



THE UNIVERSITY OF
SYDNEY
—
Business School



MONASH
University

Key Centre

Annual Report 2016

The Commonwealth Key Centre
of Teaching and Research
in Transport Management

Monash Institute of Transport Studies
Monash University

Institute of Transport and Logistics Studies
University of Sydney Business School

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

March 2017

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 2016.

A handwritten signature in black ink, appearing to read 'D Hensher', written in a cursive style.

Professor David Hensher

Key Centre Director
Director, Institute of Transport and Logistics Studies

Contents

- Constitution 3
- Teaching and Learning..... 4
 - Award Programs 4
 - Undergraduate 4
 - Postgraduate Coursework..... 4
 - Postgraduate Research..... 4
 - Enrolments..... 5
- Professional Development..... 7
 - Safety Management Course for Bus Operators..... 7
 - Transport Management Course for Bus Operators..... 7
 - Bus and Coach Accreditation Scheme Online Training Course 7
 - Certificate of Transport Management..... 7
 - Certificate of Railway Planning and Operations..... 7
 - Introduction to ‘Big Data’ Databases and Programming for Transport Researchers 8
 - Discrete Choice Analysis: Models, Estimation and Applications..... 8
- Student Awards..... 9
- Research and Consultancy..... 10
 - Research Grants and Contracts..... 10
 - Australian Research Council Linkage Project Grants 10
 - Other External Research Grants and Contracts 10
 - Consulting 14
 - University Research Grants..... 14
- Engagement 16
 - Public Lectures and Seminars 16
 - Ogden Transport Lecture 16
 - Leadership and Policy Seminar Series 16
- Committees..... 17
- Awards 19
- Media 20
- Centre Outputs 30

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 Monash ITS;
- 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 2016 the Monash Institute of Transport Studies (Monash ITS) 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 300 students while the electives attract enrolments of over 100 students. Those undergraduate core units are delivered on both the Clayton and Kuala Lumpur campuses. The delivery of those units involves close collaboration between academic staff on both campuses to ensure identical learning outcomes are achieved for the students studying in both countries. Those units are part of undergraduate civil engineering degrees co-accredited under both the Australian and Malaysian Engineering Education Accreditation Systems.

At the Institute of Transport and Logistics Studies at the University of Sydney Business School (ITLS Sydney) enrolments in the undergraduate unit in Innovation in Food Supply Chains (AGEN2003), offered in the Bachelor of Food and Agribusiness, grew from 25 to 57. 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 Monash ITS began to roll out a major program of renewal in 2015. A new unit in Transport and Traffic Data was offered for the first time in 2016 and development work undertaken for a new Transport and Traffic Project unit to be offered for the first time in 2017. Major pedagogical changes were introduced into more units in 2016 with recorded lectures being introduced as a key learning resource for students. The Master of Transport Systems degree offered by Monash ITS in conjunction with South East University in Suzhou, China continues to grow and had 40 students admitted in 2016. Students in the Master of Transport Systems have the option of completing first semester in Melbourne and two students took up that option in 2016.

The Master of Advanced Engineering (MAE) is an on-campus degree offered at Monash that provides students with the scope to complete a specialisation in Transport. That program involves on-campus delivery of four core transport units (CIV5301 Advanced Traffic Engineering, CIV5302 Traffic Engineering and Management, CIV5305 Travel Demand Modelling and CIV5314 Planning Urban Transport Systems) that are also offered on-line to the students enrolled in the Master of Transport and Traffic. In addition, the MAE (Transport) students can complete two elective units from the Master of Transport program.

In 2016 ITLS Sydney continued to offer an articulated postgraduate coursework program in Logistics and Supply Chain Management and in Transport Management (Masters, Graduate Diploma and Graduate Certificate). In addition, it delivered, through the University of Sydney Business School, three specialisations (majors) in the Master of Commerce in: Logistics and Supply Chain Management; Aviation and Maritime Logistics and Management; and Infrastructure and Transport Management. The work placement program offered placements to Masters students with transport and logistics companies including ComfortDelGro Cabcharge, Reckitt Benckiser and Yusen Logistics.

Postgraduate Research

The Key Centre has the largest higher degrees by research program in the transport and/or logistics field in Australia. In 2016, two students graduated from our doctoral program, with 53 students continuing PhD enrolments. Monash ITS welcomed 17 new PhD students recruited through the

Sustainable and Effective Public Transport (SEPT) Graduate Research Interdisciplinary Program (GRIP). SEPT-GRIP is a collaborative research initiative funded by Public Transport Victoria, Vic Roads, Yarra Trams, Transdev, Metro Trains and Bus Vic in conjunction with Monash University. Seven faculties at Monash are involved in co-supervision of the SEPT-GRIP PhD students who benefit from a bespoke professional development program designed to maximise their career opportunities in academia and industry. ITLS Sydney welcomed seven new research students in 2016, two of whom won industry sponsored scholarships, from IPSOS and Busways, and one a recipient of a University of Sydney International Scholarship.

Enrolments

Degree	Enrolments
Monash Institute of Transport Studies	
Doctor/Master of Philosophy	33
Master of Advanced Engineering (Transport)	8
Master of Traffic	8
Master of Transport	33
Master of Transport Systems	42
Institute of Transport and Logistics Studies, University of Sydney Business School	
Doctor/Master of Philosophy	22
Master of Commerce	
Aviation and Maritime Management and Logistics	254
Infrastructure and Transport Management	72
Logistics and Supply Chain Management	35
Master of Logistics and Supply Chain Management	95
Master of Transport Management	19
Graduate Diploma in Logistics and Supply Chain Management	10
Graduate Diploma in Transport Management	4
Graduate Certificate in Logistics and Supply Chain Management	7
Graduate Certificate in Transport Management	2

Unit of study	Enrolments
Monash Institute of Transport Studies	
Undergraduate:	
Traffic and Transport Engineering (CIV2282)	329
Road Engineering (CIV3283)	314
Transport Planning (CIV4283)	104
Traffic Systems (CIV4284)	138
Postgraduate:	
Advanced Traffic Engineering (CIV5301)	16
Traffic Engineering and Management (CIV5302)	35
Quantitative Methods (CIV5303)	22
Intelligent Transport Systems (CIV5304)	16
Travel Demand Modelling (CIV5305)	14
Road Safety Engineering (CIV5306)	27
Transport and Traffic Data (CIV5309)	14
Planning Urban Transport Systems (CIV5314)	22
Transport Economics (CIV5315)	11
Fundamentals of Urban Public Transport (CIV5316)	12
Intelligent Tsp Systems: Eng. and Management (CIV5318)	42
Quantitative Methods (CIV5319)	42
Case Studies in Transportation Systems (CIV5320)	42
Modelling Transportation Systems (CIV5406)	42
Sustainable Tsp Systems Planning (CIV5321)	42
Urban Public Transportation Systems (CIV5322)	42
Institute of Transport and Logistics Studies, University of Sydney Business School	
Undergraduate:	
Innovations in Food Supply Chains (AGEN2003)	57
Postgraduate:	
Foundations of Supply Chain Management (ITLS5000)	231
Transport & Infrastructure Foundations (ITLS5100)	63
Quantitative Logistics & Transport (ITLS5200)	125
Supply Chain Planning and Design (ITLS6002)	61
Contemporary Procurement (ITLS6003)	113
Supply Chain Visibility (ITLS6004)	118
Disaster Relief Operations (ITLS6007)	36
Logistics & Supply Chain Project (ITLS6090)	52
Global Freight Logistics Management (ITLS6101)	121
Strategic Transport Planning (ITLS6102)	18
Sustainable Transport Policy (ITLS6103)	16
Traffic & Mobility Management (ITLS6105)	7
Infrastructure Appraisal (ITLS6106)	26
Applied GIS & Spatial Data Analytics (ITLS6107)	32
Transport & Infrastructure Systems (ITLS6190)	7
Maritime Management & Logistics (ITLS6300)	64
Ports Management (ITLS6301)	11
Airline Strategy & Supply Chains (ITLS6400)	73
Airport Management (ITLS6401)	43
Cases in Global Transport & Logistics (ITLS6403)	34
Decision Making on Mega Projects (ITLS6500)	35
Infrastructure Financing (ITLS6501)	14
Research Case Study I (ITLS6900)	5

