

An inaugural Awards Dinner attended by nearly 100 people for the Transport Management Course in Bus and Coach Operations was held on 9 June, 2000. Completion certificates were presented to those students who had completed either the small or large operator programs. The guest speaker was Mr Carlo Carli, MP for Coburg and Parliamentary Secretary for the Department of Infrastructure. Mr Carli also presented awards to students who had achieved outstanding results in the course. Wayne Mountjoy, Anita Gourlay, Joseph Shanahan and Patrick Ryan received awards.



Photo 8: Awards Dinner, Transport Management course in Bus and Coach Operations
 L-R: Wayne Mountjoy, Anita Gourlay, Carlo Carli, MP, Joseph Shanahan, Dr Geoff Rose, Patrick Ryan



Photo 9: Awards Dinner, Transport Management course in Bus and Coach Operations

A major review of the Transport management Course was undertaken in November. That review endorsed the continuation of the course and supported a simplification to the course structure which will see it consolidate to four subjects.

Education Program in Parking Management

Bill Young continued development on the distance education program in parking management for the Parking Association of Australia. The program involves four subjects covering Introduction to parking, Parking management, Parking design & policy, and Parking technology & information collection.

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.

Books and book chapters

David Hensher, Jordan Louviere and Joffre Swait's book *Stated Choice Methods: Analysis and Application* was published in September 2000 by Cambridge University Press.

David Hensher and Ann Brewer's book *Transport; An Economics and Management Perspective* completed in 1998 was accepted for publication by Oxford University Press, Oxford. It will be published in January 2001.

David Hensher and Kenneth Button's book *Handbook of Transport Modelling* (Volume 1 of *Handbooks in Transport* series) was published in December 2000 by Pergamon Press.

Other books and book chapters published/authored include:

- Louviere, J.J., Hensher, D.A. and Swait, J. (1999) Conjoint Methods in the Broader Context of Random Utility Theory Preference Elicitation Methods, in Herrmann, A., Huber, F. and Gustafsson, A. (eds.) *Conjoint Measurement: Methods and Applications*, Springer, Berlin, 279-318.
- Hensher, D.A. and Golob, T. (in Press) Telecommunications-Travel Interactions, in Mahmassani, H. (ed.) *Traveller Behaviour Research*, Pergamon Press, Elsevier Science, Oxford.
- Hensher, D.A. (in Press) Understanding travel behaviour, (invited occasional address, The University of Oxford, Hertford College, July 1998), in Preston, J. (ed) *Whither Transport Studies*, Avebury Press, UK.
- Brewer, A.M. (forthcoming) The Concept of value, in Brewer, A. M, Button, K. and Hensher, D.A. (eds) *Handbook of Logistics and Supply Chain Management*, Pergamon Press, Oxford.
- Brewer, A.M. (forthcoming) Organisational and work design structures for integrated logistics, in Brewer, A.M., Button, K. and Hensher, D.A. (eds) *Handbook of Logistics and Supply Chain Management*, Pergamon Press, Oxford.
- Hensher, D.A. (forthcoming) Modal Diversion, in Hensher, D.A. and Button, K. (eds) *Handbook of Transport Systems and Traffic Control*, Pergamon Press, Oxford.
- Hensher, D.A. and King, J. (eds) (forthcoming) *Travel Behaviour Research: The Leading Edge*, Pergamon Press, Oxford.
- Hensher, D.A. and King, J. *The Leading Edges of Travel Behaviour Research*, Overview Chapter in Hensher, D.A. and King, J. (eds) *Travel Behaviour Research: The Leading Edge*, Pergamon Press, Oxford.
- Dueker, K. J. and Ton, T. (2000) Geographical Information Systems for Transport, in Hensher and Button (eds.) *Handbook of Transport Modelling* pp 253-69.
- Hensher, D.A. and Button, K. (2000) Transport Modelling: An Overview in Hensher, D.A. and Button, K. (Series and Volume eds), *Transport Modelling*, Handbooks in Transport, Pergamon Press, Oxford.
- Taylor, M.A.P., Bonsall, P. and Young, W. (2000). "Understanding traffic systems: Second Edition" (Gower Publishing Co.: England).
- Young, W. (2000). "Modelling Parking". In Hensher, D.A. and Button, K.J. (eds) *Handbook of Transport Modelling* (Pergamon Press: Oxford)

Journal articles

- Brewer, A.M. and Hensher, D.A. (2000) Distributed work and travel behaviour: The dynamics of interactive agency choices between employers and employees, *Transportation*, 27, 117-148.
- Brewer, A.M. (2000) Road rage: who, what, where and when?, *Transport Reviews*, 20(1), 49-64.
- Brewer, A.M. (2000) Time, place and distance: Gender differences in work and travel behaviour, *Gender, Work and Organisation*, 7(1), 33-44.
- Hensher, D.A. (2000) Transport Economics: A Personal View, *Millennium Special Issue of Journal of Advanced Transportation*, 34(1), 65-105.
- Prioni, P. and Hensher, D.A. (2000) Measuring service quality in Scheduled Bus Services, *Journal of Public Transport*, 3(2), 51-74.
- Hensher, D.A. and Ton, T. (2000) A comparison of the predictive potential of artificial neural networks and nested logit models for commuter mode choice, *Transportation Research E*, 36E(3), September, 155-172.
- Daniels, R. and Hensher, D.A. (2000) Valuation of environmental impacts of transport projects: the challenge of self-interest proximity, Special issue of *Journal of Transport Economics and Policy*, Small, K. (Editor), 34(2), 189-214.
- Hensher, D.A. (2000) User Needs and Impact on Public Transport: Workshop 3 Report, *Transport Reviews* 20 (3), 339-346.
- Hensher, D.A. (2000) Assessing Data and Modelling Needs for Urban Transport: An Australian Perspective, *Journal of Transportation and Statistics*, 3(1), April, 31-52.
- Hensher, D.A. and Duangphastra, C. (2000) Interorganisational Support and Strategies for the ASEAN Aviation Sector: An Application of Canonical Correlation Analysis, *Journal of Air Transport Management*, 6, 119-132.
- Prioni, P. and Hensher, D.A. (2000) Measuring Service Quality in the Provision of Scheduled Bus Services, *Journal of Public Transportation*, 3(2), 51-74.
- Hensher, D.A. (2001) Urban Public Transport Challenges, *The Drawing Board*, 1(2), 47-62.
- Hensher, D.A. and Reyes, A.J. (2000) Trip Chaining as a Barrier to the Propensity to Use Urban Public Transport, *Transportation*, 27(4), 341-61
- Norojono, O. and Young, W. (2000). "Freight mode choice behaviour: Lesson from a small sample size analysis". *Gadjah Mada International Journal of Business* 2(1), 53-62.
- Rose, G., 2000, 'Simulated consulting: a win-win experience in transport engineering education', *European Journal of Engineering Education*, 25(1), 57-64.
- Rose, G., 2000, 'Australian Initiatives for the Treatment of Car Dependence', *Health Promotion Journal of Australia*, 10(3), 203-205.

Journal articles (forthcoming/in press/editorial consideration)

- Abelson, P.W. and Hensher, D.A. (in press) Induced travel demand and user benefits: Clarifying the definition and measurement for urban road infrastructure in Hensher, D.A. and Button, K. (Series and Volume eds), *Traffic Systems and Control*, Handbooks in Transport, Pergamon Press. Oxford.
- Brewer, A.M. and Hensher, D.A. (in press) Identifying the Overarching Role of a Logistics Strategy in an Organisation's Strategic Focus, *Journal of Applied Logistics Management*.
- Hensher, D.A. (in press) The sensitivity of the valuation of travel time savings to the specification of the unobserved effects, *Special issue of Transportation Research E*.
- Hensher, D.A. (forthcoming) The valuation of commuter travel time savings for car drivers in New Zealand: Evaluating alternative model specifications, *Transportation*.
- Hensher, D.A. (editorial consideration) Towards an Integrated Strategic Urban Passenger Transport Modelling System.
- Hensher, D.A. (in press) The Valuation of Travel Time Savings for Urban Car Drivers in New Zealand: Evaluating Alternative Model Specifications, *Transportation*.
- Hensher, D.A. (in Press) Measurement of the Valuation of Travel Time Savings, *Special Issue of Journal of Transport Economics and Policy* (in memory of Michael Beesley).

