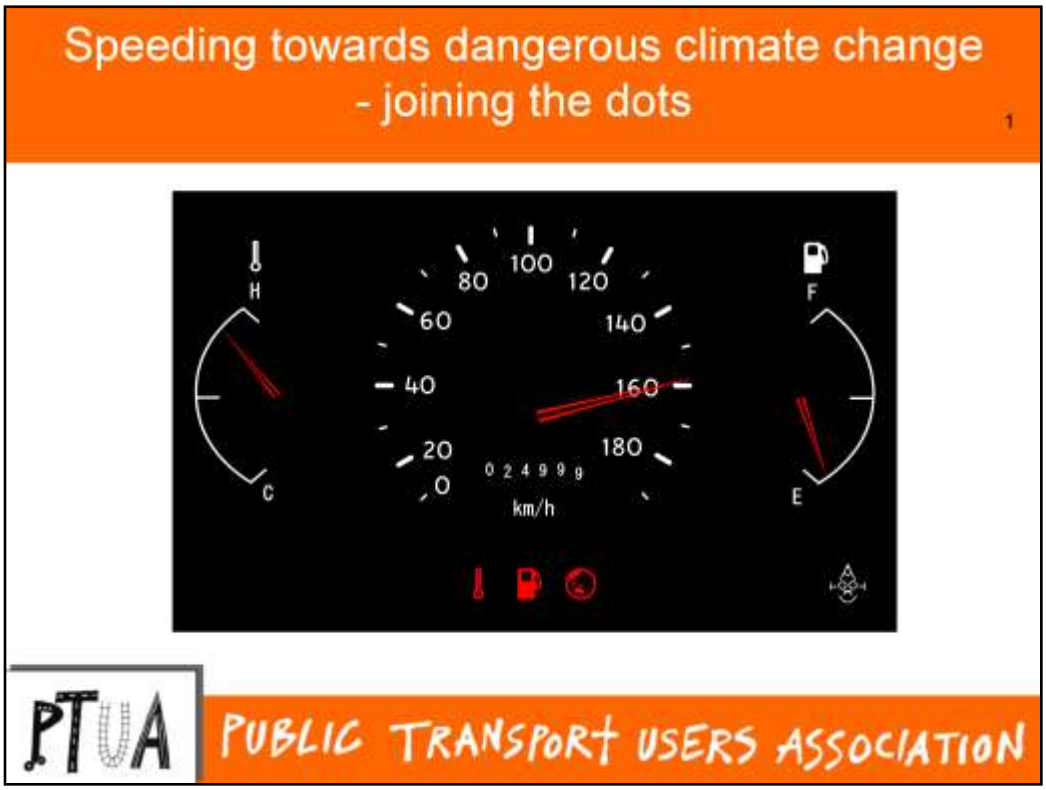
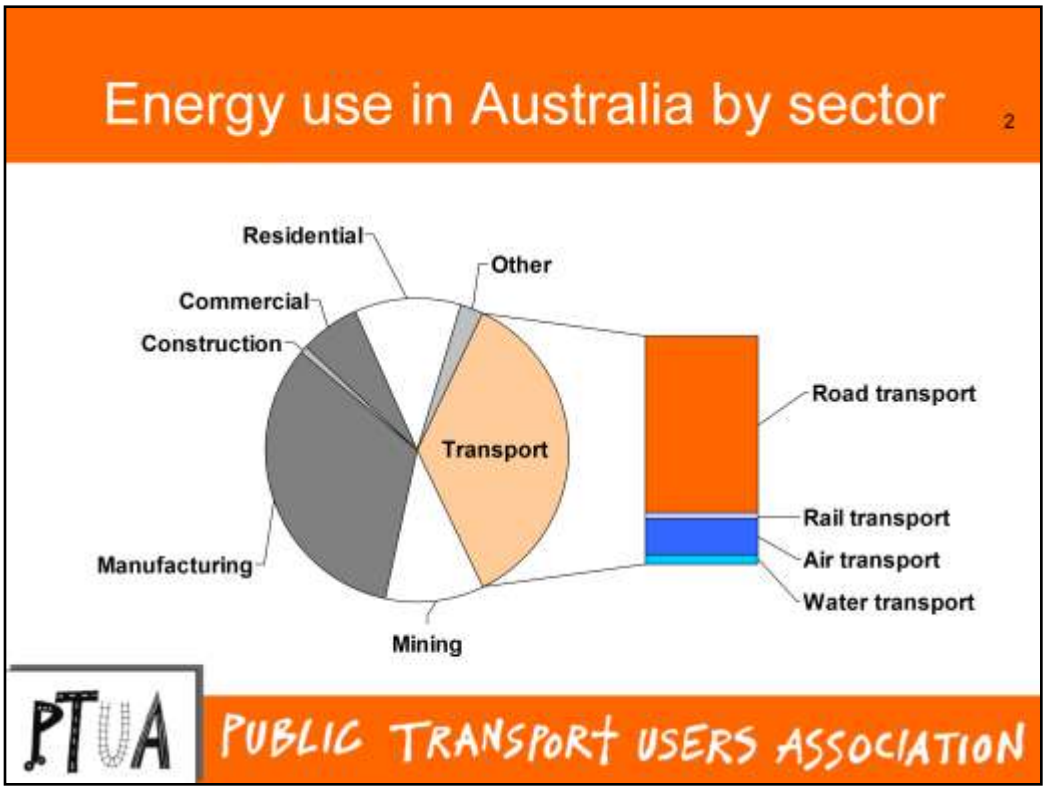


THESE SLIDE NOTES DO NOT REFLECT ACTUAL DELIVERY. A NUMBER OF POINTS WERE OMMITTED BECAUSE OF TIME CONSTRAINTS.

