

# most liveable and best connected?



## THE ECONOMIC BENEFITS OF INVESTING IN PUBLIC TRANSPORT IN MELBOURNE

a policy document for the

Metropolitan Transport Forum

by Jan Scheurer, Jeff Kenworthy, Peter Newman



# Metropolitan Transport Forum

The Metropolitan Transport Forum (MTF) is an advocacy group comprising members from Melbourne metropolitan local government, and associate members including community, environment and local government organisations, transport companies, and participants from State Government. The MTF was established in 1994.

The MTF endeavours to promote effective, efficient and equitable transport in metropolitan Melbourne by providing a forum for debate, research and policy development, and by disseminating information to improve transport choices.

Contact the MTF through our website [www.mtf.org.au](http://www.mtf.org.au), or c/ City of Maribyrnong, PO Box 58, Footscray Victoria, 3011.

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# executive summary

Melbourne is one of the world's most liveable cities, according to the annual survey undertaken by the Economist Intelligence Unit. The City's attractiveness to businesses, residents, international capital and professionals is closely linked to its high-quality urban form and public spaces. Melbourne also prides itself for having one of the finest and most iconic public transport systems in the world, and has set a target in the *Melbourne 2030* metropolitan strategy to greatly increase its patronage.

To achieve greater public transport use in Melbourne requires additional investment in infrastructure and services. The Metropolitan Transport Forum (MTF) calls on decision makers to invest the necessary funds to ensure that Melbourne's transport system continues to support the City's attractiveness – rather than deteriorating into a liability for our liveability.

## Melbourne's Public Transport: Is it World-Class?

One of the features of the top ranking 'liveable' cities is high quality infrastructure. So how does Melbourne's transport infrastructure compare with 13 of its closest contenders for the title of the world's most liveable city?

Public transport in Melbourne carries only 7% of all trips within the metropolitan area. Public transport plays a greater role in Sydney, Toronto, Montreal and European cities. Only Vancouver, Brisbane and Perth attract a lower share.

All European cities included in the sample have lower levels of car ownership but are wealthier than every Australian city. What's more there is a trend for richer cities to also be richer in public transport services.

Melbourne invests comparatively little of its wealth in transport infrastructure, and an even smaller share of that on public transport.

The more public transport-oriented European cities have been more successful in minimising the costs of transport to the community. This makes more of their wealth available for productive economic activities.

Relative to employment, most of the other cities have considerably less parking in their central business districts than Melbourne. This is not just true for the European cities, but also for Toronto and Sydney.

The speed of Melbourne's on-road public transport is less than half that of cars, with a bigger difference in speed than for all of the other Australian cities, and all except one of the European cities. Melbourne's trains also don't keep up with cars and are the fourth slowest in the sample.

Melbourne's public transport system does not facilitate transfers from one service to another. Trains, trams and buses are not well connected and there are not enough well-served cross-suburban routes.

Melbourne has the greatest length of roads per person of all 14 cities; this is extraordinarily generous given our uncomplicated urban geography. Conversely (and contrary to popular belief), Melbourne's provision of reserved-track or reserved-lane public transport infrastructure is not out of the ordinary – even in comparison to its Australian neighbours.



## Public Transport Investment: A Sound Economic Choice

How will Melbourne benefit economically from spending more on public transport and less on roads?

The State Government's Metropolitan Transport Plan (MTP) has a very narrow interpretation of the role transport policy plays in supporting economic growth. It **only considers improving the movement of goods and business-related traffic through the City**. In contrast, the City of Melbourne's transport strategy recognises **the importance of attractive, pedestrian-oriented centres to attract clusters of creative and knowledge industries**. In a post-industrial city, most employment, innovation and economic growth is generated in these sectors.

In this context, **the business case for transport investment needs to be built around accessibility and place-making, instead of hoped-for efficiency gains in freight movements through expanding road capacity for general traffic**.

International comparisons show that **the more a city has committed itself to public transport infrastructure, the less the city spends overall on transport**. Relatedly, the more a city is built around car dependence, the more that city's wealth is wasted on just getting around.

Melbourne 2030 sets targets on activity centre consolidation and plans to curb Melbourne's outward growth. **To support these goals, the expansion of fixed and reliable rail systems becomes critical**. They offer a real transport solution both in the inner and outer suburbs, and a real land investment opportunity by increasing the value and viability of properties near stations.

**Reconfiguring Melbourne's urban growth around public transport access in strong activity centres will future-proof the City's economy, and its social equilibrium**. Petrol price increases and growing daily travel distances currently put Melbourne's businesses and private households under sustained threat. **Making more trips by energy-efficient public transport, walking or cycling will reduce Melbourne's dependency on expensive fossil fuels. It will also lessen the City's vulnerability to possible fuel scarcity**.

In households without adequate access to public transport, **the growing costs of multiple car ownership and excessive travel create socio-economic distress, resulting in unemployment and social isolation**. Residents can no longer afford to regularly and reliably access jobs and community networks. Research shows that lower housing costs in Melbourne's urban fringe are, in practice, often eroded by higher costs for personal mobility.

In contrast, **where mobility alternatives are attractive, even wealthy urbanites do not opt for tying a higher than necessary share of their income to motor vehicles**. Car ownership and use in gentrifying inner suburbs are stable or declining, and public transport use has become a way of life independently of personal income.

## How to Connect all of Melbourne by Premium Public Transport

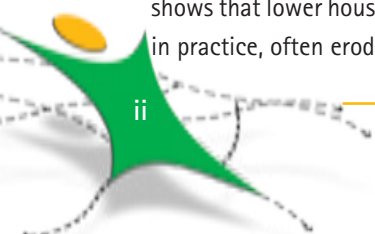
**Public transport in Melbourne needs to become more competitive with the car - with greater speeds, better connectivity between routes, higher frequencies and longer operating hours. Simultaneously, public transport access must constantly improve to increase the attraction of high-amenity activity centres as places to do business.**

### Melbourne's six priorities for public transport infrastructure investment are:

1. Increase rail capacity, primarily through operational, timetabling and signalling improvements, and duplication of single-track lines.
2. Extend train lines and construct additional stations in Melbourne's outer urban growth areas and the Doncaster and Rowville corridors;
3. Connect all principal, major and specialised activity centres by high-frequency, 7-day-and-evening routes;
4. Upgrade suburban bus services to serve all jobs and residents all day, every day;
5. Accelerate delivery of measures to achieve disability compliance across the system;
6. Reform franchising agreements and establish an accountable and integrated public transport planning agency in State Government.

#### Not a priority:

Major new road projects, other than in designated growth areas at the urban fringe.



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# introduction

Melbourne prides itself on being one of the world's most liveable cities. It has repeatedly rated highly in liveability surveys conducted by the Economist Intelligence Unit.<sup>1</sup> These surveys show that the City's high-quality urban form and public spaces are a key feature in making the city attractive to businesses and residents, as well as international capital and professionals.

However, does Melbourne's transport system continue to support the city's attractiveness? Or is it degenerating into a liability for our liveability?

In its strategic documents on urban growth, the State Government of Victoria highlights sustainability as a guiding principle for Melbourne's future development.<sup>2</sup> Across the world, the integration of economic, social and environmental goals informs policy making in cities, and is increasingly linked to opportunities offered to business as well as standards of living enjoyed by residents.

How do these objectives inform transport policy?

Over the last decade, Melbourne's urban road system grew significantly by high-profile additions to the network, particularly City Link and the Western Ring Road, at a pace that continues almost unabated. Further projects are under construction. During the same period, public transport operations were privatised, with some system modernisation and network expansion, and very minor improvements to service frequency and connectivity. This has resulted in modest increases in patronage and operating efficiency.

Yet, such transport policies have failed to counter congestion for either private or public transport. They have failed to relieve Melbourne from the mounting social, environmental and economic costs of ever-increasing car use, and from the prospect of future economic vulnerability as transport fuels become ever more expensive, and their global availability declines.

This analysis finds that increased public transport investment is crucial to Melbourne as a place to do business and to live, and to safeguard liveability in the future. It examines how increased public transport investment is instrumental to maintain the high

levels of mobility, accessibility and connectedness that vibrant business activity requires. It is also essential for unlocking the economic development potential of key activity centres. This report builds upon objectives of the Melbourne 2030 metropolitan strategy as well as Melbourne's Metropolitan Transport Plan and outlines how the goals of dynamic economic development and shifting a greater share of trips onto public transport are pivotal to Melbourne's future.



- <sup>1</sup> Boulton M (2004) Melbourne Judged the Place to Be. *The Age*, 7 February  
Economist Intelligence Unit (EIU, 2005) *Vancouver Tops Liveability Ranking According to a New Survey by the EIU*. Press Release, 3 October, available online at [www.eiu.com](http://www.eiu.com)
- <sup>2</sup> Government of Victoria (2001, 2005) *Growing Victoria Together. A Vision for Victoria to 2010 and Beyond*. Available online at [www.dpc.vic.gov.au](http://www.dpc.vic.gov.au)  
Department of Infrastructure (DOI, 2002) *Melbourne 2030. Planning for Sustainable Growth*. Available online at [www.dse.vic.gov.au](http://www.dse.vic.gov.au)  
Government of Victoria (undated) *Linking Melbourne. Metropolitan Transport Plan*. Available online at [www.doi.vic.gov.au](http://www.doi.vic.gov.au)

# section A

## Melbourne's Public Transport System: Is it World-Class?

### Evidence from Fourteen Liveable Cities

Melbourne consistently ranks very highly in the ratings of the world's most liveable cities as ranked by the Economist Intelligence Unit annual survey. In 2005, Melbourne was in second place, with Vancouver, Canada coming in first. This section of the paper compares Melbourne with 14 out of the top 15 cities in the survey (Australia's four largest cities, Canada's three largest cities, the four Scandinavian capitals plus Vienna, Zurich and Geneva).

The strengths and weaknesses of Melbourne's public transport system are explored against an international background, highlighting why and how economically successful and attractive cities are improving and expanding their public transport systems.

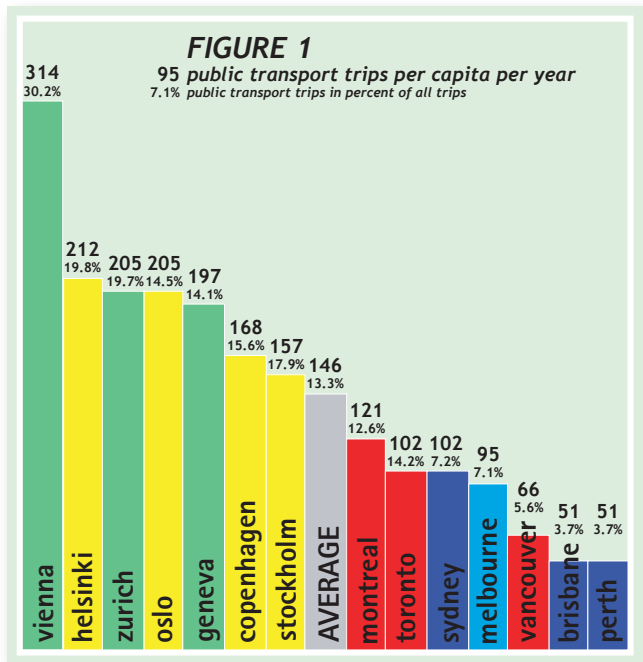
#### Indicator 1: Comparison of Public Transport Usage

Melbourne prides itself for having one of the finest and most iconic public transport systems in the world. Yet this system carries only a small proportion of all trips within the metropolitan area.<sup>3</sup> Passenger numbers relative to population have remained almost stagnant between 90 and 102 boardings per capita per year for about 25 years, after a substantial decline during the 1960s and 1970s (in 1961, there were 222 and in 1971, 142 boardings per capita per year).<sup>4</sup> Figure 1 shows the number of annual public transport trips per capita in 1995/96<sup>5</sup>, and their proportion of overall mobility. **At a share of 7% of all trips (9% of motorised trips) in 1995, the importance of public transport for urban mobility in Melbourne lags behind our nearest neighbour, Sydney, and significantly behind every non-Australian city in the sample, except Vancouver.**

To improve the modal split, Melbourne 2030 sets a target to boost public transport's share of the travel market to 20% of all motorised trips by 2020 (15% of all trips). On current trends for population growth, and assuming undiminished mobility needs, this translates into a 3-fold increase of passenger numbers in absolute terms - from 370 million per year or just over 1 million

per day in 2004-05 to more than 1 billion per year, or 3 million per day, in 2030.<sup>6</sup>

Such a shift is ambitious and unprecedented in Melbourne's post-war history. This report seeks to assess how Melbourne is preparing itself to achieve these changes, and the economic benefits that will be associated with these changes if and when delivered.



<sup>3</sup> All data in this section (unless stated otherwise) from: Kenworthy J, Laube F (2001) *The Millennium Cities Database for Sustainable Transport*. International Union of Public Transport (UITP), Brussels, Belgium and ISTP, Murdoch University, Perth (WA)

<sup>4</sup> Kenworthy J, Laube F (1999) *An International Sourcebook of Automobile Dependence in Cities, 1960-1990*. Niwot (CO), USA

Mees P (2000) *A Very Public Solution. Transport in the Dispersed City*. Melbourne Australian Institute of Urban Studies (AIUS), City of Melbourne (2005) *Environmental Indicators for Metropolitan Melbourne*. Bulletin 8, October

<sup>5</sup> Refer to Figure 11 for the difference between public transport trips and public transport boardings.

