

Lies, Damn Lies, AV's, Shared Mobility and Urban Transit Futures

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Public Transport Research Group
Monash Institute of Transport Studies
Monash University



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 using:

New words



Source:

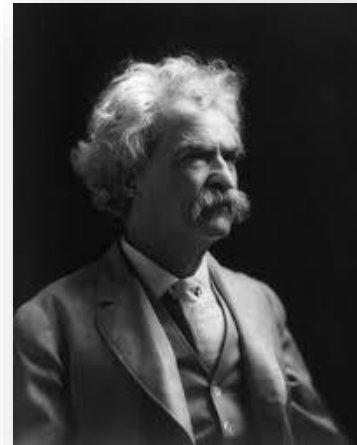
Currie G (2017) 'LIES, DAMN LIES, AV'S, SHARED MOBILITY AND URBAN TRANSIT FUTURES' Journal of Public Transportation Special Issue on the Future of Public Transport.

A major focus is LIES and DAMNED LIES!



**"There are three kinds of lies:
lies, damned lies, and statistics"**

Mark Twain or Benjamin Disraeli (Velleman 2008)

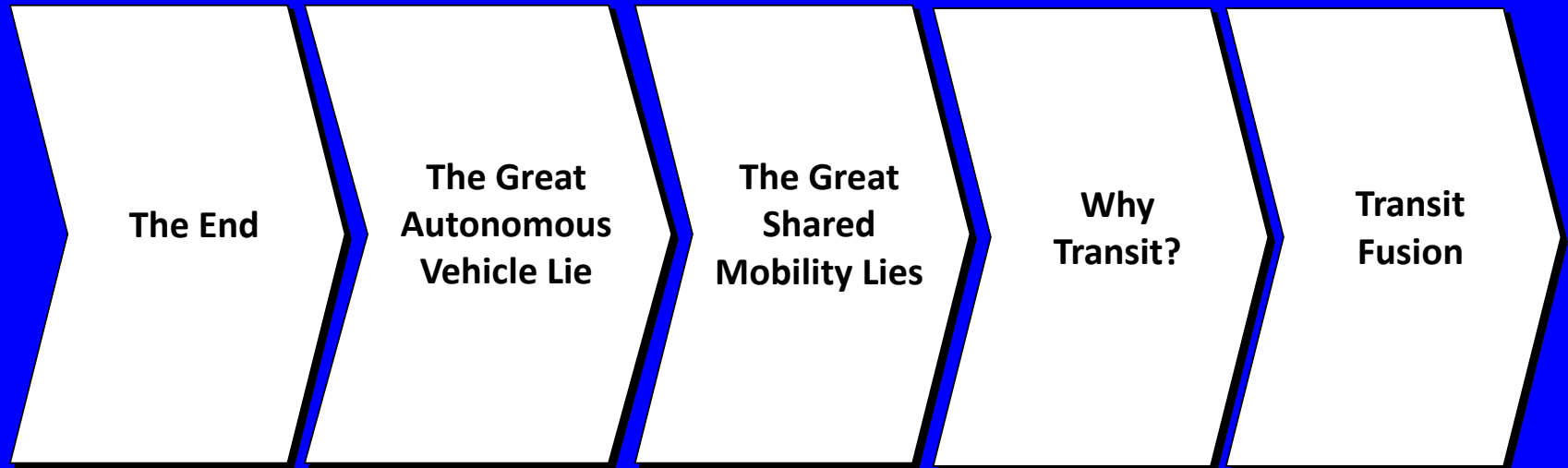


- famous “Benjamin Disraeli?” quote on ‘lies, damn lies’;
- In trying to find a source to cite, I found no known attribution to Disraeli
- Many think Mark Twain might be the source.
- Isn't this impressive! ; a foundation stone of thought about ‘the truth’ may indeed be a lie;
- perhaps this is a prophetic way start to this paper about transit futures?

Source:

Currie G (2017) '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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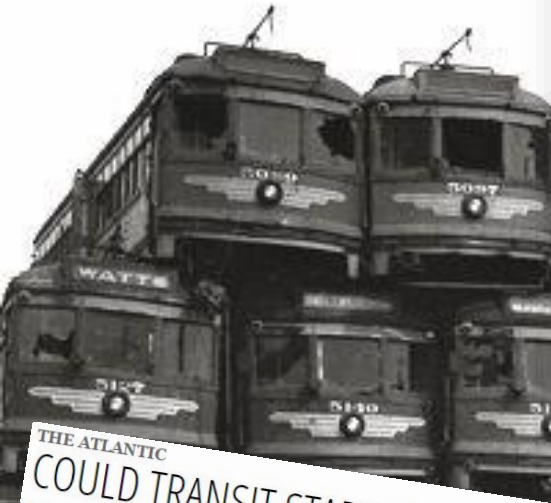
The Great Shared Mobility Lies

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THE END



THE ATLANTIC
COULD TRANSIT START-UPS BE THE
TRANSPORTATION?



Public transportation is often funded by the amount of people riding it regularly, but as some riders choose to catch a Lyft, economics of funding a bus route is making it harder for cities. The problem begs the question, should cities privatize transportation? After all, the [New York City](#) subway system was built by private companies, not the government.



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 End of Public Transit?
Companies are proving more efficient than government in areas like... Should some services be privatized?

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Auto-no-(e)motion

New Word Definition:

“**Auto-no(e)motion**” is the unscrupulous use of the concept of the autonomous car by technologists to assert that the driverless car will solve all the worlds mobility problems, so that we can get rid of urban public transport which is a bad and should have been got rid of anyway; good riddance!