Professional Development

Safety Management Course for Bus Operators

The Safety Management Course for Bus Operators (SMC) which was commissioned by the Director, Transport Safety was launched by Monash ITS in 2011. The course objectives, established in consultation with Transport Safety Victoria (TSV), were to design and deliver an approved course to provide bus operators with the appropriate skills to offer bus services which meet regulatory and compliance requirements in Victoria. The course comprises of two subjects namely Introduction to Bus Safety and Safety Risk Management for Bus Operators. To maintain the integrity and the relevance of the course, Monash ITS staff work closely with Transport Safety Victoria and the Bus Association of Victoria (BAV). In 2016 the course attracted 174 enrolments.

Transport Management Course for Bus Operators

The Transport Management Course for Bus Operators (TMC) is an essential requirement for all service bids by Victorian bus companies. The course, which was launched by Monash ITS at the beginning of 2012 incorporates the Safety Management Course for Bus Operators and includes two additional subjects namely Financial Management for Bus Operators and Business Development for Bus Operators. The objective of this course is to provide potential service contractors with business management skills appropriate to the industry. In 2016 the course attracted 10 enrolments.

Bus and Coach Accreditation Scheme Online Training Course

The Bus and Coach Operator Accreditation Scheme Online Training Course attracted 192 enrolments in 2016, bringing the total participants to 1855 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 58 enrolments in 2016, 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 2016 the program had 23 enrolments including participants from Transport for NSW, NSW Trainlink and Translink.

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

The 'Big Data' short course had 16 participants in 2016. Transport researchers are increasingly collecting or using 'big data' containing millions of observations from sources such as GPS, smartphones, smartcards and Bluetooth sensors. The course is designed to help transport researchers acquire the knowledge and tools to manage and process these big data datasets. 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 2016, attracted 28 enrolments. An abridged version of the course was also offered in November 2016 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.

Monash ITS's award ceremony was held as part of the 2016 Ogden Transport Lecture; prizes were awarded to:

- Belinda Black (Crown Coaches Award for the best performance in the Safety Management Course, Subject 5102 Safety Risk Management for Bus Operators)
- Farhana Naznin (ARRB-Monash Prize for excellence in postgraduate research in transport)
- Jason Blackman (Transport Safety Victoria Award for the best overall performance in the Safety Management Course for Bus Operators)
- Mathew Doherty (Dyson Group Award for best performance in Safety Management Course, Subject 5101: Introduction to Bus Safety)
- Rhett Flanigan (Ventura Group Award for best performance in Transport Management Course, Subject 5104: Business Development for Bus Operators; BusVic Award for the best overall performance in the Transport Management Course for Bus Operators; Driver Group Award for the best performance in the Transport Management Course, Subject 5103 Financial Managements for Bus Operations)
- Spencer Milburn (VicRoads Prize for highest average mark in coursework Masters units)

ITLS Sydney's 2016 Awards Presentation Evening was presided over by Dr Alastair Stone, Chair of the Board of Advice. Guest speakers were Stella Song participant of the ITLS Sydney Graduate Work Placement Program and Tim Reardon, Secretary, Transport for NSW. Prizes were awarded to:

- Venugopal Venkitakrishnan (Chartered Institute of Logistics and Transport's Sir Hudson Fysh Award for the highest academic achievement in the Master of Transport Management)
- Paul Locket (Chartered Institute of Logistics and Transport's Ken Hillyar Award for the highest academic achievement in the Master of Logistics and Supply Chain Management)
- Senyu Feng (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)
- Mathieu Guerin (GS1 Australia Prize for the highest academic achievement in the Warehouse and Inventory Management unit of study)
- Mark Raadsen (Institute of Transport and Logistics Studies Prize for excellence in postgraduate research in transport, logistics or supply chain management)
- Benjamin Ogle (BusNSW prize for best overall performance in the Certificate of Transport Management)

Research and Consultancy

Research Grants and Contracts

FUNDING AWARDED IN 2016

Australian Research Council Linkage Project Grants

Understanding impact of autonomous vehicles on behaviour and interactions (2016-19 AU\$120,000 (total awarded AU\$458,000))

Professor Michiel Bliemer (with Chief Investigators: V. Dixit, S. Waller, M. Bliemer, S. Most, A. Rakotonirainy; and Partner Investigators: M. Regan, B. Barnes, V. Pyta, C. Liersch)

Automated vehicles are predicted to be transformative, but their ultimate success and expected societal benefits will depend on drivers' trust in them and on how people choose to use and interact with them. This novel research program will explore three human factors issues critical to the successful deployment of automated vehicles: (i) factors influencing driver choice of automated vehicle control, (ii) interactions between automated and manually controlled vehicles, and (iii) driver detection, recognition, and reaction to automated vehicle system failures. Insights from this research will help prepare our society for an increased presence of automated vehicles on the roadways.

Other External Research Grants and Contracts

Cycling safety – measuring the distance that motor vehicles provide when passing cyclists (2016, \$24,978)

Dr Ben Beck, Dr Marilyn Johnson and Professor Peter Cameron

Serious injury rates among cyclists are on the rise; the majority of which are due to crashes with motor vehicles. In order to reduce injuries and improve cycling safety for the community, one important aspect to understand about the interaction between motor vehicles and cyclists is safe passing manoeuvres, particularly when vehicles pass within close proximity of cyclists. The project will quantify the distance vehicles provide when passing cyclists and whether this passing distance is affected by specific types of road infrastructure.

Urban Passenger Mode Shift and Cross Modal Demand Effects The Research Institute of Norway (2016-18, AU\$30,600)

Professor Graham Currie

Part of an international team undertaking a meta-study of public transport cross elasticities of demand. Includes the Institute for Transport Studies, Leeds, Institute of Transport Economics, Oslo, Mark Wardman, Joyce Dargay and Maria Borjesson

Melbourne Bus Ridership Review

Public Transport Victoria (2016, part of the \$2.5M PTRG PTV Initiative)

Professor Graham Currie and Dr Chris De Gruyter

An exploration of causes of the decline in bus ridership in Victoria.