<sup>6</sup> Department of Infrastructure (DOI, 2002) *Melbourne 2030. Planning for Sustainable Growth*. Melbourne

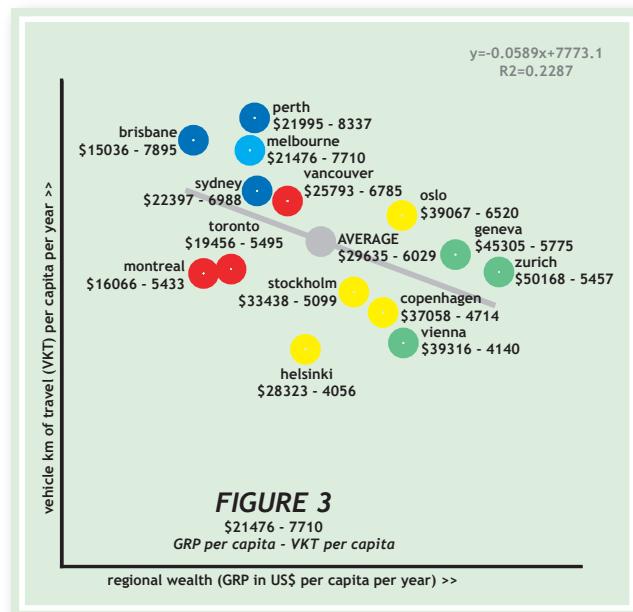
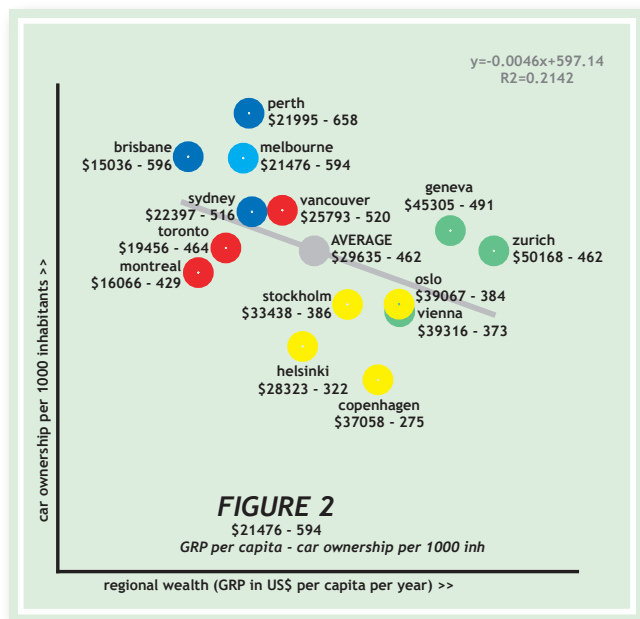
Department of Treasury and Finance (DTF, 2005) *2005-06 Victorian Budget*. Available online at [www.budget.vic.gov.au](http://www.budget.vic.gov.au), last accessed September 2005

McDougall W (2005) *Sustainable Transport - What Does 20/2020 Mean for Melbourne? 20-2020 Vital for Melbourne Forum*, Environment Victoria et al, 11 May

## Indicators 2/3: Comparison of Metropolitan Wealth and Car Ownership/Use

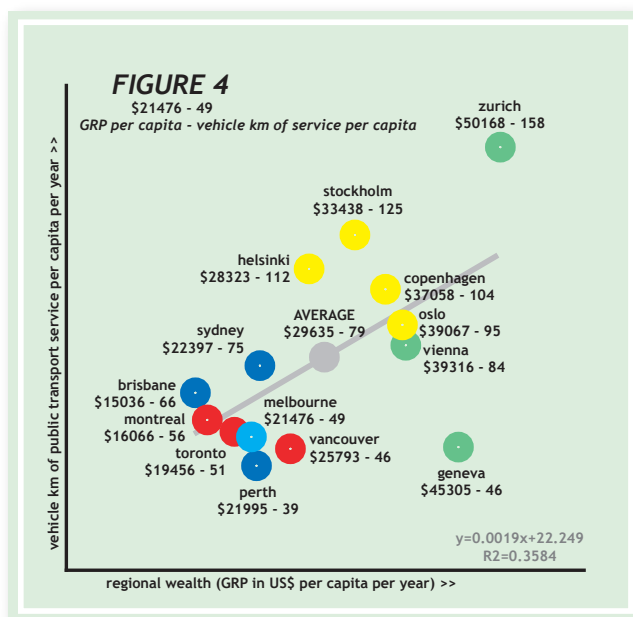
How car-oriented are the 14 most liveable cities in the world? Figure 2 shows that car ownership rates in this sample vary greatly - from little more than one car per four people in Copenhagen to significantly more than one car per two people in Perth. And while these figures appear to grow relative to metropolitan wealth within Canada and to some extent continental Europe - the opposite is true for the sample as a whole. **All European cities included here are wealthier, but have lower levels of car ownership than every Australian city.** Residents of Canadian cities also own fewer cars than their Australian counterparts, despite similar ranges of urban wealth. In Australia, car ownership varies considerably at comparable wealth levels, with Sydneysiders owning some 13% fewer vehicles than Melburnians.

The comparison of metropolitan wealth and car use in Figure 3, measured in vehicle km per capita per year, suggests a similar conclusion. **Relative to Gross Regional Product (GRP), residents of Australian cities are the most profligate car users.** At a global scale, the propensity of citizens to own and use cars is clearly determined by factors other than the mere ability to afford them. Among these are the provision and accessibility of high-quality public transport from homes and travel destinations. This makes car ownership less necessary (especially multiple car ownership) and travel alternatives more attractive.



## Indicator 4: Wealth and Public Transport Service Provision

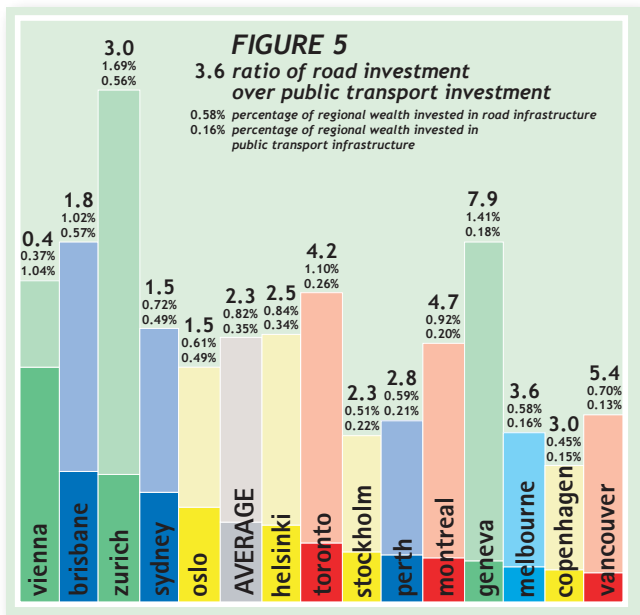
In contrast to wealth and car use or ownership, the provision of public transport service across the sample of most liveable cities in Figure 4 shows a clear correlation with wealth. **On the whole, richer cities are also richer in public transport supply,** although within the regional groupings, this can vary considerably. Melbourne's public transport service levels, measured in annual vehicle km of service per capita, lag significantly behind Sydney's, for example, and are about equal to those of the three Canadian cities.





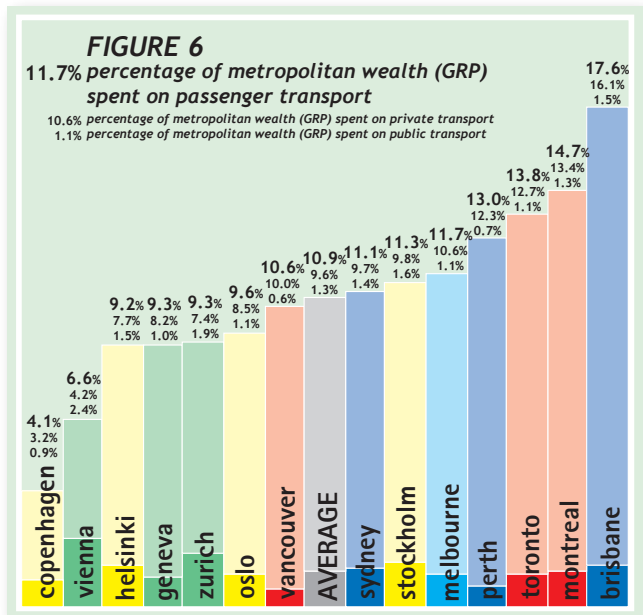
### Indicator 5: Investment in Roads and Public Transport

Figure 5 shows the commitment to investing in new or upgraded urban transport infrastructure (from all sources) in the sample of 14 most liveable cities. It is measured as a percentage of metropolitan wealth and averaged over the years 1993-97. The figures vary substantially between cities, with an average total of just over 1% of GRP. At 0.84%, Melbourne is comparatively lean in devoting its wealth to better transport infrastructure. While all cities (except Vienna) invested more in roads than in public transport during the period, Melbourne's ratio of 3.6:1 in favour of roads means that public transport in Melbourne has to make do with a particularly modest investment budget. The international context suggests that **in order to significantly enhance the standing of public transport, Melbourne needs to spend more on public transport infrastructure and rolling stock, both in absolute dollars and in relation to road investment.**



### Indicator 6: Total Cost of Passenger Transport as a Percentage of Metropolitan Wealth

Another way of looking at the impact of transport on the urban economy is to compare the proportion of overall metropolitan wealth spent on building, maintaining and operating the cities' transport systems (public and private, from all sources). Since transport is a cost to the economy, it is in the interest of cities to keep such expenditure low. Figure 6 shows clearly **that the more public transport-oriented European cities have on the whole been far more successful in minimising these costs and thus making more of their wealth available for other, more productive economic activities.**



**Indicator 7:  
User Cost of Trips**

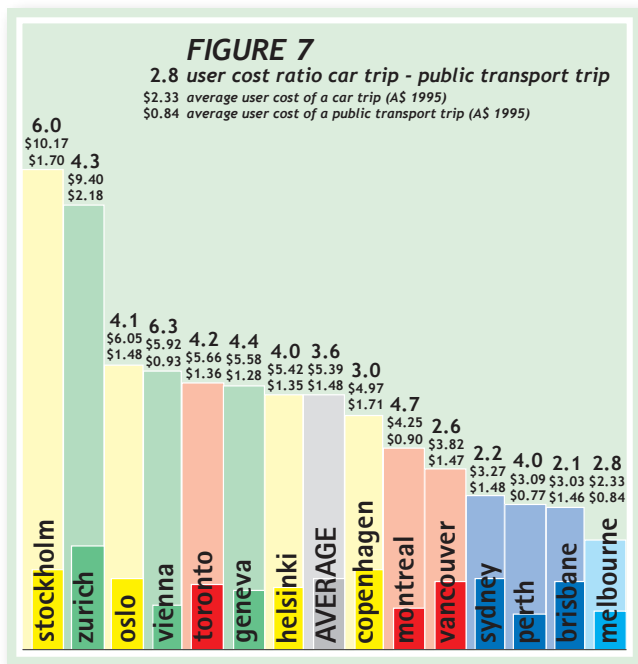
The cost ratio for the transport user between private vehicle and public transport trips in Melbourne in 1995 was relatively favourable to motorists: On average, the user costs for a car trip were 2.8 times those of a public transport trip. Only in Sydney, Brisbane and Vancouver were car trips comparatively cheaper. In Vienna and Stockholm, the user costs of each car trip are over six times those of each public transport trip.

However, in an era of rising energy costs and continued growth in vehicle km, the gap between the cost of car trips and the cost of public transport trips is likely to widen. So too, is the gap between European and the more car-oriented Australian and Canadian cities with regard to total costs of passenger transport relative to metropolitan wealth. **Melbourne's households, and the competitiveness of the urban economy as a whole, are under sustained threat from continuously increasing mobility costs.** This is likely to cause particular pain for businesses and residents in the middle and outer suburbs, where alternatives to car use remain underdeveloped.



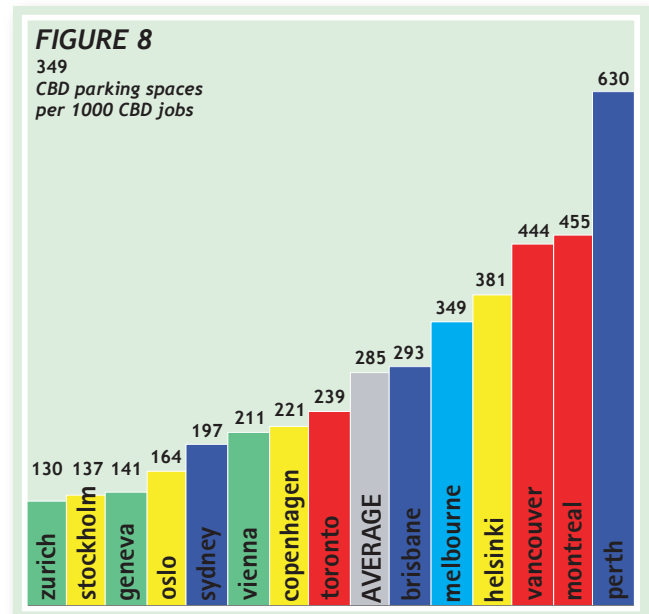
levy will only come into force in 2006, CBD parking has grown continuously. In 1981 there were 270 spaces per 1,000 jobs<sup>7</sup>, and between 1995 and 2000, off-street parking in the CBD increased further by more than 45 percent. (CBD employment grew by 39% during the 10 years from 1992 to 2002).<sup>8</sup>

The ability of rail-based public transport systems to move large numbers of passengers into a concentrated, high-density area enables CBDs to function in a space-efficient manner with a relatively sparse supply of parking. Conversely, CBD parking is a direct competitor to public transport's major market, particularly while it remains relatively cheap. Thus CBD parking management is an invaluable tool for increasing public transport usage. This is particularly true for Melbourne, whose public transport system is strongly CBD-focused.



