



THE UNIVERSITY OF
SYDNEY
—
Business School



MONASH
University

Key Centre

Annual Report 2015

The Commonwealth Key Centre
of Teaching and Research
in Transport Management

Institute of Transport Studies
Monash University

Institute of Transport and Logistics Studies
University of Sydney

Institute of Transport and Logistics Studies
The University of Sydney
NSW 2006

July 2016

Centres Coordinator
Australian Research Council
GPO Box 2702
Canberra ACT 2601

Dear Centres Coordinator,

I hereby present to you, in accordance with the Australian Research Council's requirements for continued Key Centre status, the report of the proceedings and outputs for The Commonwealth Key Centre of Teaching and Research in Transport Management (established 1995) for the year ended 31 December 2015.

Professor David Hensher

Key Centre Director
Director, Institute of Transport and Logistics Studies

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Constitution

The primary object of the Key Centre is to undertake graduate teaching, executive programs, grant and contract research and development in the fields of transport, logistics, and supply chain management studies.

The work of the Key Centre also has the following objectives:

- To provide a focus for University work in areas of transport and logistics management and to establish an ambience attractive to those committed to excellence in graduate transport, logistics and supply chain management programs and research.
- To collaborate, to the fullest extent possible, with other parties having an interest in transport, logistics and supply chain management studies and its applications.
- To offer specialised training courses, workshops, short courses and seminars on topics of interest in the area of transport, logistics and supply chain management.
- To seed the development, in Australia, of innovative ideas in transport, logistics and supply chain policy and professional practice in which the Key Centre plays a role.

These objectives are achieved by the Key Centre through:

- developing and offering graduate transport and logistics management programs, industry programs, certificates, executive programs and short courses;
- bringing high quality transport, logistics and supply chain management programs to people outside Sydney and Melbourne (both nationally and globally), as well as widening the offerings of courses within Melbourne and Sydney, through access to courses provided by both ITLS-Sydney and ITS-Monash;
- contributing to Australia's growing participation in the Asia Pacific region in a leadership role in transport, logistics and supply chain management;
- widening the range of courses available for middle level professional managers in critical areas of transport, logistics and supply chain management not currently served;
- equipping managers in all disciplines (i.e., 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 engineers, planners, policy analysts and managers in transport, logistics and supply chain management;
- undertaking research to develop state-of-the-art management practices and technical methods; and
- transferring the knowledge developed through research to client groups through the Key Centre's publications, workshops, conferences, seminars, and by participation in networks of transport, logistics and supply chain stakeholders.

Teaching and Learning

Award Programs

Undergraduate

In 2015 the Institute of Transport Studies at Monash University (ITS-Monash) continued to deliver transport units in the Bachelor of Engineering program. In addition to two core units (CIV2282 Transport and Traffic Engineering and CIV3282 Road Engineering) it offers two final year electives (CIV4283 Transport Planning and CIV4284 Traffic Systems). The core units each had enrolments in excess of 200 students while the electives attract enrolments of around 100 students. At the Institute of Transport and Logistics Studies at the University of Sydney (ITLS-Sydney) the first undergraduate offering was trialled in 2015, a unit of study in Innovation in Food Supply Chains (AGEN2003), offered under the Bachelor of Food and Agribusiness, the unit had 25 enrolments in Semester 2, 2015. ITLS-Sydney plans to further develop undergraduate offerings over the next five years, primarily focusing on the Bachelor of Commerce and a new Bachelor of Engineering Honours (Transport) program.

Postgraduate Coursework

The Master of Transport and Master of Traffic degrees offered off-campus by ITS-Monash began a major program of renewal in 2015. In part this involved gaining approval for changes in the course structure and unit offerings which will take effect in 2016. Major pedagogical changes were introduced into some units in 2015 with recorded lectures being introduced as a key learning resource for students. The Master of Transport Systems degree offered by ITS-Monash in conjunction with South East University in Suzhou, China continues to grow and had 27 students admitted in 2015. Following the introduction of on-campus classes as part of the Master of Advanced Engineering, students in the Master of Transport Systems have the option of completing first semester in Melbourne. This option was available for the first time in 2015 and four students from the Master of Transport Systems completed their first semester of full time study in Melbourne.

Through the Faculty of Engineering, in 2015 ITS-Monash launched a new transport stream as part of the Master of Advanced Engineering. The Master of Advanced Engineering is an on-campus degree and students completing the transport stream complete four core transport units (CIV5301 Advanced Traffic Engineering, CIV5302 Traffic Engineering and Management, CIV5305 Travel Demand Modelling and CIV5314 Planning Urban Transport Systems). In addition the students can complete two elective units from the Master of Transport program. The four core units are now offered in a dual mode of delivery: on-campus to students in the Master of Advanced Engineering and off-campus for Master of Transport and Master of Traffic students.

In 2015 ITLS-Sydney continued to offer an articulated postgraduate coursework program in Logistics Management and in Transport Management (Masters, Graduate Diploma and Graduate Certificate). In addition, it delivered, through the University of Sydney Business School, for specialisations (majors) in the Master of Commerce in: Logistics and Supply Chain Management; Aviation and Maritime Logistics and Management; and Infrastructure and Transport Management. In 2015, ITLS-Sydney gained approval from the University of Sydney's Academic Board to retitle the Master of Logistics Management to the Master of Logistics and Supply Chain Management. This retitling, which also applies to the Graduate Certificate and Graduate Diploma in Logistics Management degrees, recognises that these degrees offer specialist skills to existing or aspiring supply chain professionals in applying the concepts, techniques and principles that underlie logistics and supply chain management. The degrees will be relaunched from Semester 1, 2016. In 2015 ITLS-Sydney's work placement program made available, on a competitive basis, to Masters students specialising in transport, logistics, supply chain and/or infrastructure management, placements with ComfortDelGro

Cabcharge, Forest Coach Lines, Freight Exchange Pty Ltd, Reckitt Benckiser, and Yusen Logistics. For the fourth consecutive year ITLS-Sydney delivered a Retail Logistics short course in the Executive MBA program of the Overseas Education College of Jiao Tong University in Shanghai, China, attracting 73 students.

Postgraduate Research

The Key Centre has the largest higher degrees by research program in the transport and/or logistics field in Australia. In 2015, seven students graduated from our doctoral programs, with 34 continuing enrolments. Many of our students won highly competitive scholarships through their university and from government and industry bodies in Australia and overseas. We welcomed three new students in 2015 funded by scholarships under the ARC's Food and Beverage Supply Chain Optimisation Industrial Transformation Centre in which ITLS-Sydney is a partner.

