



it's time to  
**MOVE**

**PTUA**  
PUBLIC TRANSPORT USERS ASSOCIATION

# it's time to MOVE



The transport and accessibility topic area was the most popular during Round 2 of consultation and almost 33 per cent of forum participants were involved in discussions. Strong support was recorded for initiatives to reduce or improve car usage, and increase the service levels of public transport. Initiatives to encourage walking and cycling to work also drew general support from participants. The participants in support of more roads and freeways were in the minority.

—Metropolitan Strategy Information Bulletin,  
November 2001



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# Part I: The Importance of Public Transport

All around Melbourne, people are concerned about the quality of public transport. Public authorities, from local councils to Federal government agencies, pay lip service to the idea of reducing car dependence and encouraging alternatives such as public transport, walking and cycling. Yet the majority of Melburnians do virtually all of their travel by car and show no signs of changing. Why should we bother making the effort?

## Triple Bottom Lines

The explosion in private car travel is one of many unsustainable twentieth-century habits that are detrimental to life in cities, as well as the natural environment. Most of these effects cannot be assessed under the usual financial cost-benefit criteria. What dollar value do we place on a reduction in childhood asthma due to air pollution? Or on a reduction in car traffic making it easier to cross the road?

To allow benefits and drawbacks to be considered on their own terms, policymakers developed the idea of the *triple bottom line*. The idea is that policy initiatives are separately assessed on economic, environmental and social criteria. A project that looks good economically but fails environmentally will justifiably lose to an alternative that succeeds on all three criteria. (Unfortunately the political realities are often very different, as we shall see.)

Triple-bottom-line planning is popular with local governments in Victoria, and is promoted by the current State Government. So let us imagine what a triple bottom line analysis of public transport against private cars on freeways might look like.

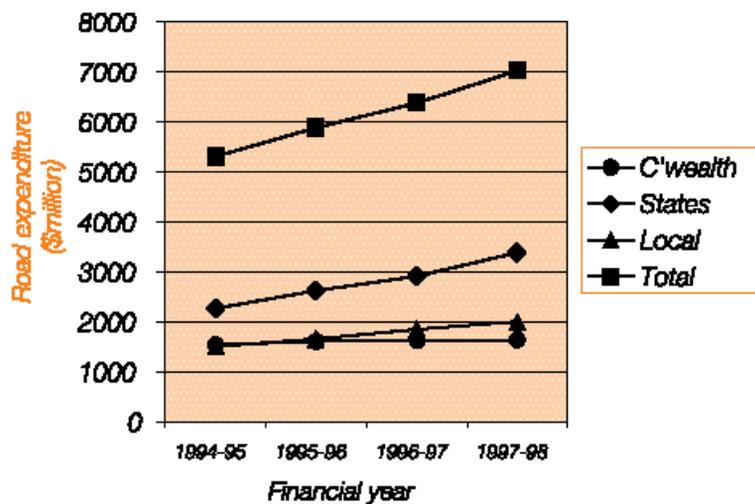
## ECONOMY

### Public Transport: the Efficient People Mover

Economics deals with the efficient allocation of scarce resources. It's about getting the most 'bang for our buck' in procuring goods and services. So we are concerned with the efficient movement of people, and with freight—since freight travels on the same roads and railways that carry passengers.

onto the system, while efforts to increase the viability of roads are all about *reducing* the density of traffic by building extra capacity. In practice things are never so simple. Building extra road capacity encourages people to drive further and more often, so that before long traffic congestion is just as bad as it was before. And efforts to increase public transport patronage are bound to fail as long as private car transport offers a superior alternative.

## The escalating spiral of road funding



Source: Bureau of Transport and Regional Economics, Information Sheet No.13, 1999

Both public transport and roads consume scarce resources: money, land, and fuel to operate vehicles. In its resource use public transport has what economists call—*returns to scale*: the more users, the greater the economic benefit. This is because a public transport service costs about the same amount to provide, regardless of how many passengers it carries. Full trains don't draw much more power than empty trains; buses and bus drivers cost money whether they're on the road or sitting idle at depots.

Road traffic, on the other hand, displays *diminishing* returns to scale. This is because roads quickly fill up with traffic, and once congestion sets in, each additional vehicle slows everyone down. (Of course, this can also happen with public transport if there are enough users, as on the London Underground in peak hour, but in Melbourne we are a long, long way from having this problem.)

This is the fundamental reason why increasing the viability of public transport always involves getting *more* passengers

Currently Melbourne's public transport and road systems are both heavily subsidised because we are stuck in two vicious cycles. On the one hand, car use spirals out of control:

more traffic > more investment in bigger roads > more road space > more traffic again

Meanwhile, public transport has historically been on a downward spiral:

fewer passengers > less revenue > lower investment > lower standard of service, leading to > even fewer passengers

This remains the trend despite some marginal service improvements made by the Kennett Government as a 'sweetener' for privatisation. These improvements have boosted the *absolute* numbers using public transport from its all-time low in the early 1980s, but the number of public transport trips as a *share of all trips* is now lower than it has ever been in Melbourne, at a mere 7 per cent.<sup>1</sup> Even Brisbane now has a greater share of trips by public transport!



## Better public transport means less congested roads

The win-win solution involves shifting car trips to public transport, walking and cycling. By increasing public transport patronage the cost recovery and economic viability of public transport improve. At the same time, if people substitute public transport trips for car trips, the roads become less congested so that other car trips can proceed at higher speed. This makes road transport more efficient too. Road space can also be turned over to walking and cycling, to encourage these other important transport modes.

Because road congestion is highly sensitive to the number of vehicles present, it doesn't take much of a 'mode shift' to have tangible effects. Consultants for the Scoresby Freeway Environmental Effects Statement in 1997 found that if just 2 per cent of existing car trips could be shifted to public transport, the benefits for the remaining 98% of car trips would be *greater* than from building the freeway!

## Public transport means less road trauma

When a mode of transport injures large numbers of people, this must count against its economic efficiency. In Victoria, road-related incidents kill some 400 people and put another 3000 in hospital every year.<sup>2</sup> The cost to Victorians of treating these injuries is a staggering \$1.8 billion a year—about triple the net cost of providing all of Victoria's public transport services.

Human beings are prone to making mistakes, but it's only on the road that our mistakes so often have such tragic consequences. Sadly, road deaths and injuries are likely to be with us as long as there are large numbers of people in charge of vehicles moving at high speed across each other's path. Rigorous enforcement of alcohol, speed and give-way rules can do a lot to reduce the road toll, but as we have seen lately in Victoria, the death toll cannot be kept down forever while more and more people are encouraged to drive further and more often.



A peaceful setting in Burnley, directly adjacent to Melbourne's busiest train line.

## The Mitchell Freeway in Perth, with the Northern Suburbs Rail Line.

Two railway tracks	=	25 metres (total width of easement)
6 freeway lanes	=	100 metres (width of easement)
Railway capacity	=	40,000 people per hour
Freeway capacity	=	10,800 cars per hour
Cars per day on freeway	=	106,000 (at Hutton St)
Average car occupancy	=	1.2 passengers
Potential passengers per hour on freeway	=	12,960

Conclusion: A 25 metre-wide reservation carries 3,240 passengers by road or 40,000 by rail in an hour.

Sources: WA Railways, WA Main Roads, ARA



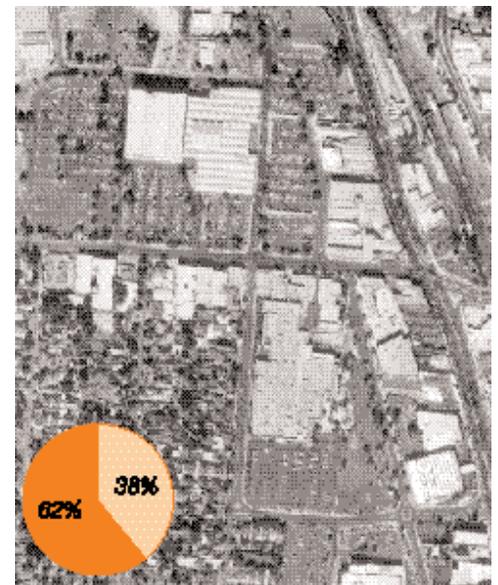
## Public transport means more open space

An oft-neglected economic aspect of transport policy is the alienation of land for transport infrastructure. Mass motoring requires an enormous investment in land: not just for roads but also for car parking, petrol stations and other car-related land uses. In Melbourne around 40% of urban land is taken up by roads, driveways and car parks; in particular suburbs the proportion can be as high as 70%.

Of course, railways and tramways also require land. But the impact on surrounding neighbourhoods of a tram or train line is on the whole less obtrusive compared with a road of similar capacity. Not only does it require less land; the noise and pollution are also reduced.

## Freight

The exact same principles that apply to passenger transport also apply to freight. The benefits of shifting freight from road to rail are most obvious for inter-city freight. Currently some 3,200 heavy trucks move up and down the Hume Highway between Melbourne and Sydney every day, winding up on suburban streets on the way to their final



The concrete heart of Ringwood, with graphic analysis of land use.

Buildings and open space  
Roads and car parks

destination. The implications are severe for road trauma and transport-related energy use—not to mention the ongoing cost of maintaining the Hume Highway. But all these truck journeys could be replaced by just *10 additional freight trains a day* on the parallel railway line.<sup>3</sup>

Rail also has advantages for some local freight transport. While rail cannot link all possible origins and destinations, the Ports of Melbourne and Geelong, and key industrial zones in Dandenong, Broadmeadows, Altona and Geelong, are all rail-connected. The Ford Motor Company used to move goods by rail between its factories in Broadmeadows and Geelong, but now uses B-triple road trains for this purpose.

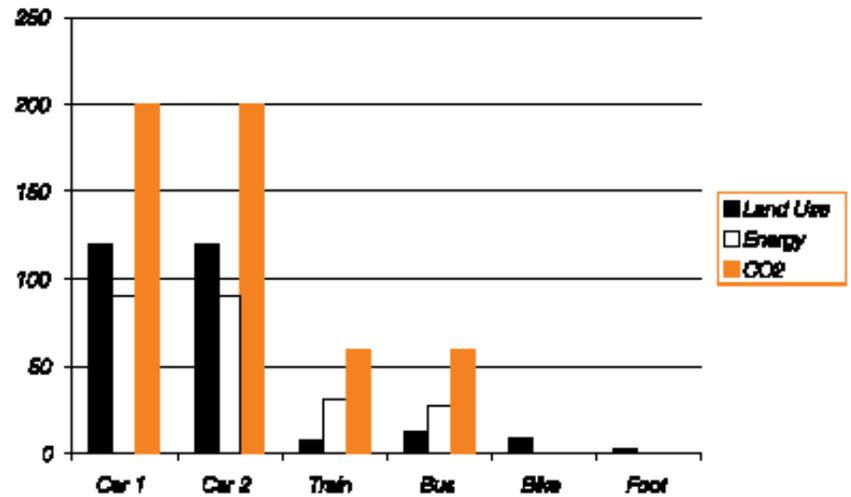
The real difficulty is that governments make public roads available to freighters almost for free while charging hefty access fees for rail. To move 1,000 tonnes of freight by rail costs \$5,585 in state-imposed access fees, while to move it by road costs just \$458 in truck registration.<sup>4</sup> Indeed, road freight transport is priced so cheaply in Australia that companies can save money by turning the public road network into a substitute warehouse for their goods: this is called 'Just-In-Time inventory management' (though not all companies use JIT this way). Heavy trucks are the cause of most damage to road surfaces, but it is the public purse that picks up the bill.

Everyone has an interest in reducing the number of large trucks that drive through residential areas. Freeways are not really the answer because they are no better at linking all possible origins and destinations than railways are. The only sustainable long-term solution is to reform the discriminatory access regimes that distort the market by favouring road transport over rail transport, and move toward a system of bulk freight depots connected by rail, from which smaller vehicles move goods to their final destinations. Many large companies already approximate this kind of system in their own freight operations.

### But aren't freeways meant to be good for the economy?

Attracting more passengers to public transport and reducing road congestion is a win-win economically. New roads have the opposite effect, by starving public transport of patronage and increasing congestion. But if this is so, why has every new freeway in Melbourne been touted as a boon for the Victorian economy?

### Efficiency of Transport Modes



Source: Teufel D., Die Zukunft des Autoverkehrs, 1988

Land use = m³ per person, Energy = grams coal equiv / person-km, CO2 = grams / person-km. Car 1 has no catalytic converter, Car 2 has a catalytic converter. Average occupancies assumed.

Road planners talk up the economic benefits partly because it's politically convenient. All Australian governments now regard themselves primarily as economic managers, and believe that the most appropriate way to stimulate economic growth is by providing public infrastructure that supports industry. So the road lobby merely has to argue that new freeways will stimulate economic growth, and the government will have a mandate to build freeways.

Leaving aside the question of whether 'economic growth' fuelled by greater petrol consumption and alienation of land is a good or a bad thing, there is simply no evidence that road-building produces any economic benefit at all.

The very idea that roads are an economic stimulus arose with the Thatcher

government in Britain, which commenced one of the world's most ambitious freeway programmes in the 1980s. The programme was dramatically scaled back in the 1990s due to public opposition, but in 1997 the whole idea was discredited by the government's Standing Advisory Committee on Trunk Road Assessment (SACTRA). The SACTRA report found that road-building had no discernable effect in stimulating economic growth, and may even have a *negative* economic impact.<sup>5</sup>

Even in Melbourne there is plenty of evidence against the idea that freeways are good for the economy. The western suburbs have a higher concentration of freeways than the eastern suburbs, yet the eastern suburbs have always been better off economically. The Western Ring Road commenced construction in 1992 with the promise that it would generate an economic boom for the western suburbs. By 1996 the first section of the Ring Road (through Broadmeadows) was open for business. Yet according to census figures, Broadmeadows continued to have one of the highest unemployment rates in Australia. Meanwhile Knox, with no freeways at all, had one of the highest employment growth rates in Melbourne.<sup>6</sup>

Despite all the evidence piling up against the economic benefits of freeways, the road lobby seem unwilling to abandon their argument, and instead produce flawed studies to defend it. The studies draw their erroneous conclusions by ignoring the 'feedback' effect of induced traffic (see next page), and by adding up all the two-minute time savings they can find—which individually are of no economic importance besides perhaps allowing office workers to grab a second cup of coffee before work.



# Feedback: Why Freeways Don't Reduce Traffic Congestion

For every problem there is always a solution that is simple, obvious, and wrong.

—attributed to Mark Twain

Feedback occurs whenever the outputs of a system have an effect on the inputs. Speak too loudly into a microphone, and the resulting amplified signal gets picked up and put through the system a second time. This produces an even louder signal, which is picked up a third time. Very quickly the noise builds up and the amplifier squeals until you turn the volume down. This is known as 'positive feedback' because the signal feeds back on itself over and over again.

Freeway building generates its own form of positive feedback. It's common to suppose that building new roads will relieve traffic congestion, because the increased road space provides more room for the same amount of traffic. But this ignores the feedback effect a new road has on people. A new road is more than just relief for existing journeys; it is also an opportunity for people

- to make new journeys that they may not have contemplated before,
- to make the same journey more often,
- to drive instead of taking public transport, or
- to travel longer distances to accomplish the same task.

All these have the effect of increasing the amount of traffic on the new road (and on the existing roads that feed it). If the feedback effect is significant, the road system can wind up just as congested as before, but now there are more people caught up in the congestion, more energy is being consumed, and more pollution generated.

Transport planners have verified that this effect occurs with all new roads, and call it 'induced traffic' or 'generated traffic'. The first official acknowledgement of the effect was in the 1994 report of the Standing Advisory Committee on Trunk Road Assessment.<sup>7</sup> The expert team from the UK Department of Transport concluded that

**Travellers must, as a matter of logic, be assumed to respond to reductions in travel time brought about by road improvements by travelling more or further.**

—Standing Advisory Committee on Trunk Road Assessment, 1994

The conclusions of the SACTRA report are now acknowledged by transport experts around the world, including Australia's own Institution of Engineers:

**New urban roads always attract traffic...the two main sources are induced traffic (trips that would not otherwise have been made had the road not been built) and diverted traffic (trips that would otherwise have followed some alternative route)**

—Institution of Engineers Australia, 1990<sup>8</sup>

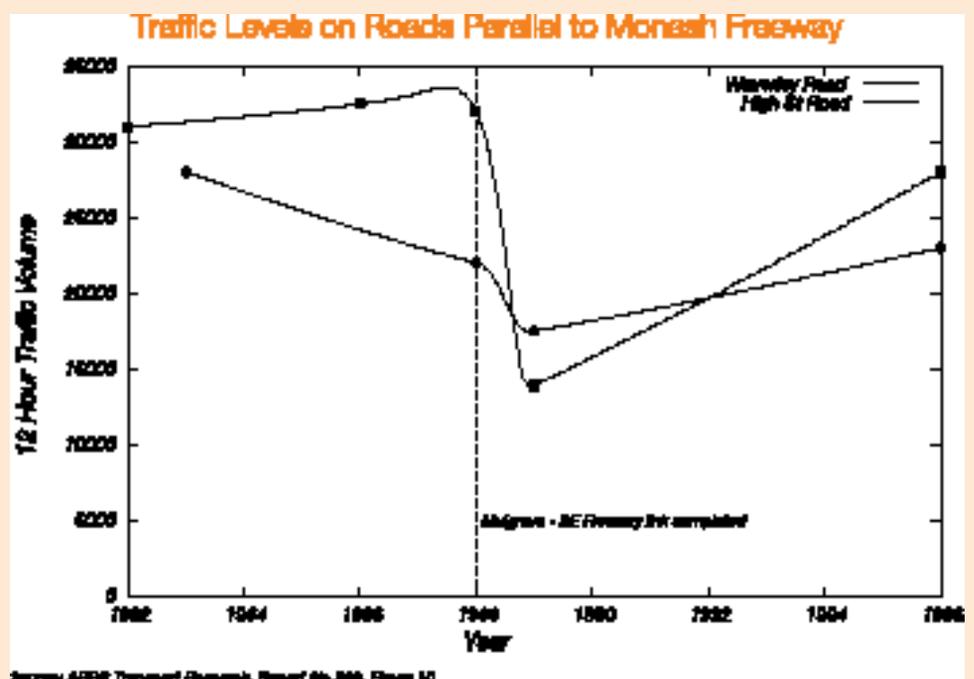
The new Metropolitan Strategy itself cites a report of the OECD (Organisation for Economic Cooperation and Development) that draws similar conclusions about the effect of new roads on traffic levels.

[A]n OECD report... summarising the available evidence, concluded that:

• Building more roads has not noticeably reduced congestion—new road space is quickly filled. Even cities with the best road networks have high congestion levels... Where little or no attempt is made to increase road capacity in line with demand, cities do not grind to a halt. People and firms adapt and make other choices on mode or destination. The OECD... has also concluded that... improving traffic flow eventually leads to more emissions overall as a result of the additional vehicle kilometres... generated.

—Melbourne Metro. Strategy, Technical Report No.1, 2001

For those uncomfortable with theoretical arguments, the effect can be verified with actual data.<sup>9</sup> Waverley Road in East Malvern



carried large volumes of traffic coming off the Mulgrave Freeway in Chadstone before the South Eastern Arterial opened in 1988 (and was upgraded to full freeway status in 1996). Although there was an initial easing of congestion on Waverley Road when the freeway link opened, within five years traffic had built up to almost the same level as before. A similar effect was observed on High Street Road nearby. Note that before 1988 the traffic level on Waverley Road was barely increasing, while that on High Street Road was actually decreasing. Both increased sharply over the following years.

Ultimately, all of the supposed benefits of new freeways come back to this key assumption, that the freeway will relieve traffic congestion. For example, freeways are claimed to reduce pollution because uncongested traffic doesn't stop and start as often. Or, freeways will benefit the economy because reduced congestion means shorter travelling times. It has been conclusively demonstrated that all these arguments are fallacious: instead of reducing congestion, freeways encourage vast amounts of new traffic that produce more pollution and take just as long to get anywhere. You only have to visit Los Angeles to be convinced!

## ENVIRONMENT

### Public Transport: Easy on the Earth

At present pollutants from vehicles are the prime cause of poor air quality that damages human health, plants and the fabric of buildings. Noise from vehicles and aircraft is a major source of stress and dissatisfaction, notably in towns but now intruding into many tranquil areas. Construction of new roads and airports to accommodate traffic is destroying irreplaceable landscapes and features of our cultural heritage. The present generation's cavalier and constantly increasing use of non-renewable resources like oil may well foreclose the options for future generations. This is doubly irresponsible in view of the risks from global warming.

—Royal Commission on Environmental Pollution, 1994<sup>10</sup>

The environmental benefits of public transport have been documented extensively and are cited more than any other reason in favour of increasing public transport usage as an alternative to the car.

#### Less polluting, healthier transport

Air pollution in Melbourne is estimated to be responsible for 300 premature deaths each year, from conditions such as asthma and lung cancer. Childhood asthma has reached epidemic proportions in our cities, with increased air pollution cited as a key factor. While much air pollution arises from industry and from domestic fireplaces, most of it comes from cars and trucks. More importantly, the share from cars and trucks is increasing while that from other sources is declining.

Trains and trams on the other hand produce no local air pollution. They cannot rightly be called zero-pollution vehicles because they will be responsible for some emissions from a power-station smokestack in the Latrobe Valley. But they nonetheless have the advantage, along with buses, that the

emissions per passenger are much lower than for cars. A bus may produce five times as much pollution as a single car, but if the bus carries 50 people and the car one person, the emissions per passenger are only one-tenth as great by bus. Trams are also able to regenerate energy when braking, something that is still beyond the capabilities of the internal combustion engine.

