

## Commuting in Australian capital cities an analysis of the 1951 to 2011 population census data.

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### Abstract

Older census data from 1951 to 1976 focused on metropolitan Melbourne and Sydney. The inconsistencies between these early censuses, and the 1976 to 2011 Census data. Combining these trends reveals that Melbourne Sydney commuters were far more reliant on more sustainable trends for walking, cycling and public transport modes and car passengers (only) than the single occupant cars until around 1980 in Melbourne and Sydney. Perhaps other capital cities also had increasing levels of unsustainable commutes since the end post war fuel rationing till around 2006 but there is little hard data for 1951 to 1976. Even so the 1981 to 2011 census data clearly shows growth of car dependency over 35 years and the decline of male and female market share of walking, cycling, public transport car sharing in the capital cities and perhaps Darwin which is not graphed here. The graphs for the capital cities show the large and rapidly growing number of driver only car commutes by men and women is the dominant element in the growth of costly and polluting road congestion and passenger transport. The more sustainable trends for male and female train travelers, bicyclists, pedestrians, car passengers and those working at home are graphed.

### The national overview

Australian data is shown on figures 1 for 1976 to 2011 combining data for all urban and rural Australia. The large and rapidly growing number of driver only car commutes by men and women is the dominant element in the growth of costly and polluting road congestion. There is a serious threat to Australian economic security. Shown on figure 13 in the conclusion.

**Figure 1**  
Australia  
journey  
to work  
1976-2011.

=  
Growth of  
cars use ,  
congested  
roads  
polluted  
air

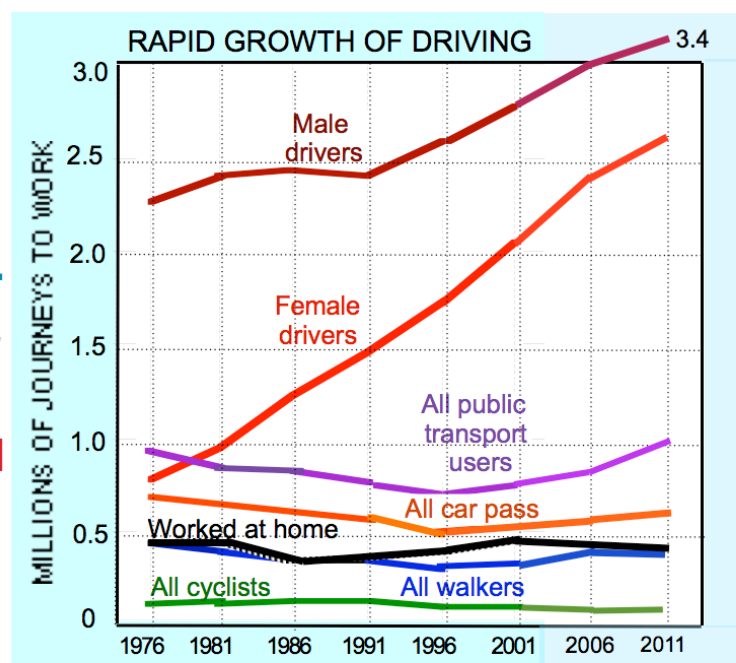
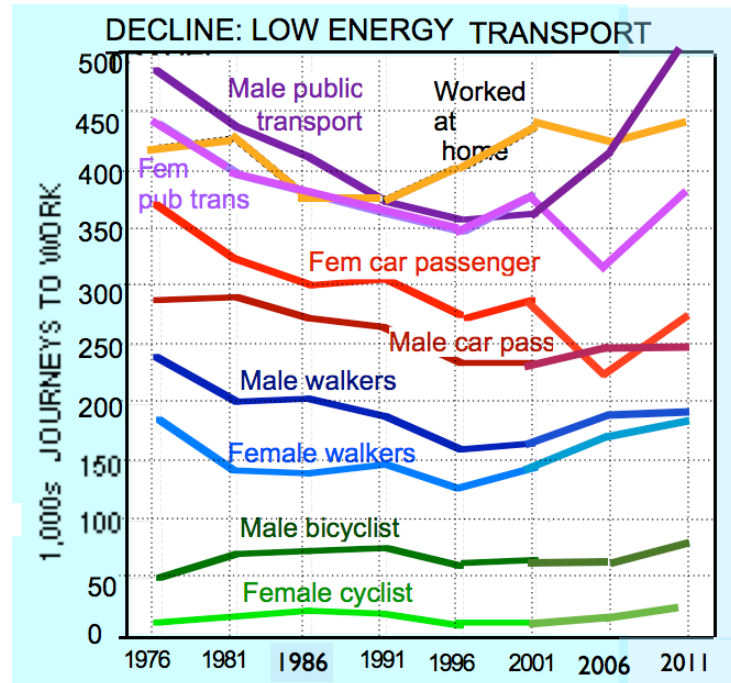


