The trip to work

Census data reveals unsustainable trends

by ALAN PARKER

THE Australian Bureau of Statistics' 5-yearly national census gives us the most accurate data on how Australians travel to work, an excellent indication of peak loading on our transport system, and the contribution of bicycle commuting.

This article draws on data from the 1976—91 censuses. These show more male and female adults cycling to work. The trends show also that the way the overall transport system is evolving is not ecologically sustainable. Change must occur for our governments to meet their commitments to reduce greenhouse emissions in the transport sector.

Note that the Census data applies only to those in the officially defined work force—7.1 million people in 1991, 5.5 million of whom worked outside the home on census day. Trips by students are not counted, nor are those by the growing army of part-time workers if they did not travel to work on census day.

The motorised commuter

The data tell us that, in Australia each weekday, 3.65 million single-occupant cars, plus 800,000 vehicles with more than one occupant, travel to workplaces. This burns 40 million litres of petrol and creates 5,000 tonnes of carbon dioxide, making a large contribution to Australia's greenhouse gas emissions.

The journey to work also consumes time — the bigger the city, the longer the trip takes. In 1991 it averaged over an hour for Sydney and Melbourne, up from little more than 30 minutes in 1976. This has put most workplaces beyond easy cycling distance, and created stressful main road riding conditions.

Between the '76 and '91 censuses, Australia's population increased 2.81 million. The working population rose only 1.32 million, due to unemployment, early retirement and a growing student population.

The overall picture of change to the pattern of work trips is shown in figure 1. The most significant change since 1976 has been the 841,000 increase in car commuters, 86% of whom were women. The growing female work force, with its strong preference for driving, is becoming the dominant element in the market for passenger transportation.

The decline in all the more energy efficient transport modes except cycling is shown in figure 1B. There is little comfort to be drawn from growth in commuter cycling, (figure 2, above).

Public transport users dropped by 187,000. Even informal sharing of cars declined with the average passenger numbers dropping from 1.21 in 1976 to 1.15 in 1991. Despite car sharing schemes in various states, the fall in passenger figures is unlikely to be reversed without a financial or tax incentive.

Optimists have suggested that, in future, people will increasingly work at home. Census data, however, show a decrease of home workers, from 421,000 to 376,000 in 1991.

Projecting the data to 2001 suggests the unrestrained demand for car travel will put a million more cars on the road in rush hour and public transport will reduce to basic services.

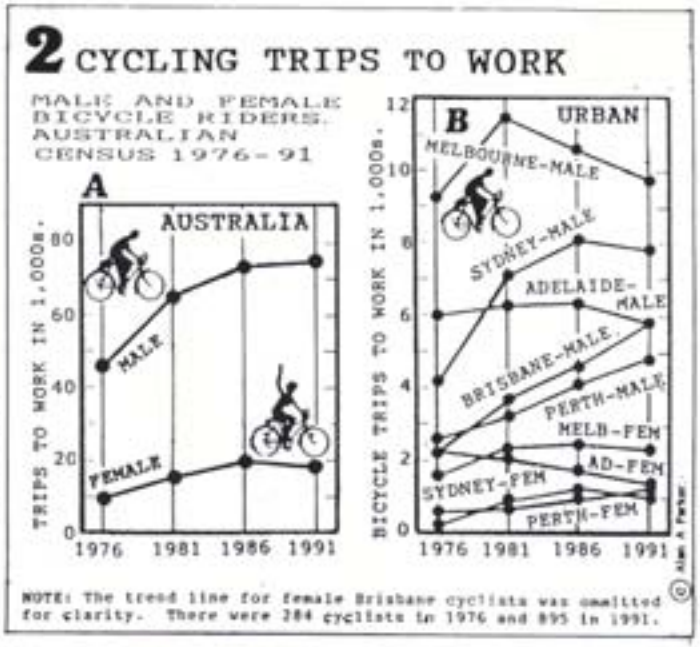
Australian governments are loath to impose any of the range of constraints on demand for private car travel that have worked well overseas. Moreover they are at pains to eliminate, through new road and car park projects, the inevitable constraints on car travel of congestion and parking limitations.

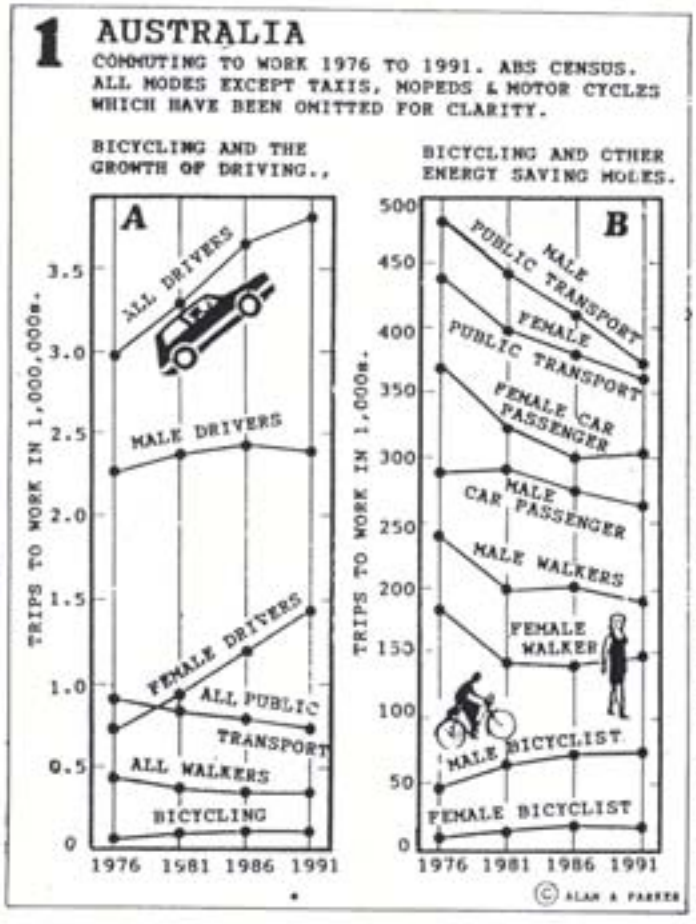
Other countries around the world have moved to make better use of their car, train, bus, tram and bicycle fleets and reduce dominance of the transport system by the single occupant car. Without major changes to Australia's transport policies, it is clear the continuation of past trends will entrench our unsustainable transport systems more deeply and severely limit the future of bicycle transport in Australia.