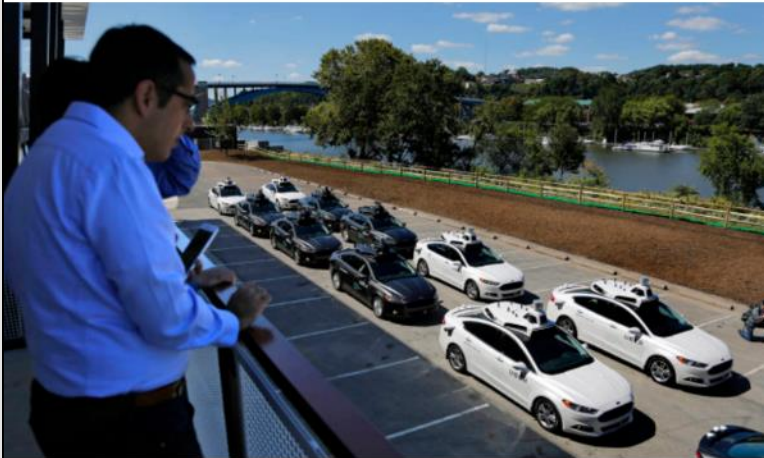
Prof Graham Currie, 22-06-2017



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

The Great AV Lie:

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

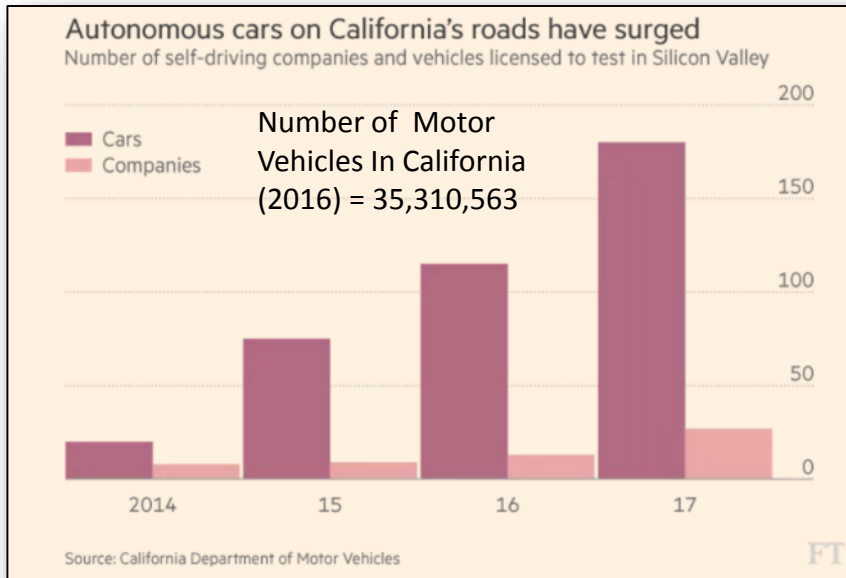
BY DAVE ROSS
OCTOBER 25, 2016 AT 9:27 AM