Enrolments

Degree	Enrolments
Institute of Transport Studies, Monash University	
Doctor/Master of Philosophy	16
Master of Advanced Engineering (Transport)	5
Master of Traffic	26
Master of Transport	40
Master of Transport Systems	27
Institute of Transport and Logistics Studies, University of Sydney	
Doctor/Master of Philosophy	18
Master of Commerce	
Aviation and Maritime Management and Logistics	21
Infrastructure and Transport Management	7
Logistics and Supply Chain Management	90
Master of Logistics Management	78
Masters of Transport Management	20
Graduate Diploma in Logistics Management	12
Graduate Diploma in Transport Management	2
Graduate Certificate in Logistics Management	20
Graduate Certificate in Transport Management	2

Unit of study	Enrolments
Institute of Transport Studies, Monash University	
Undergraduate:	
Traffic and Transport Engineering (CIV2282)	373
Road Engineering (CIV3283)	241
Transport Planning (CIV4283)	91
Traffic Systems (CIV4284)	150
Postgraduate:	
Advanced Traffic Engineering (CIV5301)	30
Traffic Engineering and Management (CIV5302)	26
Quantitative Methods (CIV5303)	20
Intelligent Transport Systems (CIV5304)	20
Travel Demand Modelling (CIV5305)	22
Road Safety Engineering (CIV5306)	20
Case Studies in Transport (CIV5308)	2
Planning Urban Transport Systems (CIV5314)	31
Transport Economics (CIV5315)	13
Fundamentals of Urban Public Transport (CIV5316)	9
Intelligent Tsp Systems: Eng. and Management (CIV5318)	27
Quantitative Methods (CIV5319)	27
Case Studies in Transportation Systems (CIV5320)	27
Modelling Transportation Systems (CIV5406)	27
Sustainable Tsp Systems Planning (CIV5321)	27
Urban Public Transportation Systems (CIV5322)	27
Institute of Transport and Logistics Studies, University of Sydney	
Undergraduate:	
Innovations in Food Supply Chains (AGEN2003)	25
Postgraduate:	
Foundations of Supply Chain Management (ITLS5000)	160
Transport & Infrastructure Foundations (ITLS5100)	44
Quantitative Logistics & Transport (ITLS5200)	125
Value Chain Costing (ITLS6001)	11
Supply Chain Planning Systems (ITLS6002)	32
Contemporary Procurement (ITLS6003)	79
Warehouse & Inventory Management (ITLS6004)	96
Green Operations & Reverse Logistics (ITLS6005)	26
Disaster Relief Operations (ITLS6007)	20
Logistics & Supply Chain Project (ITLS6090)	31
Global Freight Logistics Management (ITLS6101)	92
Strategic Transport Planning (ITLS6102)	13
Sustainable Transport Policy (ITLS6103)	7
Traffic & Mobility Management (ITLS6105)	4
Infrastructure Appraisal (ITLS6106)	20
GIS for Transport & Logistics (ITLS6107)	5
Transport & Infrastructure Systems (ITLS6190)	14
Maritime Management & Logistics (ITLS6300)	42
Ports Management (ITLS6301)	13
Airline Strategy & Supply Chains (ITLS6400)	51
Airport Management (ITLS6401)	44
Cases in Global Transport & Logistics (ITLS6403)	18
Decision Making on Mega Projects (ITLS6500)	23
Infrastructure Financing (ITLS6501)	8
Research Case Study (ITLS6900)	3

Professional Development

Safety Management Course for Bus Operators

ITS-Monash was commissioned by the Safety Director of Transport Safety Victoria to design and deliver an approved training course which would equip bus operators with the necessary competencies to offer bus services that met regulatory and other compliance requirements in Victoria. The Safety Management Course for Bus Operators was launched by ITS-Monash in 2011 and equips bus operators with the necessary competencies to offer bus services that met regulatory and other compliance requirements in Victoria. In delivering the course ITS-Monash staff work closely with Transport Safety Victoria and the Bus Association of Victoria. In 2015 the course attracted 225 enrolments. During 2015 ITS-Monash staff participated in a number of roadshows run by Transport Safety Victoria in regional centres around the state designed to assist operators applying for accreditation.

Transport Management Course for Bus Operators

The Transport Management Course for Bus Operators delivered by ITS-Monash was designed and launched at the beginning of 2012. Completion of this program is an essential requirement of any service bid by a bus company in Victoria. The course incorporates the Safety Management Course as well as a business management component and caters for those operators seeking entry to contractual services and/or professional development training. The course attracted ten enrolments in 2015.

Bus and Coach Accreditation Scheme Online Training Course

The Bus and Coach Operator Accreditation Scheme Online Training Course attracted 240 enrolments in 2015, bringing the total participants to 1,663 since the course was established at ITLS-Sydney in 2007. This online course is approved by Transport for NSW as meeting the accreditation requirement of competency to operate bus and coach services; to meet the requirement of being competent applicants must pass the course examination. The course includes four modules: i) Accreditation; ii) Management Information System; iii) Vehicle Maintenance Management System; and iv) Safety Management Systems. The training is delivered through online learning materials including notes, case studies, online quizzes, and a discussion board.

Certificate of Transport Management

The Certificate of Transport Management program (including the Certificate of Transport Management Refresher) had a total of 44 enrolments in 2015, with participants from the bus industry and their suppliers (from NSW and interstate). The program at ITLS-Sydney is recognised as an important industry qualification for middle and senior management, and an excellent opportunity for career development. Participants are introduced to the latest developments in the industry and provided with knowledge and skills in management, planning and policy areas central to the success of the bus and coach industry, to operators, suppliers and consultants. The four day program includes presentations by industry representatives, specialist consultants and academic experts, designed to develop practical skills for the industry, as well as interactive exercises. The networking benefits are an important aspect of the program. The course content is reinforced by four assignments completed after the course. The Certificate of Transport Management is supported by Transport for NSW, the State Transit Authority, BusNSW, and private operators.

Certificate of Railway Planning and Operations

The Certificate of Railway Planning and Operations introduces participants to the key elements of the railway planning and operations including: management and business planning, understanding the railway market/environment (macro-economics), passenger behaviour (micro-economics), freight, safety and signalling, infrastructure design, and timetabling. The program is presented by Dr Nigel Harris who is among Britain's leading railway planners and is an Adjunct Lecturer at ITLS-Sydney where the course is delivered. In 2015 the program had 21 enrolments including participants from Transport for NSW, NSW Trains and Translink.

