Key Centre Annual Report 2018
The Commonwealth Key Centre of Teaching and Research in Transport Management

Institute of Transport Studies
Monash University
https://www.monash.edu/engineering/its

Institute of Transport and Logistics Studies
The University of Sydney
http://sydney.edu.au/business/itls
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 2018.

Professor David Hensher
Key Centre Director
Director, Institute of Transport and Logistics Studies
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 2018 the Monash Institute of Transport Studies continued to deliver transport units in the Bachelor of Engineering program on both the Australian (Clayton) and Malaysian (Kuala Lumpur) campuses. Over 650 students completed the two core units (CIV2282 Transport and Traffic Engineering and CIV3282 Road Engineering) in 2018 and a further 370 completed the two final year electives (CIV4283 Transport Planning and CIV4284 Traffic Systems). Those units are part of undergraduate civil engineering degrees co-accredited under both the Australian and Malaysian Engineering Education Accreditation Systems. The Transport Planning unit (CIV4283) was offered as an intensive unit over three weeks in the middle of 2018. A group of 20 students were selected through a rigorous application process to undertake the study tour visiting Singapore, Kuala Lumpur (Malaysia), Shanghai and Suzhou (China). The trip was made possible as a result of funding provided under the Australian Government’s New Colombo Plan, a program designed to encourage Australian students to learn more about, and from, our Asian neighbours.

Postgraduate Coursework

The Master of Transport and Traffic degree has been reaccredited internally for a seven year period. That Masters degree, which is offered on-line, is structured around five core units and electives. A number of those units are also offered as part of a transport specialisation in the Master of Advanced Engineering, a rapidly growing on-campus program, taught on the Clayton campus. Close to 100 students were involved in the Masters degrees offered on the Clayton campus. Monash ITS also offers a Master of Transportation Systems degree in conjunction with South-East University in China. The program had 46 students enrolled in 2018 and is expected to reach its enrolment cap of 50 students in 2019.

In 2018, ITLS-Sydney continued to offer a suite of postgraduate courses in Logistics and Supply Chain Management, Transport and Infrastructure. Students are able to enter directly into the Master of Logistics and Supply Chain Management or articulate through the Graduate Certificate and Graduate Diploma. Alternatively, students can choose the Master of Commerce which includes three specialisations taught by ITLS academics: Logistics and Supply Chain Management; Aviation and Maritime Logistics and Management; and Infrastructure and Transport Management. In 2020, the focus of ITLS teaching in Transport Management will move to the new multi-faculty Master of Transport to be offered in conjunction with the Faculty of IT and Engineering and the Faculty of Architecture and Planning. ITLS academics also teach one undergraduate unit on Managing Food and Beverage Supply Chains and also teach into the highly ranked Master of Management and Master of Business Administration (MBA) programs.

Postgraduate Research

The Key Centre has the largest higher degrees by research program in the transport and/or logistics field in Australia. In 2018, there were two PhD graduations at Monash ITS with 33 continuing student enrolments. At ITLS, there were four PhD and one MPhil graduations with 23 continuing students.
## Enrolments

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<thead>
<tr>
<th>Degree</th>
<th>Institute of Transport Studies, Monash University</th>
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<td>Doctor/Master of Philosophy</td>
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<td>Master of Advanced Engineering (Transport)</td>
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<td>Master of Transport and Traffic</td>
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<td>Master of Transport</td>
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<td>Master of Transport Systems</td>
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<th>Degree</th>
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<td>Doctor/Master of Philosophy</td>
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<td>Master of Commerce</td>
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<td>- Aviation and Maritime Management and Logistics</td>
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<td>- Infrastructure and Transport Management</td>
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<td>- Logistics and Supply Chain Management</td>
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<td>Masters of Transport Management</td>
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<td>Graduate Certificate in Transport Management</td>
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### Unit of study

