

Garnaut Review Submission - Transport, Planning and the Built Environment

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Increased cycling reduces greenhouse emissions and improves health and safety

Currently, we depend on oil for transport. The dramatic price increase over the past two years imply that (as predicted by the Peak Oil theory) demand is starting to outstrip supply, a situation likely to result in even more prices rises.

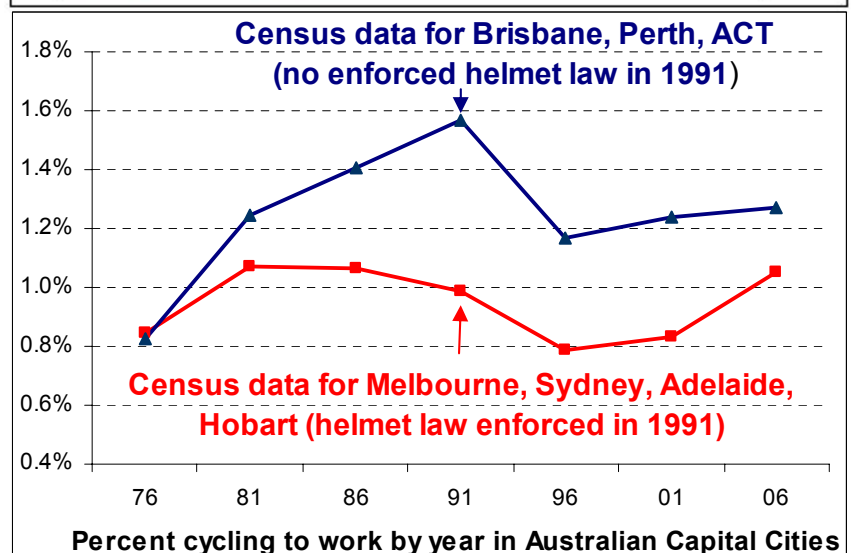
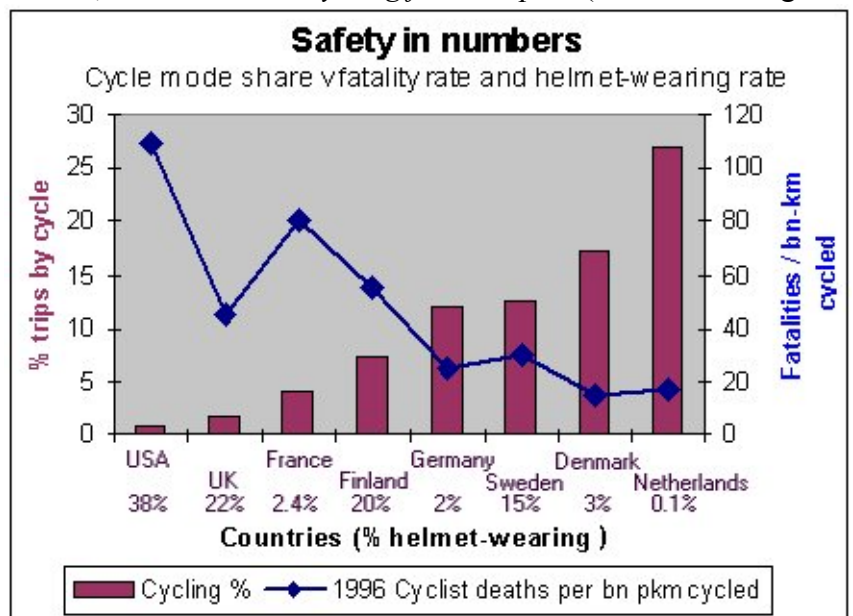
In other countries, increasing oil prices have generated a significant reduction in greenhouse emissions due to the resurgence in the popularity of bicycling and the introduction free City Bike Schemes. Paris's Velib scheme reportedly drove the city "cycling mad",^[1] led to significant improvements in the quality of life^[2] and undoubtedly increased safety for cyclists from increased "Safety in Numbers".^[3]

In countries such as Denmark and Holland where cycling is popular, fatality rates per km cycled are only a fraction of those in countries such as Australia. This is because the majority of seriously debilitating injuries to cyclists result from bike/motor vehicle collisions.^[4] When there are more cyclists, motorists expect to see them on the roads and the risk of collisions is reduced substantially (see graph).

Cycling for transport improves health. In a recent study in Denmark, about a quarter of subjects cycled to work – they had mortality rates about 30% lower than those who did not.^[5] Heart disease and strokes are two of the three most common causes of death in western countries. Any risks from traffic accidents pale into insignificance compared to the reduced risks of cardiovascular and other lifestyle diseases such as diabetes and obesity. In other words, the risks of *not cycling for transport* (and so reducing the opportunity for healthy exercise) far outweigh the risks of doing so.