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



Driverless Cars; current status



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

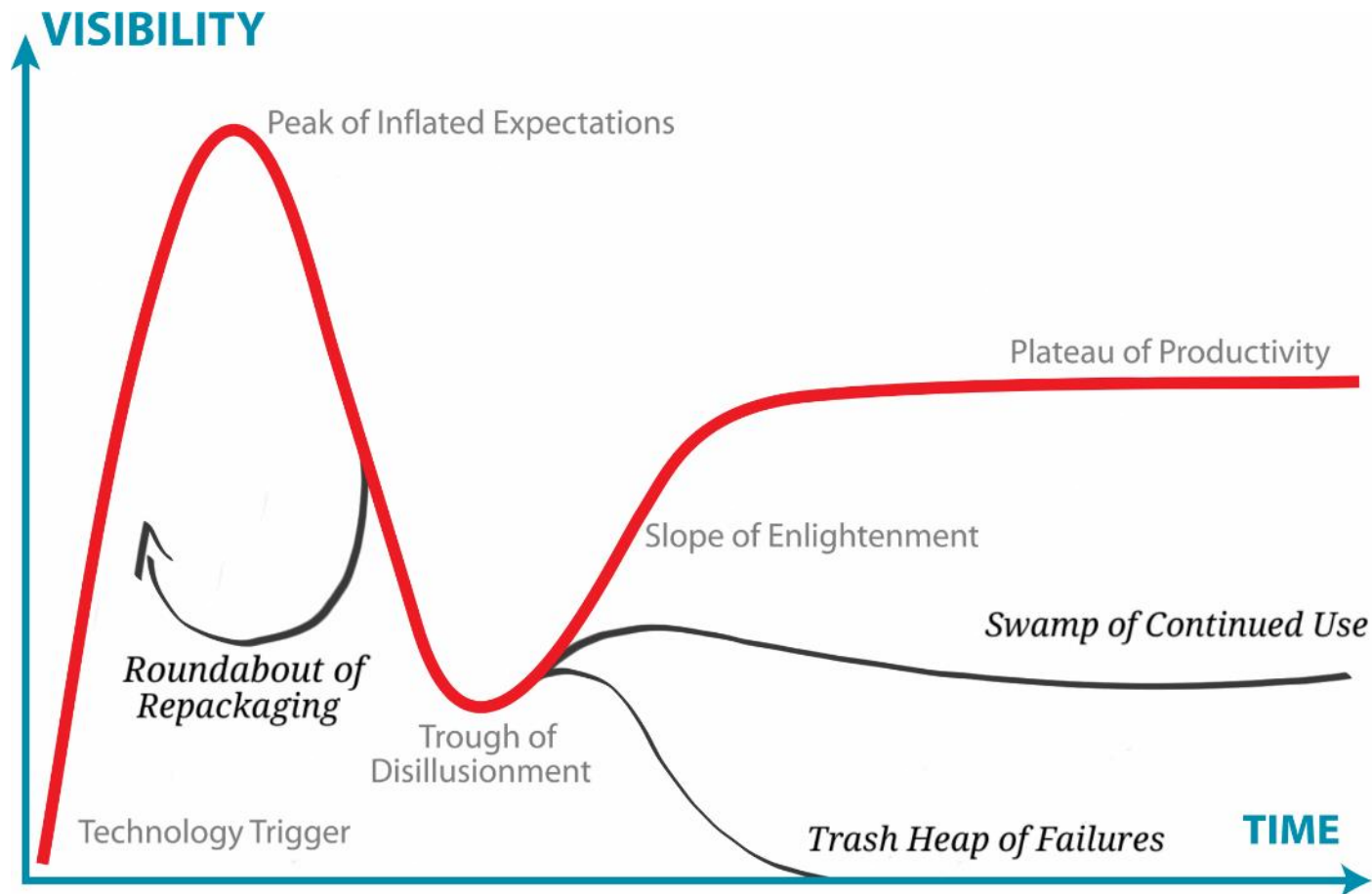
The World Today By Tim Lamacraft

Updated 6 Oct 2016, 2:05am

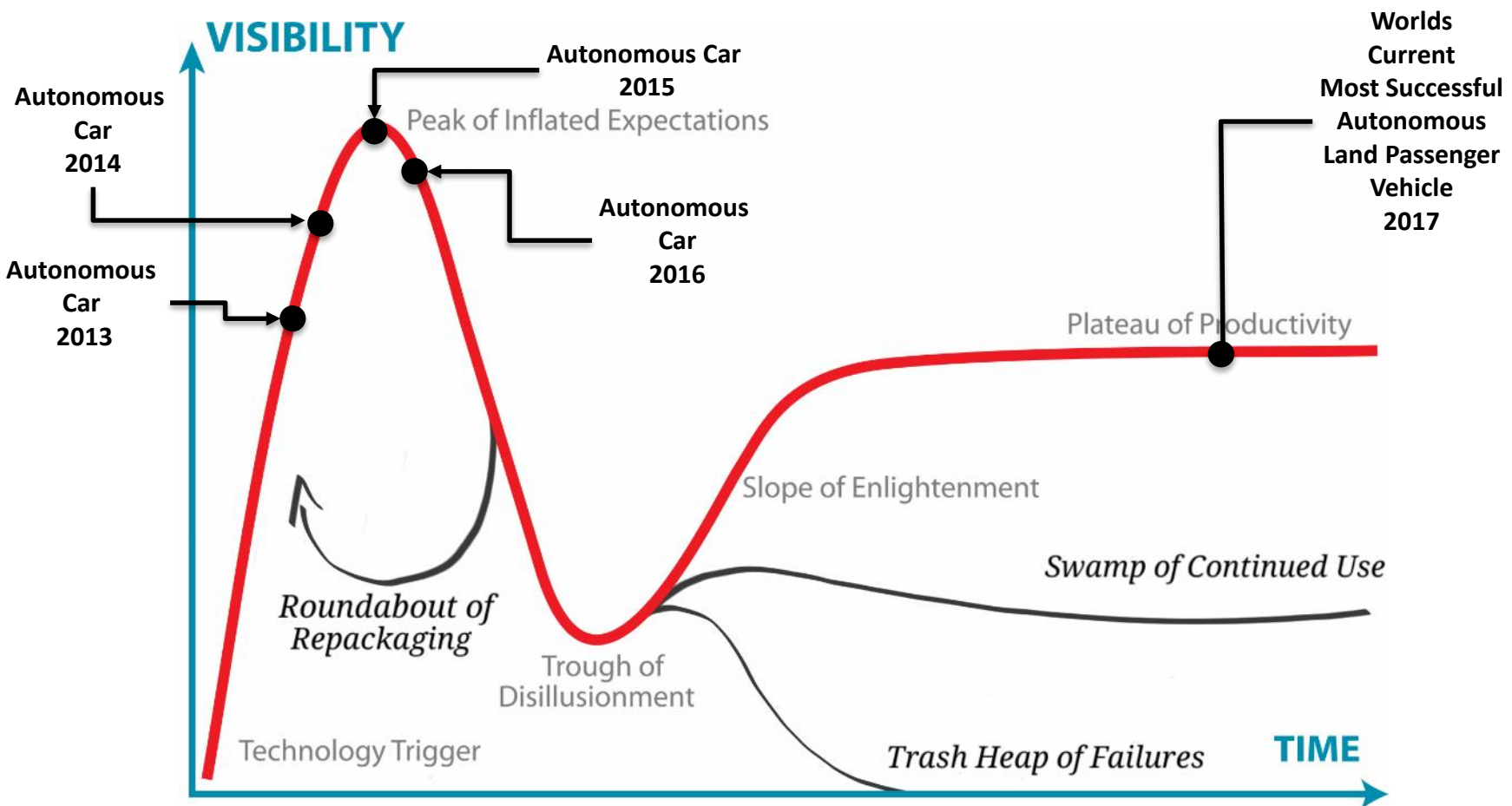


PHOTO: The car still needs someone behind the wheel, but it is designed to navigate roads with or without driver input. (ABC News: James Hancock)

The Hype Curve; technologists as experts in spin



The Autonomous Car – Contemporary Progress

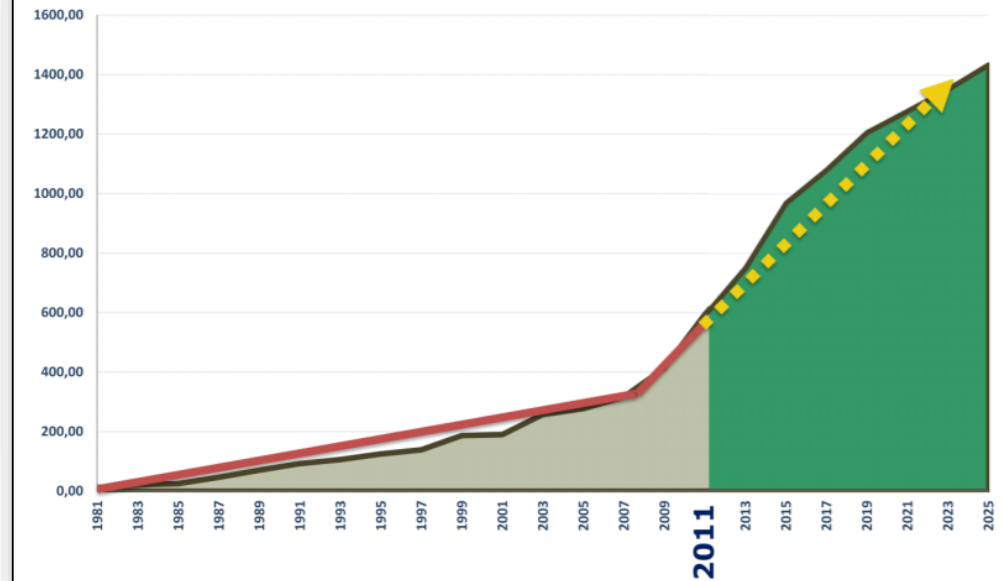


Source: Gartner; <https://www.gartner.com/newsroom/id/3784363>

Real Driverless Vehicles; trains



Figure 9: Expected evolution in automated lines (km)



Automated Trains are more efficient

Allowing for shorter journey times and more trains operating on the line at the same time.