- Hensher, D.A. and Greene, W.H. (in press) Specification and estimation of Nested Logit Model Models, *Transportation Research B*.
- Hensher, D.A., Louviere, J. and Hansen, D. (in press) The Use of Mixtures of Market and Experimental Choice Data in Establishing Guidelines for Evaluating Competitive Bids, *Journal of Transport Policy*.
- Hensher, D.A. and Prioni, P. (in Press) The Missing Link in Contract Performance Assessment: The Integration of a Service Quality Index into a Competitive Tendering Regime, *Journal of Transport Economics and Policy*.
- Hansen, D. and Hensher, D.A. (editorial consideration) Forecasting organisational decisions: Obtaining better estimates of management decisions by combining market and experimental decision data (presented at the annual INFORMS Marketing Science Conference, INSEAD, Fontainebleau, France, 13 July 1998).
- Ogden, K., Russell, E.W., Taylor, S.Y. and Cox, J.B. (forthcoming) Refocusing Transport Reform *Business Council of Australia*.
- Rose, G. (forthcoming) Simulated consulting a win-win experience in transport engineering education, *European Journal of Engineering Education*.
- Stopher, P.R. and Hensher, D.A. (in press) Are more profiles better than less? Searching for parsimony and relevance in stated choice experiments, *Transportation Research Record*.
- Taylor, S.Y. and Ogden, K. (forthcoming) How productive are commercial vehicles?, *Journal of Transport Logistics*.
- Hensher, D.A. (forthcoming in 2001) Transport Economics and Markets: A Personal View, *Economic Papers*
- Hensher, D.A. and King, J. (editorial consideration) Environmental Responsibility on Campus: Stakeholder Views on the Environmental Performance of the University of Sydney.
- Rose, G. (in press) 'Safe Routes to School Implementation in Australia', Road and Transport Research.
- Rose, G and Ampt, E. (in press) 'Travel Blending: an Australian travel awareness initiative', *Transportation Research*, Part C.

Journal articles (in progress)

- Hensher, D.A. and Brewer, A.M. (in progress) Going for Gold at the Sydney Olympics: How did the Transport Perform?
- Hensher, D.A. and Greene, W.G. (in progress) Choosing between conventional, electric and LPG, CNG vehicles in single-vehicle households.
- Hensher, D.A. and Louviere, J.J. (in progress) Revisiting the Valuation of Travel Time Savings, allowing for Congestion and Uncertainty.
- Hensher, D.A., Louviere, J.J. and Wallis, I.P. (1999) The Valuation of Travel Time Savings for Car Drivers in New Zealand (For WCTR 2001, Seoul).
- Louviere, J.J., Hensher, D.A. and Stopher, P.R. (in progress) An Empirical Analysis of the Effect of Numbers of Choice Sets in Designed Choice Experiments.

Conference proceedings

- Brewer, A.M. (2000) Organisational Logistics as a Mode of Organising, *Logistics Research Network Annual Conference September 2000*, Lean Enterprise Research Centre, Cardiff University, Cardiff, September, 2000.
- Brewer, A.M. and Hensher, D.A. (in press) The Impact of Staging a Major Event on Commuters' Travel Behaviour: The Sydney 2000 Olympic Games, *Papers of The Australasian Transport Research Forum 24*, Hobart, March.
- Louviere, J.J. and Hensher, D.A. (2000) Combining Preference Data, Resource Paper, *9th International Association of Travel Behaviour Research Conference*, Gold Coast, Queensland, 2-7 July, 2000.
- Richardson, A.J. (2000) Behavioural Mechanisms of Non-Response in Mailback Travel Surveys, *Transportation Research Board 79th Annual Meeting*, Washington D.C., 9-13 January, 2000.

- Griffiths, R., Richardson, A.J. and Lee-Gosselin, M.E.H. (2000) Travel Surveys in the New Millennium, *Transportation in the New Millennium*, Transportation Research Board, Washington D.C. (CD-ROM).
- Wang, B., Hensher, D.A. and Ton, T. (in press) Safety in the road environment: a behavioural response perspective, *Papers of The Australasian Transport Research Forum 24*, Hobart, March.
- Norojono, O. and Young, W. (2000). "A stated preference freight Mode Choice Model" Proceedings of International Conference on Travel Behaviour, Volume 9 Applications Workshop 1 Freight Mode Choice (CDRom).
- Young, W., Li, R. and Bonsall, P. (2000). "Traffic simulation, safety and modeller liability". Conference of Australian Institutes of Transport Research and Education, Canberra, Australia.

ITS Working Papers

All Working Papers may be purchased from ITS.

A Working Paper Series 1991-2000 CD-ROM was released in containing all working papers to date from 1991 to 2000 to celebrate 10 years of research at ITS.

ITS-WP-00-1 *Identifying the Overarching Logistics Strategy of Business Practices* (Ann M. Brewer and David A Hensher)

Abstract In a 'hyper competitive context' (D'Aveni 1994), a major issue for enterprises is the strategic use of logistics capability to gain create and leverage value in the marketplace. Management is now appreciating that a logistics strategy makes a key contribution to corporate strategy and performance. This paper investigates the extent of complementarity between the logistics strategy and business practices in 20 organisations in the management of their operations, inventory, alliances, customers, supply chain integration, performance assessment, information technology and EDI practices. Non-linear canonical correlation analysis is used to establish the degree of concordance between business practices and the logistic strategy for a sample of Australian organisations involved in freight transportation. The evidence suggests that there is very strong synergy between a logistics strategy and the broader set of business initiatives in transport businesses, giving strong support to the overarching role of logistics strategy. This is in contrast to non-transport organisations where logistics is still seen as a separate activity centre, with the exception of information technology and EDI.

ITS-WP-00-2 *Do Mergers and Alliances Influence European Shipping and Port Competition?* (T.D. Heaver, H. Meersman, F. Moglia and E. Van de Voorde)

Abstract New horizontal and vertical integration agreements among the previously separate players in the international shipping and logistics industries are changing the characteristics of services and the structure of the industries. This paper reviews the types of agreements being entered into; examples given are within or affecting Europe. The paper notes that greater integration in the industries may enable improved quality and efficiency of services for shippers. It also notes that the integration changes the amount, nature and incidence of competition in the industries. Particular attention is given to the strategic implications of the changes for ports. The presence of a large fixed infrastructure in the costs and the increased role of the private sector and commercial objectives make the appropriate response of ports uncertain. With the ultimate results of the shifts in market power uncertain, more research is needed on the effects of greater integration in the industry on efficiency, conflicts of interest and on the possible effects of market dominance.

ITS-WP-00-3 *Evaluation methodologies for transport projects in the United Kingdom: dealing with multi-modal questions* (Roger Vickerman)

Abstract This paper reviews the basic methodology for the evaluation of transport projects in the UK and explains the changes currently being undertaken. The paper identifies the key elements as a very rigorous economic evaluation of direct user benefits, but rather less progress on the evaluation of environmental or wider economic effects. Changes are currently being made to develop a common framework for multi-modal applications which introduces new challenges.

ITS-WP-00-4 *The Absolute Need for Creativity in Transport Planning* (Anthony Richardson)

Abstract The transport planning process has often been characterised as consisting of a series of logical stages which lead towards the production of a final outcome. These stages include the identification of goals, the specification of alternatives, the collection of information, the modelling of alternative courses of action, the evaluation of alternatives, the selection of preferred alternatives, the implementation of these preferred alternatives and the monitoring of their consequences. While much attention has been paid to many of these processes, relatively little attention has focussed on the creative specification of alternatives.

This paper seeks to show that there is an absolute need for creativity in the selection of alternative courses of action in transport planning. Drawing upon the techniques of creative thinking developed by Edward de Bono, the paper will show why creativity is needed and how all transport planners can improve their skills in Lateral Thinking. The paper will outline some fundamental ideas, and some myths, about creativity and describe three major techniques in creative thinking, namely the concept fan, random inputs, and the use of provocation. It will describe why and how these techniques work, and will then demonstrate their use in a range of transport planning applications.

ITS-WP-00-5 *The Use of Mixtures of Market and Experimental Choice Data in Establishing Guideline Weights for Evaluating Competitive Bids in a Transport Organisation* (David A. Hensher, Jordan J. Louviere and David E. Hansen)

Abstract The government sector is increasingly using competitive bidding for service deliveries such as the provision of bus and rail services as well as the purchasing of professional engineering services such as project planning, design and project supervision. As part of a program to simplify and introduce consistency in the tender evaluation process, one government transport agency in New Zealand financed a study to investigate the potential of combined revealed and stated preference methods as a way of establishing weights to attach to the criteria used to evaluate offers of engineering services. These techniques have mainly been used in the study of travel choices yet they have a much broader appeal in studying the decision making process of organisations. In this paper we use a data-mixing model to capture the decision expertise of a transport organisation through the revelation of preference weights for each evaluation criterion. Using choice information based on both market-driven and experimentally-derived choice sets, we should be able to increase the robustness of the evaluation weights in comparison to the weights obtained from single data-sourced models. The resulting parameterised tool can be used in subsequent tender evaluations to provide an additional source of advice to supplement or replace that provided by current members of a bid evaluation team.

