

Clean, Green Transport for Melbourne - Possible and Popular

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1 *What do local governments want in transport?*

Local governments at the end of the day are essentially and broadly democratic. What they want, and what they will advocate for is what their communities want.

If they don't provide it then Councillors get voted out. It's pretty simple really.

So, what do their communities want in transport policy? It varies across Melbourne and the state of course, and can be contradictory within a local government area. But broadly there is support for a transport mix which

- meets the communities transport needs – giving people the choice of being able to use their car, public transport, walking or cycling
- is low cost– both for themselves and for the state
- is clean – low carbon and low airborne and water borne pollutants
- results in high amenity -Quiet , minimising big noisy roads nearby, minimising heavy freight nearby, and allowing for quiet safe streets for walking, cycling and children playing
- allows people to travel by healthy transport – walking and cycling
- is supported by sufficient low cost parking at home, work and at shopping and recreation centres

Essentially, good transport policy is finding an optimal solution to all these criteria, minimising adverse impacts whilst providing solutions that work.

There is overall agreement by virtually all commentators from the RACV to the PTUA that a critical part of the solution in Melbourne is improving public transport and getting a greater of proportion of transport trips to be made by public transport, walking and cycling.

Where the differences lie is differing opinions on how much shift away from cars is desirable and possible.

The position that Sir Rod Eddington took is that we need improved public transport largely because of increasing population. He paid lip service to the Government's target of 20% of motorised trips on public transport by 2020, rejected the target of 30% of port related freight on rail by 2010, and his modelling was essentially based on providing enough road space for a continuation of the same

mode share as we have now, which means with population growth that much more road space is needed.

If you argue that no further road space is needed in established suburbs, as I do, then I am also necessarily arguing for significant mode shift away from cars for trips in and through these suburbs – particularly because our population is growing.

2 *So what mode shift is desirable?*

Let's go back to what people want. How does a transport system which features much greater use of public transport walking and cycling measure up against these criteria?

Meeting the communities needs

Transport is not a good – it's a service, a means to an end. If there is fast, frequent, reliable, affordable, safe and connected public transport people use it - Most people just want to get from A to B with the least amount of fuss. It doesn't have to be all people all of the time. That's not necessary. And the more people who use public transport the more space is freed up on the roads for freight and trips that are impractical or inconvenient to make other than by car.

No-one is suggesting that everyone in Melbourne needs to ditch their cars and immediately shift all trips to walking, cycling and public transport. Some people have done that, more people will do that. More people are using car share schemes. Lots of people don't drive, can't drive, are too young, too old, disabled, too poor. But most households will continue to have one or more cars and will continue to do a good number of trips by car. This will best meet their needs. But a mix of trips that's say one third walking and cycling ,one third public transport, one third private vehicle could be quite achievable and meet people's needs. Given the latest data the preliminary VISTA data shows that around 40% of trips are under 2km, and over 60% of trips are under 5 km, a substantial shift in trips away from cars is very possible, will meet people's needs and will be good for people's health, good for the city and good for our environment.

It's cheaper

The more public transport, and particularly walking and cycling are used, the lower the transport costs overall to the community, when all the costs are taken into account – including the cost of cars, the costs of fuel, the cost of infrastructure to support a given number of trips.. A report to the NSW Government showed the economics of running the metropolitan rail system returned a benefit –cost ratio of 1.8 to the NSW community in 2006-07 and 3:1 over the 10 years to 2007 ¹

The costs of running two cars in Caroline Springs – essential for a two adult household because of the incredibly inadequate public transport are estimated to be \$385 per week—almost 30 per cent of the average household income ²(MTF, 2008)

Walking and cycling are incredible value for money – the infrastructure is orders of magnitude cheaper than either roads or public transport, and the vehicles start at the cost of a pair of shoes. Given that a good 40% of the under two kilometre trips in Melbourne are made by car there is plenty of opportunity for much greater walking.

¹ Karpouzis, George et al The value of CityRail to the NSW community 1997-98 to 2006-07, Market Development and Research Economic Information Papers, NSW Railcorp, June 2007

² (O'Dwyer, D *Transport options for people travelling to work from Caroline Springs*, Victorian Parliamentary Research Report, Internship program, Melbourne2008)quoted in Metropolitan Transport Forum Melbourne Transport Plan 2008

What needs to happen to make it possible? The sorts of things that my constituent are crying out for: – better footpaths, more traffic calming, safe well lit routes to and from railway stations – all core local government business where a big boost in funds from the state and federal government would yield great rewards.