2011



The Jubilee Line has increased the number of trains running in peak hours by 18 per cent, allowing an additional 5,000 people an hour.

2012

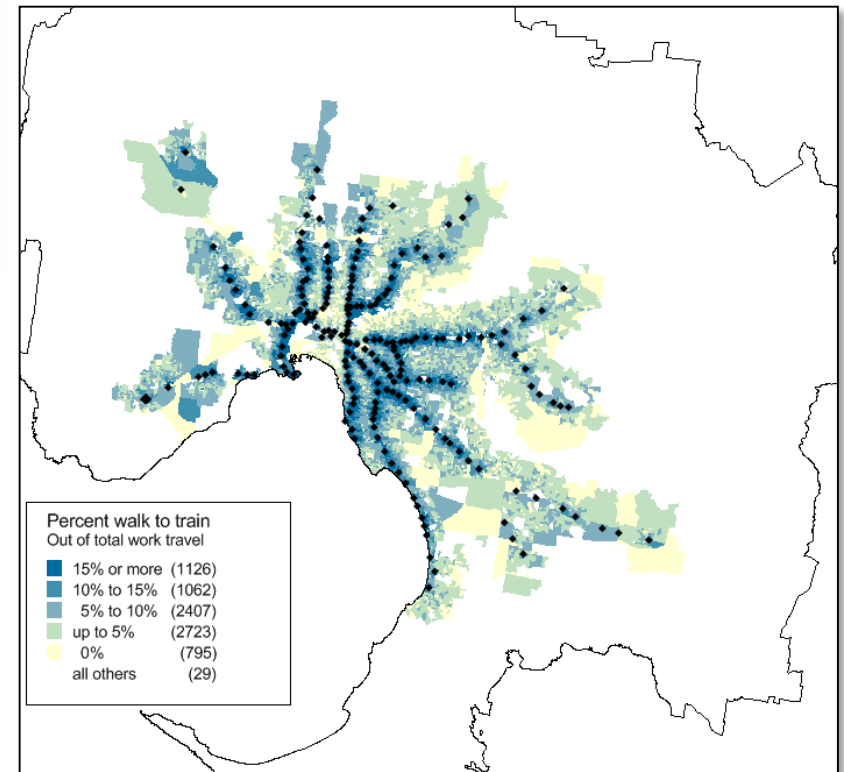


January 2012, overall capacity will increase by a third, this means the Jubilee can carry about 12,500 more passengers an hour.

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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Non-o-sharing

New Word Definition:

“**Non-o-sharing**” isn’t sharing. Its using words to make it look like it is. It is the unscrupulous use of the word “sharing” by technologists to imply that new mobility modes are good and incorrectly asserts they involve lots of shared vehicle occupancy. This is to show they are much better than urban public transport which is not good and doesn’t involve sharing in any good sort of way and which has to be got rid of as soon as possible.

Prof Graham Currie, 22-06-2017





MONASH
University

Shared Mobility

Is Sharing Sharing?



Is Sharing Sharing?

The Great Shared Mobility Lie 1:

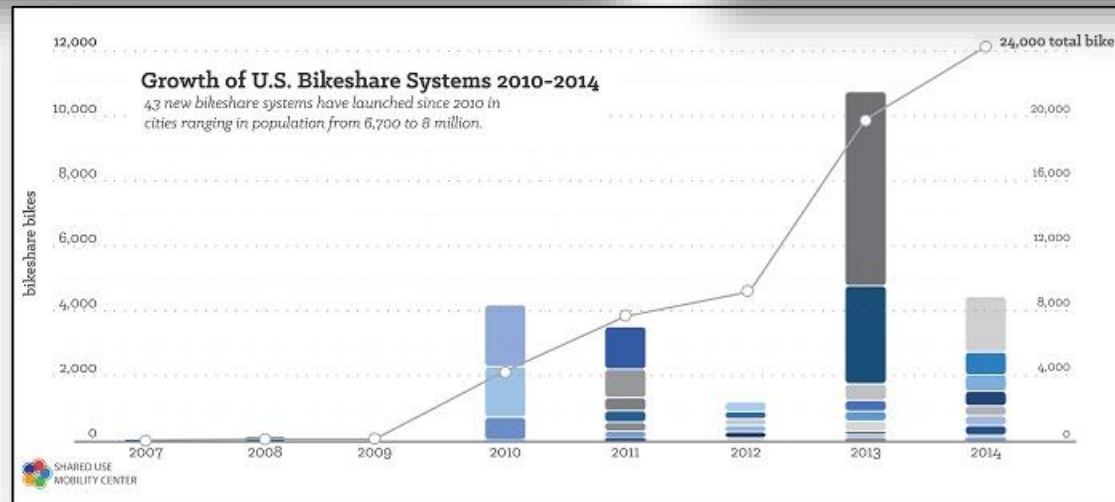
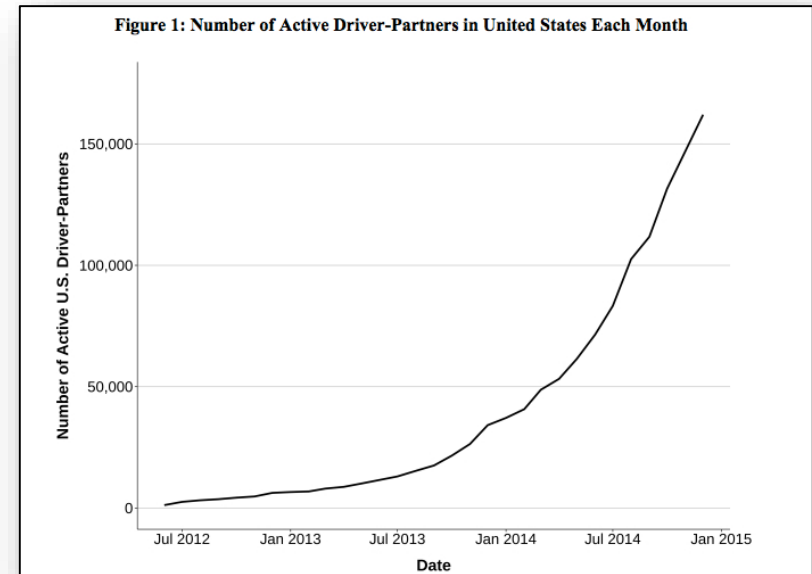
Shared Mobility is growing transforming cities and improving the efficiency of urban transport through increased vehicle shared occupancy