With public transport we and our children can breathe easier. Even the pollution arising from buses is set to reduce, with many of the 'dirty diesels' in bus fleets set to be replaced with new gas-powered vehicles. These have much lower emissions of the nastier exhaust gases such as nitrogen oxides and hydrocarbons, and virtually none of the particulate matter that can lodge in the lungs and cause serious illness.

Public transport is easier not just on the lungs but on the ears also. According to current medical opinion, sound sleep requires ambient noise levels no greater than 35 decibels (dBA) and intelligible conversation requires levels less than 45 decibels.<sup>11</sup> These levels are routinely exceeded in the vicinity of busy roads, and as far as 1km from freeways. A principal cause of traffic noise is the friction of tyres on bitumen, which produces a continuous background hum persisting for 24 hours a day. The only solution to this kind of noise nuisance is to slow down the traffic, or shift car trips to quieter modes. This becomes easier when alternative forms of transport are available. A train certainly has a noise impact, but less so than the cumulative effect of the hundreds of cars it displaces.

#### Conserving open space

As was explained in the previous section, public transport has a smaller 'land use footprint' per passenger than private car travel. This means that for a given capacity, public transport consumes less open space than roads. Furthermore, the effect of public transport on the remaining open space is less obtrusive.

#### Supporting other environmentally friendly modes

The most environmentally friendly transport modes bar none are walking and cycling. A pedestrian or a cyclist gets from A to B consuming no fossil fuel, generating no pollution, making very little noise and taking up very little space—and keeping fit at the same time. Provision of walking and cycling infrastructure costs very little money compared with roads or railways.

An environmentally friendly transport policy needs to support these 'zero-impact' modes as well as public transport. Supporting a better walking environment goes without saying, since every public transport user is also a pedestrian. Support for cycling is also important, as the combination of public transport and cycling provides many people with the opportunity to exercise and/or reduce their environmental impact while travelling long distances to work, without being obliged to cycle the full distance both ways.

As we discuss further in Part II, the way to encourage people to use their cars less often is to create alternative choices. A commitment to supporting all three modes—public transport, walking and cycling—makes a range of choices available and thereby provides more reasons for doing without the car.

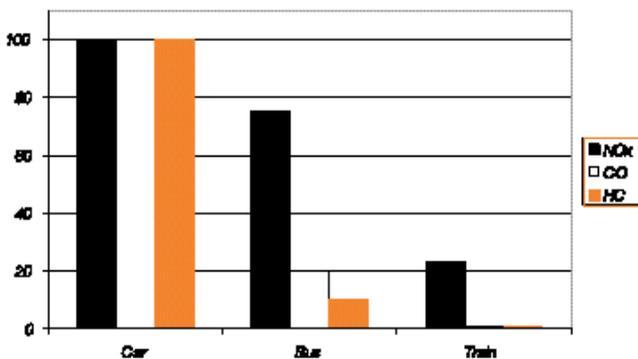
#### Greenhouse friendly transport

Climate change due to the 'enhanced greenhouse effect' is recognised as the most severe threat to the global environment posed by humans. The greenhouse effect is a natural phenomenon where a small amount of carbon dioxide in the atmosphere acts as a blanket, trapping heat from the Sun and keeping the Earth warm. An 'enhanced' greenhouse effect arises when the concentration of carbon dioxide and other greenhouse gases increases dramatically, so that more heat is trapped and the Earth's temperature rises.

Since the Industrial Revolution, atmospheric carbon dioxide has increased dramatically due to the burning of fossil fuels. Carbon dioxide is an unavoidable byproduct of the combustion of hydrocarbon fuels such as oil, coal and natural gas. Since 1998, Australia has been the country with the highest per capita emissions of all greenhouse gases, total emissions having risen by 20% since 1990. Oil-fuelled road transport accounts for one-fifth of these emissions, and this is the fastest-rising component of our total emissions, having grown by 25% since 1990.<sup>12</sup> Closer to home the news is even worse: transport accounts for 50% of all household emissions, compared to just 16% for home heating and cooling (PTO for graph).

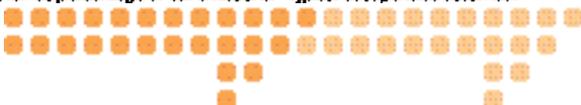
It is the explosion in private car trips and road freight that explains why our emissions have increased so rapidly. But if emissions rise quickly due to changing habits, they can also fall just as quickly if habits change again. If our Kyoto obligations and our commitment to mitigating climate change are not to be simply thrown in the bin, our best hope of fulfilling them lies in a shift from private cars to public transport.

Pollution per person by transport mode



Source: US Department of Energy, *Transportation Energy Data Book, Edition 17*

NOx = nitrogen oxides; CO = carbon monoxide; HC = hydrocarbons.  
Emissions given as percentage of car emissions. Typical occupancies assumed.



Of course, public transport cannot avoid the use of fossil fuels. Trains and trams are powered by electricity, which in Victoria comes mainly from coal-fired power stations. Buses run on diesel or compressed natural gas (CNG), both fossil fuels, although gas has much lower greenhouse gas emissions per unit of energy. The real reason public transport has lower greenhouse emissions is that it requires less energy per passenger. This is a natural result of the economies of scale referred to in the previous section.

If 500 people drive to the City from Frankston in 500 separate cars, they will consume at least 2000 litres of petrol and generate 4.6 tonnes of carbon dioxide equivalent.<sup>13</sup> Those same 500 people on one 6-car Melbourne train—around half the train's capacity—will typically consume 800 kWh of electricity (including air conditioning) on the same journey from Frankston. Supposing all that electricity were generated from brown coal, this will generate 0.96 tonnes of greenhouse emissions<sup>14</sup>—around one-fifth that of the 500 car journeys. Even if the 500 people carpooled with 4 people per car, the greenhouse emissions would still be 20% less if they took the train instead.

## SOCIETY

### Public Transport: the Friendly Way to Travel

The benefits of mass public transport use over mass car dependence are not limited to economic and environmental effects. Even if solar-powered, zero-emission cars suddenly became cheap to own and operate, and unobtrusive underground freeways cheap to build, they would still be bad for our cities in numerous other ways.

### Making a City: Social Exchange and the Downside of 'Mobility'

Parents may record four extra trips a week driving their children to sporting activities. But is this a benefit when ten years ago these same children could play cricket and tennis in their own street or at a neighbourhood park?

—David Engwicht

It's often argued that the reason we need more freeways is to encourage 'mobility'. This reflects a fundamental human need: no-one wants to be trapped as if in a prison cell, without access to employment and recreation and without a rich network of friends and acquaintances. The purpose of a transport system is to make all this available to people.

But the road lobby's 'mobility' stretches this to absurd limits.

If current transport policy has a goal, it is to encourage people to own as many cars as possible and to drive them as far as possible and as often as possible, with as much public subsidy as possible.

—John Whitelegg, speaking in Melbourne

The problem is that this mobility-at-all-costs approach can wind up *causing* the kind of social alienation it was supposed to cure.

It was the architect and social theorist Lewis Mumford who first observed that car-dominated urban sprawl was turning cities into 'anti-cities'.<sup>15</sup> But it was Donald Appleyard in 1970 who first observed the effect of real traffic on real communities, with alarming conclusions.<sup>16</sup> Appleyard chose three San Francisco streets which looked superficially very similar other than having different levels of traffic. He then interviewed a dozen residents of each street for an hour each.

- On the most lightly-trafficked street, with 2,000 vehicles per day, people reported having on average 3.0 friends and 6.3 acquaintances.
- On the most heavily-trafficked street, with 16,000 vehicles per day, people reported having on average 0.9 friends and 3.1 acquaintances.

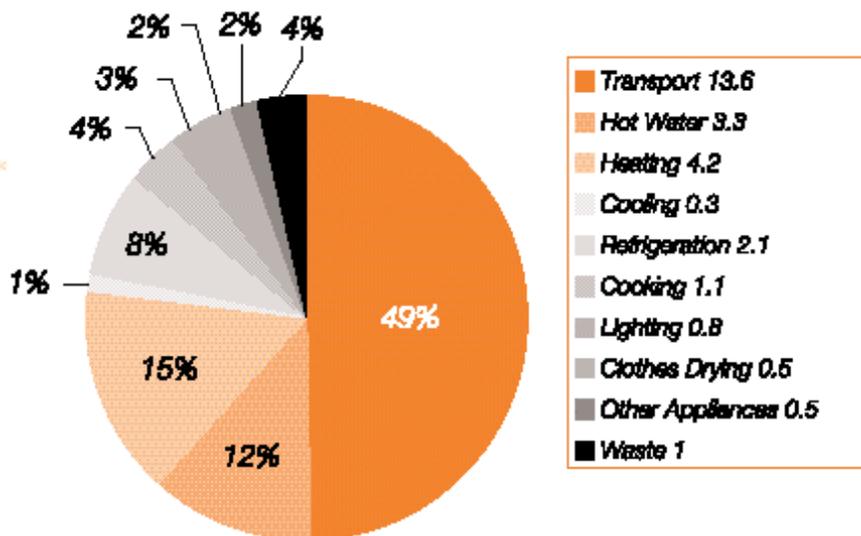
The contrast between the [heavy and light] streets was striking. On the one hand alienation, on the other friendliness and involvement.

Neighbourhood activists<sup>17</sup> have drawn attention to the various ways car-dependent 'mobility' destroys local communities:

- Travelling further to accomplish the same objectives as before.
- Increasing the frequency of trips only to reduce the time spent at the destination.
- Spending a greater proportion of the time travelling and less on the reason for the travel.
- Decline in walking and cycling as viable modes of transport.
- Erosion of space for walking and cycling.
- Destruction of corner shops and neighbourhood centres.
- Fear of crime, due to the reduced presence of other people in the streets.
- Atomisation of society, as we come to depend more and more on our family and close friends for social contact.

All these consequences of car-dependence tend to reduce the amount of casual contact we have with one another; the result is decreased neighbourliness and increased 'tribalisation'. On public transport, on the other hand, we are bound to encounter people outside our close circle; the result is an increased awareness of the society we live in.

Australian Average Household Emissions (tonnes per year)



## Independence and its Loss

Independence is a value commonly associated with cars. Yet car dependence has led to a frightening *loss* of independence in people without access to their own car: particularly children, the elderly and the disabled.

In days gone by it was common for children to walk or catch public transport to school unaccompanied by adults. This was important to their psychological development as human beings, as children who are free to move independently create their own learning and social experiences, and acquire habits of independent thought and action.

Nowadays, car dependence and the resulting urban blight has deprived children of this freedom to move around independently, and instead made them dependent on adults and their cars. The effect in Australia has not been quite as dramatic as in Britain, where the number of children walking to school unaccompanied has plummeted from 80% in 1970 to 8% in 1990. Nonetheless, here as in Britain the development of

independence in children is being compromised as never before.

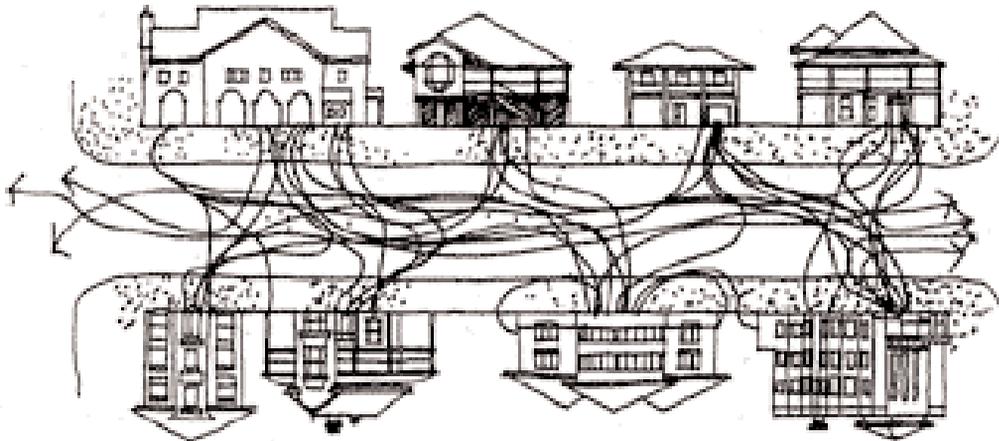
Public transport can help. Endowed with a proper staff presence, it is a reasonably safe mode for children to travel on either alone or accompanied by parents. Many of us who grew up in the suburbs can still recall a sense of liberation coming from our first trip alone, on public transport, to an unfamiliar part of town. This childhood rite of passage can predate the gaining of a driver's licence by many years.

Even the independence of able-bodied adult car owners is compromised by car dependence. The loss of childhood independence has given us the phenomenon of 'Mum's Taxi', replicated a million times every day in Melbourne. (In the morning peak, much suburban traffic congestion is due to parents driving children to school.) Car ownership also entails a steady stream of expenditure on loan payments, petrol, maintenance, repairs, registration and insurance, which limits people's financial capacity to partake in more enjoyable and rewarding

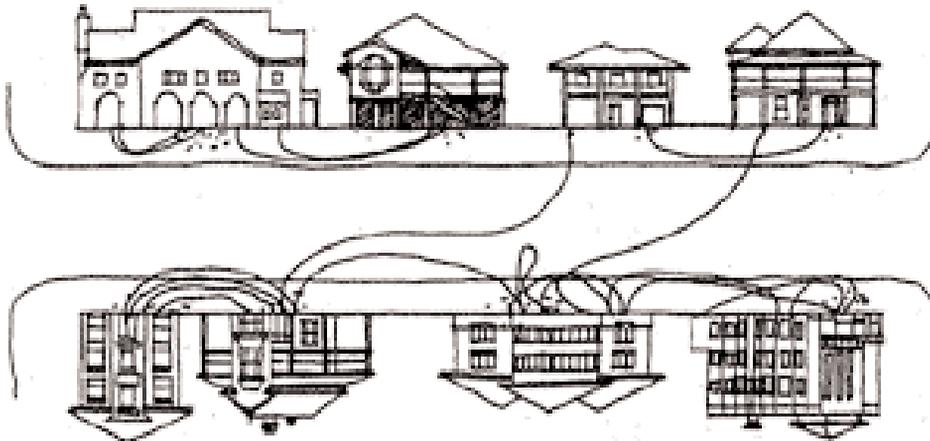
activities. This is particularly so in the outer suburbs of cities like Melbourne, where many families on modest incomes must pay to maintain two or three cars out of sheer necessity, because there isn't any public transport to speak of.

## Summary

A shift in Melbourne's transport objectives from car dependence to mass public transport use is called for on all the criteria that make up the Triple Bottom Line. Economically, public transport is more energy-efficient and space-efficient than freeways, and benefits from greater use while roads deteriorate with greater use. Environmentally, public transport is easier on the air we breathe and the green space we cherish, and is an important component in fighting climate change. Socially, public transport can help reverse the trend toward broken communities and urban blight resulting from car dependence, and can help reassert the independence of children and other marginalised groups in society.



Light traffic: 2,000 vehicles per day



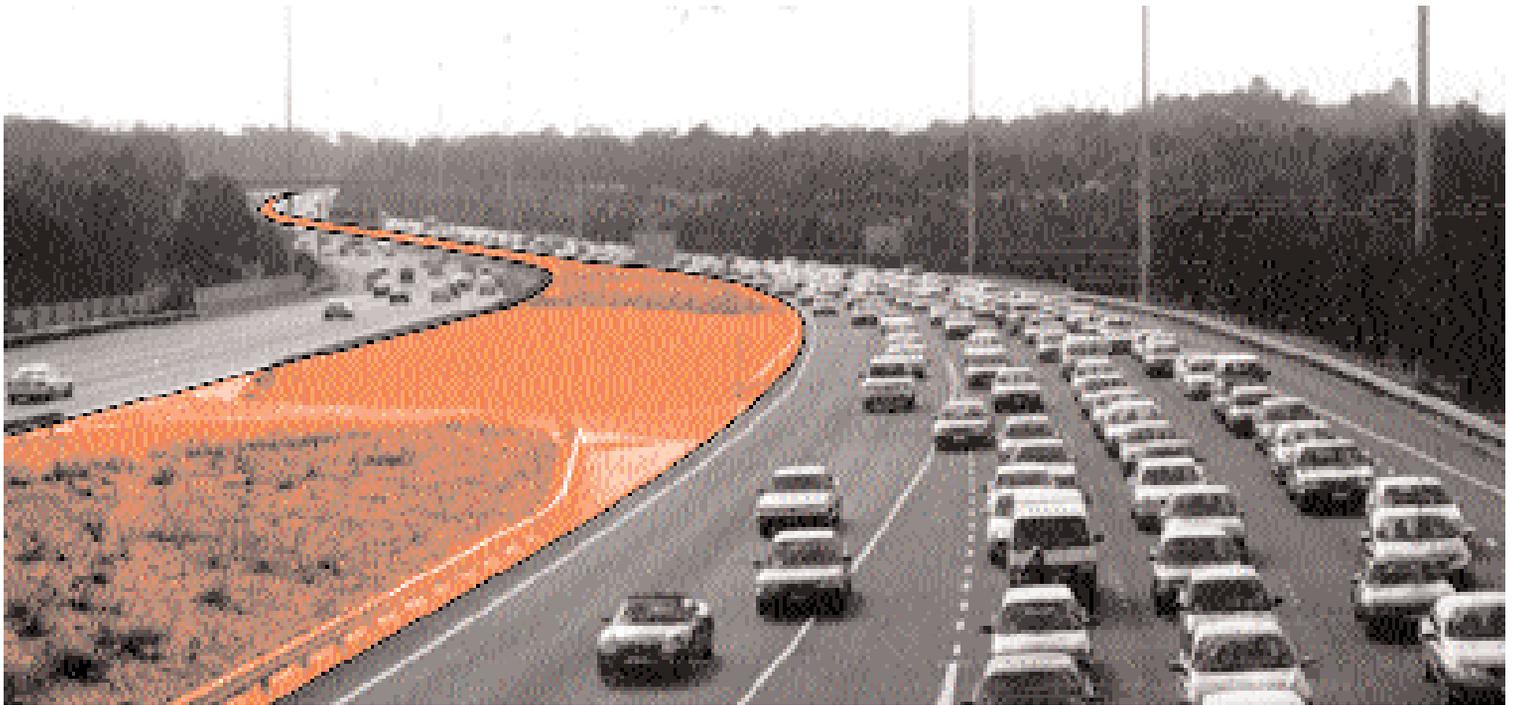
Heavy traffic: 16,000 vehicles per day

*Lines show relationships between residents.*

*Source: Appleyard, D: Livable Streets, as reproduced in Engwicht, D: Towards an Eco-City, p.48.*



# Part II: Making Public Transport Work For Everyone



Only 15% of the traffic on the Eastern Freeway is headed toward the Tullamarine Freeway; most of it is going to the city. A train line to East Doncaster via the median would cost \$350 million and cut the traffic jam. Extending the freeway westward would cost at least \$600 million.

## Seeking the Alternative

There are two ways in which we can respond to the travel needs of people in Melbourne and Victoria. We can continue to build freeways and car parks until Melbourne looks like Los Angeles, smells like Los Angeles and has Los Angeles-style traffic congestion. Alternatively, we can give people the means to overcome car dependence, by improving public transport to the point where it provides a competitive alternative to the private car.

Judging by the outcome of the Metropolitan Strategy forums, it is the second of these alternatives that excites Melburnians today. Sadly, the response from the bureaucracy is hardly encouraging. The 'twin pillars' of Victorian government transport planning consist of:

1. avoiding responsibility for the problems with public transport, or denying that they exist; and
2. building more freeways and car parks.

Even the public transport proposals that occasionally emerge from the bureaucracy are of the sort that only a road engineer could dream up. As with the airport fast train proposal scrapped in 2001, these proposals are almost always impractical, expensive, and driven by technological fads rather than people's real needs. Usually there is an inexpensive alternative that meets people's needs, but which has already been ruled out by the engineers.

The following section outlines an alternative vision for public transport. It is perhaps the sort of vision we might see coming from our government planners, if they permitted themselves to think differently. It is a realistic vision, in that it draws on the best aspects of real public transport systems around the world and tailors them to Australian conditions of moderate population density and convenient car travel. So you will read of

no grand proposals for underground metro systems, levitating trains, or trams on every arterial road. Indeed, apart from one or two new rail lines and some minor extensions, Melbourne already has all the infrastructure it needs to support the best public transport system in the world.

Sensible transport planning focusses on *people*: specifically, the people who currently drive everywhere and might be persuaded to use public transport instead. It asks what their needs are before it asks what technologies are available, or how they can be fooled into liking public transport. It means revisiting all those bad experiences that put people off using public transport, and seeing what the real problems have been.



# 1. POLICY, MANAGEMENT AND OWNERSHIP

The problems with transport in Melbourne are twofold: on the one hand inadequate services, and on the other an institutional culture of defeat that leaves the road lobby in charge of transport planning. To see how our planning authorities got into such a sorry state requires us to look at some history.

## Transport in Melbourne: A Brief History

### The World's First 'Urban Sprawl'

The world's first passenger railways date from the mid-1800s, and street tramways from the final decades of that century. Melbourne became an established city following the 1850s gold rush, and so was well-placed to take advantage of these transport systems from the very beginning.

