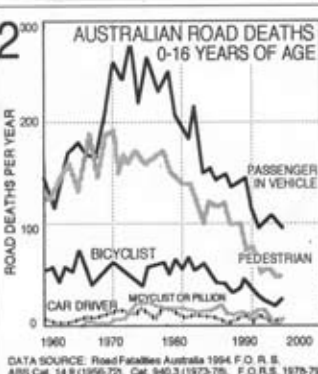
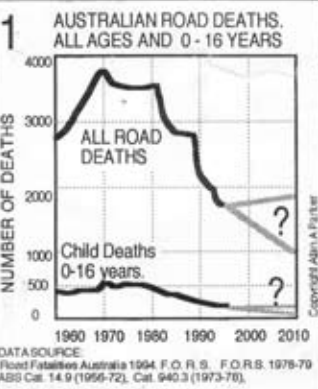


# Roads in Australia are safer...

*but for how long?*

**S**INCE the end of the war, in 1945, till 1994, 133,000 Australians died in road accidents compared to 85,100 killed in both World Wars. The road deaths include 4,600 cyclists (3.45%), at least 4,000 killed in collisions with motor vehicles. Likewise many more were injured on roads than in wars. Since 1950 around 1.8 million road accident victims have been hospitalised including around 65,000 bicyclists (3.6%).

Graph 1 shows the number of all road deaths and child road deaths since 1960. Road deaths escalated until 1970, then fell up to 1994. In 1995 the number increased slightly to 2,016 and may continue to increase for many years. Bicyclist deaths followed a similar pattern to road deaths generally from 1950 to 1992. There were 41 cyclists killed in 1992, lowest since wartime petrol rationing, now increased to a provisional 52 for 1995.



Motor vehicles, not cycling, have always been the main cause of child road deaths, mostly when parents' vehicles are involved in collisions or when vehicles run into children in the driveway or street outside the home. Graph 2 shows this for the 0-16 year age group in the 1960 to 1994. As the total number of Australian children in that age group has remained at around 4.25 million since 1972, the number of deaths on graph 2 is a good indicator of child road death trends.

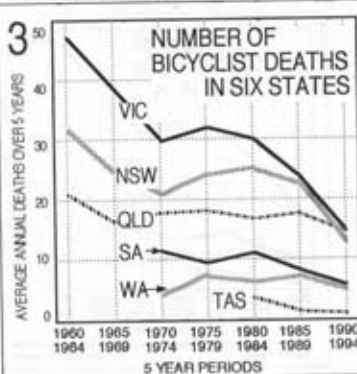
In 1994, of 185 under-16s killed on roads, only 22 (12%) were bicyclists. Child death reductions 1973-1990 come from improved driver behaviour, more effective traffic policing, speed and drink-driving controls and use of child restraints in cars - as one would expect since cars kill, not cycling or walking.

Road death rates per 100,000 population are a better measure than number of deaths as they take account of population growth. Since 1970 road death rates for all road users (graph 2) have gradually dropped in all states. The death rate for all road users is the lowest since wartime petrol rationing. (Graph 3 does not show the increase in the death rate for 1995.)

In the next few years, new measures to reduce road trauma may be negated by widespread use of bullbars. Soon to be banned in Europe, they are already illegal in the USA.

### Cautious cyclists reduce the death rate

Australia lacks the government measuring of bicycle use which occurs in bicycle-friendly countries. For trends in bicyclists killed per million kilometres cycled, only my rough estimates are available. In the absence of hard data, improvements in bicycle safety must be measured using the bicyclist death rate per 100,000 population. To obtain statis-



Cycling is statistically safer now than in 1970 but the progress achieved in reducing both adult and child cyclist road deaths since then is about to end, says **ALAN PARKER**. Almost nothing was done for cyclists from 1950 until 1980, too little has been done since and too little will be done in the future without a long-term funding commitment by the Commonwealth.

tically significant figures, it is necessary to aggregate the small numbers for the ACT, NT, WA and SA over five year periods. The death rate trends for all the states are shown on graph 4. The ACT has both the lowest road death rate in Australia and the lowest cyclist death rate (graphs 4 & 5).