Figure 2  
shows a  
significant

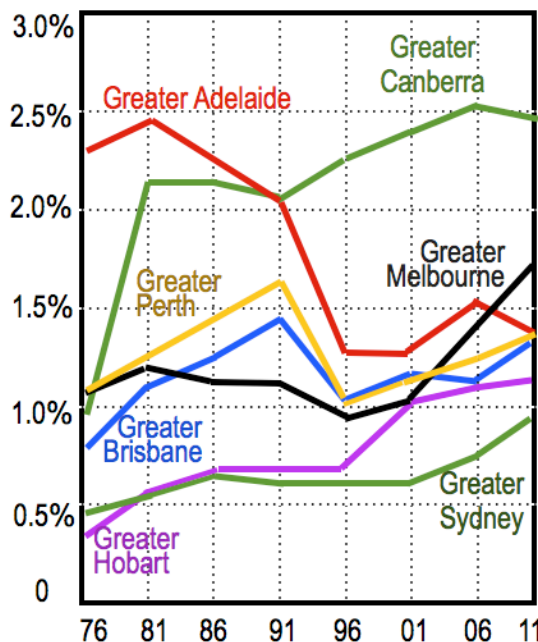
difference between the national trend for, male and female public transportation, working at home and walking and cycling from 1976 to 1996 and a small increase from 1996 to 2011 which seem likely to increase if employment picks up. A summary of the underlying national economic is discussed in the conclusions. Great

**Figure 2**  
**Australia**  
**journey**  
**to work**  
**1976-2011**  
**The slow**  
**decline of**  
**clean and**  
**active**  
**transport**