ITS-WP-00-6 *Freight Logistics in the New Zealand Context* (Jay Sankaran)

Abstract It is well known that within an economic region, shippers' practice of logistics is shaped significantly by various factors, such as transportation regulation. The precise purpose of this paper is to describe these factors and their influence on logistics practice in the New Zealand context. We first discuss the various modes of domestic freight transport as well as the deregulation and privatisation of the transportation sector of the New Zealand economy. We also examine international shipping and airfreight in the context of New Zealand's foreign trade. We then identify three sets of contextual factors (*structural, regulatory, and developmental*) that, in the New Zealand situation, shape shippers' practice of freight logistics.

ITS-WP-00-7 *Interorganisational Support and Strategies for the ASEAN Aviation Sector: An Application of Canonical Correlation Analysis* (David A. Hensher and Chackrit Duangphastra)

Abstract The international and political bargaining process in the aviation sector is heavily influenced by the views of stakeholders, especially regulators, airlines and airport authorities. These views are diverse and often complex to synthesise. We use the method of non-linear canonical correlation to analyse the views of ASEAN officials sampled from aviation authorities, airline executives, airport executives, industry coordinators, air transport consultants, and international organisations in a systematic way so as to reveal the primary positions of vested interests. In so doing we have a very powerful policy tool for qualitatively predicting likely future organisational responses to initiatives in the reform of the aviation sector such as liberalisation and strategic alliances.

ITS-WP-00-8 *An Inductive Empirical Investigation into Third Party Logistics Contracts* (Jay Sankaran and Zane Charman)

Abstract We report an inductive, qualitative investigation into third party logistics contracts whose express purpose was to inform subsequent case study research into the same. A salient feature of the research is the methodology which involved going back-and-forth between data gathering (the principal source of data was flexible interviews) and analysis, which was conducted through formally specified coding techniques. The products of our induction include concepts and categories that are relevant in the study of third party logistics contracts, as well as their synthesis into an anatomical description of such contracts. We also draw several inferences from our data that bear upon future empirical research into third party logistics contracts, especially their effectiveness.

ITS-WP-00-9 *The Valuation of Travel Time Savings for Urban Car Drivers: Evaluating Alternative Model Specifications* (David A. Hensher)

Abstract The empirical valuation of travel time savings is a derivative of the ratio of parameter estimates in a discrete choice model. The most common formulation (multinomial logit) imposes strong restrictions on the profile of the unobserved influences on choice as represented by the random component of a preference function. As we progress our ability to relax the restrictions we open up opportunities to benchmark the values derived from simple (albeit relatively restrictive) models. In this paper we contrast the values of travel time savings derived from five discrete choice models – multinomial logit, heteroskedastic extreme value, covariance heterogeneity logit, mixed (or random parameter) logit and multinomial probit. The empirical setting is urban car commuting and non-commuting in six locations in New Zealand.

The evidence supports the growing position that less restrictive choice model specifications tend to produce higher estimates of values of time savings compared to the multinomial logit model; however the degree of under-estimation of multinomial logit remains quite variable, depending on the context.

ITS-WP-00-10 *Assessing Data and Modelling Needs for Urban Transport Sector: An Australian Perspective* (David A. Hensher)

Abstract Managing the transport assets of an urban economy and ensuring that change is in accordance with suitable performance measures requires continuing improvement in analytical power and empirical information. One crucial input in an ongoing review of data and modelling capability for improving planning and policy support in the urban transport sector is a recognition of the role of stakeholders and the impact they can have in supporting the ongoing commitment to implementing a state of practice data and modelling strategy. This paper presents a multi-stage stakeholder assessment of data and modelling needs (primarily in the urban passenger context) in Australia that is required to ensure the continuity of appropriate deliverables to a market of diverse stakeholders. The implementation of the framework of inquiry enables data and modelling agencies to remain current and relevant. Such an exercise should be encouraged from time to time as part of good practice.

ITS-WP-00-11 *Transport and Economic Growth* (Roger Vickerman)

Abstract There is a perceived wisdom that transport provision (especially of roads) is an essential pre-requisite for economic growth which has tended to justify a “predict and provide” approach to the provision of roads. The evidence is much more mixed, GDP growth has been a good predictor of both passenger and freight growth, at least until recently, leading to speculation that there might be an optimum “transport intensity” of the economy. This has become a potential objective for sustainable transport policies to try and reduce transport intensity, ie. Seek ways of reducing the amount of transport which is necessary to sustain a given level of GDP. There remain, however, many instances of where specific provision has not led to the economic growth which was confidently expected, despite traffic growth which exceeded forecast levels. How should governments and other providers respond to this situation, and in particular should they, and if so how, introduce better measurement of the wider economic effects of transport improvements and transport appraisal? How do these effects relate to other external effects of transport, for example, on the environment?

This paper will report on an approach to these issues based on a recent report on *Transport and the Economy* by the UK Standing Advisory Committee on Trunk Road Assessment (of which the author was a member.) The key points which this Report brings out are the lack of any general solution to the issue, the importance of considering the extent of imperfect competition in the sectors using transport, the importance of distinguishing the redistributive effects from the net impacts and the incidence of the “two-way road” effect, where transport improvements sought by a region may work against its best interests, and the need to demonstrate clearly the relationship between the wider economic and environmental impacts of any proposal.

ITS-WP-00-12 *Trip Chaining as a Barrier to the Propensity to use Private Transport* (David A. Hensher and April J. Reyes)

Abstract Trip chaining is a growing phenomenon in travel and activity behaviour. Individuals increasingly seek out opportunities to minimise the amount of

travel required as part of activity fulfilment, given the competing demands on time budgets and their valuation of travel time savings. This search for ways of fulfilling (more) activities with less travel input has produced a number of responses, one of which is trip chaining. A particularly important policy implication of trip chaining is the potential barrier it creates in attracting car users to switch to public transport. This paper seeks to improve our understanding of trip chaining as a barrier to public transport use. A series of discrete choice models are estimated to identify the role that socioeconomic and demographic characteristics of households have on the propensity to undertake trip chains of varying degrees of simplicity/complexity that involve use of the car or public transport with an embedded commuting or non-commuting primary purpose. Multinomial logit, nested logit and random parameter logit models are developed and contrasted to establish the gains in relaxing the strict conditions of the multinomial logit model.

ITS-WP-00-13 *Measurement of the Valuation of Travel Time Savings* (David A. Hensher)

Abstract The value of travel time savings (VTTS) is a critical parameter in transport project appraisal and through its application produces the dominating user benefit, typically 60% of traditionally quantified user benefits. Beesley's work in the 1960's laid the foundation for much of the subsequent applied research, especially in respect of measurement and interpretation. This paper revisits Beesley's contribution in the context of the 1960's and shows the subsequent development of his ideas.

ITS-WP-00-14 *Behavioural Mechanisms of Non-Response in Mailback Travel Surveys* (A.J. Richardson)

Abstract In the conduct of sample surveys in transport, there will inevitably be some level of non-response. The issues of non-response are fundamentally connected to the questions of reducing survey bias and increasing the accuracy of sample estimates. This is because non-respondents in sample surveys have often been shown to have significantly different characteristics from those of the respondents. These differences are in terms of the socio-demographic characteristics and, more importantly, in terms of their travel behaviour characteristics. For example, non-respondents to household interview surveys tend to travel more than respondents to such surveys, because one of their main reasons for non-response is that they are out of the house (travelling) when the interviewer calls to perform the interview. If due allowances is not made for this known difference, then estimates of total travel and travel distance will be under-estimated from such surveys. This will then result in under-estimates of emissions and fuel consumption in the survey area. Other types of non-response bias are associated with other types of survey method.