Renewable Energy and Public Transport Review

Public Transport Victoria, (2016, part of the \$2.5M PTRG PTV Initiative)

Professor Graham Currie and Dr Chris De Gruyter

A review of renewable energy options for use in public transport operations.

**Review of Public Transport Technology Market in Australia
Major Global Vehicle Manufacturing Corporation (2016-17, \$60,000)**

Professor Graham Currie and Dr Chris De Gruyter

Review of the potential for a new public transportation technology application in the Australian urban public transport market for a global vehicle manufacturer.

**Airport Governance and Improved Regulation
International Institute of Transport and Logistics, Canada (2016-19, AU\$6000)**

Associate Professor Xiaowen Fu

Major airports around the world were traditionally owned and operated directly by national or local governments. Deregulation in the airline industry promoted the adoption of new airport policies and alternative ownership forms. Airport governance and regulation significantly influence airport performances in terms of airport charges, service quality level, efficiency and productivity. This study aims to achieve the following objectives: (a) identify shifting paradigms for airport governance and regulation, and their implications to airport operation particularly capacity investment; (b) investigate the associated economic and welfare implications, so that the best business practices and government policies can be identified and recommended to stake-holders. These objectives will be achieved through comprehensive empirical studies, based on which novel analytical models will be constructed and examined.

**Airport Governance and Improved Regulation
International Transport Forum at the OECD, France (2016-17, AU\$12,000)**

Associate Professor Xiaowen Fu

Major airports around the world were traditionally owned and operated directly by national or local governments. Deregulation in the airline industry promoted the adoption of new airport policies and alternative ownership forms. Airport governance and regulation significantly influence airport performances in terms of airport charges, service quality level, efficiency and productivity. This study aims to achieve the following objectives: (a) identify shifting paradigms for airport governance and regulation, and their implications to airport operation particularly capacity investment; (b) investigate the associated economic and welfare implications, so that the best business practices and government policies can be identified and recommended to stake-holders. These objectives will be achieved through comprehensive empirical studies, based on which novel analytical models will be constructed and examined.

**Trial of MetroScan Model
Transport for NSW (2016, AU\$55,000)**

Professor David Hensher, Dr Richard Ellison, Dr Chinh Ho, Wen Liu and Collins Teye

To undertake a number of application tasks using the MetroScan-TI model (MetroScan) to enable Transport for NSW (TfNSW) to assess the value of MetroScan as a complementary tool to its existing suite of modelling tools, in particular, the Strategic Travel Model (STM) and Public Transport Project Model (PTPM). Specifically, TfNSW are interested in seeing how MetroScan compares with STM on patronage forecasts. TfNSW is also interested in the economic components of MetroScan for assessing the benefits and costs of specific projects, as well as the broader economic impacts associated with transport projects. The ability of MetroScan to jointly account for the impact that specific projects have on the passenger, light commercial (service) and freight transport activity is also of interest, given that MetroScan has a fully integrated set of demand models across the three sectors of travel activity.

**Bus Rapid Transit Centre of Excellence
Volvo Research and Educational Foundation, Sweden (2016, AU\$65,000)**

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.

Review of Bus Rapid Transit vs Light Rail Transit and other public transport options in Hobart, Tasmania

Bus Industry Confederation, Australia (2016, AU\$9850)

Professor David Hensher, Adjunct Professor John Stanley and Yale Wong

Conduct a review of the current public transport situation in Hobart, Tasmania and the interest in Light Rail Transit (LRT). Attend meetings with LRT and Bus Rapid Transit (BRT) people (arranged by BIC).

Characteristics of driving rage and intervention method in China

Traffic Management Research Institute of the Ministry of Public Security in Wuxi, China (2016, AUD \$5,700)

Dr Inhi Kim and Dr Kun An

Road rage has been a serious problem and is worthy being paid attention by drivers, road managers and researchers. Road rage is a behavior that a driver intends to do harm to other road users physically and/or psychologically during driving process, which has posed a great threat to road safety. The project has been conducted by the questionnaire survey method which includes impacts of different variables such as demographic parameters of drivers, and psychological traits on road rage. The results are also compared to the survey conducted in Australia to identify similarities and differences between two countries.

Green Travel Models in Smart Cities

Jiangsu province, Nanjing, China (2016, AU\$760,000)

Dr Inhi Kim, Professor Graham Currie, Professor Zhituan Liu (Southeast University), Yifan Dai (Tsinghua University) and Dr Kun An

The project will cover 5 key areas: Behavior Analysis and Demand Forecast, System Optimization and Resource Allocation, Traffic Control and Demand Management, Induced Travel based on Traffic Big Data, Cooperative Vehicle-Infrastructure Systems. This project is equivalent to ARC Linkage Project in Australia where Jiangsu Industrial Technology Research Institute contributes 50% of research funding.

The traffic operational reliability analysis and optimization design of connection lines between motorways and urban roads

National Natural Science Foundation of China (2016, AU\$117,000)

Dr Inhi Kim and Dr Yadan Yan (Zhengzhou University)

With a dramatic economic growth in last 2 decades, China started suffering from traffic congestion particularly at/near access roads to highway. The project aims to optimize the network in order to minimize the total time that vehicles spend in the network.

Plan for the Future of Regional Aviation in NSW

Transport for NSW, Australia (2016, AU\$58,944)

Professor Rico Merkert

Options for public transport modernisation and service enhancement

Mauritian Diaspora Research Funding Scheme, Mauritian Research Council (2016, AU\$1970)

Dr Claudine Moutou (with colleagues at the University of Technology Mauritius)

The Mauritian public transport system is at a very early stage of adopting technology to plan and monitor public transport use, but this is expected to change with an investment push to the design of smart cities and digital infrastructure to support it. My research is focused on building a better picture

of passenger experience and how changing expectations on the availability of technology are able to transfer into operational and regulatory changes that can modernise and improve public transport services in a sustainable way.

**Public Transport Modernisation and Service Enhancement Conference, University of Technology, Mauritius
Conference/Workshop Organisation Funding Scheme, Mauritian Research Council (2016, AU\$9,852)**

Dr Claudine Moutou (with colleagues at the University of Technology Mauritius)

The funding goes to the University of Technology Mauritius to support our organisation of a conference in November 2016, also titled Public Transport Modernisation and Service Enhancement. As well as being designed as a forum to disseminate our research findings, it will form an interdisciplinary network of Mauritian academics engaging in public transport research – particularly drawing upon academics in business, urban planning and technology who have not been so engaged. The conference aims to stimulate new interest in the public transport sector and opportunities for innovation, particularly as public transport (which is limited to buses and taxis) provides an essential service to the Mauritian economy but there are indications that the sector is stagnating, as it struggles to cope with technological and social changes that favour private car use.

**Travel demand management programs; their methods, successes, and learnings with recommendations for Sydney
Transport for NSW (2016, AU\$35,440)**

Professor Corinne Mulley

Deliver a literature review on travel demand management programs, their methods, successes, and learnings with recommendations for Sydney. The scope of the literature review will involve examples of international and domestic travel demand management case studies and their respective methods, evaluations of success, periods of change, and levers used to change travel behaviour. The output of the review will inform possible levers and activities that could be adopted and applied to Sydney to achieve ongoing sustainable behaviour change. To achieve the aims of the review is the responsibility of the service provider. An appropriate research method, including a range of case studies must be included.