Australia's first passenger trains started running in Melbourne in 1854, between Flinders Street and Port Melbourne. These were soon followed by services to other nascent Melbourne suburbs, and by country services to Geelong, Bendigo and Ballarat. Melbourne appears to be the second city in the world (after London) to have built railways for transport *within* an urban area. By comparison, New York commenced building urban railways only in 1872 and Paris in 1900.<sup>18</sup>

These early suburban railways were built by a private company, the Melbourne and Hobson's Bay Railway Company. Within a couple of decades the company was in financial difficulties, and was acquired in 1878 by the government operator, the Victorian Railways. This precipitated one of the greatest urban expansions in Melbourne's history, the 'land boom' of the 1880s. Year by year, new railway lines pushed into Melbourne's rural hinterland, followed soon after by the establishment of new suburbs such as Box Hill, Lilydale, Oakleigh, Mordialloc, Epping and Fawkner. By the end of the 1880s most of the Melbourne suburban train network as we know it today was in place.<sup>19</sup>

In the 1890s Melbourne was, by nineteenth-century standards, a gargantuan, sprawling, low-density city despite the fact that cars had scarcely been invented. Rather, the world's first suburban commuters went to work by steam train. The proliferation of cable trams in the 1890s, followed by electric trams in the early twentieth century, allowed more new suburbs to grow up in between the rail corridors. Public transport had shown itself capable of servicing a spread-out city, having allowed Melburnians to live in the suburbs long before most of us had cars.

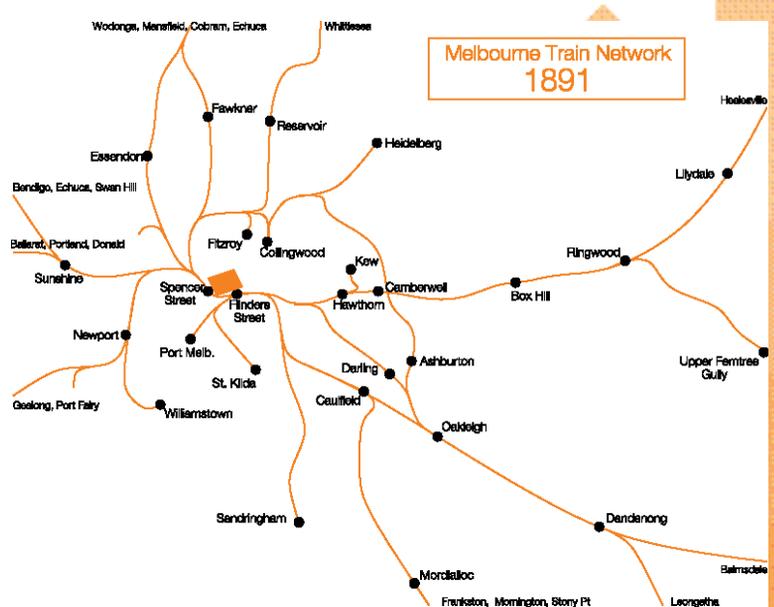
For many years, the pattern of development in Melbourne was that railways or tramways were extended to a previously undeveloped area, and suburban development followed. This contrasts with the present-day approach, where entire new suburbs grow up with no supporting infrastructure other than a few two-lane farm roads, and residents must fight for years to get decent transport services. Little wonder that Melburnians are now so dependent on cars!

### An Exercise in Free-Market Incompetence

Having proved so successful in building Melbourne's suburbs, public transport operators in the early twentieth century became complacent. Many of the problems that plague our public transport today were evident even before World War I. Melbourne had three transport modes—trains, trams and buses—which from the very start were run as completely separate entities with no thought to coordination. The trains were run by the Victorian Railways, the trams by the Melbourne and Metropolitan Tramways Board (MMTB), and the buses by a plethora of competing private operators.

To an economic rationalist, the organisation of Melbourne public transport would have seemed almost perfect. The Railways, the MMTB and every single bus operator had their own routes, timetables and fares, and competed for passengers with all the other operators. But to an ordinary user of public transport, the system left a lot to be desired. If you wanted to take a bus to the station and then catch the train to the city, you had to pay two fares, one for the bus and one for the train. There was no timetable coordination so you were likely to have a long wait at the station. And there was no guarantee that the bus would still run to the station next week: after all, the bus operator had no commercial interest in delivering passengers to its competitor.

The practice of artificially boosting patronage by poaching another operator's passengers dates back to the turn of the century. Historians observe



that even then, tramways were being constructed in a way calculated to suck passengers away from the trains, rather than to complement the train system.<sup>20</sup> Bus operators became adept at running their own services into the city along established tram routes, and timing their buses to arrive just before the trams. Other services ran parallel to railway lines. For many years there were three parallel routes from Surrey Hills to the city—a train, a tram and a bus—but other corridors seen as less lucrative had no services at all. Rather than build a coordinated network, the MMTB discouraged transfers by terminating its tram lines half a mile from the nearest railway station, as is still the case today.

In no other city in the world was public transport operated in such an unplanned, *laissez-faire* manner as in Melbourne. Other cities, from London to New York to Zurich, conceived their public transport systems as a coherent whole. No artificial distinctions were drawn between train, tram and bus planning. Instead, it was thought natural that someone who needed to catch a train but lived some distance from the station should be able to catch a tram or bus to the station, then transfer immediately to a train. Cities such as Zurich and Toronto made this even easier by operating multimodal fare systems, an innovation that wasn't seen in Melbourne until 1981.

So in most cities around the world, people used public transport because it provided genuinely good service; in Melbourne, people used it because they had no alternative. Life in the suburbs had been made possible by public transport, and as long as Melbourne's suburbs remained a 'captive market' for public transport, operators didn't have to worry too much about the quality of their services.



## The Coming of the Car

All the above helps answer the Central Paradox of Melbourne public transport. Melbourne has one of the most extensive train and tram networks for a city of its size anywhere in the world. It has 14 suburban train lines; Toronto, a city of similar size and population, has 4. Its 342 kilometres of tramway exceed the length of the entire Paris Métro.<sup>21</sup> Yet only 7% of journeys in Melbourne are made by public transport; the vast majority are by car. It's typical in Melbourne to observe congested six-lane roads running parallel to railway lines on which the trains are almost empty.

To resolve the paradox it pays to look at the pattern of public transport use in Melbourne after World War II, compared with some other cities. (See graph.) Between 1950 and 1980, Melbourne went from having almost the highest rate of public transport use in the world to having almost the lowest. In other words, when the motor car came along in the postwar era, Melburnians embraced it and abandoned public transport faster than in almost every other Western city—including North American cities.

This says more about public transport in Melbourne than it does about cars. All over the world, cars are seen as an attractive way to get around. Even in European cities with high rates of public transport use, car ownership is as high or higher than in Melbourne. What we see is that in other cities with high public transport use, public transport has proved better able to compete with the car's attractions than it has in Melbourne.

In these other cities, public transport was both well-used and well-planned. This meant that when burgeoning car ownership threatened to drain passengers from public transport, planners were able to improve their public transport services to make them competitive with cars. Some patronage loss was inevitable, but those that remained were sufficient to keep public transport use relatively high, at 25% to 50% of all trips.<sup>22</sup>

Melbourne's public transport was well-used, but atrociously planned. A Balkanised system of competing train, tram and bus services with no coordination proved to be no match for the convenience of car travel, and Melburnians abandoned it in droves. When entire new suburbs started appearing in areas remote from existing public transport services, it was no-one's job to ensure public transport services were provided in these suburbs, and so none were provided. These postwar suburbs, from Westmeadows to Wheelers Hill, remain without effective public transport to this day.

In the early 1980s some small steps were taken to stem the decline. Multimodal ticketing was introduced, and the suburban railways and MMTB brought under a single Metropolitan Transport Authority—'the Met'. At their own request, the private bus operators that hadn't yet gone bankrupt were made contractors to the MTA. As a result, in the late 1980s the share of travel by public transport actually grew, for the first and only time since World War II.

Unfortunately, the formation of the MTA (later the Public Transport Corporation) did not bring with it any real commitment to coordinated planning. There was no effort made to coordinate bus and train timetables, which remained and still remain as haphazard as they ever were. Service frequencies remained at the levels to which they had dwindled due to the decline in passengers. Bus services in the outer suburbs continued to run to sheep-paddock standards as they had 50 years before. As a result, by the 1990s the trend toward overall decline had reasserted itself.



## Planning for Roads

**If you have them by the budgets, their hearts and minds will follow.**

—attributed to a WA Commissioner of Main Roads

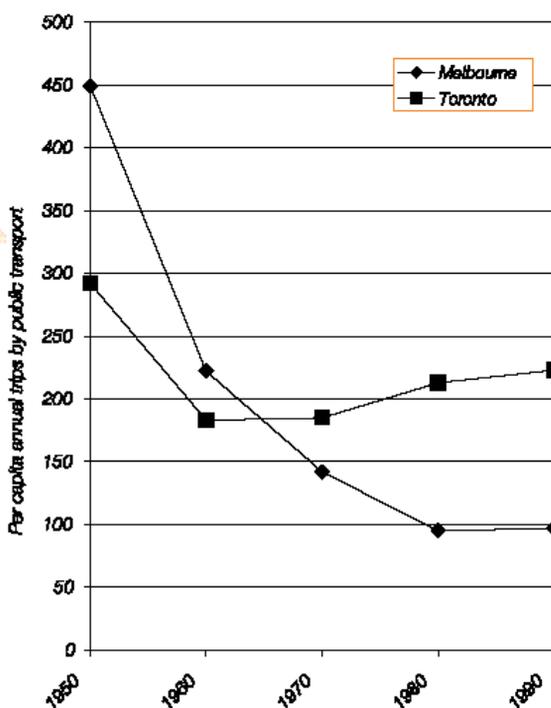
While public transport in Melbourne has never been subject to any coherent planning process, the road lobby has had a coherent plan, and pursued it aggressively, for at least the last three decades. They have accordingly been successful in doing precisely what public transport operators have failed to do for half a century: they have created and sustained enormous growth in journeys by their preferred mode (freeways).

All current freeway plans in Melbourne stem from a Los Angeles-style blueprint formulated in 1969. Produced by the same American consultants that imposed vast freeway grids on American cities from Dallas to Detroit, the 1969 Melbourne Transportation Plan was truly a concrete vision for Melbourne. It proposed a massive grid of freeways with a total length of 500 kilometres, cutting swathes through Melbourne's suburbs and costing billions of 1969 dollars. (See map.)

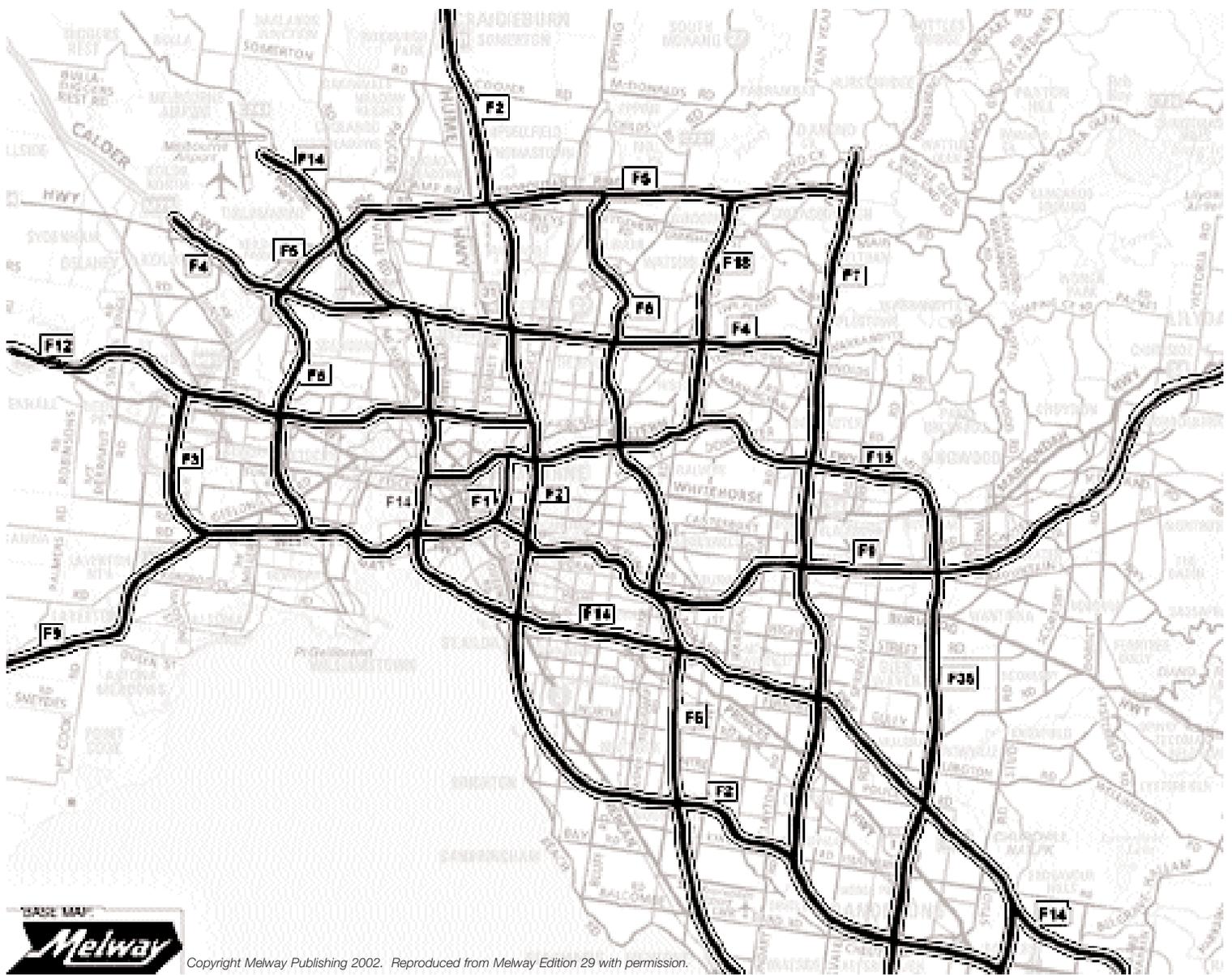
The planners of the day called the 1969 plan a 'balanced' approach to transport. Alongside the road proposals were public transport proposals that included new rail lines to East Doncaster and Rowville, and some tramway extensions. Much was made of these public transport initiatives in the publicity leaflets for the plan, with the freeway initiatives relegated to the back pages. However, these worthy initiatives accounted for just 10% of the total plan budget: the other 90% was to be spent on freeways. To this day this remains the definition of 'balance' in the Victorian transport bureaucracy.

The Country Roads Board (predecessor to Vicroads) adopted the 1969 freeway plan as its blueprint, and the road lobby has campaigned piece-by-piece for its implementation ever since. In the map of the 1969 plan we can already discern the Scoresby Freeway (F35), the Merri Creek Freeway (F2), the Western and Northern Ring Roads (F5), the Eastern Freeway (F19) and the proposed Eastern Ring Road through Heidelberg (F18).

Postwar Public Transport Use



Source: Patronage from Jane's Urban Transport Systems and transport operators. Population from census data for following year.



The 1969 Freeway Plan for Melbourne (overlaid on current urban area)

Victoria's road planners have pressed for these freeways despite the public opposition that has developed since 1969, and despite the discrediting of the analysis that underlay the original plan. Just two months after the release of the plan, the great 'Freeway Revolt' was kicked off in America by the Governor of Massachusetts, who cancelled all of Boston's inner-city freeways. In March 1973 Victoria's Premier Rupert Hamer did likewise, cancelling most of the inner-city freeways in the 1969 plan. Meanwhile, the Whitlam Government was threatening to cut off all Federal funding for urban freeways. In due course the 1969 plan was to be described by transport specialists in less than enthusiastic tones as:

...an unconvincing work presented with all the glib political clichés that one has learned to distrust. It is based on the earlier American transportation study techniques, by now thoroughly discredited.

—J.M. Thompson, 1977<sup>24</sup>

The planners in the CRB persisted despite the apparent setbacks.

Go quietly on freeway matters at the moment...these are frustrating times for us all, but the pendulum will swing our way again.

—private memo from Chairman of CRB, 1973<sup>24</sup>

Indeed, ever since the late 1970s the road lobby's fortunes have been improving in Victoria. Despite ongoing public opposition to freeways, a succession of State Governments has been content to give the road lobby more or less free rein, either overtly in spite of public opinion, or covertly under the excuse that 'there is no alternative'. Even under less sympathetic governments, Vicroads and its predecessors have successfully lobbied for freeways by relabelling them as 'arterial roads' or 'bypasses', by trumpeting dubious economic benefits, or by proposing them a little at a time (so-called 'salami tactics').



# How Salami Tactics Can Undermine Opposition (even in Malvern)

The term *Salami tactics* originated with the *Yes Minister* TV series. It refers to the common bureaucratic practice of proposing unpopular measures in a piecemeal fashion, so that people see the relatively innocuous pieces rather than the cumulative effect. In the case of freeway planning it means building half a freeway, allowing traffic to build up, then building the other half to solve a 'traffic problem' that no-one remembers them creating in the first place.

The present-day Monash Freeway is an unbroken road running from the City to Dandenong. It is the freeway that was never supposed to be built.

Its innermost part between Richmond and Burnley is Melbourne's first urban freeway, dating all the way back to 1952. By the early 1970s, piecemeal extensions had brought the so-called South Eastern Freeway out as far as Kooyong. The CRB planned to further extend it, which would have entailed demolishing a number of houses and destroying the Gardiners Creek valley in leafy Glen Iris and East Malvern.

In 1973, Premier Hamer responded to the resulting public outcry by cancelling the South Eastern Freeway extension through East Malvern. However, he allowed the Mulgrave Freeway between Clayton North and Dandenong to proceed. It would have seemed unreasonable not to do so: after all, the latter freeway followed a planned reservation, involved no property acquisition, and threatened no creek valleys. Such is the logic of salami tactics.

The road planners in the CRB simply continued with their original plans in secret. As the official history of Vicroads admits, "there can be little doubt that some Country Roads Board senior officers were reluctant to accept the restrictions on freeway development." After the link through East Malvern was cancelled, the road planners continued to buy up properties along the supposedly abandoned route.<sup>25</sup> Meanwhile the Mulgrave Freeway extended inwards, eventually reaching Warrigal Road in Chadstone.

Eventually in the late 1980s, the road planners persuaded the supposedly 'anti-freeway' Cain Government to allow an 'arterial road' to be built along Gardiners Creek connecting the South Eastern and Mulgrave Freeways. By then, the pressure to 'fill the gap' between two freeways separated by a mere five kilometres had become politically irresistible. In essence, a link through East Malvern was always going to be the inevitable consequence of allowing construction of the Mulgrave Freeway.

Nonetheless, the Cain Government still managed to put up some token resistance. To reassure opponents that they were not simply allowing another freeway to be built, the 'arterial road' included four at-grade intersections with traffic lights when it opened in 1988. This drew justifiable ridicule from Melburnians for five years until the Kennett Government saw fit to grade-separate the intersections. In 1996 the government announced the unbroken freeway from the City to Dandenong—just as the road planners in 1973 had intended.

## Making the Change: Better Transport Planning

In Melbourne, transport planning has been overtly run by the road lobby since 1997, when the Departments of Transport, Planning and Local Government were merged into the Department of Infrastructure (DoI), headed up by engineers recruited from Vicroads. The Bracks Government elected in 1999 retained this structure, which institutionalises the road lobby at the very top of the planning bureaucracy. In lobbying politicians for new freeways, the DoI bureaucrats are assisted not only by Vicroads itself but also by the engineering departments of Victoria's municipal councils, which with very few exceptions are dominated by the road-engineering mindset.

While Vicroads has both a plan and a successful lobbying strategy, nothing of the sort exists for public transport. Privatisation of train and tram operations in 1999 has returned us to the Balkanised situation of most of the twentieth century, with operators fighting over a dwindling market share. What little genuine coordination did exist between buses and trains was abolished in the 1990s. The situation is not helped by the

dysfunctional ticketing system, which not only starves the operators of revenue through fare evasion, but also makes the system less attractive to passengers, thus compounding the problem further.

Even when politicians are motivated to support new public transport initiatives, they are drawn into the 'balanced transport' ideology of the road lobby. Again and again a genuinely sincere public transport proposal becomes a mere token gesture attached as a footnote to a freeway proposal. Alternatively, the cost of the proposal is revised upward and upward by poorly-qualified road engineers or insincere bureaucrats until it becomes impossible to support. Effectively we are told that we cannot do anything serious for public transport until we have built the road lobby's wish-list of freeways, by which point public transport has been fatally undermined.

A change is needed, and it has to come chiefly through a new approach to the *planning and operation* of transport rather than through expensive new infrastructure.

Transport planning is a subset of the overall broader plan and a coordinated and integrated approach to transport planning is required...The current institutional arrangements especially

the separate budget for road funding and the separation of VicRoads from the other transport functions within the Department of Infrastructure, have not encouraged such a holistic view.

—Infrastructure Planning Council, Final Report, 2002





### The Perth Example

Events in Perth following the election of the Gallop Government in 2001 point to what can be achieved on a practical level in a relatively short time. Despite emerging political support for better public transport in Perth, transport policy prior to 2001 was still essentially run by the road lobby, who allocated large sums of money to generous road projects and was poised to build more freeways after the election.

The new government was of the view that the people of Perth had a more urgent need, and desire, for public transport than for freeways, and had just won an election on the strength of this view. In short order the road projects were put on hold, the Department of Main Roads dissolved, and transport planning taken away from the road engineers and given to the urban planners. The new Department of Planning and Infrastructure has already commenced a comprehensive overhaul of public transport routes and timetables.

This is not the action of a bunch of radical greenies: just the response of a quite conservative Australian government to a clearly perceived need for institutional change. It brings Perth into line with most other cities of the world, where transport planning is run by transport planners and local communities rather than by those with a vested interest in more roads. And if this can happen in a city with lower urban density than Melbourne, no trams, and only four train lines, it is not unrealistic to call for similar institutional change in Melbourne.