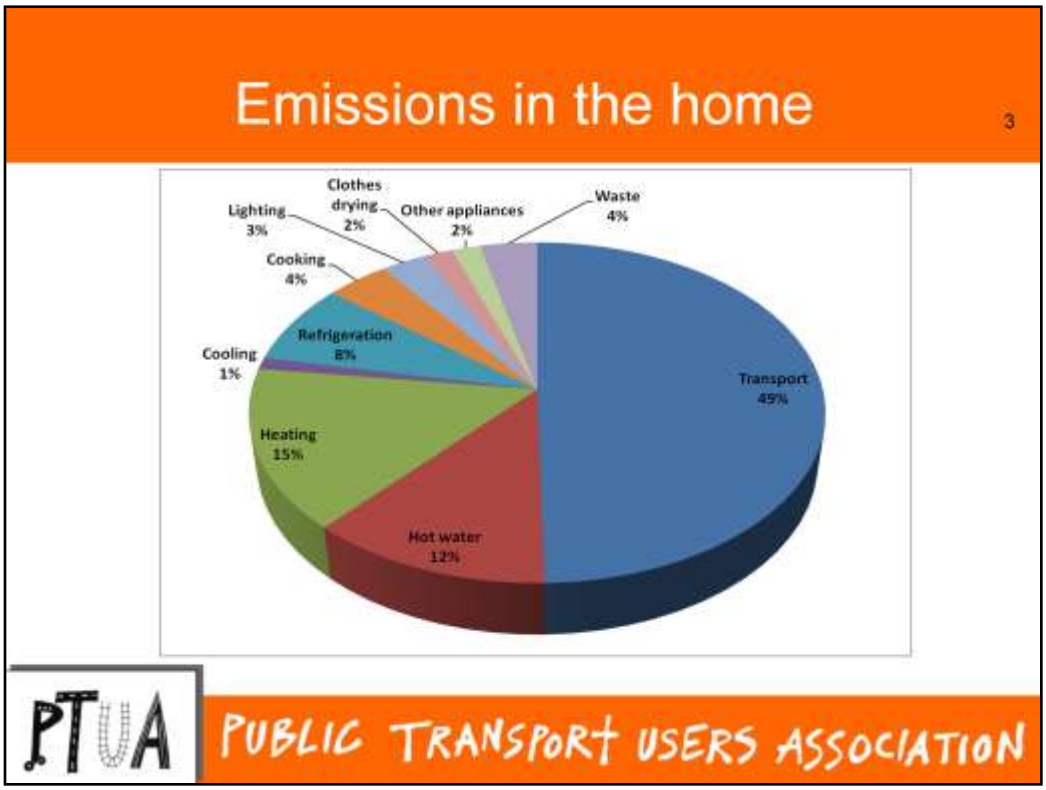
So when it comes to transport and climate change, what do we need to do?



The message we've heard from David is all sectors need to pull their weight, no exceptions.

Yes stationary energy is crucial, but let's not fool ourselves that's all we have to worry about.

Transport consumes a huge amount of energy – by economic sector the largest in Australia.

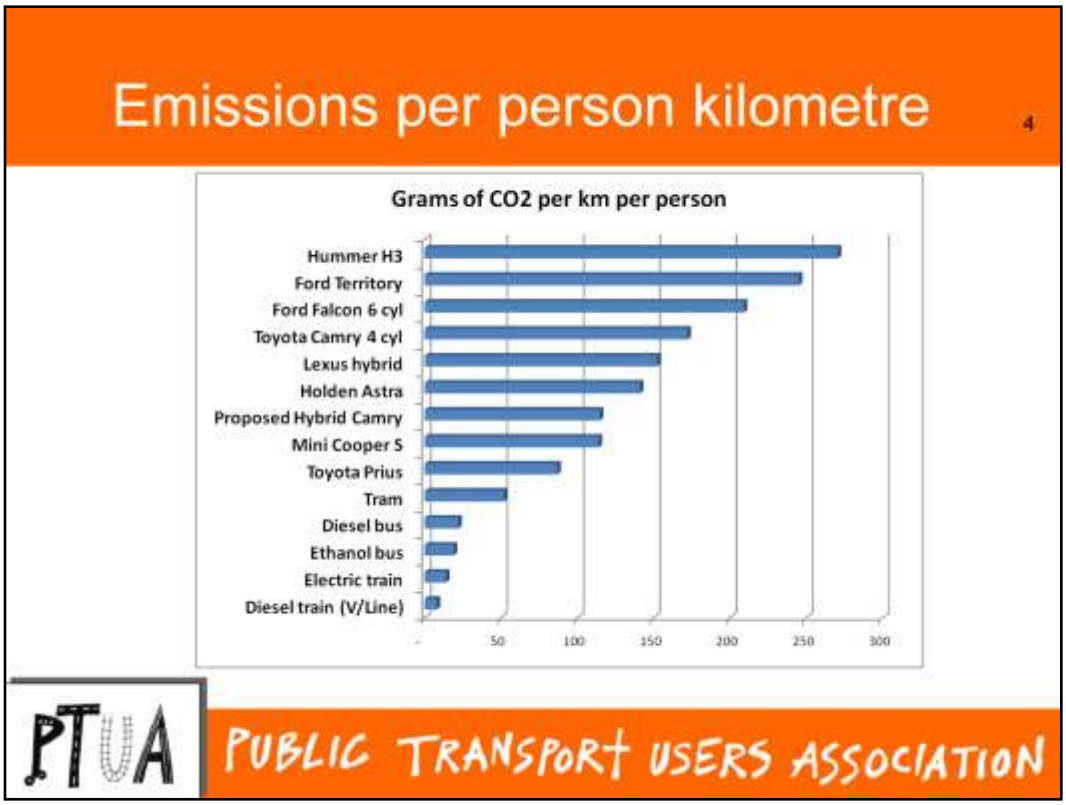


Here's a graph of the average household emissions in Australia.

What surprises people is that transport is about half your total emissions. The family car (or cars) accounts for many times more than those old lightglobes you've exchanged for CFLs.

Solar hot water, CFLs, not using the clothes drier, and using your energy efficient household appliances are all important, but they're eclipsed by the need to cut our transport emissions.

Source: Australian Greenhouse Office / CSIRO: National Kilowatt Count of Household Energy Use, 2002



This graph shows different types of vehicles, and the emissions per person per kilometre.

Note that for all the bad press the Hummer gets, it's only marginally worse than the much more popular Ford Territory. And neither are a huge way from a conventional Ford Falcon.

With all the fuss about the Hybrid Camry, remember it'll only cut emissions by about 30%, making it comparable to other small cars, and still way above the best performers, such as the other Hybrid Toyota, the Prius.

And importantly, public transport modes are all much lower. Trams are a little high, because our trams use electricity from brown coal, some carry relatively few people, and they're slow due to lack of traffic priority. Fix the traffic priority, move to larger capacity (low floor) trams, run them to logical terminus points instead of in the middle of nowhere, and this will drop. Both trams and electric trains will improve if you also install regenerative braking, and switching them to green power of course drops them to zero emissions.

