MONASH University

Engaging with Government for Research Impact

Prof Graham Currie FTSE,
Director Public Transport Research Group
Director SEPT-GRIP
Director Monash Infrastructure
Monash University, Australia
November 2018

PTRG PUBLIC TRANSPORT RESEARCH GROUP

GROUP OF EIGHT AUSTRALIA

MONASH University

1. Introduction

2. Me

3. Impact

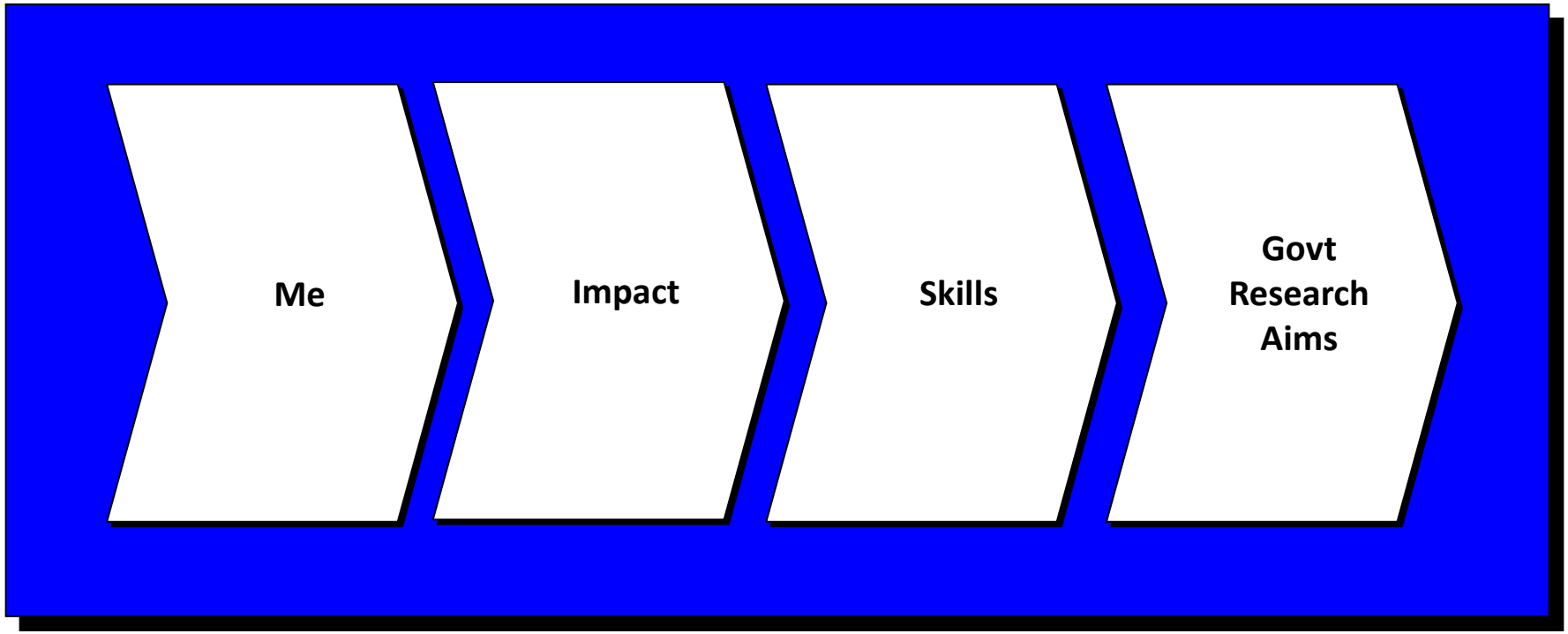
4. Skills

5. Govt Research Aims

PTRG PUBLIC TRANSPORT RESEARCH GROUP

This presentation outlines my experience in collaborative research with Government and its impact

Engaging with Government for Research Impact



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PTRG PUBLIC TRANSPORT RESEARCH GROUP

Professor Graham Currie

- Professor of Public Transport (Monash University) since 2003
- Director Public Transport Research Group
- Director Monash Infrastructure

- Chair – Light Rail Transit Systems Committee, US Transportation Research Board
- Member – Singapore Land Transport Authority Research Advisory Committee
- 2017; Fellow Academy of Technology and Engineering (ATSE)

Prior:

- Senior Associate Booz Allen Hamilton/Strategy& Price Waterhouse Coopers
- Manager Victoria; Travers Morgan Pty Ltd
- Network Planner – West Midlands Passenger Transport Executive UK
- Network Planner – London Transport UK

Key experience

- Transport expert; 35 years experience
- No. 1 Author in public transport research publications

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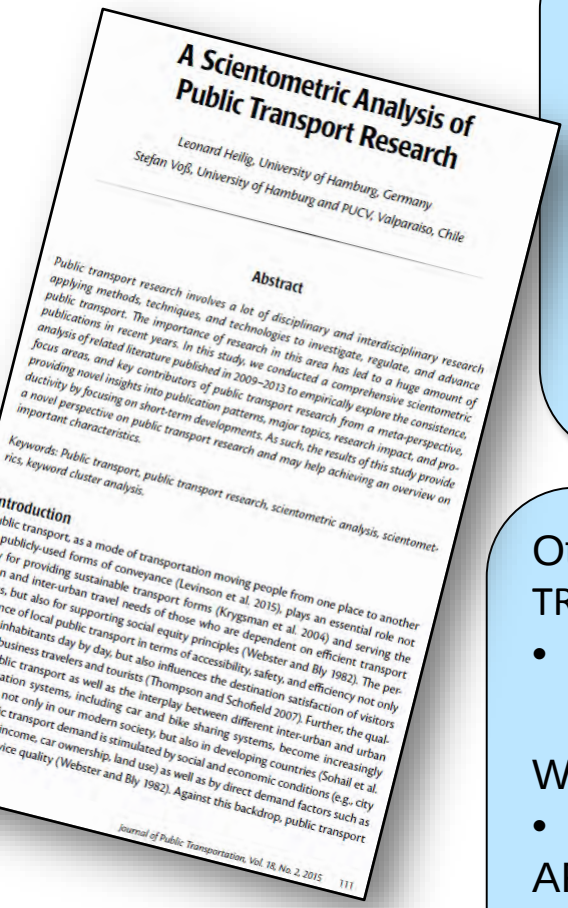
PTRG PUBLIC TRANSPORT RESEARCH GROUP
MONASH University
CONNECTING CITIES
PTRG is the name for researchers at Monash University who are engaged in research on public transport systems, users, planning and policy.
DISCOVER MORE



