



LEFT: Amsterdam street scene. Could it be the future for Australian cities?
PHOTO: Greg Barber, Bicycle Victoria

A BILLION BUCK\$ FOR BIKES

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It sounds like big bickies but it amounts to only about \$15 million from the Feds per year for each Australian state and territory over 10 years. The enormous social and environmental benefits would be worth many times more than the investment. And, it's been done before...

CARBON dioxide emissions from Australian vehicles are escalating out of control. If Australia is to honour climate change treaty obligations, we can learn much from the Netherlands. Its National Environment Plan aims to reduce pollution and greenhouse emissions from all sources and is supported by detailed plans for each sector of the economy. The traffic and transport plan includes a Master Bicycle Plan with specific targets.

The Netherlands does not want technical improvements in vehicle design, fuel efficiency and cleaner combustion to be wasted and swallowed up by a large increase in car use. Nor do the Dutch want single occupant cars adding to congestion costs for commercial vehicles, truck and bus fleets and decreasing efficiency of road assets.

Dutch sustainable urban transport systems, featuring high bicycle use, are a model to the world. In Groningen, a city of 240,000 inhabitants, 50% of all trips to work are by bicycle. In 1991, Netherlands cyclists rode 12.8 billion km, more than eight times as far as Australians.

Between 1975 and 1985 the Netherlands national government spent \$1.2 billion (1990 prices) to upgrade bicycle infrastructure. Government encourages most of the able-bodied to cycle instead of drive wherever convenient. They understand pedal power makes a significant contribution to ecologically sustainable development. This is why the National Environment Plan includes a Bicycle Master Plan, and why these plans are being implemented.

Netherlands' planning for pedal power

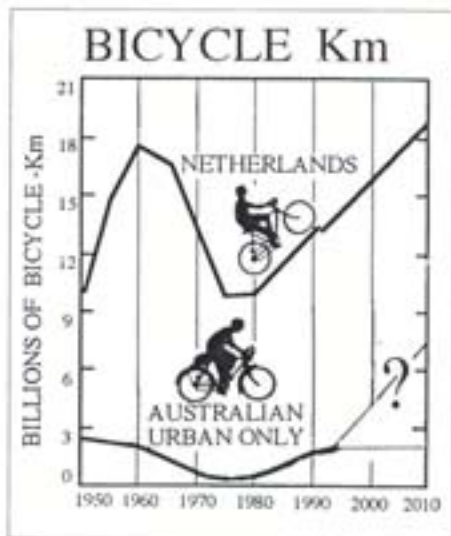
shows that the future of bicycle transportation in Australia depends on a conscious decision by government. It also reveals a sound economic case for the Australian federal government to spend \$1 billion on bicycle infrastructure in urban areas between 1995 and 2005.

One must compare like with like — and the Netherlands is obviously not like our continent of mostly sparsely populated bush and desert. However, urban Australia, where 83% of Australians live, is like the whole of the Netherlands in size (34,700 vs 37,000 sq km) and population (both headed for 16 million in 1998). OECD statistics place the two countries 13th and 14th in GDP per capita (Netherlands: \$22,690, Australia: \$22,460) and social data are very similar — though life expectancy at birth is a few years longer in the Netherlands, as you would expect where so many people ride bikes!

Though flatter, the Netherlands has more windy days with a 4 metres-per-second headwind, the equivalent of cycling up a 3% incline. This being so, geographic constraints on riding a lightweight geared bicycle are about the same. The Netherlands has much cooler summers than Australia but winter brings 3-degree maximum temperatures, snow and slippery black ice. So which climate is more bicycle-friendly?

Suburbanisation is a problem in both countries, but far worse in Australia. Compared to Australia's single-storey sprawl, in the Netherlands mostly 2-storey houses cluster close together with open space around cities and villages. However, overall population density is similar. Both areas have low density outer suburbs and high levels of long-distance commuting. The growth of vehicle km travelled is high in the Netherlands, partly because there is nearly twice the length of motorways of urban Australia.

The history of the Netherlands shows a country which values its land resource, jealously guarded from the sea for a millennium, and which is proud of its historic buildings and precincts, quickly restored after WWII. However, the post-war period also saw the



beginning of a passionate affair with the motor car. Construction of car infrastructure flourished at the direct expense of bikeways, some of which were ripped up to make way for traffic lanes.

The oil crisis in 1973 shut down some Netherlands industries and forced an about-face by government. A national energy security policy was drawn up and a bicycle friendly national transport policy introduced. Between 1975 and 1985 many hundreds of km of bicycle paths were built and hundreds of km of existing bicycle paths were rebuilt or repaired, at a total cost to all levels of government of some \$A1.2 billion (around \$A240 million per year in today's prices).

The National government contributed a third of the total cost for 10 years to enable the bicycle infrastructure to expand and catch up with new road provision. After 1985 provincial and local governments were responsible for building bikeways. By 1990 there were 15,300 km of bicycle paths, including 11,400 km mostly alongside main roads, and 1200 km of cycle "strips" — narrow paths providing short cuts.

Another innovation was traffic calming. In 1976 new legislation to protect residential precincts from car traffic was introduced and there now exist 1000 or so "Woonerfs", where it is illegal and often physically impossible to drive at more than 30 km/h.

