



**MONASH**  
University

Visit of ITS China to Monash University  
October 12<sup>th</sup> 2016

# Introduction to Public Transport Research and Education at Monash

Prof Graham Currie  
Public Transport Research Group  
Monash Institute of Transport Studies  
Monash University



**Institute of Transport Studies (Monash)**

The Australian Research Council Key Centre in Transport Management



**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.

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## 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 2<sup>nd</sup>, Alexa Delbosc 11<sup>th</sup>
- PTRG Associates – Avi Ceder 3<sup>rd</sup>, John Nelson 10<sup>th</sup>

### Most Cited World Authors

- Graham Currie 5<sup>th</sup>

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

### Key Research Groups



Institute of Transport Studies



Institute of Railway Technology



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

## PTRG is a joint Industry-University Research Group aimed at improving community outcomes in Transport



## PTRG runs the worlds largest single joint PhD program with industry – SEPT-GRIP; 18 students 7 Faculties

<p><b>1. Personal Safety</b> [Student Photo]</p> <p><b>2. Big Data &amp; Visualisation</b> Homayoun Rafati [Student Photo]</p> <p><b>3. Network Synchronisation</b> Rejitha Ravindra [Student Photo]</p> <p><b>4. Shared Mobility</b> Taru Jain [Student Photo]</p> <p><b>5. Changing Travel Behaviour</b> Laura McCarthy [Student Photo]</p> <p><b>6. Tourism &amp; Public Transport</b> Victoria Radnell [Student Photo]</p> <p><b>7. Reliability Engineering Approaches in Best Practice Railways</b> Maryam Nawaz [Student Photo]</p> <p><b>8. Improving Gender Diversity in the Public Transport Workforce</b> Rachel Mence [Student Photo]</p> <p></p>	<p><b>9. Future Train</b> Lisa Fu [Student Photo]</p> <p><b>10. Designing Urban Rail to Reduce Vandalism</b> Amy Killen [Student Photo]</p> <p></p> <p><b>11. Bus &amp; Tram Priority Implementation</b> James Reynolds [Student Photo]</p> <p><b>12. Simulating Bus &amp; Tram Priority</b> Samithree Rajapaksha [Student Photo]</p> <p><b>13. Placemaking &amp; Street Redesign</b> Matthew Diemer [Student Photo]</p> <p><b>14. Passenger Falls in Trams</b> Luke Valenza [Student Photo]</p> <p></p> <p><b>15. Transit Network Design</b> Nora Estgfäller [Student Photo]</p> <p><b>16. Future Bus</b> Sarah Roberts [Student Photo]</p> <p><b>17. The New Bus Rider</b> Prudence Blake [Student Photo]</p> <p><b>18. Road Safety Impacts of Bus Safety Inspections</b> Jianrong Qiu [Student Photo]</p> <p></p>
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# PTRG special event planning and research

London 2012 Olympic Games  
Travel Demand Management  
Reviewers



Mecca – Hajj/Umrah Events  
Synthesis of Lessons from  
Olympic and Hajj Planning



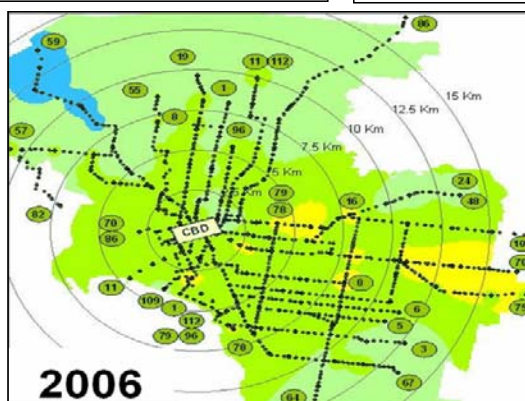
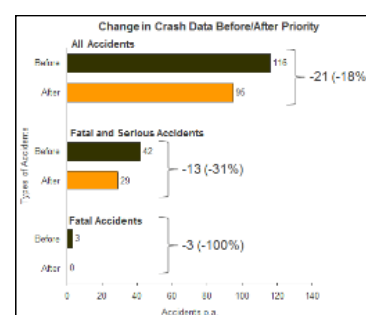
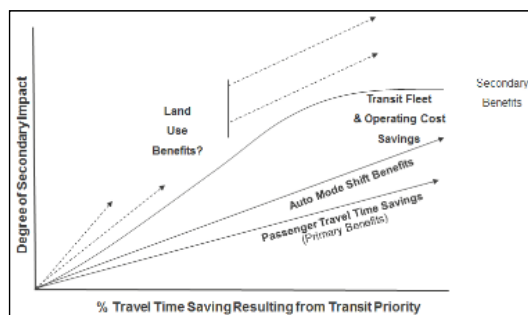
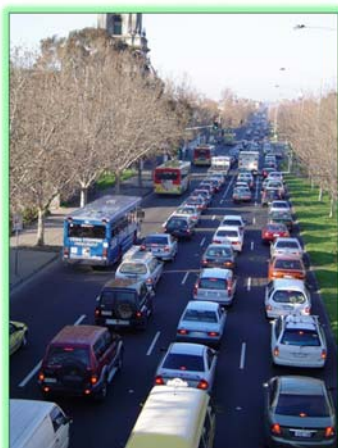
## Benchmarking how urban PT can better cater for international tourists