Introduction to 'Big Data' Databases and Programming for Transport Researchers

The 'Big Data' short course was introduced at ITLS-Sydney in 2015 to help transport researchers acquire the knowledge and tools to manage and process these big data datasets; it attracted nine participants in its inaugural offering. Transport researchers are increasingly collecting or using 'big data' containing millions of observations from sources such as GPS, smartphones, smartcards and bluetooth sensors. To make effective use of these datasets it is necessary to process and analyse the data at a disaggregate level. Accomplishing this requires a knowledge of databases (to store and manage data) and programming skills (to implement the appropriate logic for processing). In addition, while some researchers have access to programmers and database analysts to perform these tasks it is nonetheless crucial to have an understanding of the capabilities and issues relating to the management and processing since how this is done has a direct effect on any results.

Discrete Choice Analysis: Models, Estimation and Applications

Almost without exception, everything human beings undertake involves a choice. In recent years there has been a growing interest in the development and application of quantitative statistical methods to study choices made by individuals or groups with the purpose of gaining a better understanding both of how choices are made and of forecasting future choice responses. Courses in discrete choice modelling and choice experiment design have been offered by ITLS-Sydney since 2006, and are presented by world experts in the field: Professors David Hensher, William Greene and Michiel Bliemer, and Dr Andrew Collins. The week long introductory course held in June 2015, attracted 20 enrolments. An abridged version of the course was also offered in November 2015 in London, UK by Professor Michiel Bliemer in partnership with Honorary Professor Stephane Hess (University of Leeds, UK).

Student Awards

The Key Centre recognises the achievements of its students and alumni through industry and government sponsored prizes that are presented at annual award ceremonies where our students and alumni join with our Board members, industry partners, and the sponsors of prizes to celebrate the success of our students.

ITS-Monash's award ceremony was held as part of the 2015 Ogden Transport Lecture; prizes were awarded to:

- Mark Petrusma (VicRoads Prize for highest average mark in coursework Masters units)
- Saeed Bagloee (ARRB-Monash Prize for excellence in postgraduate research in transport)
- Ray Kinnear (William Young Alumnus Award for exceptional service to the transport industry by an alumnus of Monash University)
- Debra McNamara (BusVic Award for the best overall performance in the Transport Management Course for Bus Operators)
- Kenneth Hainsworth (Transport Safety Victoria Award for the best overall performance in the Safety Management Course for Bus Operators)
- Peter Duvcevski (Dyson Group Award for best performance in Safety Management Course, Subject 5101: Introduction to Bus Safety)
- Kristina Ung (Crown Coaches Award for the best performance in the Safety Management Course, Subject 5102 Safety Risk Management for Bus Operators)
- Peter McKenzie (Driver Group Award for the best performance in the Transport Management Course, Subject 5103 Financial Managements for Bus Operations)
- Peter McKenzie (Ventura Group Award for best performance in Transport Management Course, Subject 5104: Business Development for Bus Operators)

ITLS-Sydney's 2015 Awards Presentation Evening was presided over by Dr Alastair Stone, Chair of the Board of Advice; guest speakers were Professor John Shields, Acting Dean, University of Sydney Business School and Graham Bradley, Chair, Infrastructure NSW. Prizes were awarded to:

- Omar Masri (Chartered Institute of Logistics and Transport's Sir Hudson Fysh Award for the highest academic achievement in the Master of Transport Management)
- Samantha Miller (Chartered Institute of Logistics and Transport's Ken Hillyar Award for the highest academic achievement in the Master of Logistics and Supply Chain Management)
- Tamburai Mutowembwa (Logistics Association of Australia for outstanding achievement in the logistics program)
- Shuo Lin (Mrs Ma Ching Prize to an international student for the highest academic achievement in a transport, infrastructure and/or logistics and supply chain management specialisation in the Master of Commerce)
- Nicholas Barham and Paul Locket (GS1 Australia Prize for the highest academic achievement in the Warehouse and Inventory Management unit of study)
- Simon Fifer (Institute of Transport and Logistics Studies Prize for excellence in postgraduate research in transport, logistics or supply chain management)
- Peter Rose (BusNSW prize for best overall performance in the Certificate of Transport Management)

Other Awards

Recipients of other student awards were:

- Transport Masters Class (Best Class Award – for the second year running, the Transport Masters Class in the South East University (Suzhou, China)-Monash Joint Graduate School was awarded the South East University’s Best Class Award. This is a highly competitive award with a success rate of less than 10 per cent. The Transport Masters Class was the only one in the Suzhou Joint Graduate School to receive this award and the only program in the South East University School of Transportation).
- Dr Adrian Ellison (Eric Pas Dissertation Prize, International Association of Travel Behaviour Research)
- Dr Richard Ellison (Honourable Mention, Eric Pas Dissertation Prize, International Association of Travel Behaviour Research)
- Ines Österle (David Willis Best Poster (Runner-up), 37th Australasian Transport Research Forum, for poster "Did Car Travel Reach a Peak in Australia? An Analysis of the Factors Driving a Decline in Per Capita Kilometres Travelled")
- Mohsen Ramezani (PhD Dissertation Award, IEEE Intelligent Transportation System Society)

Research and Consultancy

Excellence in Research for Australia

In the 2015 Excellence in Research for Australia exercise ITLS-Sydney, as a unit of evaluation under the Transportation and Freight Services (1507) field of research, received a 5 rating indicating outstanding performance well above world standards.

Research Grants and Contracts

FUNDING AWARDED IN 2015

Australian Research Council Discovery Project Grants

Investigating travel choice behaviour: a new approach (2015-18, AU\$677,800)

Professor Michiel Bliemer and Professor David Hensher

Since large monetary investments are involved in infrastructure decisions, it is of utmost importance that impacts of transport policies can be accurately predicted. The recent failures to forecast usage and revenues of toll tunnels in Australia illustrate this well. This project aims to contribute by producing improved practical behavioural models to predict responses to such transport policies to assist in better decision making. Further, the project is expected to make several methodological contributions by, for the first time, merging methods from stated choice surveys, experimental economics, and naturalistic driving simulators in order to better investigate travel choice behaviour in realistic environments.

