MONASH University

Monash Business School/ Future Business Council
Monash Conference Centre
30 Collins Street, Melbourne 3000
Friday 4th August 2017

Transport Futures
Me, Us, Provocations

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

PTRG PUBLIC TRANSPORT RESEARCH GROUP

GROUP OF EIGHT AUSTRALIA

MONASH INSTITUTE OF TRANSPORT STUDIES

MONASH University

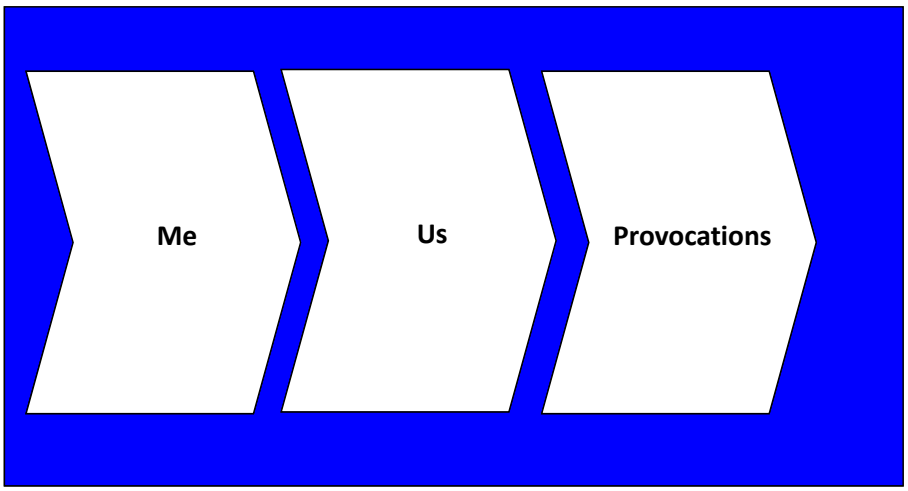
Introduction

Me

Us

Provocations

This Presentation provides input to the Transport Futures Collaboration Event



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Introduction

Me

Us

Provocations

Professor Graham Currie

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

- Chair – Light Rail Transit Systems, US Transportation Research Board
- Member – Singapore Land Transport Authority Research Advisory Committee

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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PUBLIC TRANSPORT RESEARCH GROUP

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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

PTRG.INFO

PUBLIC TRANSPORT RESEARCH GROUP

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A Scientometric Analysis of Public Transport Research

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

Abstract

Introduction

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

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

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

PUBLIC TRANSPORT VICTORIA PT
METRO
yarra trams
BusVic
transdev
vicroads

PTRG PUBLIC TRANSPORT RESEARCH GROUP

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

1. Personal Safety
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

PUBLIC TRANSPORT VICTORIA PT

9. Future Train — Lisa Fu
10. Designing Urban Rail to Reduce Vandalism — Amy Killen

METRO

vicroads

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

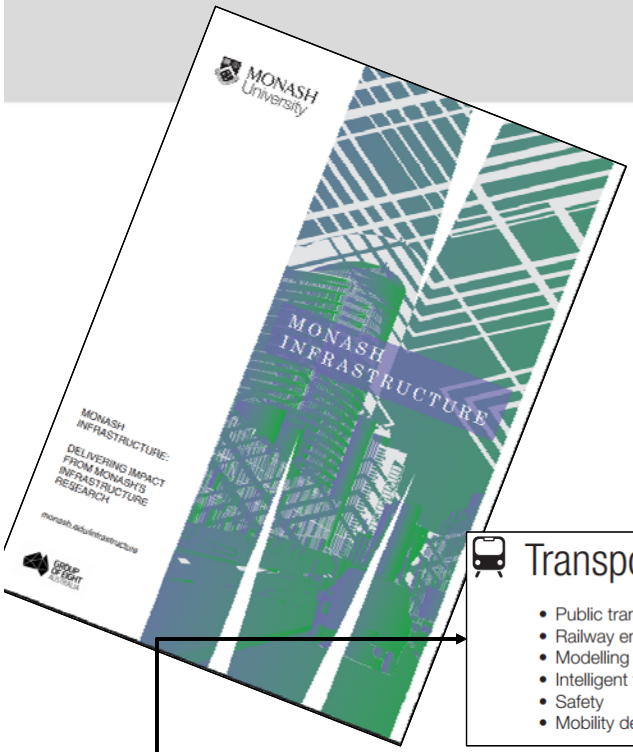
yarra trams

transdev

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

BusVic



Transport

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

- virtual institute facilitates industry/government engagement with Monash University's extensive infrastructure research capabilities.
- coordinates interdisciplinary teams from engineering, IT, business, design & social sciences.
- researchers provide the expertise, resources and access to international knowledge networks to solve infrastructure problems, develop new technologies, build industry capacity & inform government policy/planning.