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<th>Unit of study</th>
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<td>Traffic and Transport Engineering (CIV2282) (Clayton and Malaysia Campuses)</td>
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<td>Advanced Traffic Engineering (CIV5301)</td>
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<td>Traffic Engineering and Management (CIV5302)</td>
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<td>Planning Urban Transport Systems (CIV5314)</td>
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<td>Fundamentals of Urban Public Transport (CIV5316)</td>
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<td>Case Studies in Transportation Systems (CIV5320)</td>
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<td>Modelling Transportation Systems (CIV5406)</td>
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<td>Sustainable Tsp Systems Planning (CIV5321)</td>
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<td>Urban Public Transportation Systems (CIV5322)</td>
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<th>Unit of study</th>
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<td>Global Freight Logistics Management (ITLS6101)</td>
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<td>Strategic Transport Planning (ITLS6102)</td>
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<td>Sustainable Transport Policy (ITLS6103)</td>
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<td>Applied GIS and Spatial Data Analytics (ITLS6107)</td>
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<td>Airline Strategy &amp; Supply Chains (ITLS6400)</td>
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<td>Airport Management (ITLS6401)</td>
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<td>Decision Making on Mega Projects (ITLS6500)</td>
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<td>Infrastructure Financing (ITLS6501)</td>
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Professional Development

Bus Safety Management Program (BSMP) for Bus Operators
The program was introduced in 2011, established by Monash ITS in consultation with Transport Safety Victoria (TSV) 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, ITS-Monash staff work closely with Transport Safety Victoria and the Bus Association of Victoria (BusVic). Following a review of the program in 2017, in 2018 the program was transformed from a fixed semester, paper-based model to a flexible, online format, with progressive assessment on a staged basis. Developing and maintaining a proactive safety culture is now a key focus. The flexible, online format has been well received by TSV, the bus industry and course participants. In 2018 the course attracted 118 enrolments.

Bus Business Management Program (BBMO) for Bus Operators
The program was launched by Monash ITS in 2012, providing potential bus service contractors with business management skills appropriate to the industry. It is an essential requirement for all service bids by Victorian bus companies. The course incorporates the two subjects from the Bus Safety Management Program for Bus Operators (mentioned above), along with two additional subjects: Financial Management for Bus Operators and Business Development for Bus Operators. The format of the two additional subjects will be reviewed in 2019. In 2018 the course attracted seven enrolments.

Bus and Coach Accreditation Scheme Online Training Course
The Bus and Coach Operator Accreditation Scheme Online Training Course attracted 174 enrolments in 2018. 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 46 enrolments in 2018, 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.

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, Professor William Greene and Professor Michiel Bliemer, and Dr Andrew Collins. With participants travelling from as far as South Africa, Canberra, South Australia and Queensland, the week-long Discrete Choice Analysis course had 34 attendees in 2018.

Certificate of Railway Planning and Operations
The Certificate of Railway Planning and Operations which introduces students to the key elements of railway planning and operations was launched in 2018. The three-day course is delivered by Dr Nigel Harris, one of Britain’s leading railway planners. Topics covered include management and business planning, understanding the railway market/environment, passenger behaviour, infrastructure design and timetabling. The course was offered over three days in June 2018, attracting 21 enrolments including participants from Transport for NSW, Roads and Maritime and various consultancy firms.

Introduction to Big Data
This short course provides transport researchers with the knowledge and tools to manage and process big data databases and programming for transport analytics. Taught over four days, this course features both lectures and practical tutorials. Students are introduced to relational databases, enabling them to store, manage and retrieve data. Our introduction to programming gives students the tools to create algorithms to process raw data, retrieve data from APIs and merge datasets to make them useable for a variety of transport analyses including statistical modelling and spatial analysis. The course was offered over four days in July 2018 and attracted 22 enrolments.
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 2018 Ogden Transport Lecture; prizes were awarded to:

- Renan Grace (VicRoads Prize for highest average mark in coursework Masters units)
- Arooran Sounthararajah (ARRB-Monash Prize for excellence in postgraduate research in transport)
- Laurelle Bland (BusVic Award for the best overall performance in the Transport Management Course for Bus Operators)
- Donna Allan (Transport Safety Victoria Award for the best overall performance in the Safety Management Course for Bus Operators)
- Gerald Clarke (Dyson Group Award for best performance in Safety Management Course, Subject 5101: Introduction to Bus Safety)
- Donna Allan (Crown Coaches Award for the best performance in the Safety Management Course, Subject 5102 Safety Risk Management for Bus Operators)
- Laurelle Bland (Driver Group Award for the best performance in the Transport Management Course, Subject 5103 Financial Managements for Bus Operations)
- Angus Christian (Ventura Group Award for best performance in Transport Management Course, Subject 5104: Business Development for Bus Operators)

ITLS-Sydney’s 2018 Awards Presentation Evening was presided over by Dr Alastair Stone, Chair of the Board of Advice. The guest speaker was Mr Kevin Anderson MP, Parliamentary Secretary for Regional Roads, Maritime and Transport. Prizes were awarded to:

- Mr Alvin Mejia - Peter Koning Memorial Award for the highest academic achievement in the Master of Transport Management
- Mr Andi Setiawan - GS1 Australia Prize for the highest academic achievement in the Supply Chain Visibility unit of study (ITLS6004)
- Ms Saraa Chogsom - 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
- Ms Yawen Jiang - Supply Chain & Logistics Association of Australia Award for Excellence for the highest academic achievement in the Master of Logistics and Supply Chain Management
- Dr Camila Balbontin - Institute of Transport and Logistics Studies Prize for excellence in postgraduate research in transport, logistics or supply chain management
- Mr Robert Gemmell -BusNSW prize for best overall performance in the Certificate of Transport Management
Research and Consultancy

Funding awarded in 2018

Australian Research Council Discovery Project Grants

Improving external validity of stated choice experiments
(2018 -2020, AU$462,480)
Professor Michiel Bliemer

This project aims to deliver more accurate estimates of choice behaviour by reducing biases due to choice task complexity in surveys as well as design artefacts. Extracting ‘true’ preferences is challenging, not only due to possible hypothetical bias, but also due to increasingly complex choice tasks and the existence of design artefacts. This project will investigate the latter two in the context of marketing, transport, health and environmental economics and proposes new methodologies to extract preferences that more closely reflect true behaviour in real markets.

Scalable urban traffic control framework driven by distributed information
(2018-2020, AU$294,139)
Professor Hai Vu and Dr Kun An

This project aims to develop a mathematical framework for an in-depth investigation of the role of information in a fundamental interaction between the traffic signal setting and self-interest route/departure time choice of road users. Traffic control is one of the oldest and most cost-effective solutions for the worsening congestion problem in many metropolitan areas. With the modern technological advancement, however, there remain fundamental mathematical challenges in taking that advantage to improve traffic control and combat congestion. The outcome will be insights into the use of information and algorithms that can provide efficient, robust and behaviour consistent (i.e. safe) traffic network management.

National Health and Medical Research Council Grants

Health by stealth: Developing strategies to increase active and public transport
(2018-2021, AU$272,362)
Verity Cleland (UTas), Kylie Ball (Deakin), Chris Blizzard (UTas), Stephen Greaves (USyd), Kim Jose (UTas), Andrew Palmer (UTas), Alison Venn (UTas)

Globally, one third of adults are not active at recommended levels, putting them at major risk of disease and early death. A focus on healthy travel – walking, cycling, public transport – provides an under-explored opportunity to increase physical activity. However, we know little about travel behaviour patterns, the factors influencing these, and the best ways to increase active travel. This project will work closely with key stakeholders to address these important knowledge and practice gaps.

Other External Research Grants and Contracts

Manufacture and multi-setting usability study, supply chain impact/disruption assessment of an innovative vaccine delivery technology
(2018-2019, AU$462,000)
Professor Behnam Fahimnia, Cristyn Davies, Rachel Skinner and Robert Buoy (Faculty of Medicine and Health, USyd)
Innovative Manufacturing CRC (IMCRC)

Development of a Performance Metric to Identify Cost Efficiency Opportunities for Bus Businesses (Smart Bus/BRT Project)
(2018-2019, AU$75,000)
Professor David Hensher, Dr Camila Balbontin and Yale Wong
Bridgestone Corporation and Forest Coach Line

MaaS Stakeholder Engagement and Market Discovery
(2018, AU$18,421)
Professor David Hensher, Emeriti Professor Corinne Mulley and Dr Chinh Quoc Ho
International, Catapult Transport Systems, United Kingdom

2018-19 Industry Fact Sheet
(2018, AU$20,000)
Professor David Hensher
Bus Industry Confederation, Australia

VicRoads
(2018, $18,575)
Dr Marilyn Johnson
Analysis of left hand turn intersections - additional observation sites.