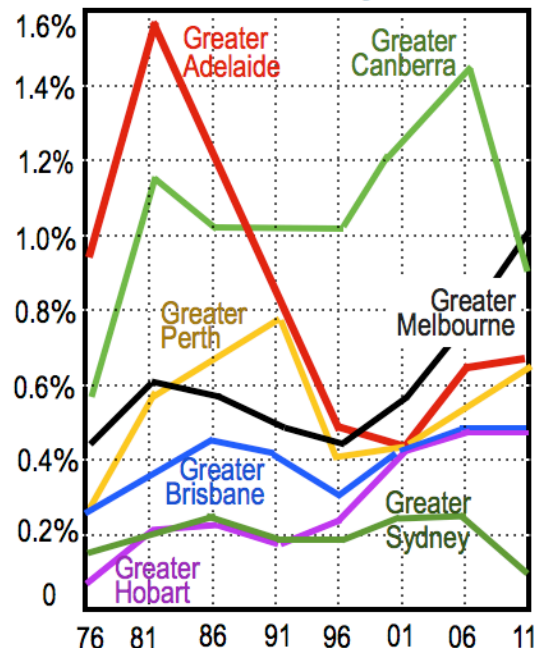


**Fig 3 % Bicycle commutes: Oz Capitals**

**Males and females**



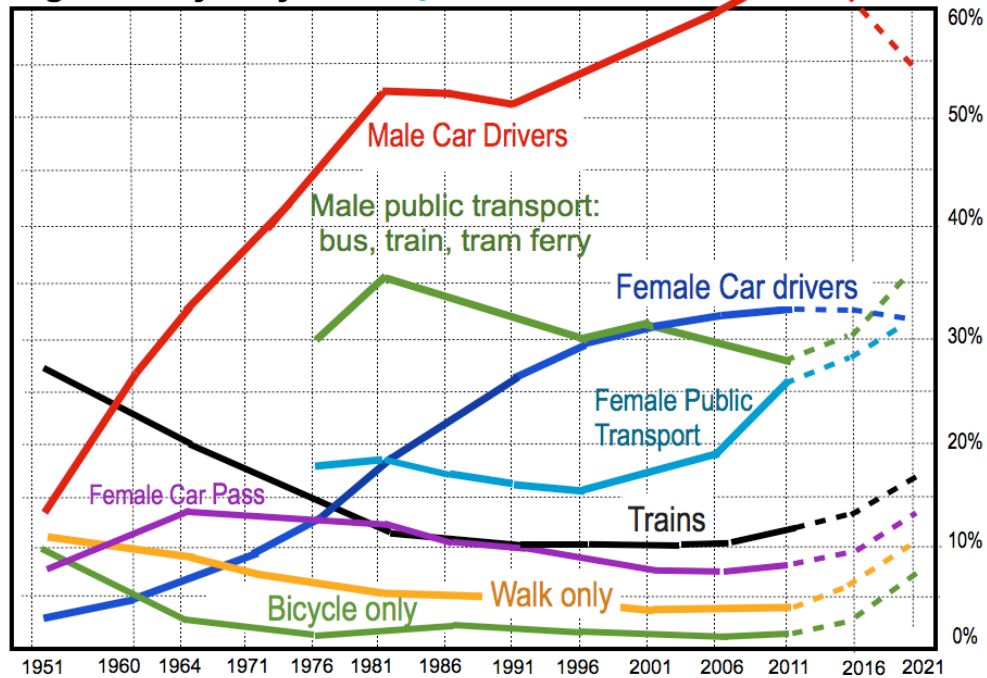
**Females only**



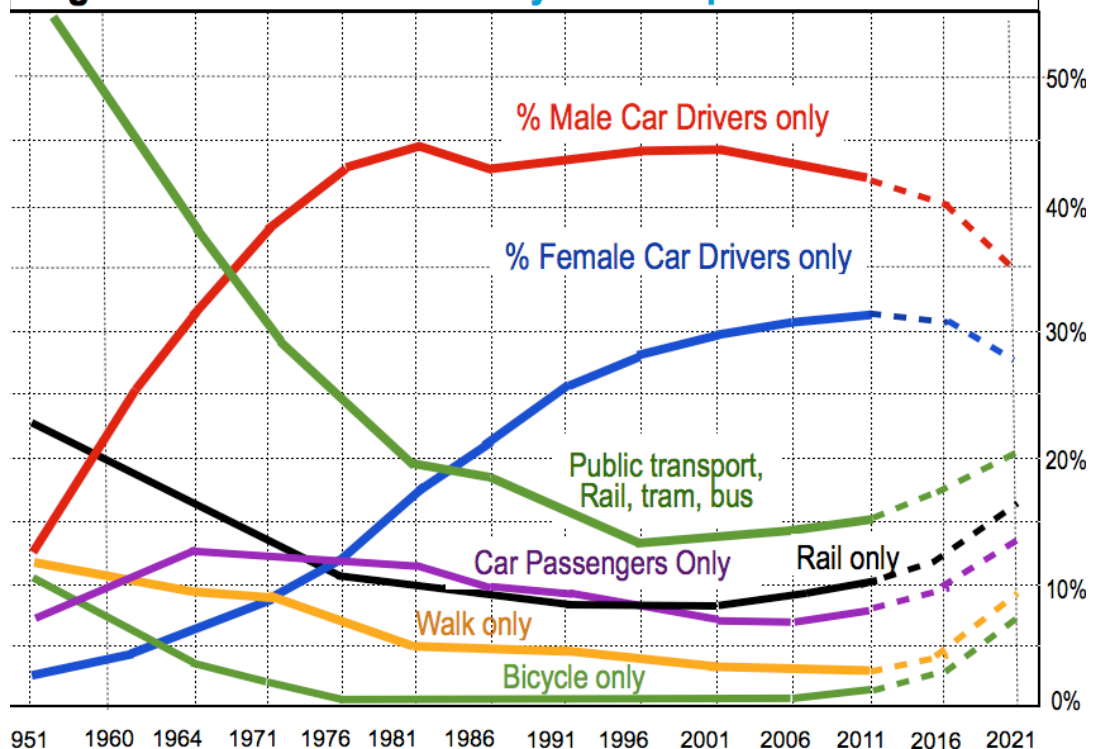
Sydney is the least bicycle friendly city but has a better public transport and pedestrian usage. Only Hobart has more walkers. The decline of overall market share of bicycling, like car

