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Engineers Australia

A Sustainable Approach to Metropolitan People Movement

Thursday 24th May 2018

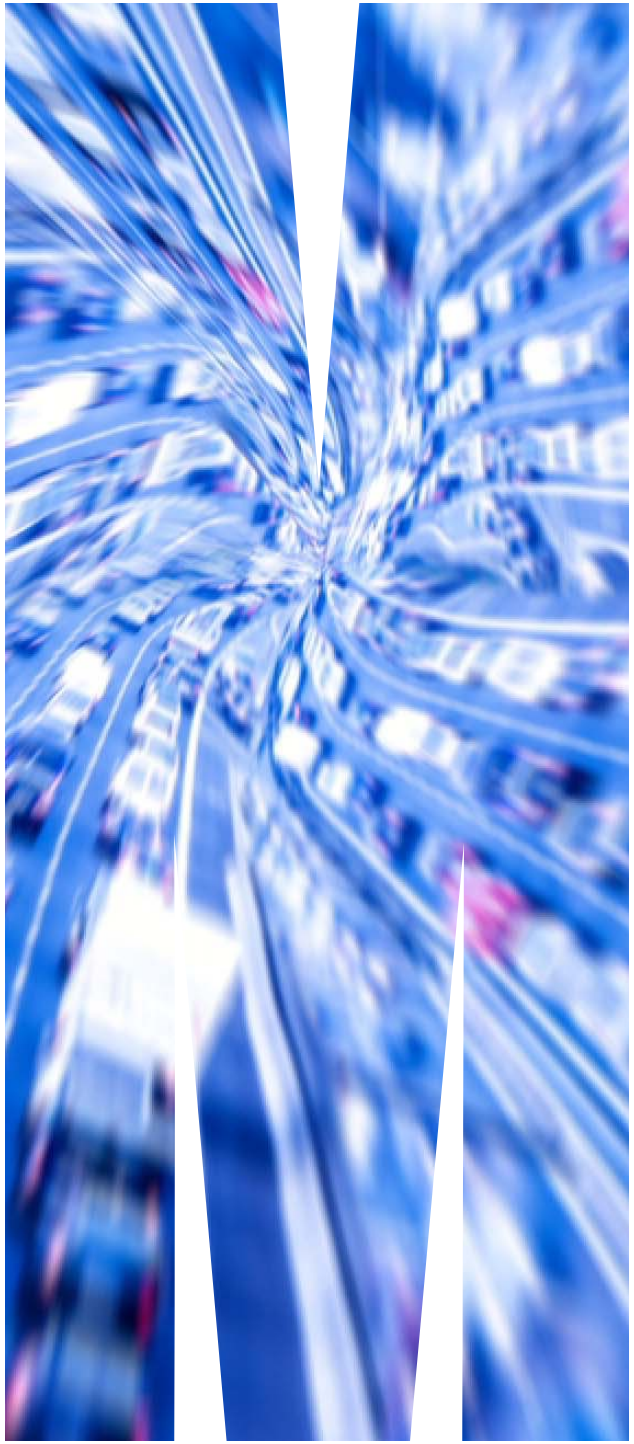
The Future of Public Transport

Prof Graham Currie FTSE
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



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Introduction

The End

The Great AV Lie

The Great Shared Mobility Lies

Why Transit?

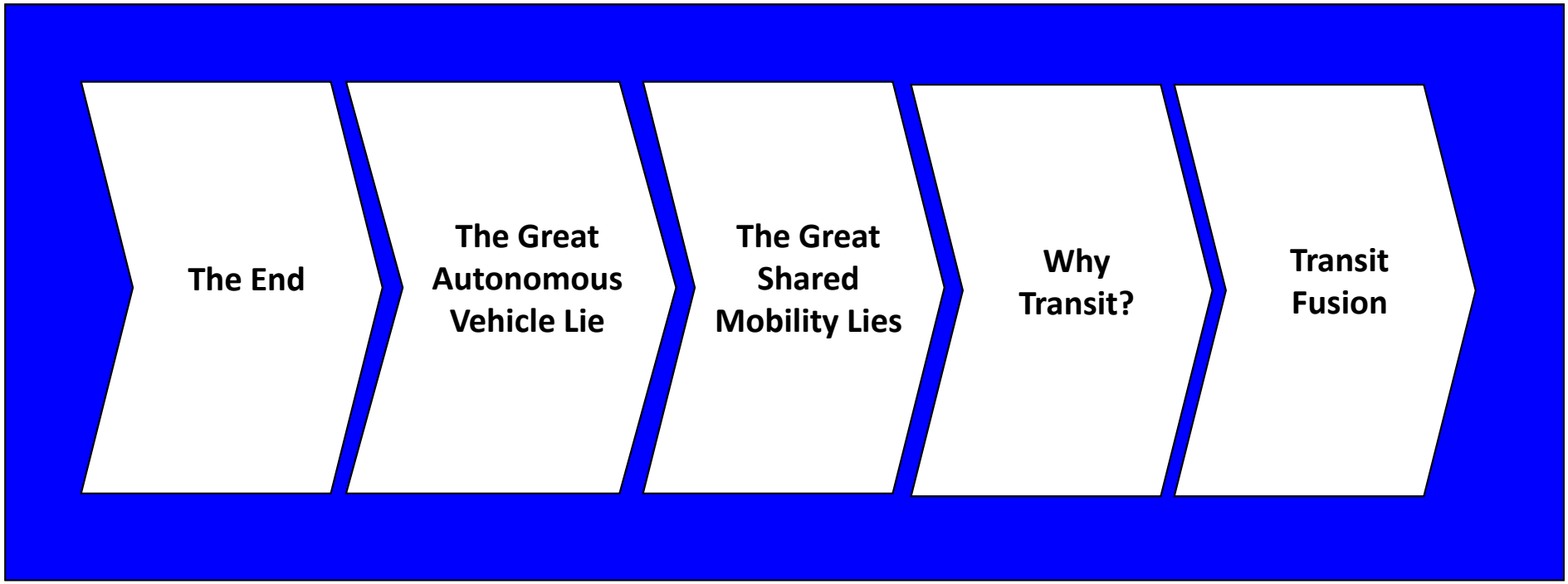
Transit Fusion

This session considers urban transit futures in a changing world

- It aims to :
  - consider how “new mobility”, “autonomous vehicles”, “shared mobility” and “ride sharing” is going to impact urban transit
  - Explore the future case for Urban Transit systems
  - Look at some new and interesting developments in the field
- It is going to debunk fallacies being promoted about new mobility and transit

Source:
Currie G (2018) ‘LIES, DAMN LIES, AV’S, SHARED MOBILITY AND URBAN TRANSIT FUTURES’ Journal of Public Transportation Special Issue on the Future of Public Transport.

...and is structured as follows



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THE END


CATO INSTITUTE
The End of Transit and the Beginning of the New Mobility: Policy Implications of Self-Driving Cars
SHARE
Policy Forum
October 14, 2014
12:00PM to 1:30PM EDT
Hayek Auditorium
Featuring Randal O'Toole, Senior Fellow, Cato Institute; Marc Scribner, Research Fellow, Competitive Enterprise Institute; and Adam Thierer, Senior Research Fellow, Mercatus Center; moderated by Matthew Feeney, Policy Analyst, Cato Institute.
Experimental self-driving cars have successfully operated more than 700,000 miles on American highways. Such cars will be on the market by 2020 and will radically transform the 21st century. What should Washington policymakers know about the future of American mobility? Randal O'Toole will describe the implications of self-driving cars for urban transit and regional transportation planning. Marc Scribner will discuss the laws and regulations that should govern self-driving cars. Adam Thierer will review the privacy implications of self-driving cars. Please join us for a preview of the future of American transportation.
THE ATLANTIC
COULD TRANSIT START-UPS BE THE TRANSPORTATION?
Public transportation is often funded by
the amount of people riding it regularly,
s harder for cities. The problem begs the question, should cities privatize
companies, not the
The End of Public Transit?