ITS-WP-00-15 *Public Transport Timetables and Vehicle Scheduling with Balanced Passenger Loads* (Avi Ceder)

Abstract This work attempts to combine the creation of public transport timetables and vehicle scheduling so as to improve the correspondence of vehicle departure times with passenger demand while minimising the resources (the fleet size required). The methods presented for handling the two components simultaneously can be applied for both single and interlining transit routes, and can be carried out in an automated manner. With the growing problems of transit reliability, and advance in the technology of passenger information systems, the importance of even and clock headways is reduced. This allows for the possibility to create more efficient schedules from both the passenger and operator perspectives. The methodology framework contains a developed

algorithm for the derivation of vehicle departure times (timetable) with even average loads and smoothing consideration in the transition between time periods. It is done while ensuring that the derived timetables will be carried out by the minimum number of vehicles. The procedures presented are accompanied by examples and clear graphical explanations. It is emphasised that the public timetable is one of the predominant bridges between the operator (and community) and the passengers.

ITS-WP-00-16 *Combining Sources of Preference Data* (Jordan J. Louviere and David A. Hensher)

Abstract Mixtures of revealed preference and stated preference data are recognised by transportation researchers as offering a richness of behavioural input to travel choice modelling that is often absent from the isolated use of each data source. Accumulating evidence from various literatures, especially in marketing, psychology and transportation, provides support for the desirability of combining sources of preference data as a way of transferring increasing power of understanding of travel behaviour from the econometrics of a model to the underlying data inputs. Together with advances in the specification and estimation of discrete choice models, we are beginning to see that the simpler choice models such as multinomial logit (MNL) deliver an amazing amount of behavioural power providing that the underlying data specification is given a statistically rigorous treatment. There still remains however a growing role for more general choice models as a way of establishing the relevance of the simpler MNL model. This paper reviews the major contributions to the literature on combining sources of preference data and suggests new directions for fruitful research.

ITS-WP-00-17 *The Sensitivity of the Valuation of Travel Time Savings to the Specification of Unobserved Effects* (David A. Hensher)

Abstract The behavioural value of travel time savings (VTTS) remains a controversial data item in the evaluation of transport projects. Over the last 40 years we have seen numerous empirical studies seeking to enrich our understanding of the amount that an individual or firm is willing to pay to save a unit of travel time (or more precisely transfer a fixed amount of time from one activity to another). With few exceptions, the majority of empirical studies have used essentially the same data metric and model estimation procedure. The most popular approaches have used either revealed preference (RP) or stated preference (SP) data and a multinomial logit (MNL) choice model to identify marginal rates of substitution between travel time and price of a trip. The few more advanced studies have integrated RP and SP data and have explored the gains in behavioural power of models that relax to varying degrees the underlying assumptions that produce the MNL model. This paper highlights the potential gains from a more carefully considered structure of the unobserved effects conditioning the form of a discrete choice model, and hence the possible mis-inference from the simpler MNL specification. We demonstrate the implication for VTTS of serial correlation between the SP treatments, covariance amongst alternatives, the presence of individual specific (random) effects or heterogeneity, and differential variance of the unobserved effects.

ITS-WP-00-18 *Which Bus? Research on the Use and Comprehension of Public Transport Information* (David Denmark)

Abstract This paper was prepared for the Disability and Ageing Department. The research addressed the following questions: (1) Where do people get the information they require to use bus services?; (2) Can people easily

comprehend timetables?; (3) What aspects of timetables cause difficulties? The paper also includes recommendations.

ITS-WP-00-19 *Level of Service on Collector Roads* (Brigitta Liepe and William Young)

Abstract The aim of this paper is to identify the characteristics that road users consider important in determining the level of service on collector roads. It is part of a larger study which focuses on the level of service of the entire road hierarchy. Substantial investigation has been undertaken into the level of service on roads with a traffic carrying function, however little work has been carried out specifically on collector roads. In order to determine the characteristics of level of service on collector roads two group of respondents were studied. Residents on collector roads and those living on adjoining local roads were surveyed in order to determine their attitudes. The survey required the respondents to assess the importance and existing satisfaction with the variables defining level of service. The variables that were considered were speed of vehicles, volume of vehicles, parking, safety for pedestrians and cyclists and safety for vehicles. The analysis showed that safety for pedestrians, safety for vehicles and volume contributed to the equations for general satisfaction.

ITS-WP-00-20 *Factors Affecting Freight Mode Choice in Java, Indonesia: The Application of an Ordered Probit Model* (Olly Norojono and William Young)

Abstract Understanding freight mode choice is essential in determining the appropriate freight policy. Considerable effort has been directed at determining the major factors influencing freight mode choice in western nations. Determining the relative importance of these factors has been carried out in many ways each with varying degree of experimental rigour and behavioural underpinning. Determining the factors influencing freight mode choice in developing countries has not received the same attention. This paper explores the use of an ordered probit model and conjoint analysis to study freight mode choice in Indonesia. This approach is rooted in traditional experimentation and behavioural theory. The study focuses on shippers in selected industries in cities in Java, Indonesia. It investigates their preference toward the quality and flexibility attributes of rail services. The research supports previous research in western countries indicating that time, reliability, safety with respect to loss and damage, service frequency and responsiveness to the problems are highly significant in determining freight mode choice.

ITS-WP-00-21 *A Stated Preference Freight Mode Choice Model* (Olly Norojono and William Young)

Abstract Transport policy aims to assist the transport system to work more efficiently and effectively. An understanding of the reasons people choose to move freight in a certain manner is critical to the development of appropriate policies. This paper outlines a data collection approach and the development of a disaggregate mode choice model applicable to the analysis of freight shipper decision making. It focuses on the choice between rail and road in Java, Indonesia. The model indicates that safety, reliability and responsiveness are major factors influencing rail/road freight mode choice. Transport policies aimed at improving these dimensions should increase the attractiveness of rail transport.

ITS-WP-00-22 *Behavioural Impacts of the 'Travel Blending' Programme* (Elizabeth Ampt and Geoff Rose)

Abstract The Travel Blending programme has been designed to reduce car use by encouraging and supporting participants to think about activities and travel in

advance, blend modes, blend activities or blend over time. In South Australia Travel Blending is a key tool in a broader community programme known as the Living Neighbourhood which aims to create more liveable communities. The application of Travel Blending in the Dulwich Living Neighbourhood has been found to produce a variety of behavioural changes. Importantly it has produced a statistically significant decrease in vehicle use as measured by reductions in car driver trips and kilometres. There are also a number of examples of behavioural changes initiated by the Living Neighbourhood team and others which are having broad impacts on the local community and its landscape.

ITS-WP-00-23 *ITS Elements of a Campus TDM Program* (Geoff Rose)

Abstract

Intelligent Transport Systems provide many opportunities as enabling technologies for Travel Demand Management (TDM) Programs. TDM strategies may be focused on improving asset utilisation, physical restraint, pricing or urban and social changes. In this paper examples of the contribution which ITS is making to a TDM program at a major university campus are examined. The Clayton Campus of Monash University has a daily population of about 20,000 – similar to larger regional cities in Australia. Two innovative components of a TDM program for the campus rely on ITS applications. The first is a dedicated carpark for carpool participants and the other is a web based advanced traveller information system. This paper examines the background to these two initiatives and initial experience with them.

ITS-WP-00-24 *'Safe Routes to School' Implementation in Australia* (Geoff Rose)

Abstract

'Safe Routes to School' (SRTS) is a road safety program focused on travel to and from school. In this study, an examination of the implementation of SRTS in Australia has been undertaken by comparing and contrasting State-based SRTS initiatives. There are differences in the approach taken to SRTS implementation in different states. In some cases there is no explicit SRTS program in operation and in others the programs are quite mature or are undergoing refinement/re-orientation after initial trials. The most mature programs are operating in Western Australia and Victoria, with the South Australian program, which is heavily based on the Victorian model, gathering momentum. NSW is unique for its commitment to run the program at all primary schools in the state and for the exclusion of engineering treatments as an explicit component of the program. Differences exist in relation to the refinement of program objectives: the balance between Engineering, Education, Enforcement and Encouragement dimensions of the programs; the manner in which schools are selected; the extent to which program delivery is undertaken by consultants and the extent to which maintenance issues are considered in the program.

Project reports

Parking Demand and Responsiveness to Availability, Pricing and Location in the Sydney Central Business District, Report for Secure Parking Ltd. (Hensher and King).

Work-Related Travel Activity & the Sydney Olympics: Coping Strategies and Market Targeting, Three-volume report for Olympics Roads & Transport Authority (ORTA) (Brewer and Hensher).

ITS International Bus and Coach Performance Benchmarking Program 1998/99: Summary of Results, Report for members of the ITS International Bus and Coach Performance Benchmarking Program 1998/99 (King and Hensher).