From the 1960s, the threat of "Los Angelesisation" of the west Netherlands was resisted at national and provincial level. Without planning controls, the Randstad — a green horseshoe of breathing space for the cities of Amsterdam, The Hague, Utrecht and Rotterdam — would have been lost to sprawl. Instead, some very successful satellite towns were built with excellent access to public transport; Zoetermeer has no house further than 500 metres from a railway station. The Randstad open space was preserved with a continuous network of high quality bicycle paths throughout, having good connections to urban bicycle routes and city centres.

In 1991, recognising the country could still suffer a 70% increase in motor vehicle traffic by 2010, the Netherlands modified its long-term transport and traffic plan to dis-

courage car use, simultaneously encouraging high occupancy public transport, walking and cycling. Only basic measures will be provided for motorists; car parking will be restricted or the level of parking provision will be much lower; and road pricing will be introduced on congested inner urban roads to restrict car use in city centres.

Instead of building supermarkets in the middle of massive car parks in low density areas, new department stores with limited car parking are being provided, easily accessible by public transport, cycling and walking. Public transport is provided in new urban developments prior to the construction of housing and priority given to bicycle, pedestrian and public transport access.

Setting Goals

A sample of the targets set for the Netherlands National Environment Plan, 1990 to 2010, illustrates the comprehensive approach:

- A 35% reduction in CO₂ emissions
- No increase in p.c. passenger car km travelled
- Reduction of 25% in motor vehicle air pollution
- A 70% reduction in harmful truck emissions
- A 20% reduction of goods traffic in inner cities
- A 15% rise in train patronage by a better bike/train connection
- A 30% increase in bicycle km ridden
- Increase commuter car occupancy from 1.2 to 2.6
- 85% of a car to be recyclable when scrapped
- 50% reduction in road fatalities

There are several unquantified objectives to be pursued at the same time:

- Severe limits on short- and long-term motor vehicle parking
- Use of tax incentives to favour more fuel efficient cars in the national fleet
- Increase number of houses and jobs within 1 km of rail stations and public transport interchanges.
- The average travelling distance in cities will not increase and travelling times for cyclist, pedestrians and public transport users will improve in relation to the car.

The most important long-term bicycle planning objective is to create an infrastructure of on-road and off-road bikeways and bridges. In terms of the existing road hierarchy and structure the bikeway and pedestrian network will be made finer, more continuous and more direct than the motor vehicle network which will be made coarser, less continuous and less direct.

The transport planners also recognise that cyclists need more than bikeway networks and secure bicycle storage. In urban areas the safety of cyclists is being improved by 30 km/h speed limits on residential streets, access roads and strip shopping streets. Within this context a target for a 54% reduction in the risk of injury to a cyclist has been set for the year 2010. The Netherlands Bicycle Planning Manual also addresses the need for a secure environment free of the threat of mugging or sexual assault.

To summarise the Netherlands experience, the future role of the bicycle is to satisfy a very large niche market for urban transport for trips of between 500 metres and 5 km. For the same effort as walking, the bicycle gives access to ten times the area and makes a practical and often quicker alternative to the

short car trip. Netherlands behavioural studies of motorists found that 41% of car trips of ten minutes or less are replaceable by bicycle. Similarly, in the Australian capital cities around 40% of car trips are less than 10 minutes.

In the Netherlands the problem of decentralisation is overcome by recognising that the bicycle is a competitor with the car for short trips and can improve access to fixed track vehicles. According to the Project Manager of the Dutch Bicycle Master Plan, the objective of increasing rail use by 15%, using bicycles as a feeder to stations, will be achieved well before 2010. Indeed, 45% of those who access their station of departure already use a bicycle and 15% of those cycle from their station of destination.

The potential for very high levels of bicycle use exists in Australia. Bicycles have been a significant form of transport in recent history. Photos of railway stations in Melbourne and Brisbane at the end of the war show hundreds of parked bicycles and a survey in 1951 showed around 9% of all trips to work were by bicycle. With the light-weight multi-gear bicycle of today it should be simple for Australians to ride another five or six billion bicycle kilometres a year. And no government in its right mind would waste the national resource of 3.5 million bicycles already in Australian households.

The Victorian Bicycle Strategy, the Sydney Bikeplan and other bikeplans will not realise the bicycle's potential because of lack of funding, lack of human planning resources and an inadequate planning strategy for metropolitan areas. Australia's best arterial bikeway networks are in Perth and Canberra. However, there is no serious intention to create arterial bikeway networks in the capital cities that are direct and continuous and make most short trips quicker by bicycle than by car. The Austroads bicycle planning guidelines fail to recognise the need to have a network of bikeways that is of much finer mesh than the arterial road network to generate high levels of bicycle use.

In Australia, long-term plans and objectives for bicycle transport need to be established and a bikeway infrastructure built by the year 2005. By the year 2010 this should result in around 7 billion bicycle km ridden each year and around 15% more patronage on all urban rail systems. A short to medium term investment of between one and two billion dollars on bicycle facilities over the decade 1995 to 2005 would in the long term repay itself many times over. However, this measure must be part of a package of transport and traffic measures to stabilise the passenger km travelled by car and set urban passenger transport on the path to ecologically sustainable development.

Welleman, Project Manager of the Dutch Bicycle Masterplan says, "He who wants to make bicycle policy should be able to see as a whole the entire field of traffic and transport... The authorities might seem powerless to manage transport but in fact they have many means for gradually developing a sustainable transport system."