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Driverless Cars; the end of Transit

Driverless cars could make mass transit obsolete

BY DAVE ROSS

OCTOBER 25, 2016 AT 9:27 AM

A group of self driving Uber vehicles position themselves to take journalists on rides during a media preview at Uber's Advanced Technologies Center in Pittsburgh. Driverless

<u>The Great AV Lie</u>:

AV's will take over public transit because public transport is old, too old to be involved in the modern AV technology trend and hence car based AV's will take over.

Driverless Cars; the end of Transit

Driverless cars could make mass transit obsolete

BY DAVE ROSS

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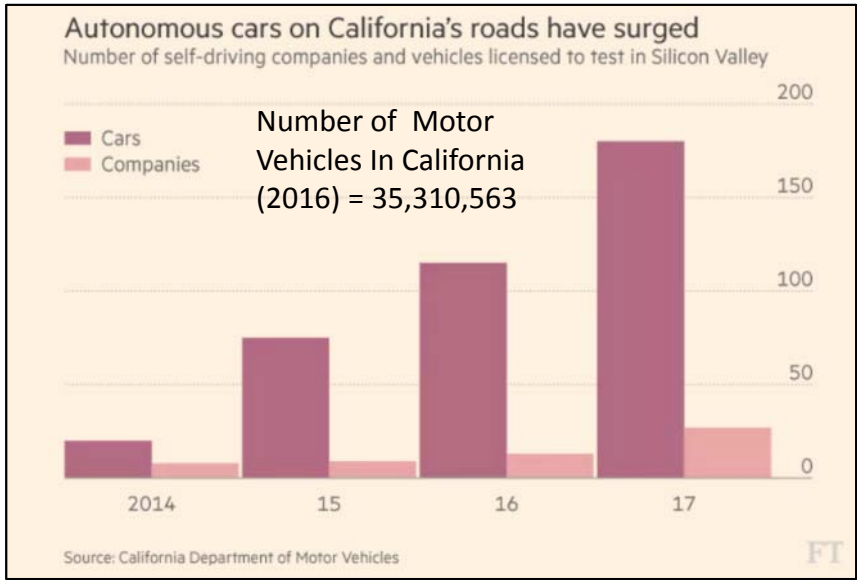
Driverless Cars; current status



Number of Motor Vehicles In California (2016) = 35,310,563

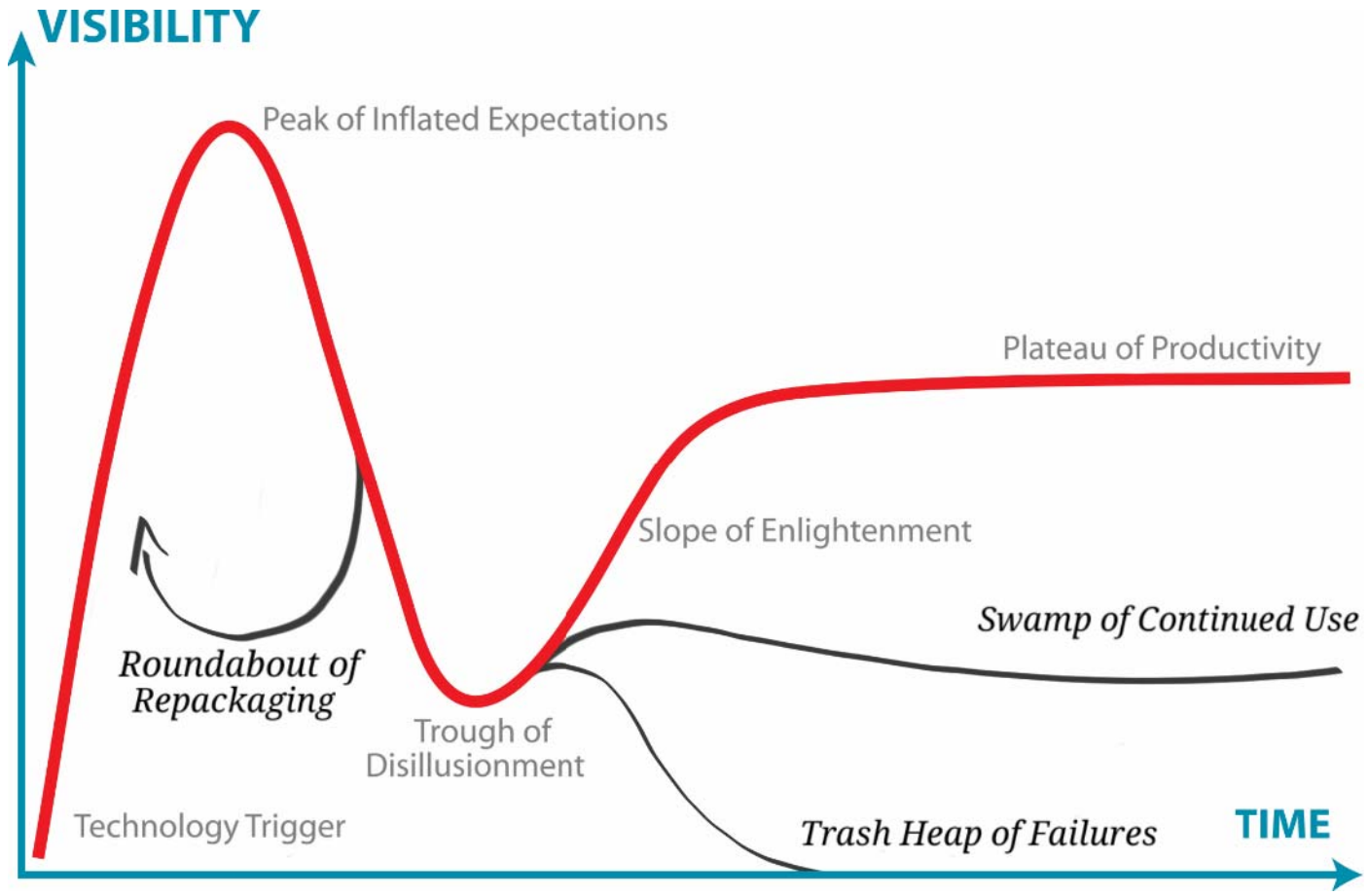
Australia's first self-driving car ready for the road this week