9. INDUSTRY PARTICIPATION

Conferences chaired

- Facilitator, RTA/DOT Freight strategy workshop, 15 February (Hensher)
- Facilitator, Small group discussions to prepare advice for advisory committee for action on policy at University of Sydney, Environmental Forum, 14 April (Hensher)
- Chair, Conference session on Travel and Energy, 23rd Annual International Conference of the International Association for Energy Economics, Hilton, Sydney, 7-10 June (Hensher)

Unpublished conference, seminar and forum presentations

- Invited paper, Service quality and benchmarking, Australian Bus and Coach Association Conference, Melbourne, 12-15 March (Hensher)
- Invited paper, TRESIS, Royal Institute of Architects Conference on Solar Energy, Potts Point, Sydney, 17 February (Hensher)
- Invited presentation, TRESIS, International Conference and workshop on Renewable Cities: Visions, Targets, Tasks, Sydney, 17 March (Hensher)
- ITS Standards Development: A review of Australia's situation, 6th Applications of Advanced Technologies in Transportation Engineering Conference, Singapore, 28-30 June (Ton)
- The Economics of Aircraft Speed, Air Transport Research Group Conference, Amsterdam, 2-4 July (John King)
- Invited Resource Paper, Louviere, J.J., and Hensher, D.A. Combining preference data, 9th International Association of Travel Behaviour Research Conference, Gold Coast, Queensland, 2-7 July (Hensher).
- Invited presentation, Estimation of logit models, Choice Modelling PhD Workshop organised by Marketing Discipline and CHERE, The University of Sydney, 17 August (Hensher)
- Key Note Address, Urban public transport agendas and challenges, Smart Urban Transport – Using Transitways and Busways, Brisbane, 17-20 October (Hensher)
- Address, CRC: Centres: idea to reality, University of Sydney - Vice Chancellors Senior Management Forum, 31 October. (Hensher)
- Invited presentation, CRC: Centres: idea to reality, The College of Sciences & Technology Forum on “The “How To” of establishing & maintaining industry links”, Old Geology Lecture Theatre, University of Sydney, 29 November. (Hensher)
- Invited paper presentation, Bureau of Transport Economics Transport Colloquium, Challenges of the New Economy for Freight Management, Canberra, 27-29 November (Brewer and Hensher)
- Invited paper presentation, Bureau of Transport Economics Transport Colloquium, Regional Airline Competitiveness, Canberra, 27-29 November (John King)
- Valuation of non-commuting travel time savings: some issues with error structures, 22nd Conference of Australian Institutes of Transport Research Conference (CAITR 2000), Ursula College, Australian National University, Canberra, 6-8 December (Hensher)
- Effects of a reintroduction of a marginal cost based km tax on heavy trucks – a CGE model of Sweden, 22nd Conference of Australian Institutes of Transport Research Conference (CAITR 2000), Ursula College, Australian National University, Canberra, 6-8 December (Johnsson)

Conference and seminar attendance

- Transportation Research Board 79th Annual Meeting, Washington DC, 9–13 January (Richardson and Seethaler)
- Australian Bus and Coach Association Conference, Melbourne, 12–15 March (Brewer and Hensher)
- 6th Applications of Advanced Technologies in Transportation Engineering Conference, Singapore, 28-30 June (Ton)

- Air Transport Research Group Conference, Amsterdam, 2-4 July (John King)
- 9th International Association of Travel Behaviour Research Conference, Gold Coast, Queensland, 2-7 July (Hensher, King, Rose, Young and Ton)
- Lunchtime Presentation on Eight Steps to Successful Strategic Alliances by Dr Peter Pekar Jr, Senior Adviser, Booz Allen & Hamilton Inc. USA, CEDA Conference Centre, Sydney, 24 August (Brewer and Hensher)
- An Evening with Dick Pound, Vice-President of the IOC and Chancellor of McGill University (Canada) on “The Olympic Movement and Other Issues”, MacLaurin Hall, The University of Sydney, 7 September (Hensher)
- Logistics Research Network Annual Conference, Lean Enterprise Research Centre, Cardiff University, Cardiff, September (Brewer)
- The Australian Tourism Research Institutes Annual Conference, Sydney, 9 October (John King)
- Smart Urban Transport – Using Transitways and Busways, Brisbane, 17-20 October (Hensher)
- Bureau of Transport Economics, Transport Colloquium, Canberra, 27-29 November (John King)
- Sustainable Sydney Conference, DUAP, Australian Technology Park, Sydney, 18 November (Bendall)
- Tourism Scientists Workshop, CSIRO, Sydney, 5-7 December (John King)
- 22nd Conference of Australian Institutes of Transport Research Conference (CAITR 2000), Ursula College, Australian National University, Canberra, 6-8 December (Dabbas, Hensher, Johnsson, Young and Chandra)
- World Congress on Intelligent Transport Systems, Turin, Italy, 8-11 November (Rose)

Media

- David Hensher was interviewed by Sally Lane 2BL on trains and on time running on 23 March.
- David Hensher was interviewed by NBN (Newcastle Broadcasting) on the rail system in Newcastle on 23 June.
- David Hensher was interviewed by Yomiuri Shimbun, Japan’s largest newspaper, on Olympic Transport Problems which will be part of their 50 Days to Go coverage of the Olympic Games on 25 July.
- David Hensher was interviewed by KBS, the Korean National Broadcasting System on the policy of Australian transportation; in particular on issues such as safe pedestrian crossings and easy access to public transport, as well as on what the institute does and our on-going research. KBS is producing a TV documentary for Korea introducing the Australian transportation system and comparing it to other countries.

Other

- David Hensher provided stakeholder advice to RTA and CityRail on their image and strategic focus, January.
- David Hensher provided advice to Centre for Health Economics Research on estimating choice models using Limdep, February - June.
- David Hensher’s article “Bus-based transitway or light rail? Continuing the saga on choice versus blind commitment” was published on On Line Opinion (www.onlineopinion.com.au) on 15 October 2000.
- David Hensher was appointed by the Australian Greenhouse Office to be lead technical assessor on transport proposals for funding, November.

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.

Positions

ITS staff hold a number of positions in local and international research organisations in the transport industry.

Conference organisation

- Member, Organising Committee, 9th International Association of Travel Behaviour Research (IATBR), Year 2000 Conference (Brewer)
- Conference Chair, 9th International Association of Travel Behaviour Research (IATBR), Year 2000 Conference (Hensher)
- Member, International Technical Committee, Civil & Environmental Conference, New Frontiers and Challenges, Thailand (1998-1999) (Hensher, Young)
- Organising Secretary, 9th International Association of Travel Behaviour Research (IATBR), Year 2000 Conference (King)
- Member, Scientific Committee of the 9th International Association for Travel Behaviour Research (IATBR), Year 2000 Conference (Rose, Ton)
- Session Organiser, 9th World Conference in Transport Research, WCTR 2001, Seoul, South Korea (Hensher)
- Member, Local Organising Committee, 15th International Symposium on Transportation and Traffic Theory, Adelaide, 16 – 18 July, 2002 (Hensher, Rose)

International positions

- Reviewer, University of British Columbia, Hampton Research Scholarship Committee (Brewer)
- Member, US Transportation Research Board Committee on Telecommunications and Travel Behaviour (Brewer)
- Member, World Conference on Transport Research Society (Hensher, and Taylor)
- Founding member, US Transportation Research Board Committee on Traveller Behaviour and Values (Hensher)
- Member, US Transportation Research Board Committee on Travel Forecasting (Hensher)
- Immediate Past President, International Association for Travel Behaviour Research (Hensher)
- International Vice-Chairman, World Conference on Transport Research Scientific Committee (Hensher)
- Member, National Research Council Transportation Research Board Urban Goods Movement Committee (Taylor)
- Secretary, Special Interest Group on Urban Goods Movement, World Conference on Transportation Research (Taylor)
- Member, Air Transport Research Group (Hensher)
- Member, International Advisory Committee, Portland Metropolitan Area Commodity Flow Study (Taylor)
- Fellow, Chartered Institute of Transport, United Kingdom (Young)
- Fellow, Institute of Transportation Engineers, U.S.A. (Young)