The cyclist death rate dropped rapidly from 1960 to around 1975, as more and more adult cyclists took to motoring. With the "bike boom", bicycle sales increased at 8.2% per year until 1990, then during the 1989-1994 economic recession, bicycle sales dropped and the increase in bicycle sales to adults plateaued. Now sales are again out-stripping car sales; further increases in cycling in safer locations are expected.

Apart from local area traffic management measures benefiting all road users, little has been done for bicyclists. Most areas lack continuous bicycle routes and, around Sydney for example, there are almost no facilities. The lower bicyclist death rate in the ACT compared to other states suggests that bike-way networks can save lives. As yet, however, they hardly exist in most urban areas.

From the "bicycle boom" to the present, the falling death rate has been due to greater caution and sobriety from motorists and from adult cyclists, as riders and as parents of cyclists. Most adult cyclists own cars and drive rather than cycle on the most dangerous roads and ensure their children wear bicycle helmets and avoid dangerous roads. Children are chauffeured to school and other destinations if cycling is perceived to be unsafe.

### The growing cost of Australian road trauma

The total known costs of road accidents in 1994 was \$6 billion in 1992 or 2% of GNP.



Road accidents resulted in 35,000 hospitalisations a year and consumed around 10% of Australian hospital resources. Accident generated activities such as emergency and health care services, legal and court proceedings, insurance and police investigations cost \$1.1 billion per year. The cost of the accident victims' reduced functional capacity, pain and suffering is estimated at \$2.5 billion.

With better vehicle design, fewer vehicle occupants are dying in collisions but the collision rate is not slowing (which is why the costs of damaged vehicles is a massive \$1.7 billion). While saving lives, better vehicles are more costly to repair, the reason road deaths account for only a quarter of the costs of road trauma.

The road death rate is not expected to increase greatly in the next few years but the cost of road accidents will continue to rise. One reason for this growth is that many of the long-term costs remain hidden. For example, bone, nerve and joint damage in the spine, knee and hip often accelerates aging in the injured part. Costly prosthetic implant surgery required prematurely due to damage from road accidents will be a growing drain on the community as more Australians live longer. These long-term costs of road trauma in the 1980s and 1990s will show up strongly after 2000 and continue to increase. If all long-term hidden costs of road accidents were accounted for, the total road accident bill would be nearer \$7 billion this year.

The cost of road accidents is also elevated by post-operative complication rate from infection. Data are poor but Dr Peter Collignon, an infectious diseases physician and microbiologist, "guesstimates" that 1500 Australians die of hospital-acquired infections each year. Despite modern medicine, death due to infection is still a basic determinant of long-term human survival, an important reason to reduce road trauma further.

#### The bicycle's role in urban transport

If we want to encourage government to build up the bicycle infrastructure, it is important to see how cycling fits into future changes in urban transport to the year 2030. Let us imagine the bicycle's role in a safer and more ecologically sustainable urban environment.

Firstly, urban transport in the year 2030 will need to cater much more to the elderly. The average Australian will be older and more vulnerable and there will be three million more Australians over 65 years of age than in 1992 (AURDR 1994). There will be millions of physically frail people, many with poor eyesight, nervous disorders, and musculoskeletal problems - many not fit enough to drive.

A million or so Australians will have artificial joints, spinal braces and skeletal reinforcements and tissue grafts. Many more will be extremely vulnerable in a road accident. In the Netherlands, many old people not capable of driving cars in traffic are nonetheless very mobile because they can still ride a bicycle or power-assisted bicycle. Australia needs urban bikeway networks and low speed limits on minor roads to give elderly people the opportunity for greater functional mobility in safety.

Secondly, fixing up road victims with the simplicity and ease portrayed in the medical centre on the Starship Enterprise will not happen.

Those at the cutting edge of medical science know that micro-organisms are mutating to continue to feed off human hosts.