Transport Accident Commission (TAC)
(2016-2018, $24,978)
Dr Marilyn Johnson with Dr Ben Beck and Professor Peter Cameron from Monash University, Epidemiology and Preventive Medicine
Cyclist safety - measuring the distance of motor vehicles when passing cyclists.

i-Sense Oakleigh: The Smart Connected Precinct
(2018-2019, AU$700,000)
Prof. Hai Vu and Prof. John Grundy (led and submitted by City of Monash)
Developing a digital infrastructure for a Smart Precinct.
Australian Government, Dept of Infrastructure, Regional Development and Cities

SIGNIFICANT CONTINUING RESEARCH FUNDING

Australian Research Council Linkage Project Grant
Cycle Aware: Driving with bikes
(2016-2019, AU$180,000)
Dr Jennifer Bonham (University of Adelaide), Dr Marilyn Johnson, Prof Narelle Haworth
(Queensland University of Technology, CARRS-Q)
This innovative approach to cyclist safety focuses on the education and training required by drivers to interact safely with cyclists. In a world-first it uses two ontologically diverse methodologies to examine how Australian drivers become cyclist aware and the education and training necessary to foster safe driver-cyclist interactions. It directly addresses the issues of cyclist road trauma and the growing on-road tensions between cyclists and drivers. This national approach to cycle aware driver education enhances opportunities for active travel and addresses the growing issue of inactivity. It provides a critical knowledge base for State and Territory driver education policies and a Cycle Aware module which will target learner drivers.

Centre of Excellence in Bus Rapid Transit development (BRT+)
(2017-2022, AU$457,164)
Professor David A Hensher, Emerita Professor Corinne Mulley, Professor Rico Merkert, Dr. Chinh Quoc Ho, Wen Liu http://www.brt.cl/
Volvo Research and Education Foundations, Sweden
Bus Rapid Transit is a Centre of Excellence (CoE) for Bus Rapid Transit (BRT) studies implemented in Santiago, Chile, and financed by the Volvo Research and Educational Foundations. This CoE was established in May of 2010 and is working as a consortium of five institutions: Pontificia Universidad Católica de Chile, Massachusetts Institute of Technology, University of Pretoria, The University of Sydney, and World Resources Institute Ross Center for Sustainable Cities. The main goal of the 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 CoE is to identify elements which are transferable between existing and prospective BRT systems and elements that are project site specific.

**iMOVE Co-operative Research Centre (CRC)**

*2017-2026*

The Federal Government has granted a group of nearly fifty leading industry and research organisations known as the iMOVE Co-operative Research Centre (CRC), a total of $55 million over ten years to explore intelligent transport systems including self-drive vehicles. Key members of the iMOVE CRC include Institute of Transport and Logistics Studies (ITLS) and the University of Sydney’s Faculty of Engineering and IT.

In 2018, ITLS was involved in the Facility and Network Optimisation for Australia Post project valued at $525,000 and which continues into 2019.