Applying the 'Perth model' to Melbourne means overhauling the present Department of Infrastructure to emphasise the need to plan before spending money on big projects. (Note

that the Perth equivalent is called the Department of *Planning* and Infrastructure.) Instead of a separate agency in the form of Vicroads presenting one freeway plan after another to the government as a *fait accompli*, there should be one group of planners with a single budget and a brief to pursue the best transport projects according to transparent criteria. (Recommendation 10)

Essentially the same recommendation was put to the Government by the Infrastructure Planning Council (a group of largely conservative financiers) in September 2002, and rejected—presumably on advice from Vicroads.

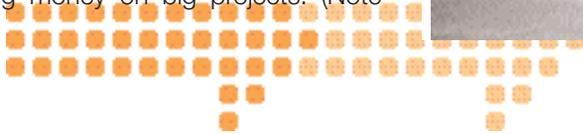
### Coordination vs. Privatisation: Better Transport Management

Historically, the 'free-market' approach to transport management only wound up driving away passengers, leaving those who remained with poorer services that required ever-greater subsidies. Today's privatised public transport arrangements, that encourage operators to compete with one another for passengers rather than coordinate their services, are unlikely to deliver anything better.

Privatisation allows government planners to offload responsibility for service provision onto individual train, tram and bus operators who have no incentive to coordinate their timetables. Operators are instead rewarded for undermining the viability of other public transport modes by running their own parallel services. Commuters from Doncaster and Box Hill North are now ferried all the way into the city by the National Bus Company, where previously they would have taken a bus to Box Hill station and caught the train. The 'express' bus journey via the Eastern Freeway takes between 35 and 50 minutes, compared to a 25-minute combined bus/train journey via Box Hill (achievable with timetable coordination and better express running). The arrangement leaves commuters worse off, but generates precious extra revenue for National Bus.

Even when private bus operators themselves seek to improve their services, they are stymied by the bureaucracy. The Ventura Bus Company in 2001 wanted to introduce Sunday services on some of its eastern suburban routes, at a cost of some \$1.5 million, but was told by the Department of Infrastructure that there was 'no budget' for the extra services. Meanwhile the Department was spending \$17 million on automated signs at selected bus stops (including Ventura's) so that passengers have electronic confirmation of the fact that their bus doesn't run on Sundays.

To unravel this mess doesn't require resuming public ownership of trains, trams and buses. However, it will require resuming public *control*, which is a different thing altogether. What will be needed is a Transport Authority with the power to set timetables for all transport modes, whether publicly or privately operated. The model for this is the *Verkehrsverbund* or 'Transport Community' found in many cities in Germany and central Europe. These are regional transport companies jointly owned by municipal authorities and private investors. An example is Zurich's





ZVV (*Zurcher Verkehrsverbund*), which coordinates fares, timetables, and funding for the mostly private operators in the Swiss Canton of Zurich.

The *Verkehrsverbund* concept originated in Hamburg, in response to coordination problems that sound remarkably like Melbourne's:

**In new residential areas no agreement could be reached on transport services. There was no central planning, central drafting of timetables or coordination of connections. Each undertaking pursued its own interests with no regard for others.**

—Thomson, *Great Cities and Their Traffic* <sup>26</sup>

To implement a ZVV-like Transport Authority in Melbourne (Recommendation 9) will of course require the consent of the private operators, whose franchises are guaranteed by contracts signed in 1999. However, securing this cooperation should not prove difficult, given the stringent provisions of these same contracts.

Like their twentieth-century predecessors in Melbourne, the operators are finding it difficult to operate in a Balkanised environment without additional subsidies. Yet built into the contracts is the assumption that patronage will increase dramatically between now and 2010, so that the level of subsidy can be gradually *reduced*. As these reductions come into effect, with no huge patronage increase yet to be seen, the operators are already feeling the pinch, and begging the Bracks Government for more money.

In February 2002, Transport Minister Peter Batchelor approved additional payments of over \$100 million to the operators, which were said to be necessary to keep their operations viable. This \$100 million came on top of contract subsidies and 'incentive payments' that already exceeded the cost of running the old PTC (which did not have to generate a return to shareholders on top of their running costs, and had economies of scale through not having to run uncoordinated fiefdoms). There is every indication that more top-up subsidies, or a major renegotiation of the contracts, will be required in the near future, with at least one operator rumoured to be on the verge of bankruptcy.

So far, the government has not required the private operators to make any tangible improvement to their service in return for the extra payouts. It has simply handed money over to the private operators with no strings attached, despite having no obligation to do so. These non-contractual subsidies could easily be used by the government as an opportunity to reclaim the planning powers that would allow a ZVV-like authority to be created. Indeed there is every chance the operators would yield these powers voluntarily, just as the private bus operators did in 1983, if it were explained how their commercial viability depends on it.

If we are to make public transport compete with the private car, it will mean

doing the exact opposite of what public transport operators in Melbourne have done over the last fifty years. Rather than giving up in the face of competition, our transport planners must adopt a proactive approach like that of their road planning colleagues. They must anticipate and provide for future growth, while recognising that future growth will require a system planned like the road system, as a single integrated entity offering high levels of service.

The benefits of a proactive approach are starting to be seen in Perth, where public transport's share of travel is on the increase. Patronage on the rail system has increased from 6 million passengers a year to 30 million over just seven years from 1995 to 2002, and is expected to double again with the construction of a new line to the southern suburbs.<sup>27</sup>



## 2. SERVICES AND INFRASTRUCTURE

The most urgent changes required to attract 'choice' passengers to Melbourne's public transport are on the ground, where people actually catch trains, trams and buses—or more often don't!

This section gives primacy to 'services' over 'infrastructure' because 90 per cent of the problems with public transport in Melbourne have nothing to do with insufficient infrastructure, and everything to do with failure to make the best use of what we have. The real challenge is to provide public transport users with a first-rate service approaching the speed and convenience of private car travel. Here's how.

### Minimising the total journey time

*Brian is a student at Monash University and lives in Boronia. Boronia is about 30 minutes from Monash by car, but the train from Boronia goes nowhere near Monash. There is a bus route from Boronia to Monash (route 737), but for reasons unknown to Brian this bus meanders through the back streets of Bayswater, Scoresby and Glen Waverley, taking a full 90 minutes to do the 30-minute journey. Brian does not use the 737; instead, he catches the train to Ferntree Gully, jumps on a bus (the 693) that runs directly along Ferntree Gully Road, and walks the remaining distance to Monash. Even this trip takes close to an hour, mainly because the bus spends a large proportion of its journey waiting at red lights.*

*Chris is one of Brian's lecturers at Monash Uni. She lives in Wheelers Hill, only 10 minutes' drive from Monash and in theory a quick bus trip along Wellington Road. However, Chris gave up on public transport long ago. Of the three bus routes along Wellington Road, only one runs on Saturdays (with one bus every two hours) and none at all run on Sundays. On weekdays the last bus leaves Monash at 6:53pm; on Saturdays the last bus is at 5:39pm. Even in peak hours, the bus frequency along Wellington Road is every 20 minutes—twice as long as it takes to travel by car from Wheelers Hill to Monash.*

Mr Brockbank says he uses public transport because he is currently without a driver's licence. If he could drive, he would. He says the system is inept because it is unreliable...too often services don't match up. If one mode of transport is late, he can sometimes wait another 40 minutes for the next connection.

—The Sunday Age, 7 April 2002

Perhaps the greatest source of frustration for users of Melbourne public transport is the amount of time it takes to get anywhere, compared with driving the car. According to the bureaucrats and private

operators, this is just the way things are. But there is no law of nature that says public transport has to be twice as slow as driving; it's just that in Melbourne there has never been any concerted effort to make it more responsive.

There are many sides to the problem of reducing journey times, and so a package of solutions is required. However, each part of the solution is quite simple in itself. The most important components are *high frequency, traffic priority and coordination*.

### High Frequency = Shorter waiting times

The most common complaint about public transport goes something like: "I arrived at the tram/bus/train stop and nothing turned up for half an hour; I could have driven home in less time than that!" The importance of waiting time cannot be overstated: transport experts have observed that commuters perceive time spent waiting to have up to six times the value of time spent inside the vehicle.<sup>28</sup>

Waiting time is determined primarily by service frequency. In Melbourne, frequencies are usually unattractive—especially outside peak hour—although some improvements have been made in recent years. Passengers can wait 30 or even 60 minutes between trains, while tram passengers often wait 20 minutes. Buses are even worse.

Sometimes passengers can reduce waiting by using timetables, but most of us have no control over factors like the time a movie or doctor's appointment finishes, or how long the shopping takes, so a timetable is often useless. Nor do people like having their lives run by timetables.

How often should services run? Clearly, the time people will wait depends on the length of the journey. Most passengers would endure a ten-minute wait to travel 58 kilometres from Melbourne to Pakenham but not to go three blocks up Bourke Street.

Some assistance can be gained by looking at successful public transport systems. Toronto's subway trains run every six minutes or better, even at 1am. Vancouver runs rail services at five-minute frequencies, and Montreal at eight-minute frequencies. Toronto's suburbs look very much like Melbourne's, but buses in these suburbs typically run every ten minutes.

A study of customers at banks and government offices in Melbourne showed most people were only prepared to wait six minutes before becoming frustrated. For short public transport trips, nobody should be kept waiting longer than this. Furthermore, people's tolerance of delay does not increase at night or on Sundays. We advocate a basic 10 minute frequency for all services, reducing to 15 minutes in the late evening (Recommendation 1).

The flip side of the waiting time coin is reliability. A five-minute service is of no avail if, in fact, passengers wait 20 minutes for four trams to arrive at once. In first-class public transport systems, cancellations and late running are virtually unknown. This should not come as a surprise: trains run on segregated tracks, with nothing but other trains to delay them. Melbourne has 15% more trains than are required to operate current peak-hour service, so it should be feasible to eliminate cancellations.<sup>29</sup>

To a commuter like Mr Brockbank above this may seem like a pipedream, but it is not. The Victorian Railways achieved 100% reliability under Harold Clapp in the 1920s, eliciting the following quip: "Mr Clapp's fiendish efficiency means that we have lost another excuse for being late in the mornings." Rumour has it that the Met was on the point of a similar achievement in the mid-1980s.



## Speed and Priority = Shorter travel times

Although less important than waiting time, fast in-vehicle travel is obviously important to provide competition with cars in a city with freeways and high-standard arterial roads.

### Improving Train Speeds

The heavy rail system must be the backbone of a public transport network seeking to attract choice passengers. Only rail can compete for speed with cars over long distances, which explains why only cities with substantial rail systems have been able to win passengers away from cars.

Melbourne's trains are currently the slowest in Australia, with timetables virtually unchanged since the days of the 'red rattler'. Trains can be sped up simply by running at full speed, as can be seen from the superior performance of Perth's narrow-gauge suburban system. This measure alone (Recommendation 4) would cut running time by 10%, or up to 20% with express running.

City	Melbourne	Perth
Station	Highett	Fremantle
Distance from city centre	18.8 km	18.7 km
Intervening stations	13	14
Travel time to city (all stops)	31 min	28 min
Average speed	36 kph	40 kph
Station	Hoppers Crossing	Currambine
Distance from city centre	29.8 km	29.2 km
Intervening stations	12	7
Travel time to city (all stops)	39 min	27 min
Average speed	46 kph	65 kph
Station	St. Albans	Whitfords
Distance from city centre	19 km	19.5 km
Intervening stations	8	4
Travel time to city (all stops)	25 min	18 min
Average speed	46 kph	65 kph

More extensive express running can further improve running times on the longer lines. Currently, express trains almost disappear outside peak hour. Pakenham trains, for example, make 28 stops in the trip from Flinders Street, providing no competition to a drive along the Monash and Princes Freeways. Express runs are needed all day on routes where trips are long or where road travel provides a fast alternative. However, express trains must always stop at District Centres and major interchange stations. (Recommendation 3)

### Improving Tram and Bus Speeds

For on-street public transport, simple improvements in tram and bus priority can drastically reduce running times. Trams in particular are held up by queueing cars, turning cars and parked cars, and disrupted by traffic lights operating on cycles that favour cars. Just about every tram passenger has had the delightful experience of seeing one traffic light after another turn amber just as the tram is about to enter the intersection. They may be forgiven for suspecting a malevolent force is afoot!

Some attempts have been made to give trams priority at intersections, through special tram-only signal phases, but these often leave tram passengers even worse off. For example, at busy Kew Junction the signals send city-bound cars through first, trams last. This delays tram passengers, and also ensures trams arrive at the next intersection behind a long queue of cars.

Trams can only operate effectively with the maximum possible priority over other traffic. Melbourne can learn from Zurich, which has turned its tram system into the most effective in the world by systematically eliminating every cause of tram delays. (See box opposite.) A less ambitious programme than Zurich's (Recommendation 5) will still ensure dramatic improvements to the operating speed and reliability of the tram system.

A more limited program is required for the bus network, concentrating on busy routes and congested areas (particularly near District Centres).

When backed up by realistic timetables and adequate catch-up time at termini, these measures should give Melbourne fast, reliable on-street public transport. Peak-period running times can be cut by between 10% and 50%, and substantial gains can be made at other times.

The recasting of outer suburban bus routes discussed below will also cut travel times by reducing the number of indirect, circuitous routes.



It's a household word:

## Beschleunigungsmassnahmen!



Central Europe is home to the world's most efficient and effective tram systems. Their effectiveness has been consciously engineered, by systematically removing all impediments to the free movement of trams. The practice is now so common that there is even a word for it in German: *Beschleunigungsmassnahmen*.

This comprehensive approach to tram priority was pioneered in Zurich between 1975 and 1985. Their speed-up program was carried out on a route-by-route basis by a committee drawn from the police, the tramway authority and local government. Public transport patronage increased from 32% of travel to 42%.

Elements of Zurich's tram priority scheme include:

- Traffic signals that respond to trams as they arrive, interrupting the ordinary cycle to allow trams straight through.
- On intersections where absolute tram priority is not feasible, short signal cycles to prevent long delays to trams.
- Effective barriers on wide streets to separate trams from cars.
- Traffic signal changes, partial road closures and other measures to prevent long queues of traffic forming on streets too narrow for trams to be completely separated from cars.
- Traffic islands, turn bans, hook turns and other measures to prevent turning traffic obstructing trams.

Melbourne's own tram network is large enough to rival those of Zurich or Vienna, but suffers from traffic-control measures designed to favour cars. Far from allowing trams through quickly, many traffic lights have special right-turn phases that delay trams carrying fifty or a hundred passengers, in order that one or two cars can turn right from an adjacent lane. Often these phases will trigger even when no cars are present, which suggests that even *nonexistent* motorists have priority over tram passengers.

The Melbourne tram system is ripe for *Beschleunigungsmassnahmen*. As in Zurich, real tram priority in Melbourne will require the cooperation of bodies like Vicroads, the police and local councils. This is the basis for our Recommendation 5.

## Coordination = Shorter transfer times

Melbourne has an extensive rail system capable of acting as a high-speed, high-frequency transport backbone. Nonetheless, only about one in ten Melburnians live within walking distance of a railway station. If Melbourne is to achieve anywhere near 'world's best' public transport usage levels of 25 to 50 per cent of all trips, the majority of public transport users will of necessity be multi-modal, using buses and trams to access railway stations as well as to travel locally.

In Melbourne, anything that detracts from multi-modal journeys will detract from public transport use in general. And nothing detracts from multi-modal journeys as much as the lack of coordination between modes. In many places the system is almost comically dysfunctional: buses are scheduled to arrive at stations two minutes after the train leaves; trains running every 15 minutes are 'met' by buses running every 20 minutes; bus operators are penalised if they wait an extra few minutes for a late-running train. This is a legacy of a century of Balkanised public transport operations, and it all adds unnecessarily to the waiting time passengers must endure at transfer points.

To rectify the situation requires both high frequencies, and planned timetable coordination at designated interchange points. High frequencies for all services are necessary, because it is impossible to coordinate services at all points of the network. Many bus routes in Melbourne cross three or more train lines, and cannot be made to coordinate with them all. High frequencies (Recommendation 1) ensure that even in the absence of coordination one never has to wait too long for a connection.

Planned coordination is necessary on local routes, whose main purpose is to feed a particular railway station. This is simple in principle, but is thwarted in practice by bureaucratic inertia and by the institutional chaos that is privatised public transport in Victoria. Our proposed Transport Authority (Recommendation 9) would have a mandate to coordinate timetables wherever possible, right across the system.



The bus interchange at Boronia station is conveniently located at the station entrance (the bus bays are behind the fence on the top right). Boronia is a successful example where a level crossing was removed by lowering the railway, and the opportunity taken to create a multimodal interchange.



# Why Park and Ride Doesn't Work

The key to having an intensively-used rail system (unlike in Melbourne) is to attract people who live beyond walking distance from railway stations. How are these people to access the rail system if not by walking?

Park-and-ride is the option that comes most readily to bureaucrats and private rail operators. So we are told that the key to increasing rail patronage is building more car parking at stations. Proponents point to the large multi-level commuter car parks in cities like Toronto, citing them as the reason for the success of these cities' rail systems.

There are serious problems with this view, however.

- Consider a suburban station in Toronto: Finch Station at the terminus of the Yonge Street subway. This station has a 3,000 space car park, which is very large by car park standards. Yet Finch Station attracts 75,000 passengers a day; only 5 per cent of these passengers use the car park.
- Toronto's relatively small rail system carries over three times as many passengers as Melbourne's. Yet Melbourne's rail system has over twice as many car parking spaces in total than Toronto's. (See chart.)

Judging by the figures, it is virtually impossible to provide enough parking spaces to make an intensively-used 'drive-in' rail service feasible. Even if Melbourne were to double the car parking capacity at all of its stations, by building the equivalent of eight 3,000-space multi-storey car parks, this would yield at most a 20% increase in rail patronage. People living within walking distance would still form the majority of rail passengers.

Park-and-ride has other inherent disadvantages, the main one being that the car parks occupy valuable real estate near stations that can be used more productively for retail hubs and other commercial developments. It also doesn't help the many people without cars.

The key to the success of Toronto's rail system is the 76% of its passengers who access it by feeder bus or tram. This flies in the face of bureaucrats who insist that feeder services are useless because passengers find transfers too inconvenient. The behaviour of real passengers in cities with decent public transport systems proves otherwise.

## How To Make Feeder Services Work

In Toronto's case, there are a number of factors making feeder buses attractive:

- Buses and trains operate at high frequencies (typically every 10 minutes or better), so one is never stranded at a railway station for long.
- Multimodal ticketing ensures there is no financial penalty for a bus/train journey relative to a train-only journey.
- Transfers are made as physically convenient as possible. Buses pull up inside the station, within the paid area so that unnecessary ticket checks are avoided.

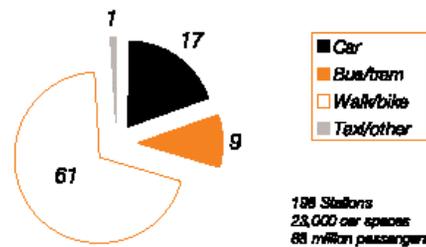
A policy of comprehensive feeder buses with convenient bus-train transfers (Recommendation 6) generates huge extra patronage (and revenue) for both trains and buses. In Toronto, 50 per cent of bus passengers are transferring to or from trains. In Melbourne, the figure is just 10 per cent. For this reason alone, it is suicidal for transport operators to discourage transfers to other services on the grounds that it's 'feeding the competition'. All this does is feed passengers to the real competitor, private cars.

In many European and Japanese cities, a substantial proportion of rail patrons use

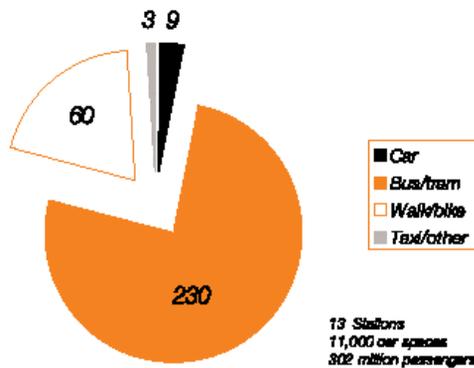
bicycles to reach the station. In many cases the bike-rail combination can provide a high level of convenience for those who choose this option. Traditionally, Melbourne cyclists have been able to carry bicycles free on off-peak train services; this should be extended to 'counter-flow' services in the peaks, where a concession fare is currently required even though trains are no more crowded than in off-peak times. Additionally, all stations should provide thief-proof bicycle storage facilities, supervised by station staff. Improved facilities for cyclists can boost patronage a great deal by making public transport more readily available to a growing cyclist population.

There will nonetheless always be a minority who prefer not to avail themselves of the alternatives and will drive a car to the station regardless. Just as in Toronto, provision should be made for park-and-ride as a secondary access mode for those passengers who so choose. Existing car parking capacity should be consolidated into fewer, larger car parks at a limited number of stations, principally those located outside existing District Centres and having good road access and available real estate. The overall number of car spaces should not increase above its present ample level, and may even be reduced to a level more like Toronto's.

Access to Rail Stations: Melbourne



Access to Rail Stations: Toronto



Figures are millions of passengers per year.

Sources: Australian Bureau of Statistics, *Census Characteristics, 1989*. Bojor, D: "Planning park-and-ride facilities in Canada" in *Plan Canada*, July 1986. Stringham, M: "Travel behaviour associated with land uses adjacent to rapid transit stations" in *ITE Journal*, 62(6), 1982. Operating authorities. Figures for Toronto are approximate only.

## Service Coverage: Converting the 'Have-Nots'

Sue and her family live in Rowville. They are typical 'Aussie battlers', living on the median household income of \$35,000 a year after tax. The family owns three cars: one for Sue, one for her husband Jim, and one for their eldest son Nick. The cars between them cost \$7,000 a year in petrol, maintenance and loan payments, or one-fifth of the household budget. The family has never been on an overseas holiday, and must go without many 'little luxuries' to make ends meet. They cannot do without their three cars: the only alternative is a bus that operates between 9am and 5pm on weekdays and at no other times. The two-hourly bus frequency makes it impossible for Sue to drop children off at school, work at her part-time job, go to the supermarket, visit friends and do the school pick-up all in one day, a routine which is perfectly simple by car. Sue secretly envies her wealthier friend Jan in Balwyn, who is able to do all these things with the help of an 8-minute tram service.