The Great Shared Mobility Lie 2:

Shared Mobility involves vehicle sharing



Shared Mobility is growing; but is it transforming cities?



Shared Mobility is growing; is that BAD for transit?

Can these companies make taking a bus cool?



SCOTT OLSON/GETTY IMAGES/FILE

Mark Fields, chief executive of Ford, spoke about the Chariot transit service — which was recently purchased by Ford — earlier this year at the North American International Auto Show in Detroit.

By [Scott Kirsner](#)

GLOBE CORRESPONDENT MARCH 03, 2017



TECH

Pop-up bus service looks to reinvent mass transit

By [Ben Johnson](#) and [Abraham Moussako](#)

July 03, 2014 | 5:00 AM

[Listen to this story](#)



An Academy Bus in New jersey. The "pop-up" bus service Bridj is using buses like these to provide an experience the company cites as a step above general public transit. - ([Secondarywaltz/Wikimedia Commons](#))

Shared Mobility is growing; is that BAD for transit?

Bloomberg Technology 

Uber and Lyft Want to Replace Public Buses

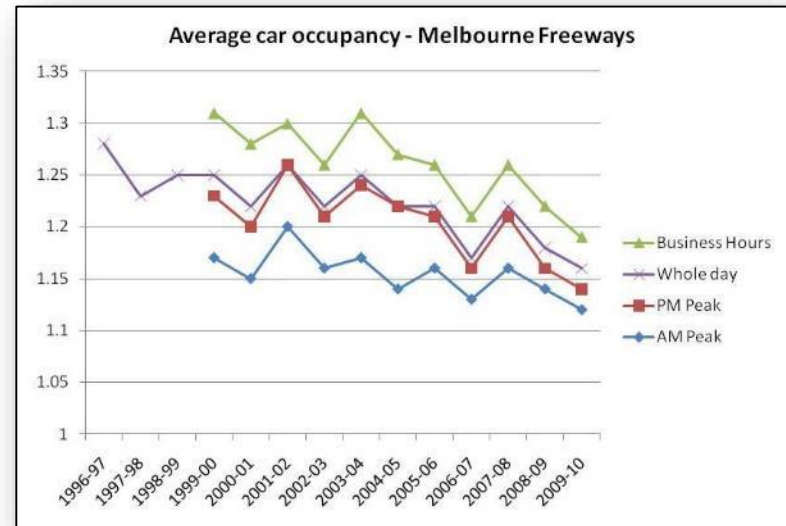
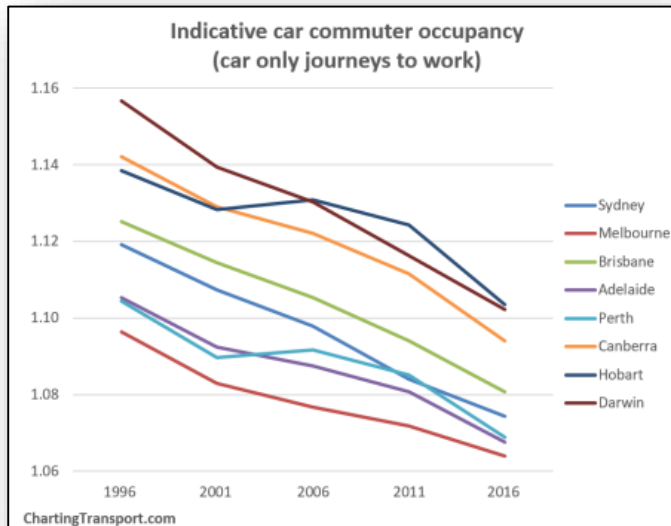
Pressed by tight budgets, some towns are cutting transit lines and subsidizing car rides.

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



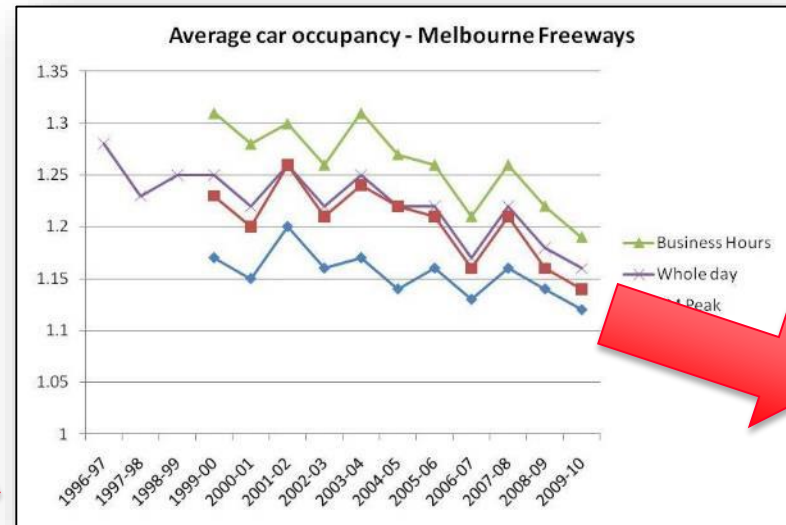
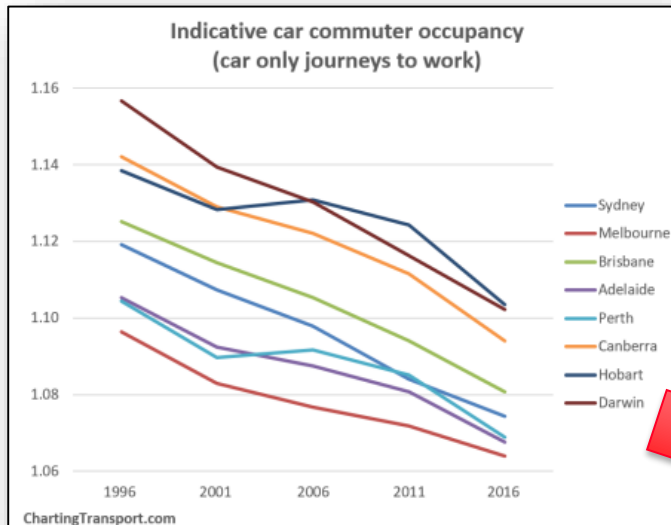
Illustration by Stephanie Davidson