A Scientometric Analysis of Public Transport Research

Leonard Heilig, University of Hamburg, Germany
Stefan Voß, University of Hamburg and PUCV, Valparaiso, Chile

Abstract

Public transport research involves a lot of disciplinary and interdisciplinary research applying methods, techniques, and technologies to investigate, regulate, and advance public transport. The importance of research in this area has led to a huge amount of publications in recent years. In this study, we conducted a comprehensive scientometric analysis of related literature published in 2009–2013 to empirically explore the consistence, focus areas, and key contributors of public transport research from a meta-perspective, providing novel insights into publication patterns, major topics, research impact, and productivity by focusing on short-term developments. As such, the results of this study provide a novel perspective on public transport research and may help achieving an overview on important characteristics.

Keywords: Public transport, public transport research, scientometric analysis, scientometrics, keyword cluster analysis.

ntroduction

ublic transport, as a mode of transportation moving people from one place to another publicly-used forms of conveyance (Levinson et al. 2015), plays an essential role not for providing sustainable transport forms (Krygsman et al. 2004) and serving the n and inter-urban travel needs of those who are dependent on efficient transport s, but also for supporting social equity principles (Webster and Bly 1982). The perce of local public transport in terms of accessibility, safety, and efficiency not only inhabitants day by day, but also influences the destination satisfaction of visitors usiness travelers and tourists (Thompson and Schofield 2007). Further, the qualblic transport as well as the interplay between different inter-urban and urban ation systems, including car and bike sharing systems, become increasingly not only in our modern society, but also in developing countries (Sohail et al. c transport demand is stimulated by social and economic conditions (e.g., city income, car ownership, land use) as well as by direct demand factors such as ice quality (Webster and Bly 1982). Against this backdrop, public transport

Journal of Public Transportation, Vol. 18, No. 2, 2015 111

World Review of Public Transport Research (2009-2013)

Heilig L and Vos S (2015) 'A Scientometric Analysis of Public Transport Research' Journal of Public Transportation Vol 18 No 2

Top 3 world Universities in Public Transport Research

- Uni of Toronto, UCal Berkeley, MONASH UNIVERSITY

Most Productive Authors (World Ranking)

- PTRG Staff - Graham Currie 2nd, Alexa Delbosc 11th
- PTRG Associates – Avi Ceder 3rd, John Nelson 10th

Most Cited World Authors

- Graham Currie 5th

Other International Awards

TRB Largest Transport Conference in the World (13,000 delegates)

- Best Paper in Public Transport
  - 2012
  - 2017

World Conference on Transport Research

- Best research paper in Transport Policy 2016

ARRB Transport Research

- Research Impact Award 2017

PTRG is part of a wider collaborative framework in transport research across multiple groups/ faculties

Key Research Groups

PTRG PUBLIC TRANSPORT RESEARCH GROUP

Institute of Transport Studies
ITS (Monash)

IRT Institute of Railway Technology

MADA
MONASH ART DESIGN & ARCHITECTURE

Key Research Themes

- Railway Engineering & Technology
- Public Transport Policy & Operations
- Traffic & Transport Systems
- Intelligent Transport Systems
- Design in Public Transport
- Model Data Fusion
- Light Weight Vehicles
- Aerodynamics
- Transport Safety

