Benchmarking Public Transport in Melbourne

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Introduction

Modal Problems

Land Use Problems

Improvement?

Futures
This paper examines Melbourne public transport performance.
Buses ARE Melbourne’s public transport for most residents, which is a problem.

• Over two thirds of Melbourne can only be serviced by bus services since rail and tram services lie considerable distances from where people live or where they want to travel to.
• In 1996 the Metropolitan strategy team identified that 2.16M Melbournians lived in areas where buses were bus was the only means of access to public transport. 0.98M lived within access distance of rail services.

Weekday Service Frequency (2006)

<table>
<thead>
<tr>
<th></th>
<th>Peak</th>
<th>Off Peak</th>
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</thead>
<tbody>
<tr>
<td>AV. MELBOURNE</td>
<td>40m</td>
<td>50m</td>
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Weekday Service Span

AV. MELBOURNE 06:46-18:53

...because there aren’t many.
The bus network on weekdays...

Weekday Bus Services

Source: Currie (2003)

...contrasts somewhat with weekends

Sunday Bus Services

Source: Currie (2003)
Frequency drives Australian ridership performance

In general our bus service level is poor compared to world practice


Tram services are struggling in growing traffic congestion


Melbourne is the world's biggest "streetcar" system

Mixed Traffic service impedes performance

Average Operating Speeds – World Tram/Light Rail Systems

Melbourne Tram Reliability
- 33% of services are considered to be NOT running on time
- On time defined as arriving more than 1 min early of more than 6 mins late

Source: Track Record
Melbourne tram ridership is low compared to overseas systems; due to low relative frequency

![Graph showing ridership comparison](image)


Better performing railways are built on new not old infrastructure and strong resilience/reliability

**Average Speed (Kph)**

- Melbourne: 53
- Singapore: 45
- Hong Kong: 52.6
- Perth: 55

**Breakdowns in Service (000 kms)**

- Melbourne: 14
- Sydney: 50
- Best Practice: 100
- Singapore: Never Recorded
- Hong Kong: 100

![Graph showing speed and breakdowns](image)
...yet expanding rail, thus making it more complex, has been our approach to mass transit expansion

Unplanned disruptions are common; e.g. reported signal faults; 1,900 p.a. (5+/day)

Reported Signaling Disruptions

- 1,900 signal failures p.a. (12 months to August 2013)
- 5.2 per day
- Biggest Locations:
  - Flinders Street Station 89
  - North Melbourne 71
  - Newport 51

Metro Trains

"We are installing advanced computer technology which improves control of the signalling system, but our field equipment is outdated and requires replacing."

Source: Adam Carey, The Age, ‘Signal failures are causing chronic rail delays’ 23/10/2013
Melbourne rail demand growth has been impressive by any standard

![Graph showing history of rail patronage in Melbourne](image)

Source: Department of Transport/ Public Transport Victoria Annual Reports

However the rail network has reached capacity

![Train overcrowding chart](image)
So what do passengers think about these issues?

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The Transit Orientation of Development

**Density**  
– the concentration and compactness of development within geographic space

**Diversity**  
– the land use mix including the balance and compatibility of users with each other (and transit)

**Design**  
– which relates how the various land uses are combined, linked and presented in terms of ease of access and attractiveness

Source: Cervero and Kockleman (1997)
The Transit Orientation of Development – Design (Walkability) in Melbourne

[Graph showing walkability levels based on distance from CBD (km)]

Walkers Paradise
Very Walkable
Somewhat Walkable
Car Dependent


The Transit Orientation of Development – Density in Melbourne

[Graph showing density levels based on distance from CBD (km)]

Minimum Density
(including JOBS) for Effective PT Provision
(Newman & Kenworthy (2006))

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Since 2001 PT service increased 63% (66% bus/ 36% rail, 10% tram) but -but population growth continues at a faster pace...

...in last 10 years, per capita service increased to 22% but declined since 2011 (we have gone down by 9% points); recent trend is flat.
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Melbourne is expected to increase in size by another 1-2M people in 20-30 years

Forecast Melbourne Population Growth

Source: Victoria in Future (2012)
Melbourne Metro; exciting but capacity upgrade is long overdue now – current start date is 2026!

Melbourne rail grade separations; exciting some capacity relief but not an increase in service
Where is tram and bus priority? – SmartBus; downgraded?
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