**Jiangsu Industrial Technology Research Institute**

*2016-2019, 4Million RMB ($760,000))*

Dr Inhi Kim, Professor Terry Liu from SEU, Professor Yifan Dai from THU

Collaborative Model of Green Travel in Intelligent City Integration platform

**National Natural Science Foundation of China (2016-2020, 620,000 RMB ($117,000))**

Dr. Yadan Yan from Zhengzhou University, Dr. Inhi Kim

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

**Consulting**

**Hawkesbury – Nepean Valley Flood Risk Management Strategy Driving Simulator Study**

*2018, AU$40,590*

Dr Adrian B. Ellison

Consultancy, Infrastructure NSW, Australia

**Strategic first mover advantage considerations and willingness to pay for a Low Altitude Air Traffic Management platform/services (LAAMs)**

*2018-2020, $134,916*

Professor Rico Merkert, Dr Matthew Beck, James Bushell and Mr Hassan Swiden

Consultancy, Thales Australia Limited

**Mapping strategic links for Sydney Metropolitan bus services**

*2018, AU$11,515*

Emerita Professor Corinne Mulley

Consultancy, Forest Coach Lines Pty Ltd, Australia

**University Research Grants**

**Nanoparticles and People: Consumer Behaviour and Regulatory Frameworks**

*2018, AU$42,000*

Associate Professor Matthew Beck

Nano-technology involves materials at the atomic or ‘nano’ scale; a strand of human DNA is 2.5 nano-metres thick. The benefits of this technology are many, however the impact of this technology on people is unknown and there is virtually no research on how exposed consumers are to nanoparticles. The aim of this cross-faculty project is to fill this research gap and doing so will have significant impact in the policy and regulatory sphere, but also result in a number of high-level journal publications and establish the University of Sydney internationally as a leading contributor to the nano-people-regulatory interface.

Business School - General Research Grant.
Towards accurate short-term predictions in state-of-the-art traffic flow modelling
(2018, AU$33,926 + AU$16,055 industry contribution)
Professor Michiel Bliemer, Dr Mark Raadsen and DAT.Mobility, Netherlands

We aim to develop methods to improve (short-term) traffic flow predictions on motorways and urban roads. On motorways we focus on embedding traffic management measures such as dynamic lane closures and dynamic speed limits into a state-of-the-art traffic flow model in a consistent fashion. On urban roads, we explore possibilities to calibrate the throughput of intersections against measured demand (loop detectors), accounting for traffic signals. Currently, neither theory nor solution algorithms exist to consider these two important transport aspects in conjunction with state-of-the-art dynamic traffic flow models. The event-based general link transmission model (eGLTM) proposed by Bliemer and Raadsen (in press) and Raadsen and Bliemer (in press) is one of the most sophisticated dynamic traffic flow models available and has been implemented in commercial software (OmniTRANS and Aimsun). This project aims to further develop this model with the above-mentioned extensions.

Business School - Industry Partnership Grant

Evaluating and Framing Sustainability Priorities of Supply Chain Managers
(2018, AU$10,000)
Professor Behnam Fahimnia
University of Sydney/University of Geneva Partnership Collaboration Awards

Development of a Performance Metric to Identify Cost Efficiency Opportunities for Bus Businesses
(2018, AU$25,000)
Professor David Hensher
University of Sydney Business School Engaged Activities (EnAct) Support Scheme.

MI Seed funding scheme
(2018, $42,493)
Dr Marilyn Johnson with Dr Robbie Napper (MADA) and Dr Vanessa Johnston (Monash Law)
Left turn negotiations between cyclists and drivers

Engineering Seed Fund Scheme
(2018, $25,000)
Dr. Inhi Kim
Dynamic traffic assignment model on Domino with road pricing

MI Seed funding scheme
(2018, AU$75,000)
Prof. Hai Vu with Dr Selby Coxon, Dr Barrett Ens, Dr Steve OHern, Prof. Tim Horbery and Prof. Andrew Parkes (UK)
Driving simulator for AV
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 Rico Merkert and Dr Jyotirmoyee Bhattacharjya. The following presentations were given in 2018:

Value creation through supply chain
14 February 2018
Anisa Makalic, General Manager Retail Supply Chain Caltex

The Impact of Baggage Fees on Passenger Demand, Airfares, and Airline Operations in the US
20 February 2018
Professor Martin Dresner, University of Maryland

Charter and Cargo – Niche airline businesses delivering low risk, high margin revenue
14 March 2018
Merren McArthur, Chief Executive, Virgin Australia Regional Airlines and Cargo

Urban Transport Policy-making – changing perspectives and consequences
28 March 2018
Professor Peter Jones, University College London