Key staff, the associate team & students

Prof Graham Currie
Chair of Public Transport

Nicholas Fournier
Research Fellow

Dr Alexa Delbosc
Senior Lecturer
DECRA Fellow

James Reynolds
Research Fellow

Katerina Pavkova
Research Fellow

Wendy Walker
Website Manager

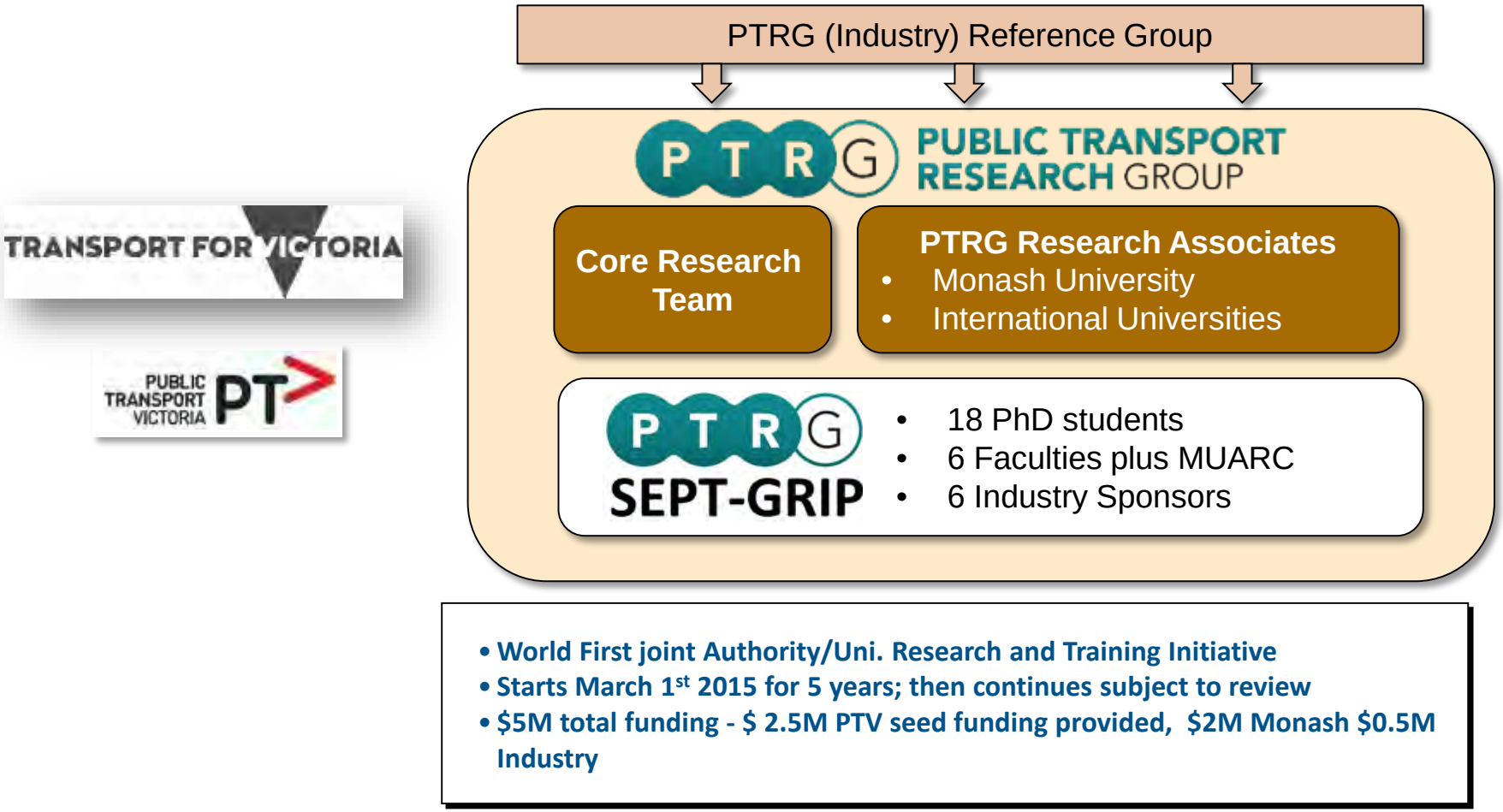
Dr Farhana Naznin
Research Fellow

- 27 PhD students
- 52 Research associates across Monash University (e.g. ITS, MADA, MUARC), International Universities, and external experts
- 48 Masters Students; most in China
- 10+ final year civil engineering undergraduate research students per year

Laura McCarthy
Research Fellow

Dr Kun An
Lecturer

Rebadged in 2015 as the TFV-Monash Public Transport Research Group (PTRG)