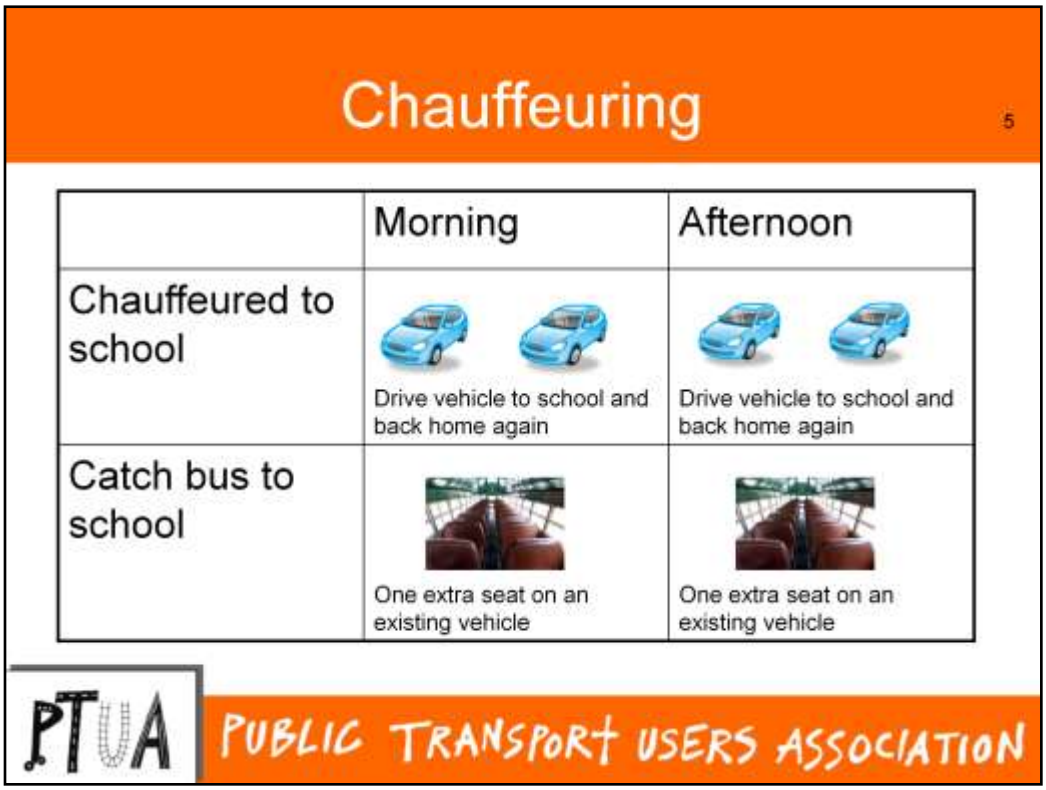
In contrast, fossil-fuel powered vehicles are going to get worse, because the oil is running out, so more effort will be needed to get it out of the ground.

Some people now want to turn coal into liquid fuel which chews up a lot of energy and creates much more carbon than conventional fuel. This would be a disaster for emissions.

Remember electric cars have to be charged up. At the moment in Victoria this is all from brown coal, and adding cars to the current electricity consumption will really stretch efforts to get our existing power off coal and onto renewables.

So it's important that not just individual vehicles get more efficient, but our whole transport network gets more efficient. We need a lot less single occupant vehicles driving around.

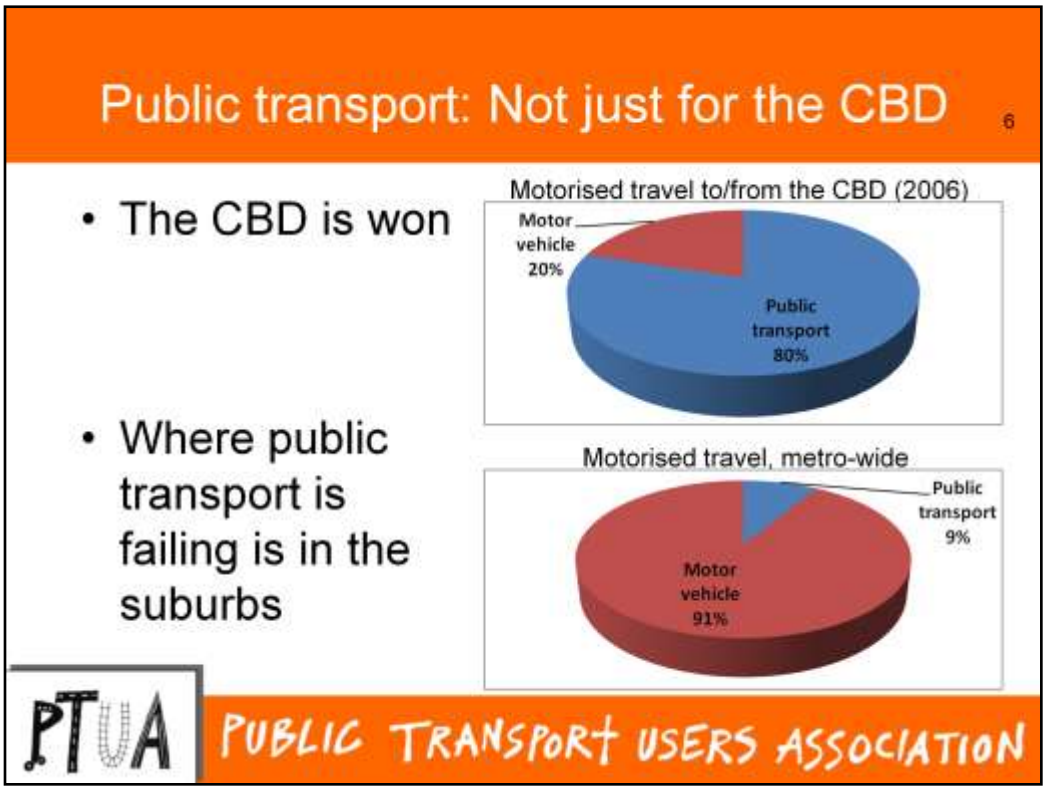
Sources: Green Vehicle Guide http://www.greenvehicleguide.gov.au/ - divided by 1.22, which is the average car occupancy rate in Melbourne (Vicroads)
Public transport emissions http://www.ptua.org.au/myths/greenhouse.shtml



People that say it would be impossible to shift a significant amount of car travel onto public transport frankly miss the point or are deliberately obfuscating the issue.

A huge amount of short distance travel could shift to walking and cycling as Elliot has just demonstrated. PT doesn't *have* to absorb all car travel.

Added to that a fair chunk of car travel is driving *other* people around who can't drive themselves – it's called chauffeuring (aka Mum/Dad's taxi) and it often involves twice as much car travel as is needed. Say someone drives their kids to school in the morning and picks them up in the afternoon. That's 2 return trips for what is really just 1 return journey. In other words, a lot more people and vehicles moving around than would be necessary with an effective and efficient transport system.



Public transport planning is dominated by the desire to get commuters into Melbourne's CBD and out again. They've paid a lot of attention to that over the years, and that battle has been won. Of those going into the CBD by motorised modes (eg not walking or cycling), 80% come by public transport.