Australian Research Council Linkage Project Grants

Funding on the line: public transport financing and property value capture (2015-19, AU\$ 217,964)

Professor Corinne Mulley

(with Dr Matthew Burke, Dr Barbara T.H.Yen, Professor Neil Sipe, Dr Guilherme Lohmann, Professor Yu-Chiun Chiou and Timothy Raimond. Linkage partners: Department of Transport and Main Roads, Queensland Government, Gold Coast City Council, Premier's Council for Active Living, NSW Government, Queensland Airports Limited, Transport for NSW)

This project aims to develop property value capture schemes that would provide alternative funding for public transport infrastructure. It plans to model the timing and spatial patterns of property value uplift from recent investments in rail, busways and ferries in Queensland and New South Wales. It then intends to conduct a survey of Australian stakeholders and discrete choice modelling to determine willingness-to-pay. This data is then expected to be used to develop an institutionally, legally and politically feasible scheme for implementation in Australia, focused on cases including extension to the Gold Coast light rail network.

Other External Research Grants and Contracts

Do Autonomous Vehicles spell the end of private vehicle ownership? The University of Western Australia Business School Research Development Award, Australia (2015, AU\$8,250)

Dr Andrew Collins and Professor Stephen Greaves

Autonomous Vehicles (AVs) represent an exciting, new technology, but how these vehicles will enter the market is uncertain. The barriers to mainstream adoption are high vehicle costs and undeveloped legislative frameworks; each will prevent a sudden uptake of AV's. One likely

path that market penetration may take is through the expanding shared mobility market whereby the advent of AV's will further blur the lines between taxis, private vehicles and public transport. This research offers a preliminary insight into how consumers may evaluate the presence of AV's in the shared mobility market of peer-to-peer ride share, chauffeur driven taxis, car clubs or on demand public transport models.

**Benchmarking Public Transport for International Tourists in Queensland Cities
Department of Tourism, Major Events, Small Business and the Commonwealth Games,
Queensland, Australia (2015, AU\$90,000)**

Professor Graham Currie, Dr Chris De Gruyter, James Reynolds, and Dr Vicki Peel

The aim of this research was to benchmark the quality of urban public transport for international tourists in Queensland cities. The selected cities included Brisbane, Gold Coast, Sunshine Coast, Cairns and Townsville. A scorecard approach, developed in previous research, was used to assess each city based on 26 weighted criteria covering the areas of information access, fares and ticketing, service levels, and special tourist services. The results of the research helped to identify areas of good performance and gaps in how public transport meets the needs of international tourists in Queensland cities. The research outputs have since been used to inform the development of the Queensland Government's Tourism and Transport Strategy.

**Exploring the Economic Behaviour of Taxi Drivers in Singapore
Sydney Southeast Asia Centre (2015, AU\$10,000)**

Dr Adrian Ellison and Dr Richard Ellison

Singapore's taxi drivers are self-employed individuals who rent a taxi on a daily basis from one of the six taxi operators. Their earnings are directly linked to the fares (set by each operator) they receive from customers. As a consequence, it would be expected for taxi drivers to behave in a manner that they believe maximises their financial earnings. However, from a societal point of view, it needs to be recognised that taxis form a critical component of Singapore's transport system and, in some cases, the interests of individual taxi drivers may diverge from the interests of the transport system as a whole. What is not fully understood is how individual taxi drivers behave in response to the price signals created through passengers' demand for trips and the subsequent fares they receive. This project utilises 5.5 billion GPS observations recorded over six months from the entire taxi fleet in Singapore.

**Bus Rapid Transit Centre of Excellence
Volvo Research and Educational Foundation, Sweden (2015, AU\$74,000)**

Professor David Hensher and Professor Corinne Mulley

Across Latitudes and Cultures – Bus Rapid Transit (ALC-BRT) is a Centre of Excellence for Bus Rapid Transit Studies implemented in Santiago, Chile, and financed by the Volvo Research and Educational Foundations. This Centre was established in May of 2010 and is working as a consortium of five institutions that include Pontificia Universidad Católica de Chile (PUC), Massachusetts Institute of Technology (MIT), Technical University of Lisbon, The University of Sydney and EMBARQ – The WRI Center for Sustainable Transport, including its network of centres of sustainable transport. The main goal of this Centre of Excellence (CoE) is to develop a new framework for planning, design, financing, implementation and operation of BRT in different urban areas, giving clear guidelines to decision makers on when and how BRT projects can effectively enhance mobility and meet accessibility needs. These guidelines will be a major milestone to change the way decision makers address investment and design plans for configuring urban mobility systems. An essential goal of the ALC-BRT CoE is to identify elements which are transferable between existing and prospective BRT systems and elements that are project site specific.

**Rail Benchmarking Project
Transport for NSW, Australia (2015-16, AU\$117,850)**

Professor David Hensher, Associate Professor Rico Merkert and Professor Corinne Mulley

The objective of this project is to provide a report to Transport for NSW containing accurate data and analysis to facilitate informed decision making about how to improve the efficiency and effectiveness of NSW rail operations (Sydney Trains and NSW Trainlink) and benchmark against comparable domestic and international passenger rail operators. The performance of the rail operators is to be benchmarked using pre-agreed Key Performance Indicators (KPIs). The KPIs will cover a range of areas, including operational efficiency, staff efficiency, safety, asset utilisation, service reliability and customer satisfaction.

**Provision of specialist advice on network options in relation to Mass transit
Department of Transport (WA), Australia (2015, AU\$30,000)**

Professor Corinne Mulley

This project was to provide specialist advice including an annotated synthesis of relevant world experience in mass transit network planning. The advice took account of what has worked well and less well elsewhere (e.g., modes patronage thresholds) as well as the particular spatial needs of Perth (land use, density, existing employment and future profiles for the CBD and other centres) in response of a growth in Perth and Peel to a population of 3.5 million.

The advice was interwoven with an interactive workshop with experts from Perth in which the international learnings were merged with an analysis of Perth now and its future growth, to develop a range of options. The workshop was used to provide strategic responses to the issues which are critical in terms of where resources should be targeted and what additional policy responses are needed. The report controlled for the critical characteristics of Australian cities and how this affects the use of public transport, how different network planning approaches can be harnessed to provide for the future growth of Perth and Peel to a population of 3.5 million.