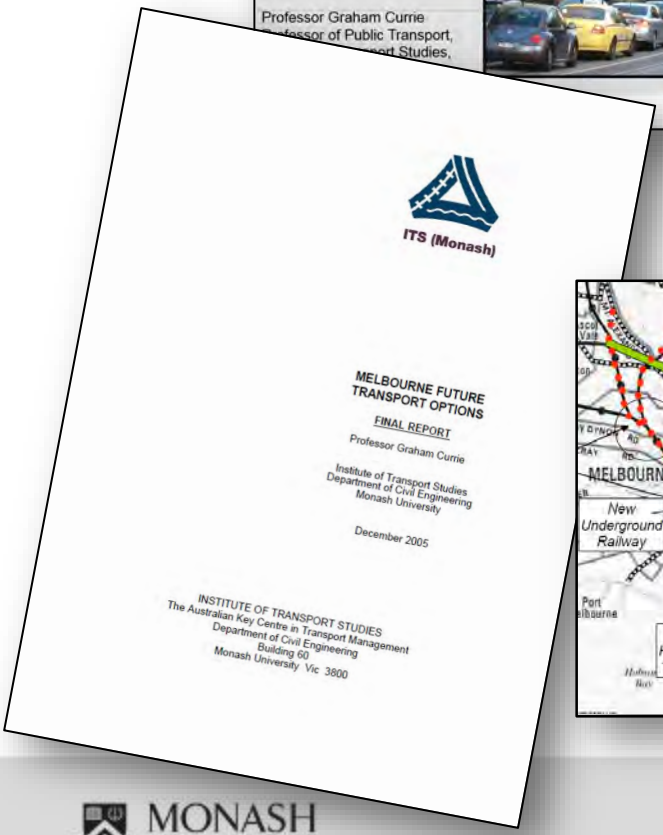


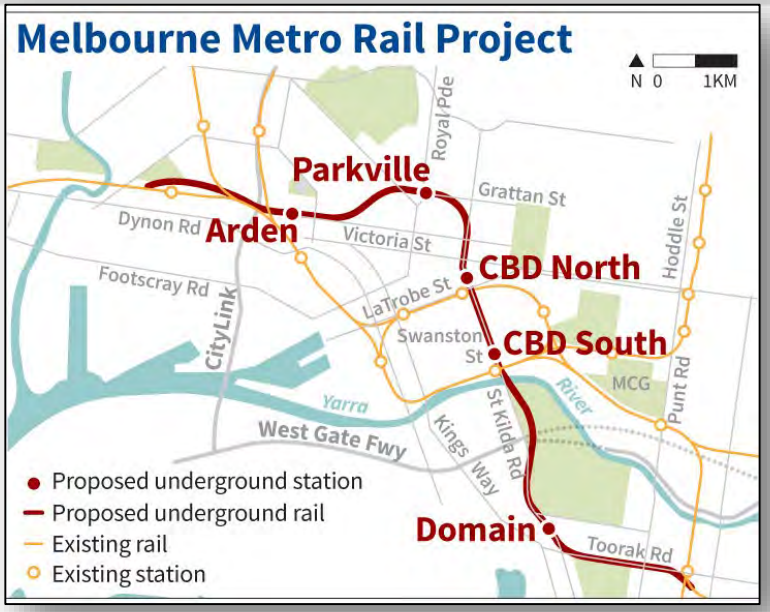
TRANSPORT FOR VICTORIA

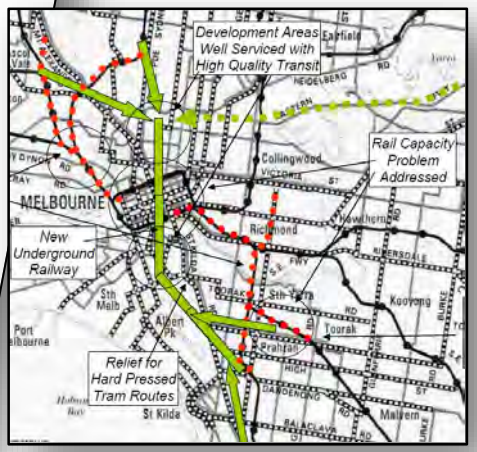
PUBLIC TRANSPORT VICTORIA PT

- **World First joint Authority/Uni. Research and Training Initiative**
- **Starts March 1st 2015 for 5 years; then continues subject to review**
- **$5M total funding - $ 2.5M PTV seed funding provided, $2M Monash $0.5M Industry**

Example Projects: Melbourne Metro – Concept Development (City of Melbourne, 2005)