The World Today By Tim Lamacraft

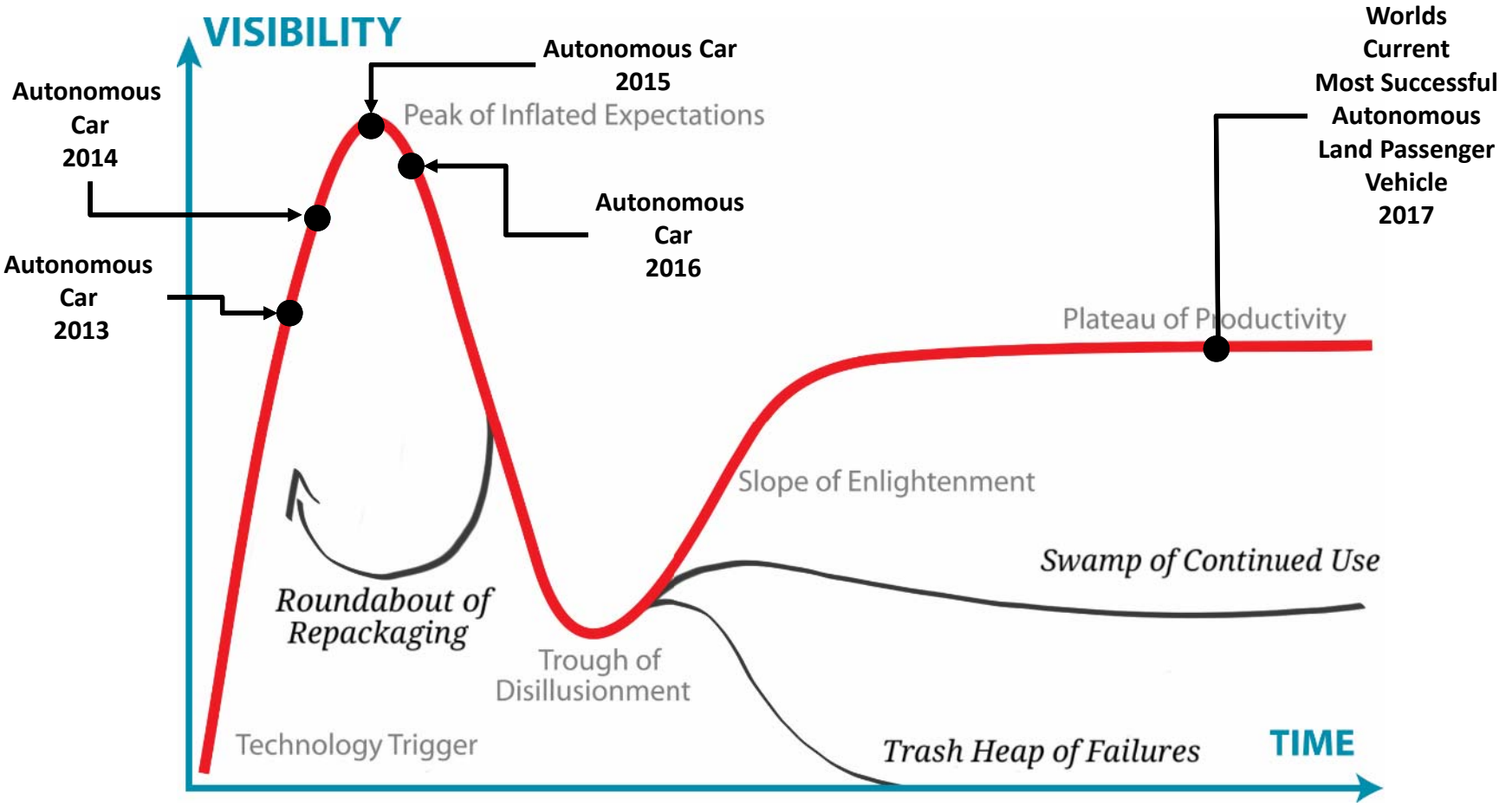
Updated 6 Oct 2016, 2:05am

PHOTO: The car still needs someone behind the wheel, but it is designed to navigate roads with or without driver input.
(ABC News: James Hancock)

The Hype Curve; technologists as experts in spin

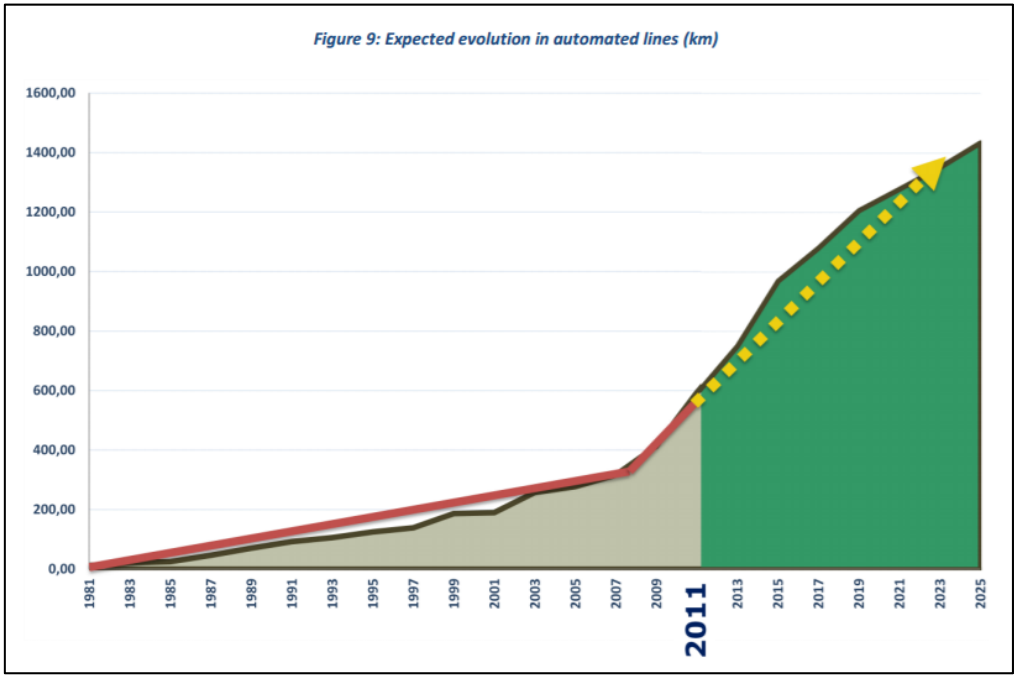


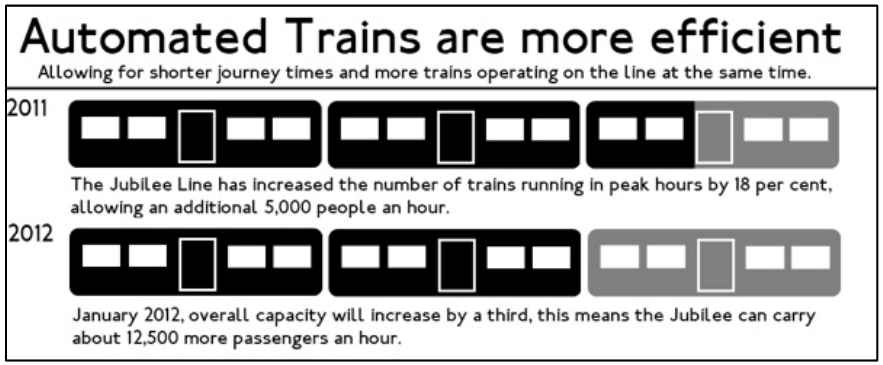
The Autonomous Car – Contemporary Progress



