Introduction

Transport in Melbourne

Public Transport in Melbourne

The Drivers of Change

The Future
This presentation overviews Melbourne transport problems and progress...

Issues Covered
• What is the transport context of Melbourne?
• What are the major public transport problems in service provision and development
• Outlines progress in service development
• Identifies Ideas for Bold Politicians

...and is structured as follows
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Progress?

Ideas

Melbourne is a car based society – 75% of trips are by car

Source: Melbourne on the move – VATS 1994
Car vehicle sales and ownership continue to rise

Figure 7.2: New passenger vehicle sales 2001-2005 (FCAI, 2006)

Figure 10.4: Revised projected per capita Australian motor vehicle ownership (BTRE, 2002, p.15)

Urban traffic congestion in Melbourne costs $3B p.a. (2005) and will double by 2020

Source: BTRE (2006)
Congestion ‘hotspots’ are expected to spread spatially….

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**Figure 3.1** Modeled congestion hotspots on arterial roads in Melbourne, 2004 (am peak)

**Figure 3.2** Modeled congestion hotspots on arterial roads in Melbourne, 2021 (am peak)


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#### …and in Time

**Figure 3.3** Peak spreading on Melbourne’s freeways

Source: VicRoads

While all developed economies are affected, in Australia impacts are greater...

...due to higher car dependency, low urban density, and.....


Source: OECD Factbook (2006)

Source: The Economist - Submission to the VCEC Inquiry into Managing Transport Congestion (2006)
...because our cities are GIGANTIC in scale

Metropolitan Melbourne = 4M pop

Greater London = 8.4M pop

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Ideas
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.

...because there aren't many

- 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.

<table>
<thead>
<tr>
<th>Weekday Service Frequency (2006)</th>
<th>Weekday Service Span</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak AV. MELBOURNE 40m Off Peak 50m</td>
<td>AV. MELBOURNE 06:46-18:53</td>
</tr>
</tbody>
</table>
The bus network on weekdays...

Source: Currie (2003)

...contrasts somewhat with weekends

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: UITP Databank

Source: Track Record
Better performing railways are built on new not old infrastructure and strong resilience/reliability.

...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)

Source: Adam Carey, The Age, ‘Signal failures are causing chronic rail delays’ 23/10/2013

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

Melbourne rail demand growth has been impressive by any standard

Source: Department of Transport/ Public Transport Victoria Annual Reports
However the rail network has reached capacity

How Transit Orientated is Melbourne 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 – OVERALL Melbourne – only in central areas

So what do passengers think about these issues?
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Ideas
Growth in urban travel and car ownership continues to rise

- Since 1996 car travel has increased at 1.9% p.a. (Challenge Melbourne - issues in metropolitan planning for the 21st century Oct 2000)
- Forecasts suggest metropolitan travel will increase by around 20% by 2020 without action to address current trends (NCCC Study)

Meanwhile road freight volume is expected to double in 20 years

- Melbourne road freight movements total around 170M tonnes p.a.. This has grown by 120% between 1971 and 1997.
- Truck traffic forecast to double over the next 20 years (Challenge Melbourne)
- The efficient movement of commercial traffic has been directly linked to a competitive economy and the affordability of consumer products
We have also stopped being active – this has led to ‘the epidemic of obesity’

**Lifestyle underpins Australia's growing obesity problem**

The Dieticians Association of Australia says television and less active lifestyles have contributed to increased rates of obesity.

The Australian Institute of Health and Welfare (AIHW) has released a report showing nine million adult Australians carry excess weight.

The report estimates at least 16 per cent of men and 17 per cent of women are obese, with a further 42 per cent of men and 25 per cent of women considered overweight.

Ms Collins says lifestyles have changed significantly over the last century.

"We use our cars more, most people have jobs where they sit down, most of us don't do as much work around the house, or even the yard."

"There just aren't the same opportunities to be active."