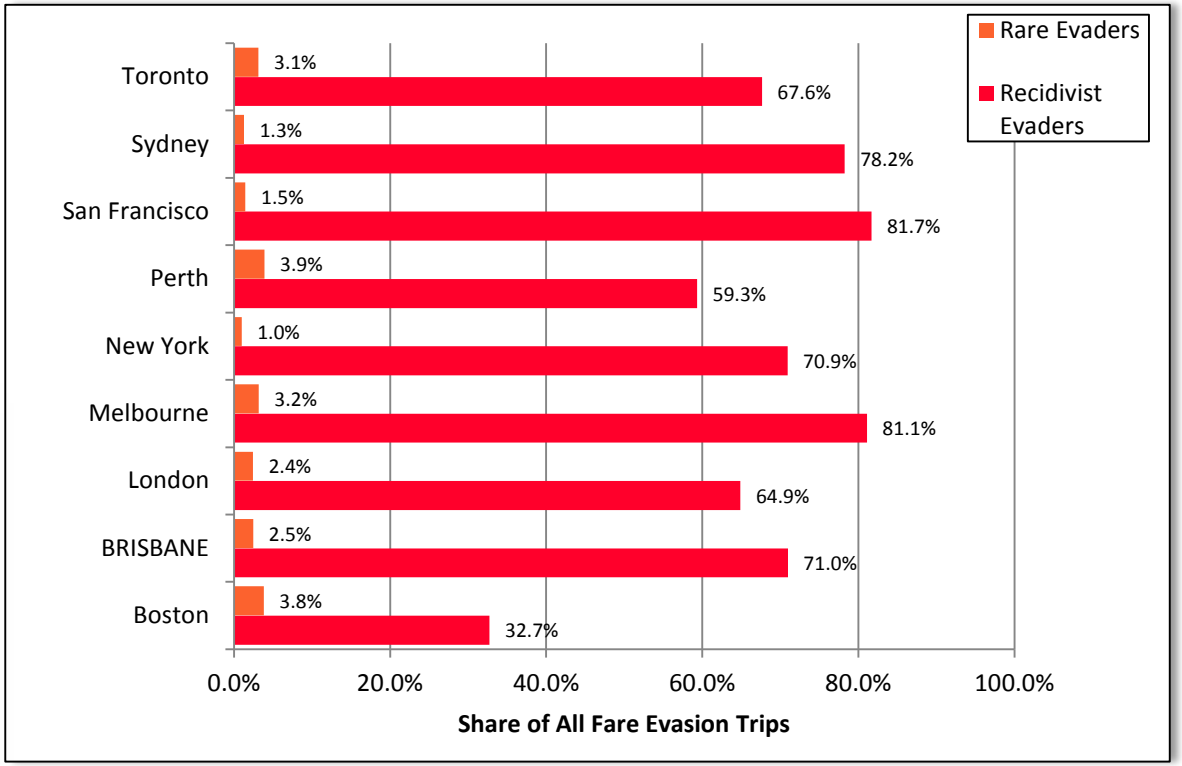






Example Projects: Understanding the Psychology of Fare Evasion Behaviour

IMPACT – Over $105mp.a. in savings in Australia ; much larger in overseas cities

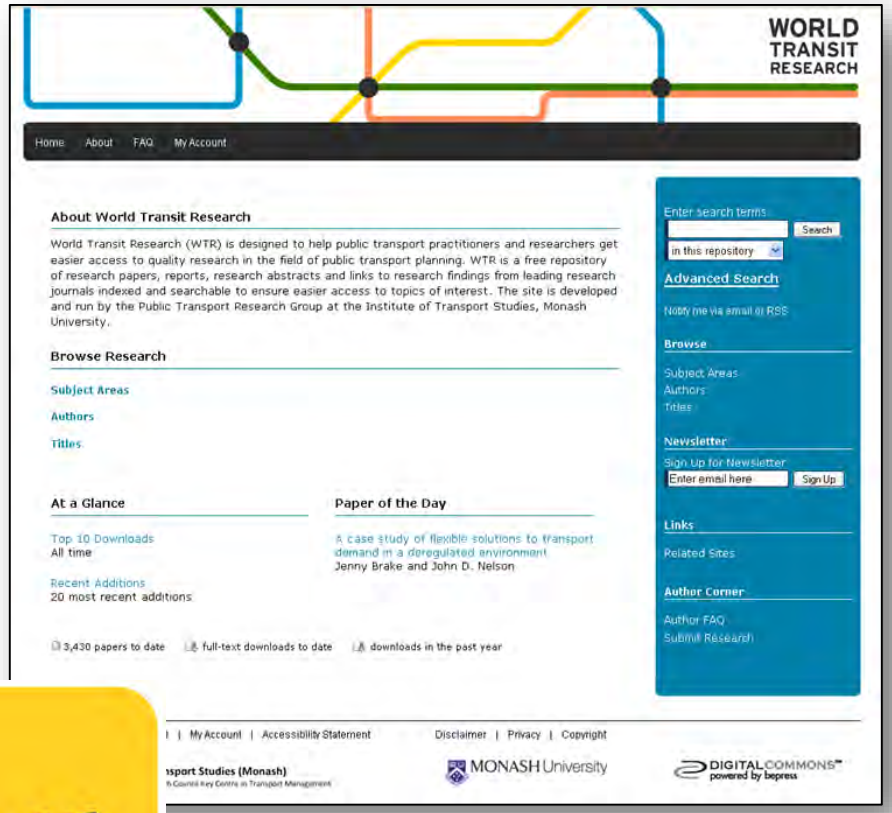


IMPACT - Large improvement in revenue protection ~$105M savings in Melbourne and Sydney since 2015 EVERY YEAR ; more reductions internationally

Research Awards:

- **2016 - Best Research Paper – World Conference on Transport Research**
- **2017 - ARRB Inaugural Research Impact Award**
- **2017 - Vice Chancellors Award for Research Impact**

PTRG runs World Transit Research; the global research clearinghouse for public transport research



World Transit Research

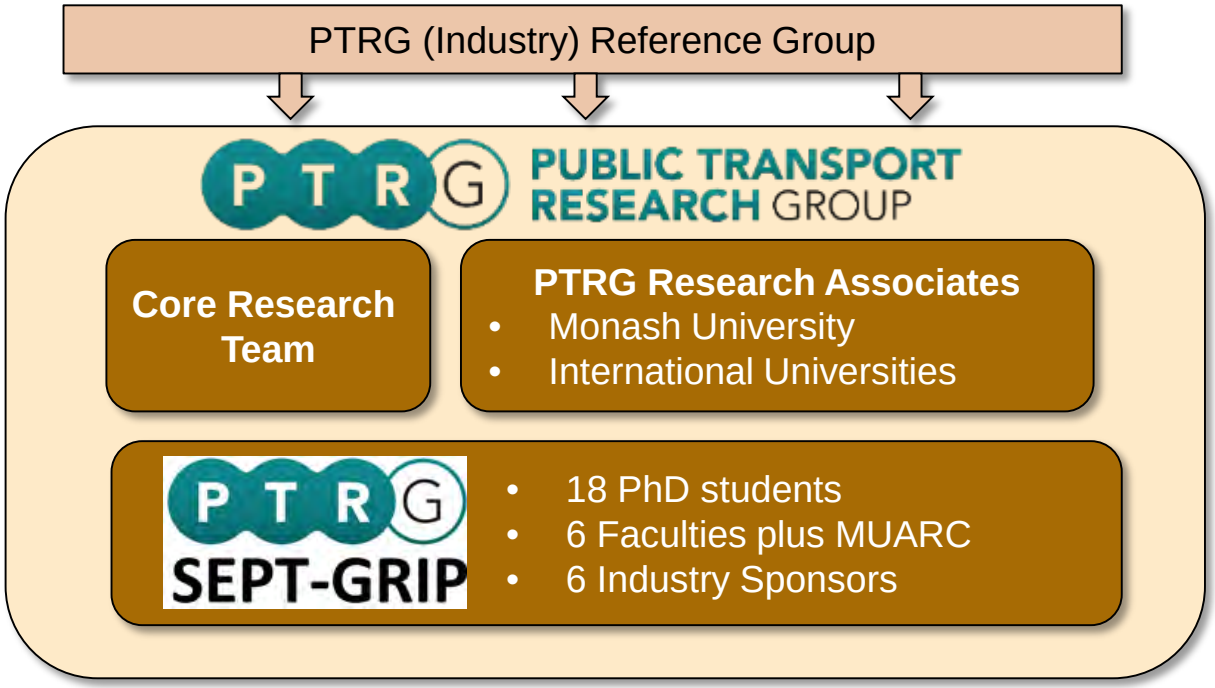
- Commenced 2010
- 256,639 site users
- 8,000 towns and cities from 170 countries
- 6,896 journal papers
- World index of authors and topics