**Housing and Transportation Affordability
Lord Mayor Charitable Foundation, Melbourne, Australia (2016, AU\$90,000)**

Dr Meead Saberi with Associate Professor Dharma Arunachalam and Dr Jonathan Smith from School of Social Sciences, Faculty of Arts

Housing affordability is declining in Australia. According to the Reserve Bank, over the past 30 years, the ratio of housing prices to income has increased substantially. This project aims to develop a new tool to measure housing and transport affordability in Australia, with Melbourne metropolitan selected as the pilot study area. Housing affordability is traditionally measured using the percentage of income spent on housing costs. As a common rule, households who spend more than 30% of their income on housing costs while earning in the bottom 40% of the income range are considered to be under housing stress. An important cost that is usually overlooked in measuring affordability is the transport or accessibility costs.

**Comparative Study of Intersection Management: Roundabouts, Metered Roundabouts, and Signalised Roundabouts
VicRoads, Melbourne, Australia (2016, AU\$23,000)**

Dr Meead Saberi and Dr Mohsen Ramezani

The project aims to study and compare the performance of different intersection management strategies for roundabouts. We use microsimulation to model a 2-lane roundabout with and without any control measures. The key question that is being answered in the project is when VicRoads should consider implementing a metering strategy or signalisation of roundabouts.

Predictive Modelling of Vehicle Transaction

Royal Automobile Club of Victoria , Melbourne, Australia (2016, AU\$35,000)

Dr Meead Saberi and Dr Taha Rashidi (UNSW)

The project aims to develop a model for RACV to predict when a member is likely to buy or trade his/her next vehicle. We use RACV's big data of members' information including insurance claims and roadside assistance history to develop advanced econometric models to understand what factor affect vehicle purchase/trade decision and which members are likely to perform a vehicle transaction in future.

Consulting

STM Departure Time Choice Modelling

Transport for NSW, Australia (2016, AU\$75,000)

Professor Michiel Bliemer and Dr Chinh Ho

Arup Global Research Challenge: Defining Success - What Does Success Look Like for a Transport Network?

Arup, Australia (2016, AU\$8000)

Dr Chris De Gruyter, Professor Graham Currie and Dr Alexa Delbosc

This project aimed to establish a framework for defining and monitoring a successful transport network, including the development of metrics and indicators. Services provided under this contract included peer-review and workshop attendance.

Victoria Bus Rapid Transit

Ernst & Young, Australia (2016, AU\$4000)

Professor Corinne Mulley

Participate in workshops on economics of rapid transit and how that flows through to bus rapid transit options. Identify key performance indicators; review economic appraisal of rapid transit options.

University Research Grants

Understanding the Decision to Stop Driving When Older

Freda and Len Lansbury Early Career Researcher Support Fund (2016, AU\$5000)

Dr Matthew Beck

Journey to work for young people with an intellectual disability

Business School Pilot Research Scheme (2016, AU\$7500)

Dr Geoffrey Clifton

The Commonwealth government aims to move people from the Disability Support Pension into mainstream employment. Disability affects social inclusion and access to job opportunities by creating major barriers in travelling. Flexible transport for non-work trips (e.g. for people ageing or with disabilities) is well researched but not travel for work. This project aims to fill the gap in knowledge of the travel related barriers and facilitators for young people with an intellectual disability in transitioning to mainstream employment. The focus will be on success factors for travel training programs with the outcome of assisting in the creation of improved programs.

Stay away from that car! How human drivers interact with self-driving cars

Early Career Researcher Grant Scheme (2016, AU\$11,000)

Dr Adrian Ellison

Self-driving cars are the future of personal travel and may be available within five years. However, the switch will not happen overnight. There will be a transition period of 20 years, during this time human drivers and self-driving cars will need to share the roads. The question is how human drivers will interact with self-driving cars and whether this differs from the interactions observed between human drivers with

different driving experience (e.g., full licence vs. learner). This study aims to improve our knowledge of these interactions to prepare society and improve road safety for the arrival of self-driving cars.

**Airport Governance and Improved Regulation
Business School Industry Partnership Grant (2016, AU\$35,000)**

Associate Professor Xiaowen Fu

Major airports around the world were traditionally owned and operated directly by national or local governments. Deregulation in the airline industry promoted the adoption of new airport policies and alternative ownership forms. Airport governance and regulation significantly influence airport performances in terms of airport charges, service quality level, efficiency and productivity. This study aims to achieve the following objectives: (a) identify shifting paradigms for airport governance and regulation, and their implications to airport operation particularly capacity investment; (b) investigate the associated economic and welfare implications, so that the best business practices and government policies can be identified and recommended to stake-holders. These objectives will be achieved through comprehensive empirical studies, based on which novel analytical models will be constructed and examined.

**Mobility as a Service: identifying the right business model for Australia
Business School Pilot Research Scheme (2016, AU\$19,000)**

Professor David Hensher, Professor Corinne Mulley and Dr Chinh Ho

Mobility as a Service (MaaS), which brings all modes of travel into a single mobility plan, has received great attention from transport authorities, transport providers, software developers, brokers, engineers, academics and environmental groups. Different business models have emerged around the world and this project aims to identify a viable business model that MaaS providers in Australia should follow to allow a large-scale adoption of MaaS to significantly shift individual choices towards the most sustainable transport option.

**MetroScan-TI
University of Sydney Artemis High Performance Computing Grand Challenge Scheme (2016-20,
AU\$336,00 equivalent value)**

Professor David Hensher, Dr Richard Ellison, Dr Chinh Ho, Professor Michiel Bliemer, Wen Liu and Collins Teye

**Near Real-Time Passenger Counting, Mobile Media, and Movement in and around Public Transport
Railway Systems
Faculty of Arts and Faculty of Engineering Interdisciplinary Research Seed Funding Scheme (2016,
AU\$25,000)**

Dr Meead Saberi with Professor Brett Hutchings and Dr Selby Coxon from Monash University Faculty of Arts

The project aims to understand how we can use individual mobile phone devices for near real-time counting of passengers in public transport stations. A survey of public transport users are conducted to understand how public perceives collection and use of such data for improving public transport user experience. We also develop a simulation model of Richmond train station and integrate the model with the big data collected from a network of Wi-Fi detection sensors. Overall, the project demonstrates the applicability of Wi-Fi detection sensors and pedestrian simulation in better monitoring and planning of public transport system.

**Mobility as a Service: a future direction for Community Transport?
Business School Industry Partnership Scheme - Partner Organisations: Access Sydney, Great Community
Transport, Easy Transport Manly Warringah Pittwater, South West Community Transport and ComLink,
Australia (2016, AU\$45,000)**

Professor Corinne Mulley and Honorary Professor John Nelson

Engagement

Public Lectures and Seminars

Ogden Transport Lecture

Monash ITS'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.