Anticipating a World of Shared Autonomous Vehicles: Cost, Energy, and Urban System Implications
4 April 2018
Dr Kara Kockelman, Dewitt Greer Professor of Civil, Architectural & Environmental Engineering at the University of Texas at Austin

The need for collaboration between authorities and operators in determining the terms and conditions of public transport contracting
4 April 2018
Professor Jackie Walters, University of Johannesburg

Is MaaS Transit the Future of Mass Transit?
2 May 2018
Andy Taylor, Director of Strategy, Cubic Transportation Systems Inc

Air transport: creating value for investors and the wider economy
6 June 2018
Brian Pearce, Chief Economist, IATA

The use of system and data in a food service environment to control and manage product distribution
18 June 2018
Leigh Rollason, General Manager, Operations Procurement and Analytics, Compass Group
Mobility as a Service (MaaS)
18 July 2018
Professor David Hensher; Professor Emerita Corinne Mulley; Dr Chinh Ho; Honorary Professor John Nelson; Dr Tim Cooper (Co-Founder and Head of Algorithms, SkedGo); Yale Wong (PhD Student),

Delivering better transport with data
19 July 2018
Lauren Sager Weinstein, Transport for London (TfL)

Regulating road-safety and autonomous vehicles: Time for an insurance market approach?
12 September 2018
Dr Richard Tooth, Director, Sapere Research Group Limited

The drivers and challenges of achieving supply chain visibility in the national freight sector
7 November 2018
Bonnie Ryan, Senior Manager, Freight, Logistics and Industrial Sectors, GS1 Australia

Industry 4.0 in Supply Chain Management and Logistics
14 November 2018
Olaf Schatteman, Managing Director, Accenture

Mobility as a Service: The Swedish story (thus far)
28 November 2018
Göran Smith, Chalmers University of Technology, Sweden

Does Santa Claus really have such a difficult job?
12 December 2017
John Allen, Director Horizon inventory

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

Driverless vehicles and the future of urban transport: Beyond the hype
19 November 2018
Professor Bart van Arem, Delft University of Technology, The Netherlands

The Inaugural Transport Research Association of NSW (TRANSW)
15 November 2018
Opening Symposium: Chris Bennetts, Transport for NSW
Research Hub and Strategic Research Directions: Sherri Fields, Transport for NSW
Keynote 1: Can we simulate how traffic accidents occur? Professor Hans van Lint (Delft University of Technology, The Netherlands)
Keynote 2: Innovative travel demand modelling using novel data sources: Professor Stephane Hess (University of Leeds, UK)
Committees

- Dr Kun An
  United States Transportation Research Board Committees: Transportation Network Modelling TRB - ADB30 (Friend)

- Dr Matthew Beck
  United States Transportation Research Board Committees: Stated Response (Chair)

- Professor Michael Bell
  International Symposium on Transport Network Reliability Scientific Committee (Chair, International Advisory Committee); United States Transportation Research Board Committee: Intermodal Freight; Member of International Advisory Committee, Hong Kong Society for Transport Studies (HKSTS)

- Professor Michiel Bliemer

- 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; Conference Organising Committee - National Streetcar and Light Rail Conference, New Jersey USA; Track Chair - Public Transport - Australasian Transport Research Forum

- Dr Alexa Delbosc
  Journal of transport and Land Use (editorial panel member); United States Transportation Research Board Committees: Social and Economic Factors of Transportation (Paper Review Coordinator), Traveller Behaviour and Values (Friend); Australasian Transport Research Forum Scientific Committee Member.