It's Cleaner

Use of public transport results in considerably less greenhouse gas emissions. The PTUA website ³ gives the following figures for average loadings for Melbourne conditions.

| Transport mode | Emissions (g CO2-e per passenger km) |
|-----------------------|--------------------------------------|
| Petrol Car | 286 |
| LPG Car | 256 |
| Ethanol (E10) Car | 253 |
| 1000cc Motorcycle | 178 |
| 250cc Motorcycle | 124 |
| Electric Tram | 52 |
| Diesel Bus | 22 |
| Ethanol (E10) Bus | 19 |
| Natural Gas Bus | 18 |
| Electric Train | 14 |
| Diesel Train (V/Line) | 8 |

Table 1 Greenhouse gas emissions from different modes of transport

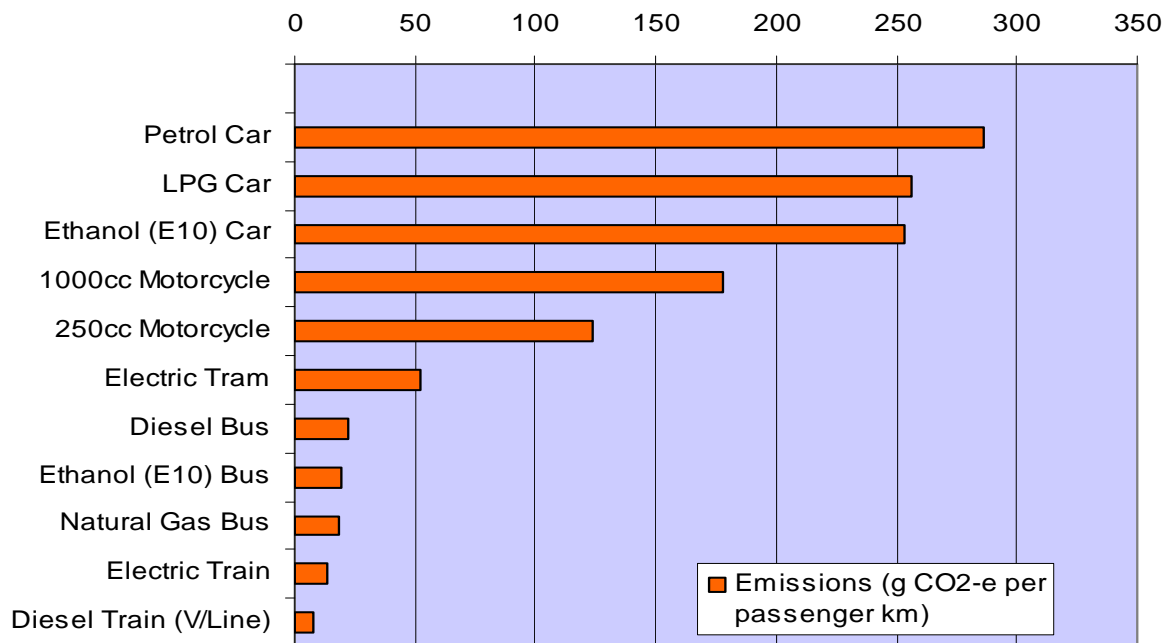


Figure 1 Relative greenhouse gas emissions from different modes of transport.

Vastly reduced carbon emissions could be achieved if trains and trams were run on renewable electricity rather than highly polluting brown coal.

The only way to reach 80% -90% cuts in greenhouse gas emission from transport will be by the community taking fewer private vehicle trips, and for the remaining private vehicle trips to be

³ <http://www.ptua.org.au/myths/greenhouse.shtml>, accessed November 2008

vastly more energy efficient . This will mean more walking and cycling trips, more trips by public transport, and the remaining car trips by low emission vehicles.

The Nous Group have just undertaken a report for Environment Victoria⁴, modelling the impacts of a range of actions to aim to reduce carbon emissions by 50% from 1990 levels by 2020, and 80% by 2030. This report built upon the report they had prepared. They concluded that it is possible to reduce emissions by this scale with serious commitment to the task. In the transport sector the changes they modelled which reduced transport emissions by the required amount were a reduction in travel by 20%, and a 25% mode shift away from private car travel, an increase in vehicle occupancy and increased fuel efficiency.