Challenging Conventional Transport Planning Practice: Reflections on the “real” utility of travel

19 May 2016

Professor Pat Mokhtarian, School of Civil and Environmental Engineering, Georgia Tech, Atlanta, USA

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 2016:

Transport as a technology business

23 Feb 2016

Tim Reardon, Secretary of Transport for NSW

Urban land use transport integration and the vital role of our forgotten middle suburbs

8 March 2016

Professor John Stanley, University of Sydney

How much is too much for tolled road users: toll saturation and the implications for car commuting value of travel time savings?

15 Mar 2016

Professor David Hensher, University of Sydney

Lessons from an Entrepreneur

26 Apr 2016

Andrew T Harris, University of Sydney

Real-time mobility data mining

28 April 2016

Luis Moreira-Matias, Research Scientist at NEC Laboratories Europe

Navigating the future – NSW Ports' 30 year master plan

24 May 2016

Marika Calfas, Chief Executive Officer, NSW Ports

Do millennials value travel time differently? A segmented mode choice model accounting for travel-based multitasking

31 May 2016

Professor Patricia L. Mokhtarian, School of Civil and Environmental Engineering, Georgia Institute of Technology, USA

Smart journey planning – exploring the role of social media

21 Jun 2016

Professor John Nelson, Director, Centre for Transport Research, University of Aberdeen, Scotland

Responsive governance in the face of developing revolutions in public transport; connecting new and old worlds

16 Aug 2016

Associate Professor Wijnand Veeneman, Faculty of Technology Policy and Management, TU Delft, The Netherlands

Delivering customer centric transport

30 Aug 2016

Campbell Mason, Acting CEO, Keolis Downer

Evaluation of disaster –resistance of road network

27 Sep 2016

Professor Fumitaka Kurauchi, Department of Civil Engineering, Faculty of Engineering, Gifu University

Challenges for CBD freight in Sydney's transformation

11 Oct 2016

Michael Stokoe, Transport for NSW CBD Coordination Office (CCO)

Impact of leaders in the aviation industry

25 Oct 2016

Andreas Hilz, Partner and leader of the aviation practice Australia/NZ for Strategy (PwC)

Connected vehicles – the hype, the potential and the reality

8 Nov 2016

John Wall, Manager Road Safety Technology Centre for Road Safety Freight, Strategy & Planning, Transport for NSW

Future directions for global aviation: the Qantas view

22 Nov 2016

Gareth Evans, CEO, Qantas International and Freight

Airport connectivity, competitiveness and implications for regulation

6 Dec 2016

Anming Zhang, Sauder School of Business, University of British Columbia

Committees

- **Dr Kun An**
United States Transportation Research Board Committees: Transportation Network Modelling
- **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); 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

- **Dr Geoffrey Clifton**
Australian Timetable Association (Convenor, Sydney Branch)
- **Professor Graham Currie**
United States Transportation Research Board Committee: Light Rail Transit Systems (Chair); Land Transport Authority of Singapore, Research Advisory Board Member
- **Dr Alexa Delbosc**
Transportation Reviews (journal Editorial Board member); United States Transportation Research Board Committees: Social and Economic Factors of Transportation (Member), Traveller Behaviour and Values (Friend); Australasian Transport Research Forum Scientific Committee Member and Liaison to Local Organising Committee
- **Professor Behnam Fahimnia**
International Conference on Logistics and Maritime Systems Scientific Committee; Sydney Supply Chain Workshop Scientific Committee
- **Professor Stephen Greaves**
International Steering Committee Travel Survey Conference; Conference Organising Committee, Australasian Transport Research Forum; United States Transportation Research Board Committees: Air Quality and 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 Gillett Foundation Research and Policy Committee, Australian Injury Prevention Network (National Executive Committee), Australasian College of Road Safety (National Executive Committee, Victorian Chapter Deputy Chair), Australasian Road Safety Conference (Organising Committee, Scientific Committee), Melbourne Metro Rail Authority Public Engagement and Influence Working Group, METEC Driver Training Centre Board, Road Safety Education Scientific Advisory Committee
- **Dr Inhi Kim**
United States Transportation Research Board Committees: Highway/Rail Grade Crossings
- **Professor Rico Merkert**
United States Transportation Research Board Committees: Air Cargo; Aviation Economics and Forecasting; and 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; Business School representative on Australia Africa Business Council, NSW chapter, Australia
- **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
- **Professor Geoff Rose**
Australasian Transport Research Forum: National Executive Committee and Co-Chair Scientific Committee; World Conference on Transport Research (Local Area Representative); United States

Transportation Research Board Committees: Transportation Demand Management, Emerging Vehicles and Personal Transportation

- **Dr Meead Saberi**
Young member of the United States Transportation Research Board Committee on Traffic Flow Theory and Characteristics; Program committee member of the 2016 Intelligent Transportation Systems (ITS) World Congress, Melbourne, Australia; Scientific committee member of the 1st Symposium on Management of Future Motorway and Urban Traffic Systems (MFTS 2016), Greece; Theme leader in the World Symposium on Transport and Land Use Research, Brisbane, Australia.; Monash University Faculty of Engineering representative in the university Early Career Researchers (ECR) committee
- **Adjunct Professor John Stanley**
Chair, Australian Davos Connection Forum
- **Dr Susi Susilawati**
United States Transportation Research Board Committees: Geographic Information Science and Applications (Friend); United States Transportation Research Board Committees: Urban Transportation Data and Information Systems (Friend); Indonesia: International Symposium on Transportation Studies for Developing Countries
- **Professor Hai Vu**
Organising Committee for the Melbourne ITS World Congress: Tertiary Education Sub-committee and also Sub-committee on School Engagement.

Awards

- **Dr Matthew Beck**
Dean's Citation for Teaching, The University of Sydney Business School
- **John Clements**
Life Membership of the Chartered Institute of Logistics and Transport Australia (CILTA)
- **Dr Geoffrey Clifton**
Dean's Citation for Teaching, The University of Sydney Business School
- **Professor Graham Currie**
Best paper prize in the Transport Policy stream, World Conference in Transport Research, Shanghai 2016; US Transportation Research Board, William M Millar Award for the best Research Paper in Public Transport at the Annual Meeting in Washington DC
- **Professor Graham Currie and Dr Long Truong**
Distinguished Scientific Papers - Asia Pacific Award, World Congress on Intelligent Transport Systems
- **Dr Chris De Gruyter**
Springer Thesis Award for Outstanding PhD Research; Department of Civil Engineering Best PhD Thesis Award
- **Dr Alexa Delbosc**
Department of Civil Engineering Excellence in Research Award; Department of Civil Engineering nominee for the Dean's Award for Excellence in Research by an Early Career Researcher; Best paper prize in the Transport Policy stream, World Conference in Transport Research
- **Professor Behnam Fahimnia**
National Leader in Logistics and Supply Chain Teaching and Research, Supply Chain and Logistics Association of Australia; Dean's Citation for Teaching, The University of Sydney Business School
- **Associate Professor Xiaowen Fu**
Dean's Citation for Teaching, The University of Sydney Business School

- **Professor David Hensher**
Vice-Chancellor's Award for Research Excellence, The University of Sydney
- **Professor Rico Merkert**
PhD Research Supervisor of the Year Award, The University of Sydney
- **Professor Corinne Mulley**
Research Excellence, The University of Sydney Business School; Highly cited paper 2013-2016, Elsevier - Research in Transportation Business and Management
- **Dr Long Trung**
Department of Civil Engineering Research Fellowship, Monash University