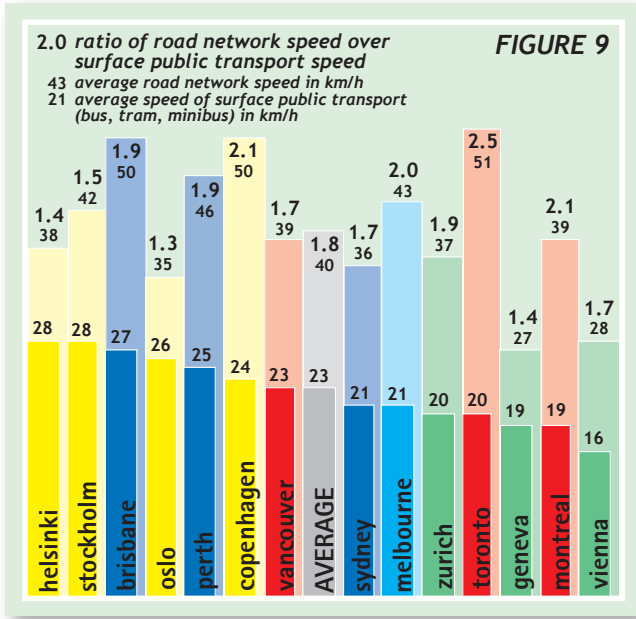
**Indicator 8:  
Parking Provision in the CBD**

Parking availability is another factor that impacts on the use of public transport. Figure 8 shows the amount of car parking supplied relative to employment (parking spaces per 1000 jobs) within each of the cities' Central Business District. **Melbourne's CBD, at 349 spaces per 1000 employees, has a relatively generous supply of parking, not only compared to European cities, but also to Toronto and Sydney.** In Sydney and Perth, the introduction of a car parking levy in the late 1990s has slowed the growth of CBD parking. In Melbourne, where such a



<sup>7</sup> Kenworthy J, Laube F (1999) *An International Sourcebook of Automobile Dependence in Cities, 1960-1990*. Niwot (CO), USA

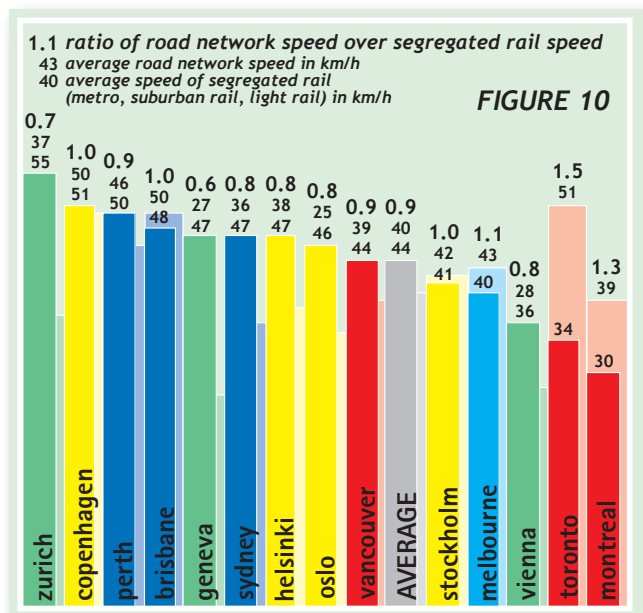
<sup>8</sup> City of Melbourne, Census of Land Use and Employment (CLUE). Available online at [www.melbourne.vic.gov.au](http://www.melbourne.vic.gov.au), last accessed August 2005



### Indicators 9/10: Comparative Speed of Road Traffic and Public Transport

Figure 9 shows the average traffic speed across the entire road network in each city, on a 24 hour-7 day basis. This factor is influenced by congestion levels as well as the ratio of vehicle movement to road space and the layout of the road network. Road network speed is contrasted with the average speed of road-based public transport – buses and trams in Melbourne. While surface public transport is slower than road traffic in every city of the sample, **Melbourne buses and trams struggle to achieve even half the speed of cars, which is the worst result for public transport among the Australian cities, and worse than every European city except Copenhagen** (where road speeds are atypically high). This is not necessarily a particular characteristic of cities with extensive first-generation tram systems, which Oslo, Helsinki, Geneva, Vienna, Zurich and Toronto also operate. Rather, it is a function of the relative priority of public transport over car traffic, or vice versa.

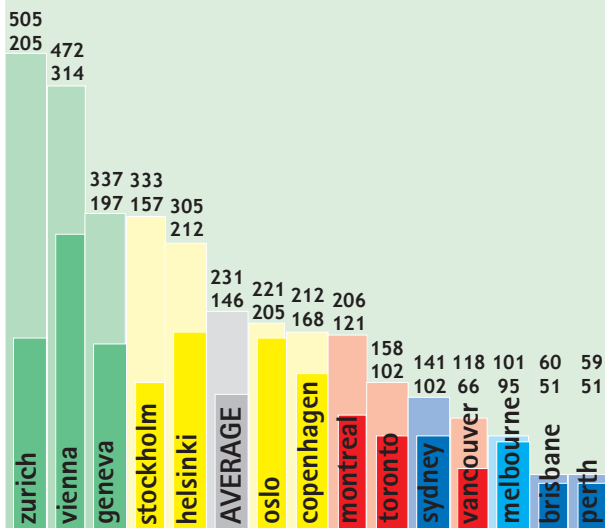
Public transport's most competitive components in the travel market of the world's most liveable cities are their rail networks that are generally segregated from road traffic. As shown in Figure 10, these modes achieve higher average speeds than the road system in nine out of the fourteen cities. Unfortunately, **Melbourne's trains are falling short of keeping up with the speed of cars – at an average speed of 40 km/h, the rail system is the fourth slowest in the sample.**





**FIGURE 11**

101 public transport boardings per capita per year (unlinked)  
95 public transport trips per capita per year (linked)



### Indicator 11: Ratio of Public Transport Trips and Boardings

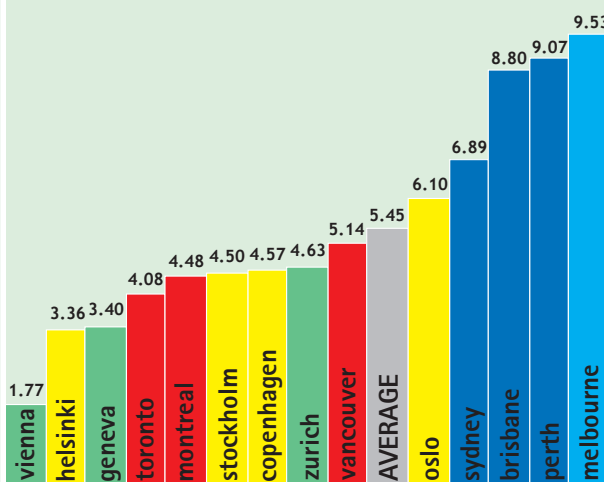
As well as relatively low numbers of public transport trips per capita, Melbourne has a very low proportion of trips which involve more than one service. This is shown by comparing the number of public transport boardings or *unlinked trips* (counting the segments of trips that involve a transfer between vehicles separately) with the only marginally lower number of *linked trips* (101 boardings for 95 trips per capita). This points to an extremely low proportion of transfer trips - in Zürich and Stockholm, for example, the number of boardings is more than twice as high as the number of linked trips. These figures strongly suggest that despite having better fare integration than Sydney or Brisbane, **Melbourne's public transport system is not set up to facilitate transfers. It suffers from underdeveloped levels of connectivity between trains, trams and buses and an insufficient number of well-served cross-suburban routes.** In conjunction with the speed disadvantages highlighted in Figures 9 and 10, this means that Melbourne's public transport network as a whole struggles to offer a time-competitive alternative to car travel on almost any trip. Each public transport mode in Melbourne - trains, trams and buses - requires far-reaching changes. The system needs to offer premium standards of service to perform better in terms of both speed and network integration, compared to road traffic.

### Indicator 12: Provision of Roads

Figure 12 compares the length of roads per capita across the sample of the world's most liveable cities, counting all roads from residential cul-de-sac to high-capacity expressway. It can be expected that lower-density cities (particularly in Australia) have relatively longer road networks than higher-density cities (particularly in continental Europe). Topographical factors - convoluted coastlines as in Sydney and Stockholm, mountainous terrain as in Zurich, or a combination of both as in Vancouver and Oslo - also tend to inflate these figures. In this context, **Melbourne's provision of roads, at 9.53 metres per person, is the highest in the sample, yet we have a relatively uncomplicated urban geography.**

**FIGURE 12**

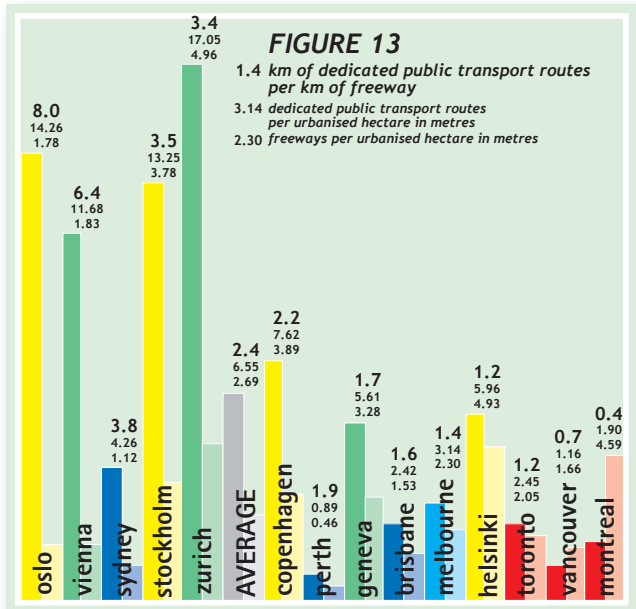
9.53  
length of roads per capita in metres