The report notes the need for ‘long term investment to provide fast, reliable, convenient and accessible forms of public transport... [and]... substantial investment in the rail network to provide realistic alternatives for the freight task. They also noted that achieving this target ‘may also require measures to reduce the attractiveness of private (car and truck) transport, including transport pricing and changes to taxation settings’ They noted that ‘policy in this area would need to be underpinned by a firm commitment to infrastructure investment, such as [rail] extensions

For a localised example, just imagine if we had great public transport, and that half of all trips to work into the inner city from the western suburbs for example were made by public transport, instead of less than 30% at present. That would save over 5000 tonnes of carbon a year –that’s 100 million black balloons– even if we presume that everyone would have driven hybrid Camrys.

The importance of increasing the share of walking cycling and public transport is also underlined when equity considerations are taken into account. Relying too heavily on encouraging fuel efficient vehicles is a very iniquitous way of reducing carbon emissions – only the people who can afford to go out and purchase their new fuel efficient or electric vehicle can contribute to reducing carbon emissions from their transport – the cash strapped living in affordable housing in the outer suburbs who buy a second hand car and keep it until it dies are destined to keep on polluting because they can’t afford not to. Give them decent public transport safe walking and cycling, destinations in walking and cycling distance and they’d ditch the second and third car.

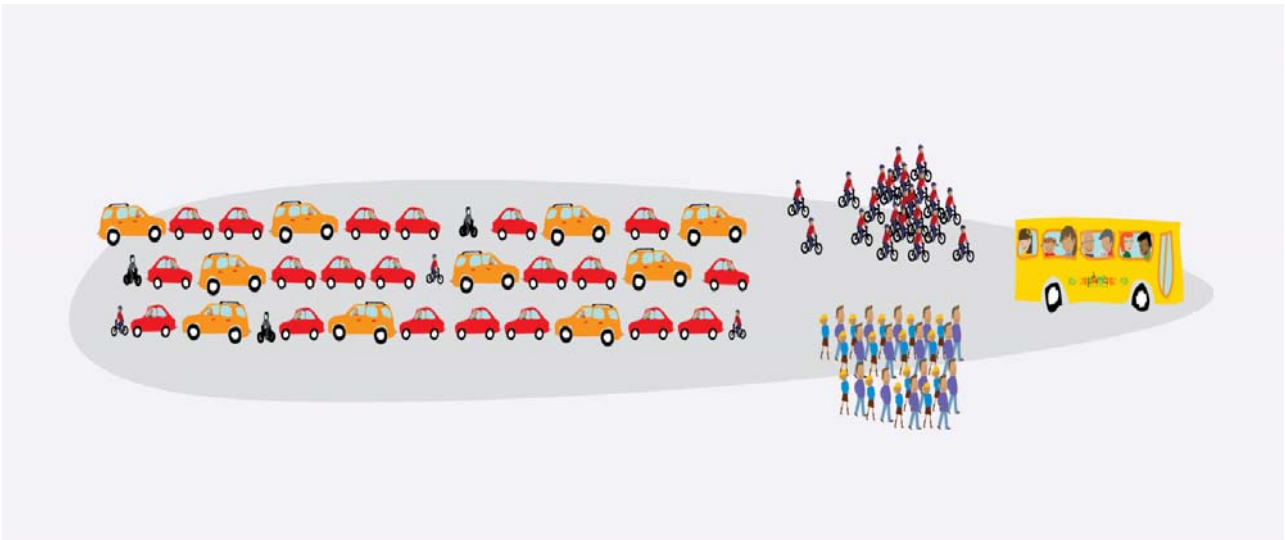
And don’t forget the airborne pollutants, and water borne pollutants of motor vehicles. Even with the improvements in vehicle technologies, the World Health Organisation estimates that about the same number of people die each year from air pollution caused by vehicle exhausts as die on the roads. ⁵ Every car is doing us harm

Better amenity and less space needed for roads and parking.

Public transport walking and cycling require far less space to shift people. A train every three minutes on a railway track can shift 16 000 people an hour – that’s the equivalent of around ten freeway lanes. Put it another way – the current traffic coming into Melbourne during the morning peak on our four radial freeways–the Westgate, the Tullamarine, the Eastern, the Monash totals just under 40000 vehicles (see Table 2) . Ninety percent or more of these vehicles will be cars carrying on average 1.1 people in them. All the people could be carried by just over one extra train track carrying 20 fully laden trains an hour. I’m not suggesting that this would be possible or desirable but it indicates just how much more efficient rail is over cars in terms of space required.

⁴ The Nous Group, Turning it around: climate solutions for Victoria, Environment Victoria 2008.