Present-day Melbourne is a city of 'haves' and 'have-nots' where public transport is concerned. The 'haves' are those living within walking distance of a tram line or railway station: the 'have-nots' are everyone else.

The 'haves' have public transport that is good by Melbourne standards, with trams every 6 to 15 minutes and trains every 15 to 20 minutes during the day, with less frequent services in the evenings until about 11:30pm, seven days a week.

The 'have-nots' have only the suburban bus services, which are of a standard found more commonly in third-world countries than in 'world cities'. Buses run

up to two hours apart (30 to 60 minutes being typical), and have very limited hours of operation. Many cease well before 6pm, making them useless even for peak-hour commuters. Buses that run at all in the evenings or on weekends are a relative luxury: only one-quarter of Melbourne's bus routes run on Sundays. Vast swathes of old and new suburbs have no public transport at all.

The 'have-nots' represent two-thirds of Melbourne's population.

Any plan for improving public transport must devote attention to its coverage, both in space and in time. Public transport must allow people to travel where and when they want to. People in the suburbs do not go to bed at 5:30pm, and neither should the transport services. And a comprehensive network must make public transport accessible to everyone.

### Spatial coverage

Melbourne has the good fortune to possess one of the largest rail and tram systems in the world. With just one or two exceptions, most areas of the city are within a few kilometres of the system, and few major extensions are required. The focus should be on smaller alterations to improve connections between modes and access to activity centres.

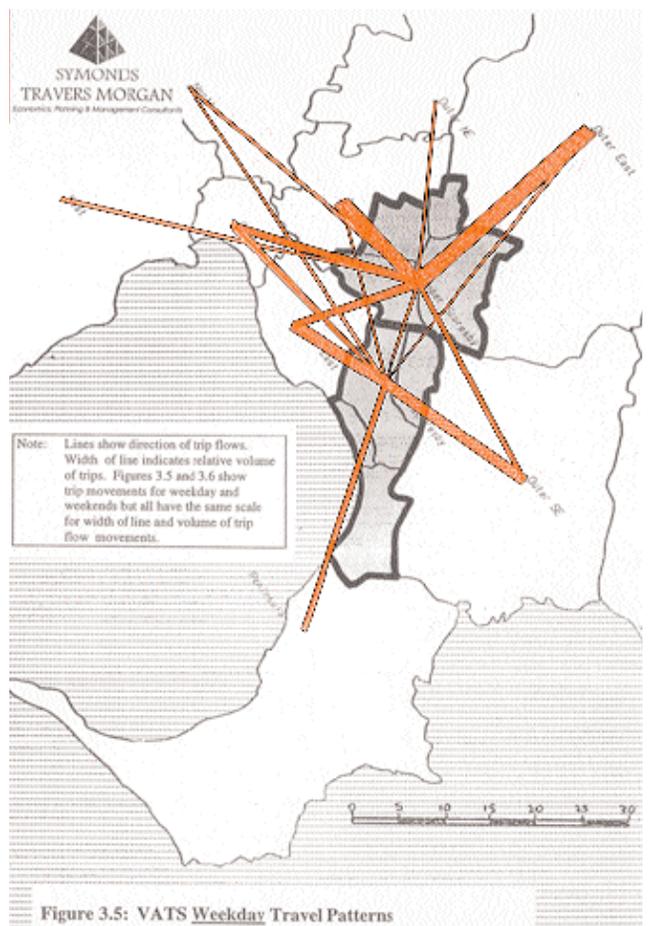


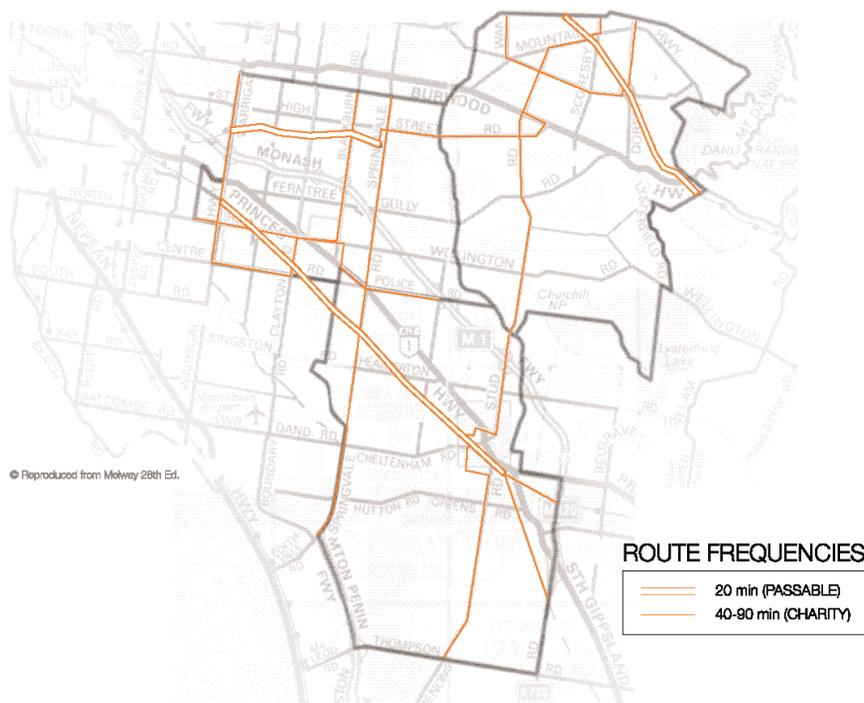
Figure 3.5: VATS Weekday Travel Patterns  
TOTAL TRIPS TO EXTERNAL AREAS  
(Total Trip Movements FROM Upper/Lower Scoresby TO Regions of Melbourne)

The VATS Map: Travel in Melbourne is Radially Focussed

Our emphasis on fine-tuning existing infrastructure is in keeping with travel statistics presented in policy documents of successive State Governments. Much as the road lobby has tried to demonstrate the need for a metropolitan ring road, Census figures show that transport in Melbourne still follows a predominantly radial pattern. Most trips that are not confined to one's local area are either to or towards the city centre; thus, they are mostly well catered for by the existing radial network.

For example, the map above comes from the government's Scoresby Corridor study,<sup>30</sup> and demonstrates the radial focus for travel in the outer eastern suburbs. (Note the very thin line connecting the Upper Scoresby and Lower Scoresby regions.)

Of the trips that are not radial, by far the majority are focussed on isolated 'travel generators' scattered through the suburbs. Some of these places, such as Camberwell and Box Hill, are easily accessible by public transport; others, such as Monash University or Melbourne Airport, are not. This suggests that public transport could meet a large proportion of people's travel needs if a few 'missing links' were to be provided and integrated into the existing network. In many cases, easements are available to provide these missing links.



Public Transport Availability on Sundays in the Cities of Knox, Monash and Greater Dandenong

## Trains

While Melbourne's suburban rail network is comprehensive, it is not without serious gaps. There are two regions in particular (Doncaster / Templestowe, and south Knox) that now support large populations despite being remote from the rail network. The lack of rail lines in these regions is due to historical accident and has nothing to do with the needs of residents. We propose new rail lines (Projects 1 and 2) as the high-capacity 'backbones' necessary to serve these regions. Compared with equivalent road projects, these new lines are a bargain.

Ideally, all of Melbourne's key travel generators would be located close to the rail network; no other mode will provide capacity sufficient to serve a significant proportion of trips by public transport. Fortunately, due to Melbourne's history of rail-centred development most of these 'hot spots' are close to railway stations. Among the rest, the most significant are Doncaster Shoppingtown, Monash University and Melbourne Airport. The first two are located on the proposed rail lines to Doncaster and Rowville; the third is a separate project (Project 3).

In several places minor extensions, new tracks and stations are required on existing lines to cater for residential growth on Melbourne's urban fringe (Project 4).

## Trams

Melbourne's iconic tram network functions well and is popular with travellers. However, it also suffers from some minor deficiencies, in particular the historical legacy of lines that terminate half a mile from train stations and major trip generators. Short, inexpensive extensions of these lines (Project 5) would render the network much more effective as a feeder to the rail backbone. Other short extensions would cater for cross-suburban journeys, such as Caulfield to Camberwell.

Trams have a carrying capacity intermediate between heavy rail and buses, and can therefore serve as access modes to 'hot spots' where rail extensions are difficult or not otherwise warranted. The most desirable extensions of this type are from East Burwood to Knox City, and from East Malvern to Chadstone shopping centre. Project 5 gives a full list of desirable tram extensions.

The \$22 million extension of the Mont Albert tram line to the Box Hill District Centre is a good example of a useful (if extravagantly executed) tram extension. For the first time, residents of suburbs such as Balwyn and Mont Albert North have convenient public transport access not only to the Box Hill shops, but also to eastern suburban train services. Likewise, these suburbs are now more accessible by public transport from other

parts of Melbourne. However, the tram terminus (in the middle of Whitehorse Road) is located too far from the station, making interchange from train to tram more difficult. The tram needs to be extended 100 metres further into the transport interchange proper.

## 'Wandering Minstrel Bus Lines'

Unlike the train and tram networks, Melbourne's bus network is utterly dysfunctional. The Melbourne bus map depicts a tangled web of routes that meander through back streets, undertake tortuous diversions and still manage to leave entire residential areas unserved. The original intent may have been to have a single bus route link all possible origins and destinations within an entire suburb, but poor bus patronage proves that this is poor policy. Meandering routes make bus travel little faster than walking, reduce revenue collection per hour of bus running time, do not permit frequent service, and make the route structure difficult for passengers to understand.

People are attracted to bus routes when they are direct and simple to understand. A comparison of a typical Melbourne bus route with an equivalent route in Toronto shows what must be done (see figure).

As in Toronto, Melbourne's road network is organised on a grid layout which can form an easy-to-understand basis for its bus routes. The key routes should, like trams, adhere to the arterial road grid and coordinate with trains at stations where the railways intersect the grid (Recommendation 6). In this way they can combine the vital feeder function with effective cross-suburban transport. The very few Melbourne bus routes that already approximate this model (such as the 630 along North Road and the 703 along Blackburn Road) are also the routes that attract reasonable patronage—if still low by world standards.

Of course, many suburban journeys are not conveniently aligned with the arterial road grid. Because of the diversity of trip origins and destinations, it is not

possible to have a single bus route service all possible journeys. Toronto makes extensive use of bus-to-bus transfers to link a wider range of locations. Bus stops at major road intersections are located close to each other to make such transfers easier, and buses will often stop on both sides of wide intersections so transferring passengers do not have to cross the road. High frequencies (akin to trams here) ensure that one doesn't have to wait long for the next bus.

The simplified, coordinated bus network should extend into all built-up areas of Melbourne. In new residential subdivisions, bus services should be provided before residents move in, not a year later when car use has already become entrenched. The network should be operated with state-of-the-art low-floor buses, supplemented with smaller midi-buses on lower-capacity local routes. Cleaner fuels such as natural gas or ethanol should be considered as substitutes for diesel.



Toronto's successful bus routes are direct and easy to understand—unlike Melbourne's.

# Project 1. Rowville train line

## Indicative cost \$120 million plus \$1 million per year

This 12-kilometre train extension from Huntingdale station to Stud Park shopping centre in Rowville has a twofold aim: to provide a new high-speed backbone for the public transport 'black hole' of Wheelers Hill and south Knox; and to boost public transport capacity to such major destinations as Monash University, Stud Park, the Wellington Business Park, and whatever large development is set to replace Waverley Park.

This proposal dates back to the 1969 Transportation Plan, when it was proposed to run all the way to Ferntree Gully. Following the usual pattern, the railway was not built while the accompanying Mulgrave Freeway was. We propose that the railway run in a cutting in the Wellington Road median, with underpasses at road intersections as far as Stud Road; a short underground deviation of some 500m would lead to the terminus inside or adjacent to Stud Park.

Stations would be provided at key interchange points and trip generators, at a spacing of roughly 2 kilometres. Trains would run from Rowville direct to the City every 10 minutes, with an express running pattern complementary to those on the Pakenham and Cranbourne lines. For example, one possible pattern might be

- Rowville > all stations to Oakleigh > Caulfield > all stations to City
- Pakenham > all stations to Dandenong > Springvale > Clayton > Oakleigh > all stations to Malvern > South Yarra > Richmond > City
- Cranbourne > all stations to Oakleigh > Caulfield > Malvern > South Yarra > Richmond > City

Because these three routes between them cover all stations, these express patterns could apply throughout the day, not just in peak hours.

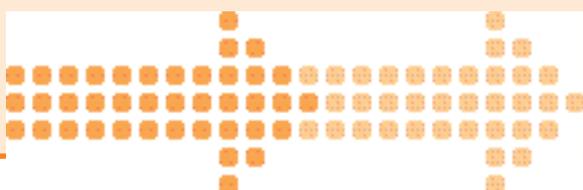
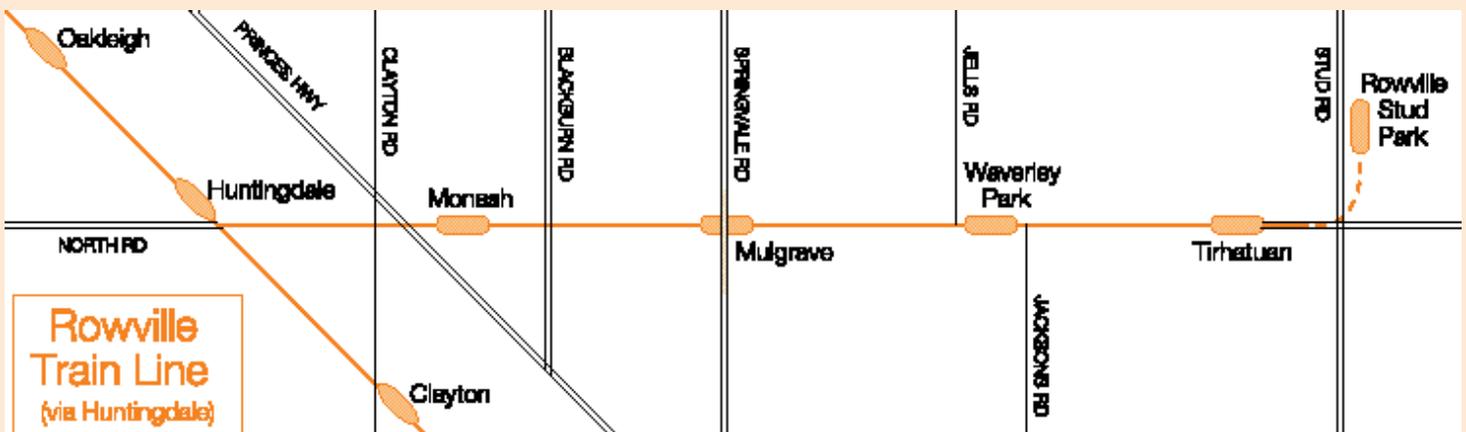
### 'Light Rail' Not An Option

In an attempt to muster political support for the Scoresby Freeway, the Bracks Government in 2001 proposed a 'package' of public transport in the Outer East region that provides about 5 per cent of what is needed. Instead of a train line capable of carrying large numbers of people to and from Monash, Wheelers Hill, Mulgrave and Rowville, the road lobby bureaucrats put forward a two-kilometre tram line ('light railway') capable of carrying a few hundred university students from Huntingdale to Monash.

While this is slightly better than nothing, it would have few advantages over the existing route 630 bus. The concept of a bus or tram route feeding into a railway station is fine for residential suburbs, but

will not do for a major trip generator such as a university with a population of 20,000. Even if just 10 per cent of the Monash population were persuaded to use public transport, and half of these accessed the university from points due west, this would still require 1,000 people per day to change to a tram just to travel the last two kilometres to Monash. If they all started at 9am and finished at 5pm it would require a convoy of 10 trams nose-to-tail. But our target for public transport use at Monash should be much greater than this. And of course, a tram terminating at Monash would do nothing for the public transport black hole further east.

Last but not least is the question of 'bang for our buck'. Even a surface tram route is likely to cost in excess of \$20 million, given that it will require new depots and rolling stock. The heavy rail extension from Huntingdale to Rowville was costed by government consultants in 1996 at \$100 million—still only one-tenth the cost of the Scoresby Freeway—and could use existing rolling stock (there are many surplus trains now in storage). We have added 20 per cent to the cost to allow for inflation. Even so, a tram to Monash would incur nearly 20 per cent of the cost of a train to Rowville for a tiny fraction of the benefit.



## Project 2. East Doncaster train line

The orchards of Doncaster and Templestowe have since the 1960s given way to contiguous suburban development in the broad 'green wedge' between the Eltham and Ringwood train lines. The filling of the corresponding gap in the rail network is long overdue.

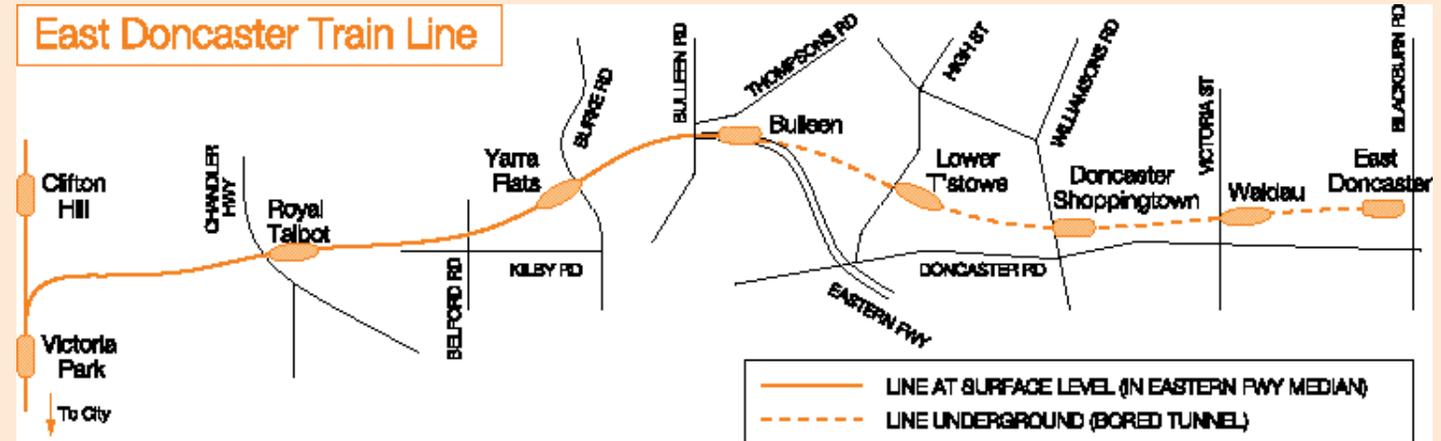
The East Doncaster railway traces its ancestry back to 1929, and like the Rowville line was one of the key rail proposals in the 1969 transport plan destined to gather dust over the next

three decades. Our updated proposal is for a railway to branch off the existing line north of Victoria Park station, run along the Eastern Freeway median as far as Bulleen (which was made especially wide so as to accommodate a railway), then run underground to Doncaster Shoppingtown and on to East Doncaster. The total length of tunnel would be approximately 5km.

This train line proposal is an alternative to the inward extension of the Eastern Freeway through Fitzroy and Carlton. The

latter is expected to cost \$600 million (twice as much as the railway) and is unlikely to do much for inner-city traffic congestion as most Eastern Freeway traffic is headed for the city centre. Our proposed rail line would provide welcome relief for Doncaster commuters who find themselves in longer and longer traffic jams on the Eastern Freeway following its progressive extension from Doncaster to Ringwood.

### East Doncaster Train Line



## Project 3. Airport train extension

Indicative cost \$50 million plus \$1 million per year

The most convenient and economical solution for public transport access to Melbourne Airport is an extension of the regular suburban train service to Broadmeadows. The extension would be in a cutting along an existing easement under the flight path, to a station in the basement of the terminal building. Services would operate with standard suburban frequencies and hours of operation (with the last departure scheduled after the arrival of the latest flight), with the Airport station in Met Zone 3.

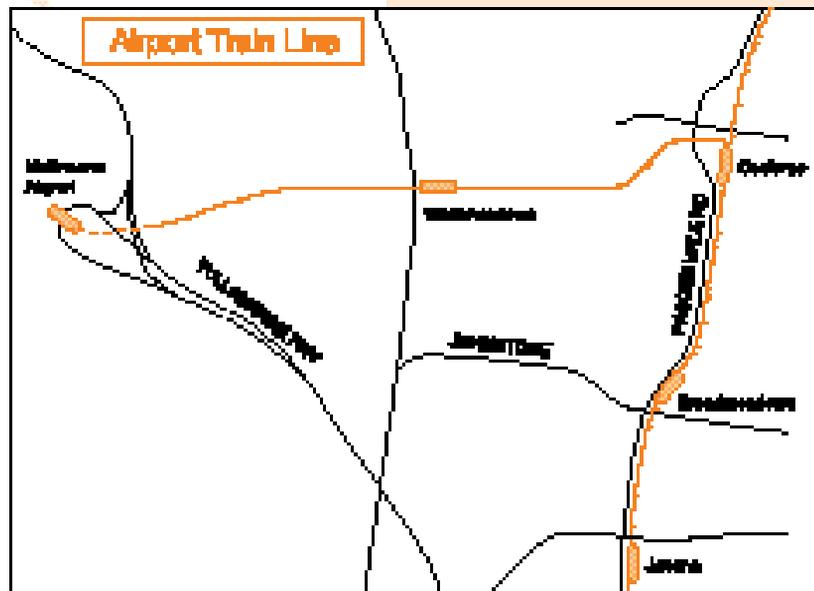
This fairly modest airport link proposal shares none of the disadvantages that have led to the failure of airport lines in Sydney and Brisbane, and led the Victorian government to (quite rightly) scrap a proposal for a rail link modelled on these two. The reason for the failure of these systems is an over-reliance on expensive technology to provide a luxury service for a select few, rather than a conventional service for the average traveller. Our proposal calls for no additional dedicated tracks, special rolling stock, tunnels through swampland, or exorbitant fares. And as it

is nothing but an extension to an existing service, it raises none of the concerns about high-speed trains in residential areas expressed by residents along the Broadmeadows line.