Monash University's infrastructure research strengths are:

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

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Introduction

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Provocations

Four Provocations to generate discussion

1. **The Great Transport Infrastructure Development Lie**
2. **The Great Transport Technology Lie**
3. **The Great Shared Transport Lie**
4. **A New Idea; Transit Fusion**


1. The Great Transport Infrastructure Development Lie
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1. The Great Transport Infrastructure Development Lie
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2030
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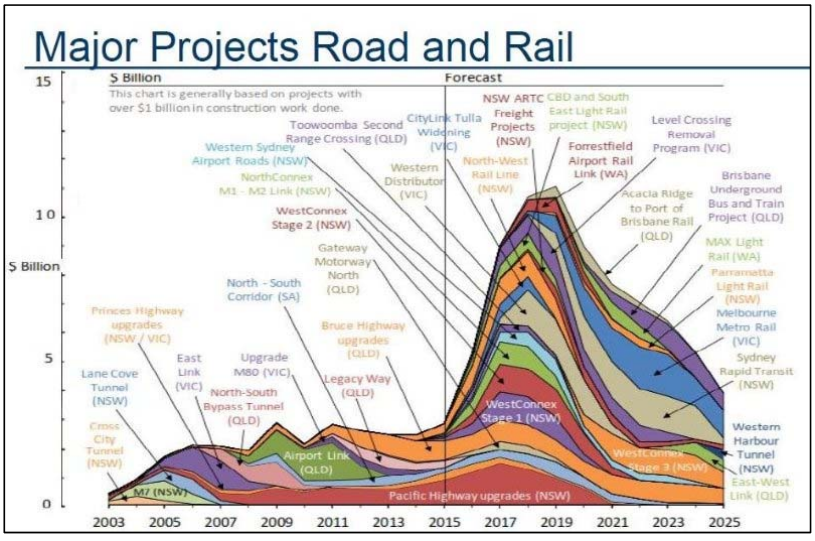
Future Transport Infrastructure Needs

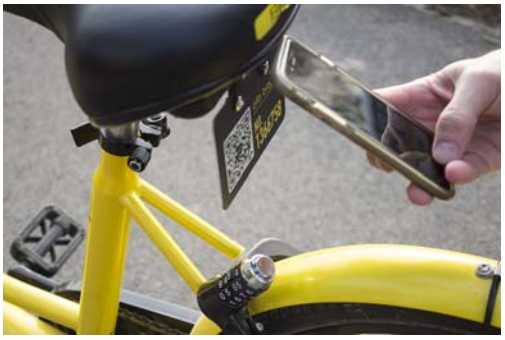


- $700B Australian Infrastructure Investment Deficit
- 1.6% of Australian GDP invested in Infrastructure; highest in the OECD

In 20 Years:

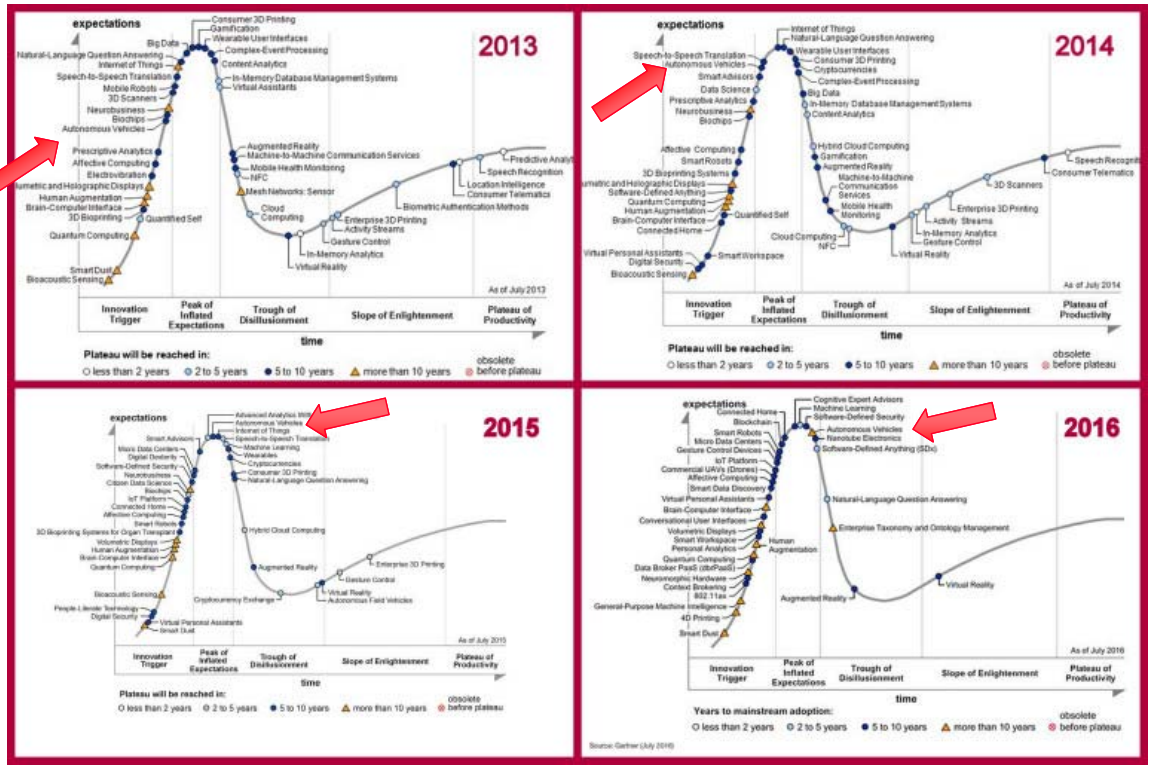
- **95%+ of Our Transport Infrastructure will be Whats in Operation TODAY**

New Transport Technologies are impressive and will 'game change' our transport futures



Its a lie; technologists are good at ‘spin’; there is much ‘hype’ and less reality in transport technology futures

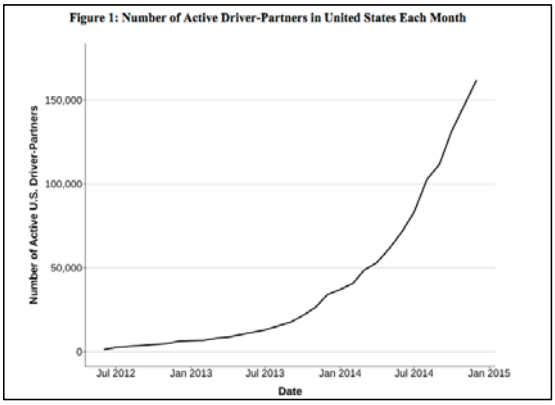
2. The Great Transport Technology Lie

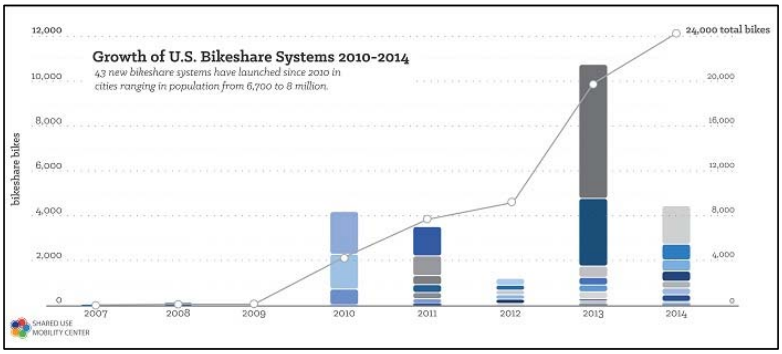


Future cities need shared transport to provide capacity for our significant growth futures