Source: Gartner; https://www.gartner.com/newsroom/id/3784363

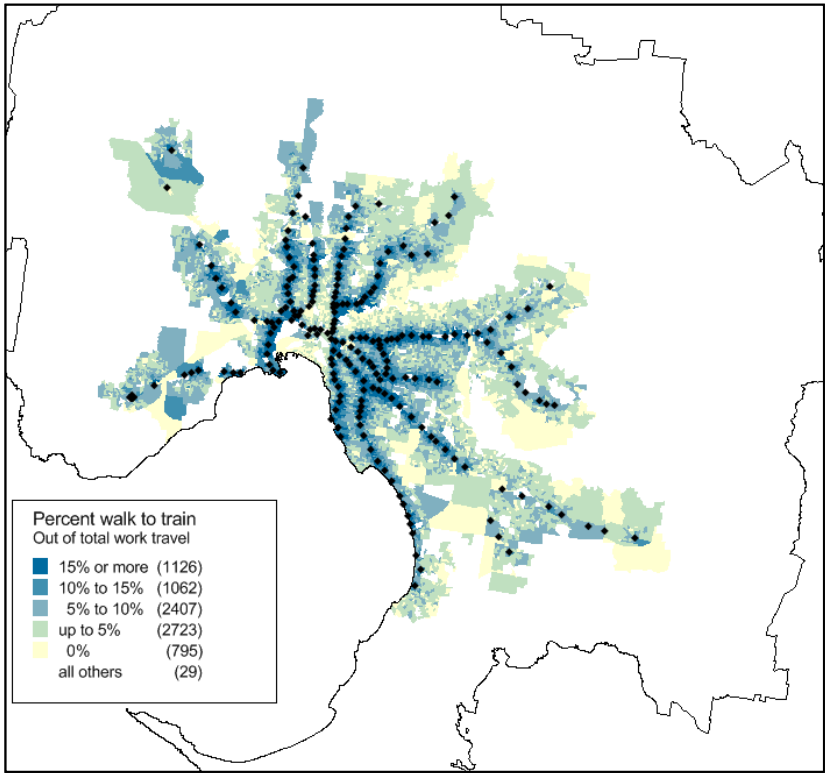
Real Driverless Vehicles; trains





Autonomous Buses – first/last mile solutions

Metro Trains Walk Market Penetrates only 7% of Melbourne



Source: PTRG Analysis of Census Journey to Work (2011)

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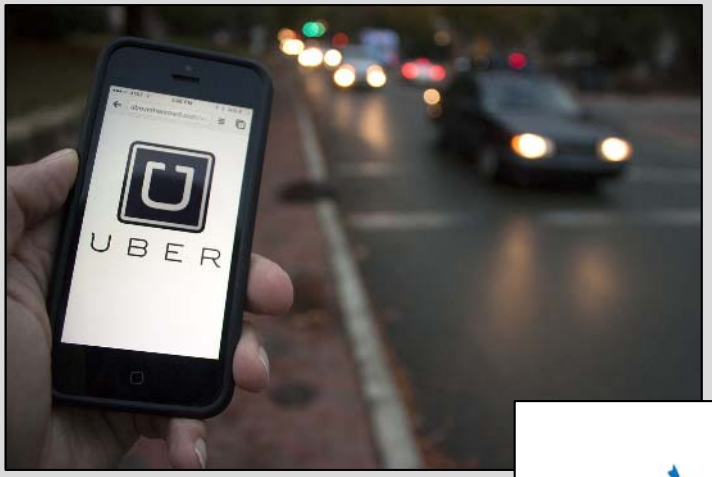
Shared Mobility

Is Sharing Sharing?

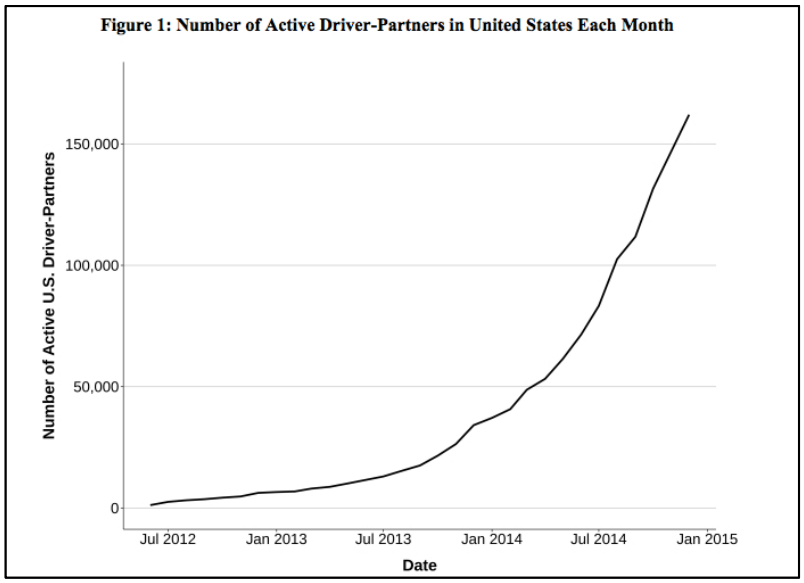


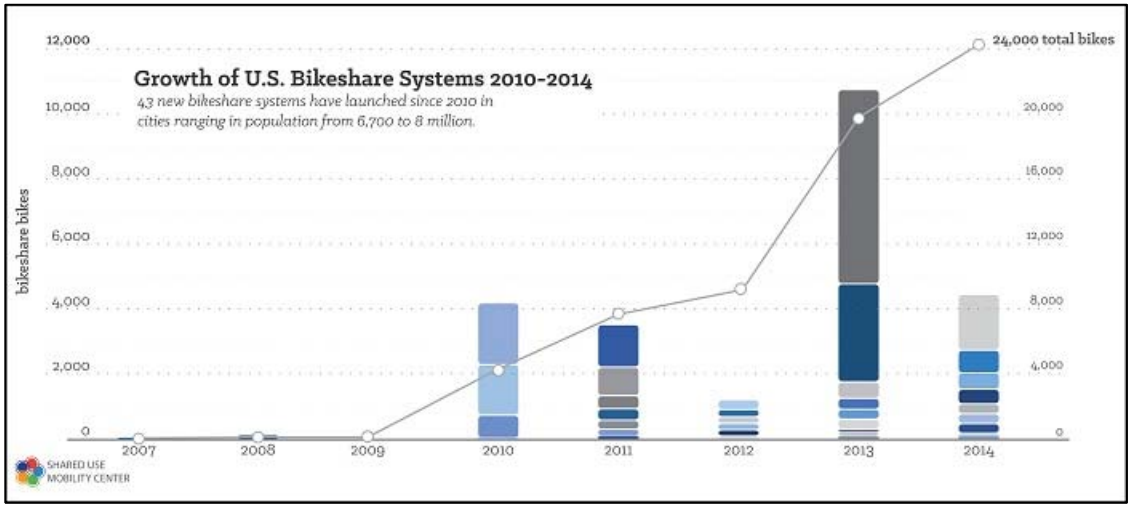
Is Sharing Sharing?

<u>The Great Shared Mobility Lie 1</u>:
Shared Mobility is growing transforming cities and improving the efficiency of urban transport through increased vehicle shared occupancy

<u>The Great Shared Mobility Lie 2</u>:
Shared Mobility involves vehicle sharing

Shared Mobility is growing; but is it transforming cities?





Shared Mobility is growing; is that BAD for transit?

