Update on Melbourne Public Transport Futures

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Introduction

The End

Autonomous Vehicles

When Sharing Isn't

Why Transit?

Quiz
In May 2010 I put the case for a Metro in Melbourne to your group…

Vision for a high capacity rail system for Melbourne

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…project is now being built; but needs grow and the context has changed

New Drivers of Change

- Inner Urban growth GREATER than expected
- Over 100 applications for towers above 100 meters in the CBD
- Traffic growth continuing
- Limited capacity of lines

Have New Technologies Provided New Solutions?
An updated look at PT futures

Considering:
- new mobility, autonomous vehicles and shared mobility and public transport
- Explore the future case for Mass Transit systems
- Look at some new and interesting developments in the field

...and is structured as follows

The End  Autonomous Vehicles  When Sharing Isn't  Why Transit?  A Quiz
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Quiz
Driverless Cars; the end of Transit

Driverless cars could make mass transit obsolete

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. Drivers...
Driverless Cars; current status

Autonomous cars on California’s roads have surged
Number of self-driving companies and vehicles licensed to test in Silicon Valley

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

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

The Hype Curve; technologists as experts in spin

The car still needs someone behind the wheel, but it is designed to navigate roads with or without driver input.

The Hypothesis of Repackaging

VISIBILITY

Peak of Inflated Expectations
Plateau of Productivity
Roundabout of Repackaging
Slope of Enlightenment
Swamp of Continued Use
Trough of Disillusionment
Trash Heap of Failures

Technology Trigger

TIME
The Hype Curve; technologists as experts in spin
Real Driverless Vehicles; trains

Automative 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 5,500 more passengers an hour.

Autonomous Buses – first/last mile solutions

Metro Trains Walk Market Penetrates only 7% of Melbourne

Source: PTERG Analysis of Census Journey to Work (2011)
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Quiz

Shared Mobility

Is Sharing sharing?
Shared Mobility is growing; isn’t that good?

Shared Mobility is growing; is that BAD for transit?

Can these companies make taking a bus cool?

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 Kirner
GLOBE CORRESPONDENT MARCH 03, 2017

Pop-up bus service looks to reinvent mass transit

By Ben Johnson and Alzheiman Moensbethe
July 03, 2014 | 5:00 AM

[Image of a pop-up bus service]

By Academy Bus in New Jersey. The “topping” bus service Bridge is using these bikes to provide an experience the company cites as a step above public transit. (THE DERHOSIAN/ALZHEIMAN MOENSBE)
Shared Mobility is growing; is that BAD for transit?

Shared (car) 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 Isn't

- 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

- 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

It isn't much in the way of sharing

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

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Cities; humanities future

Rail = Efficiency and Volume

To carry 50,000 people per hour per direction, you need:
- a 175m wide road used only by cars
- 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 día y noche
Calculo basado en consumo energético
Public Transport is the most efficient form of SHARED MOBILITY

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Why Transit?

Quiz
Should we improve buses or invest in light rail?

Gold Coast/Sydney/Canberra are doing this and Melbourne always has – but at high cost.
Bus Rapid Transit; Rubber Tired Railways; have been a cost effective reaction to this

QUIZ

Is it a:

- **Train/Tram**
- **Bus**
- **Dont Know**
- **Other**
E.

F.
G.

H.
I.

Answers
**Bus A.**

The Zip – US BRT Vehicle

**Bus B.**

Civis – BRT Vehicle
C. Bus (?)

Paris Metro RER Rollingstock – VAL - Toulouse Metro

D. Bus

TransMilenio BRT
Bogota Colombia
**Bus L.**

Civis – BRT Vehicle

**Bus T.**

Bombardier – Concept BRT Vehicle
**Tram**

Bordeaux Tram – Ground Power

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**Other**

Japanese rail firm JR Hokkaido dual-mode bus and rail vehicle
US Railbus Leyland body on a chassis assembled by D. Wickham & Co for the US Federal Railroad Administration

A New Way to Bring the Train to the City
Join the ITS (Monash) LinkedIn group to keep informed of our activities.