At peak hour it's probably even higher. People coming into town for a night out will often drive because they don't want to wait for a train home. For sports events, such as the Tennis and Grand Prix, they actually encourage people drive and park in the CBD, then catch a free tram.

But by and large, the vast majority of people already avoid driving into the CBD. In fact these figures are from 2006, and we know CBD public transport patronage has gone up since then.

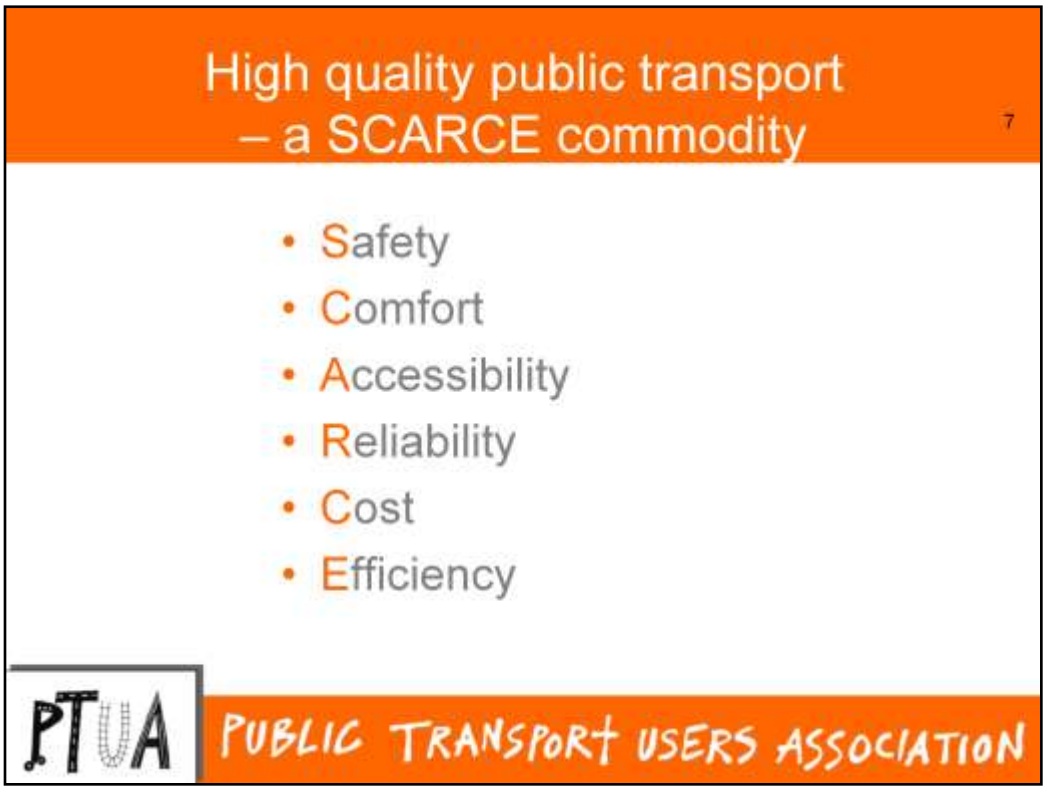
Of course the CBD will keep growing, and services are overcrowded. And some suburbs should have direct rail access but don't, such as Doncaster. But the biggest problem is elsewhere...

Where public transport is failing is for trips outside the CBD. Each day only 15% of Melbourne's population travel into the CBD, and public transport is failing them. Across Melbourne less 9% of motorised trips are by public transport. This figure has barely moved in the last few years.

We can no longer build our public transport exclusively for trips to the CBD, not if we're serious about cutting GHG emissions.

This is why the PTUA came out against the Eddington rail tunnel. It's $8 billion directed purely at CBD peak hour capacity, when there's still spare peak hour rail capacity – particularly if bottlenecks like single-line sections are fixed. And it ignores the "elephant in the room" – that it's not the CBD trips where we need to win people out of cars.

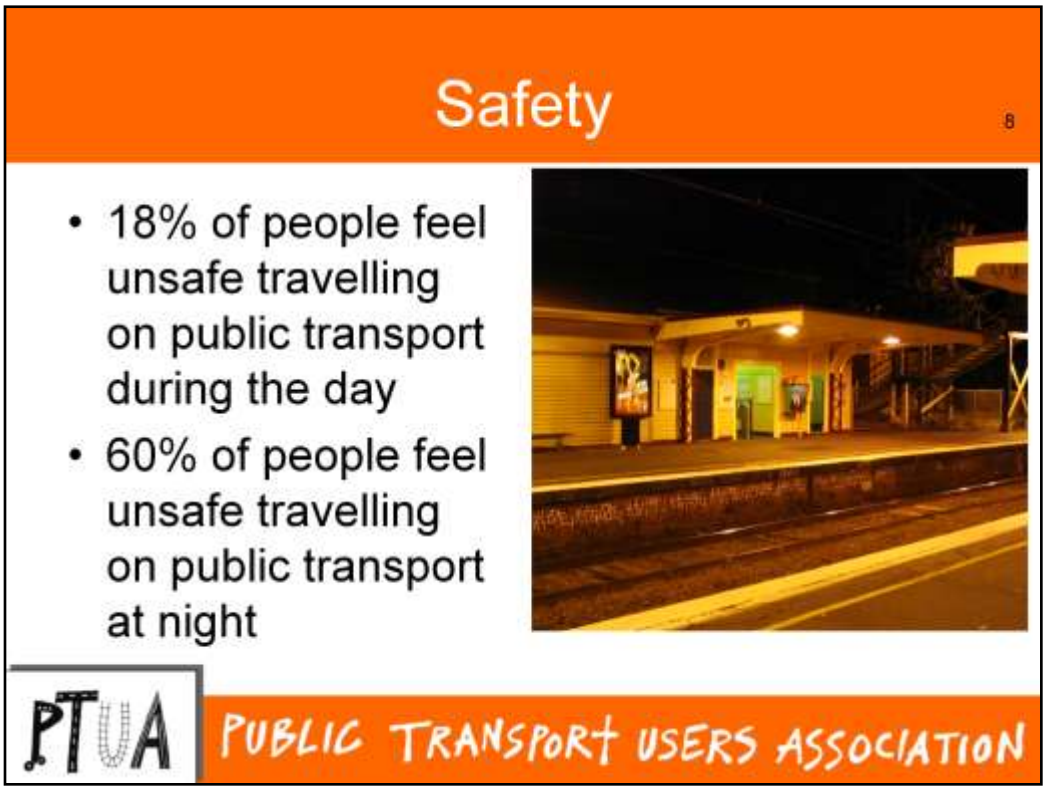
Sources: City of Melbourne Central City User Survey http://www.melbourne.vic.gov.au/rsrc/PDFs/Research/CentralCityUserSurvey2006.pdf, State Budget Papers 2008



So, what does it take for people to want to choose public transport over driving?