⁵See <http://www.earth-policy.org/Updates/Update17.htm>. Accessed November 2008.



| Vehicles entering the City during the morning peak | vehicles | train equivalents | train line equivalents |
|--|--------------|-------------------|------------------------|
| Westgate Freeway | 10219 | 13 | 0.3 |
| Tullamarine Freeway | 10192 | 13 | 0.3 |
| Monash Freeway | 11620 | 14.5 | 0.4 |
| Eastern Freeway | 6835 | 8.5 | 0.2 |
| | 38866 | 49 | 1.2 |

Table 2 - What if everyone coming into the city on a freeway during the morning peak caught the train?

Every trip that is not made by car or truck means less road space needed. That means more room for open space, less impacts of big roads with lots of noisy, polluting vehicles. Safer streets, more room for walking, for bikes, for kids playing, for street trees and plantings. Less property acquisition.

More room in shopping centres for street cafes, wider footpaths, bike paths... No need for as much car-parking if enough people can get there by walking, cycling and public transport. And bringing stuff home – you can do it by bike, by shopping trolley, on public transport, or there’s always home delivery. Yes, that’s trucks – but that’s one truck instead of ten cars.

Healthy

International walking expert Rodney Tolley quotes from a public health expert that *From the health promotion point of view, walking is the most important form of physical activity that should be encouraged to improve public health*”⁶

⁶ Hillsdon, M and Thorogood, M. *A systematic review of physical activity promotion strategies*, Journal of epidemiology and community health, 1995

All the evidence shows that half an hour of moderate exercise a day – just 15 minute walk to the station and back – has massive health benefits.

3 *But how much shift is possible?*

This is the \$64 question. What sort of mode share can we expect in Melbourne? What sort of mode share should we be planning for? What sort of mode share for different types of trips? Quite a few years ago the state government set a target of 20% of motorised trips by public transport by 2020. They then did absolutely nothing to implement it. Mode share sat stubbornly at around 9%. Then something happened. Petrol prices went up. That plus other factors- greater concern about health and environment has seen us get back on track with the target of 20% of motorised trips. The preliminary data from the VISTA travel survey has seen the percentage of motorised trips taken by public transport increase from 9% to 13% over the last 10 years. That's a 40% increase. That's massive. That's unprecedented. It's people voting with their feet. It's happening all over the world too.⁷

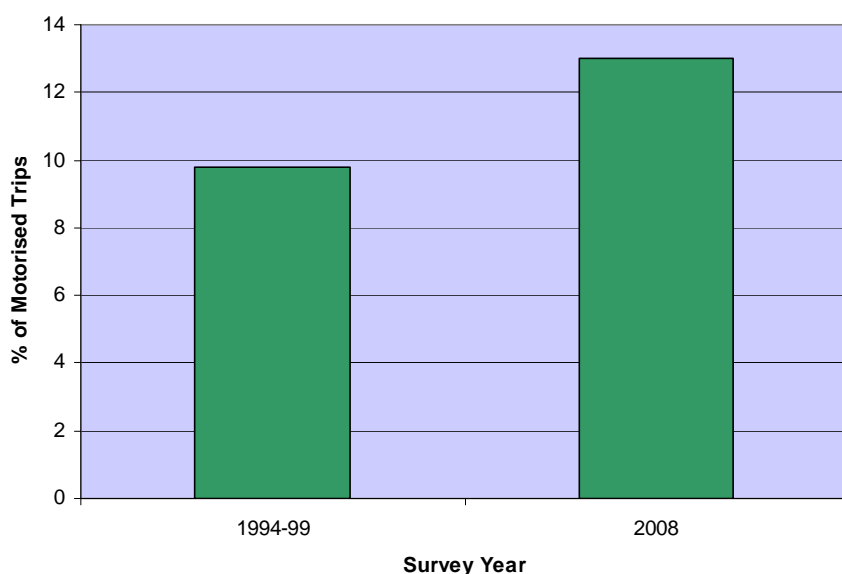


Figure 2 Increase in public transport use 1999 - 2008

Let's look at the western suburbs again for what could be possible.

Currently over 70% of people from Brimbank, Wyndham and Melton drive to get to work into the inner city. Less than 30% use public transport.

Let's imagine once again that we had great public transport – an electric train service to Melton with a station at Caroline Springs, trains every 10 minutes from Werribee, Melton and Sunbury, good bus services to get people to the stations, room for all the trains to get into the city.

If these improvements enabled an increase in the use of public transport so that half of commuter trips to the inner city, this would mean (on today's population), around 7000 more people from Brimbank Melton and Wyndham would be able to leave their cars at home or at the park and ride in

⁷ Department of Transport, Victorian Integrated Survey of Travel and Activity (VISTA), preliminary data, powerpoint presentation

the suburbs. Instead of filling up a four lane freeway for over an hour. This sounds possible to me. And it sounds like it makes a lot more sense than a new tunnel.