sharing, transport reveals that, despite the large differences in the Sydney and Melbourne the car is dominating passenger transportation in both of them. The other cities are little better. This writers wish list for more sustainable transport and avoiding road congesting commuter behaviour are shown for the Sydney Figure 4 and Melbourne figure 5 from 2011 to 2021. is wish list would also avoid more more dangerous road traffic conditions for cyclists. As well as reducing pollution that creates health problems and contributes to global warming.

**Figure 4 Sydney: Journey to work 1951-2021**



**Figure 5 Melbourne: Journey to work: percent 1951-2021**



Significant work trips are made by female cyclists in the Netherlands of 15% compared to around 1% in Australian cities and 3% in NZ. The other factor of course is the Netherlands has bicycle and pedestrian friendly culture with drivers who are courteous. The 30 Km speed limit on all residential streets is very beneficial especially for the children and the elderly precisely because of Dutch driver self enforcement of the limit. On main road with bike

**Figure 6 Fewer female bicyclists commute in Australia compared to Northern European cities.**

In Dutch cities there are just as many female commuters as men



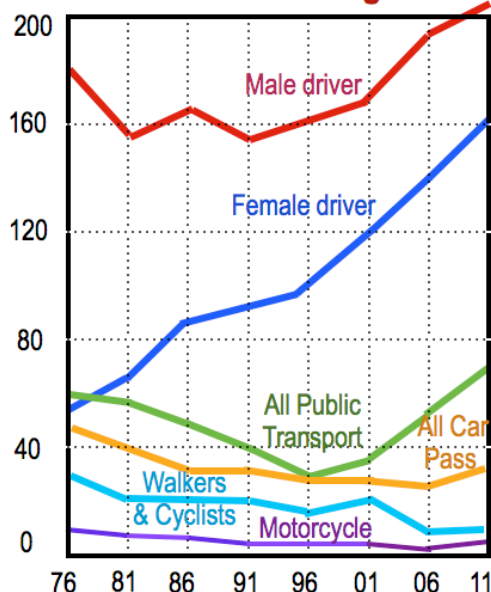
% Oz & NZ female bicycle commutes is low Note (male/female ratio)		
Sydney.....	0.1%	5.2
Melbourne.....	1.1%	3.3
Brisbane.....	1.3%	5.1
Perth .....	1.2 %	4.6
Adelaide.....	1.2%	4.7
NZ.....	3.1%	3.4
Canberra.....	0.9%	2.8
Hobart .....	1.2 %	2.8
<hr/>		
Netherlands.....	15%	1.0