There is also a need for the airport to be integrated into a comprehensive cross-

suburban bus network, for cases where it is inconvenient to travel via the CBD. High-frequency buses should be provided from the Airport following the main road grid to suburbs in all directions.

### Airport Train Line



# Project 4. Other train improvements: Anticipating the Growth

Indicative cost \$488 million plus \$2 million per year, over 18 subprojects

The history of Melbourne shows that the undesirable consequences of 'urban sprawl' can be mitigated (if not exactly avoided) when suburban development occurs in a planned manner, on a 'corridors-and-wedges' or similar scheme that preserves open space, and includes public transport services from the very beginning so as not to entrench suburban car dependence.

There are a number of places where suburban development has outrun, or threatens to outrun, the suburban train network by short distances. Other fringe suburbs have rail services already, but these services are hampered by inadequate track

and station infrastructure. In all these areas, small network extensions, electrifications and other improvements would have disproportionate benefits.

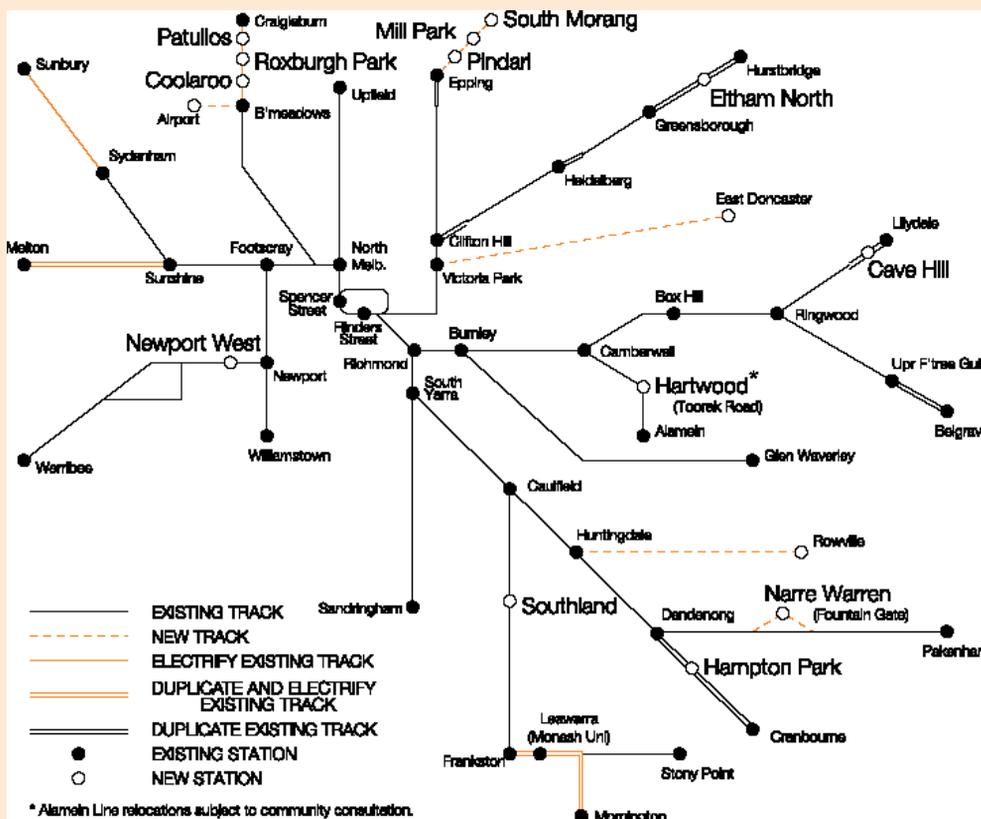
The planned extension from Epping to South Morang will help boost public transport access to new subdivisions in Mill Park and South Morang. Further extensions along the route of the former Whittlesea railway should occur in line with the development of the Plenty Valley.

As in all parts of Melbourne, bus networks in the vicinity of new railway stations should be reorganised to feed into these stations and coordinate with trains.

## Project

## Estimated cost

Continue electrification from Sydenham to Sunbury	\$45 million
Electrify to Craigieburn: stations at Coolaroo, Roxburgh Park, Patullo	\$33 million
Extend Epping line to South Morang: stations at Pindari, Mill Park	\$30 million
Duplicate single-track sections on Epping line	\$10 million
Duplicate and electrify Sunshine to Melton	\$125 million
New station and bus interchange at Newport West	\$1 million
Reconfigure stations on Alamein line*	\$1 million
Duplicate single-track sections on Hurstbridge line	\$60 million
New station at Eltham North (Allendale Road)	\$0.5 million
Duplicate Mooroolbark to Lilydale	\$15 million
New station at Cave Hill (Mooroolbark Road)	\$0.5 million
Duplicate Upper Ferntree Gully to Belgrave	\$15 million
Reroute Pakenham line through Fountain Gate Shop Ctr	\$15 million
Duplicate Dandenong to Cranbourne	\$40 million
New station and bus interchange at Hampton Park	\$1 million
New station and bus interchange at Southland Shop Ctr	\$1 million
Duplicate and electrify Frankston to Leawarra (Monash University)	\$10 million
Duplicate and electrify Leawarra to Mornington	\$85 million



# Project 5. Tram gap-filling programme

Indicative cost \$215 million plus \$2 million per year, over 14 subprojects

The aim of this programme is to make the tram network more functional as part of a seamless, integrated public transport network, by improving access between tram termini, railway stations and major trip generators, and by closing some cross-suburban gaps.

The proposed extensions to Doncaster Shoppingtown and to North Kew would both coordinate with the proposed East

Doncaster railway, but have clear merits in their own right.

The southern extension of the Burke Road tramway would make possible a new tram route running along the length of Burke Road from Kew in the north to Caulfield in the south. This would provide a vital cross-suburban link from the Frankston and Dandenong train lines to places like Camberwell, and would also improve

access to Monash University's Caulfield campus (and indirectly the Clayton campus as well). With the new Burke Road route in place, the oddly-routed 72 could be terminated near Gardiner station (or extended along Malvern Road to Glen Iris), with easy interchange to Burke Road trams and trains on the Glen Waverley line.

## Project

Extend 75 East Burwood to Knox City	
Extend 57 West Maribyrnong to East Keilor	
Extend 48 North Balwyn to Doncaster Shoppingtown	
Extend 109 Box Hill to Box Hill RS	
Extend 8 Toorak to Hartwell (serving two rail lines and Coles Myer headquarters)	
Extend 69 Kew Cotham Rd to Kew Junction	
Extend 72 Camberwell to North Kew (Yarra Flats RS) Further extension to Ivanhoe RS (via Lwr H'berg Rd)	
Extend Burke Road track south to Caulfield RS	
Extend 3 East Malvern to East Malvern RS Further extension to Chadstone shopping centre	
Extend 67 Carnegie to Carnegie RS	
Extend 6 Glen Iris to Ashburton RS	
Relocate Melbourne University shunting area north of Elgin St	

## Estimated cost

\$40 million
\$30 million
\$20 million
\$0.8 million
\$25 million
\$0.2 million
\$18 million
\$20 million
\$18 million
\$5 million
\$12 million
\$5 million
\$20 million
\$1 million

## Temporal coverage

The most comprehensive public transport network in the world is of no use if it leaves people stranded in the evenings or on weekends. Twenty-first century lifestyles are not restricted to the hours of 8am to 6pm, Monday to Friday. That era when Melburnians stayed home every night, when Melbourne stopped completely on Sundays and became a city fit for making a film about the end of the world, is well behind us and unlikely to return. Melbourne is a 24-hour, 7-day city and needs a 24-hour, 7-day service.

A good start would be having buses adhere to the same hours of operation as trams. Currently even some inner-city buses cease operating at 6pm while the tram routes they intersect operate until after midnight.

Night services, too, are vital to high-quality public transport. All successful public transport systems provide round-the-clock services. New York and Chicago run trains 24 hours a day, while London and Sydney use buses to provide after-midnight services 7 days a week. Perth's trains run until 2 or 3am on Friday

and Saturday nights, and in Brisbane buses run until around 1am seven days a week. Toronto's trains, trams and buses operate at normal frequencies until around 1:45 am, when a more limited network of 22 tram and bus routes takes over, operating every 8 to 30 minutes until dawn.

Melbourne should be no different. The Nightrider bus service was a positive step when it was introduced in 1993 (following a suggestion by the PTUA) but much more is needed. All but the quieter Melbourne train, tram and bus services should operate—at normal frequencies—until around 2am, with a more limited half-hourly tram and bus network continuing until 5am (Recommendation 2). Routes serving major nightlife centres such as St Kilda, Fitzroy and Southbank would run more frequently. This will ensure that public transport is an option for late-night travellers and entertainment seekers.

Late in 1997 the PTC took a small step in the right direction by introducing an all-night, 20-minute tram service that ran around the main nightlife centres, providing a connection to the Nightrider

buses at Flinders Street. However, the service was badly publicised and was withdrawn the following April. Clearly more is required, when it is possible for people even in the inner suburbs to be left stranded as early as 11:30pm with no public transport.

# A System Serving Passengers, Not Vice Versa



Ms Downing says she drives because it's the more convenient option. If she travelled by public transport she would have to buy a ticket for zones one, two and three, which would cost \$11 a day. She doesn't feel safe on public transport after hours and sometimes she does shift work.

—The Sunday Age, 7 April 2002

The privatisation of public transport in Melbourne does not appear to have changed the entrenched captive-market mentality of transport operators. The attitude that services are operated for their own sake and not for the benefit of passengers is all too frequently displayed by Transport Ministers and private operators alike. The view seems to be that passengers should conform to the requirements of operators, not that operators should serve passengers. This attitude may work for banks, but not for businesses that rely on the goodwill of their customers for patronage.

## Ticketing as if People Mattered

Apart from limited running times and poor service frequencies, the ticketing system is the most obviously dysfunctional aspect of Melbourne's public transport. Tram passengers, who were served by conductors as recently as 1997, must now buy tickets from oversized machines that only take coins. The machines at railway stations, that take notes but will not issue more than \$10 in change, are frequently vandalised or malfunctioning. Travellers frustrated by the ticket machines are directed to distant retail outlets that are closed mornings and evenings and do not sell the full range of tickets anyway. Passengers must

revalidate their tickets every time they board a tram, for no better reason than that it gives the bean counters some unreliable statistics to work with. And if a ticket gets lost or damaged in the machine, the holder must negotiate a Byzantine nightmare of forms and red tape before any refund is paid.

The legacy of this broken system, which cost \$400 million to implement, is a record rate of fare evasion, estimated at 10% on the system as a whole and up to 40% on the tram system. Rather than acknowledge the role of the despised ticketing system in the high rate of fare evasion, the government and operators prefer to blame it on some peculiar disease that afflicts Melbourne public transport users and no-one else. It doesn't help that Onelink, the operator of the ticketing system, has its own contract with the government under which it has no obligation to fix the problems. (A small step in the right direction was taken with the reintroduction of daily ticket sales on trams in 2002, but the underlying problems remain.)

If a ticketing system is to be convenient to passengers and foil fare evasion, it must *make it as easy as practicable to buy a ticket, and as difficult as practicable to avoid buying one*. The current system is the precise opposite: it makes purchasing tickets difficult, and makes fare evasion simple by comparison.

The government and operators have learned the hard way that the only option for fighting fare evasion, especially on trams, is with a visible staff presence. Not so long ago, this presence on trams was furnished by conductors, who not only

made sure everyone had a ticket but also assisted with directions, helped passengers with mobility problems or with prams, and maintained a safe, secure travelling environment.

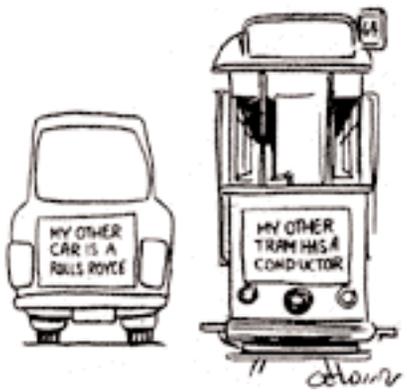
Now, the only staff encountered by tram passengers are poorly-trained ticket inspectors, who travel the system in packs and have no duties beyond chasing down fare evaders. Similarly, ticket sellers and other railway staff have been replaced by security guards with no responsibility to assist passengers. The number of hired thugs required under the 'no-staff' policy is rapidly approaching the number of (friendly) conductors and station staff that used to exist.

Barring the commercial failure of Onelink, it is unlikely we will see the wholesale removal of the Metcard machines from Melbourne's trains, trams and buses—at least before 2006 when their current contract expires. Given this consideration, fixing the Metcard system will require a two-pronged approach (Recommendation 7).

- On the one hand, the more ridiculous aspects of the automatic ticketing system must be remedied, by removing the requirement to revalidate an already valid ticket.
- On the other hand, a staff presence must be reestablished alongside the ticket machines. This is the norm in other cities around the world with automated ticketing—including Sydney, London, Hong Kong, and Brussels (which uses almost identical machines).

There is a clear need, and overwhelming public support, for the return of conductors on trams. Together with service staff at stations, they would perform their traditional functions and help issue a range of Metcard tickets. Station staff would help safeguard revenue by monitoring ticket barriers, which are open to abuse when no staff are present.

## Staff on the System means Safety and Service



We considered automated ticketing, but decided we'd still have to staff all our stations if customers were to feel safe. If the staff have to be there for safety, they might as well sell tickets too.

—Juri Pill, Toronto Transit Commission

The best public transport service in the world will be of no avail if people feel unsafe using it. Reports of assaults, dark and deserted stations and vandalised buildings and equipment have created a crisis of confidence in the safety of the system. Although the problems can easily be solved, recent developments in public transport have served only to make them worse.

Women in particular have abandoned public transport after dark, depriving the system of half its potential passengers. This contrasts with the well-used systems in New York, Toronto and elsewhere, where single people of both sexes are regularly seen travelling on public transport late in the evenings.

The Kennett and Bracks Governments have both paid lip service to 'customer-friendly' public transport. There has been much rhetoric about customer service, 'Premium' Stations, passenger charters, and increased patronage. In reality, this rhetoric covered up a programme of service cuts that saw tram conductors sacked, station staff dwindle, public assets sold to overseas operators, an ongoing problem of personal safety, and a decline in Melbourne's public transport mode share to its lowest level in history.

The only real answer to safety problems is adequate staffing, with well-trained, resourced and motivated personnel. 'Premium Stations' that are staffed at night are seldom vandalised and passengers feel safe at them. But just as with network coverage, there should be no haves and have-nots on public transport. Every station should be a Premium Station, meaning it should be staffed from first to last train and staff must be able to observe platforms and waiting areas (Recommendation 7 and Project 6).

Rail stations, as well as being safe and clean, should provide adequate passenger service and facilities, including comfortable waiting rooms protected from the elements. No longer should a train passenger be unable to go to the toilet simply because no-one is around to deter vandals. Information about all local train, tram and bus services should be available and the arrival of trains clearly announced.

Train 'conductors' should also be reintroduced, following V/Line's successful example, to provide a safe travelling environment, prevent vandalism and foil fare evasion. As with tram conductors, there should be a clear understanding that passenger security and assistance are their primary roles, alongside fare collection. Along with other passenger contact staff, they should have the ability to summon police assistance when required.

Appropriate levels of staffing mean safe vehicles, safe stations and honest customers, which safeguards revenue and attracts more people onto the system. Of course, all staff who have contact with the public should be trained to treat each passenger as a valued customer rather than as a potential criminal.

## The Public Transport User Experience

Passenger comfort is another issue where public transport can be seen as inferior to cars, to the extent of turning passengers away. However, it's important not to confuse comfort with aesthetics. Under the terms of the privatisation contracts, the State government gave the private operators hundreds of millions of dollars to purchase new rolling stock. The new trams and trains (imported from overseas) certainly look nice, but it is possible that aesthetics has been pursued to the detriment of other factors that might have a greater effect on patronage. For example, the new Yarra Trams have a sleek European finish, but have no more seats than the A-class trams they are replacing and fewer seats than the 1990s-vintage B-class.

Research on passenger comfort<sup>31</sup> has found that the key issues for passengers are:

1. Cleanliness and reasonable repair. Obvious vandalism makes people very nervous, because it implies they aren't safe.
- 2 Getting a seat on the vehicle.
3. Heating and cooling, when appropriate.

According to the same research, nothing else has a significant effect on patronage levels. Colour schemes, shininess, age of the vehicle, and so on, all count for virtually nothing. The conclusion is that "while some transit agencies spend a lot

of money making vehicles luxurious, this is not likely to increase patronage." (The 'branding' of public transport is a distinct issue, and colour schemes can be important in this regard.)

The new rolling stock is likely to have the greatest effect on passenger comfort if it is used, in conjunction with the 40 surplus trains and the 100 fully operational W-class trams currently sitting in mothballs, to increase service frequency and reduce overcrowding. Under present conditions, potential passengers are often deterred by uncomfortably overcrowded vehicles. The major cause is not an overall lack of capacity (since many services run half empty even in peak hour), but unreliability and inappropriate timetabling. This is a particular problem in the evenings, when one can wait 20 minutes for a tram only to find it packed full as a sardine tin. The obvious solution—to allow more trams to run in the evening instead of sitting idle at depots—is overlooked by operators whose practices are frozen in the 1950s, and by bureaucrats who regard public transport as a last-resort option for peak-hour commuters and school children.

Tram passengers also deserve better than to be herded into crowded metal corrals, exposed to the elements and splashed by passing cars. 'Superstops' are a mixed blessing, adding to passenger comfort and the visibility of tram stops, but detracting from easy access by placing a 50-metre solid wall between the tram stop and the adjacent footpath. The design of superstops must be made more permeable, with accessibility similar to the existing tram safety zones.

In other tram cities, motorists are required to stop for trams even on the busiest roads. In German and Swiss cities, special traffic signals control road vehicles at tram stops. Such signals are likely to have a greater effect than hidden cameras in preventing motorists passing stationary trams.



## Fares Fair

The last significant issue on which public transport competes with the car is cost. The mechanics of issuing physical tickets have been dealt with above, but the question of exactly how we should charge for public transport services remains to be considered.

The key principle for a public transport fare system is that *fares should be set to compete with equivalent car journeys*, and should not encourage people to desert the system for what are seen as cheaper alternatives.

Because only a minority of people can satisfy their transport needs with only one mode of transport, fares need to remain multimodal. The practice of private operators introducing their own single-mode tickets is counterproductive (and unpopular with passengers) and should cease. Similarly, services such as Skybus and Nightrider which currently charge their own separate fares should be brought within the multimodal fare system.

Motorists enjoy many 'economies of scale' from driving more often, due to the way vehicle-related taxes are structured. Whether or not this is remedied through tax reform (Project 10), the real economies of scale in public transport

should be reflected in the fare structure. The use of periodical tickets should be encouraged and carry significant discounts. These should be flexible, with three-monthly, six-monthly and V/Line-style date-to-date tickets in addition to the current weekly, monthly and yearly tickets. Aside from being convenient to passengers, periodical tickets benefit operators by providing revenue security and reducing the overhead of ticket sales. Of course, two-hour and daily tickets must continue to be easily available at reasonable rates to casual users, who are tomorrow's frequent users.

Car owners can make many extra trips in their car for very little additional cost. Similarly, the 'marginal cost' of public transport—the cost of making one extra trip—should be kept as low as possible, ideally zero. This is another reason to encourage use of periodical tickets as an alternative to 'multi-trip' tickets such as the 10 x 2-hour ticket, which imposes the same cost for each additional trip.

Because most cars used by commuters on weekdays become family cars on weekends, a full-fare periodical ticket should once again allow free (or at least concessional) travel in all zones for a

family of four on weekends and public holidays, as it did prior to 1993.

Commuters from regional cities such as Geelong or Warragul often work in the suburbs rather than the city centre, and driving to and parking in these suburbs is often easier than in the City. Thus, V/Line tickets should also entitle passengers to use all services in the same zone as their destination on the day of travel (for example Zone 1 for Spencer Street, or Zone 3 for Dandenong).

Melbourne's current three-zone system is a reasonable compromise between recovering the cost of long journeys, permitting inexpensive travel to key destinations, and keeping fare calculation reasonably simple. While it is not perfect, we do not propose any major changes as these would only make the system more confusing. Minor changes that are likely to be beneficial include:

- fine-tuning zone boundaries, for example to bring Box Hill within Zone 1 and Ringwood within Zone 2; and
- establishing a new inner-city zone, with equal fares for all four zones, and the abolition of the confusing 'Short Trip' ticket.

## Project 6. Re-staffing the system

**"It would take the price of a daily zone one ticket from \$5.10 to \$7 and we're not prepared to do that."**

—Transport Minister Peter Batchelor, on reintroducing tram conductors and station staff, 6 March 2002

A provocative claim indeed! Public transport users may recall that five years ago, when all trams had conductors, the cost of a daily zone one ticket was just over \$4.00. That was before the government had signed off on the \$400 million contract to replace conductors with ticket machines. Just how much would it cost to reintroduce conductors and station staff?