2025=PTx2

UITP Showcase Award Winner

www.worldtransitresearch.info

SEPT-GRIP is an initiative of the Public Transport Research Group (PTRG) at Monash and TfV/PTV



TRANSPORT FOR VICTORIA

PUBLIC TRANSPORT VICTORIA PT

It has 18 research topics…

1. TOD & Transit
Laura Aston

2. Big Data & Visualisation
Homayoun Rafati

3. Network Synchronisation
Rejitha Ravindra

4. Shared Mobility
Taru Jain

5. Changing Travel Behaviour
Laura McCarthy

6. Tourism & Public Transport
Victoria Radnell

7. Reliability Engineering Approaches in Best Practice Railways
Maryam Nawaz

8. Improving Gender Diversity in the Public Transport Workforce
Rachel Mence

9. Future Train
Lisa Fu

10. Designing Urban Rail to Reduce Vandalism
Amy Killen

11. Bus & Tram Priority Implementation
James Reynolds

12. Simulating Bus & Tram Priority
Samithree Rajapaksha

13. Placemaking & Street Redesign
Matthew Diemer

14. Passenger Falls in Trams
Luke Valenza

15. Transit Network Design
Nora Estgfäller

16. Future Bus
Sarah Roberts

17. The New Bus Rider
Prudence Blake

18. Road Safety Impacts of Bus Safety Inspections
Jianrong Qiu

PTRG SEPT-GRIP

…with 6 industry partners…

1. **TOD & Transit**
Laura Aston

2. **Big Data & Visualisation**
Homayoun Rafati

3. **Network Synchronisation**
Rejitha Ravindra

4. **Shared Mobility**
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TRANSPORT FOR VICTORIA

PTRG
SEPT-GRIP

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Amy Killen

MPTRO

vicroads

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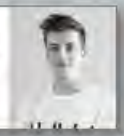

yarra trams

transdev

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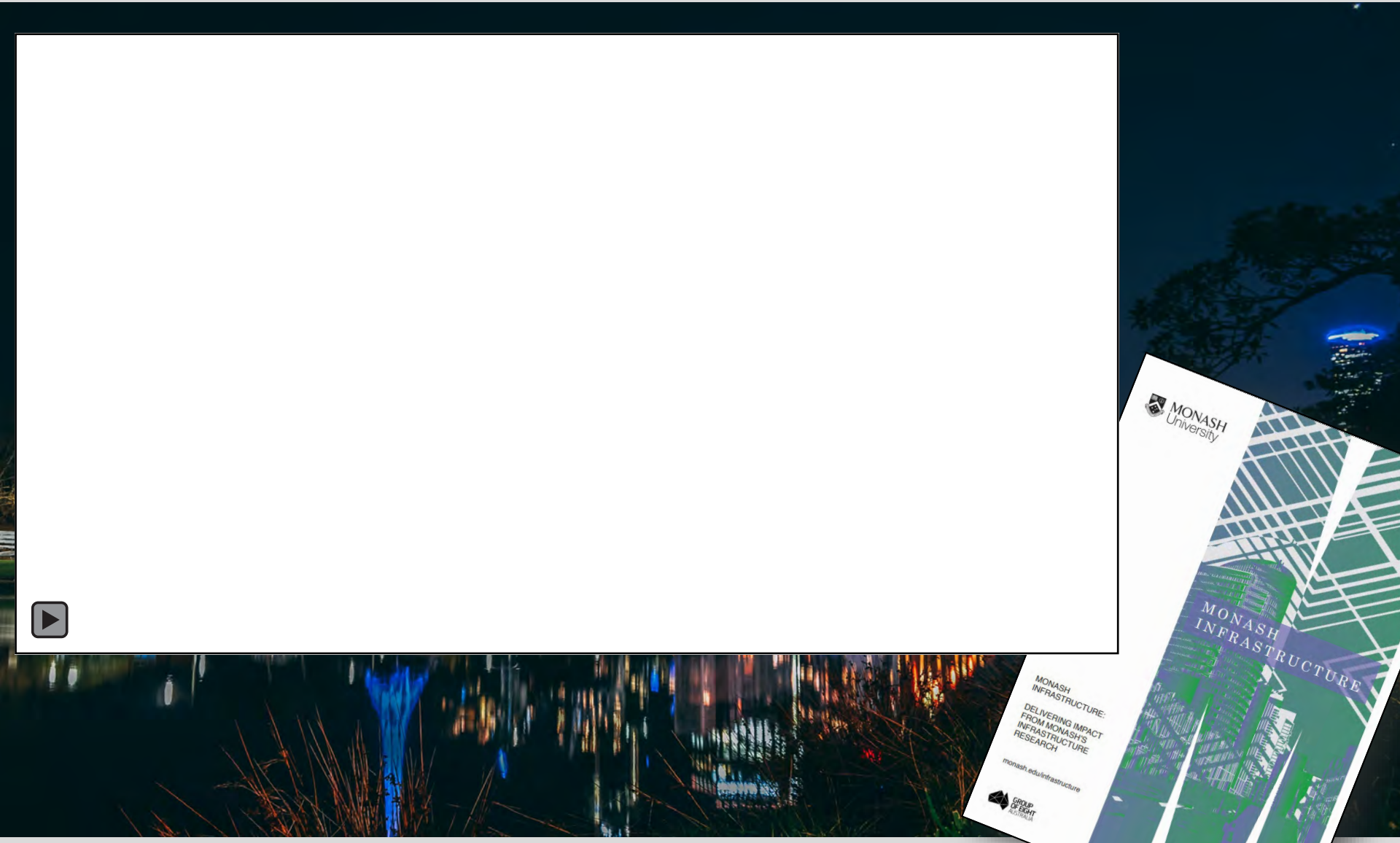
BusVic