Because of the above, one of the best "no regrets" policies to reduce transport-related greenhouse emissions is to promote cycling for transport. More than half (55%) of trips in NSW are less than 5 km and 33% are less than 3 km, distances that can be conveniently undertaken by bike. If (as in Holland and Germany) bikes are also used to access public transport, there will be further reductions in greenhouse gas emissions because the area served by public transport is expanded from people living within 1 km of the network to people living up to 3 km away.

Unfortunately, Australia's laws requiring cyclists to wear helmets are a major barrier to this "no regrets" policy. Numbers of cyclists fell by about 30% when helmets became compulsory and (because of reduced Safety in Numbers) the risk of serious injury per km cycled increased. The graph shows the discrepancy in percent cycling to work depending on whether there was an enforced helmet law in 1991.^[6] In Brisbane, Perth and the ACT cycling to work was increasing rapidly, with a large and obvious decline in 1996, the first census with enforced helmet laws.



Other factors can affect data for the capital cities, such as weather on census day and traffic situations in the individual cities, so state-wide estimate of cycling to work are more informative. Data from Alan Parker's analysis of census data (which includes multi-modal journeys) suggests there was an overall increase in at cycling to work in Victoria, NSW, SA and Tas (compared to the levelling off shown in the graph for capital cities), suggesting more strongly that helmet laws were implicated in a decline in commuter cycling as well as the declines in overall cycling. Evidence for the latter includes observational surveys and graphs of the number of head and non-head injuries – see e.g.

<http://www.bmj.com/cgi/content/full/332/7543/722-a/DC1#fc> If the law had worked as intended, there would have been a sharp decline in the number of head injuries but similar or increased non-head injuries (if people falling of bikes were saved from head injuries, they would still get other injuries and need hospital treatment, but now as non-head instead of head-injury cases). The reality was different – there were almost identical falls in head and non-head injuries suggesting that the main effect of the law was to discourage cycling.

This is backed-up by other analyses showing that there was no obvious reduction in percent head injuries and increased injury rates relative to the amount of cycling.^[7] Per km cycled, a non-helmeted cyclist in Holland or Denmark (where about 20% of trips are by bike - see graph on previous page) is far safer than a helmeted cyclist in Australia.

Programs to encourage Australians back onto bikes have had only modest success. Proposals for a City Bike Scheme in Melbourne foundered because of helmet laws.^[8] To improve safety and reduce healthcare costs, especially the substantial costs treating obesity, diabetes, heart disease and strokes, Australia will need to repeal helmet laws and start to create the sort of culture where cycling is considered a normal activity. In Denmark, Holland and Germany everyone cycles – old and young, male and female, fat and thin but only a tiny minority wear helmets.

Although many Australian households have a bicycle, few are suited to cycling for transport. Bikes bought in Australia are rarely equipped with the mudguards, racks for panniers and lights needed to make them suitable for cycling to work, school or trips to the shops. Although these essentials can usually be bought as “accessories” they often cost more than the purchase price of the bike. Nonetheless the fact that e.g. 39% of households in NSW have a bicycle (even if it is not used for transport) demonstrates a substantial latent public desire to cycle.

The increase in oil prices associated with Peak Oil will create a valuable opportunity to turn this latent demand into action, and improve our health, reduce pollution and combat greenhouse gas emissions. Changing laws is always difficult – governments will have to admit that factors such as “Safety in Numbers” are much more important for cyclists' overall safety than wearing helmets. But if this can be achieved, we can start to create a culture of cycling for transport. Research will be needed to determine the most effective ways of encouraging people who don't currently cycle to use bicycles for transport. As well as repealing helmet laws, we suggest improving unfriendly road layouts with features such as advance stop signs (which improve visibility of cyclists), contra-flow cycle lanes on 1-way streets and setting up free City Bike Schemes.

The greatest reduction in greenhouse gas emissions will occur if, under the emissions trading scheme, permits to emit a fixed quantity of CO₂-eq are auctioned off at regular intervals to the highest bidders. The revenue raised can be used to fund greenhouse-reduction strategies such encouraging cycling and investing in the development of emissions-reduction technology such as solar heating. These are examples where it is difficult to quantify the emissions-reduction beforehand, so they are probably more suited to direct funding from the auction of permits than trading schemes.

Taxation reforms will also be needed. The import tax on 4-wheel drives should be the same as other vehicles, the fringe benefit taxes for home use of company cars should be independent of the number of km travelled by the vehicle and the diesel fuel-tax rebate should be abolished. Other possible taxation reforms include a reduction in registration charges for fuel-efficient vehicles and those that drive only a small number of km per year. Freeing up the regulations on compulsory third party insurance may also encourage companies to offer lower premiums to people who drive less and so present a lower risk.

More information on Safety in Numbers

<http://www.cyclehelmets.org/mf.html?1186>

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