### Indicator 13: Comparison of Dedicated Public Transport Infrastructure and Freeways

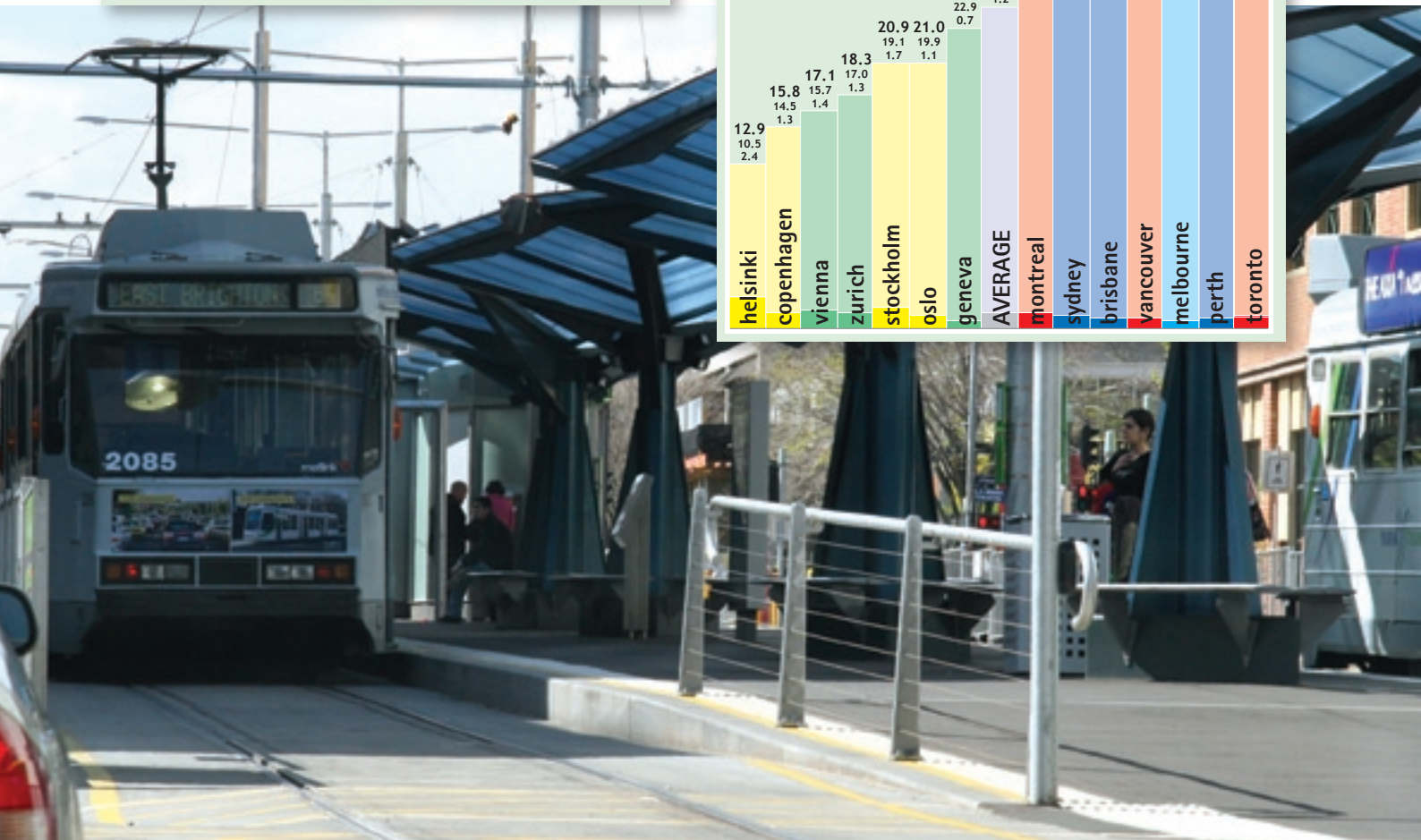
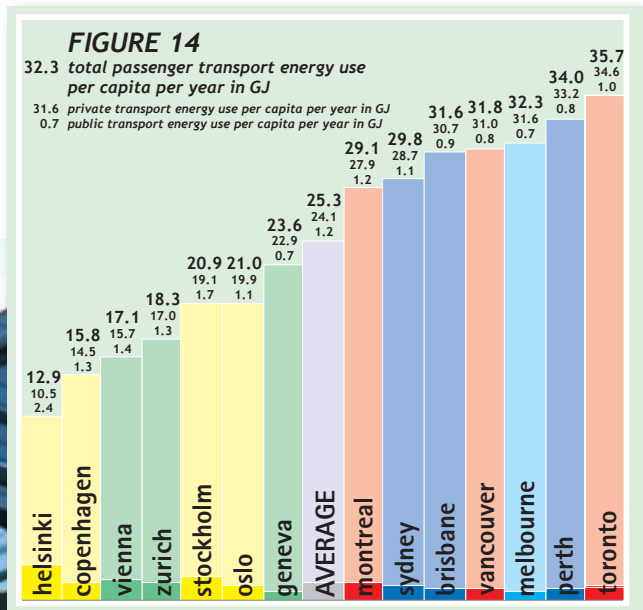
Figure 13 looks specifically at the highest quality infrastructure for both public transport and the road system. A comparison is made between the length per urbanised hectare of dedicated public transport right-of way (in Melbourne, train lines, tram routes on reservation or fairways and dedicated bus lanes) with the length of freeways and controlled-access expressways. The figures show that **contrary to popular belief, the density of Melbourne's dedicated public transport infrastructure is not out of the ordinary, even if the more compact European cities are disregarded** - for instance, it is lower than Sydney's. In contrast, Melbourne in 1995 already had a higher freeway/expressway density than any other non-European city in the sample, except Montreal. It is likely to have consolidated this

position since, following the opening of CityLink, the completion of the Western Ring Road, and the Hallam and Craigieburn bypasses. If public transport is to become more competitive with the car in the future, there is clearly a need for expanding the amount of public transport infrastructure where premium services, unaffected by road traffic, are possible.



**Indicator 14:  
Energy Use in Transport**

In Figure 14, a comparison is made between the annual energy end-use of passenger transport in Gigajoules (GJ) per capita across the sample of most liveable cities. With figures ranging between 13 and 24 GJ per capita, all European cities are characterised by below-average energy use in transport, while Canadian and Australian cities are all above-average, with Melbourne third highest at 32 GJ per capita. Practically all the variation across the sample is due to the levels of energy use for private traffic, while energy use for public transport is consistently very marginal in relation to the former. This illustrates the greater dependency of more car-oriented cities on an undiminished supply of affordable fuels to be used for urban transport, and their economic vulnerability to possible future fuel scarcity.



# section B

## Public Transport Priority: A Sound Economic Choice

As the previous section has shown, Melbourne's public transport system performs poorly in terms of both supply and performance when compared to our closest contenders for the title of the world's most liveable city. Its main shortfall is its limited ability to compete with the private car. This is due firstly to the car being provided for relatively generously: **the length of Melbourne's road network, the provision of parking in the CBD, and the size of the vehicle fleet owned by individuals and businesses are tangibly higher than in Sydney and in comparable cities overseas.** They continue to grow. Secondly, there are shortfalls that are intrinsic to the public transport system. Melbourne's trains, trams and buses are too slow and poorly connected. In many cases, they are too infrequent to offer a service that comes even close to matching the car in speed and convenience, even where traffic congestion and parking problems are part of the equation. The previous section also explained that Melbourne has invested less in the expansion and improvement of its public transport infrastructure than other Australian and comparable overseas cities. While user costs of private vehicle travel remain relatively low, the share of metropolitan wealth spent on transport and mobility in Melbourne is high.

This section will demonstrate why a greater priority for public transport investment in Melbourne is a sound economic choice. Melbourne's public transport needs to overcome its competitive disadvantages and aim for a far higher share of the travel market, as stipulated in Melbourne 2030.

### Levers to achieve change

The Commonwealth and State Government, and in many instances Local Government, have five essential policy levers available to pursue the goal of increasing public transport usage, and in doing so achieve the State Government 20/2020 target mentioned previously, and curb the adverse effects of car dependence in Melbourne. They can be categorised as:

1. *Network supply policies:* eg. provision of roads, pedestrian, cycling and public transport infrastructure;
2. *Network efficiency policies:* eg. cross-modal and cross-operator integration, electronic congestion management;

3. *Network demand policies:* eg. parking restrictions, TravelSmart, taxation pricing signals, road user charges;
4. *Vehicle performance policies:* eg. low-emission incentives, emission monitoring;
5. *Land use policies:* eg. transit-oriented developments, urban growth management.

These levers need to be applied in concert so they do not work against each other. A coordinated approach by Commonwealth, State and Local Governments is required, since responsibility for the levers is spread across jurisdictions.

This report is concerned with network supply and network efficiency for public transport and will outline their context with economic performance. Network demand and land use also require proactive responses at all levels of government.

Section 26 of the Australian Land Transport Development Act 1988 allows the Commonwealth Government to fund urban public transport and travel behaviour change projects. However, the provision of federal capital grants to state transport agencies, a common practice when it comes to road building, was made use of only erratically in the past for public transport projects. It was largely discontinued with abandonment of the 'Better Cities' program in the early 1990s.<sup>9</sup> The House of Representatives' recent inquiry into sustainable cities recommends that the Commonwealth Government should review this imbalance and 'significantly boost its funding commitments for public transport systems, particularly light and heavy rail, in the major cities.'<sup>10</sup> The Commonwealth also has responsibility for taxation, specifically fuel excise, petroleum resource rent tax and Fringe Benefits Tax (see right).

State Government makes decisions about critical transport infrastructure, and plays a fundamental role in the character of urban development through policies and strategies on urban form and regulations governing physical planning. Local

<sup>9</sup> Laird P, Newman P, Kenworthy J, Bachelis M (2001) *Back on Track: Rethinking Australian and New Zealand Transport Policy*. Sydney (NSW)

<sup>10</sup> House Standing Committee on Environment and Heritage (2005) *Sustainable Cities*. Available online at [www.aph.gov.au/house/committee/enviro/cities](http://www.aph.gov.au/house/committee/enviro/cities), last accessed September 2005 (p70)

Governments, through their control of local town planning schemes, can encourage or inhibit increases in density and mixed land use, and either promote or ignore opportunities for better integration of land use with public transport. Local

government activities also impact strongly on the provision of good quality walking and cycling environments, through traffic calming schemes and bicycle facilities. These in turn can have positive or negative impacts on public transport.

## Tax Reform to Redress Unbalanced Incentives Towards Mode Choice

In 2000, company and government cars comprised 16.5% of all car sales in Australia, but accounted for some 40% of peak hour traffic.<sup>11</sup> Much of their profligate use when road space is scarcest, can be explained by the common practice of salary packaging cars and parking to employees, facilitated by Commonwealth tax legislation that applies low and decreasing rates of Fringe Benefits Tax (FBT) with increasing annual mileage. No comparable fiscal privileges exist for any other mode of transport. These tax advantages constitute a powerful incentive for commuting by private vehicle, and possibly for excessive car ownership. The Australian Passenger Transport Alliance (APTA) has recently renewed a call on the Federal Government to reform tax legislation in order to create a 'level playing field' between private vehicle and public transport commuters. The APTA cites experience from the US where tax-free public transport benefits to employees have resulted in substantial increases in patronage.<sup>12</sup>

It has been estimated that \$110 million could be saved in the Federal budget from Victoria alone if the FBT subsidy were withdrawn and, in order to return some of these benefits to public transport commuters, GST on public transport fares was abolished.<sup>13</sup> Reduced or no GST rates on public transport fares are common throughout the European Union (for example, public transport in the UK is taxed at 0% VAT - with a standard rate of 17.5% - and in Germany at 7%, with a standard rate of 16%).<sup>14</sup>

While petrol excise is a tax raised with fuel retailers and at a fixed rate per litre, thus delivering relatively stable revenue to government, the petroleum resource rent tax is raised on the profits of domestic crude oil producers.<sup>15</sup> In the wake of rapid international oil price rises, its revenue to the Commonwealth has increased from an average of about \$900m per year during the late 1990s to \$1.7bn in 2003-04.<sup>16</sup> Hypothecation of a portion of these funds towards urban public transport investment would not only generate a dynamic funding source during the remaining period of domestic oil production, but further employ government revenue from fossil fuel exploration towards a transition to more balanced and sustainable transport in Australia's major cities.



- <sup>11</sup> Australasian Railway Association (ARA), quoted in: Public Transport Users Association (PTUA, 2002) *It's Time to Move*. Melbourne (p34)
- <sup>12</sup> Moore P (2005) A Fair Go for Public Transport. Employer-Provided Public Transport Benefits Should Be Tax-Exempt. *Transit Australia*, Vol 60, No 9
- <sup>13</sup> Public Transport Users Association (PTUA, 2002) *It's Time to Move*. Melbourne (p34)
- Riedy C, Diesendorf M (2002) Financial Subsidies to the Australian Fossil Fuel Industry. *Energy Policy*, Vol 31, No 2
- <sup>14</sup> Richardson E (2003) *Funding Choices for Sustainable Urban Transport*. Sinclair Knight Merz, Perth
- <sup>15</sup> Webb R (2001) *Petroleum Resource Rent Tax (PRRT)*. Parliamentary Library, Research Note 20/2000-01. Available online at [www.aph.gov.au/library/pubs/rn](http://www.aph.gov.au/library/pubs/rn), last accessed September 2005
- <sup>16</sup> Australian Petroleum Production and Exploration Association (APPEA) website, [www.appea.com.au](http://www.appea.com.au), last accessed September 2005



## Policy context: Integrated transport goals for Metropolitan Melbourne

The Melbourne 2030 Metropolitan Strategy formulates a number of policy directives for the future of urban transport in Melbourne.<sup>17</sup> In line with a general goal to concentrate more of Melbourne's job and housing growth into strategic locations within the established urbanised area, Melbourne 2030 enhances the role of activity centres. It envisions most of them to become mixed-use, pedestrian- and public transport-friendly hubs with increased urban density. The strategy aspires for a share of 41% of metropolitan housing growth to be absorbed by 115 higher-order activity centres and major redevelopment sites by 2030 (from a current trend of 24%), and stresses their accessibility and connectivity through a high-quality public transport network. An urban growth boundary, introduced in 2003, will effectively convert the remaining Greenfield growth areas into linear corridors with existing or potential public transport spines, particularly in Cardinia, Hume and Whittlesea. A target to achieve a share of 20% of all motorised trips within Melbourne on public transport by 2020 (from a current share of 9%), and a share of 40% of all trips on non-car modes (from a current share of 26%), implies that one in five car trips is anticipated to be replaced by walking, cycling or public transport during the next 15 years.

The Metropolitan Transport Plan (MTP) was released by the Government of Victoria in late 2004 and provides some details towards the Melbourne 2030 goals.<sup>18</sup> Under the sub-headings *A safer transport system*, *Managing congestion*, *Managing metropolitan growth* and *Support for economic growth*, the MTP spells out fourteen individual strategies, six of which are directly concerned with public transport. The following table lists these strategies together with the actions proposed, and outlines some controversies from the associated policy debates currently taking place in the public arena.