Will the growth in public transport patronage continue? Department of Transport estimate it will, because of growth in oil prices, and growth in CBD jobs, in addition to the growth from population growth. Their analysis has us making the 20% right on time in 2020.⁸ Then where? Oil is going to continue to become more expensive. Electric cars will never be cheap – batteries are the killer at the moment. The lithium ion batteries in the latest full size full performance electric cars being developed in the US cost \$20 000! That’s not cheap. Yes there will be new technologies, yes we will almost certainly continue to have private vehicles in 100 years time if our civilisation is still around, but the easiest way to meet all the criteria outlined above will be to use these private vehicles much less.

There’s also an interesting trend emerging from initial data from cities around the world following the recent fall in petrol prices with the financial crisis It seems that people aren’t returning to their cars because they are now motivated by thriftiness given the uncertain economic times⁹

4 So what’s the best mix?

The Nous Group report which I mentioned earlier had some scenarios of how our transport mix could change. Chris Loader and John Stanley of the Bus Association have modelled some other possible scenarios if we are aiming to meet serious reductions in greenhouse gas emissions. Like the Nous report they note that meeting greenhouse gas reduction targets will be through fuel efficient vehicles, reducing travel, and mode shift to public transport walking and cycling.

For 2050 they have modelled how much mode shift will be required to meet a 80% reduction target, depending on how much we can gain from fuel efficiency (see figure 2). Today’s readily available reasonably efficient cars emit around 220 g Co2/ km. The high efficiency scenario that Chris and John model has cars emitting only a quarter of this 54 g co2 / km– about twice as efficient as a current Toyota Prius. The very highly efficient scenario has cars using only 36 g co2 / km; the extreme efficiency scenario only 18 – ie considerably less than a tenth of today’s cars.

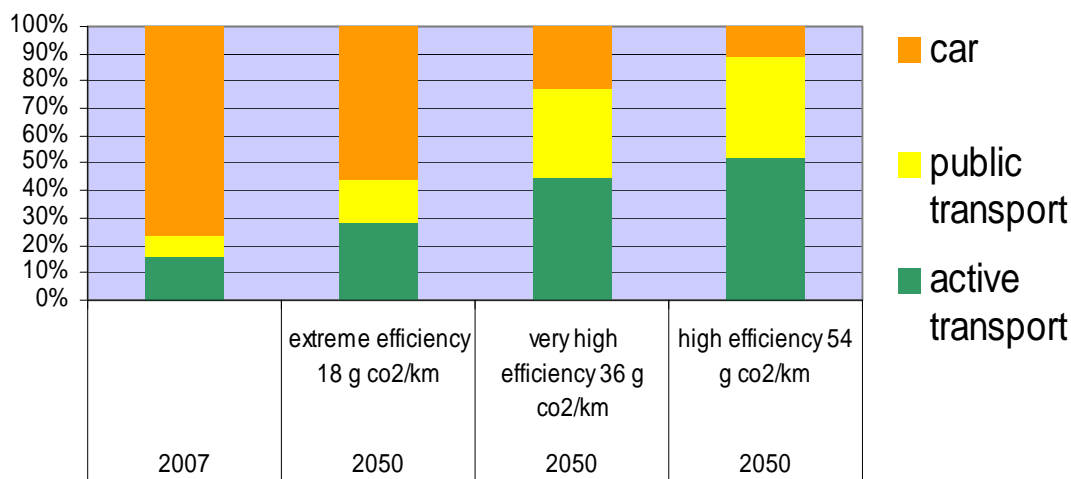


Figure 3 Mode Share for a low carbon future, data from Chris Loader and John Stanley, Bus Association of Victoria

⁸ Understanding and forecasting metropolitan public transport patronage. Public Transport Division, Department of Transport, 2008

⁹ Rodney Tolley, Presentation to Metropolitan Transport Forum Melbourne, November 2008

Even if we can get to extreme fuel efficiency we still need to be aiming for a reduction in car trips from 77% of overall trips today to 57% of trips in 2050.

More likely are scenarios where the cars aren't this extremely efficient, particularly because it takes so long to turn over a whole car fleet. If we only have very high efficiency cars then we can only have less than half this proportion of trips undertaken by car; and a third of trips by public transport.

If we only reach 'highly efficient' cars then we can only have 11% of trips by car, and 38% of trips by public transport, with over half of trips being by walking and cycling

Clearly the best mix is start serious and urgent planning and implementing of measures today for both radical improvements in fuel efficiency and very significant mode shifts. The more we can get in both, the greater the chances of doing our bit to address climate change and tick all the other boxes as well.