Bloomberg Technology

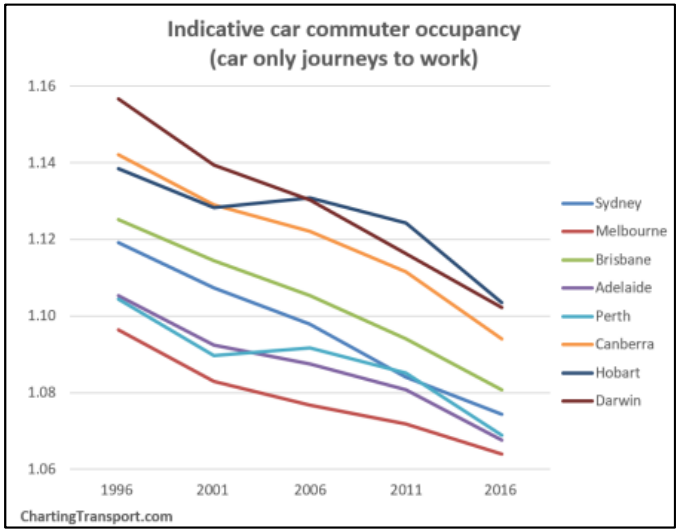
Uber and Lyft Want to Replace Public Buses

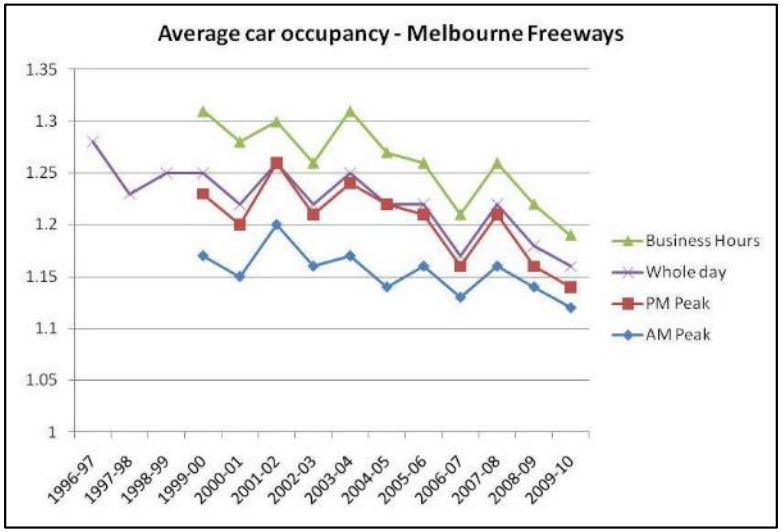
Pressed by tight budgets, some towns are cutting transit lines and subsidizing car rides.

by **Joshua Brustein**
August 15, 2016, 9:00 PM GMT+10
Updated on August 16, 2016, 1:16 AM GMT+10

Illustration by Stephanie Davidson

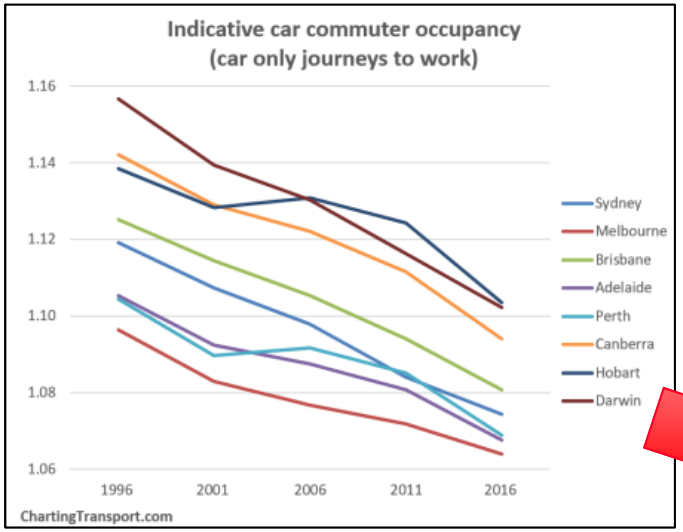
Shared (car) travel is NOT growing; its been DECLINING for 30 years

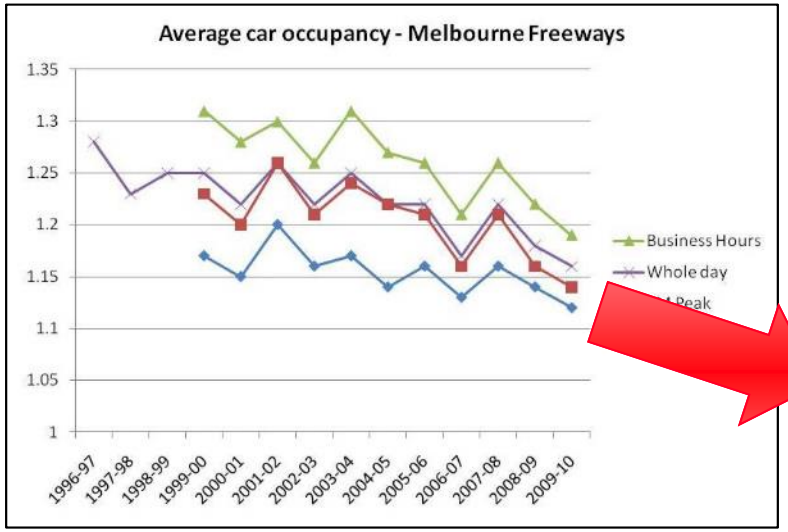




Source: Charting Transport (2017)

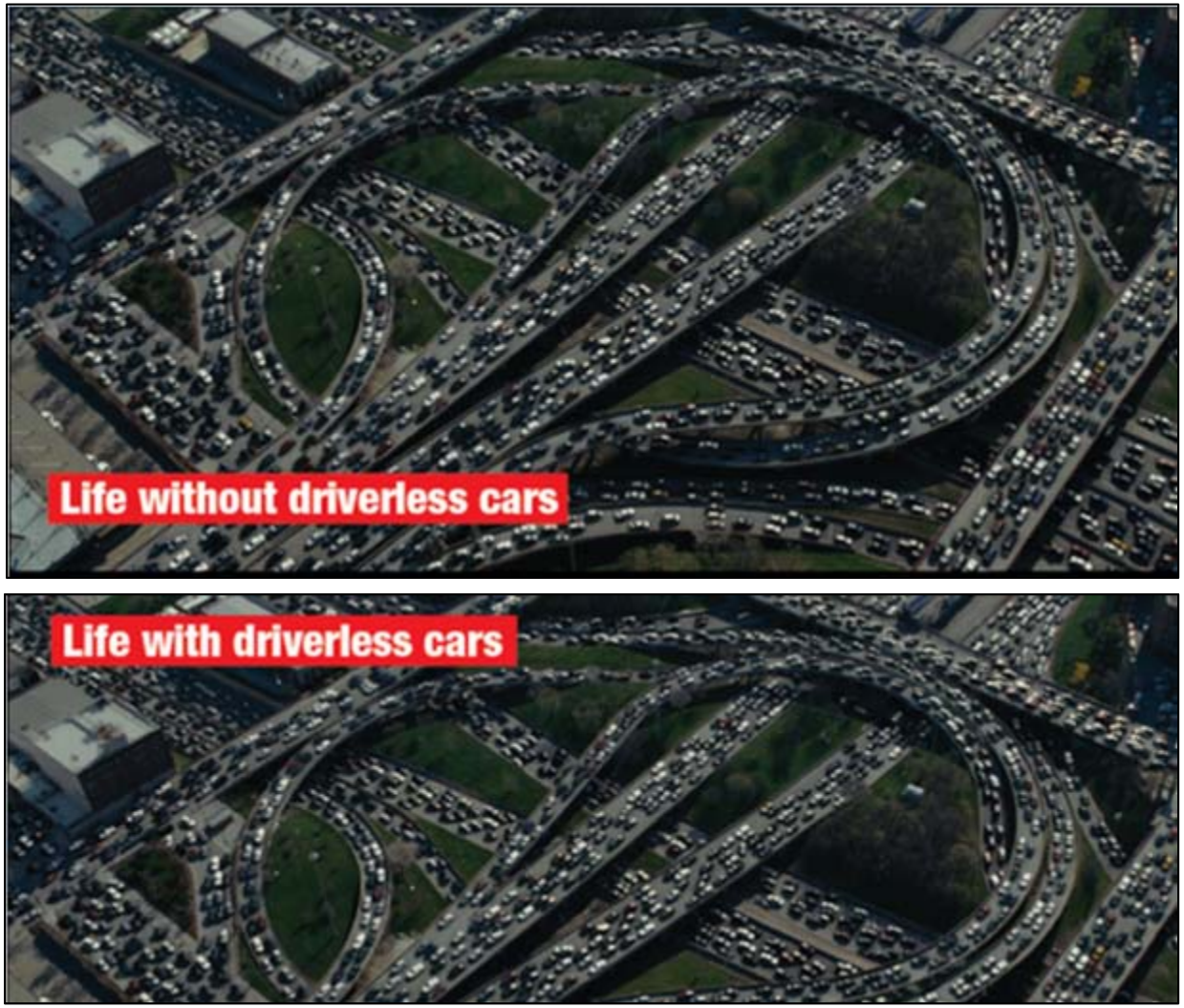
With AV's we can now achieve occupancy ; BELOW 1!