- 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), Partner, Volvo, Educational and Research Foundation Centre of Excellence in Bus Rapid Transit, Chile

- 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, Australasian College of Road Safety (Vice-President, National Executive Committee, Victorian Chapter Chair), Australasian Road Safety Conference (Organising Committee, Scientific Committee), Melbourne Metro Rail Authority Public Engagement and Influence Working Group, Road Safety Education Scientific Advisory Committee
- Dr Inhi Kim
  United States Transportation Research Board Committees: Highway/Rail Grade Crossings
  TRB - AHB60 (Standing); International Conference on Ambient Systems, Networks and
  Technologies (Program committee), ITS Asia Pacific Forum 2020( Program Committee),
  Korean journal of intelligent transportation system(editorial member), International journal
  of computer and software engineering(editorial member)

- Martin Locke
  Council member, International Project Finance Association

- Professor Rico Merkert
  United States Transportation Research Board Committees: Air Cargo, Aviation Economics,
  Light Commercial and General Aviation

- Professor Corinne Mulley
  Executive Board, World Symposium of Transport and Land Use Research (Chair), US
  Transportation Research Board Committee: Public Transport, Association for European
  Transport; Public Transport Committee, Fonds Wetenschappelijk Onderzoek (Belgian
  Scientific Organisation): Expert Panel for Science and Technology of Constructions and Built
  Environment projects.

- Professor Geoff Rose
  Australasian Transport Research Forum: National Executive Committee and Chair Scientific
  Committee for the 2018 ATRF Conference; World Conference on Transport Research (Local
  Area Representative); United States Transportation Research Board Joint Sub-committee
  Co-Chair: Emerging Vehicles and Low Speed Transportation

- Professor John Kenneth Stanley
  Member, Advisory Committee, Institute of Transport Studies, Monash University, Australia,
  1995 - present.

- Dr 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 L. Vu
  IET Intelligent Transport Systems, Associate Editor; United States Transportation Research
  Board Committees: Artificial Intelligence and Advanced Computing Applications: A8J70
  (Friend)
Awards

- **Dr Camila Balbontin**
The Institute of Transport and Logistics Studies (ITLS) Prize for research excellence in transport or logistics, The University of Sydney, 2018
Dean’s Citation for Teaching S2 2018, University of Sydney Business School, 2018. For Quantitative Logistics and Transport ITLS5200

- **Dr Matthew Beck**
Dean’s Citation for Engaged Research Partnerships for outstanding achievement in building a research partnership with Thales Australia, 2018

- **Dr Jyoti Bhattacharjya**
Dean’s Citation for Teaching S2 2018, University of Sydney Business School, 2018. For Production and Operations Management ITLS6008

- **Dr. Andrew T Collins**
Dean’s Citation for Teaching S1 2018, University of Sydney Business School, 2018. For ITLS6002 Supply Chain Planning and Design

- **Dr Alexa Delbosco**
Identified as the national Field Leader in transport research by The Australian

- **Professor Behnam Fahimnia**
Dean’s Citation for Teaching S1 2018, University of Sydney Business School, 2018. For ITLS6090 Logistics and Supply Chain Project
Chris Voss Best Paper Award for ‘The Impact of Different Guidance Types on Judgemental Demand Forecasting’, EurOMA 2018 (joint paper with Meysam Arvan).

- **Associate Professor Xiaowen Fu**
Dean’s Citation for Teaching S2 2018, University of Sydney Business School, 2018. For Quantitative Logistics and Transport ITLS5200

- **Professor Stephen P Greaves**
University of Sydney Business School Research Engagement Award, 2018

- **Professor David Hensher**
Dean's Citation for Engaged Research Partnerships for outstanding achievement in building a research partnership with Thales Australia, 2018

- **Professor Rico Merkert**
Dean’s Citation for Engaged Research Partnerships for outstanding achievement in building a research partnership with Thales Australia, 2018

- **Supun Perera**
Volvo Research and Educational Foundations Award, Bus Rapid Transit Centre of Excellence

- **Sonali Tripathi**
Dean’s Citation for Tutoring S2 2018

- **Yale Wong**
2018 Australasian Transport Research Forum (ATRF) David Willis Memorial Prize for best paper by a young researcher at the annual conference.
- **Shengda Zhu**  
  Dean’s Citation for Teaching S2 2018, University of Sydney Business School, 2018. For Quantitative Logistics and Transport ITLS5200

- **Monash University**  
  Ranked number one in the world in the field of Transportation by the Centre for World University Rankings (WUR)