<sup>17</sup> Department of Infrastructure (DOI, 2002) *Melbourne 2030. Planning for Sustainable Growth*. Melbourne

<sup>18</sup> Government of Victoria (undated) *Linking Melbourne. Metropolitan Transport Plan*. Melbourne



| Metropolitan Transport Plan Actions  | Policy and Practice Controversies   |
|--|---|
| <b>Strategy 1.3: Provide safer and better access to public transport</b>   |   |
| <ul style="list-style-type: none"> <li>• Some restaffing of the train system</li> <li>• Road safety around tram and bus stops</li> <li>• Accessibility to the system for people with disabilities</li> </ul>   | <ul style="list-style-type: none"> <li>• Reduction in the number of tram stops</li> <li>• Slowness of implementation of Disability Discrimination Act (DDA) compliance particularly on the tram system</li> </ul>   |
| <b>Strategy 1.4: Ensure the safety and security of transport infrastructure</b>  |   |
| <ul style="list-style-type: none"> <li>• Safety, maintenance and asset renewal on the rail system</li> </ul>   | <ul style="list-style-type: none"> <li>• Service reliability and accident record on the rail system</li> <li>• Vulnerability of public transport to 07/07-style terrorist attacks</li> </ul>  |
| <b>Strategy 2.1: Improve the reliability and flow of road-based public transport</b>   |   |
| <ul style="list-style-type: none"> <li>• Priority measures for trams and buses</li> <li>• ThinkTram target to reduce travel times by 25% on eight tram routes</li> </ul>   | <ul style="list-style-type: none"> <li>• Reduction in the number of tram stops</li> <li>• Mixed results from trials such as Clarendon Street</li> </ul>   |
| <b>Strategy 2.3: Improve service coordination, integration and customer interface</b>  |   |
| <ul style="list-style-type: none"> <li>• Metlink as a coordination and marketing agency</li> <li>• SmartCard ticketing system</li> </ul>   | <ul style="list-style-type: none"> <li>• Lack of government planning agency for the public transport system (as in Perth)</li> </ul>  |
| <b>Strategy 3.2: Increase access via public transport in middle and outer areas</b>  |   |
| <ul style="list-style-type: none"> <li>• Target network for higher-standard bus services (SmartBus)</li> <li>• Goals for better local bus services</li> </ul>  | <ul style="list-style-type: none"> <li>• Slow implementation of SmartBus services</li> <li>• Insufficient funding for broad improvements</li> <li>• Potential extensions to the rail and tram networks not considered</li> <li>• Insufficient integration of land use and transport planning</li> </ul> |
| <b>Strategy 3.3: Improve access via the passenger rail network</b>   |   |
| <ul style="list-style-type: none"> <li>• Identification of capacity constraints and bottlenecks</li> <li>• Feasibility studies for North Melbourne station upgrade and Caulfield-Dandenong track triplification</li> <li>• Mention of additional stations and short rail extensions in growth areas</li> </ul> | <ul style="list-style-type: none"> <li>• Insufficient consideration of least-cost alternatives for capacity upgrades</li> <li>• Lack of funding commitments and implementation timetables for rail upgrades and extensions in growth areas</li> </ul>   |

It has been argued that while the MTP contains a wealth of aspirational statements concerning public transport improvements, it continues a trend already prevalent in Melbourne 2030, to consistently shy away from providing timelines or funding commitments for specific interventions.<sup>19</sup> Committed infrastructure and service improvements in public transport, beyond the completion of the extension of tram route 75 to Vermont South and the rail electrification project to Craigieburn already under way, are as follows:

- ThinkTram priority program for eight inner urban tram routes, with a \$30m state budget allocation and a target to reduce travel times along the specified sections by 25%;
- Three additional SmartBus routes (Box Hill to Mordialloc, Caulfield to Rowville and Frankston to Ringwood);
- A budget allocation of \$37m over four years for additional bus services in selected outer urban growth areas.

The total state budget allocation to public transport infrastructure development measures across Victoria in 2005-06 is \$47.6m. The budget allocation for public transport

services in metropolitan Melbourne, including operator subsidies, departmental administration costs and capital asset charges to VicTrack is \$1.54bn.<sup>20</sup>

This contrasts with a more dedicated approach to the expansion of road infrastructure, largely contained in the MTP sections on freight movement. To address the needs of commercial and freight traffic, some 90 km of additional mixed-traffic freeways and tollways are contained in the document, all with completion targets, funding commitments and some already under construction (Craigieburn Bypass, Pakenham Bypass, EastLink (Mitcham to Frankston), Deer Park Bypass and the upgrade of the Calder-Tullamarine freeway interchange). Total capital expenditure - including state, federal and non-government contributions - on these measures will be in the

<sup>19</sup> Mees P (2003) Paterson's Curse: The Attempt to Revive Metropolitan Planning in Melbourne. *Urban Policy and Research*, Vol 21, No 3

<sup>20</sup> Department of Treasury and Finance (DTF, 2005) *2005-06 Victorian Budget*. Available online at [www.budget.vic.gov.au](http://www.budget.vic.gov.au), last accessed September 2005

order of \$3.5bn, \$2.5bn of which will be spent on the largely privately funded EastLink project. In addition, there are government and developer contributions to a range of smaller extensions and improvements to the arterial road network in metropolitan Melbourne. The state budget allocation for road system management across Victoria in 2005-06 is \$761.7m.<sup>21</sup> The MTP does not resolve how the expected attraction of a substantial number of additional private vehicle trips to these new and upgraded roads supports Melbourne 2030 goals to reduce the share of car trips across Melbourne.

**The document further appears to have a very narrow interpretation of the role that transport policy plays in supporting economic growth, in that it only considers the movement of goods and business-related traffic through the city. The MTP remains entirely silent on opportunities to foster economic activity through constraining traffic.**

This is what occurs in high-quality, pedestrian-oriented urban centres where knowledge-sector businesses can cluster, and to which the 'creative class' is attracted.<sup>22</sup> In such places, there is ample opportunity for spontaneous exchanges to take place between people, mostly on foot, within a high-quality public realm, generating a density and diversity of interaction that is conducive to both business and social activity.<sup>23</sup> Unlike the MTP, the City of Melbourne's Transport Strategy consultation process has recognised the significance of such place-based approaches in supporting economic activity.<sup>24</sup>

On a state level, this unresolved contradiction is reflected in recent State Budget allocations for transport investment (see above). **State Government spending continues to prioritise road needs over those of public transport, walking and cycling despite there being a stated policy objective to reduce private vehicle use in favour of alternative modes.** Furthermore, funding decisions continue to be made on a project- and mode-specific basis, rather than following the spirit of Melbourne 2030 that calls for an integrated approach to resolve mobility and accessibility constraints. The timely call for integrated approaches to transport planning also calls for more integrated mechanisms of transport funding.<sup>25</sup>

Unfortunately for the prospects of such integration, the legacy of conventional transport planning has been to regard the development of urban transport infrastructure primarily as a technical task, *predicting* future traffic volumes and then *providing* the road capacity these apparently require. This approach is now widely discredited among transport experts. It has been understood that it is neither economically possible nor politically or environmentally desirable for cities to 'build their way out of congestion' by supplying sufficient infrastructure to satisfy all demand.<sup>26</sup> Mobility patterns in cities have proven

far harder to predict than the linear models of conventional transport planning suggested. Unintended effects include induced traffic (trips previously not made, or increased travel distances, that are encouraged by new or upgraded roads) and feedback effects of transport infrastructure provision on land use patterns, businesses operations and individual lifestyles.<sup>27</sup> The recognition that there is no 'rational equilibrium' between infrastructure supply and traffic demand (and hence congestion levels), has led to a departure of transport policy in most parts of the world, from the goal of 'solving congestion'. Instead, the emphasis is on transformation of the land-use and transport interplay, redefinition of mobility, accessibility and connectivity, and programs of transport behaviour change.<sup>28</sup>

The task of optimising Melbourne's transport system for our city's economic performance is thus far more complex than the MTP suggests. **The business case for transport investment needs to be built around accessibility and place-making in areas of economic activity, rather than limiting itself to expressing a hope for increased efficiency in moving freight by indiscriminately expanding road capacity.** It also needs to address the question how the cost of transport to society can be reduced relative to economic output (see Figure 6). Public transport offers a range of solutions to this challenge, which are summarised in the following paragraphs.

<sup>21</sup> Department of Treasury and Finance (DTF, 2005) *2005-06 Victorian Budget*. Available online at [www.budget.vic.gov.au](http://www.budget.vic.gov.au), last accessed September 2005

<sup>22</sup> Florida R (2002) *The Rise of the Creative Class and how it's transforming work, leisure, community and everyday life*. New York (NY), USA

<sup>23</sup> Engwicht D (1992) *Towards an Eco-City - Calming the Traffic*. Sydney (NSW)

<sup>24</sup> City of Melbourne (2005) *Melbourne Transport Strategy, Issues Paper: Economy and Transport*. Available online at [www.melbourne.vic.gov.au](http://www.melbourne.vic.gov.au), last accessed August 2005

<sup>25</sup> Richardson E (2003) *Funding Choices for Sustainable Urban Transport*. Sinclair Knight Merz, Perth

<sup>26</sup> Banister D (2002) *Transport Planning*. London, UK

Downs A (2004) *Why Traffic Congestion Is Here to Stay - and Will Get Worse*. Access, No 25

<sup>27</sup> Standing Advisory Committee on *Trunk Road Assessment (SACTRA, 1994) Trunk Roads and the Generation of Traffic*. Department of Transport, London, UK

Goodwin P (1998) *Unintended Effects of Transport Policies*. In Banister D (1998, Ed) *Transport Policy and the Environment*. London, UK

Sager T (2005) *Footloose and Forecast-Free: Hypermobility and the Planning of Society*. *AESOP 2005 Congress*, Vienna, Austria, 13-16 July

<sup>28</sup> Straatemeier T (2005) *Access for All? Accessibility as Conceptual Framework to Address Strategic Planning Issues*. *AESOP 2005 Congress*, Vienna, Austria, 13-16 July

Banister D (2002) *Transport Planning*. London, UK

## The Economic Benefits of Public Transport

### A strong role for public transport helps cities to generate wealth

Car dependence is expensive. Across the developed world, the link between the wealth of a city and its car use is very weak. Among the group of the world's most liveable cities in the previous chapter, it is even reversed (Figure 2 and 3). Many prospering cities have put their wealth into good public transport infrastructure and premium service (Figure 4). Far from draining resources into a subsidy-dependent system as some conventional economists believe, the result is that cities with well-used, world-class public transport tend to consolidate their wealth. Evidence on the economics of urban passenger transport shows that car dependence is a drain on city economies, soaking up valuable financial resources that could otherwise be invested in more income- and employment-generating activities.<sup>29</sup> **The more a city has committed itself to public transport infrastructure, the less the city spends overall on transport. Conversely, the more a city is built around car dependence, the more of the city's wealth is wasted on just getting around.**<sup>30</sup>

The first barrier in having such results recognised, is a long-entrenched attitude prevalent in transport agencies and in treasury departments that road expansion is inherently a good thing and urban rail expansion is inherently not. The MTP, for instance, envisages a transport system for Melbourne's outer suburban growth areas that 'needs to be flexible and primarily road-based'. It thus commits to a continuous 'rolling program' of road infrastructure improvements.<sup>31</sup> Using state government grants and a system of developer contributions in collaboration with local government, the construction of high-capacity roads in growth areas is instituted as an unquestionably worthwhile public investment, in the same way that the police force or primary schools represent unquestionably worthwhile public investments. In contrast, public transport is denied this standing. While the MTP stresses the importance of providing better services in growth areas, there is no similar funding mechanism from either the public or the private sectors tied to ongoing urban development; public transport improvements are effectively decided on a case-by-case basis.

However, when the cost and benefits are more fully considered, there are strong grounds for reversing this judgement and resulting practice, ie. for calling road spending to account and allowing public transport to stand as a public investment. At the very least, equal treatment is called for. British transport academic Phil Goodwin advocates to manage highway capacity by 'logically linking the provision of road space to realistic and

acceptable amounts of traffic', and by providing 'consistency with all other aspects of transport policy'.<sup>32</sup>

Allied to this attitude has been the practice of referring to the government subsidy for public transport operations as a 'deficit'. Road funding, because it is hypothecated from a fuel tax or from vehicle registrations, has not been seen this way. The present practice of calling the deficit a 'community service obligation' is little better, unless subsidies for road building and parking are given similar status.<sup>33</sup>



<sup>29</sup> Newman P, Kenworthy J (1999) *Sustainability and Cities. Overcoming Automobile Dependence*. Washington (DC), USA

<sup>30</sup> Laird P, Newman P, Kenworthy J, Bachelis M (2001) *Back on Track: Rethinking Australian and New Zealand Transport Policy*. Sydney (NSW)

<sup>31</sup> Government of Victoria (undated) *Linking Melbourne. Metropolitan Transport Plan*. Melbourne (p42-43)

<sup>32</sup> Goodwin P et al (1991) *Transport: The New Realism*. Oxford (UK)

<sup>33</sup> ESD (1991) *Final report - Working groups transport*. Canberra

## Priority for non-car access in Zürich's economic hubs

*Zürich is the wealthiest city in the global sample used in Section A of this report – its GRP is approximately twice as high as Melbourne's. Faced with transport policy choices in the 1970s and 1980s, Zürich's voters decided to invest the city's wealth in what is arguably one of the best-operated and highest-usage public transport system in the world, rather than a car-based access system.*

*To support these goals, Zürich's extensive tram system has been given full priority over private vehicles throughout the city. A high-frequency regional rail system links the core city (365,000 inh) and the metropolitan region (1.1m inh) and operates at speeds far higher than the road system (Figure 10). Activity centres follow a restrictive parking policy to reduce traffic and improve local amenity (Zürich's CBD has the lowest parking provision in the sample of most liveable cities, see Figure 8). Non-motorised modes have been recognised as the most fundamental components of urban mobility, and barriers to walking and cycling are progressively reduced. Zurich even has a policy to promote skateboarding and inline skating as forms of transport!*

*Despite the city's wealth, 42% of Zürich's households do not own a car. The city expects to grow by 25,000 residents and 60,000 jobs within the next 20 years, and new development will be configured around the needs of low-car mobility, with a target of 50% of all trips on public transport.*

*Source: Mobilitätsstrategie Zürich, [www.mobil-in-zuerich.ch](http://www.mobil-in-zuerich.ch)*



# Zürich



Photo by Andrew Robinson

## Good public transport reduces socio-economic stress

In Australian cities, lower-income households are increasingly moving out to areas where housing is more affordable than in rapidly gentrifying inner suburbs. However, in outer suburbs, multiple car ownership is enforced by the lack of public transport. As a result, the increasing mobility costs confronting lower-income households can account for up to 25% of their income.<sup>34</sup> This is exacerbated by the current rapid increase in the price of fuel. **Growing financial and personal costs of multiple car ownership and high car use simply to fulfil everyday needs, make such households vulnerable to socio-economic distress. Unemployment and social isolation results when residents can no longer afford to access jobs and community networks.**<sup>35</sup> A functional public transport system and better land use planning across the metropolitan area can contribute to keeping all members of society 'in the loop' with regard to social and economic opportunities, help businesses to access broad labour markets, and reduce costs to mitigate the adverse social effects of mobility-induced deprivation.