maximum speed limit is 50 km/hr. Australia has 60 to 100 Km/Hr limit in

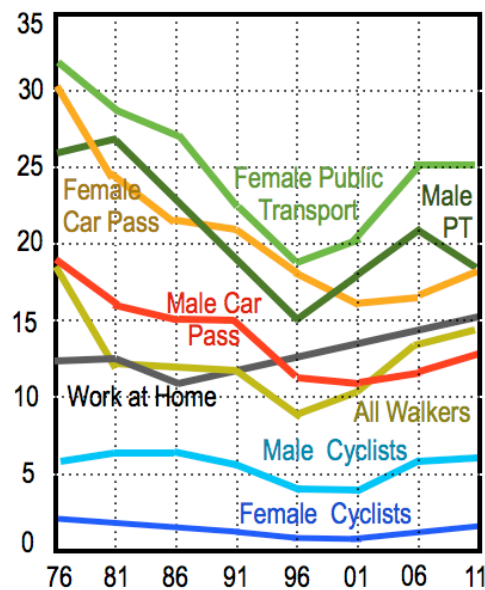
In the early 1980s planning model for Adelaide was based the planning in Geelong Victoria and Newcastle NSW. It produced bicycle route maps, made progress in the provision of bicycles paths, shared footways in the CBD and surrounding parklands from west Glenelg beach and along safe routes to other beach side suburbs. To the east there are bike routes in the Loftie hills, to the north to Port Adelaide.

**Figure 7 Greater Adelaide: 1,000s of commutes 1976-2011**

**Growth of road congestion**

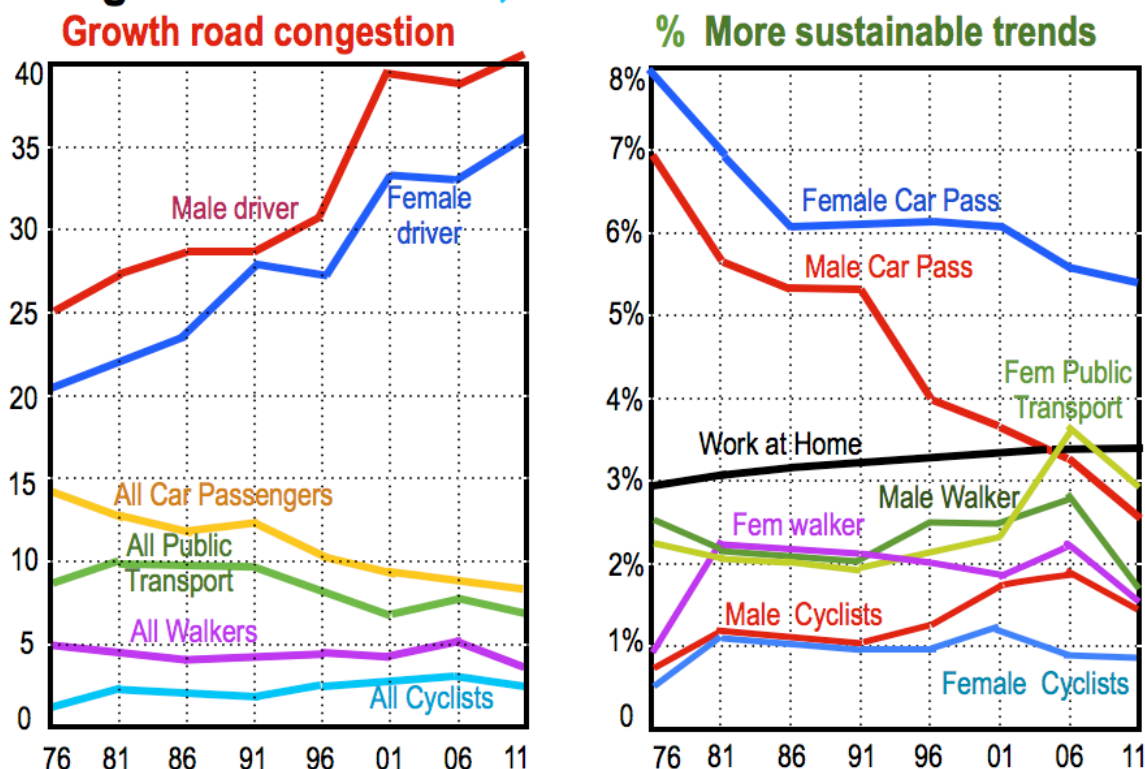


**More sustainable trends**





**Figure 8 Canberra: 1,000s of commutes 1976-2011**



The O'bahn bus runs above many Kms of parkland with bike paths weaving under it with a gentle whish whish sound and almost noiseless environment underneath.