Monash Infrastructure



Monash Infrastructure

Monash University's infrastructure research strengths are:

Transport | Water | Structures | Information and communications | Planning and management | Energy*

Transport

- Public transport
- Railway engineering
- Modelling and optimisation
- Intelligent transport systems
- Safety
- Mobility design

Theme coordinator: Professor Hai Le Vu

Structures

- Railways, mining equipment, water pipes, bridges and port structures
- Construction materials
- Structural health monitoring
- Corrosion
- Modular construction

Theme coordinator:
Professor Jayantha Kodikara

Planning and management

- Data modelling and visualisation of city systems
- Architecture and urban design
- Designing infrastructure for diverse communities
- Environmental and social impacts
- Finance, investment and public-private partnership
- Logistics and supply chain management
- Workforce development

Theme coordinator: Professor Amrik Sohal

Water

- Water Sensitive Urban Design
- Membrane technologies and wastewater management
- Pathogens in water systems
- Integrated water modelling
- Remote sensing of soil moisture
- Water pipe asset management

Theme coordinator: Professor Xiwang Zhang

Information and communications

- Data systems and cybersecurity
- Machine learning
- Immersive analytics and visualisation
- Modelling and optimisation
- Telecommunications technologies
- Robotics and drones

Theme coordinator: Professor Mark Wallace

MI Objectives

1. Increase the visibility of infrastructure activity at Monash externally
2. Broaden the Monash offer and engagement with industry
3. Increase collaboration between researchers within Monash University and create new interdisciplinary research strengths
4. Facilitate development of large-scale research initiatives

The objectives are aligned to the goals of Focus Monash and has strongly contribute to research excellence, enterprising and inclusiveness.

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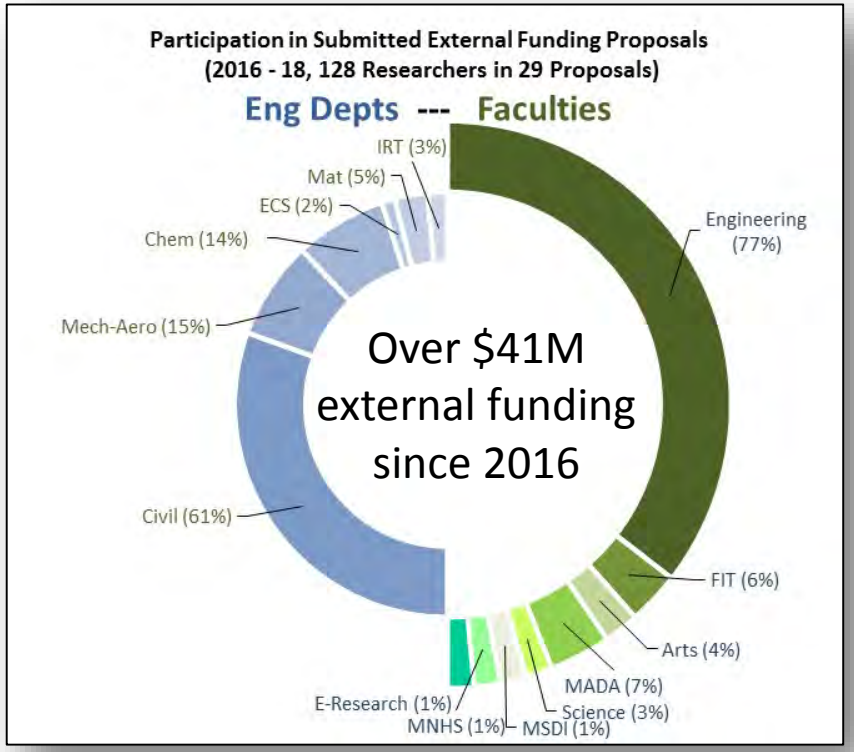
MONASH INFRASTRUCTURE

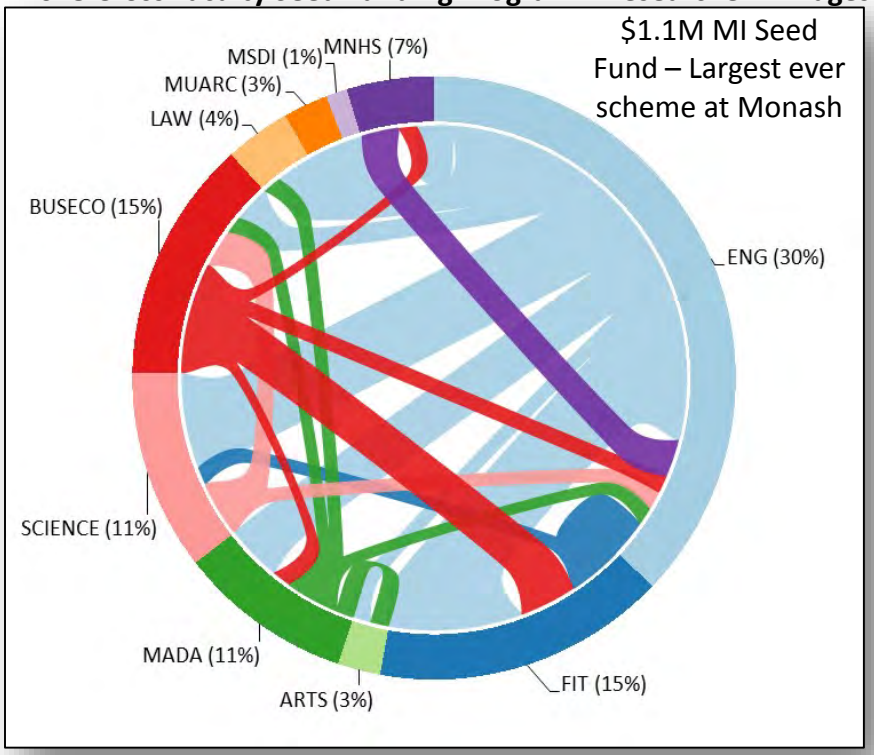
MONASH University

Impact

MI Facilitated External Research Funding by Faculty Dept



MI 2018 Cross Faculty Seed Funding Program – Researcher Linkages



New ARC Industry Transformation Research Hubs Facilitated by Monash Infrastructure

nanocomm

'SPARC Hub'
(Smart Pavement Australia Research Collaboration)