Australian positions

- Member, Graduate Studies Committee, The University of Sydney (Brewer)
- Chair, Graduate Studies Board, Faculty of Economics and Business, The University of Sydney (Brewer)
- Joint Chair, Teaching & Learning Committee, Faculty of Economics and Business, The University of Sydney (Brewer)
- Member, Logistics Management Association (Brewer)
- Chair, ITS Logistics Management Group (Brewer)
- Secretary, ITS Alumni Association (Coulson)
- Member, Institute of Transportation Engineers (ITE) Australia and New Zealand Section (Taylor, Young and Rose)
- Member, Chartered Institute of Transport (Bendall, Brewer, King and Young)
- Member, School of Business Executive (Hensher)
- Member, The University of Sydney Faculty Restructuring Working Party (Hensher)
- Member, The University of Sydney Environment Advisory Committee (Hensher)
- Member, Peer Review Committee for Strategic Transport Plan for NSW (Hensher)
- Member, Department of Urban Services, ACT Territory Plan Review for Strategic Transport Plan for Integrated Land Use and Transport Planning (Hensher)
- Member, Transport Data Centre, Technical Advisory Committee, NSW Department of Transport (Hensher)
- Member, Transport Research Centre (RMIT University) Advisory Committee (Hensher, Young)
- Member, The University of Sydney Department of Marketing Advisory Committee (Hensher)
- Member, The University of Sydney Faculty of Economics, Faculty Management Advisory Committee (Hensher)
- Member, The University of Sydney Faculty of Economics, Board of Postgraduate Studies (Hensher)
- Member, The University of Sydney Faculty of Economics, Research Committee (Hensher)
- Member, Australian Capital Territory Transport Reform Advisory Group (Hensher)
- Member, Advisory Committee of the Australian Retailing Committee (Hensher)
- Member, Faculty of Economics and Business's 4-person Information Technology Review Committee, March-April 2000 (Hensher)
- Executive Committee Member, Inland Freight Railway Study (Melbourne to Brisbane) (Hensher)
- Corresponding Member, National Committee on Transportation Engineering, Institution of Engineers, Australia (Rose)
- Member, Association of Professional Engineers, Scientists and Managers Australia (Taylor)
- Member and Past Chair, Transport Branch Committee of Institution of Engineers Australia (Victorian Division) (Taylor)
- Member, National Committee on Transportation Engineering, Institution of Engineers, Australia (Taylor)
- Member, Reference Group, Freight Planning Methodology, Department of Infrastructure, Melbourne (Taylor)
- Member, Faculty of Engineering Board, Steering Committee (Young)
- Member, Advisory Committee, Transport Research Centre, Royal Melbourne Institute of Technology (Young)
- Member, Parking Association of Australia (Young)
- Member, Monash University Department of Civil Engineering Management Committee (Young)
- Chair, Monash University Advisory Committee on People with Disabilities (Young)
- Member, Monash University Discipline Committee (Young)
- Member, Monash University Education Committee (Young)
- Member, Monash University, Car Parking Committee (Rose)
- Chair, Monash University Faculty of Engineering, Academic Progress Exclusion Committee (Young)

- Fellows of the Chartered Institute of Transport (Hensher, Young)
- Member, Review of Financial Services Team, University of Sydney, Central Committee (Brewer)
- Member, Central Promotions Committee, University of Sydney, Central (Brewer)
- Academic Board Nominee, Selection and Promotion Committees (Brewer)
- Chair, Postgraduate Program Review, Faculty of Economics and Business (Brewer)

Editorial positions

David Hensher is Associate Editor of *Asia Pacific Journal of Transport*, Area Editor of *Transport Reviews*; and is on the editorial boards of *Transport Policy*; *Transportation*; *Transportation Research*; *International Journal of Transport Economics*; *Logistics and Transportation Review*, *Transportation Research Part E* (from 1997); *Journal of Transport Economics and Policy*; *Transportation Planning and Technology*; *Journal of Retail and Consumer Services*, and *Journal of Transport and Statistics*. David has been appointed volume and series editor for Elsevier/Pergamon Handbooks in Transport.

David has also been appointed editor of a book titled “The Leading Edge of Travel Behaviour Research” book by Elsevier Science Ltd. under the Pergamon Press imprint.

Ann Brewer is editor and reviewer of the second volume of *Handbooks in Transport - Handbook of Logistics and Supply Chain Management*, Pergamon Press.

Bill Young is an Associate Editor of *Transportation*.

Geoff Rose is Editor-in-charge of *Transport Engineering in Australia*.

Reviews of papers

Staff reviewed papers for a wide range of transport journals and conferences.

Ann Brewer refereed papers for *Handbook of Logistics and Supply Chain Management*, *Transportation Research F*, *Transportation Research A & B*, *Australian Economic Review* and *Journal of Transportation*.

David Hensher refereed papers for *Transportation Research*, *Journal of Transport Economics and Policy*, *Transport Reviews*, *Journal of Transportation and Statistics*, special issues of transport journals for the *International Association for Travel Behaviour Research* and *WCTR 2001*. David also examined the PhD thesis of Pierre Uldry titled *Choice Models and Bayesian Methodology*.

Geoff Rose refereed papers for *Handbook of Transport Systems and Traffic Control and Road and Transport Research*.

Tu Ton refereed papers for *Transportation Research and Transport Reviews*.

Seminar Series and Policy Workshops

ITS Seminar Series (ITS Sydney)

The following seminars given by invited overseas visitors to ITS were held:

- Measuring productivity change and continuous improvement: An international airline maintenance setting, 8 March, Paul Rouse (University of Auckland)
- Road Pricing in Britain, 21 March, Tony May (ITS Leeds)
- Characterising congestion on an urban road network subject to road-use pricing: A fundamental review, 8 September, Peter Hills (Transport Operations Research Group, University of Newcastle Upon Tyne)

Presentations given at ITS also included:

- Sale of Infrastructure and Regulation of Airports, 29 August, Stephen Fitzgerald (Sydney Airport Corporation)
- Organisational Logistics, 1 September, Ann Brewer
- An Airline Industry View of Airport Regulation and Pricing, 5 September, Warren Bennett (Executive Director, Board of Airline Representatives (BARA))

Maintaining industry and international contacts

Overseas & Interstate Visits

David Hensher visited Auckland 18-19 May to attend a planning meeting for the establishment of ITS-Auckland at the University of Auckland.

Ann Brewer was invited to deliver the plenary address to the Logistics Research Network (LRN) Annual Conference which was held at Cardiff Business School, Cardiff University, Wales, in September 2000. It is the leading European meeting for academics in Logistics and Supply Chain Management. The title of the paper was 'Organisational Logistics as a Mode of Organising' which attempted to address the human side of the supply chain. 150 academics, researchers and consultants including key academics, Professors Martin Christopher, Dan Jones, Peter Hines and Alan McKinnon attended the conference. Ann was also invited to conduct a one-day PhD Student Workshop that LRN hosts preceding the conference. Twenty-eight students from UK and Europe, at various stages in their PhD candidature, attended the workshop.

John King visited Shandong Province in China in June and September. He contributed to the Provincial Tourism Master Plan in the area of transport and infrastructure.

John King visited Bangkok 19-21 October. He gave a talk to the Research Committee of the Pacific Asia Travel Association on the interface between aviation and tourism, with particular emphasis on current practice and regulatory change.

Geoff Rose visited the INRETS and the Laboratory for Transport Economics at ENTPE in Lyon and the OECD in Paris in November. He also presented a seminar at the University of Southampton in the UK on 'Australian Travel Awareness Initiatives'.

Visitors

A *Chinese delegation*, visited ITS on 25 January. The delegation comprising 17 members are top-managers of transport related industries in China or government officers in charge of transport business. David Hensher and Baojin Wang gave presentations on teaching and transport research activities at ITS.

Professor Tony May, Professor of Traffic Engineering, ITS Leeds, visited ITS Monash on 16 and 17 March and ITS Sydney on 21 March. In Melbourne he presented a seminar on 'The Impact of Alternative Road Pricing Strategies on Network Performance' while in Sydney he gave a seminar on Road Pricing in Britain. He also visited to discuss cooperative venture in developing an internet based transport policy teaching unit of study for students throughout the world.

Dr Paul Rouse, Department of Accounting and Finance, University of Auckland visited ITS Sydney on 17 April and gave a seminar on airline maintenance and performance.

CGEA Visitors, from France visited ITS on 28 February to discuss a cooperative venture in training rail and bus managements in Australia.

Natascha Kijk in de Vegte and *Herman Sinnema*, both civil engineering and management students from the University of Twente, Enschede, The Netherlands, visited ITS Sydney on

work as a Visiting Research Assistants from 6 April to 30 June. During their stay at ITS, they were involved in the TRESIS project. Their tasks included detailing all the elements and features of TRESIS and constructing a Powerpoint presentation on TRESIS.

Elizabeth Barber, lecturer at the School of Economics and Management at the Australian Defence Force Academy, University College, UNSW visited ITS, Sydney for two weeks from the 5th June, 2000. She used part of her SSP to visit the ITS and speak with Ann Brewer about intellectual capital development in transport facilities in supply chains in Australia. She also spoke with David Hensher about quality of service provision for rail freight services. Her work with defence logistics formed the centre of her discussions and research studies at the Institute.