5 So what does this mean for the need for new road infrastructure?

I'll be blunt and to the point. We don't need new roads in the established suburbs. In particular we don't need new roads heading into the inner city, catering for peak hour traffic because these are just the trips that are most easily catered for by public transport.

What I am asking for is that Government does the sums. I'm not a transport modeller, but despite not having done the detailed modelling I and blind Freddy can tell that if we have the sort of mode shift and trip reductions that the Nous Group, Bus Association, climate change and energy scientists are telling us we have to have, then even with population growth there will be fewer trips by car in 2030 and 2050 than today.

I would like to see this mapped out by a decent transport model please. Doing the work that Eddington's team didn't do.

Think ahead!. The Australian car industry is in trouble because it hasn't seen the writing on the wall for big fuel hungry cars. Surely the transport infrastructure industry will be more on the ball.

Investing in public transport, walking and cycling makes economic sense as well as environmental sense.

I'm going to finish by letting you know that the future is now. Just as climate change is upon us, so is the response to high petrol prices and a desire to be climate friendly.

As I've mentioned, preliminary VISTA statistics show a 40% increase in the proportion of trips being made by public transport since 2000.

And correspondingly VicRoads statistics show that despite the growth in population vehicle trips haven't kept up with population growth. Over the five years from 2001- 2006 kilometres travelled have only grown at half the rate of population growth, and in the year 2005-06 kilometres travelled actually dropped 0.7%. In the inner and middle suburbs the trend is even starker with kilometres travelled in 2005-06 being less than kilometres travelled five years earlier ..¹⁰

¹⁰ Vicroads Information Bulletin Traffic System Performance Monitoring, 2005-2006

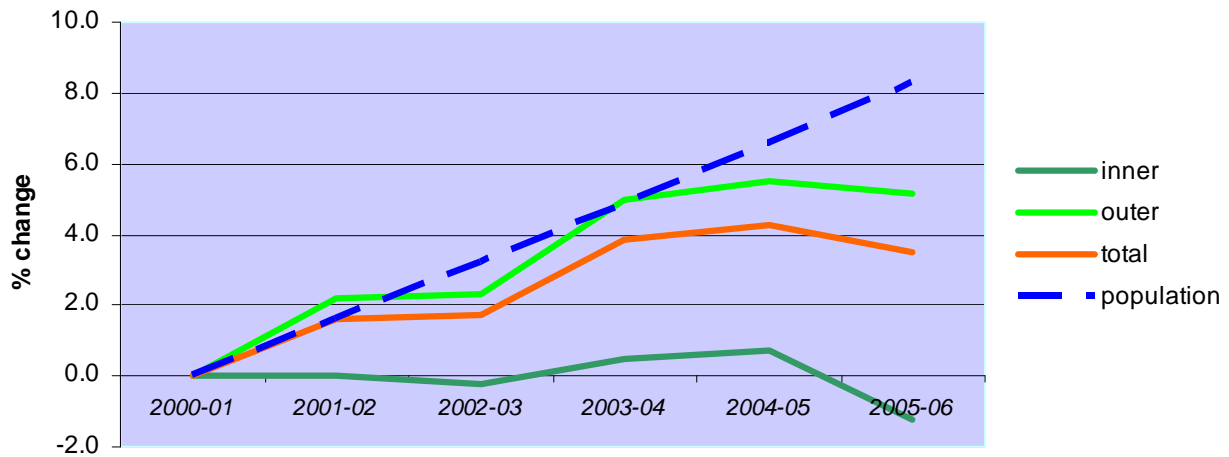


Figure 4 Percentage change in vehicle kilometres compared to population 2000 - 2006 (population growth at 1.6% per annum)

Staying with the western suburbs – my passion and the reason why we are told we need a big new road – here are the up to date morning peak and total figures from the Westgate freeway and major arterial roads from the west coming into the inner city over the last five years¹¹

| | am peak | 02-'03 | 07-'08 | 24 hr | 02-'03 | 07-'08 |
|---------------------------------------|---------|--------|--------|-------|--------|--------|
| Westgate Freeway at Williamstown road | -17% | 9189 | 7627 | 11% | 67221 | 74615 |
| Racecourse Road at Flemington Road | -8% | 2140 | 1969 | -5% | 20236 | 19224 |
| Dynon Road at Dryburgh and Spencer | -2% | 2993 | 2933 | -4% | 19752 | 18962 |
| Total | -13% | 14322 | 12529 | 5% | 107209 | 112801 |