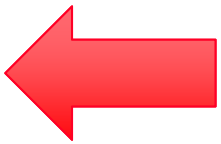
Source: Charting Transport (2017)

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



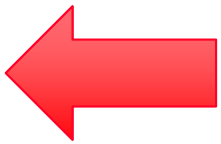
When Ride Sharing Isnt – TNC's and Carshare

- 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

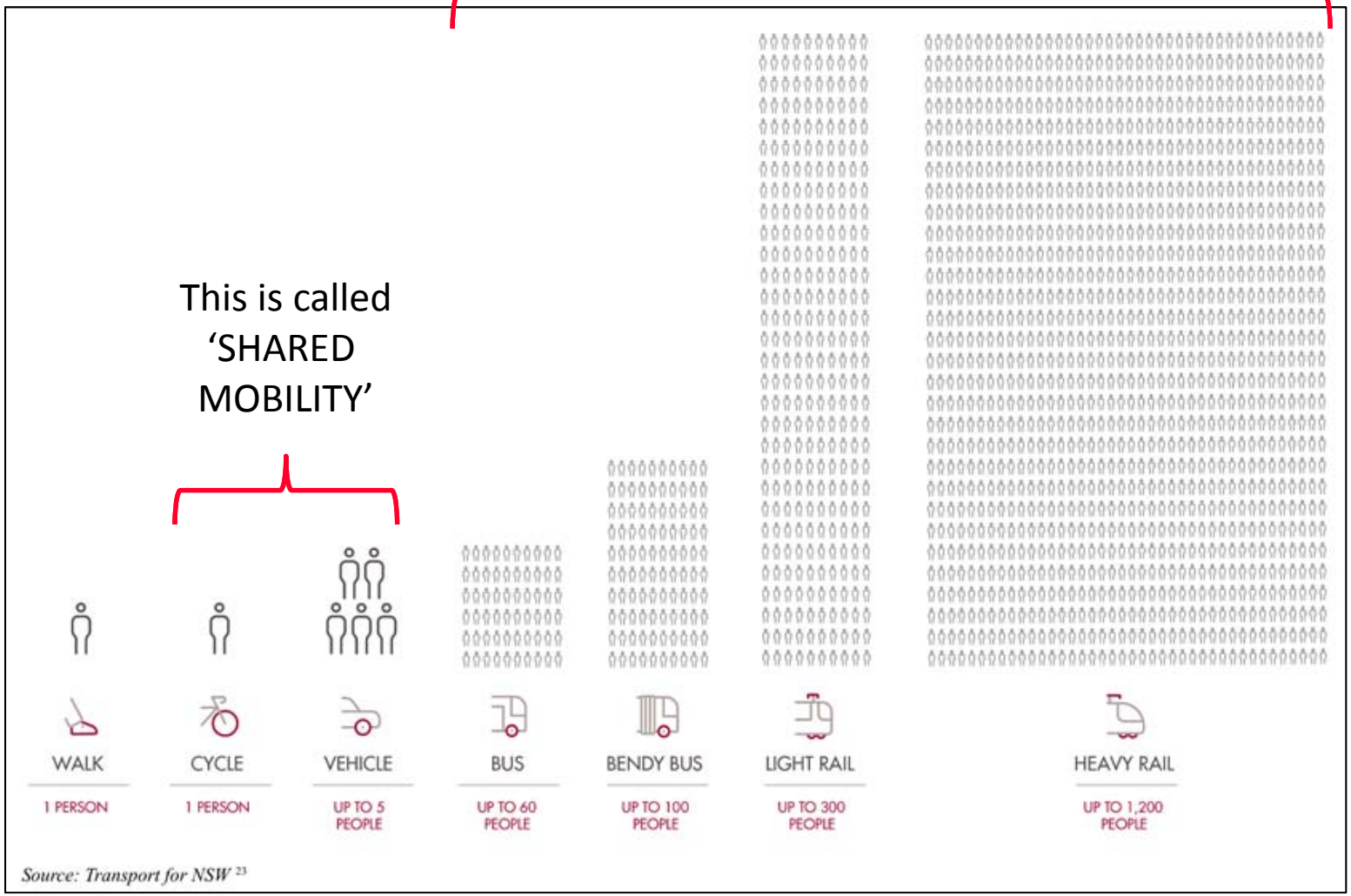
- CarShare – average vehicle occupancy is 1.44 (including the driver)
  - Source: Cervero, R Golub A and Nee B (2007) 'San Francisco City CarShare: Longer-Term Travel-Demand and Car Ownership Impacts' Institute of Urban and Regional Development University of California at Berkeley



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

This is NOT Called ‘SHARED MOBILITY’

This is called ‘SHARED MOBILITY’



Source: Transport for NSW [23]