John King, also an adjunct with ITS, joined ITS as a visiting scholar from 11 July, 2000.

Richard Johnsson, a PhD student from the Department of Economics at University of Uppsala, Sweden and an active member of the Centre for Transport Economics (CTEK), Borlänge, Sweden, is visiting ITS from 15 July, 2000. Richard is currently developing a Computable General Equilibrium model. The first application of the model is to study the effects on the transport sector and the overall economy from the reintroduction of a kilometre tax on heavy goods vehicles. This tax was abandoned when Sweden entered the EU but has lately come up as an alternative to EU common Eurovignette charges.

Professor Prabir Bagchi, Professor of Logistics and Operation Management, School of Business and Public Management, George Washington University, visited ITS Sydney from July 2000. He taught the Logistics Systems Course. As part of teaching this course, he provided one-on-one help to the students of the course, advised and mentored them in their projects and preparation for the course, conducted computer lab sessions, wrote two cases and prepared Powerpoint handouts for the course. He also advised and mentored Industry Laboratory students, presented a seminar to industry executives on "Supply Chain Management: Contemporary Perspectives", launched a research project on understanding supply chain competency of the Australian marketplace, designed a graduate program on Supply Chain Engineering for discussion, and reviewed two papers for the forthcoming Handbook of Logistics and Supply Chain Management.

Hermann Buchen, a transport engineering student from the University of Technology Dresden, Germany, visited ITS Sydney on a 13 week internship from 4 September. During his stay, Hermann is preparing a scientific report on problems and opportunities in the transportation sector during and following major event investments like the Olympic Games; in particular, identifying the problems encountered transporting the huge number of people while the games are in progress and how to evaluate the usefulness of the new infrastructure to the city after the Games.

Professor Peter Hills, Professor of Transport Engineering and Dean of the Faculty of Engineering, University of Newcastle Upon Tyne, visited ITS Sydney on 8 September 2000. He presented a seminar on "Characterising congestion on an urban road network subject to road-use pricing: A fundamental review" at ITS.

Professor Peter Hines, Co-Director of the Lean Enterprise Research Centre from the Cardiff Business School at Cardiff University, team taught a unit of study with Professor Ann Brewer.

Kati Tobe, a student from the University of Rostock, Germany, visited ITS Sydney on a 3 month internship from 17 October. Kati is completing a degree in Business Administration with a major in Shipment. She is currently writing a thesis on "The operation of high speed ferries in the world – a comparison between the operational areas: Australia and the Baltic Sea in Europe". The impetus for this topic is due to the great impact of Australian fast ferry shipbuilders in the world and the increasing number of operators in the Baltic Sea who are using Australian Ships. During her stay, Kati researched and collected detailed information on the Australian fast ferries which will be used towards the completion of her thesis.



Professor Frank Koppelman from Northwestern University in Evanston, USA visited ITS (Monash) on 22 June and presented a seminar on 'Activity Based Modelling of Travel Demand'.

Other Activities

ITS Alumni Association

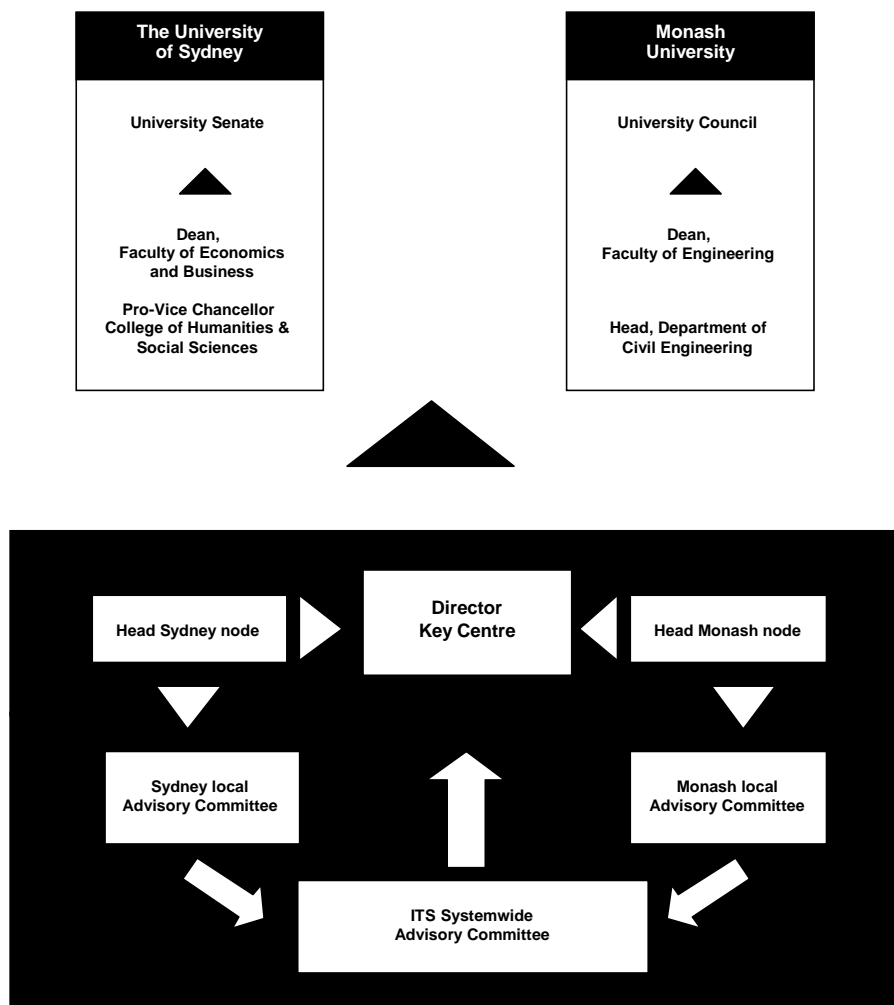
The ITS Alumni Association was formed in 1998 with the intent of creating a forum where past and present students could meet, discuss and remain updated on many issues that relate directly to transport. The president of the Association is Bruce Munro and the secretary is Michelle Coulson.

11. MANAGEMENT STRUCTURE

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

The role of the Advisory Committee 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. Recommendations for changing the structure of the Advisory Committee, that were approved in 1998, were implemented in 1999. These are:

- That ITS establish a new Advisory Committee in which a maximum of 20 members be invited, selected to be representative of the modal areas and their geographical location. This committee would provide advice on the general directions of ITS and the development of policy.
- That the Advisory Committee meet once per annum, rotating between Sydney and Monash.
- That ITS Sydney and ITS Monash separately establish a small Advisory Committee to handle node-specific matters, comprising the Head of each node and up to 5 members from the Joint Advisory Committee. This committee would provide advice on the functional activities of each node.



In addition, ITS Sydney established an ITS Logistics Management Group Advisory Committee. The inaugural meeting of the ITS Logistics Advisory Committee was held on 6th September 1999. A second meeting was held on 23rd November 1999 and was hosted at the offices of Toll Logistics by Don Telford. The obligations of committee members are to provide feedback on the direction of ITS Logistics and Supply Chain Management programs and to participate generally in the committee meetings. ITS benefits greatly from the input of members who assist in the development of the Institute and help us to ensure that our programs meet the demands of industry. It is anticipated that the meetings of this newly formed committee will be held on no more than two occasions each year.