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 Isn't – 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 isn't much in the way of sharing

- CarShare – average vehicle occupancy is 1.44 (including the driver)

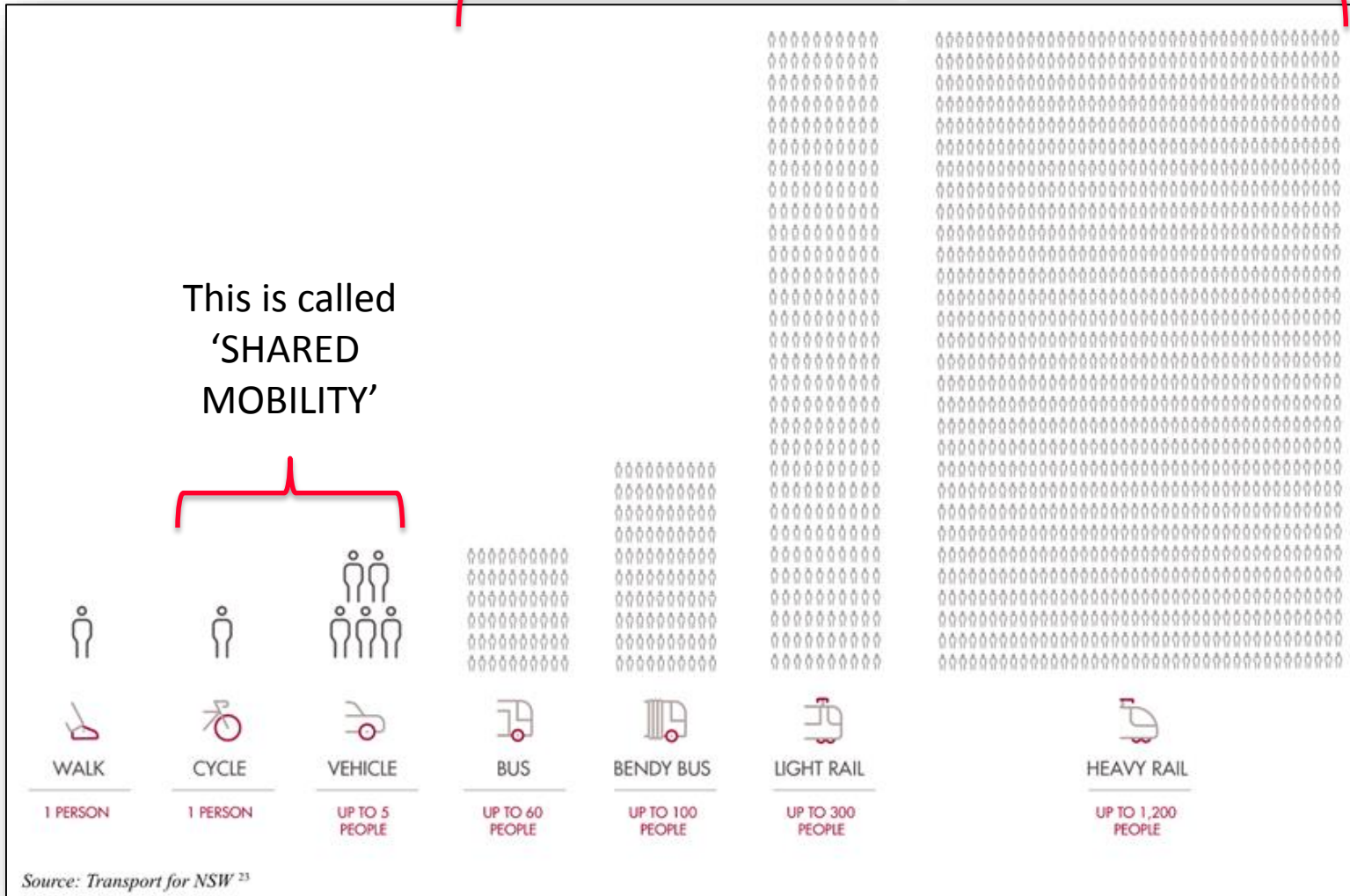
- Source: Cervero, R Golub A and Nee B (2007) 'San Francisco City CarShare: Longer-Term Travel-Demand and Car Ownership Impacts' Institute of Urban and Regional Development University of California at Berkeley



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'



Bus based demand responsive sharing has in general; always failed

Academic Results – DRT Trials:

“Most of the services that have stopped have done so because of the high costs in relation to their patronage”

Oxley(1979)

“Increased mobility is rather intangible when compared to the harsh reality of deficits on a balance sheet”

Transport Canada
(1978).

Bridj, local on-demand bus service, is shutting down



KATHERINE TAYLOR FOR THE BOSTON GLOBE/FILE

Matthew George, the 26-year-old founder and owner of Bridj, loaded a truck with packages for delivery in August 2016.