Approximately 1,400 passenger-service staff would be required to staff our 500 trams and 210 stations. Of these 200 are already budgeted for (100 conductors and 100 station staff, currently used as ticket inspectors and security guards). This leaves 1,200 to be funded from additional revenue. Allowing \$60,000 per employee for salary and on-costs gives a total cost of \$72 million per year to restaff the system.

There are, however, a number of factors that would cause the net cost to be much less than \$72 million:

- Fare evasion is said to cost the operators \$50 million a year. Realistically we can expect that these staff would cut fare evasion by 80% by making it difficult to fare evade, easy to buy a ticket, and defusing the current informal campaign of civil disobedience. That's \$40 million a year saved.
- With conductors on trams and staff at stations, the roving ticket inspectors would become largely redundant. There are more than 100 of these on trams alone. Reemploying three-quarters of these as tram conductors means \$7 million less need be spent on inspectors each year.
- Increased patronage, through improvements in actual and perceived safety, cleanliness, slightly faster trams, fewer unpleasant incidents and general commercial goodwill, will boost revenue by an amount that is difficult to quantify.
- Costs to the operators and law enforcement authorities would be reduced through fewer offences, fewer court appearances, less vandalism, and lower maintenance costs for ticket machines.

We expect, therefore, that the net cost of restaffing the system would be less than \$25 million a year. This is a conservative figure and is likely to overestimate the true cost. (The cost of tram conductors was \$40 million a year in the mid-1990s.)

The return of conductors and station staff is a thoroughly viable proposition. If it were to be funded through a fare increase, the increase would be less than the 10% GST that now applies to public transport tickets. But it does not need to be funded through increased fares: cost savings and cuts are never passed on in the form of reduced fares, after all. We don't increase the Medicare levy every time we fund a new initiative in public health, and this should be the same.

# Reconnecting Victoria

George lives in Highton, a suburb of Geelong, and commutes to Melbourne once a week. He tried doing the trip once by public transport, just for laughs. The bus arrived 10 minutes late and meandered through the back streets of Belmont on the way to Geelong town centre. George then found he had to walk from the centre of Geelong to the station, as the bus didn't go there. The train he'd had in mind to catch had already left; fortunately he'd left an extra hour up his sleeve so he could catch the next one. Just outside Newport, the train got stuck behind an all-stations suburban train and arrived at Spencer Street 10 minutes late. George was glad that his V/Line ticket allowed him to use the City Loop, but he then found he had to buy a Zone 1 Metcard in order to get the tram to his final destination in St Kilda Road. The total round trip cost George \$27.60: \$1.55 each way for the bus, \$19.40 return for the train, and \$5.10 for a daily Metcard. His usual journey by car costs him \$10 for petrol—about one-third as much. Parking is provided for free by his employer, who gets a tax deduction.

John and Jane live in Melbourne, and have been invited by friends to spend the weekend in Peterborough, on the Great Ocean Road near Warrnambool. They take the car; no other option occurs to them. Indeed, the only public transport to Peterborough of any description is a single bus every Friday, despite the town being an important tourist destination with a sizeable permanent population. The nearest everyday public transport is the train to Terang, from which they'd have to hire a car or beg their friends for a lift over the remaining 40 kilometres.

The same principles that apply to public transport in metropolitan Melbourne apply also to transport services throughout country Victoria. For the first time in decades, there is both community and high-level political support for improved public transport in the country. The State Government has a policy of decentralisation, aimed at increasing the importance of regional cities relative to Melbourne and stemming the exodus of population from regional and rural Victoria

to the suburbs of Melbourne. Transport links are central to this policy, and the centrepiece in the eyes of the Bracks Government has always been 'fast trains' linking Melbourne with Geelong, Ballarat, Bendigo and Traralgon.

While the broad initiative is to be applauded, and the commitment of \$550 million in public funding magnificent, the devil is in the detail. The exclusive focus on four regional cities seems likely to create a new set of public transport 'haves' and 'have-nots'. Though this is doubtless not the government's intention, there is a real danger of replicating the situation in France, where regional cities such as Lyon and Marseilles have benefited greatly from TGV (train à grand vitesse) links to Paris, but at the expense of the smaller towns and villages in between, which now have poorer levels of service than previously.

When people lament the decline of country life in Victoria and elsewhere, it is generally these smaller towns they have in mind, not the large urban centres that have more in common with Melbourne than with their rural hinterland. Even smaller regional cities stand to lose out from the proposals; Victoria has no less than 23 cities with populations in excess of 10,000 people, some of which (like Castlemaine) could be bypassed by the fast trains under current plans.

It is often claimed that Australia's status as the world's most sparsely populated continent means that the trend toward urbanisation is inevitable, and the provision of public transport in rural areas unviable. But our present subject is not the trackless deserts that span much of the continent; it is the bottom south-east corner which is comparable with parts of Europe in its population density. The state of Victoria may be even more densely populated than some European countries; Sweden is three times the size of Victoria, but has only twice the population. Sweden does not use its low population density as an excuse to deny transport services to its rural citizens.

## Location Population density

(persons / sq km)

Sweden	19
Victoria (settled parts*)	42
Ireland	53
Spain	78
Austria	80
France	107
Switzerland	120
Germany	229
United Kingdom	242

\* 'settled parts' means all Victoria except the Mallee and High Country.

The transport system we envisage for Victoria is a comprehensive train and bus network based on the 'Pulse Network' model used successfully in Switzerland, Austria and Sweden. The basic principles are familiar from our recommendations for Melbourne:

1. **Hours of operation** of all services must reflect the times when people want to travel. Services must run seven days a week from early morning, with final departures for key services at midnight.
2. **Service frequency** must reflect the demand for travel, as measured by number of trips using all modes (including cars). No service will run less than every two hours during its hours of operation, except those in remote rural areas.
3. Major regional cities must be linked to Melbourne by high-quality **rail services** competitive in speed and convenience with private car travel. These rail services will provide the backbone for the country transport network (Project 7).
4. **Bus services** should link regional centres by direct and easy-to-understand routes wherever possible, following the 'desire lines' of country travellers, and act as feeders to the rail system (Project 8).



# How To Do Road Planning

5. **Network coverage** must ensure that all but the smallest towns are served by a bus route or railway station. No part of Victoria deserves to be isolated. The vitality of the Victorian countryside in the decades after Federation was not unrelated to the fact that every single town had a train service.
6. Railway stations (within town centres wherever possible), and towns at the convergence of bus routes, will act as **coordinated hubs** for regional and local transport networks. As far as possible, services converging on a hub will be coordinated on an hourly or half-hourly 'pulse timetable' so that transfer times are minimised. Buses should carry a uniform livery to emphasise their coordinated nature.
7. **Interchange facilities** at hubs must make train-bus and bus-bus transfers as convenient as practicable.
8. Within urban areas, buses must receive a level of **priority** over private car traffic consistent with their occupancy.
9. **Fares** must be set to compete with the car, and must continue to allow free transfers between rail and bus services on a single easy-to-purchase ticket. Date-to-date tickets with sensible discounts must be made available to regular travellers. Travel within origin and destination cities should be included as described in the previous section.

10. Passenger concerns about **safety, service and cleanliness** must be taken seriously and met with adequate staffing, 'image consciousness' and on-train facilities.

A vital component of public transport in country Victoria is bus services within regional cities and towns. Of people asked in a government survey why they did not use the train for country travel, 62% cited the need for a car at their destination.<sup>32</sup> Interestingly, 'the train is too slow' was not a significant reason given for not using the train. Decent town bus services in regional centres, focussed on the railway station and town centre and coordinated with trains, would eliminate the need for a car in a significant proportion of these cases.

Again, these services should be planned along the same principles given above for Melbourne, given that most regional towns have population densities similar to Melbourne suburbs. (Geelong, Ballarat and Bendigo once supported tram networks of a similar standard to Melbourne's.) As with regional bus services, it should be possible to combine town bus and train travel on the one ticket.

What implications would a genuine triple-bottom-line strategy have for road planning in Melbourne? The starting point would be the commonplace observation that people dislike traffic congestion. Just as the strategy would set a target for public transport mode share, so it would also establish performance standards for road congestion, using level-of-service indicators already familiar to traffic engineers.

The key policy shift would come from conceding, as is now the consensus among transport planners and communities almost everywhere other than Australia, that cities cannot hope to build their way out of traffic congestion. There is precious little to be gained from new roads, and much to be lost. Once people feel free to shift to alternative transport modes with no real loss in convenience, the needs of road users can be better accommodated within the existing, already very extensive, road network.

An example of the kind of objective we envisage for road planning is provided by the Perth Metropolitan Transport Strategy: "To provide relatively congestion-free off-peak road travel, while limiting the per capita cost of providing and maintaining the Region's road system."

The way forward in road planning lies in identifying the kind of road projects that assist traffic flow but without further entrenching car dependence, which creates more congestion problems in the future. The elimination of railway level crossings is one such project (Project 9). This not only helps both road and rail traffic to travel more freely and reliably, but also reduces the incidence of accidents, and ensures that footpath surfaces are not broken up by railway tracks—an important issue for users of wheelchairs, prams and trolleys. Last but not least, it provides an opportunity to redesign railway stations as proper bus-rail interchanges.

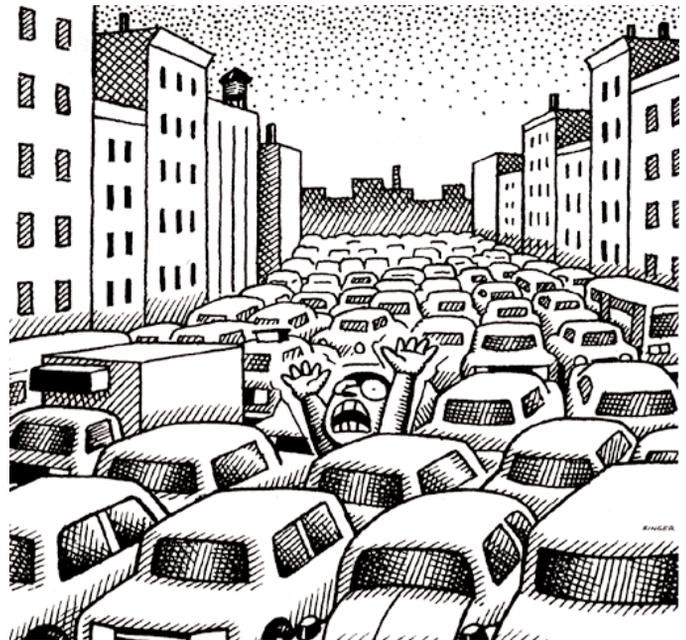
A pressing issue in road planning, both present and future, is the question of heavy freight vehicles using residential streets. Our envisaged transport plan would examine options for road freight reduction that do not

solve a problem in one place only to create a bigger problem in another. A plausible strategy could include the following elements:

1. Encourage greater use of rail for heavy freight, particularly inter-city freight, through regulatory reform and direct incentives.
2. Ban the use of super-heavy vehicles such as B-doubles and B-triples. The UK and Europe have banned these vehicles and their economies have not self-destructed.
3. Regulate the operation of medium-sized vehicles, and require them to use freeways.
4. Move the generators of heavy road freight to areas near freeway exits and rail sidings, if they are not already located in such places. As freight-intensive industries generally employ few people, the effect on local economies would be minimal.

## Summary

The secret to providing public transport that people will use, as demonstrated in cities all over the world, is a seamless integrated network of high-frequency train, tram and bus services, operating at all the times people want to travel. The combination of high frequency, easy transfers, generous operating hours and sensible fares provides, for virtually all trips, a level of convenience approaching that of private car travel.



# Project 7. A revitalised country rail network

Indicative cost \$500 million plus \$50 million per year (excluding gauge conversion)

The \$550 million promised by the Bracks Government for upgrading regional rail services could do much more than just provide high-speed commuter trains to four regional cities. Our alternative programme envisages a renewal of passenger rail throughout Victoria, with frequent 'reasonably speedy trains' running between most major regional cities in less time than it would take by car, and servicing in-between destinations from early morning until late evening.

- Restore train services to Ararat, Hamilton, Portland, Mildura, Bairnsdale and Leongatha.
- Restore cross-country services: Geelong to Ballarat, Maryborough to Bendigo, Toolamba to Echuca.
- Upgrade track to support consistent 160kph running.
- Commit to regular track maintenance across the system.

to broad gauge statewide, this would be counter to the trend toward nationwide standard-gauge infrastructure. As a standardised interstate freight network is the stated purpose of gauge conversion, the funds necessary to convert the network should be provided by the Commonwealth. (The total cost amounts to about the same as upgrading one rural highway.) In accordance with the long-term needs of the system, all new rolling stock purchased in Victoria should be gauge-convertible.

Gauge conversion should proceed in phases, with conversion of the Ballarat group of lines to commence immediately so as to remedy some dysfunctional consequences of the current break of gauge in western Victoria. The Melbourne suburban network would be the last converted (contingent on new regaugeable rolling stock) and could be converted in two phases reflecting the division into two separate operating entities.

A few of these lines have already been restored as tourist railways, but would support regular passenger services. Needless to say, good policy does not distinguish between 'services for tourists' and 'services for commuters' (or any other class of traveller). Just as when responding to road traffic demand, the fact that people travel is enough.

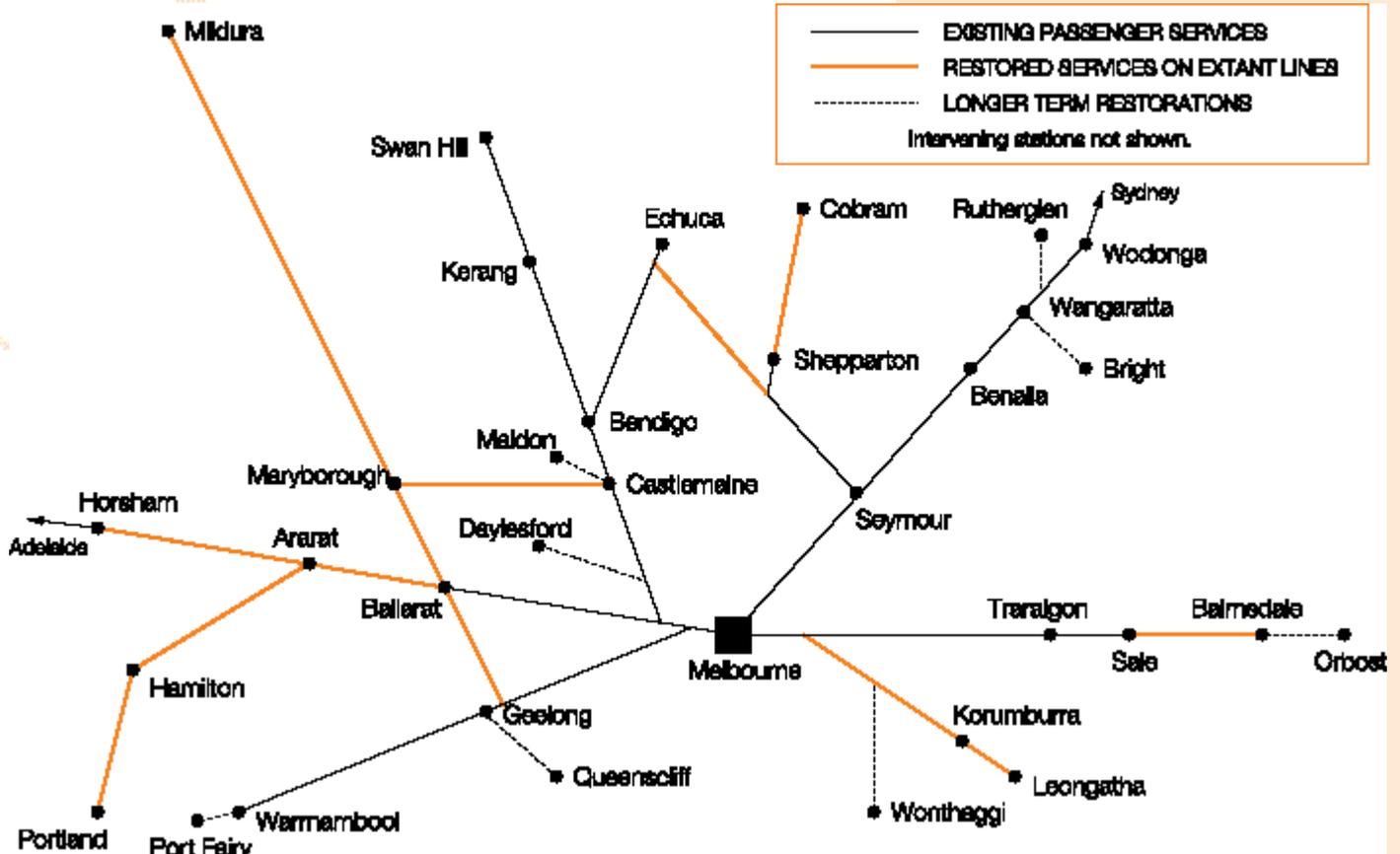
Line	Estimated cost
Geelong to Queenscliff	\$100 million
Warrnambool to Port Fairy	\$120 million
Woodend to Daylesford	\$140 million
Castlemaine to Maldon	\$50 million
Springhurst to Rutherglen	\$50 million
Wangaratta to Bright	\$200 million
Bairnsdale to Orbost	\$250 million
Lang Lang to Wonthaggi	\$140 million

## Gauge Conversion

As part of the rail renewal, a programme is required to convert the remainder of Victoria's rail track to standard gauge, the *de facto* national standard. In the long term it is impossible to run a coherent statewide rail freight and passenger network with islands of different rail gauges. While it would be easier to revert

## Restoration of Some Dismantled Lines

Rural Victoria includes many major recreational destinations located at the end of dismantled rail lines. In the longer term, some (but by no means all) of these lines could be rebuilt as part of a programme to promote environmentally responsible tourism. As lower priority projects, they are not included in the above costing.



# Project 8. An inter-regional bus network for Victoria

Indicative cost \$40 million per year (over current cost)

Prior to World War II, virtually every town in Victoria had a train service. There is no doubt that this helped maintain the status of rural Victoria alongside the burgeoning metropolis of Melbourne and the large regional cities. Who today is aware that the first Victorian town outside Melbourne to have its own electricity supply was not Geelong or Ballarat or Bendigo, but rather Nhill in the state's far west?

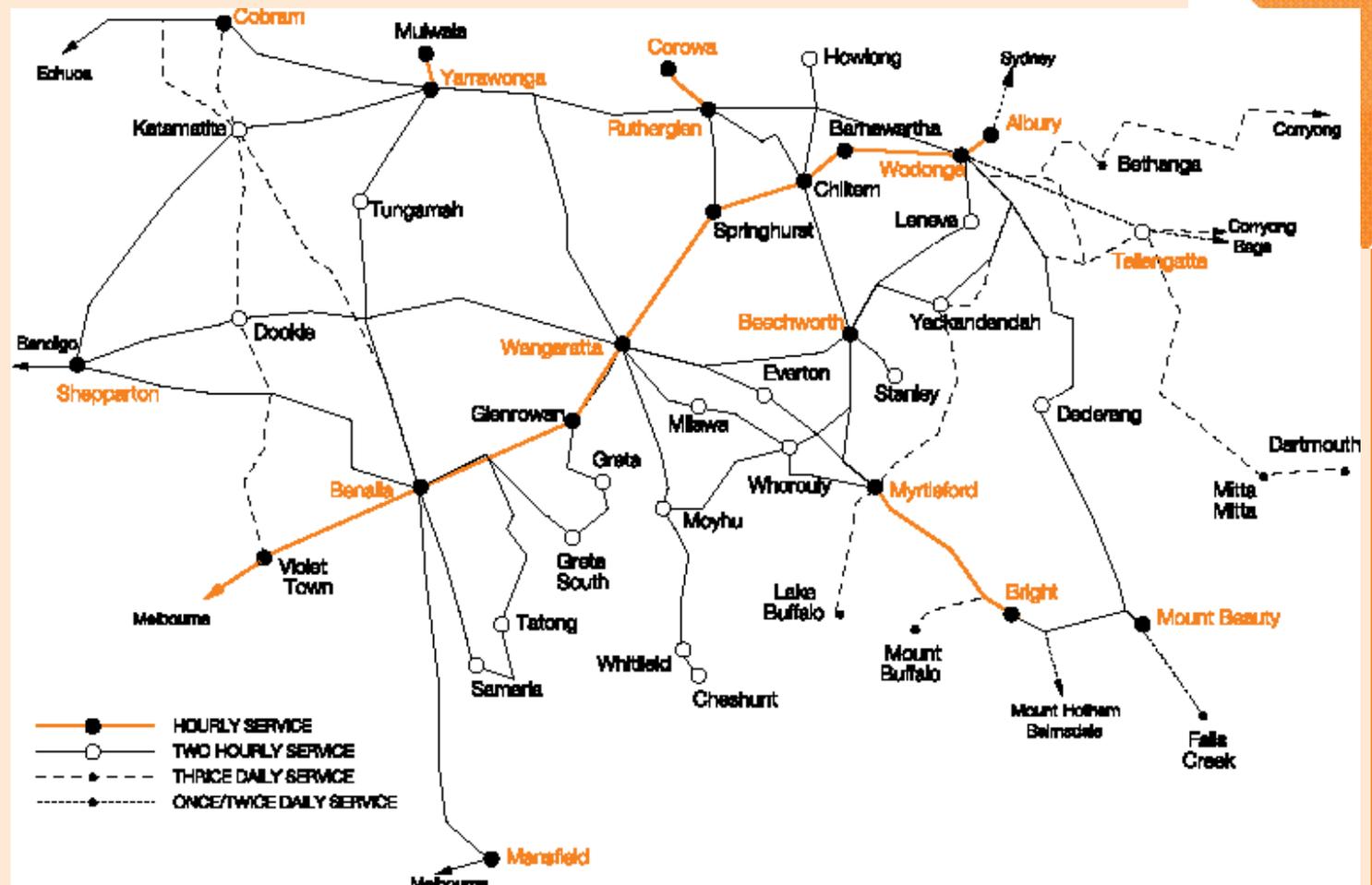
While we cannot realistically propose restoration of rail services to all Victoria's rural towns, equity demands that all but the smallest have some form of public transport access. Country bus services at present are a hit-and-miss proposition, with many important locations left out of the network, and existing services poorly

coordinated. Even the seasoned V/Line traveller would not necessarily know that besides the advertised V/Line coach services there are a large number of local bus routes, both urban and rural. Yet these routes are so poorly coordinated with the V/Line network that it would scarcely help most travellers even if they *did* know about them.