Source: ABC News Online – September 2003

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**Road dominates increasing greenhouse emissions - BIG change is needed to meet the ‘Stern’ Target**


To stabilise at 450ppm CO2e, without overshooting, global emissions would need to peak in the next 10 years and then fall at more than 5% per year, reaching 70% below current levels by 2050. - Sir Nicholas Stern
Research suggests that if fuel prices rise a high share of Melbourne residents are being marginalised.


Monash research has highlighted ‘forced car ownership’ in fringe urban Australia.

Source: Currie and Senbergs (2007)

Key Findings - FCO
- Over 20,000 Melbourne households with income <$500/week running 2+ cars
- Zero/Very Low Public Transport
- ‘Forced Car Ownership’ – No choice
- Growing as fuel prices rise
- Even modest public transport access can reduce forced car ownership
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**Progress?**

**Ideas**

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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...

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**Index of Public Transport Service Kms p.a (2001-2=100)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rail</th>
<th>Tram</th>
<th>Bus</th>
<th>Total</th>
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<td>2001-2</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<tr>
<td>2002-3</td>
<td>110</td>
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<td>2003-4</td>
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<td>160</td>
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<td>160</td>
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<tr>
<td>2008-9</td>
<td>170</td>
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**Population Growth (M)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (M)</th>
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<tbody>
<tr>
<td>2001-2</td>
<td>3.6</td>
</tr>
<tr>
<td>2002-3</td>
<td>3.6</td>
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<td>2004-5</td>
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<tr>
<td>2012-13</td>
<td>4.6</td>
</tr>
<tr>
<td>2013-14</td>
<td>4.7</td>
</tr>
</tbody>
</table>

*Source: Department of Transport/ Public Transport Victoria Annual Reports*
...in last 10 years, per person service increased 22% then declined since 2011 (we have declined by 9% points); recent trend is flat

Source: Department of Transport/Public Transport Victoria Annual Reports

Melbourne has BIG inequity in PT service—many high need areas with no service areas on the urban fringe


In 2016, 18 of our 30 LGA’s have below average service per resident...

Cardinia, Mornington & Melton have lowest service/head; Melbourne, Yarra, Manningham and Maribyrnong, the highest

Change in service is also uneven; some decline occurred 2015-2016...

...Notably in Casey, Banyule, Nillumbik and Monash.

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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### Ideas

<table>
<thead>
<tr>
<th>Year</th>
<th>Relative Service Level Per Head</th>
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<td>2002-3</td>
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<td>113.6</td>
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<td>2014-15</td>
<td>112.9</td>
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<tr>
<td>2015-16</td>
<td>112.7</td>
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</tbody>
</table>

**INVEST, INVEST, INVEST, INVEST – SERVICE LEVELS**

[Graph showing relative service level per head over years]
INVEST, INVEST, INVEST, INVEST – RAIL RELIABILITY

Singapore Plan for Rail Reliability Improvement

In Service kms Between Failure (000)

- Singapore
  - 2010: 160
  - 2015: 800
  - 2020: 900
  - 2025: 1,000

- Melbourne
  - 20ish

Source: Land Transport Authority of Singapore

INVEST, INVEST, INVEST, INVEST – TRAM/BUS RAPID TRANSIT

SmartBus Routes
- Blue Lines
- Red Lines

Tram Routes

Source: Monash University and PTRG
Get Sustainable Funding

Employment Tax / Versement Transport

MAKE THE PROBLEM FUND THE SOLUTION

Take a new approach to discussing Congestion “SOLUTIONS”

NEGATIVE SPIRAL

Politician → “We will Solve Congestion”

→ Big Investment

→ Expectations Raised

→ Congestion Can Never Be Solved

→ Congestion Gets Worse

→ Credibility Loss

→ Change Government

POSITIVE APPROACH

Politician → “Congestion CANNOT be solved – we reduce worst impacts”

→ Big Investment

→ Expectations LOWERED

→ Congestion Can Never Be Solved

→ Congestion Outcomes as Expected

→ Credibility Gain

→ NO Change Government
ALSO: NEW PTRG WEBSITE
PTRG.INFO
Join the ITS (Monash) LinkedIn group to keep informed of our activities.