Media

- Transurban's tollway plan could choke the city with extra cars
The Age
7 Jan 2016
Adjunct Professor John Stanley
- Dr Geoffrey Clifton was interviewed on 2SER about 24-hour public transport
SER FM
12 Jan 2016
Dr Geoffrey Clifton
- Dr Geoffrey Clifton was interviewed on TEN Eyewitness News (Sydney) about the NSW Government's investment in existing rail networks and those planned for development
Ten Eyewitness News
12 Jan 2016
Dr Geoffrey Clifton
- Toll roads can improve quality of life, NRMA says, but do time savings outweigh the cost?
ABC Online
15 Jan 2016
Professor Stephen Greaves
- Dr Geoffrey Clifton was interviewed on ABC Radio (Sydney) about the upcoming NSW State Budget
ABC Radio
15 Jan 2016
Dr Geoffrey Clifton
- New South Wales Cycling Laws: One pedal forward, two pedals back
ITLS Thinking Outside the Box
15 Jan 2016
Professor Stephen Greaves
- Ten Eyewitness News interviewed Dr Geoffrey Clifton about the NSW Transport Minister announcing a boost to the number of tram services on the Inner West Line
Ten Eyewitness News
21 Jan 2016
Dr Geoffrey Clifton
- The University of Sydney, GS1 Australia and apicsAU to collaborate
Transport and Logistics News
10 Feb 2016
Dr Jyotirmoyee Bhattacharjya

- Logistics information quality and availability in e-retail: The end consumer deserves better value
ITLS Thinking Outside the Box
15 Feb 2016
Dr Jyotirmoyee Bhattacharjya and Dr Andrew Collins

- Going nature's way can add resilience to business: study
Fully Loaded and Transports and Logistics News
15 Feb 2016
Professor Michael Bell and Supun Perera

- Australian Infrastructure Plan has some way to go to give our cities what they need
The Conversation
19 Feb 2016
Adjunct Professor John Stanley

- Despite hefty transport investment, China's flight delays are here to stay – for now
South China Morning Post
21 Feb 2016
Associate Professor Xiaowen Fu

- Can a locally-owned upstart challenge Uber in Australia?
Mashable
24 Feb 2016
Dr Geoffrey Clifton

- Jet fuel price drops allows
Australian Financial Review
27 Feb 2016
Professor Rico Merkert

- How the airline industry is managing the 'good oil'
The Sydney Morning Herald
27 Feb 2016
Professor Rico Merkert

- Draconian new bike laws won't improve safety
The Sydney Morning Herald
1 Mar 2016
Professor Stephen Greaves

- Market Rules: Rebalancing power to restore fairness
ITLS Thinking Outside the Box
3 Mar 2016
Dr Alastair Stone

- Dr Geoffrey Clifton was interviewed on ABC Northern Tasmania about the balance between existing operators and ride sharing company Uber
ABC
8 Mar 2016
Dr Geoffrey Clifton

- Infrastructure Banks: The solution to Australia's infrastructure problems
ITLS Thinking Outside the Box
8 Mar 2016
Dr Alastair Stone

- Our PM is a transport agnostic – Hallelujah!
ITLS Thinking Outside the Box
14 Mar 2016
David Brown

- Channel 9 Sydney interviewed Professor David Hensher about the Infrastructure Australia report which recommends the Federal Government considers a national system of road pricing
Channel Nine
15 Mar 2016
Professor David Hensher

- Renaissance of the railways?
SBS Radio
16 Mar 2016
Professor Rico Merkert

- Proposed national road pricing system
2UE Sydney
16 Mar 2016
Professor David Hensher

- Road rage: why do bike riders make car drivers see red?
SBS
18 Mar 2016
Dr Matthew Beck

- Train patronage soars in inner Sydney but falls in the outer suburbs
The Sydney Morning Herald
22 Mar 2016
Dr Geoffrey Clifton

- Road rage directed at cyclists
666 ABC Canberra
23 Mar 2016
Dr Matthew Beck

- Should Australia implement National Roadway User Fees?
Sourceable
5 Apr 2016
Adjunct Professor John Stanley

- Study on government spending on transport and infrastructure, which could be more influential if directed to different projects
ABC (PM, 666 Canberra, Newcastle and Illawara), The Sydney Morning Herald
4 Apr 2016
Professor David Hensher

- Byproduct of the property boom: Sydney's long commuting culture
Domain
4 Apr 2016
Professor David Hensher

- Interactive: profiles of the cabinet and shadow cabinet
The Conversation
 4 Apr 2016
 Dr Matthew Beck

- Online retailers yet to harness big social data
The Conversation
 6 Apr 2016
 Dr Jyotirmoyee Bhattacharjya and Dr Adrian Ellison

- Demand for aviation assets and brands
Australian Financial Review, The Sydney Morning Herald, the Canberra Times and the Brisbane Times
 6 Apr 2019
 Professor Rico Merkert

- WA drivers are tops in traffic tetchiness
The West Australian
 6 Apr 2016
 Professor David Hensher

- Singapore Airlines boosts stake in Virgin Australia
The Sydney Morning Herald, Canberra Times and Australian Financial Review
 7 Apr 2016
 Professor Rico Merkert

- Brisbane and Sydney transport experts share doubts about light rail benefits
The Canberra Times
 9 Apr 2016
 Professor David Hensher

- Environmental and strategic benefits of the high speed rail plans
SBS, Sky News, 9 News
 11 Apr 2016
 Professor Rico Merkert

- Proposal to fund high speed rail on Australia's east coast
774 ABC Melbourne
 11 Apr 2016
 Professor David Hensher

- Malcolm Turnbull's high-speed rail is 'unfeasible', economist claims
Daily Mail
 12 Apr 2016
 Professor Rico Merkert

- BusNSW Summit Nears
Australian Bus and Coach
 12 Apr 2016
 Professor David Hensher

- **Flight fights – Airline fares in the face of turbulent demand and cheap oil**
Ten Eyewitness News
 19 Apr 2016
 Professor Rico Merkert

- ‘Uberisation’ of public transport in the digital age – what is in store in the next 10 to 20 years?
ITLS Thinking Outside the Box
19 Apr 2016
Professor David Hensher

- On the right track? Rail privatisation a thorny topic in NSW
Sydney Morning Herald
22 Apr 2016
Dr Geoffrey Clifton

- Imagining our cities in thirty years
ABC Radio National
23 Apr 2016
Adjunct Professor John Stanley

- When it is not optimal to look for an “Optimal Policy”? – The case of airport slot allocation
ITLS Thinking Outside the Box
2 May 2016
Associate Professor Xiaowen Fu

- Federal Government’s funding of public transport infrastructure contained in the budget papers
ABC Midwest and Wheatbelt
3 May 2016
Dr Geoffrey Clifton

- Federal budget 2016: political experts react
The Conversation
3 May 2016
Dr Matthew Beck

- Sydney needs congestion on its roads so we don’t have complete gridlock
Sydney Morning Herald
11 May 2016
Christopher Standen