With drug-resistant bacteria a major threat to human health early next century (Garrett 1994), our fundamental vulnerability to disease will reappear. Garrett warns of the growing resistance to antibiotic drugs and vaccines and cites the resurgence of multi-drug-resistant tuberculosis in the developed world. Road trauma rips people open, exposing them to infection immediately and post-operatively and accident prevention is likely to be a major public health objective for the foreseeable future. A bicycle-alone accident is usually kind to the immune system, abrading but not puncturing the skin, our natural protector.

Thirdly, there will be comprehensive medical knowledge of the long-term effects of road injuries and the high health costs of a sedentary car-dependent lifestyle. The health benefits of cycling in reducing heart disease and chronic ailments such as osteoporosis are now partially known. The longer term health benefits from a lifestyle that substitutes bicycle trips for most short car trips will be understood, as will the use of the bicycle in reducing early incidence of back and intervertebral disk problems amongst car-dependent sedentary workers. The public health-cost burden of road trauma and motorised lifestyles will be considered unacceptable and government will encourage cycling for its simultaneous mobility and exercise.

Fourthly, scientific advances will have removed uncertainties about global warming and most nations will be attempting, after many years of neglect, to implement policies to reduce greenhouse gases from transport and fossil fuel energy production. Federal and state governments will be actively cooperating to implement "Agenda 21", adopted by the 1992 United Nations Conference on Environment and Development. Agenda 21 requires integration of land use and transport planning to reduce transport demand and development of strategies which favour high occupancy public transport and safe bicycle- and footpaths. More people will be using public transportation than today. Cycling will be encouraged mostly as a substitute for short car trips (which are the most polluting) or for access to public transportation. More than 30% of all trips will be made by bicycle or power-assisted electric bicycles. Around 50% of the workforce will work from home with most of their needs being met by electronic

services available at home or in the local area. Thousands of urban village/local centres will have emerged in the Australian capital cities making cycling, walking and public transport viable for half of all trips.

Fifthly, a greater proportion of the population will have access to motor vehicles but car use will be regulated to be more energy efficient. Priority will have to be given to shared private transport by car to save fuel and reduce emissions. Cars will have shock-absorbing front ends to minimise pedestrian and cyclist injury. Traffic law enforcement will be automated and vehicle speeds on non-arterial roads no more than 30 km/h. Most families will have a small lightweight, partially solar-powered car with a hybrid engine. Hybrid cars, motor cycles, power-assisted cycles and domestic appliances will be charged from solar-electric roof tiles fitted on the family home and other buildings.

Today some of these positive trends are becoming visible; other negative trends such as crime, drug dependence and social violence are also emerging. These are already more advanced and clearly visible in some American cities. How long will it be before economic necessity, combined with the desire for a convivial, secure and sustainable lifestyle, compel us to take remedial action? When this happens, it is certain the infrastructure for safe bicycle use will be provided. The problem is that bikeway networks, like other infrastructure, take decades to put in place and need to be started now.

#### Now is the time to contact your federal MP

Many Australians who have cycled in the Netherlands and Scandinavia know what a safe cycling environment feels like. They can see how inadequate is the provision of bicycle facilities in Australia. Bicycle advocates know that the National Road Safety Strategy (ORS, 1992) fails to recommend many measures necessary to reduce the death rate for bicyclists. Experienced cyclists know they are being discriminated against by a lack of bikeways on or parallel to all main roads. They know cyclists and pedestrians are being discriminated against by excessive speeds on residential and shopping streets.

Using the existing and anticipated reduction in the death rate for Netherlands cyclists as a guide, we know cycling has the potential to be much safer. If the Commonwealth followed world best practice, all other road users would be safer as well. Maintaining the 1970-92 trend of reduction in the road death rate over the next 20 years is not an impossible objective.

After the next election, we need an initial Commonwealth commitment to invest \$100 million in bicycle facilities over the next two financial years and a commitment to produce a National Bicycle Infrastructure plan for the next 10 years or however long it takes.

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