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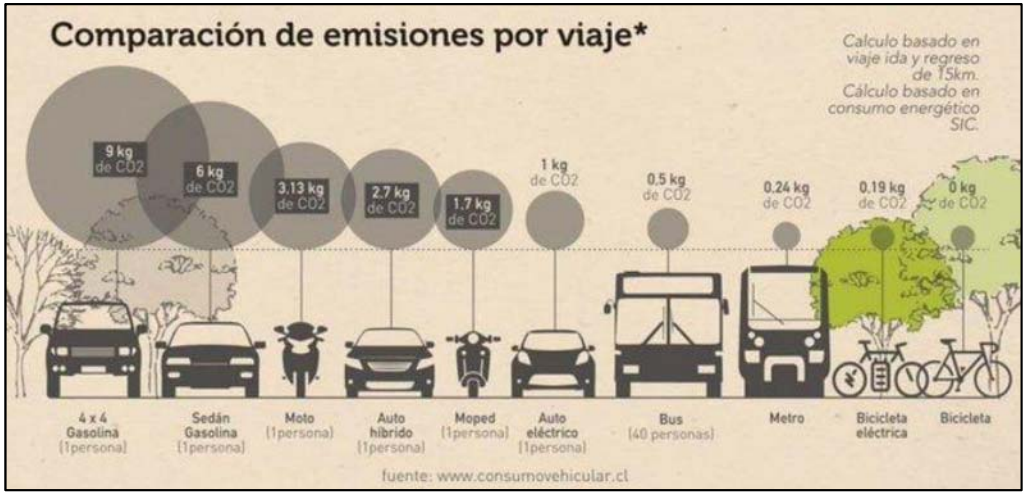
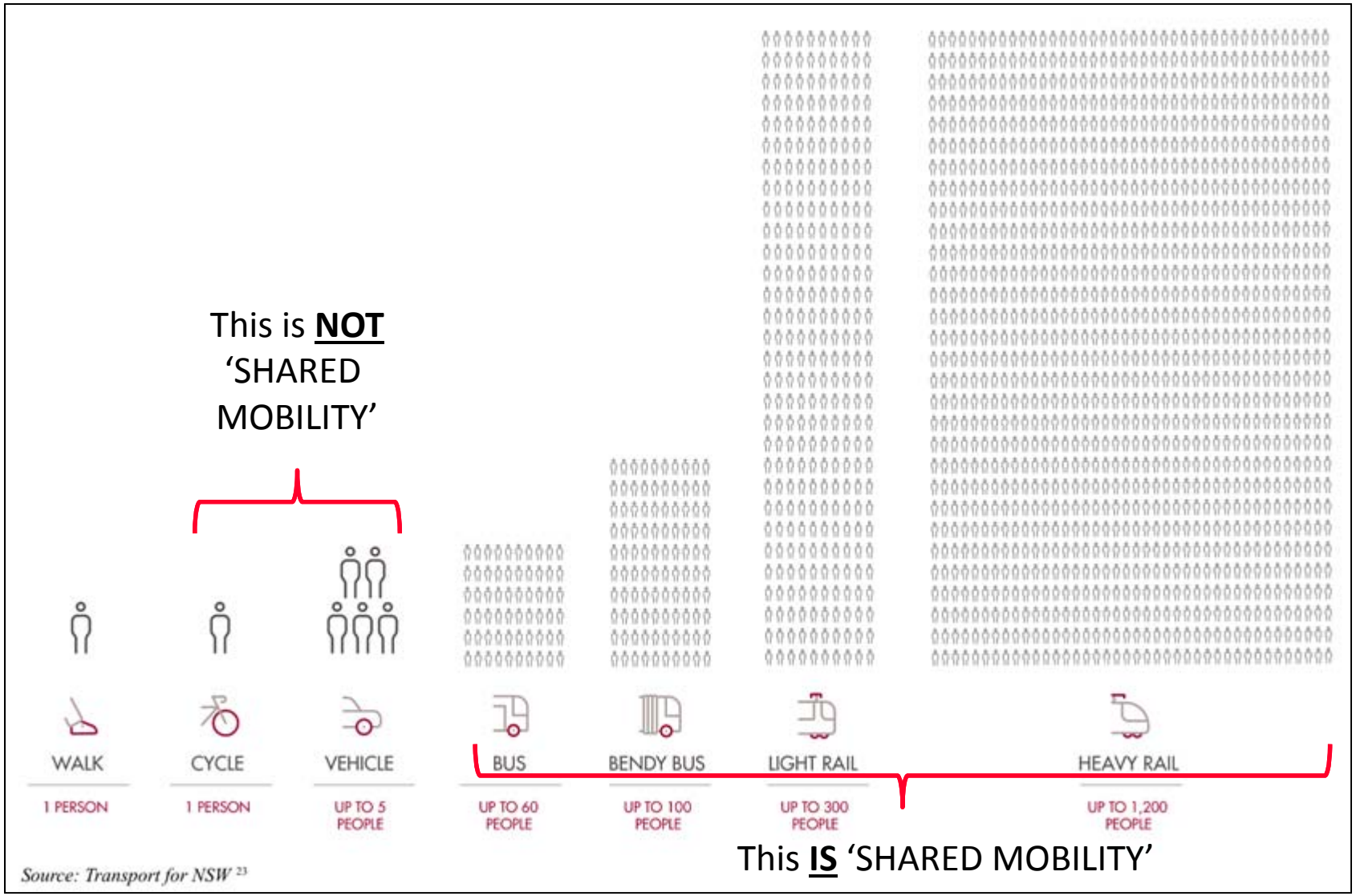
Cities; humanities future

Mass Transit=Efficiency and Volume



Public Transport is the most efficient form of SHARED MOBILITY



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New Word Definition:

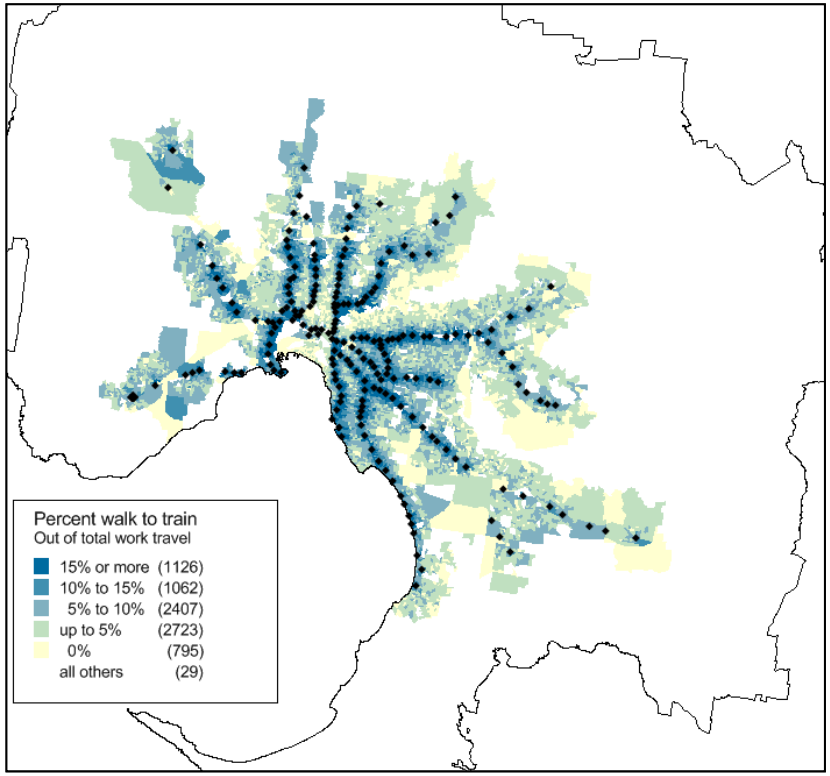
"Transit fusion" is the adaptation of transit vehicles, infrastructure and service design to integrate the best features of new technologies into new transit modes and services to improve overall service performance, attractiveness and effectiveness outcomes.