Someone made up this acronym to identify what constitutes high quality public transport.

Source: George E Gray, Perceptions of Public Transportation
http://ntl.bts.gov/lib/11000/11800/11877/Chapter22.pdf



People have to feel safe. While public transport is inherently safer than driving, the perception of personal safety problems is very real, particularly at night, when many stations are close to deserted – despite the roads being busy at all times of day.

How is it solved?

•Staff are essential (for customer service and fare evasion too)

•Frequent services, even at night, to reduce waiting times

•As patronage increases, people feel safer because there are always others around

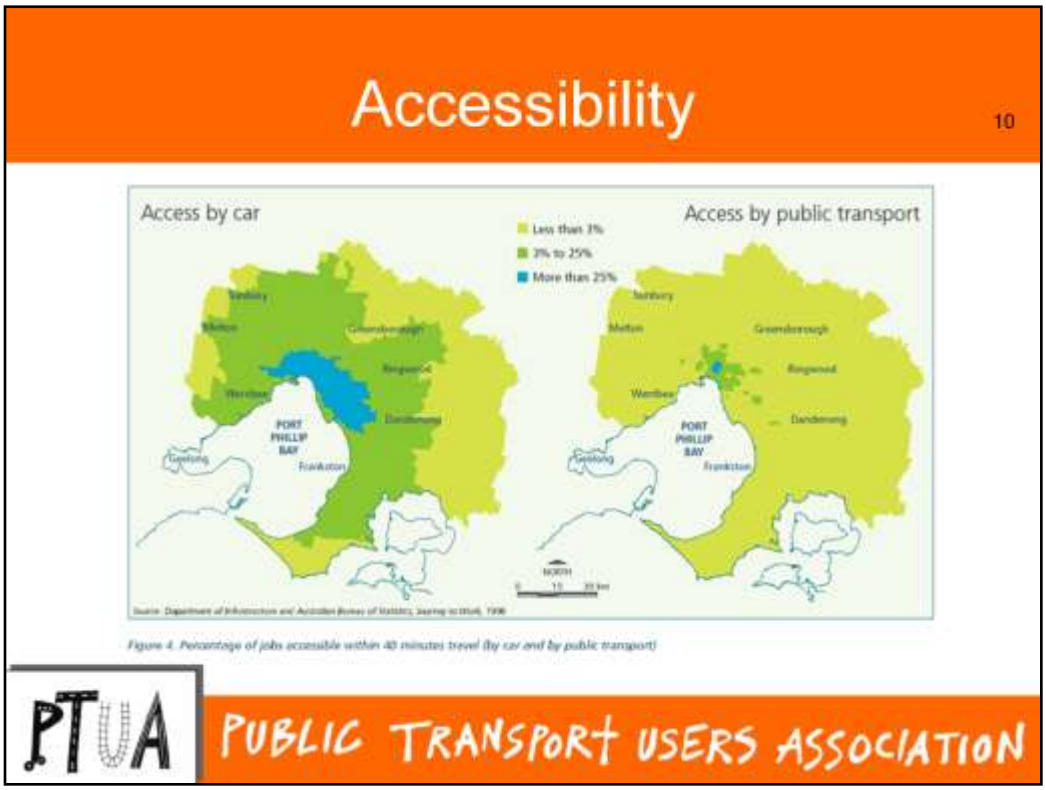
•Lots of graffiti or vandalism left unchecked increases the perception that anything can happen

Statistics from: http://www.police.vic.gov.au/content.asp?Document_ID=13037

This is an all-too familiar sight on Melbourne's trains.

You might not always expect to get a seat, but you should be able to at least get onto the train.

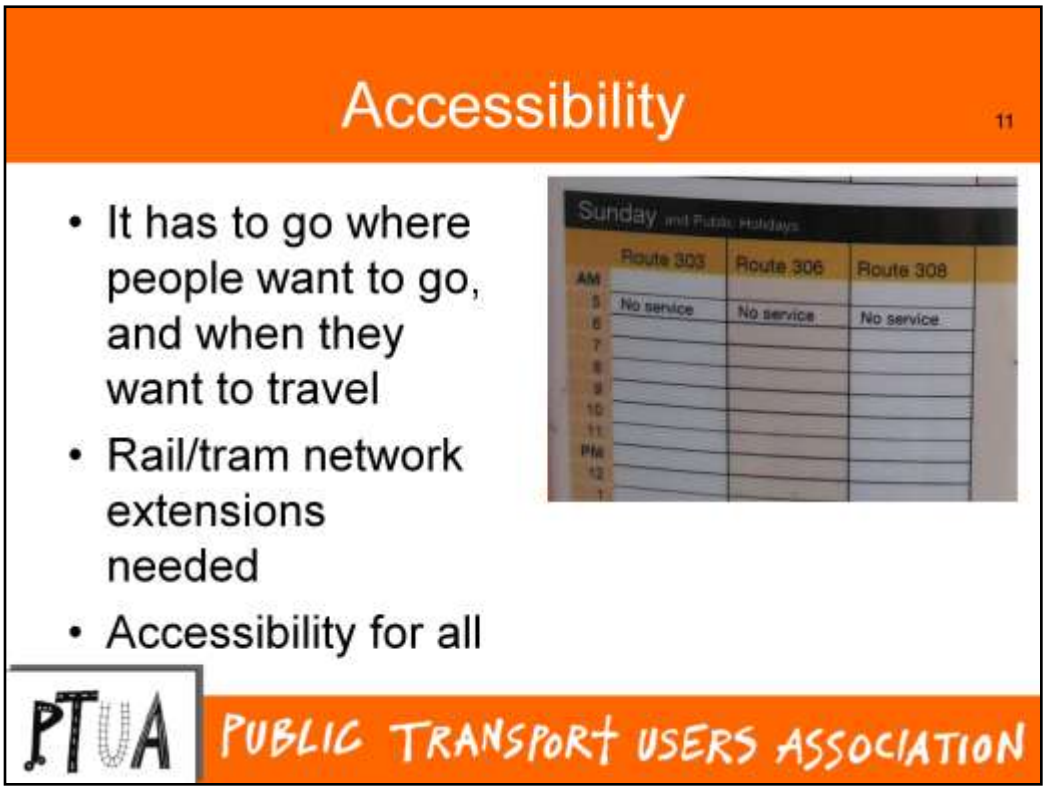
Likewise, if you're expected to wait for any length of time, there should be seats and shelter at the stop.



These graphs show how accessible jobs in different parts of Melbourne are, by car and by public transport.