The economic benefits of good public transport to individual households can be substantial. It has been calculated that by eliminating one car from a typical household over a working life, \$750,000 in extra superannuation could be accrued.<sup>36</sup> These funds are then available for more productive purposes in the city. Given the Commonwealth's concerns over an ageing population and its financial capacity to support a less productive population, investments in public transport systems that allow many people to live with one less car, or no car, are sound economic policy.

## Good public transport reduces external transport costs

Car dependence is also costly in terms of environmental, social and economic externalities. Government expenditure on the cost of accidents, pollution, noise etc. has been estimated and compared to revenue benefits of the road system, resulting in a nationwide annual 'road deficit' of \$22.8 billion in 1999.<sup>37</sup> **One of the most significant future economic risks of car dependence is the vulnerability of Australian cities in the face of rising costs as global oil production approaches its historic peak.**<sup>38</sup> **Public transport-oriented cities, particularly those where electric rail systems play a dominant role, will withstand this crisis far better than urban areas with extensive car dependence.** This is due to the greater diversity of energy sources used to generate electricity, the lower relative energy consumption of public transport over private vehicles, and the greater energy efficiency of public transport-oriented cities over car-oriented cities (see Figure 12). In Australia's four

largest cities in 1996, the average energy consumption per passenger km was 0.99 MJ for public transport and 2.53 MJ for private vehicles.<sup>39</sup>

To retain our current levels of mobility and reduce greenhouse emissions in an era of diminished cheap energy supply, policy makers must move beyond their reliance on finding alternative fuels and technologies to solve the problem. Unless future growth in mobility can be directed to public transport, walking and cycling, technological innovation will need to be running very fast just to stand still in the urban transport race.



<sup>34</sup> International Association of Public Transport (UITP, 2002) *Policy Options for Passenger Transport in Australian Cities of the Future*. Bruxelles, Belgium

<sup>35</sup> Kemp D C (1998) *Facilitating Employment Growth - The Urban Planning Contribution for Perth*. A Discussion Paper, Western Australian Planning Commission (WAPC), Perth (WA)

<sup>36</sup> Warman B (2001) *Cars - Where are they taking us?* Charter, Keck, Kramer Research, Strategic Property Consulting, Research Insight, March

<sup>37</sup> Metropolitan Transport Forum (MTF, 2002) *Creating Choices - The Transport Web*. Melbourne (p9), quoting Bureau of Transport Economics (1999) *Urban Land Transport - Looking Ahead*. Information Sheet 14, Canberra (ACT) and Bureau of Transport Economics (2000) *Road Crash Costs in Australia*. Report No 102, Canberra (ACT)

<sup>38</sup> Kunstler J H (2005) *The Long Emergency. Surviving the Converging Catastrophes of the 21st Century*. New York (NY), USA

Pfeiffer D A (2003) *The End of the Oil Age*. *Centre for Research on Globalisation* website, [www.globalresearch.ca](http://www.globalresearch.ca), last accessed January 2004

Campbell C J (2003) *Oil Depletion - The Heart of the Matter*. *Association for the Study of Peak Oil and Gas* website, [www.peakoil.net](http://www.peakoil.net), last accessed January 2004

Maass P (2005) *Running on Empty*. *The Age Magazine*, 1 October

<sup>39</sup> Kenworthy J, Laube F (2001) *The Millennium Cities Database for Sustainable Transport*. International Union of Public Transport (UITP), Brussels, Belgium and ISTP, Murdoch University, Perth (WA)



Another major indirect cost of car-based transport is on public health. The benefit of a prominent role for public transport to public health is its ability to counteract the decline in incidental physical activity associated with driving. Most public transport trips include a walking component, which in a Perth study has been shown as equivalent in length to an average walk-only trip, and seven times as long as the walking component of an average car trip.<sup>40</sup> Physical inactivity is now identified as the second leading contributor to the overall burden of disease in Australia, and is a contributing cause of 8,000 deaths per year. Direct healthcare costs associated to physical inactivity are estimated at \$400m per year.<sup>41</sup> The direct links between physical inactivity and sprawling, car dependent urban environments where public transport services and the opportunity to walk or cycle are very poor, are now well recognised<sup>42</sup>

In addition, in 1996 road crashes resulted in nearly 2,000 deaths, 22,000 serious injuries and an estimated cost to the Australian economy of nearly \$15bn.<sup>43</sup>

### Good public transport saves time

Throughout urban history, there has been a trend to keep total daily travel time down to an average of about an hour for each person. This has become known as the Marchetti Principle.<sup>44</sup>

**The switch to more sustainable modes of transport will not occur if it means that people have to exceed this travel time budget.** A city will thus only be able to replace car trips by public transport, walking and cycling at a large scale if it can:

- develop a rapid transit system down every corridor that operates faster than road traffic; and
- build or consolidate centres around public transport nodes where walking and cycling connect the different local services and land uses at least as fast and efficiently as driving.

<sup>40</sup> Socialdata Australia (2000) *Mobility Behaviour, City of Melville*. Department of Planning and Infrastructure (DPI), Perth (WA)

<sup>41</sup> Bauman A, Bellew B, Vita P, Brown W, Owen N (2002) *Getting Australia Active: Towards Better Practice for the Promotion of Physical Activity*. National Public Health Partnership, Melbourne

Wright C (2003) Creating Supportive Environments for Physical Activity: Encouraging Walking. Chapter 30 in Tolley R (2003, Ed) *Sustainable Transport: Planning for Walking and Cycling in Urban Environments*. Cambridge, UK

<sup>42</sup> Ewing R et al (2003) Relationship between Urban Sprawl and Physical Activity, Obesity and Morbidity. *American Journal of Health Promotion*, Vol 18, No 1

Giles-Corti B, Donovan R J (2003) Relative Influences of Individual, Social Environmental and Physical Environmental Correlates of Walking. *American Journal of Public Health*, Vol 93, No 9

<sup>43</sup> Bureau of Transport Economics (2000) *Road Crash Costs in Australia*. Report No 102, Canberra (ACT)

<sup>44</sup> Marchetti C (1994) Anthropological Invariants in Travel Behaviour. *Technical Forecasting and Social Change*, Vol 47, No 1

In its Transit Cities program, the Victorian government, local communities and land developers have begun to transform some important activity centres towards a more integrated and walkable form around major rail stations.<sup>45</sup> But the public transport connecting these nodes needs to become faster than traffic and operate at greater frequencies if the anticipated mode shift away from the car is to occur. This requires upgrades and extensions of rail infrastructure, and an increased role for trams and buses as rail feeders and connectors on secondary corridors (see Section C).

### Good public transport makes economic use of urban space

A freeway lane can move some 2,500 people per hour before traffic congestion sets in. On their busiest routes, Melbourne's trains can move at least 10,000 people per hour per track before reaching unreasonable levels of overcrowding. During the Sydney Olympics, up to 50,000 people per hour have been carried along a single track to Homebush Bay. The space needed to provide for car-based mobility is far higher - by up to 20 times as much. The costs of such space are considerable and help explain why most central cities cannot function without rail access. If Melbourne's current peak hour passenger load on trains and trams (approximately 250,000 passengers) switched to cars (with an average of 1.2 occupants), they would require at least an additional 200 km of four-lane expressways criss-crossing the inner area (assuming a lane-capacity of 2,500 people per hour and an average journey-to-work length of 16 km). They would further require the equivalent of the entire private land within the CBD grid (approximately 125 hectares) developed as additional five-storey parking garages (at 30 sqm per vehicle).



### Public transport supports the globalised service/knowledge economy

In the new global economy, a city's strength is the number and quality of its 'knowledge workers', a group of professionals who are highly mobile.<sup>46</sup> Advanced business services in the 'New Global Economy' are considered to offer the best chance of providing citizens with a secure future, and the 'best and brightest minds are required for advanced business services.'<sup>47</sup> The importance of improving cities' liveability to retain and attract such people cannot be overstated. **A quality urban public transport service has been identified as a key factor in encouraging business investment and location in an urban centre, especially technology companies. Business wants to know that its workforce can gain convenient and reliable access to its workplaces and that workers can arrive at work in a state that enhances productivity.** It is generally accepted that long, stressful car commutes through congested conditions contribute significantly to worker stress.

Furthermore, new global economy jobs seek out urban locations with the greatest amenity and ability for face-to-face networking. This encourages innovation and synergies and also provides workers with a higher quality of life.<sup>48</sup> Increasingly, such locations are those that provide the most attractive, liveable urban environments, especially in their public spaces. Inevitably, these places are also those that have superior public transport services and have managed to restrain the dominance of the private car and its adverse effects on the quality of urban life. It appears that global city jobs in Melbourne are mostly locating in the transport-rich, tram-accessible older areas which are dense, mixed and walkable, while outer urban areas retain the socio-economic vulnerability associated with a predominance of 'old economy' manufacturing industries, and a perilously low ratio of jobs to residents.<sup>49</sup>

<sup>45</sup> Department of Sustainability and Environment (DSE), Transit Cities website. Available online at [www.dse.vic.gov.au](http://www.dse.vic.gov.au), last accessed August 2005

<sup>46</sup> Briggs G (2005) *The Intelligent City: Ubiquitous Network or Humane Environment?* Chapter 2 in Jenks M, Dempsey N (2005, Eds) *Future Forms and Design for Sustainable Cities*. Oxford, UK

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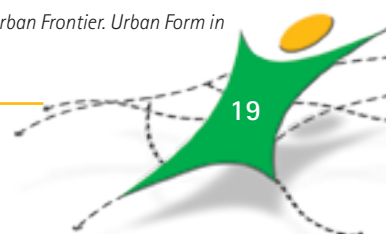
<sup>47</sup> Spiller Gibbins Swan Pty Ltd (2000) *Future Perth: South West Urban System Economy Study*. Working Paper 1, Ministry for Planning (WA), Perth

<sup>48</sup> Hall P (1997) Reflections Past and Future in Planning Cities. *Australian Planner*, Vol 34, No 2

<sup>49</sup> Brain P (1999) *The Factors and Outcomes Driving Metropolitan Development over the Next Quarter Century*. City of Melbourne and National Institute of Economic and Industry Research, Melbourne

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## Public transport provides investment certainty

The impact of public transport, particularly fixed rail, and high-capacity roads on property development in their vicinity, are starkly different. Rail routes and stations are fixed and last a long time - certainly beyond the period most investors need to achieve their returns. They thus tend to increase property values in their immediate vicinity<sup>50</sup>, encouraging high-density development as well as a great diversity of land uses. Where market forces and public planning converge to mutual benefit, rail station precincts have every potential to evolve into amenity-rich, pedestrian-friendly areas with high levels of activity intensity, while being remarkably frugal in overall land consumption. In the case of freeways, property values immediately adjacent to the infrastructure are more commonly depressed (because of the severance and environmental impact generated by the high traffic volumes). On large arterial roads, low-density, single-purpose land uses with extensive parking areas and low walkability dominate. The benefit of road infrastructure for land development lies in its ability to open up large tracts of land for urban development in the broader catchment area of the road - the classic driver of suburban sprawl. Where space is constrained, and where a city has decided to curb its outward expansion (as Melbourne 2030 testifies) the existence of fixed and certain rail systems becomes critical: they offer both a real transport solution and a real land investment opportunity.