**Bus Industry Confederation Senior Fellow in Sustainable Land Transport
Bus Industry Confederation, Australia (2015-16, AU\$86,250)**

Professor John Stanley

This project is now in its seventh year. The current focus is on developing improved integrated land use transport planning approaches for Australian cities, to improve their productivity, increase social inclusion and lower their environmental footprint. Four policy papers are currently being produced each year to document this research, encompassing land use transport planning strategies and policy directions, governance arrangements, funding models and bus service contracting arrangements. Research building on the idea that our cities should be developed as a series of 20 minute neighbourhoods has been of particular interest to the major political parties, which have now both adopted 30 minute variants of this approach. The vital role that needs to be played by the middle suburbs of our cities in coming years has emerged strongly from the research. The research recognizes the way that structural economic changes are affecting economic and social outcomes in our cities and it proposes proactive land use transport planning responses to support productivity growth and the better sharing of benefits from this growth among residents across the entire metropolitan area. A book is being published by Edward Elgar incorporating much of the work from this Fellowship, with complementary research from Associate Professor Janet Stanley and Professor Roz Hansen from University of Melbourne.

Consulting

**Fiji Household Travel Survey and Transport Database
Predict Consulting Pty Ltd, Australia / Fiji Department of Infrastructure, Transport and
Policy (2015, AU\$35,395)**

Professor Michael Bell, Dr Richard Ellison and Professor David Hensher

Services provided under this contract included workshop attendance and input, peer review, and a maritime and freight study.

**Audit of Public Transport and Management
ACT Government Auditor General's Office, Australia (2015-16, AU\$30,000)**

Dr Geoffrey Clifton

Two performance audits for the ACT Auditor General. The first was an audit of Canberra's Frequent Public Transport Network that looked at the development, management and future prospects for the network of high frequency bus corridors. The second was an audit of the Capital Metro light rail project looking at the economic modelling that had taken place during the development of that project.

University Research Grants

Faculty of Arts and Faculty of Engineering Interdisciplinary Research Seed Funding Scheme (2015, AU\$20,000)

Professor Graham Currie and Dr Alexa Delbosc

This seed funding was used to establish multidisciplinary research links to improve the safety of women using public transport services in India. A multi-day workshop brought together researchers from across the faculties of Monash University with researchers and members of the transport industry in India.

Engineering Faculty Seed Funding (2015, AU\$20,000)

Dr Alexa Delbosc

These funds are supporting two projects. One project used qualitative interviews to understand the relationship between life stage transitions and mobility among the millennial generation in Melbourne, Sydney and Canberra. The other used survey data to explore the relationship between social media and social travel among Australians.

How much is too much for tolled road users: toll saturation and the implications for car commuting demand forecasting?

Business School Pilot Research Scheme, University of Sydney (2015, AU\$25,000)

Professor David Hensher and Wen Liu

Cost-benefit analysis of toll roads assumes that car users will keep paying tolls as long as the toll cost is not higher than their current value of travel time savings. This assumption may not be valid when increased tolls start to bite into travel budgets. When this occurs, travellers are said to reach their saturation point and begin to consider avoiding one or more toll roads. This phenomenon is investigated in this study which aims to establish potential adjustments to cost-benefit analysis of toll road projects such as WestConnex and M4 widening. Sydney has more tolled roads than any other metropolitan area in the world and hence is an ideal real world laboratory to explore the research topic. In this research, Professor David Hensher was responsible for the overall theoretical developments as well as designing efficient choice experiments, analysis and modelling to identify the toll saturation effect and leading in the writing of a report as well as conference and journal papers. Wen Liu was responsible for programming the survey instrument and managing the online survey.

**A Holistic Multimodal Congestion Control Approach for Large-Scale Transport Networks
Monash University Engineering Faculty Seed Grant (2015, AU\$15,000)**

Dr Mohsen Ramezani

This funding is supporting research on the development of improved strategies for congestion control in urban transport networks. The project involves development of enhanced modelling capabilities to underpin the development of the congestion control strategies.

University of Sydney Business School Early Career Researcher Grants

A Longitudinal Investigation of the Use of Twitter for Customer Service Provision in e-Retail Logistics (AU\$11,000)

Dr Jyotirmoyee Bhattacharjya and Dr Richard Ellison

This study aims to examine a hitherto under-explored aspect of e-retail logistics – the provision of logistics related customer service via Twitter. The study takes a different approach from existing Twitter related studies which collect and conduct sentiment analysis of individual tweets. Instead, this study will collect and examine full conversations and repeated long-term interactions between e-retailers and their customers around the world to reveal a rich picture of interactions in the context of retail logistics. For the purposes of this study, twitter data will be collected for a period of at least one year allowing multiple interactions between customers and multiple retailers and logistics firms that will provide greater insights into the potential strategic benefits of customer service over twitter for retailers and their (increasingly important) logistics distribution partners. The study will also analyse the similarities and differences in logistics issues experienced by customers based in different geographical locations and the approaches taken to resolve these via Twitter and use techniques and methods better suited to the analysis of complex and very large datasets than those typically used for sentiment analysis involving small datasets.

The influence of quality of the physical distribution system on choice of online retailers (2015, AU\$9,000)

Dr Andrew Collins

The physical distribution system has been recognized as a key component of the competitiveness of many online retailers. The choice of online shoppers is influenced by timeliness of delivery and availability of real-time tracking information. This project will determine the impact of the communication of specific tracking information to customers, investigate the presence of reference dependence and loss aversion in B2C deliveries, and appropriately model the experiential nature of product delivery. The research will inform business whether real-time tracking can be detrimental in some cases, and provide guidance on how uncertainty in shipping time should be communicated to the customer.

Assessing Driver Response to Safety Countermeasures in School Zones: A Driving Simulator Study

Freda and Len Lansbury Support Fund (2015, AU\$5,000)

Dr Adrian Ellison

School zone safety is an important and emotive issue with 60 people injured or killed in school zones each year in New South Wales. School zones operate around school start/end times, on a wide-range of road types often under congested conditions and use a variety of treatments designed to reduce vehicle speeds and improve general safety. Investigations of the 'success' of such counter-measures are thwarted by two primary limitations. First, it is resource intensive to physically change the road environment such that the impacts of a treatment or package of treatments cannot be systematically investigated. Second, we have little information on how individual drivers change their behaviour in response to specific treatments and whether there are differences attributable to (for instance) socio-demographic characteristics (e.g., age, gender, presence of children) that are important for policy-makers to understand in designing future safety countermeasures. This study addresses these two limitations using advanced driving simulators.