By Curt Woodward, Adam Vaccaro and Felicia Gans

GLOBE STAFF | GLOBE CORRESPONDENT APRIL 30, 2017

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2007

2030



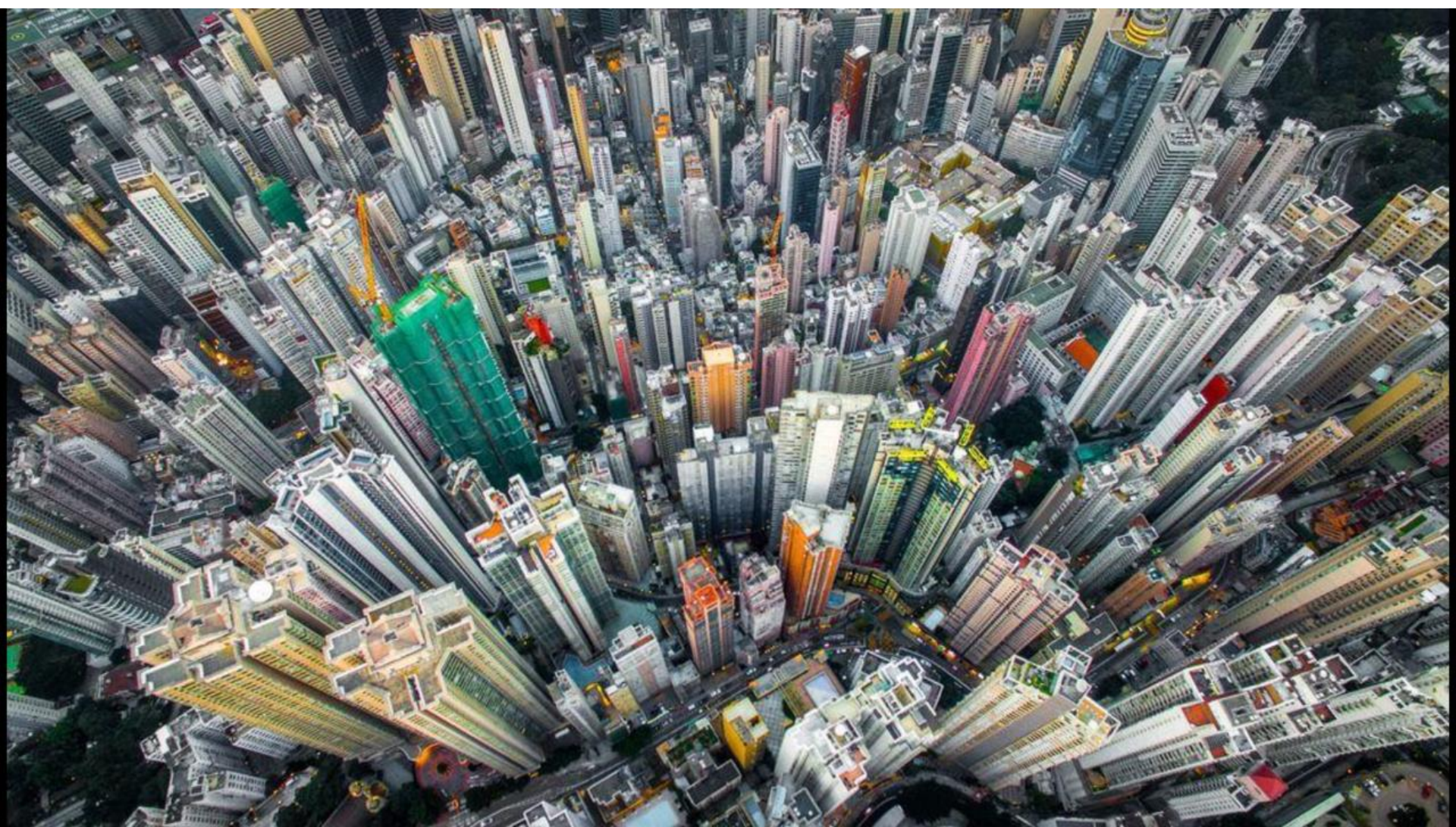
**PUBLIC TRANSPORT
RESEARCH GROUP**



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STUDIES

Cities; humanities future



Mass Transit=Efficiency and Volume

To carry 50,000 people per hour per direction, you need:

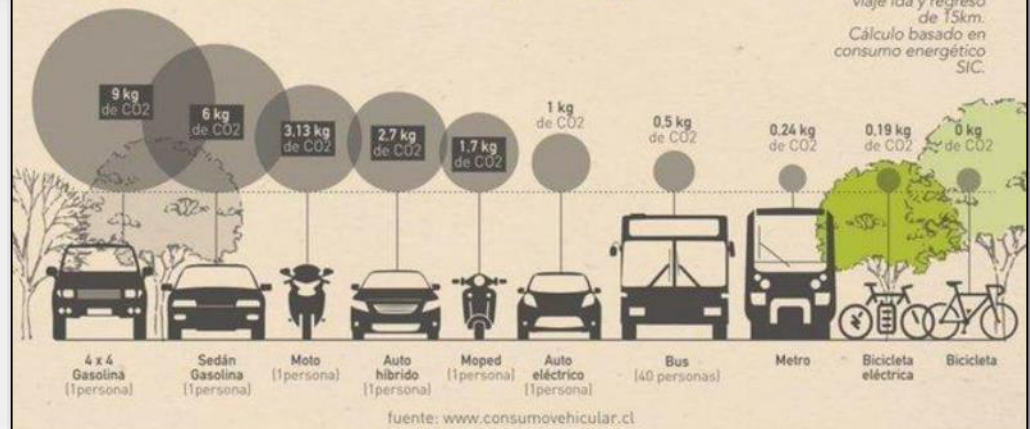
a 175m wide road used only by car

a 35m wide road used only by buses

a 9m wide railway track bed for metro

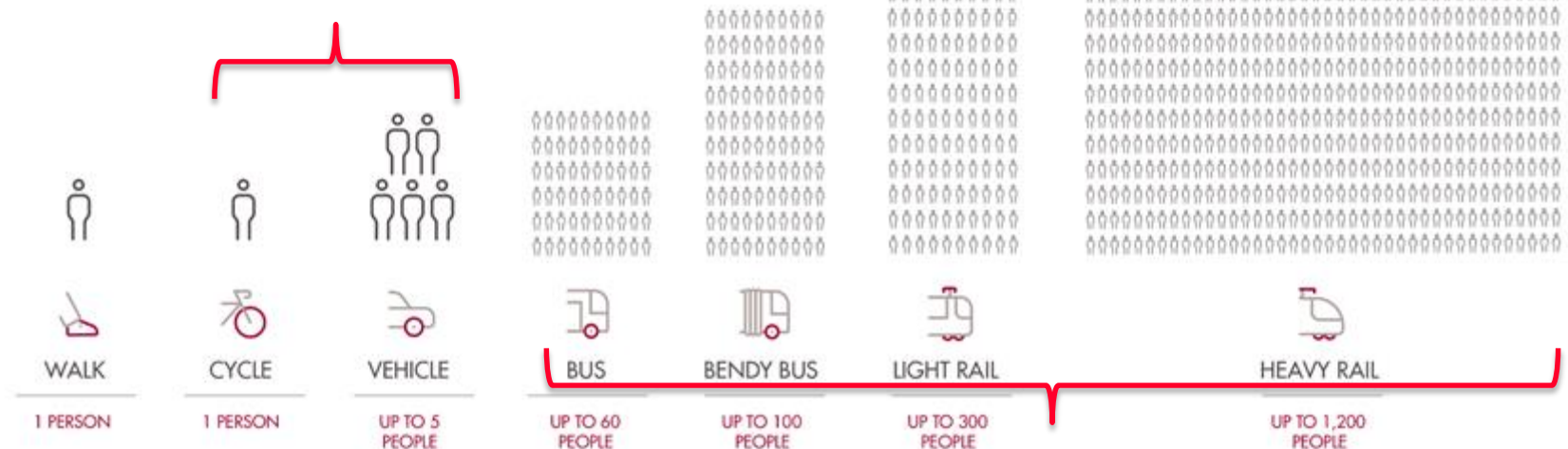
Comparación de emisiones por viaje*

Calculo basado en
viaje ida y regreso
de 15km.
Cálculo basado en
consumo energético
SIC.



Public Transport is the most efficient form of **SHARED MOBILITY**

This is **NOT**
'SHARED
MOBILITY'



Source: Transport for NSW²³

This **IS** 'SHARED MOBILITY'

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Transit Fusion

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.

Prof Graham Currie, 22-06-2017



Transit Fusion – Bringing the New into Transit

UBER+ **DART**



**Go further.
GoPassSM.**

Simplify your commute with the **FREE GoPass app.**

Available in English & Español. DART.org

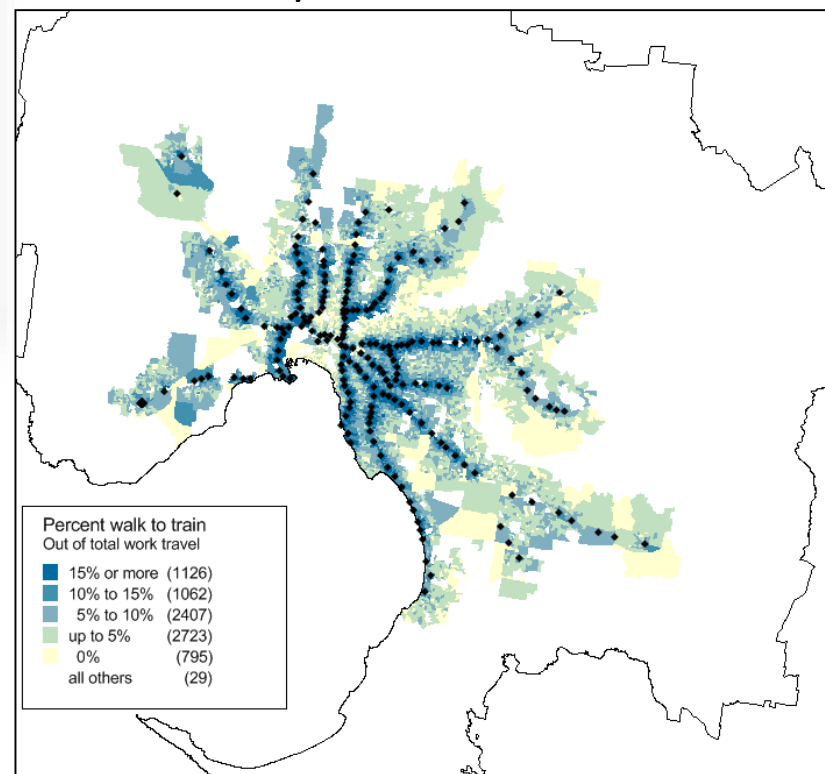


Transit runs the Car Share Scheme

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



The screenshot shows the homepage of the World Transit Research website. At the top, there is a navigation bar with links for Home, About, FAQ, and My Account. The main content area is divided into several sections: "About World Transit Research" which describes the site's purpose; "Browse Research" with a "Follow" button; "Subject Areas" and "Current Newsletter" sections; "Authors" and "Top Authors and Papers" sections; "At a Glance" showing recent additions; and "Paper of the Day" featuring a paper by Le Zhang, Xiaoping Qiu, et al. A "Reader from:" section shows the user is from Curitiba, Parana, Brazil, and is viewing the February 2017 newsletter. Below this is a world map with a location pin in South America. At the bottom, it shows "Recent Downloads" of 9 of 72 files. On the right side, there is a sidebar with a search bar, "Advanced Search" options, a "Newsletter" sign-up form, and a "Links" section with related sites and browse categories.

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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 (PTRG)** at the Institute of Transport Studies, Monash University.

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Paper of the Day

A Genetic Algorithm for the City Coach Station Location and Distribution of Transit Lines
Le Zhang, Xiaoping Qiu, et al.

Reader from: Curitiba, Parana, Brazil

World Transit Research February 2017 Newsletter
Institute of Transport Studies Monash University
World Transit Research Newsletter

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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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