## Public transport promotes car-light lifestyles

In August 2005, *The Age* ran a feature on the mobility and liveability in Melbourne's suburbs, suggesting a profound gap between the 'haves' and the 'have-nots' when it comes to public transport provision.<sup>51</sup> In an anecdotal comparison of two households, it was described how a three-adult outer suburban family in Hoppers Crossing had a requirement of three cars; while two household members arranged themselves with the less than ideal conditions on public transport to travel to work, it appeared to them entirely inconceivable to use the very limited bus services in the area for any other trip purpose. In contrast, an inner urban professional couple in North Carlton was reported to do practically all their job-related and

discretionary travel by tram and on foot, except for occasional visits to relatives in the suburbs, for which purpose they still kept one vehicle.<sup>52</sup>

The trend for centrally located and public transport-rich neighbourhoods to become leaner in car use and ownership, even as they are subject to residential gentrification and intensification of business activity, can be observed internationally. In Barcelona's inner districts, population grew by 11% between 1999 and 2004 while the number of registered cars declined by 7% during the same period. Car ownership per 1000 inhabitants thus fell from 416 to 348 in only five years.<sup>53</sup> In New York's Manhattan, an extremely low rate of car ownership relative to population (147 per 1000 inhabitants) dropped further by 6% between 2000 and 2003.<sup>54</sup> In Melbourne's Carlton, car ownership rates stagnated between 1996 and 2001 at around 350 cars per 1000 inhabitants - just over half the metropolitan average - while the number of dwellings grew by 37%.<sup>55</sup> Where mobility alternatives are attractive, even wealthy urbanites do not opt for tying a higher than necessary share of their income to motor vehicles. Research shows that lower housing costs in Melbourne's fringes are often eroded by higher costs for personal mobility.<sup>56</sup>

The preference of relatively prosperous households for low or no car ownership, is further facilitated by the emergence of new mobility services, such as car-sharing organisations, which also provide new business opportunities. The upgrade of public transport systems contributes to the confidence of transport users that living with one less car, or no car, does not translate into mobility disadvantage. It helps consolidate and increase the number of households who have a genuine choice in this respect.

<sup>50</sup> Cervero R (2003) *Transit Oriented Development in America: Experiences, Challenges and Prospects*. Transportation Research Board, National Research Council, Washington (DC), USA

<sup>51</sup> Silkstone D (2005) On the Right Track? *The Age*, 22 August

<sup>52</sup> Ziffer D (2005) Facing up to the Long Haul and Getting Around Never a Problem, *The Age*, 21 August

<sup>53</sup> Ajuntament de Barcelona, Departament Estadística website, [www.bcn.es/estadistica](http://www.bcn.es/estadistica), last accessed September 2005. These figures refer to the districts of Ciutat Vella and Eixample.

<sup>54</sup> New York City, Department of City Planning website, [www.nyc.gov/planning](http://www.nyc.gov/planning), last accessed September 2005

New York State, Department of Motor Vehicles website, [www.nydmv.state.ny.us](http://www.nydmv.state.ny.us), last accessed September 2005

<sup>55</sup> City of Melbourne (2005) *Carlton Parking and Access Strategy*. Available online at [www.melbourne.vic.gov.au](http://www.melbourne.vic.gov.au), last accessed September 2005

Australian Bureau of Statistics (ABS, 2003) *Census 2001*. Available online at [www.abs.gov.au](http://www.abs.gov.au), last accessed September 2005

<sup>56</sup> Victorian Council of Social Services (VCOSS, 2005) *Generating a Community Legacy: VCOSS State Budget Submission 2005-06*. Available online at [www.vcooss.org.au](http://www.vcooss.org.au), last accessed September 2005

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# section C

## The Reform Agenda

The previous two sections examined the shortfalls of the status quo for public transport in Melbourne - both within the urban transport market and with regard to its wider function to support a dynamic urban economy. It was found that:

- Melbourne's public transport system has insufficient coverage, poor connectivity and low commercial speeds, amounting to severe competitive disadvantages against the private car.
- Public transport underwrites the mobility and accessibility needs of a city where wealth is increasingly generated in the knowledge and service industries, and in economically dynamic and robust urban nodes.

This section will name a number of areas where greater investment in public transport infrastructure and services can deliver on both goals. It will also present a range of opportunities for leveraging private and public funding sources for joint transport and land use development that have not yet been made use of in Melbourne.

### How to connect all of Melbourne by premium public transport

#### Extend the train network to growth areas

Melbourne is set to grow by 634,500 new housing units between 2001 and 2031.<sup>57</sup> Between 31 and 38% of this growth (approximately 200,000 to 240,000 dwellings) is expected to occur in new urbanised areas at Melbourne's fringe, particularly in Casey-Cardinia, Hume, Melton, Whittlesea and Wyndham. To enhance public transport's role in the daily mobility of these new and relocated residents, it is imperative that far better infrastructure and services are provided parallel to urban development, than has been standard in growth areas during the last few decades. Additional stations and some short extensions on the Werribee, Broadmeadows/Craigieburn, Cranbourne and Pakenham train lines as identified in Melbourne 2030 would



Map 1  
Infrastructure expansion on Melbourne's train system: Extensions and additional stations to serve the outer urban growth areas, new lines to East Doncaster and Rowville.

help to cater for trips both to and from inner Melbourne and within the outer suburbs (see Map 1). In Melton, electrification and duplication of the existing regional train line would enable services of a similar standard as the rest of the network. In Whittlesea, Melbourne 2030 envisions two more substantial extensions of the Epping line in two branches to Aurora and Mernda, for which land reservations are planned or already exist. In both Hume and Whittlesea, there is also scope for the extension of existing tram lines to large activity centres in these growth areas.

There is also a need for much improved bus services both in existing and future outer suburbs. The MTP makes a laudable distinction between SmartBus routes, largely serving orbital

<sup>57</sup> Department of Sustainability and Environment (DSE, 2004) Urban Development Program, Annual Report 2004. Available online at [www.dse.vic.gov.au](http://www.dse.vic.gov.au), last accessed August 2005

## Perth's urban rail renaissance

*Threatened with system closure only 25 years ago, Perth's suburban rail system underwent a dramatic revival since the mid-1980s, and is now changing the life of Australia's traditionally most car-oriented metropolis. Electrification of the system and the addition of a fourth line to the northern suburbs in the early 1990s resulted in a four-fold increase in patronage. The \$1.56bn, 74 km link along the fast-growing south-western corridor to Mandurah is expected to nearly double this figure again to more than 50m passengers per year. Relative to population, Perthians from 2007 will be using trains as much as Melburnians do today.*

*Funding for the new and upgraded rail lines has been raised entirely from the State Government budget, while enjoying in-principle support from both major political parties. Meanwhile TransPerth, the government's public transport agency, has been in a position to reconfigure a previously convoluted and irregularly operated bus system to integrate well with the rail network in terms of timetable coordination, interchange design and integrated ticketing. The Circle Route bus, introduced in 1999 and linking trip generators like shopping centres, universities, hospitals and secondary schools with train and bus interchanges in a 10-15 km orbit around the city centre, has been particularly successful in generating new patronage for public transport on suburb-to-suburb trip relations, including train-bus transfer trips to destinations away from the rail system.*

*Source: New MetroRail, [www.newmetrorail.wa.gov.au](http://www.newmetrorail.wa.gov.au)*



Photo by Jeff Kenworthy

# Perth



Photo by Jeff Kenworthy



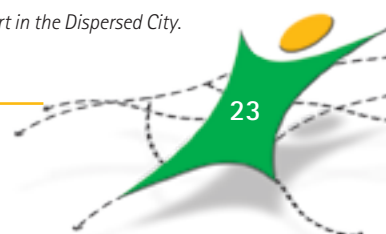
and other cross-suburban corridors connecting activity centres, rail and bus interchanges and other travel generators, and local buses accessing residential neighbourhoods. In the low-density environment that dominates outer Melbourne, it is imperative that bus routes either provide fast, direct links between hubs (SmartBus) or slower, circuitous service to access a maximum number of households within walking distance, rather than both functions at a time. However, both types of bus routes need to be served at frequencies and operating hours similar to those offered on the higher-order train and tram routes.

### Improve network connectivity

As shown in Section A of this report, Melbourne's public transport system attracts a very low proportion of transfer trips (Figure 11). This is partly due to a network configuration that provides insufficient physical connectivity between trains, trams and buses, and partly due to the lack of timetable coordination at interchange facilities as well as their geographical placement and physical design. However, where transfers can be made more attractive to users, there is scope for public transport to tap into new market segments and attract substantial additional ridership through reduced travel times and entirely new trip relations. This is known as the 'network effect'.<sup>58</sup> A further advantage of a better connected public transport system is its ability to offer a choice of routes to the user and thus to alleviate congestion on network segments with high demand.

The keys to converting Melbourne's largely monocentric, disconnected system into a polycentric network with high connectivity are public transport hubs where all modes are linked. These are required particularly in higher-order activity centres and at legible and user-friendly transfer points where existing lines intersect, particularly between trains, trams and high-frequency bus routes. The infrastructure interventions required are of a smaller scale than the growth area network extensions, involving the careful integration of interchange facilities in activity centres as well as minor extensions, diversions or relocations of tram routes, train routes or train stations. A number of speedy, high-frequency cross-suburban routes are required to be added to the network. They should link the hubs, following an improved SmartBus concept. Some orbital routes across inner and middle suburbs could be converted to tram operation as they pick up patronage in the medium term. There is also a need for additional traffic priority measures for trams and buses to ensure these modes can maintain reliably timed connections with the train system and with each other.

<sup>58</sup> Mees P (2000) *A Very Public Solution. Transport in the Dispersed City.* Melbourne



## A legible suburban rail system in Copenhagen

Both Copenhagen's population and the length of its suburban rail network are about half the size of Melbourne's. But while Melburnians need to arm themselves with a veritable library of timetables if they wish to make liberal use their train system, Copenhageners merely need to memorise three figures (such as 14, 34, 54) for the minutes past the hour trains depart at their station – for 20 hours a day, every day. During business hours, the 20-minute frequency is increased to 10 minutes on all routes, and express services with fixed stopping patterns

operate on most of the network throughout the day. The central trunk route accommodates up to 30 trains per hour per track in the peak. Commercial speed across the network is 51 km/h (Melbourne: 40 km/h), and every resident uses the system 53 times per year on average (Melbourne: 38).

Each coloured line on the system map (below) represents a service at 20 minute intervals, showing overlapping and express routes at a glance. The timetable displayed below covers every station across the network, every day of the week, and fits comfortably within a six-page A5 brochure.

Source: DSB S-tog, www.dsb.dk

| Køge - Lyngby/Hillerød |          |      |      | Hundige - Hillerød     |      |      |      | Høje Taastrup - Holte  |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     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| E                      |          |      |      | A*                     |      |      |      | B                      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     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| Til Lyngby alle dage   |          |      |      | Til Hillerød alle dage |      |      |      | Til Hillerød alle dage |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     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| E                      |          |      |      | A*                     |      |      |      | B                      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     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### Increase capacity on congested rail routes

Some of Melbourne's rail lines are running near capacity during peak hours and would benefit from infrastructure upgrades that allow for increased services. The MTP provides for feasibility studies into the construction of a third track for the Caulfield to Dandenong line. Other constraints to higher train frequencies are single-track sections on the Epping, Hurstbridge and Werribee lines, insufficient platform capacity at termini stations, and the practice of switching the direction of operation on the City Loop on weekdays. Furthermore, the high number of level crossings on Melbourne's train system generates conflicts between road users - including buses and, in four cases, trams - and rail operations. However, eliminating the most notorious level crossings is a far greater improvement to the road system than to the rail system. The funds required should thus not be taken out of public transport capital works programs.

Elimination of bottlenecks within the rail system requires genuine investment for public transport (see Map 1). The same is partly also true for improvement of travel speeds across the network. The aim is to achieve travel times more competitive with the private car, especially by providing for more limited-stop or express services on all routes throughout the day. In this context, there needs to be broad consideration of operational optimisation techniques as well as better signalling, which may be capable of achieving similar capacity and speed improvements as additional tracks at much lower cost. For example, the 11 trains departing Pakenham during the weekday morning peak (0600-0900) currently travel to the city according to six different stopping patterns, and run at almost entirely irregular intervals. This level of timetable illegibility, to all but the most seasoned passengers, discourages flexible usage of the train system. It also contributes to overcrowding on the most popular services (see box on Copenhagen on left).



# most liveable and best connected?

## Access for all on Helsinki's and Vienna's trams

*Low-cost solutions for platform stops and improved pedestrian access have made both cities' extensive first-generation tram systems almost 100% accessible to people with disabilities, and resulted in improvements to safety and amenity around tram stops. A rolling program of fleet renewal continuously increases the proportion of routes served by low-floor vehicles.*



# Helsinki

# Vienna



## Upgrade bus-only corridors to rapid transit

Two radial corridors in Melbourne were identified as candidates for critical rail extensions in the 1969 Transportation plan and have been lobbied for by expert groups and affected local councils ever since (Map 1). A Manningham-to-City route would serve several activity centres in the Doncaster area and make use of an existing reservation in the median of the Eastern Freeway. It was recommended for more detailed study in the Northern Central City Corridor Strategy in 2003.<sup>59</sup> With options of heavy rail, light rail, or busway on this route, only a heavy rail route branching off the Epping and Hurstbridge lines can provide travel times competitive to the car and avoid further congestion of tram or bus routes at the CBD end.<sup>60</sup> The Huntingdale to Rowville route, featuring as a 'potential network improvement' in Melbourne 2030, would serve Monash University and a number of activity centres along Wellington Road in Monash and Knox. The corridor will be upgraded to Smart Bus standards in the near future. However, only a rail extension can realistically provide a fast, transfer-free link to the centre of Melbourne, and a one-transfer link to other train and tram routes in the south-east. These qualities are crucial for achieving a network effect and attracting significant patronage away from cars.