- Western Distributor: Compensation clause threatens \$5.5 billion road plan
The Age
11 May 2016
Adjunct Professor John Stanley

- To Transurban, driving should take its toll
The Age, Ballarat Courier
13 May 2016
Professor David Hensher

- Technology helping us to understand what the transport needs are
DrivenMedia
14 May 2016
Professor Stephen Greaves

- Delay in getting driving licenses opens door to more sustainable travel
The Conversation
23 May 2016
Dr Alexa Delbosc

- Various radio interviews, including ‘Drive with Rafael Epstein’
ABC Radio National, Melbourne ABC 774, Sydney ABC 702, Sydney 2UE
23-24 May 2016
Dr Alexa Delbosc

- Smart cities, smart thinking about innovative financing?
ITLS Thinking Outside the Box
26 May 2016
Martin Locke

- Making money from data
Forge. Vol 2 | No 2 | 2016
27 May 2016
Dr Jyotirmoyee Bhattacharjya

- Australia’s major airlines are among the most efficient and resilient in the world
2CC Canberra
30 May 2016
Professor Rico Merkert

- The Chinese company buying into Virgin can give lessons in service to Australian airlines
Business Insider
31 May 2016
Professor Rico Merkert

- New world airline ranking puts Qantas in the top 20
The Huffington Post
31 May 2016
Professor Rico Merkert

- Capital Metro light rail: Auditor-General fuels doubts about Gungahlin tram cost-benefit analysis
The Canberra Times, Macro Business
16 Jun 2016
Dr Geoffrey Clifton

- Cycling at the Crossroads
The Saturday Paper
9 Jul 2016
Professor Stephen Greaves

- Overcrowding on Sydney’s train network
2UE
11 Jul 2016
Dr Geoffrey Clifton

- Sydney Trains: Where the worst overcrowding is and how to avoid it
The Sydney Morning Herald
11 Jul 2016
Dr Geoffrey Clifton

- Proposal for a high-speed rail network connecting Sydney to Melbourne
2SM Sydney
18 Jul 2016
Dr Geoffrey Clifton

- Proposal for a high-speed rail network connecting Sydney to Melbourne
Radio National Breakfast
24 Jul 2016
Dr Geoffrey Clifton

- The impact of slugs and rabbits on the throughput of escalators
ITLS Thinking Outside the Box
2 Aug 2016
Professor Michiel Bliemer

- High speed rail plan still needs to prove economic benefits will outweigh costs
The Conversation
2 Aug 2016
Dr Geoffrey Clifton

- Better bus runs key to easing Hobart's traffic squeeze, says Bus Industry Confederation report
The Daily Telegraph, The Herald Sun, HEART FM
2 Aug 2016
Adjunct Professor John Stanley

- Proposed high speed rail network that would run down the East coast of NSW
ABC Newcastle
3 Aug 2016
Dr Geoffrey Clifton

- New research on transport management and traffic congestion in Hobart, which can be solved by increasing bus services
936 ABC Hobart, WIN News, Southern Cross Tasmania
3 Aug 2016
Adjunct Professor John Stanley

- Fed Govt warns electric cars will hit its bottom line by driving a fall in fuel excise revenue
ABC Radio (world Today, NewsRadio)
16 Aug 2016
Dr Matthew Beck

- Why Lucy Turnbull needs to know what's happening in Haberfield
The Sydney Morning Herald, The Age, Brisbane Times, WA Today, Canberra Times
17 Aug 2016
Christopher Standen

- Why autonomous vehicles won't make Sydney's inner-city streets less congested
Domain.com.au
17 Aug 2016
Professor Stephen Greaves

- Uber for couriers: Australian logistics software promises to minimise traffic and emissions
The Guardian
23 Aug 2016
Dr Jyotirmoyee Bhattacharjya

- Sydney's 'war on cyclists': 'I got fined \$106 for not having a bell'
The Guardian
23 Aug 2016
Christopher Standen

- Qantas accused of trashing ‘Spirit of Australia’ brand in push for record profit
The New Daily
 24 Aug 2016
 Professor Rico Merkert

- Fastcheck: does the average Australian family spend up to \$22,000 every year on transport?
The Conversation
 25 Aug 2016
 Dr Matthew Beck

- Density matters
ITLS Thinking Outside the Box
 1 Sep 2016
 Dr Geoffrey Clifton

- Opal Card
Channel 7 News
 5 Sep 2016
 Dr Geoffrey Clifton

- ABC radio Perth interview
ABC Radio Perth
 9 Sept 2016
 Dr Alexa Delbosc

- Technology needs to be improved to increase pedestrian road safety
ABC Radio (Darwin), SYN 90.7
 26 Sep 2016
 Dr Adrian Ellison

- Uber wants to help Australians catch the bus on time
Mashable
 26 Sep 2016
 Dr Geoffrey Clifton

- Self-drive motor vehicles lack sex appeal and a great deal more
ITLS Thinking Outside the Box
 1 Oct 2016
 Dr Matthew Beck

- Ride-sharing services in comparison to traditional modes of transport such as taxis
ABC Newcastle
 4 Oct 2016
 Professor David Hensher

- New transport opinion survey finds Australians are increasingly opting for ride sharing such as Uber
2MCE Orange
 5 Oct 2016
 Professor David Hensher

- Benefits and pitfalls of a traffic congestion charge in relation to calls from Infrastructure Victoria to introduce the tax
ABC News 24 (Breakfast)
 5 Oct 2016
 Dr Geoffrey Clifton

- ‘Hack’ news program
Triple J Radio
7 Oct 2016
Dr Alexa Delbosc

- Aussies back Uber-type services
Government News
7 Oct 2016
Professor David Hensher

- A future world full of driverless cars... seriously?!
The Conversation
10 Oct 2016
Dr Alexa Delbosc

- ‘Parallel Lines’ program interview
Triple R Radio
12 Oct 2016
Dr Alexa Delbosc

- Sydney’s missing F6 motor link to the south on road to reality
The Daily Telegraph
16 Oct 2016
Professor David Hensher

- Widening of the M4 motorway and the high concentration of toll roads with the WestConnex, NorthConnex and M4
Channel 7 News
1 Nov 2016
Professor David Hensher

- The crisis in the container shipping industry and its resolution
ITLS Thinking Outside the Box
1 Nov 2016
Professor Michael Bell

- Industry Opinion: Human errors compound supply chain issues
Lloyd’s List Australia
8 Nov 2016
Professor Behnam Fahimnia

- ‘No gain in lower driving age’
The Standard
16 Nov 2016
Dr Alexa Delbosc

- ‘\$54m lost: rogue riders flout Melbourne public transport fares’
Herald Sun
21 Nov 2016
Dr Alexa Delbosc

- Air travel: The emerging trends travellers should know about
Traveller
23 Nov 2016
Professor Rico Merkert