If we're going to get substantial numbers of people out of cars, we have to give all of cities a viable, time-competitive alternative – not just those lucky few who can afford to live in the inner city.

Equally, from a social equity point of view, it's important to make more job opportunities available to those who don't have cars, no matter where in the city they live.



It has to go where people want to go. And it has to run *when* people want to travel.

The rail network needs expanding, to reach new suburbs and serve major destinations. Just try getting to Southland on the train – you'll be carried past it at 80 kmh!

The tram network needs, at the very least, minor extensions to better connect routes to railway lines and shopping centres.

And filling in the gaps should be fast, frequent, direct bus routes.

The whole network needs to be interconnected, running frequently, 7-days-a-week, enabling people to get from anywhere to anywhere, quickly, without fuss or long waiting times. That's what will win people out of their cars.

And the system needs to be accessible for all, whether they're able-bodied, in a wheelchair, pushing a pram.

Obviously the service has to be reliable. If you can't depend on it, you can't use it regularly.

There are big problems with cancellations and late running right now. In many cases in peak hour, services are so packed you can't squeeze on them once they arrive.

More staff on platforms will help loading. More staff on stations and vehicles and in stabling yards will help prevent vandalism.

And when problems do occur, they need to be better communicated to passengers. Higher frequency services can also absorb the impact of cancellations much better.

Perhaps in time, petrol prices will drive most people to public transport.

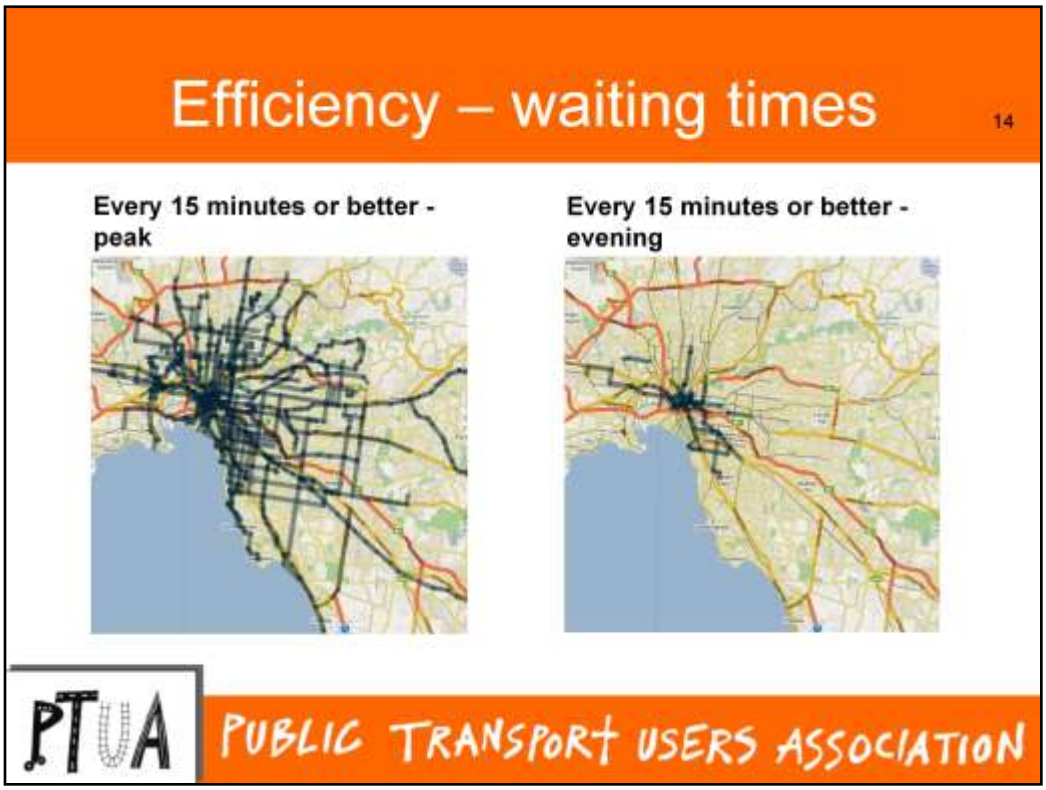
But in the mean time, Melbourne has some of the highest public transport fares in Australia.

Prices have to be competitive. There are problems at the moment with paying a big premium for crossing zone boundaries, for instance. A slightly larger number of smaller zones, with a smaller increment for crossing boundaries, would solve this. Boundary overlaps can also be made bigger, to ensure those travelling short distances don't pay too much.

We often get asked about making the system free to use. Remember though, it's not cost that's holding most people back, it's quality of services. Making it free would cost more than $500 million per year, which could be spent on better services. Free rides are not the priority for getting more people out of cars.

Source: http://www.ptua.org.au/melbourne/fare-comparison

http://www.ptua.org.au/myths/free.shtml



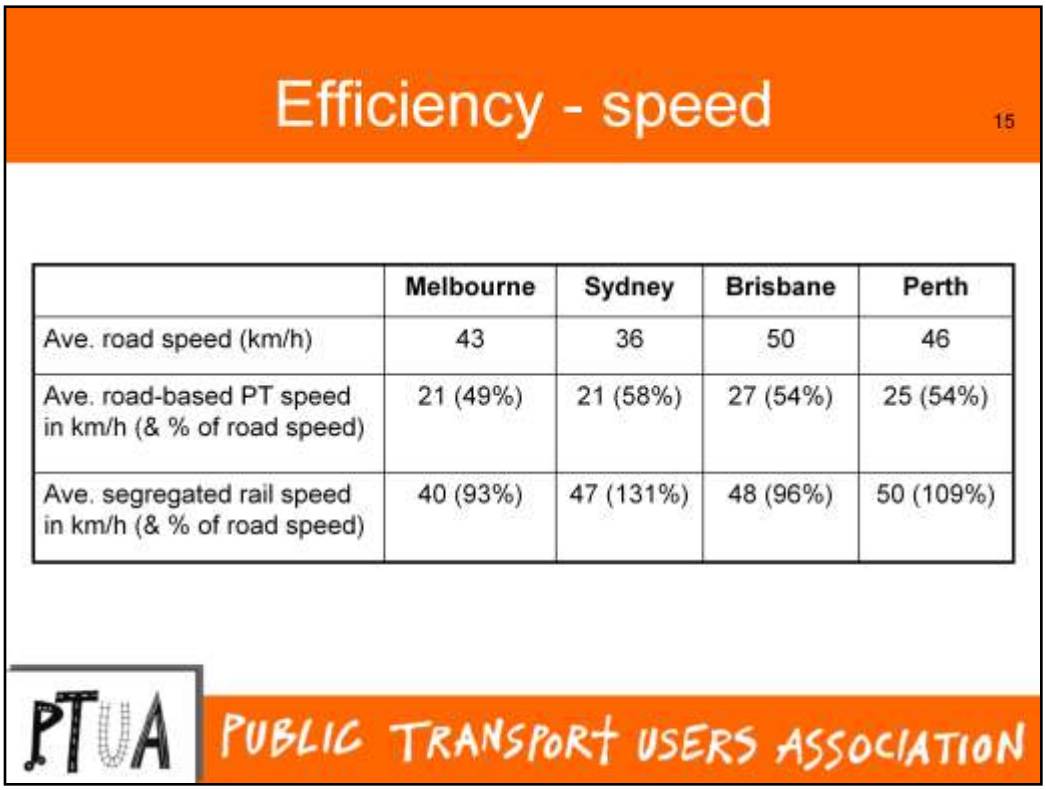
Nobody likes waiting. The typical half-hour wait between buses is long enough to make an entire trip in a car.