## Provide access for all across the system

Historically, public transport systems have been built for able-bodied passengers with only as much luggage as they could conveniently carry in their hands. Stations and vehicles featured steps, steep ramps and insufficient spaces for prams, wheelchairs, bicycles or other heavy items. Disability rights legislation such as the 1992 Disability Discrimination Act (DDA) as well as the growing recognition of people with disabilities, parents with babies, cyclists or long-distance travellers as public transport customers, have begun to change this understanding. Bus and tram fleets are progressively replaced by low-floor vehicles allowing step-free boarding, while train and tram stops are retrofitted with platforms at the height of the vehicle floor and, where required, lifts and wheelchair-friendly access ramps.

The DDA compliance requirements are outlined in an Action Plan requiring Melbourne's public transport operators and infrastructure providers to meet certain accessibility targets in specified years.<sup>61</sup> By 2007, it is planned that 25% of public transport will be fully accessible to people with disabilities, by 2017, 90% and by 2032, 100%. Unfortunately, Melbourne's public transport system is not on track even for the modest 2007 goal.<sup>62</sup> In particular, DDA compliance on the tram network lags behind. This is arguably the most critical component due to its frequent service and area-wide coverage of inner Melbourne.

Currently, there are 95 low-floor trams out of a total fleet of 489 (19%), and the number of platform stops across the network is unlikely to reach even 5% by 2007. There is a tendency in Melbourne to dismiss low-cost options for platform stops in favour of excessive design standards. There is also reluctance to introduce them where this means reducing space for traffic lanes or parking.<sup>63</sup> Similarly, there has been a lack of debate about how existing trams can cost-effectively be converted to disabled access, eg. by adding low-floor centre sections to older articulated vehicles as practiced in many European systems, or by adding low-floor trailers to non-articulated trams.

Another aspect of system accessibility is the stark divide into transport-rich and transport-poor suburbs that can be observed across Melbourne and that still relates strongly to the catchment area of the rail networks. While trains and trams will remain the backbone of the public transport system, used by most passengers for at least part of their journey, the critical role of buses to expand the catchment area of rail needs to be strengthened. It has been shown that on Melbourne's suburban train system, 61% of passengers accessed their station by walking and cycling (and thus can be assumed to live in the immediate vicinity); only 9% used feeder buses in the early 1990s. Comparative figures for Toronto are 20% walking and cycling, 76% feeder buses, reflecting the much greater integration and quality of service on both modes in the Canadian metropolis.<sup>64</sup> Clearly, the pursuit of better network connectivity across all modes of public transport described above can go a long way towards generating more equitable access to the system for those Melburnians who are currently outside its range.

<sup>59</sup> Department of Infrastructure (DOI) *Northern Central City Corridor Strategy (NCCCS)*. Available online at [www.doi.vic.gov.au](http://www.doi.vic.gov.au), last accessed September 2004

<sup>60</sup> PTUA website, [www.ptua.org.au](http://www.ptua.org.au), last accessed August 2005

<sup>61</sup> Department of Infrastructure (DOI, 1998) *Action Plan for 21st Century Accessibility*. Available online at [www.doi.vic.gov.au](http://www.doi.vic.gov.au), last accessed September 2005

<sup>62</sup> Coalition for People's Transport (2004) *The Place to Be on PT. A Vision for Greater Melbourne's Transport*. Victorian Council of Social Service (VCOSS), Melbourne

<sup>63</sup> Public Transport Users Association (PTUA, 2005) website, [www.ptua.org.au](http://www.ptua.org.au), last accessed August 2005

<sup>64</sup> Mees P (2000) *A Very Public Solution*. Transport in the Dispersed City. Melbourne (p232)

## Integrated transport policy in Vancouver

*British Columbia's metropolis, crowned again in 2005 with the title of the world's most liveable city, looks back onto a 30-year history of sustainability-oriented, integrated land use and transport planning. The introduction of a new rail system since the 1980s resulted in strong growth of high-density, mixed-use and high-amenity urban redevelopment around stations and near the city centre, whose residential density is now second only to Manhattan in North America.*

*A 1995 long-range transport plan, explicitly calling for transit orientation and automobile restraint as the cornerstones of mobility policy in Vancouver, set the scene for a profound reorganisation of regional transport planning authorities. In 1998, TransLink was formed as an agency to conduct infrastructure and service planning for all modes of transport.*

*While in Melbourne the separation of road and public transport planning in different departments creates substantial uneven competition for funds and contradictory policy outcomes, in Vancouver there is now a common benchmark of accountability. This integrated approach to transport planning leads to a much higher share of investment into sustainable modes than in Melbourne. Out of a total budget of C\$3.9bn (A\$4.35bn) over 10 years, just over a quarter will be spent on road improvements, while more than two thirds is earmarked for new public transport infrastructure and vehicles.*

Source:  
Greater Vancouver Transportation Authority (TransLink), [www.translink.bc.ca](http://www.translink.bc.ca)



Photo by Jeff Kenworthy



Photo by Jeff Kenworthy



Photo by Jeff Kenworthy

# Vancouver



## Reform franchising agreements

Privatisation of Melbourne's train and tram operations commenced in 1999 amidst projections of sharply growing public transport patronage that would over time lead to substantial reductions in the level of public subsidies required to operate the systems. When one of the three private train and tram operators retreated in 2002, it became obvious that such predictions had been over-optimistic and that public transport privatisation had provided little, if any, relief on the public purse. Instead, the state government contribution to run Melbourne's train and tram systems increased in real terms from about \$300m in 1999/2000 to \$560m in 2004/05.<sup>65</sup>

While rescue packages amounting to more than \$2bn have been provided from state government budgets to cover the renegotiated franchise term until 2010, the basic architecture of the franchising agreements remains in place, with single operators now in charge of each of the entire train and tram networks. Metlink has been established as an agency owned by the two operators and responsible for revenue distribution and user information, providing coherent branding and publicity for all public transport services in Victoria. However, Metlink's role is not that of an accountable public transport agency - comparable, for instance, to Western Australia's TransPerth or Vancouver's TransLink (see box on left) - with the authority to conduct comprehensive planning for network and service improvements, and implement them independently of the commercial interests of the operators. As a result, the involvement of the public sector in network and service development across the train and tram operations remains largely passive. There is no effective mechanism in the franchising system that forces the players to deliver on both growth in patronage and reduction of government operating assistance simultaneously.<sup>66</sup>

Rather than promoting cost-effectiveness in the delivery of public transport services, Melbourne's privatisation experiment has resulted in a sharp rise of public subsidies to the operators. Privatisation has also failed to lead to improvements in service quality substantially above the trends prevalent under pre-1999 government ownership. It thus appears questionable whether the long-term continuation of the current franchising regime is in the best interest of the community and the greater role for public transport outlined in Melbourne 2030. Instead, it appears advisable that an accountable public transport agency is formed to resume full authority for network and service planning from the operators, and that any negotiations to extend the franchises beyond their current terms (2007 for buses, 2009/10 for trains and trams) are conducted within such a framework.



<sup>65</sup> Auditor General Victoria (2005) *Franchising Melbourne's Train and Tram System*. Auditor General's Report No 11 (September), Melbourne (p25-26)

<sup>66</sup> Mees P (2005) *Privatisation of Rail and Tram Services in Melbourne: What Went Wrong?* *Transport Reviews*, Vol 25, No 4

## Untapped sources of public transport funding

In Australia, capital investment in public transport infrastructure has almost exclusively been funded by State Government loans or grants. The absence of Federal Government funding is lamentable and has been repeatedly targeted as a field of action by organisations such as the International Association of Public Transport (UITP)<sup>67</sup> and recently, the Commonwealth House of Representatives.<sup>68</sup> However, there are also a range of non-conventional funding mechanisms that take in contributions from the private sector and/or beneficiaries of public transport improvements. They are summarised in the following.

### Developer contributions

Developer contributions are a common funding tool for infrastructure investment in urban growth and redevelopment areas in Melbourne. The City of Whittlesea, for example, expects to raise \$227m from such contributions in the next 20 years to facilitate the construction of an arterial road network across its growth areas.<sup>69</sup> Unfortunately, there is not much precedent for raising such monies for public transport investments, even though the regulatory environment allows for this.

### Value capture financing

As mentioned in the previous section, the expansion of rail infrastructure is usually associated with substantial increases in property values in the catchment areas of the stations. These areas then become suitable for development at higher density and lower private vehicle orientation than would be possible without rail access. In both cases, windfall gains for property owners are often above average for growth and redevelopment areas, and the principle of value capture funding attempts to redirect part of these gains into financing the infrastructure that enabled them in the first place. There are a number of practical mechanisms, many of which have been applied successfully particularly in US cities. Among these, are special assessment districts that charge a premium on property rates within the catchment area of a rail station. Other mechanisms are co-development agreements where private sector investors and public agencies enter partnerships to coordinate and co-finance the delivery of rail infrastructure and transit-oriented property development.

### Parking levies

A levy will apply to all off-street parking in Melbourne's CBD from 2006. While it is currently not certain what component of the revenue from this levy will be reinvested in public transport improvements, such hypothecation has clearly informed the Australian precedents of the levy in Sydney and Perth. In Perth, the revenue has funded three CBD circulator bus routes (CAT) as

well as a fare-free zone for all public transport within the CBD.

Another parking-related revenue could be the hypothecation of cash-in-lieu fees charged to developers in return for waiving mandatory car parking requirements towards public transport improvements. In Hamburg, Germany, cash-in-lieu fees for parking requirements, were converted into a compulsory development impact fee for new development in the CBD in 1992, and the provision of parking severely curtailed. The revenue, traditionally used to fund park-and-ride facilities at suburban metro stations, has since been channelled into public transport infrastructure development and renewal of rolling stock.<sup>70</sup>

### Road user and congestion charges

London, in 2003, introduced a city centre congestion charge to all motorists who enter the CBD during the day on weekdays. The scheme follows the twin goals of reducing traffic congestion and freeing up road space to improve the speed and reliability of bus services. Other benefits are improved amenity for pedestrians and cyclists, and generation of funds to expand bus services and help pay for modernisation of the underground rail system.<sup>71</sup>

Urban road user or congestion charges are also in place in Singapore and several Scandinavian cities. However, their introduction tends to be contentious and not always popular with voters. In Edinburgh, the introduction of a London-style congestion charge was soundly rejected in a referendum in 2005.

### Employer levies

In France, legislation has been in place since 1971 to generate funding for public transport's capital and operation budgets from a special payroll tax charged to medium and large employers (*versement de transport*). While at the discretion of local councils whether or not to implement this funding source, in practice a great majority of cities across the country are making use of it. The *versement de transport* has contributed to a veritable boom in public transport investment. This includes three new metro systems and more than 15 new or modernised and extended tram systems across the country during the last 20 years.<sup>72</sup>

<sup>67</sup> Moore P (2005) A Fair Go for Public Transport. Employer-Provided Public Transport Benefits Should Be Tax-Exempt. *Transit Australia*, Vol 60, No 9

<sup>68</sup> House Standing Committee on Environment and Heritage (2005) *Sustainable Cities*. Available online at [www.aph.gov.au/house/committee/envir/cities](http://www.aph.gov.au/house/committee/envir/cities), last accessed September 2005

<sup>69</sup> de Silva C (2005) *Developer Contribution Plans*. Presentation to the Metropolitan Transport Forum, 2 March

<sup>70</sup> Ubbels B, Enoch M, Potter S, Nijkamp P (2004) *Unfare Solutions. Local earmarked charges to fund public transport*. London, UK

<sup>71</sup> Transport for London (TfL, 2005) *Congestion Charging website*, [www.tfl.gov.uk/tfl/cc/intro.shtml](http://www.tfl.gov.uk/tfl/cc/intro.shtml), last accessed September 2005

<sup>72</sup> Banister D (2002) *Transport Planning*. Second Edition. London, UK

# priority actions for government



## Melbourne's 6 Priorities for Public Transport Infrastructure Investment

1. Increase rail capacity on congested routes through operational, timetabling and signalling improvements, and duplication of single track lines.
2. Extend train lines and construct additional stations to service urban fringe growth areas - Mernda, Aurora, Wyndham Vale, Cranbourne East and Melton - and the Doncaster and Rowville corridors (see Map 1).
3. Connect all principal, major and specialised activity centres by train, tram or SmartBus with a minimum 10-minute frequency and with better traffic priority for trams and buses.
4. Upgrade suburban bus services and frequency (at least every 15 minutes), as direct services 7 days a week to at least 10pm.
5. Accelerate delivery of measures to achieve disability compliance across the system, and access for all by extending services to all Melbourne residents and jobs.
6. Reform franchising agreements and re-establish an accountable and integrated public transport planning agency in State Government.

### Not a priority:

Major new road projects, other than in designated growth areas at the urban fringe.

## 3 ways the state government can implement these priorities

1. Implement integrated budgeting, planning and triple-bottom line decision making for transport projects.
2. Set timelines and estimated budgets for these priorities. Commit to these as the basic building blocks of an implementation plan for 20/2020: achieving 20% of motorised trips on public transport by 2020.
3. Advocate for a greater role for Federal Government in public transport investment, for example by putting up major public transport projects for Auslink funding, by allocating 20% of federal fuel taxes and petroleum resource rent tax to public transport investment, and by tax reform in support of public transport usage.





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