Table 3 Traffic from western suburbs into inner Melbourne 2002-2008

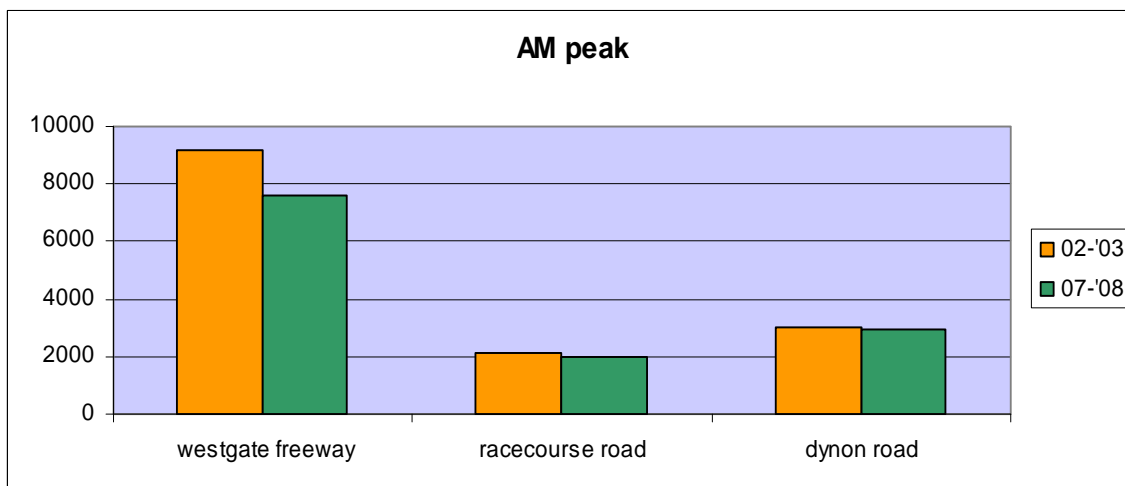


Figure 5 Traffic from western suburbs into inner Melbourne 2002-2008

There's a drop of 13% in the AM peak on these three roads. The total 24hour traffic has increased by 5% - but in this time the population of Melton Shire has increased by almost 50%, City of Wyndham by around 30%, even inner city Maribyrnong by around 7%¹²

¹¹ Vicroads traffic monitoring data 02-03 to 07-08

¹² Travel Demand Information Atlas 2008, Department of Transport

So we are looking at no or minimal growth in trips or vehicle kilometres despite a growing population, particularly during peak hours. So that means no need for big new roads, cross city tollways, new elevated freeways ripping through people's homes. The roads we have will suffice quite well as part of a multi-modal transport mix for Melbourne. We have plenty of roads by the way – more roads per head of population in Melbourne than all other cities high on the list of 'liveable cities' in the world¹³

This trend can only continue if public transport service and infrastructure keeps up with growth in demand. If safe bike routes are provided, if walking is attractive. That's where we need to be putting our money.

6 *So what does this mean for our way of life?*

We will be healthier, wealthier and much much wiser!

I'll put my 'in the ballpark' hat on and give some likely changes:

- Trips under 2km – around home, to the shops, to school, to the library, to kids sport. Currently 40% of these trips are done by car. I reckon we could get that down to less than 20%, easy. With the right infrastructure, cycling has huge potential to pick up a lot of these trips.
- Trips to and from the CBD – already two thirds are made by public transport – this could increase to 80 - 90%. The 'I need to drive because I need my car for work/ after work/ have to pick up my kids from childcare' trips will decrease, must decrease... most of these inner city work trips can easily be made by public transport? Why can't there be a small number of cars in a car pool that are used for work? Why can't companies make more use of car sharing schemes for their office car when a car really is needed? Why can't the car be left at the railway station nearest the childcare centre? Why can't childcare centres be built near railway stations and Mum and the toddler can walk or catch the bus home together from there?
- Trips to and from the inner city – Parkville, Brunswick, Richmond, St Kilda, Footscray. Just looking at journey to work trips, only a third of these are made by public transport. Put in an expanded metro system, connect Parkville into the rail system, expand tram services north and south of the city for example, connecting places like Fishermans Bend . Charge more for parking in these inner ring suburbs. Reduce road space for cars, increase it for walking, cycling, trams and buses, speed up trams and buses in the inner city... and mode share could jump from 30% to 50% or 60%, using CBD as a benchmark.
- Trips to and from work to the inner city and radially inwards from the growth areas – Wyndham Vale to Footscray, Caroline Springs to Carlton, Melton to Sunshine. These are the trips that Eddington's so called cross city tollway was designed for. They aren't going cross city of course – they are heading for the city and inner city. Most of these trips if they are going to activity centres should and could be on public transport. Improve public transport and most of them will be . The need for the new road evaporates.
- Cross suburban work trips –how about some decent bus services on the western ring road, how about some priority bus lanes on freeways, how about making sure every principal activity

¹³ Most Liveable and Best Connected? The Economic Benefits of Investing in Public Transport, Metropolitan Transport Forum, 2006

centre is connected to the next one by fast frequent public transport. Roll out Smartbus faster, and roll out more.