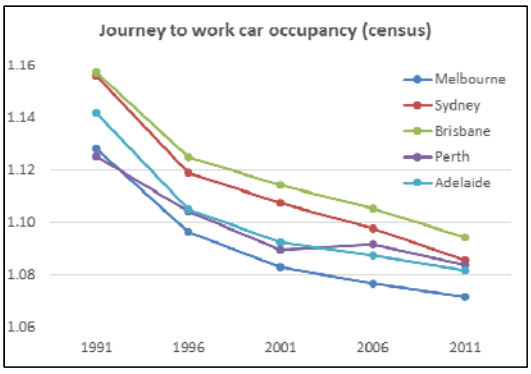
3. The Great Shared Transport Lie

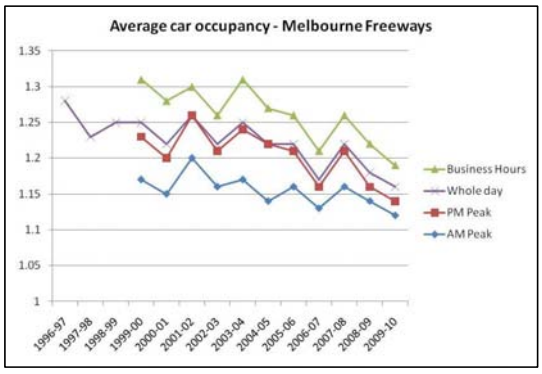
Shared Mobility is growing significant; so our shared transport future is assured!



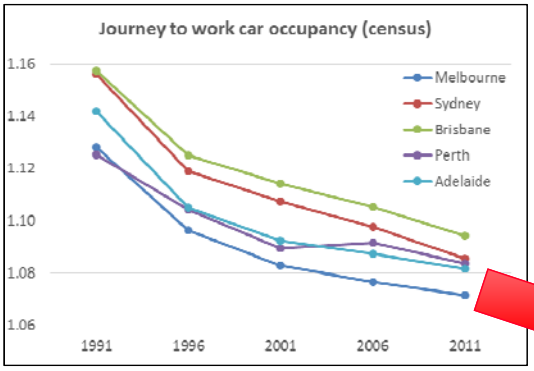


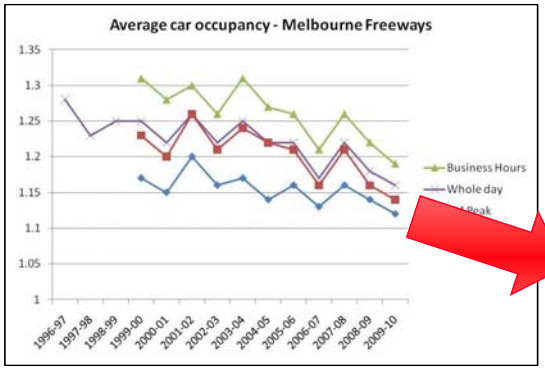
Shared travel is NOT growing; its been DECLINING for 30 years



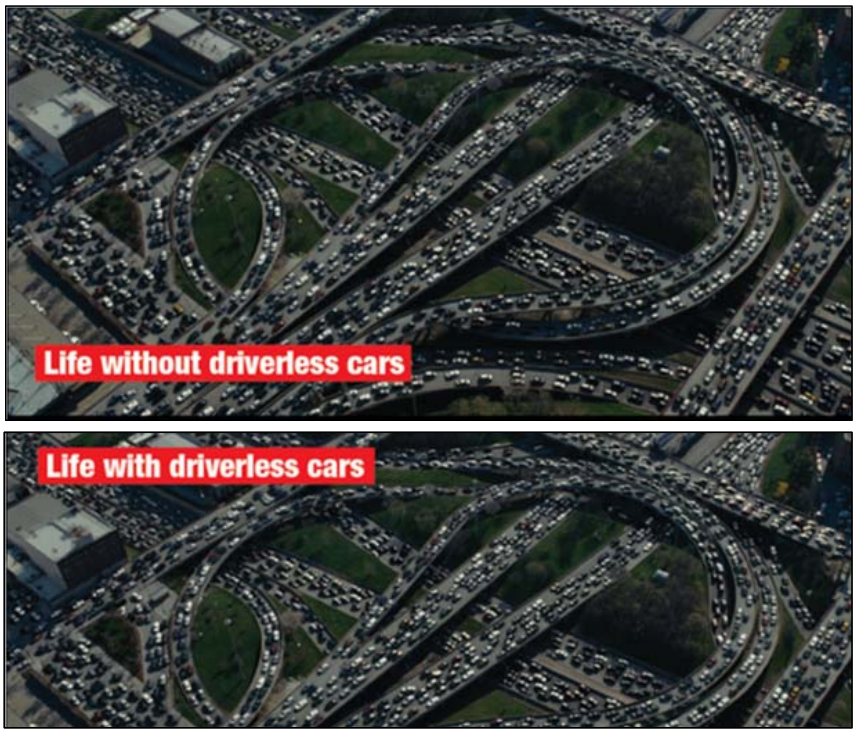


With AV's we can now achieve occupancy ; BELOW 1!