Transit Fusion – Bringing the New into Transit

Transit runs the Car Share Scheme

Autonomous Buses, Dockless Bikes etc – first/last mile solutions

Metro Trains Walk Market Penetrates only 7% of Melbourne

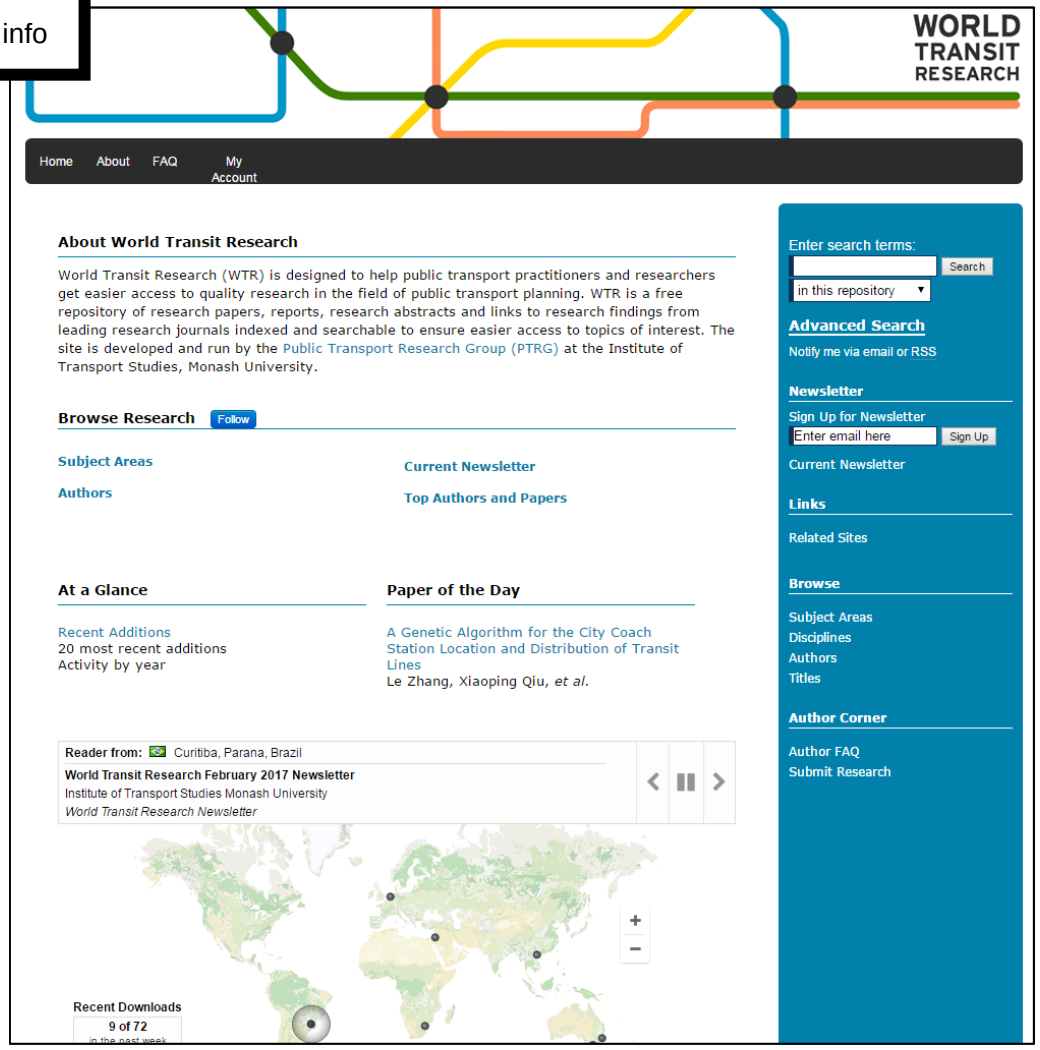


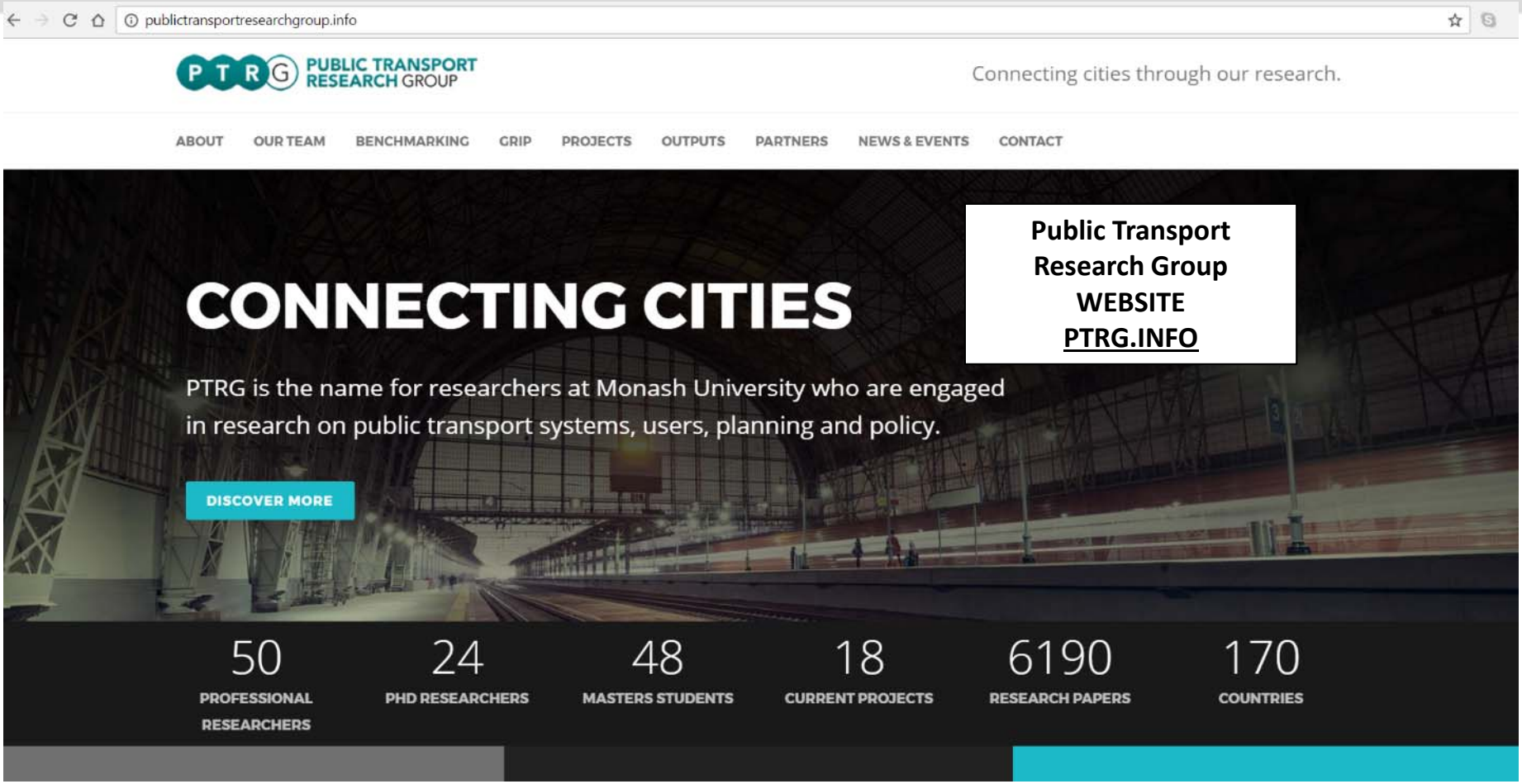
Source: PTRG Analysis of Census Journey to Work (2011)

Bus Rapid Transit IS Transit Fusion; Rubber Tired Railways; cost effective adaptation of new technologies

A New Way to Bring the Train to the City

www.worldtransitresearch.info





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