- In-studio interview ‘Byte Into IT’ program
3RRR Radio
24 Nov 2016
Dr Alexa Delbosc
- How we’ll drive into the future
Sydney Morning Herald
25 Nov 2016
Dr Chinh Ho
- Winners announced for the 2016 Australian Supply Chain & Logistics Awards
Supply Chain and Logistics Association of Australia (SCLAA)
29 Nov 2016
Professor Behnam Fahimnia
- Driverless cars
‘By the Way’
Nov 2016
Dr Alexa Delbosc
- Whether high speed rail will be constructed in the future
Infrastructure Victoria
8 Dec 2016
Dr Geoffrey Clifton
- Feasibility of increasing volumetric load of freight heavy vehicles
ITLS Thinking Outside the Box
9 Dec 2016
Mary Chiang
- Driver licensing parliamentary inquiry
ABC 774 Radio
13 Dec 2016
Dr Alexa Delbosc
- Little to gain and much to lose from lowering the minimum driving age
The Conversation
13 Dec 2016
Dr Alexa Delbosc
- Driver licensing parliamentary inquiry
Radio National
15 Dec 2016
Dr Alexa Delbosc
- Taxpayer bill for cashback scheme on Sydney toll roads hits \$1.5 billion – and climbing
The Sydney Morning Herald
19 Dec 2016
Christopher Standen

Centre Outputs



Australian Government
Australian Research Council

ARC Centres of Excellence

**Centre Outputs and Detailed Income and Expenditure
Report
(CODIE)**

Centre Name:	ARC Centre of Excellence of Teaching and Research in Transport Management
Centre ID: (eg CE1100006)	NO95/08214
Calendar Year Reported:	2016
Centre Admin. Organisation:	The University of Sydney

CENTRE OUTPUTS AND DETAILED INCOME AND EXPENDITURE REPORT (CODIE) GUIDE

CODIE data from individual Centres is for use within the ARC and will not be published. Consolidated figures may be published, used for evaluation purposes or to promote the overall achievements and/or outcomes of the ARC Centres.

The ARC is interested in tracking the development of the Centre as a focal point for research and as an attractive destination for high-quality researchers. The Outputs categories align Centre outputs with the outputs of other ARC schemes.

Reporting requirements

- Centres **receiving** ARC centre funding must submit a completed CODIE (Certification, Outputs, Income, Expenditure, In kind, Personnel and Other ARC grants worksheets) along with five (5) copies of the Annual Report
- Centres **no longer receiving** ARC centre funding, but retaining their title, must submit a completed Outputs worksheet only from this CODIE along with one (1) copy of the Annual Report.

To be noted when completing the CODIE:

- The CODIE is NOT a balance sheet. The total income does not necessarily have to balance the total expenditure.
- Headings should not be modified. New headings must only be entered under the "Other" category.
- Leave blank any rows that are not applicable to your Centre.
- New rows may be added to tables if more entries are required.
- All data must be for the 2016 calendar year ONLY.
- Insert Centre Details on sheet 1 (Title Page) before completing the remainder of the CODIE. These details will auto-fill across the worksheet.
- Example worksheets are provided. Please note the data in these examples are illustrative only and do not represent indicative amounts.

Submitting your CODIE (due by 31 March each year)

To submit your CODIE please:

1. Check the Centre name below is correct.
2. Print this page and sign the Certification below.
3. Print one (1) copy of each worksheet.
4. Post this with the signed Certification page and five (5) paper copies
(one for Centres no longer receiving ARC Centre funding) of the Centre's Annual Report to:
Centres Coordinator
Australian Research Council
GPO Box 2702
Canberra ACT 2601
5. [Email an electronic copy of this file to centres@arc.gov.au](mailto:centres@arc.gov.au)

Certification

To be signed by an authorised officer of the Centre.

I hereby certify that the following sheets are an accurate representation of the outputs of the:
ARC Centre of Excellence of Teaching and
Research in Transport Management
covering the calendar year 2016 and that I am authorised to approve their submission.

Certified by:

Signature



Print Name

Professor David Hensher, Key Centre Director

Date

31-Mar-17

Instructions

- Include outputs for ALL Centre activities (including those arising from Centre staff not named as CIs or PIs).
- Do not include any outputs from other ARC-funded projects or from work predominantly completed before commencement of the the Centre.
- If you are unable to differentiate between Centre outputs and outputs from other ARC-funded projects, these may be included in Column A. In these cases the (double counted) outputs should also be acknowledged in Column D.
- Include only 2016 accepted and in-print books/articles. Do not include outputs that were listed in the 2015 CODIE.

Code	Type of Output	A Number of Centre outputs	B Number of outputs in Column A that included overseas involvement (i)	C Number of outputs in Column A that involved personnel external to the Centre (ii)	D Number of outputs in Column A also attributed as outputs of other ARC Projects (iii)
A1	Book – authored research	0	0	0	
A2	Book – authored other	0	0	0	
A3	Book – edited	2	1	1	
A4i	Book – revision/new edition	0	0	0	
A4	Book – translation	0	0	0	
B	Book chapter	23	10	13	
C1	Journal article – articles in scholarly refereed journal	89	34	54	
C2	Journal article – other contribution to refereed journal	0	0	0	
C3	Journal article – non-refereed article	0	0	0	
C4	Journal articles – letter or note	0	0	0	
C5	Unpublished reports (including commercial consultancies)	28	9	11	
D	Major review	0	0	0	
E1	Conference – full written paper-refereed proceedings	74	16	27	
E2	Conference – full written paper-non refereed proceedings	1	1	1	
E3	Conference – extract of paper	4	0	4	
E4i	Conference – edited volume of conference proceedings	0	0	0	
E4	Conference – unpublished presentation	2	2	1	
F	Audio-visual recording	0	0	0	
G	Computer software (including digital maps, data, web outputs)	5	1	4	
H	Designs	0	0	0	
H2	Technical drawings	0	0	0	
I	Patents - filed	0	0	0	
I2	Patents - pending	0	0	0	
J1i	Other creative works – major written or recorded work	0	0	0	
J2i	Other creative works – minor written or recorded work	0	0	0	
J3i	Other creative works – individual exhibition or original art	0	0	0	
J4i	Other creative works – representation of original art	0	0	0	
J1	Major creative works	0	0	0	
J2	Creative work including in group exhibition, performance, recording or anthology	0	0	0	
J3	Exhibition curatorship	0	0	0	
K	Number of national collaborating institutions	2			
L	Number of international collaborating institutions	1			
M	Number of countries involved in collaboration	2			
N	Number of countries from which international visitors originated	9			
O	Number of international visitors	16			
P	Number of overseas visits by Centre personnel	40			
Q	Number of countries visited by Centre personnel	21			
R1i	Training programs/teaching packages conducted	11	0		
R1	Number of PhD students graduated	2	2		
R2	Number of Masters students graduated	129	92		
R3	Number of Honours students graduated	104	43		
S1	Number of PhD students enrolled	83	47		
S2	Number of Master students enrolled	180	116		
S3	Number of Honours students enrolled	643	264		
T	Number of early career researchers (within 5 years of PhD completion)	8	0		

⁽ⁱ⁾ Outputs with overseas involvement - e.g. # journal articles with international co-authors, # international students enrolled/graduated

⁽ⁱⁱ⁾ Outputs with involvement from outside the Centre - e.g. # journal articles with co-authors not affiliated with the Centre

⁽ⁱⁱⁱ⁾ Outputs which have been attributed elsewhere in ARC reporting, - e.g. Linkage Project final reports