How long will people wait? Even setting the bar at 15 minutes (which is probably about as high as it should be), and looking at peak hour, big areas of the city, including most of the western suburbs, wait longer. Ever wonder why the Westgate freeway is so packed in peak hour? Part of the answer may be that many stations west of the bridge only get trains every 20 minutes.

Outside peak hours, only a tiny part of the network runs every 15 minutes or better. After 7pm, you'll wait half an hour or even longer for a train home. (Or more likely if you're out late, you'll plan ahead and drive everywhere that day.)

Some argue that Melbourne isn't dense enough to support frequent services across the suburbs. But just look at the number of cars on the road – so much so that many suburbs suffer traffic congestion now 7-days-a-week.

Source: http://www.ptua.org.au/2006/08/20/study-15min-routes/

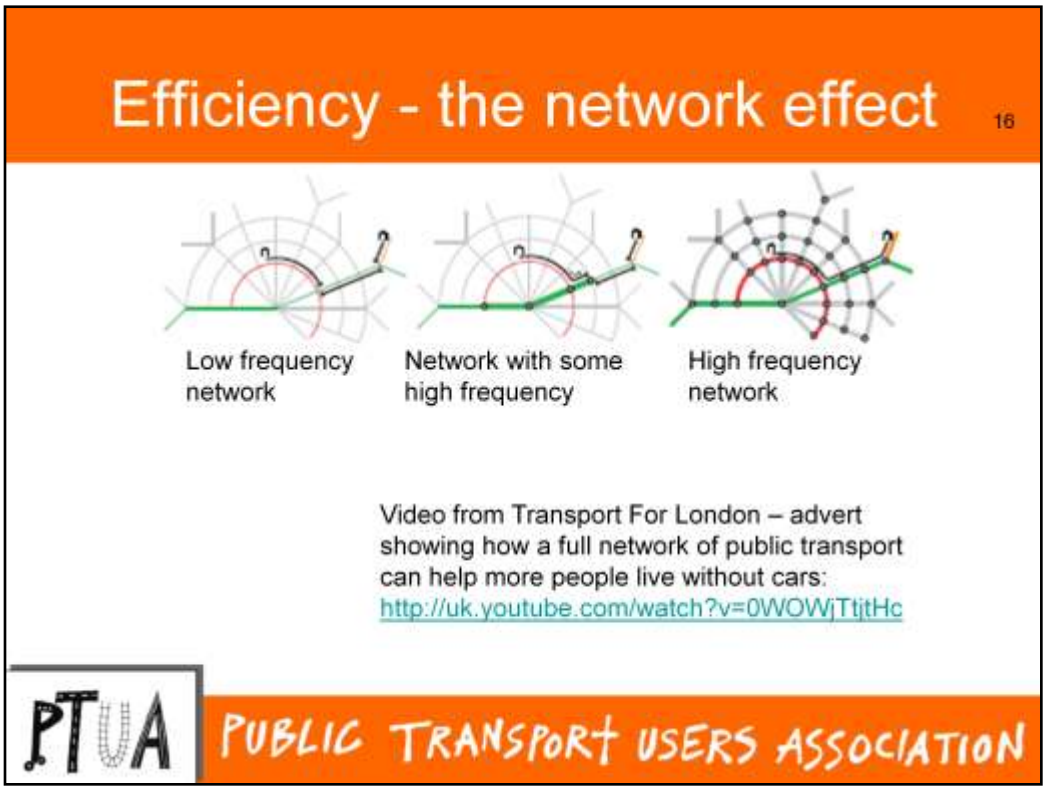


Public transport has to be time-competitive. If the door to door trip is much longer than the same trip by car, people will keep driving.

Trams and buses need priority on the roads, especially at intersections. A PTUA study last year concluded a third of tram travel time is wasted at traffic lights. Other cities have traffic lights that detect an approaching tram or bus, and give them the green.

Congestion on the roads actually helps get people onto public transport. Building more roads provides temporary relief to congestion, but that then encourages people to drive, making public transport less viable. The roads then fill up and become congested again, and everybody has lost.

Source: http://www.ptua.org.au/2007/09/27/dead-time-tolls-trams/



These diagrams compare different types of public transport network, and how useful they are to people for everyday use.

Melbourne's is in the middle somewhere – we have some high frequency routes, particularly into the CBD – which means for most non-CBD trips (especially outside the inner suburbs) the system isn't so useful.