- A. Information
- B. Cost/Ticket
- C. Service Level
- D. Special Service

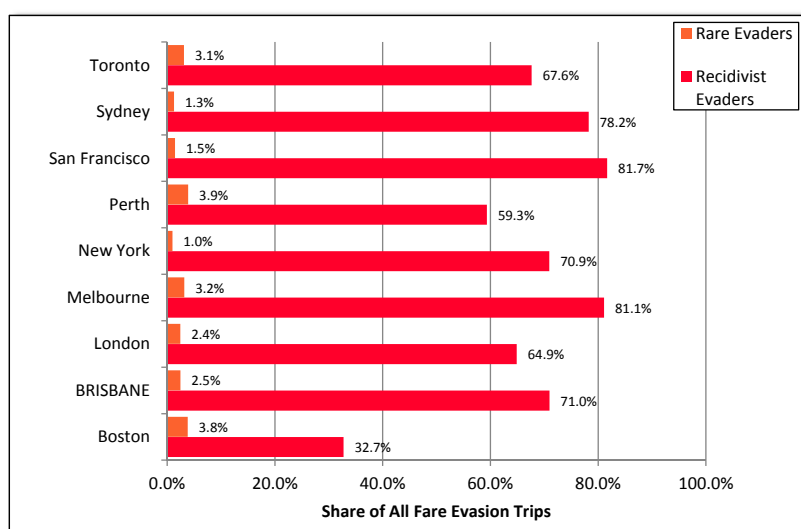
London  
Paris  
Melbourne  
Singapore



# Optimising design for PT Priority



## Understanding Fare Evasion Behaviours



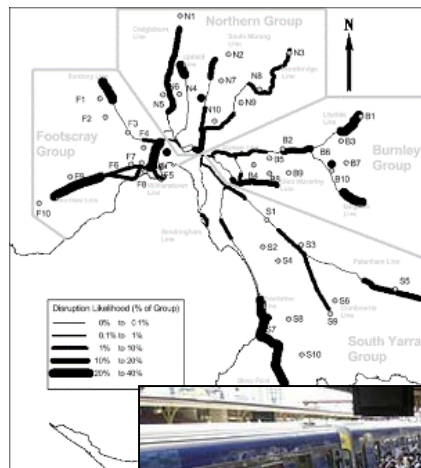
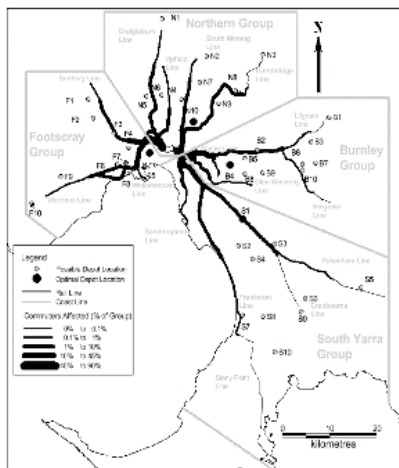
➔ Large reduction in fare evasion saving ~\$105M p.a. in Melbourne and Sydney



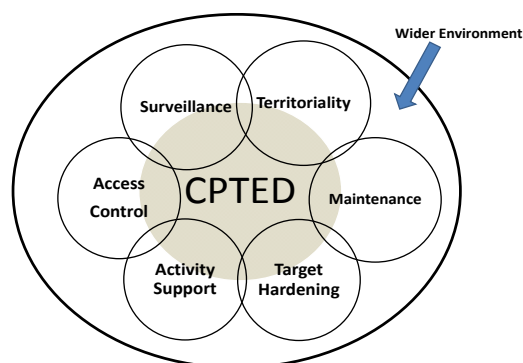
The research won the best policy paper prize at the 14<sup>th</sup> World Conference on Transport Research in Shanghai in June



## International Study of Rail Disruption Management



# Research on Station Design using Crime Prevention Through Environmental Design (CPTED) Principles




Winner of the 2017 William M Millar Award for best research paper at the TRB Annual Meeting, Washington DC USA – The largest transport conference in the world

Rahaman M, Currie G and Muir C (2016) 'Development and Application of a Scale to Measure Station Design Quality for Personal Safety' Transportation Research Record Journal of the US National Academy of Science



13



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### About World Transit Research

World Transit Research (WTR) is designed to help public transport practitioners and researchers get easier access to quality research in the field of public transport planning. WTR is a free repository of research papers, reports, research abstracts and links to research findings from leading research journals indexed and searchable to ensure easier access to topics of interest. The site is developed and run by the Public Transport Research Group at the Institute of Transport Studies, Monash University.