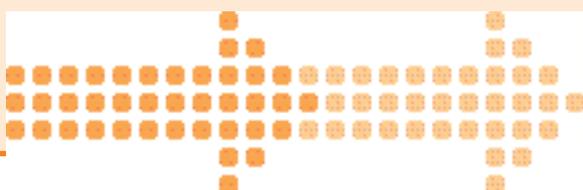
A comprehensive network of country bus routes is required to complement and deliver additional patronage to the revived regional rail network proposed above. For very little additional cost over that of the present system, every population centre in Victoria can be brought within a network of bus routes with a two-hourly basic frequency (less in more remote areas). This improved system could also subsume

much of the rural school bus function, which accounts for a large part of the country transport budget.

As an example, the map below depicts a possible bus network to support the region surrounding Wangaratta in north-east Victoria. This region is typical of 'settled Victoria' in supporting a population density comparable to that of European countries like Sweden or Ireland. It also supports a substantial tourist population, having the Rutherglen wine region to the north and the high country to the south.



Proposed Bus Network: North East Victoria



# Project 9. Level crossing elimination

Indicative cost \$500 million

In the 1950s and 1960s, before it became obsessed with freeways, the CRB had an ongoing programme of eliminating all level crossings in Melbourne. With the advent of the freeway frenzy this programme was left half-finished. It should be resumed immediately. For reasons of aesthetics and urban integrity, level crossing elimination is best accomplished by lowering the railway (as at Elsternwick in the 1960s and the more recent Boronia station project) and not by raising the road (as at the notoriously ugly Huntingdale and Oakleigh interchanges).

The most urgent locations for level crossing removal are primary arterial roads such as Springvale Road. The first stage of the elimination project would remove all level crossings on roads carrying more than 50,000 vehicles a day. A second stage would remove crossings on secondary arterial roads carrying more than 20,000 vehicles a day. The third, least urgent stage would remove all remaining crossings. At each stage, priority would be given to roads that also carry tram lines.

As an example, removal of the two Springvale Road crossings at Springvale

and Nunawading by lowering the railway line would cost some \$20 million each (the cost of the Boronia project). There is also a clear need to remove crossings on the Glen Waverley line at Burke Road and Glenferrie Road; as these roads carry tram routes the cost would be somewhat greater, but the benefit to train and tram travellers, not to mention motorists, is without question.



# Project 10. Triple-Bottom-Line Tax Reform

Indicative benefit \$630 million per year Australia-wide, \$110 million per year in Victoria

The most immediately beneficial improvements to public transport are those that make real changes 'on the ground', such as we have suggested above. However, in the longer term attention must be given to the deeper structural impediments to public transport use. Among the most important are the Australian tax rules, which contain a number of provisions favouring car use and discouraging public transport use.

The most commonly 'packaged' item is a car. This can be attractive no matter what your salary. For a start, cars and car parking are subject to a discounted rate of FBT [fringe benefits tax]. For example, using the statutory formula method to calculate the taxable value of the car, the FBT rate depends on how far you travel each year. It ranges from 26 per cent for less than 15,000 kilometres to 7 per cent for more than 40,000 kilometres per year. So the further you travel, the lower the rate.

—Marilyn Smith, *The Age (Business)*, 23 March 2002

This is only the most egregious example of the tax system providing a positive incentive to drive as much as possible, as often as possible. Anecdotally, there are plenty of cases of company-car owners going on gratuitous driving expeditions in order to 'clock up' enough kilometres to claim their tax break. By contrast, salary-packaging of public transport tickets incurs the full FBT rate, equivalent to about 95% of the ticket price. This helps explain why company and government

cars comprise 40% of peak hour traffic and 20% of all traffic, despite comprising only 16.5% of car sales.<sup>33</sup>

A tax system based on triple-bottom-line principles would work so as to discourage activities with a negative environmental or social impact, and encourage (via tax concessions) alternatives that lack these negative impacts. At the very least, the tax system should not unfairly penalise taxpayers for choosing a transport mode other than the car.

Specific proposals for tax reform include:

- Developing salary packaging arrangements that are neutral with respect to employee choice of transport, as recommended under Federal Government greenhouse reduction strategies. Specifically, remove FBT arrangements that reward additional car travel, and allow employees to 'cash in' parking entitlements without suffering a tax penalty.
- Abolishing the 10% GST on public transport fares, by zero-rating them as is already done with food. The cost to revenue is not great and would be offset by economic savings from increased public transport use.
- Reinstating the automatic CPI indexation of fuel excise. Motorists cannot consider themselves exempt from inflation while public transport users face regular CPI-related increases in fares.

- Imposing 'luxury taxes' for new cars (other than for farm use) on the basis of weight and engine power, rather than purchase price.

- Adopting a weight-based vehicle registration system (with appropriate concessions for farmers).

- Adopting a scale of petrol taxes that reduces with increasing distance from capital cities.

The FBT subsidy to company cars has been estimated at \$750 million Australia-wide,<sup>34</sup> of which at least 20% is attributable to Victoria. On the other hand, the revenue raised by the GST on public transport fares is estimated as \$120 million Australia-wide and \$40 million from Melbourne.<sup>35</sup> So even if reform were limited to abolishing the company car subsidy and removing GST on public transport, the net revenue generated would be substantial, and could be used for public transport funding or for tax cuts elsewhere.

# Part III:

## Getting There From Here

Large new roads do not help to encourage green modes and sustainable modes of transport. They add to congestion and pollution and they trigger a destructive process of suburbanisation of the countryside and the ubiquitous 'shedscape' of [super hardware stores], drive through fast food restaurants and other out-of-town paraphernalia. They destroy urban living and destroy the countryside in one fell swoop.

—John Whitelegg, writing in *Dissent*, 2002

We can no longer avoid the question of what kind of city Melbourne is to be. On the one hand is the road lobby's vision of an antipodean Los Angeles, now being pursued with the wholehearted support of the State Government. On the other hand is the public transport vision, vocally supported by a majority of ordinary Melburnians in the Metropolitan Strategy workshops, and ultimately less costly to citizens in all three senses of the triple bottom line: economic, environmental and social. Around the world, cities from

Vancouver to Perth are reviving the public transport alternatives to freeway-building.

Even in Melbourne politicians are unable to ignore entirely the calls to improve public transport, even while they are captivated by the siren song of the road lobby. We are told we can have the best of both worlds: lots of freeways *and* good public transport.

But no-one who has ever run a household budget should take this talk seriously. We do not, for example, pay to install an electric stove and a gas stove in the one kitchen. It is simply bad policy to spend money on one measure and then spend an equally large sum on another measure that directly undermines the first, in the way that freeways undermine public transport. Any government that proposes such a thing is fiscally irresponsible. In practice, there is never enough money to keep the road lobby satisfied and do anything serious about public transport, and with the road lobby in charge of planning it is inevitably the public transport measures that gather

dust on the shelf—like the Rowville and East Doncaster train lines over the three decades since 1969.

If we are to plan transport in a responsible manner, we cannot help but treat the freeway-based city and the public transport-based city as alternatives.

### Getting Over the 'It Can't Be Done' Factor

Institutional opposition to public transport is reinforced by the propaganda of the road lobby, which portrays public transport as something that is nice in principle but flawed in practice. Even well-meaning people can be induced to believe that big public transport improvements are too costly, or won't attract enough passengers, or won't work for some other reason. These myths, like the myth that freeways cure traffic congestion, are easily cast aside once people are given the facts about transport in other 'world cities'.

## Comparative costing of road and public transport proposals

We have provided indicative costings for our proposed public transport projects. It is worthwhile, however, to do a back-to-back cost comparison between these projects and equivalent road projects as proposed by the road lobby.

Our proposal	Cost (\$million)	Road lobby proposal	Cost (\$million)
Rowville train line	120	1 / yr Scoresby / Mitcham Freeway	1800 18 / yr
East Doncaster train line	350	2 / yr Eastern Freeway thru Royal Pk	600 6 / yr
Airport train extension	50	1 / yr Tulla / Calder Fwy intersection	250 2 / yr
Other train extensions	488	2 / yr Merri Creek Freeway	400 4 / yr
Bus network improvements	30 / yr	Second West Gate Bridge	1000 10 / yr
Tram gap-filling programme	215	2 / yr Eastern Ring Road completion	800 8 / yr
Level crossing elimination	500	Victoria Pde flyovers	50
Re-staffing the system	25 / yr	Dingley Freeway	300 3 / yr
Late night services	5 / yr	Hallam Bypass	165 2 / yr
Revitalised country rail	500	50 / yr Geelong Road upgrade	270 3 / yr
Inter-regional bus network	40 / yr	Calder Highway upgrade	500 5 / yr
Geelong train improvements	5	1 / yr Geelong East Ring Road	1000 10 / yr
Geelong bus network	4 / yr	Geelong West Ring Road	380 4 / yr
Remove GST on fares (Vic)	40 / yr	Subsidy to company cars (Vic)	150 / yr
Total	2228	203 / yr Total	7515 225 / yr

The annual cost of maintaining, policing and managing a major road is equal to around 1% of the upfront cost. Though attention is rarely drawn to the heavy cost of maintaining roads, a road certainly does not cease to cost money when construction is complete. Even a two-lane arterial road with light traffic costs \$9,000 per kilometre per year to maintain, compared with \$3,000 for a double-track railway that can carry many times the volume of people and goods.<sup>36</sup>



# Avoiding the issue: the Scoresby EES

Every road anywhere in the world within 100km of a major city carries local traffic. The M25 in London is a good example. This was billed as a “road of national strategic importance” whose purpose was to move goods from the North of England to mainland Europe. It cost 1 billion pounds to build and has had another 1 billion pounds spent on it since. It is Europe’s biggest car park. It is jammed full of traffic 24 hours a day. It is used to take kids to school over distances of two or three miles. It is used to go to the shops, to go to the golf club, to go to the gym. It is not a national strategic corridor. It is a piddly local road that was put in over the protests of local authorities who wanted something better.

—John Whitelegg, address at Dept of Infrastructure, 12 Feb 2002

In 1996, the government commissioned an Environment Effects Statement (EES) for transport in the so-called ‘Scoresby Corridor’. The Scoresby Corridor extends from Ringwood in the north, via Dandenong, to Frankston in the south. The only thing these suburbs have in common with one another is that a 35-year-old freeway reservation runs the length of them.

At this time the Kennett Government had just released a transport policy document, *Transporting Melbourne*. It contained a proposal for a ring-freeway encircling Melbourne, known as the “Metropolitan Orbital”. Much of this ring-freeway now exists: the Western Ring Road from Laverton to Broadmeadows and the Northern Ring Road continuing on to Greensborough. Beyond Greensborough there is no freeway or even a reservation for one, but there are many homes and a lot of sensitive bushland in the Yarra Valley green wedge, which includes areas like Heidelberg, Eltham and Warrandyte.

From Ringwood to the south lies the old Scoresby Freeway reservation. Building

the Scoresby Freeway, at a cost of \$1 billion, would complete the ring-freeway but for the ‘missing link’ between Ringwood and Greensborough. Although the road planners said that this connection “would use existing roads for the foreseeable future”, there is no doubt that their ultimate intention is to complete the entire ring road, destroying the Yarra Valley and consuming another \$1 billion in the process.

What happens when people in Melbourne’s outer east are asked about their real transport needs? Overwhelmingly they say that travel by car is not too bad (given that peak-hour congestion will always be with us), but that public transport is abysmal. The outer east has some of the worst public transport in Australia. Many of the bus routes stop running even before 5pm on weekdays, and don’t run on weekends at all.

Unfortunately the bureaucrats in charge of the Scoresby Corridor EES were less interested in the community’s real needs than in obtaining a rubber stamp for the Scoresby Freeway, and build up pressure for the missing link through the green wedge. When released, the EES recommended construction of the Scoresby Freeway. It was then put through

a sham ‘public consultation’ process. The PTUA together with over 40 community and environment groups throughout the area took part in this process of written submissions and hearings, and forced the inquiry panel to concede that a public transport alternative could have compared favourably with the freeway option, had it been considered in the first place. In fact, preliminary work done by independent consultants had found that if 1.15 per cent of road users shifted to public transport, the benefits to traffic would be as great as from building the freeway.<sup>37</sup>

However, in case there was ever any doubt that the official conclusion had been determined in advance, the panel ruled that consideration of a public transport alternative was outside the terms of reference of what purported to be an ‘Environment Effects’ Statement!

Genuine transport planning does not preempt alternatives based on bureaucratic whim. The Scoresby Freeway has never been subjected to a real test against the alternatives, because the road lobby has not allowed it to.



The Yarra River near Heidelberg, under threat from the completion of the Eastern Ring Road.

## Is Melbourne too spread-out for public transport?

It is fashionable to argue that public transport can only be viable in high-density, compact cities with lots of apartment blocks and poor road networks. Certainly rail and metro systems have a certain ‘natural advantage’ in such cities, but public transport can also be made to work in medium-density cities like Melbourne if it is sufficiently attractive to passengers. Recall that 100 years ago, Melbourne was the lowest-density city in the world not in spite of, but because it had extensive public transport that made it easy to travel to the suburbs. Melbourne’s urban density has not markedly declined since then, nor has it declined relative to other cities with well-used public transport.

City or Suburb	Period of settlement	Overall urban density (/ha)
Melbourne 1971		18.1
Melbourne 1981		15.9
Melbourne 1991		16.8
Melbourne 1996		17.9 <sup>38</sup>
Toronto 1991		23.7
Vancouver 1991		14.0
Yarraville	1890s–1920s	25.4
Balwyn	1910s–1940s	24.9
Gardenvale	1880s–1920s	21.7
Keysborough	1960s–1980s	36.7
Wheelers Hill	1970s–1990s	26.0
Bayswater	1960s–1970s	22.8



# List of Recommendations

This list itemises the key recommendations for transport in Melbourne and Victoria not covered in the 10 projects of Part II.

## Operational Improvements

### 1. Service Frequencies

Improve service frequencies on all urban train, tram and bus services to every 10 minutes or better between 5am and 10pm, and every 15 minutes between 10pm and 2am, seven days a week. Retain existing service frequencies when better than this. A service is considered 'urban' if it operates entirely in a built up area.

In country Victoria, adopt a basic frequency of one train per hour between 6am and midnight seven days a week; higher for Geelong, Ballarat, Bendigo and Gippsland services and lower for services to remote towns such as Mildura.

### 2. Night Services

Implement 24-hour, 7-day public transport in Melbourne with a system of night buses and trams between 2am and 5am.

Provide 15-minute night tram services on three key routes:

- Carlton (Lygon St / Elgin St) to Prahran via Swanston St, St Kilda Rd and Commercial Rd (also serving major hospitals);
- North Fitzroy to St Kilda via Brunswick St, Collins St, Southbank, St Kilda Light Rail and Fitzroy St; and
- Southbank to St Kilda via Collins St, Victoria Pde and Chapel St.

Upgrade the Nightrider buses to bidirectional half-hourly services, accepting Metcards in line with Recommendation 8, and mirroring all current and proposed rail corridors, with appropriate deviations to serve suburbs such as Bundoora.

### 3. Express Running

Improve travel times for urban train services through express running patterns that are consistent for any given route, apply at all times rather than just in peak hour, and ensure that every station receives at least one stopping service every ten minutes. An example is described in our Rowville rail project, Project 1.

If necessary, express trains can be alternated with stopping trains that service intermediate stations on the same line. Thus on the Frankston line, a City–Richmond–South Yarra–Caulfield–Cheltenham–all stations service every 10 minutes might alternate with a stopping-all-stations service to Cheltenham that departs immediately following the express.

For country services, high-speed expresses should alternate with all-stations local services in all rail corridors.

## Supporting Infrastructure

### 4. Train Speeds

Maintain all passenger rail track in Victoria to speed standards allowing consistent 80kph running (or better) in metropolitan Melbourne and 160kph running in the remainder of Victoria.

### 5. Tram and Bus Priority

Implement effective priority for trams and buses over other traffic, with the aim of eliminating all unnecessary delays to services, through:

- greater use of barriers on wide streets to separate trams from cars, as on roads like Flemington Road;
- enabling the interruption of traffic signals for trams at all intersections (as has been possible since 1992);
- shortening of signal cycles on major intersections to minimise delays to trams and other traffic; and
- enforcing the 'fairway' system.

These measures should be implemented in consultation with all relevant transport, law enforcement, municipal and community organisations.

### 6. Bus Route Restructure

Reconfigure metropolitan bus routes to be direct and avoid complicated detours. Ensure that routes follow the arterial road grid as much as possible, and provide convenient interchange with trains at all stations en route. Design bus stops at major intersections to make transfers between buses as convenient as possible. The network grid should be sufficiently fine to ensure that the vast majority of locations are within walking distance (400–600 metres) of a bus stop. Attempts to connect all possible origins and destinations with a single route should be avoided.

## Customer Service

### 7. Staff and Ticketing

Return full-time staff to all railway stations from first to last train, and conductors to all tram and train services, except those with low patronage and no security problems. Have staff sell tickets alongside ticket machines at stations, and charge all staff with a duty to assist passengers. Remove ticket machines from all trams that have conductors, to boost seating capacity and reduce operating costs. Remove the requirement to revalidate already valid tickets. Use the police as a targeted emergency backup for front-line staff, and ensure that staff have a clear view of platforms, vehicles and waiting areas.

### 8. Fares

Retain and extend the multimodal fare system with better integration of metropolitan and country fares and the abolition of all single-mode tickets. Have the multimodal fare system cover all public transport services, including Skybus and Nightrider. Set fares at a level competitive with private car travel. Provide periodical ticket holders with attractive discounts and free family travel on weekends and public holidays.

To cater for night services within a consistent fare structure, make daily tickets valid for 24 hours from first use. Retain the policy of 2am expiry for two-hour tickets validated after 6pm, but allow two-hour tickets validated between midnight and 4am to be used until 6am.

## Institutional Change

### 9. Coordination of Services

Reestablish public control over public transport services in Melbourne through a Transport Authority (TA) modelled on the Verkehrsverbund concept in Europe. Establish a governing structure comprising State Government, local councils, industry and user representation. Charge the TA with responsibility for administering the fare system, collecting and distributing revenue, and setting routes and timetables for all public transport in Melbourne. Renegotiate existing contracts between private operators and the State Government so that private operators act as contractors to the TA, and are paid for the services they provide on a 'cost plus margin' basis.

Establish a separate State Government agency to coordinate country train and bus services, in consultation with local councils and communities. Actual services may be contracted to one or more private operators, or provided directly by the agency. In the longer term, encourage each non-metropolitan council to set up its own TA in collaboration with local community groups, with responsibility for town bus services and regional services centred on the local government area.

### 10. Transport Infrastructure Planning

Vest all planning powers for road and public transport infrastructure in a newly constituted Department of Planning and Infrastructure, following the example of Western Australia. Appoint experienced planners, rather than road engineers, to head up the new department. Abolish Vicroads as a separate entity and absorb its functions into the new structure. Give the department a single budget for transport infrastructure and operations, to spend in accordance with transparent economic, social and environmental criteria, with no artificial distinctions drawn between 'road funding' and 'public transport funding'. Ensure that the community is involved in the evaluation of proposals, and that planning decisions are subject to independent review.

In order to guarantee that people have a genuine choice to use public transport, declare a moratorium on new urban freeways until public transport has been improved to useable levels, as outlined in Recommendations 1 through 8.

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## Notes

1 Proportion of all trips taken by PT, from the Victorian Activity and Travel Survey. The proportion of motorised trips taken by PT is 9 per cent.

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# it's time to MOVE



People throughout Melbourne and Victoria are deeply concerned about the state of public transport. A majority support improved public transport, to help reduce car dependence and alleviate traffic congestion, pollution and road trauma.

Yet our transport planning bureaucracy has not responded in kind. Instead of improved public transport, the road lobby wants to spend billions of dollars on new freeways to make us even more dependent on cars. Meanwhile, little is done to fix the glaring problems with our public transport or even admit they exist.

*It's Time to Move* explains why a change in transport policy is needed. Shifting car trips to public transport helps our 'triple bottom line': it improves economic efficiency, helps the natural environment, and is good for us as a society.

But people will not get out of their cars and use public transport until public transport offers a high-quality, convenient service. This document explains what must be done. It does not require spending vast sums of money on new infrastructure, but instead requires a new approach to transport planning to curb the power of the road lobby, and a massive improvement in service frequency, connections and coverage. This has proved to be a success in other cities and promises to be doubly so in Melbourne, with its generous tram and train networks.

It's time to move on from 1950s-style freeway planning to a 21st-century vision based on public transport, walking and cycling. This vision doesn't require us to give up cars or build more high-rise flats. All it requires is a shift in priorities, from building more and more freeways to providing a 'world's best' public transport service.

Public Transport Users Association Inc.

Org.No. A-6256L

Ross House, 247 Flinders Lane, Melbourne 3000  
Phone: (03) 9650 7898

[www.ptua.org.au](http://www.ptua.org.au)

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