The O'bahn system lends itself to being used in green wedges between the middle and outer suburbs in other capital and provincial cities. This was an Adelaide Government initiative.

The reduce speed limits system developed and tested in Unley reduced the accident rate and has spread to other Council in Australia and other suburbs in greater Adelaide. That model need to be followed by all Australian councils .

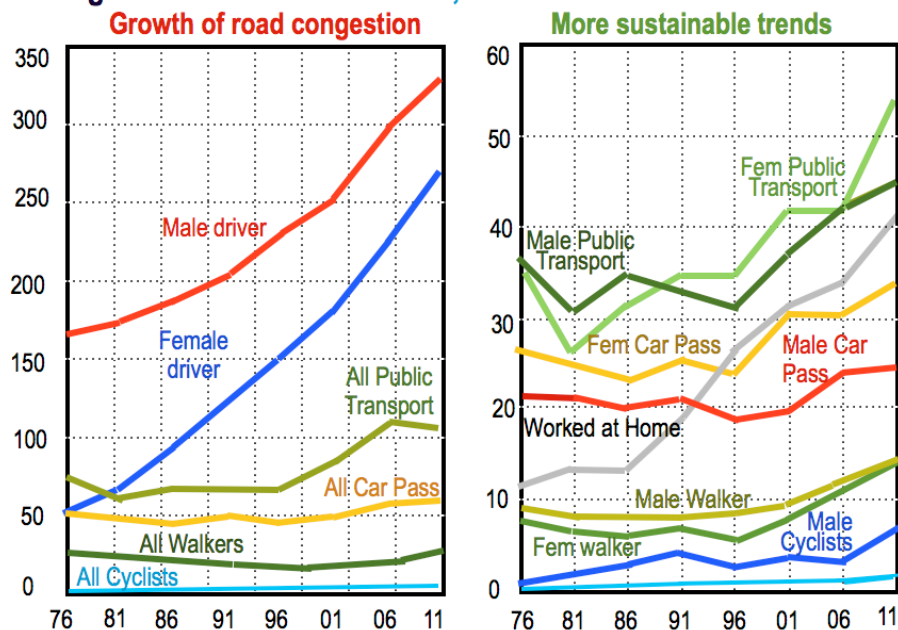
Canberra has best performance for both males and females because it was planned as new city to be bicycle and pedestrian with separate bikeways and grade separation and as result has more commuter cycling and more recreational cycling. The Planning started in the 1912. But most of what exists today is post world war 2 with experienced English new town planners and Australian planners and engineers. I lived in Scottish New town for 3 years and studied the road death rates death rate in five English new towns, which where much lower in than in the larger cities for all road users.

The cycling groups introduced a few innovations such as bicycle racks on buses, bicycle lockers at modal interchanges, and lobbying the press since its inception in the 1970s. Indeed Australia always needed more English and Dutch style new towns and , following the Canberra prevent more deadly road congestion in other capital cities.

My experience of Hobart and Tasmania mainly where as a bush walker and in a 4WD as a partly disabled person disabled person. A wonderful place for touring and mountain bike riding.