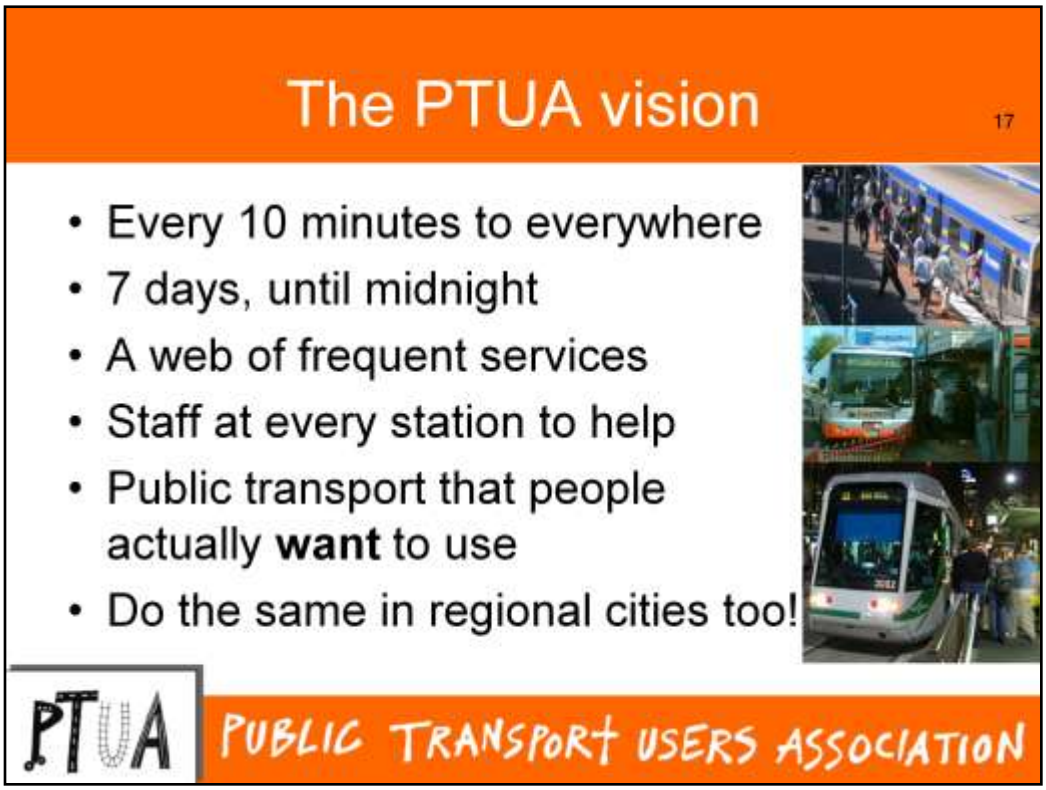
The third image, showing an effective high-frequency network across the whole city makes much wider range of more complex journeys possible on public transport. Which means you can actually live your life, travelling to a variety of different destinations – work, shopping, events and entertainment, visiting friends, whatever else you do – without a car. You can get from anywhere to anywhere at close to driving speed.

Here's a quick video advert from London. Their system isn't perfect, but it illustrates how the protagonist can make a variety of trips – by public transport, walking, cycling and taxi. He is able to live his life without a car.

(Play video: http://uk.youtube.com/watch?v=0WOWjTtjtHc)

For the network to be seamless, it has to be planned and co-ordinated as a whole. Individual departments or companies running their own empires just results in an uncoordinated mess.

Diagram source: HiTrans Best practice guide



So how do we achieve "SCARCE"? – Safety, Comfort, Accessibility, Reliability, Cost, Efficiency

If we really want to win substantial numbers of people onto public transport, we have to provide public transport which meets the SCARCE goals... Above all, door-to-door travel time has to be competitive with driving. Quick trips, short waiting times, accessible vehicles and stops, plenty of staff to help along the way.

Every 10 minutes (or better) to everywhere, running 7-days-a-week until midnight

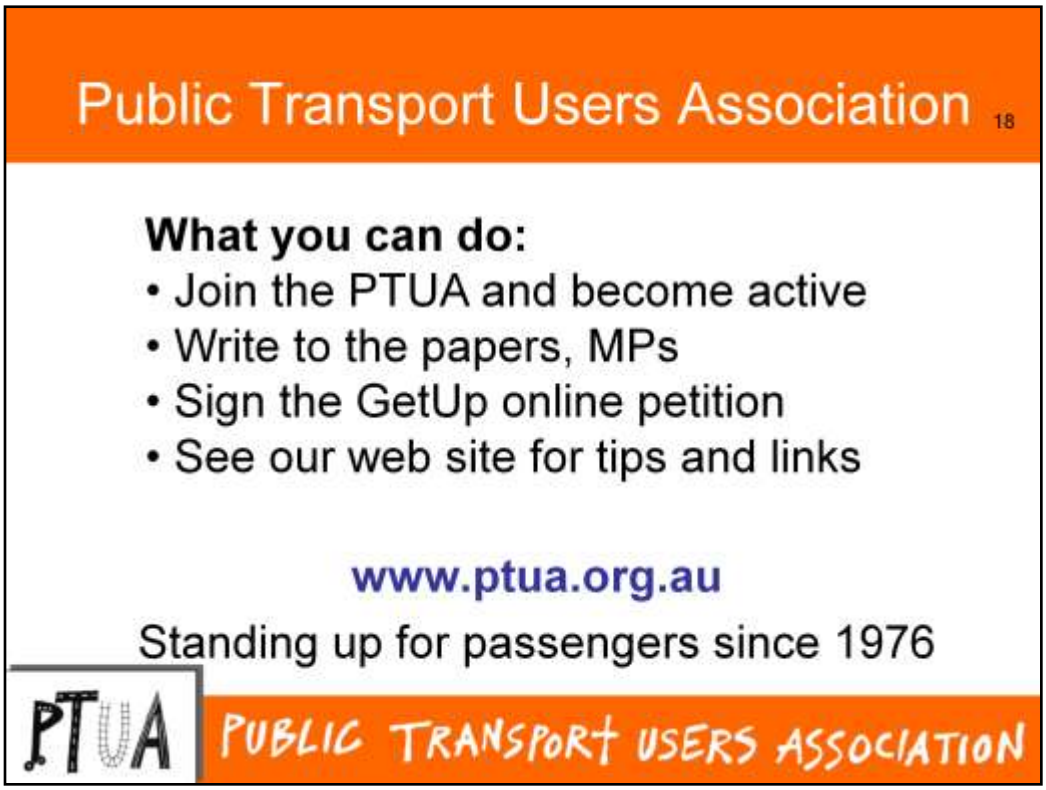
A web of services to allow you to get from anywhere to anywhere. All trams and trains, and buses along main roads, running every 10 minutes. Tram extensions and rail extensions/electrification to locations including Doncaster, Rowville, Mernda, Sunbury, Melton and Cranbourne East.

A comprehensive Nightbus network in the small hours, every night, every half-hour along all the main routes.

This model should be used in regional cities too, where often the only viable public transport is the commuter train to Melbourne. Frequent town services, and frequent trains linking the cities and towns.

This is all achievable in the next few years, and will set us down the route to slashing car travel, and moving towards zero-emissions for transport.

Give people quality public transport, and they'll not only be able to leave the car at home more often, it'll actually be a pleasure to do so.



What you can do to help make it happen.

Join the PTUA and get active. We are a voluntary non-profit organisation (so any donations towards the cost of today's forum are appreciated).

Getting active does make a difference. It was the PTUA which forced the government to provide all-night services on New Year's Eve. When the ban on bikes on trains came in, we made sure the media and cycling groups knew about it – which forced a backdown. We also publicised crowded short weekend trains – which have now been fixed.

Write to the papers, MPs, politicians at all levels. Make sure they know that better public transport is an important issue. GetUp are running a petition on the web right at the moment – do sign it.

There's lots of tips and links for getting active on our web site. Join us in the fight for better public transport for everyone.