Sydney bus network: changes to planning focus to increase patronage and equity (2015, AU\$12,500)

Dr Chinh Ho

This project looks at the effects of bus network planning on patronage and equity. Evidence suggests that a public transport network that offers simple, frequent, widespread and direct services should increase patronage. However, budget constraints mean that trade-offs have to be made and quantitative evidence on the nature of trade-offs is unavailable. Results from this

study will suggest the trade-offs that work for Sydney and identify areas where improvements can be made to increase patronage and social equity.

How does the built environment moderate the relationship between transport poverty and health? Evidence from Sydney, Australia (2015, AU\$12,500)

Dr Liang Ma

This project is a mixed methods investigation into the way the built environment moderates transport poverty and subjective well-being in several neighbourhoods experiencing acute social and economic disadvantage Sydney, Australia. The study combines a tailored survey instrument with focus group research to identify key built environment barriers to social and economic inclusion. As such, the research provides robust empirical evidence to inform policies that aim to address social equity and improve the wellbeing of lower income populations from urban and transportation planning perspectives.

Engagement

Public Lectures and Seminars

Leadership and Policy Seminar Series

Established in 2003, the ITLS-Sydney Leadership and Policy Seminar Series benefits from leading national and international experts (CEOs, Visiting Professors etc.) speaking on topical transport and logistics issues relevant to business and academia. The seminar series attracts a broad audience from industry, government and academia as well as our own faculty and research students. The seminar conveners are Professor Corinne Mulley and Associate Professor Rico Merkert. The following presentations were given in 2015:

Electric Vehicles: Is Australia Ready?

3 Mar 2015

Professor Stephen Greaves, ITLS-Sydney

A passenger-centric approach to flexible transport provision in rural areas

31 Mar 2015

Professor John Nelson, University of Aberdeen

How the West was won! The challenges in getting the green light for an airport in Western Sydney

21 Apr 2015

David Borger, Western Sydney Business Chamber

PPP Lessons from Europe

28 Apr 2015

Robert Bain, RBconsult, University of Leeds, UK

Understanding the benefits of light rail projects in NSW

5 May 2015

Matthew McKibbin, Manager, Light Rail, Transport for NSW

Yes, You Can Erase Your Bus Network and Design a New One. Lessons from Houston, Auckland, and other cities

12 May 2015

Jarrett Walker, President and Principal Consultant

NRMA: On the road to personal mobility

19 May 2015

Kyle Loades, NRMA

Paying our way on infrastructure, New approaches

16 Jun 2015

Christopher Selth, ADC Forum

The NSW government's vision for Transport & Infrastructure

28 Jul 2015

The Hon Andrew Constance MP, NSW Government

Saving \$1 billion for the national economy, by foot or cycle

11 Aug 2015

Sara Stace, Link Place

A method for optimising public transport fares in Sydney

8 Sep 2015

Mike Smart, NSW Independent Pricing and Regulatory Tribunal

Public transport's role in unlocking economic productivity

6 Oct 2015

Margy Osmond, Chief Executive Officer, Tourism and Transport Forum

Lessons from an Entrepreneur

27 Oct 2015

Andrew T Harris, The University of Sydney

Dual Sourcing with Capacity Reservation and Stochastic Spot Market Prices: Purchasing and Inventory Management

20 Nov 2015

Professor Peter Kelle, E.J. Ourso College of Business, Louisiana State University, USA

How much do travellers value time: new evidence from the UK

24 Nov 2015

Professor Stephane Hess, Institute for Transport Studies, University of Leeds, UK

Effects of Open Skies Agreements on Foreign Traffic Inflow and Service Export and Import Trades: The Case of Canada

1 Dec 2015

Professor Tae Oum, UPS Foundation Chair in Transportation, University of British Columbia, Canada

Modelling Technical and Service Efficiency: Limited Information Bayesian analysis with an application to US Airlines

15 Dec 2015

Associate Professor Albert Assaf, Isenberg School of Management, USA

Ogden Transport Lecture

ITS-Monash's Ogden Transport Lecture is a free public lecture initiated in 2001 to recognise the key role which Ken Ogden played in the formation and development of the transport program at Monash University.

The Road to 21st Century Mobility

24 Aug 2015

Professor Peter Sweatman, Director, University of Michigan Transportation Research Institute; Director, Michigan Mobility Transformation Center, USA

Transport Research Workshop

Travel habit creation of the elderly and the transition to sustainable transport

3 Feb 2015

Dr Hitomi Nakanishi, University of Canberra

Ethical issues in the design of autonomous vehicles

7 May 2015

Associate Professor Robert Sparrow, Monash University

Global bike share and lessons from the Australian experience

17 Aug 2015

Dr Elliot Fishman, Institute for Sensible Transport

The Future of Car sharing

18 Dec 2015

Harry Barber, Phillip Boyle and Associates

Committees

- **Dr Matthew Beck**
United States Transportation Research Board Committees: Stated Response (Chair), Travel Survey Methods, Traveller Behaviour and Values
- **Professor Michael Bell**
International Symposium on Transport Network Reliability Scientific Committee (Chair);
International Symposium on Transportation and Traffic Theory Scientific Committee (Chair);
United States Transportation Research Board Committee: Intermodal Freight
- **Professor Michiel Bliemer**
Innovative Methods Committee of the European Transport Conference; International Scientific Committee of the Dynamic Traffic Assignment Conference; United States Transportation Research Board Committees: Network Modelling, Survey Methods
- **John Clements**
Passenger Transport Group Committee, Chartered Institute of Logistics and Transport, Australia
- **Dr Geoffrey Clifton**
Australian Timetable Association (Convenor, Sydney Branch)
- **Professor Graham Currie**
United States Transportation Research Board Committees: International Light Rail Transit Developments (Chair), Light Rail Transit (Vice Chair), Public Transportation Planning and Development
- **Dr Alexa Delbosc**
United States Transportation Research Board Committees: Social and Economic Factors of Transportation, Traveller Behaviour and Values
- **Professor Behnam Fahimnia**
International Conference on Industrial and Systems Engineering Scientific Committee;
International Conference on Industrial Engineering and Operations Management Scientific Committee; International Conference on Logistics and Maritime Systems Scientific Committee; Sydney Supply Chain Workshop Scientific Committee
- **Professor Stephen Greaves**
Travel Survey Conference International Steering Committee; Australasian Transport Research Forum Conference Organising Committee; United States Transportation Research Board Committees: Air Quality, New Technologies in Travel Surveys
- **Professor David Hensher**
Transport for NSW: Advisory Panel on the Long Term Transport Master Plan, Benchmarking Program Panel; Infrastructure Australia reference panel on public transport; Advisory Board, Institute of Transport and Logistics Studies (Africa), South Africa; International Conference Series on Competition and Ownership in Land Passenger Transport, International Steering Committee (Chair)
- **Dr Chinh Ho**
Permanent Scientific and Technical Committee, Cooperation for Urban Mobility in the Developing World
- **Dr Marilyn Johnson**
Amy Gillet Foundation Research and Policy Committee; Member, National Executive