**Figure 9 Greater Hobart: 1 000s of commutes 1976-2011**

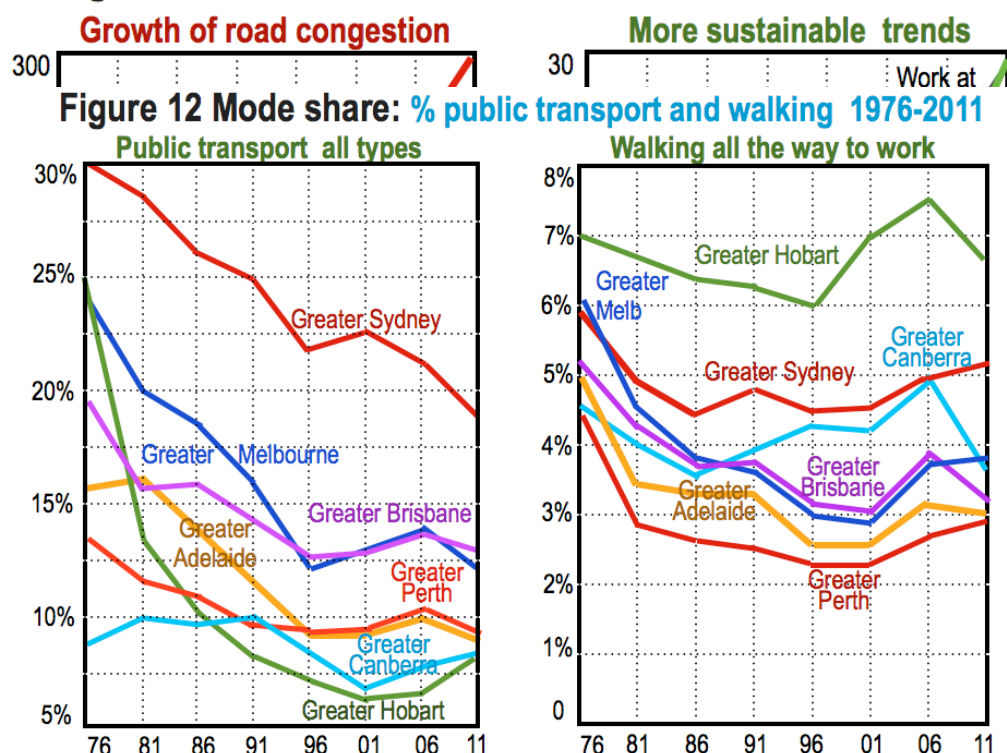
**Figure 11 Greater Brisbane: 1,000s of commutes 1976 -2011**



I spent 18 months in Perth and WA mainly as a bush walker and at bicycle planning conferences attendee that included on tours of new bicycle infrastructure. Went to Melbourne to get work in 1972 .

I have been to Brisbane many times to study the bicycle storage innovations introduced by Queensland railways and their passenger services manager. That included extensive tours of the