Are Driverless cars the solution or another part of the problem?



When Ride Sharing Isnt

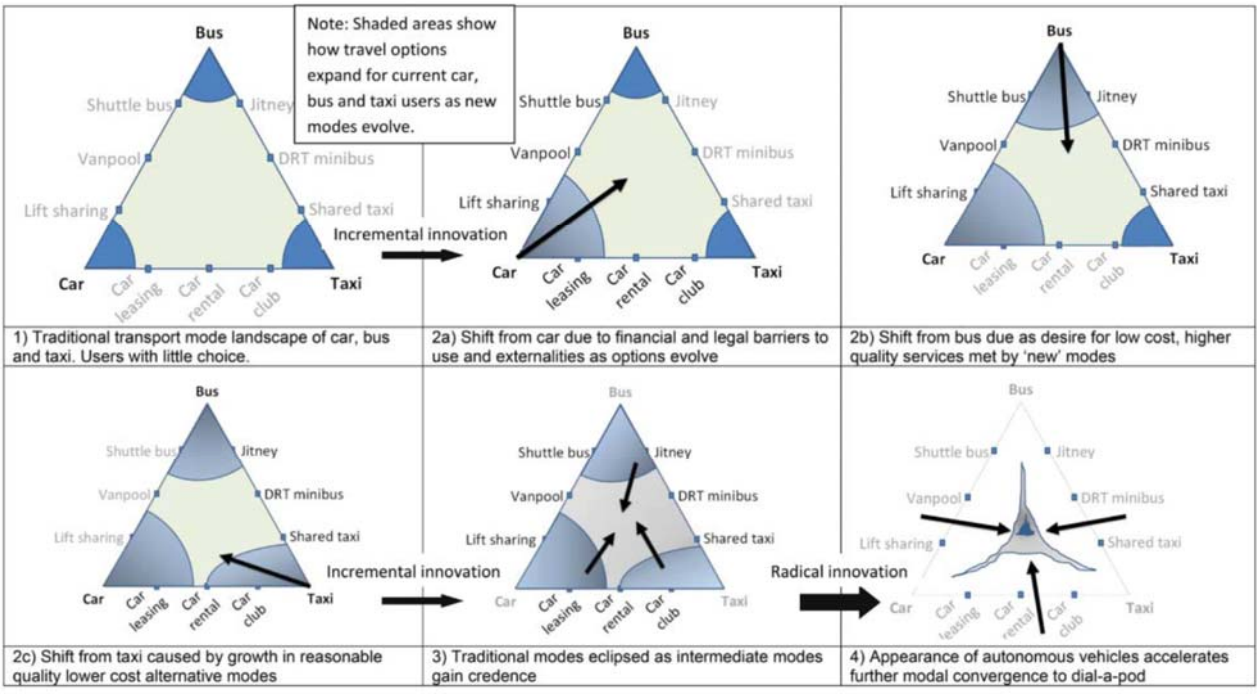
- Uber assumed to have the same occupancy as Taxi at 1.66 per vehicle (including the driver)
  - Source: San Francisco County Transportation Authority (2017) 'TNC's Today'

It isnt much in the way of sharing

- CarShare – average vehicle occupancy is 1.44 (including the driver)
  - Source: Cervero, R Golub A and Nee B (2007) 'San Francisco City CarShare: Longer-Term Travel-Demand and Car Ownership Impacts' Institute of Urban and Regional Development University of California at Berkeley

Slightly better than Melbourne traffic but known to have positive impacts in reducing car ownership

"Modal Convergence" - An old idea; is it happening now?



Source: Enoch MP (2015) How a rapid modal convergence into a universal automated taxi service could be the future for local passenger transport' Technology Analysis and Strategic Management

Bus Rapid Transit; Rubber Tired Railways; cost effective but not as good as LRT?

A New Way to Bring the Train to the City