Committee, Australasian College of Road Safety; Member, Australasian College of Road Safety, Victorian Chapter

- **Associate Professor Rico Merkert**
United States Transportation Research Board Committees: Air Cargo, Aviation Economics, Light Commercial and General Aviation
- **Dr Claudine Moutou**
Passenger Transport Sector Committee, Chartered Institute of Logistics and Transport Australia; Diaspora of Mauritian Experts; Transport Advisory Panel, Newtown Precinct Business Association
- **Professor Corinne Mulley**
Executive Board, World Symposium of Transport and Land Use Research (Chair); NSW Premier's University Government Business Forum; NSW Premier's Council for Active Living, Workplace Travel Planning Group
- **James Reynolds**
United States Transportation Research Board Committee: Light Rail Transit
- **Professor Geoff Rose**
Australasian Transport Research Forum National Steering Committee; World Conference on Transport Research (Local Area Representative); United States Transportation Research Board Committees: Transportation Demand Management, Emergency Vehicles and Personal Transportation
- **Dr Meead Saberi**
United States Transportation Research Board Committee: Traffic Flow Theory
- **Associate Professor Majid Sarvi**
International Symposium on Traffic and Transport Theory Scientific Committee; United States Transportation Research Board Committees: Crowd Dynamics Modelling and Simulation (Chair), Traffic Flow Theory and Characteristics, Transportation Network Modelling, Vehicle User Characteristics
- **Adjunct Professor John Stanley**
Chair, Australian Davos Connection Forum

Awards

- **Dr Alexa Delbosc**
Monash University Engineering Women's Leadership Award
- **Dr Alexa Delbosc**
Young Professional of the Year (Finalist), Chartered Institute of Logistics and Transport, Australia
- **Dr Chris De Gruyter**
Emerging Transport Professional of the Year, Institute of Transportation Engineers, Australia and New Zealand Section
- **Professor David Hensher**
Contribution to the Transport Profession Award, Institute of Transportation Engineers, Australia and New Zealand
- **Dr Zhiyuan (Terry) Liu**
1000 Talent Program entitlement from China central government

Media

- Why are young Australians turning their back on the car?
The Conversation
5 Jan 2015
Dr Alexa Delbosc
- Oil plummets, but don't expect lower fares soon
Sydney Morning Herald
7 Jan 2015
Associate Professor Rico Merkert
- Qantas, Virgin set to keep fuel surcharge despite oil price slump
Australian Financial Review
7 Jan 2015
Associate Professor Rico Merkert
- Demanding a fare deal on oil
Arabian Business
8 Jan 2015
Associate Professor Rico Merkert
- Building more roads is not 21st century thinking
Sydney Morning Herald, Canberra Times, The Age
12 Jan 2015
Professor Michiel Bliemer
- THE GRILL
Lloyd's List Australia
15 Jan 2015
Professor Michael Bell
- Universities join forces to establish supply chain training centre
Australasian Transport News
19 Jan 2015
Associate Professor Behnam Fahimnia
- More young Canberrans take to the road in car capital
Canberra Times
24 Jan 2015
Dr Alexa Delbosc
- Appin Road fatalities cause road safety experts alarm
Camden Advertiser, Campbelltown-Macarthur Advertiser, Wollondilly Advertiser
27 Jan 2015
Professor Stephen Greaves
- Explainer: fuel hedging and its impact on airlines and airfares
The Conversation, SBS News
30 Jan 2015
Associate Professor Rico Merkert
- Transport researcher David Hensher recognised for significant contribution
Australasian Transport News
4 Feb 2015
David Hensher and Gregory Whitwell

- **2SER Radio**
5 Feb 2015
Dr Alexa Delbosc
- The myth that everyone naturally prefers trains to buses
The Atlantic City Lab
23 Feb 2015
David Hensher and Corinne Mulley
- Oil price turbulence for Air NZ
Newsweek
23 Feb 2015
Associate Professor Rico Merkert
- What the world needs now is infrastructure investment
In The Black
2 Mar 2015
Dr Matthew Beck
- Use of electrical vehicles
2MCE Orange
3 Mar 2015
Professor Stephen Greaves
- What you need to know about WestConnex, the biggest road we've ever seen
Sydney Morning Herald
14 Mar 2015
Professor Michiel Bliemer
- Why fewer drivers are likely to use WestConnex than predicted
The Conversation
16 Mar 2015
Professor Michiel Bliemer
- WestConnex
2SER FM
18 Mar 2015
Professor Michiel Bliemer
- NSW election: Labor and Coalition's transport policies run on parallel lines
Sydney Morning Herald
19 Mar 2015
Professor Michiel Bliemer
- NSW election 2015: Voters divided on WestConnex motorway, support more funding for public transport and cycleways
ABC News Online
25 Mar 2015
Dr Geoffrey Clifton
- **Channel 9 News (Melbourne)**
25 Mar 2015
Professor Stephen Greaves
- Melbourne plan to focus on climate change, affordability, energy efficiency
Australian Financial Review
26 Mar 2015
Adjunct Professor John Stanley

- What international airlines can learn from the Germanwings crash
SBS Radio News
 27 Mar 2015
 Associate Professor Rico Merkert

- Public permission soars on road infrastructure: survey
Australasian Transport News
 31 Mar 2015
 David Hensher

- Going nowhere: No transport of delight as commuters lose faith
MX
 1 Apr 2015
 Professor David Hensher

- Confidence in transport plummets - survey
Transport and Logistics News
 1 Apr 2015
 Professor David Hensher

- WestConnex has a number of issues: What are they?
Sydney Morning Herald
 5 Apr 2015
 Professor David Hensher

- How much is too much for Sydney toll roads?
Sydney Morning Herald
 12 Apr 2015
 Professor David Hensher

- Do more roads really mean less congestion for commuters?
The Conversation
 13 Apr 2015
 Dr Matthew Beck and Professor Michiel Bliemer