- **University of Sydney**  
  The Shanghai Ranking Consultancy ranked the University at number one in Australia and six internationally for transportation science and technology in the annual Academic Ranking of World Universities (ARWU)

**Industry Sponsored PhD Scholarships – Monash University**

- **Public Transport Victoria**  
  Laura Aston  
  Exploring the Transit Orientation of Urban Development and its Impact on Public Transport in Melbourne

- **BusVic**  
  Prudence Blake  
  Understanding Bus Markets Using the Concept of ‘Customer Fluctuation’

- **Yarra Trams**  
  Matthew Diemer  
  Placemaking & Streetscape Design: Measuring Perceived Place Quality and Understanding its Implications for Tram Modernisation

- **Transdev Melbourne**  
  Nora Estgfäller  
  Exploring Route Density/Frequency and First/Last Mile Solution Trade Offs in Transit Network Design

- **Metro Trains Melbourne**  
  Lisa Fu  
  Future Train: Design investigation into passenger rail carriage interiors for Melbourne

- **Public Transport Victoria**  
  Taru Jain  
  Impact of Shared Modes on Travel Behaviour in Melbourne

- **Metro Trains Melbourne**  
  Amy Killen  
  Designing Urban Rail to Reduce Vandalism

- **Public Transport Victoria**  
  Laura McCarthy  
  Understanding declining public transport use during the transition to parenthood

- **Public Transport Victoria**  
  Rachel Mence  
  Understanding and Improving Gender Diversity in the Public Transport Workforce

- **Public Transport Victoria**  
  Rejitha Nath  
  Improving Network Synchronisation in Melbourne
- **Public Transport Victoria**  
  Maryam Nawaz  
  Exploring Reliability Engineering Approaches between Melbourne and Best Practice Railways

- **BusVic**  
  Jianrong Qiu  
  Exploring the Road Safety Impacts of Bus Safety Inspections

- **Public Transport Victoria**  
  Homayoun Rafati  
  Mining Big Data and Visualisation in Public Transport

- **VicRoads**  
  Samithree Rajapaksha  
  Simulating Bus and Tram Priority in Traffic Flows

- **VicRoads**  
  James Reynolds  
  Exploring public policy analysis, implementation theory and decision-making frameworks in public transport priority

- **Transdev Melbourne**  
  Sarah Roberts  
  Future Bus – a Multi-Purpose Bus for Changing Needs and Roles

- **Yarra Trams**  
  Luke Valenza  
  Passenger Falls in Trams

**Industry Sponsored PhD Scholarships – University of Sydney**

- **Metro Trains**  
  James Bushell  
  How to better coordinate operators in the passenger transport industry to provide better mobility as a service

- **Lion**  
  Maryam Teymoury  
  Behavioural decision-making in supply chain transformation

- **Ipsos Australia**  
  Nina Versoza  
  Improving travel survey methods

- **Busways**  
  Yale Wong  
  Integrated mobility services and contractual structures
The following word clouds represent the main themes and topics from media coverage featuring ITLS and Monash researchers in 2018. Fourteen ITLS researchers featured in over 100 separate media appearances including national and international newspapers, television, radio and websites. Monash had three of their researchers feature on television, newspapers and podcasts.
## Centre Outputs and Detailed Income and Expenditure Report (CODIE)

**Centre Name:** ARC Centre of Excellence of Teaching and Research in Transport Management  
**Centre ID:** NO95/08214  
**Calendar Year Reported:** 2018  
**Centre Admin. Organisation:** The University of Sydney
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 2018 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

**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, income and expenditure of the:

ARC Centre of Excellence of Teaching and Research in Transport Management

covering the calendar year 2018 and that I am authorised to approve their submission.

Certified by:

Signature

Print Name

Professor David Hensher

Date

20-Mar-19
<table>
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<th>Code</th>
<th>Type of Output</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<td></td>
<td>Number of Centre outputs</td>
<td>Number of outputs in Column A that included overseas involvement (i)</td>
<td>Number of outputs in Column A that involved personnel external to the Centre (ii)</td>
<td>Number of outputs in Column A also attributed as outputs of other ARC Projects (iii)</td>
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(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