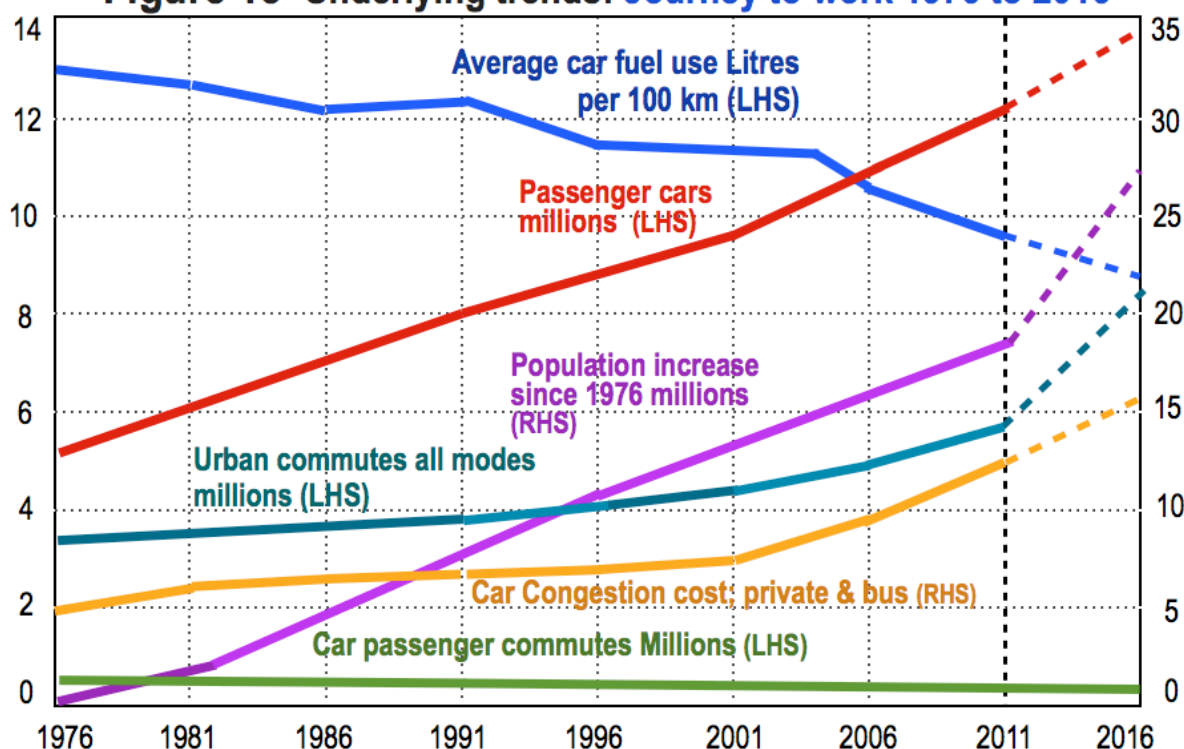
**Figure 10 Greater Perth: 1,000s of commutes 1976-2011**



new bicycle storage projects and then writing articles in Free Wheeling magazine and papers at transport conferences. I also had holidays in Brisbane and was at the Opening of the Good luck Bridge over the Brisbane river and Bicycle bridge from Queensland University over the

Brisbane river. As a partially disabled person I enjoyed putting my bike on the train to the

**Figure 13 Underlying trends: Journey to work 1976 to 2016**



coast and then riding for a couple of hours.

Figure 12 shows walking and public transport in all capital cities and will help cycling organisations to contribute to “active transport policy in several states”.

## Conclusion

Figure 13 outlines the current trends predicted in several State and a Commonwealth studies. It is concluded that past and present trends are unsustainable and need to be reversed before global oil shortages increase fuel prices to a level that threatens economic security some time between 2006 and 2018; and that Census data will be valuable for evaluating any future counter measures by all levels of government to reduce car dependency in 2016.

Resources consumed for the journey to work produces more air pollution, green house gases and road congestion and ill health. New Roads, petrol stations car parking gobble up agricultural land. More multiple household car ownership means that the resources need to make cars, repair them and ultimately dispose of them. The only positive change shown is the reduction in fuel usage of the average car to 2016. Population growth is accelerating, as is the growth in passenger car sales, number of urban commutes and the static growth in the number of car passengers.

Some cycling organisations assume that a sustainable city is a place where the quality of life of its citizenry is improved by more efficiently using of fertile land, fresh water, oil, gas and other resources are incrementally reduced by all levels of government and the private sector.

Furthermore these cities have the potential to become places where short commuting trips that could easily be made on foot or by bicycle. Sadly this is not true and will continue to be so without some major changes in Australian national planning policy. Figures 4 and 5 five

for the 2011 to 2021 show necessary changes for Sydney and Melbourne The long term positive change that is necessary at the same time as encouraging active transport is to reduce CO 2 emissions for the Australian car fleet to by 2016. If other countries can reduce CO 2 emissions so can Australia as is shown on figure 14 and make further fuel efficiency improvements as is shown China , the EU and the US by the year 2020.

**Figure 14 : GRAMS CO2 GRAMS PER KM. Normalized to new European driving cycle**