- How 'Opal Runners' beat the system
2SER FM
 15 Apr 2015
 Professor Corinne Mulley and Dr Geoffrey Clifton

- Matthew Beck on Triple J Hack
Triple J Hack
 15 Apr 2015
 Dr Matthew Beck

- **ABC South East NSW**
 20 Apr 2015
 Dr Geoffrey Clifton

- Asset recycling – a case study in communication?
Thinking Outside the Box*
 20 Apr 2015
 Dr Matthew Beck

- Can 'environmentally friendly' supply chains deliver on time at the right price?
Lloyd's List Australia
 7 May 2015
 Associate Professor Behnam Fahimnia

- ‘Hack’ news program live interview
Triple J Radio
 8 May 2015
 Dr Alexa Delbosc

- Infrastructure Financing: Following the Money
Thinking Outside the Box*
 22 May 2015
 Dr Alastair Stone

- Make superfunds invest in critical infrastructure, proposes Business School
Sky Business News and Professional Planner
 26 May 2015
 Dr Alastair Stone

- Sydney traffic: Secret WestConnex documents show worse congestion after toll road
Sydney Morning Herald
 26 May 2015
 Professor Michiel Bliemer

- Construction of George Street light rail will cause transport chaos
7 News
 1 Jun 2015
 Dr Geoffrey Clifton

- To tender or not: how transparent is the process?
Thinking Outside the Box*
 5 Jun 2015
 Professor David Hensher

- Little Pain, Big Gains
The Daily Telegraph
 6 Jun 2015
 Professor Stephen Greaves

- **ABC News Radio**
 10 Jun 2015
 Professor David Hensher

- Transport in the NSW State Budget
2SER FM
 24 Jun 2015
 Professor Stephen Greaves

- Sydney has top PT minds
Australasian Bus and Coach News
 25 Jun 2015
 Professors Corinne Mulley, David Hensher and Gregory Whitwell

- Aiming for Zero Growth in Vehicle Kilometres of Car Travel
Thinking Outside the Box*
 6 Jul 2015
 Adjunct Professor John Stanley

- Fact check: Do nine in 10 Australians spend more than 90 minutes a day commuting?
ABC News
 10 Jul 2015
 Dr Chinh Ho

- MH17 anniversary: Little change in air safety since plane shot down
Sydney Morning Herald, The Age
 16 Jul 2015
 Associate Professor Rico Merkert
- Etihad performs a perfect flight
The National
 25 Jul 2015
 Associate Professor Rico Merkert
- GST card could offset increased tax charge
ABC NewsRadio, 4BC Brisbane, 6PR Perth, 2GB Sydney
 3 Aug 2015
 Professor David Hensher
- Public transport is always greener on the other side
The Conversation
 10 Aug 2015
 Dr Alexa Delbosc
- University of Sydney to produce more supply chain experts
Transport and Logistics News
 12 Aug 2015
 Associate Professor Behnam Fahimnia
- Are public transport fares more expensive in Australia than anywhere else?
Sydney Morning Herald
 13 Aug 2015
 Professor Corinne Mulley and Dr Geoffrey Clifton
- A fair tax to pay for hospitals and schools
ABC Radio National
 18 Aug 2015
 Professor David Hensher
- **9 News**
 19 Aug 2015
 Dr Geoffrey Clifton
- Qantas announces it will buy eight Boeing Dreamliners on back of \$975 million pre-tax profit
Channel 9 News, NBN
 20 Aug 2015
 Associate Professor Rico Merkert
- **ABC News 24**
 24 Aug 2015
 Adjunct Professor John Stanley
- **NBN News, WIN**
 24 Aug 2015
 Associate Professor Rico Merkert
- Bullet trains and the economics of high-speed railways
In The Black
 1 Sep 2015
 Professor David Hensher

- Goodbye traffic jams?
ABC Radio National
2 Sep 2015
Professor Michiel Bliemer
- Malcolm Turnbull's cabinet: Jamie Briggs named Minister for Cities
Australian Financial Review
20 Sep 2015
Adjunct Professor John Stanley
- The Viability and Economics of the proposed Inland Rail Project
SBS Radio
23 Sep 2015
Associate Professor Rico Merkert
- Voters split on transport funding
Northern Star
29 Sep 2015
Professor David Hensher
- **612 ABC Brisbane**
29 Sep 2015
Professor David Hensher
- Public transport is always greener on the other side
Transit Australia Magazine
1 Oct 2015
Dr Alexa Delbosc
- Drive
666 ABC Canberra
6 Oct 2015
Professor David Hensher
- Badgerys Creek Airport won't fly without a rail link, research shows
The Daily Telegraph
13 Oct 2015
Professor David Hensher
- **702 ABC Sydney**
29 Oct 2015
Professor David Hensher
- Motorists against new toll roads
TEN Eyewitness News
11 Nov 2015
Professor David Hensher
- Clogged roads are expensive and one reason we spend an average 85 minutes a day commuting
News.com.au
11 Nov 2015
Professor David Hensher
- Research into toll roads
2GB Sydney, 702 ABC Sydney
11 Nov 2015
Professor David Hensher

- What your commute really costs
7 News
11 Nov 2015
Professor David Hensher
- Sydney motorists unwilling to pay for more toll roads: study
Sydney Morning Herald, The Age
11 Nov 2015
Professor David Hensher
- We need a longer term view on infrastructure investment and good ideas – Australia needs to be less myopic
Thinking Outside the Box*
20 Nov 2015
Professor David Hensher
- Canberra light rail: Fast track to the future or start of new set of problems?
ABC News Canberra
27 Nov 2015
Dr Geoffrey Clifton and Professor Corinne Mulley
- Car parking provisions at new residential developments in Melbourne
SYN 90.7FM
27 Nov 2015
Dr Chris De Gruyter
- The way we justify investments in road projects like WestConnex doesn't add up
Sydney Morning Herald
1 Dec 2015
Christopher Standen
- The role of human behaviour in supply chain decision-making
Thinking Outside the Box*
14 Dec 2015
Associate Professor Behnam Fahimnia

*** Thinking Outside the Box – an ITLS-Sydney initiative**

While academic publications and reports are a very important outlet for high quality research including debates on themes with a rich policy and strategic value beyond theory, methods and evidence, there is room for a series of short poignant commentaries on themes that are of broad community interest. These short pieces focus on topics of currency that are likely to be challenging and controversial – hence the titling of the series Thinking Outside the Box. It has all the elements of critical thinking and the challenge of change.