ARC RESEARCH HUB
ENERGY-EFFICIENT SEPARATION

MONASH University

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PTRG PUBLIC TRANSPORT RESEARCH GROUP

"Focussed Government research collaboration is the art of….. listening"

Skills

- Need to chat, meet, discuss, understand
- Clear Comms
- Focus on objectives
- Keep it simple stupid; pictures not words
- Long term engagement in depth
  - Find a trusted partner with longevity
- Attitude:
  - Be collaborative, open and work hard
  - Be considerate; understand the other guy/gals problems
  - Be enthusiastic, positive and solution oriented

Tools

- Media
- Social media
  - LinkedIn, Twitter
- Industry conferences
- Public speaking
- Leverage Monash Industry Engagement Staff

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Govt Research Aims are often confused and unthought out

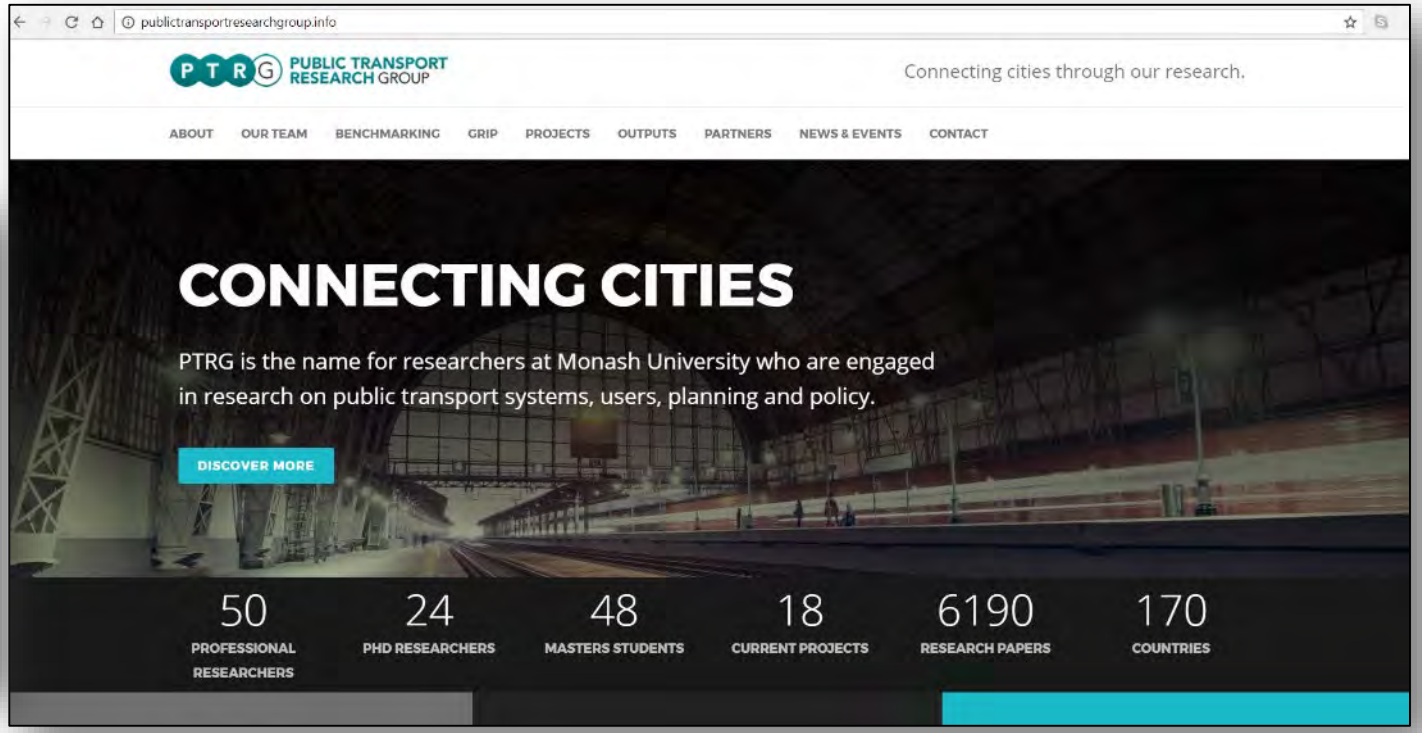
- Often Govt is unclear and confused about what the problem is and what the priorities should be
- Only sheep react to briefs; do the work, write your own brief and tell them what you think they should do ; BE PRO-ACTIVE
- Go to the top; most bureaucrats are bureaucrats
- Engage with width; the internal lack of comms problem
- Govt. aims:
  - Most want "to be seen to be doing the right thing"; not necessarily doing the right thing

Learn more on our website PTRG.INFO, LinkedIn or Twitter

Professor Graham Currie FTSE

Director, SEPT-GRIP, PTRG

Connect with us on LinkedIn twitter



www.ptrg.info