What world best bicycle transport practice shows is that bicycles can be integrated into more energy efficient transport systems to make significant reductions in carbon dioxide and other emissions. To determine how to make that happen here we must know why there is so little commuter cycling in large parts of our cities and, in particular, why so few women cycle to work.

Sex constraints to cycling

In 1991 1,445,000 women drove a car to work while only 17,900 cycled. Why do 80 women choose to drive for every one who cycles? There are three women in the workforce for every four men, a ratio far from reflected in the





numbers of women cycling to work.

Figure 2A shows there are nearly four male riders for every female rider. Between the capital cities it varies a lot (figure 2B) and within metropolitan areas it varies still more, with a ratio as disparate as 17 to 1 (Fitzroy and Box Hill). Sydney has a male-to-female ratio of 7 to 1, probably due to its narrow and heavily trafficked kerb lanes and hilly terrain. Perth, where the ratio is 4 to 1, is much flatter with more convenient back routes.

Hilly suburbs and longer trip distances are a significant disincentive to cycling. Another factor is that many women are unwilling to work up a sweat on the way to work. There are fewer convenient back routes in hilly areas since main roads have claimed the ridge tops.

The rise of the armoured personnel carrier

Why, in the 15 years to 1991, did 79,000 women stop using public transport and 723,000 more of them choose to drive? The answers are in women's greater participation in the workforce and their perception of what is the safest, most convenient way to get to work. Strange as it may seem to our male sexist transport planners, these perceptions are different to those of men and are now powering the trend towards increasing motorisation of our society.

Female perceptions of personal security, when walking or cycling, at stations or on public transport, are partly responsible for the decline of public transport and the growth of car commuting. A good example is Melbourne's rail system that has been put into decline by women's rejection of dirty, threatening, graffiti-covered stations. In the outer suburbs a long walk to the station on dead streets, or waiting for a bus in a badly lit, lonely place makes a lot of women insecure. It is no surprise that in Melbourne from 1976 to 1991, 148,000 more women drove to work, 6,000 fewer travelled by train and only 460 more cycled.

Given the predicted high levels of unemployment in all States well past 2001, it is likely there will be increased unemployment-generated crime, resulting in concern for personal security affecting people's transport choices. This will be disastrous for public transport, car pooling, walking and cycling and particularly bad for women cyclists who feel more vulnerable in traffic than men.

The less polluting forms of travel could compete with cars for a proportion of the trips to work, but not when the car is also used by most women (and some men) as an armoured personnel carrier. Meanwhile, in well-managed overseas transport systems a much larger proportion of women use buses, trams, trains and bicycles or walk to work; to encourage cycling we must make public transport and our urban environment more user friendly.

Growth in bicycle commuting is not fast enough

Figure 2A shows a 64% increase in bicycle commuting from 56,300 in 1976 to 92,500 in 1991 but the 64% figure is not a measure of the relative growth because of the growth in population during this period. Expressing bicycle trips as a percentage of all trips to work on chart 3 is a better measure of change. In 1976 1.11% of trips to work were by bicycle which rose to 1.76% in 1991, an increase of 50%. Unfortunately, overall growth rates when broken down by "capital city" and "rest of the State" show very different growth rates and particularly in Melbourne, Sydney and Adelaide, bicycle commuting is in a rut. As noted on figure 3, bad weather in Victoria distorted the data, dragging the national figures lower.

In provincial cities the growth rate is much higher. In Townsville and Rockhampton it is as high as 7%, a level typical of most European cities in which there are few bicycle facilities, but a lot less than northern European cities where extensive bicycle facilities are provided. (In the Netherlands, 30% of all the trips to work are by bicycle.)

Overuse of cars is unsustainable

The drift to increased motorisation is bad and the results of the 1996 Census are going to prove to the world that Australia has not met, nor is ever going to meet, its Rio commitment. The solution is to encourage the growth of all the more energy-efficient forms of transport into a viable system. The problem is there is no national/state plan to do this and neither our government nor opposition intends having one. Indeed, the Mickey Mouse greenhouse gas reduction programs of the Federal, NSW and Victorian governments will not impact on the trend towards an increasingly motorised society because they lack funded programs for changing anything. Unfortuately the National Bicycle Strategy suffers the same defects.