ITS Systemwide Advisory Committee members

Mr David Berry

Deputy Secretary, Strategic Planning and Economic Services

Mr Jim Bosnjak

President, Bus and Coach Association (NSW) / Westbus

Mr Bob Cain

Manager, Tourism Futures

Mr Doug Dean

Managing Director, Collex Waste Management Pty Ltd

Mr Paul Forward

Director, Road Network Information, Roads and Traffic Authority

Mr Greg Harper

Chief Finance Officer, Department of Defence

Dr Ian Johnston

Executive Director, ARRB Transport Research Ltd

Professor Jordan Louviere

Professor of Marketing, Department of Marketing, The University of Sydney

Mr Kevin Norris

Executive Director, Bus Association Victoria

Professor Ken Ogden

Group Manager, Public Policy, RACV

Ms Judi Stack

Chief Executive Officer, Rail Access Corporation

Mr Jim Stevenson

Chief Executive, National Road Transport Committee

Dr Alastair Stone

Managing Director, Pacific Infrastructure Corporation

Professor John Taplin

Department of Information Management and Marketing, University of Western Australia

Mr Don Telford

Director of Operations, Toll Logistics

Mr Jock Murray

Director General, NSW Department of Transport

Mr Llew Russell
Chief Executive Officer, Liner Shipping Services Pty Ltd

Mr Geoff Kloot
General Manager – Traffic & Road Use Management, VicRoads

Mr Joe Perone
Strategic Transport Planner, City of Melbourne

Mr John Reid
Director, Australasian Traffic Surveys

Mr Ray Kinnear
Director – Public Transport Planning, Department of Infrastructure

ITS (Sydney) Advisory Committee

Mr Doug Dean
Managing Director, Collex Waste Management Pty Ltd

Mr Jock Murray
Director General, NSW Department of Transport

Mr John King
Advisor on Policy & Strategy, Aviation & Tourism Management P/L

Dr Ian Lin
The Quo Vadis Consulting Group Pty Ltd

ITS Monash Advisory Committee

Mr David Berry
Deputy Secretary, Strategic Planning and Economic Services

Mr Geoff Kloot
General Manager, Traffic & Road Use Management, VicRoads

Mr John Usher
Managing Director, Invicta Bus Lines

Ms Charmaine Dunstan
Associate, Turnball Fenner

Mr Brian Fitts
Manager – Transport, Sinclair Knight Merz

Mr John Reid
Director, Australasian Traffic Surveys

ITS Logistics Advisory Committee

Prof. David Hensher
Director, Institute of Transport Studies

Prof. Ann Brewer
Director, ITS Logistics Management Group and Director, Industry Programs, Institute of Transport Studies

Prof. Tony Richardson
Professor of Transport Planning, Institute of Transport Studies



Ms Sarah Bate

Logistics Consultant, Morgan & Banks

Mr Keith Campbell

Vice-President, Logistics Association Australia

Ms Michelle Coulson

Co-ordinator, Industry Programs, Institute of Transport Studies

Mr Doug Dean

Managing Director, Collex Waste Management

Mr Jack Hanrahan

Consultant

Mr Chris Loudon

Training Manager, McPhee Transport

Mr Bruce Munro

General Manager, Hills Transport

Mr Richard Spanos

Operations Manager, Payless Shoes

Ms Kim Stewart

Strategic Business Manager, Emery Worldwide

Mr Don Telford

Divisional Director, Logistics, Toll Logistics

12. FINANCIAL STATEMENTS

DEETYA, which provides funds for the Key Centres Program, requires a financial statement of income and expenditure using specified categories, as set out below.

Income

	2000	
	Sydney	Monash
ARC Centre grants	\$277,653	\$73,932
Other ARC programs	0	0
Other C'wealth Govt grants	\$375,000	0
State Govt grants	0	0
Local Govt grants	0	0
Industry/Private funds	0	0
Contracts/Consulting	\$210,000	0
Graduate Programs	\$431,399	0
Education Programs	\$246,613	\$364,467
Host institution support	\$50,000	\$37,500
Other income sources/interest	\$95,414	\$420,970
Carried forward from previous	\$202,199	\$715,020*
Total income	\$1,888,278	\$1,611,889

* This figure amended from 1999 to include an unreported debit from a book reprint.

Expenditure

	2000	
	Sydney	Monash
Salaries	\$907,409	\$639,713
Equipment	\$72,276	\$8,990
Accommodation	0	\$2,786
Travel	\$54,752	\$9,027
Consumables	\$13,962	\$36,021
Other expenditure	\$425,387	\$101,544
Total expenditure	\$1,473,786	\$798,081
Carried forward	\$414,492	\$813,808

13. 2000 IN REVIEW

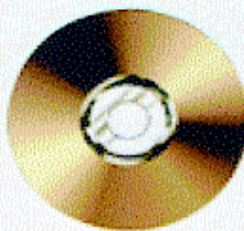


The Institute of Transport Studies has released a special CD-Rom to celebrate 10 years of research at ITS. This CD incorporates all working papers produced by ITS in the last decade.

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SUMMARY REPORT ON ACTIVITIES OF THE INSTITUTE OF TRANSPORT STUDIES (ITS) UNDER THE QUALITY PARTNERSHIP WITH THE BUS AND COACH ASSOCIATION (BCA) OF NSW

Background

The Quality Partnership between the Institute of Transport Studies (ITS) and the Bus and Coach Association of NSW (BCA) commenced in 2000. It is a five-year agreement with an annual donation to ITS of \$50,000 (paid twice yearly as \$25,000 in May and \$25,000 in August).

The commitment of ITS to this quality partnership involves a diverse set of activities, all of which support the objectives of the BCA and provide advice and information in various forms. This report summarises the activities of ITS associated with the year 2000 donation. Some of these activities were undertaken in 1999 (due to the delay in finalising the support that was planned originally to commence in 1999).

Task Undertaken

The following activities have been undertaken or are in progress:

- Development of a methodology and pilot testing to establish a meaningful and administrative feasible measure of service quality. Completed in 1999, the study involved a pilot survey with 29 urban operators who organised distribution of a questionnaire designed by ITS. The information collected was used in the development of a service quality index (known as SQI). A report was prepared and delivered to the BCA late 1999, together with a briefing to all participating operators. The approach was received with great support, motivating ITS to undertake further refinements in anticipation of having SQI embedded within the proposed performance assessment regime (PAR) for commercial bus contracts. Special presentations were made to boards of a number of operators.
- Subsequent to the SQI pilot study, ITS actively promoted SQI to the Director-General of Transport at a private meeting, followed up by a presentation to senior staff in the Department of Transport on Friday 5 May. Again the idea was well received with a request for ITS to set out how it might integrate SQI within a contract regime. A paper was prepared on this and made available to the BCA. It has not been released to the Government at this date.
- Subsequent to the SQI pilot, the CEO of State Transit (John Stott) requested a presentation which was made in his office with senior staff on Thursday 1 June. A major outcome of this meeting was a commitment by STA to work closely with ITS and BCA to progress to a development stage in November 2000 to fine tune the SQI approach. An important outcome of this SQI process has been the brokering role of ITS in establishing an important channel for cooperative activity between STA and private operators.
- Subsequent to these meetings and presentations, ITS (David Hensher) has met with STA (Rhonda Daniels) and Busways (Stephen Rowe) on a number of occasions to work up a development phase SQI survey, reviewing the attributes, the sampling strategy and the way in which the study could be done that is cost effective. Darryl Mellish and Barrie Macdonald were briefed on this on Wednesday 2nd August (12.30-4). ITS now progressing to finalise the development stage so that we have a tool readily available and operational for both PAR and the broader interests on knowing one's customers.

- Preparation of a paper for BCA in late 1999 on service quality under the existing contracts. This paper was submitted to Darryl Mellish in November 1999 and has value as information for the PAR commentary. It is reproduced as Appendix A.
- Preparation of a report commenting on the June 2000 Discussion Paper on PAR issued by the Department of Transport. Much of the intent of the proposed PAR is contained in SQI and the establishment of key performance indicators associated with the financial and patronage data collected as part of the SQI activity. The ability to establish value for money exists already in the ITS methodology which is more than a service quality index, as set out in the pilot study report.
- ITS continues to provide knowledge capital to the BCA on many matters of interest. Examples include details on evidence about the health effects of CNG compared to diesel established by Harvard University that showed that the particulate matter associated with CNG is far more harmful than that associated with diesel because it is finer and potentially penetrates respiratory systems more significantly. ITS also contributed as a member of the BIC sub-committee on diesel vs. CNG. Another important contribution was reinforcing the support for bus-based systems instead of wasting money on light rail. We have submitted more recent information on this to Darryl Mellish to include in the next BCA Bulletin.
- The design of a 2-day training program for recruitment officers (designed by Professor Ann Brewer) that will be offered late in 2000. This is an initiative that has evolved from discussions between Ann Brewer and Barrie Macdonald. It was agreed on Wednesday 2 August that this should proceed and Ann Brewer is currently designing the program. Michelle Coulson is providing research assistance to this project. A Certificate will be issued, jointly badged as ITS and BCA.
- General contribution through conferences (eg. ABCA, ATRF, Thredbo series) in flying the partnership flag as a way of reinforcing the importance of such a partnership in gaining the respect of government and other agencies in the highly demanding and political arena of public transport provision.
- Commentary and input into the planned program to update the non-commercial contract costing and case for revised contract fees.
- Other activities of relevance but outside of the scope of the financial contribution of the quality partnership include the benchmarking subscription program (now in its fourth year), the certificate programs (now in their 9th year), SQI activities for specific operators, the ABCA fact sheet and the data entry and analysis of non-commercial contract data.