- Recreational trips on Sunday afternoons to the botanic gardens and to the cinema? Lots more could be by bike and public transport. How about encouraging the use of periodical tickets much more ?. Make them worthwhile economically, and people will make use of their 'free' travel
- And trips across town to see Grandma for afternoon tea, baby and toddler in tow? Yes, these trips are likely to continue to be made by car.
- I haven't spoken much about freight, in this presentation. With regard to port related freight the important thing is to get a very considerable proportion of it onto rail, and distributed via outer suburban intermodal hubs. Easy said I know, but government please - just do it. If we haven't got the expertise to make it happen, then get the people who have. Other cities are – Los Angeles for example – have a look at the website of the Port of Los Angeles and see what they are doing with rail. Improve logistics, so that trucks are full. Don't let them travel if they aren't. For smaller trucks – make them pay their way, and see what the price incentive does to reduce unnecessary trips. It seems to me that there is a lot more work to be done on what sustainable freight in a carbon constrained world looks like.. Do all of this and the forecast massive increases in truck numbers shrink to much more manageable proportions. The critical shift is a shift in mindset – don't just accept unsustainable growth in vehicle kilometres; plan and strategise to reduce them.

So what do local governments want in summary?. A priority on spending on infrastructure to support non car modes. Yes there needs to be money spent on new roads, widening roads, turning country roads into suburban roads in outer suburbs where the population is booming, in places like Melton, Wyndham and Casey. But put decent public transport services on these roads too. And plan the new suburbs so they aren't car dependent – obesogenic as Rodney Tolley described them last week.

Bring back pedestrian oriented main streets, clustering of schools, services, civic facilities. Provide great bike facilities to reach them. Have shop top housing and medium density transit oriented development at their core. Don't overwhelm them with car parking. They're doing just that in places like Portland, Oregon, and indeed Perth, Western Australia.

7 *Can we do it? Yes we can!*

So given all the above, why are big new roads still on the agenda ? Why haven't the powers that be followed up their wonderful sounding words on sustainable transport with action?

Because to put it bluntly, there are other forces at play than logic, community wishes, even economic sense. The financiers, tunnel builders, tollway builders. The car industry who don't like the fact that people aren't buying as many cars – certainly not the big ones that are made in Australia.

The power of inertia. We are good at building roads. We are experts at it from VicRoads planners to the roads builders. Think about Eastlink: on budget, finished five months early, 40 km of freeway with 80 bridges in 18 months. In comparison we are pathetic at new public transport. We don't have the expertise – decades of neglect put paid to that. So in comparison it takes 18 months to build one new rail bridge across Merri Creek and the public is meant to swoon gratefully.

And to put it bluntly we have politicians in charge who don't believe what I'm saying. Who want to believe in a future where we don't have to change, where we can all keep driving our cars, and feel good about it because they are made in Australia Toyota Camry Hybrids. Who I am told when they didn't like the results from their in-house transport model, refused to accept the results – and went off and got a new model. Who refuse to put in the order for the further new trains we desperately need, and the need will keep growing and growing. Yet will just keep on rolling out those expensive big new roads.

The Premier told me bluntly at his Transport Summit – Janet you're wrong. But I believe he's wrong, not me. And I believe I've got a lot more evidence to back me up than he has.

But I'm telling you. If the government's transport plan next month contains big new roads in the established suburbs, there will be big campaigns against them. Local governments and their communities will campaign against them – have no doubt. We are not NIMBYs. There is logic and huge swathes of international transport research to back us up.

I'll finish on a more conciliatory note. You don't have to believe me. John Brumby doesn't have to believe me. Maybe I'm wrong and all the international transport and health experts are wrong too. All we ask is to give us a chance. Put the road projects on hold for five to ten years. Go full steam ahead on the public transport, cycling and walking. See how it's looking in five years time, see how things have evolved, if the trends I have outlined have continued.

I'm confident that they will .