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📄 full-text downloads to date
📄 downloads in the past year

### Paper of the Day

A case study of flexible solutions to transport demand in a deregulated environment  
Jenny Brake and John D. Nelson

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**MONASH University**





# CIV5322 – Urban Public Transport Systems – Taught in Suzhou

- The Course covers public transport planning from a range of perspectives including
  - policy,
  - demand/markets,
  - supply/operations and infrastructure
- This is an interdisciplinary course because public transport planning is interdisciplinary

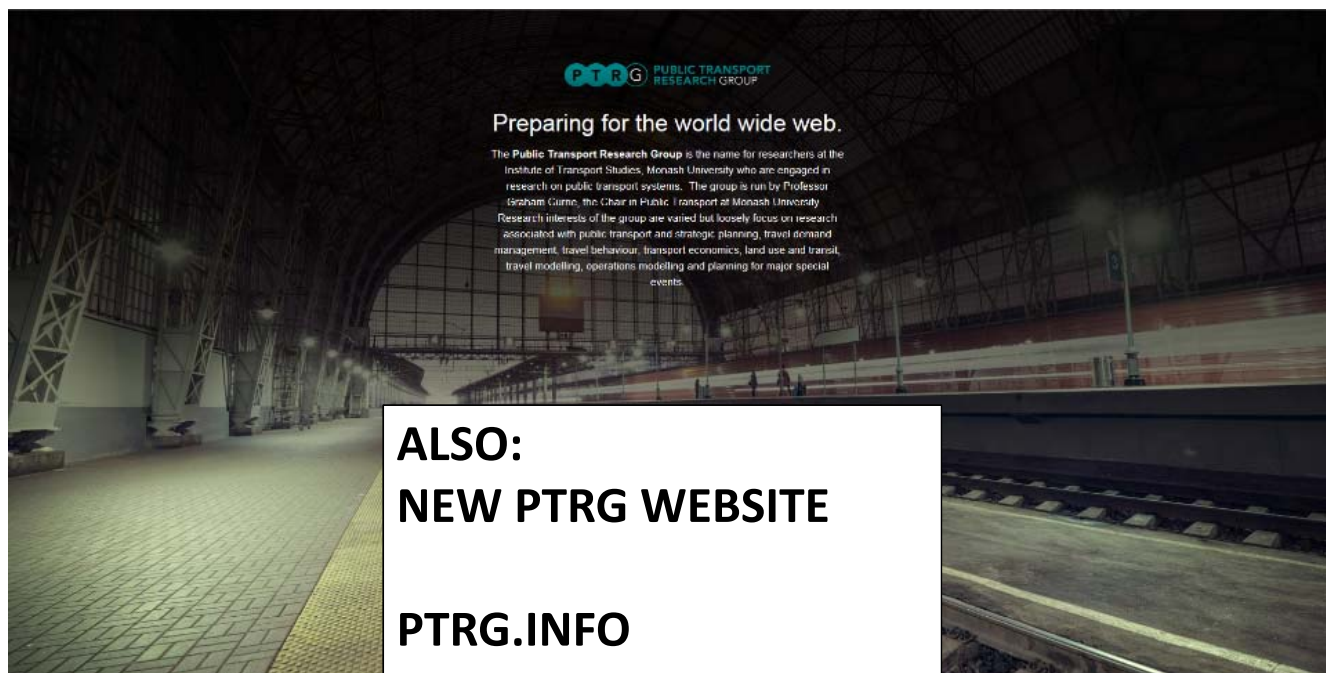


Best Class Award Winner - Jiangsu Province  
2014 and 2015

Topic 1 - Introduction  
Topic 2 - Market Perspectives  
Topic 3 - Demand Forecasting  
Topic 4 - Performance Assessment  
Topic 5 - Financial & Economic Analysis of Public Transport Services  
Topic 6 - Service Route and /Network Planning  
Topic 7 - On Road Public Transport Design (Bus and Tram)  
Topic 8 - Rail Service Design, Operations and Planning  
Topic 9 - Regulation, Contracting, Competition and Ownership in Transit  
Topic 10 - Transit and Land Use  
Topic 11 - Planning Transit for Social Needs  
Topic 12 - Intelligent Transit Systems in Transit  
Topic 13 - Transit Futures

**PTRG** PUBLIC TRANSPORT  
RESEARCH GROUP

151  
5



**PTRG** PUBLIC TRANSPORT  
RESEARCH GROUP

Preparing for the world wide web.

The Public Transport Research Group is the name for researchers at the Institute of Transport Studies, Monash University who are engaged in research on public transport systems. The group is run by Professor Graham Currie, the Chair in Public Transport at Monash University. Research interests of the group are varied but loosely focus on research associated with public transport and strategic planning, travel demand management, travel behaviour, transport economics, land use and transit, travel modelling, operations modelling and planning for major special events.

**ALSO:  
NEW PTRG WEBSITE  
PTRG.INFO**

**PTRG** PUBLIC TRANSPORT  
RESEARCH GROUP



Join the **ITS (Monash)** LinkedIn group  
to keep informed of our activities

