

Queensland Cycling Strategy Submission

CycleSafe, Armidale, April 2016

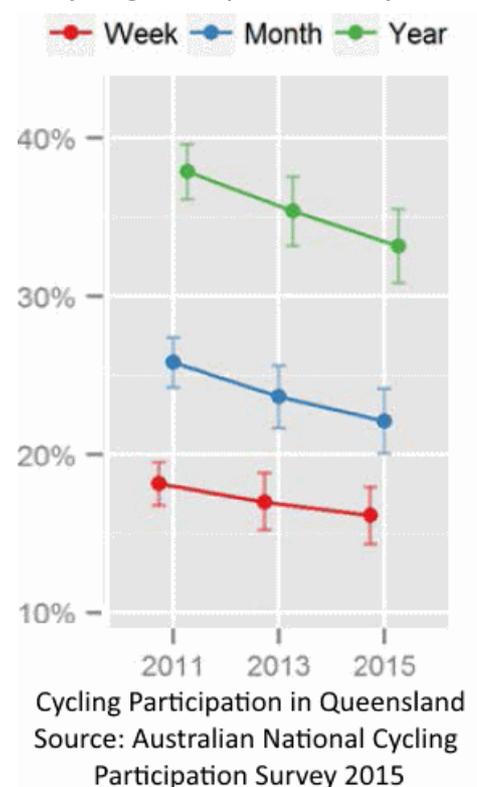
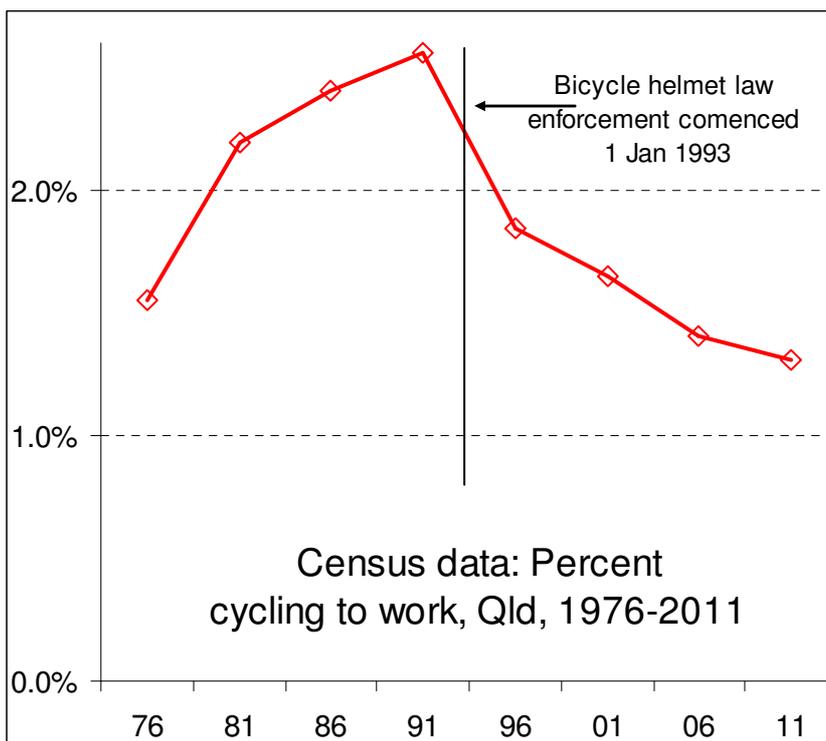
Summary

- The continued reductions in cycling since 2011 demonstrate that Qld's 2011-2021 strategy has failed.
- Cycling to work increased in popularity until the helmet law was enforced, after which there was a large decrease in cycling to work, then a more gradual but continuing decline.
- Helmets make cycling in hot weather (especially slow cycling by people of average fitness) unpleasant and potentially unsafe – perspiration that would otherwise evaporate can drip into the cyclist's eyes.
- Reduced cycling reduces safety in numbers and therefore increases concerns about safety.
- The three most important barriers identified by the Qld cycling strategy were “too far”, “not comfortable” and “feel unsafe”. Little can be done about distances, but repealing the helmet law would address the second and third most important barriers to cycling by removing a major source of discomfort in hot weather and making cyclists feel safer because of increased safety in numbers.
- Cycling in Tel Aviv *increased by 54%* after Israel's adult helmet law was repealed in urban areas.
- In November 2013, the Qld Parliamentary Committee into Cycling Issues recommended allowing cyclists over 16 to cycle without a helmet when riding bikes hired from public or commercial schemes, and to introduce a 24 month trial exempting cyclists aged 16 years and over from helmet requirements when riding in parks, on footpaths and shared/cycle paths and roads with a speed limit of 60 km/hr.
- LNP Minister Scott Emerson responded by saying: *“it is not in the public interest to introduce a trial that may increase any risk of head injuries to cyclists.”* His response ignores the fact that reduced cycling because of helmet laws reduces safety in numbers, and ignores the concerns of the Parliamentary Committee's that *“helmet laws may have had an unintended, adverse impact on cycling participation rates in Queensland and therefore the overall health of the state.”* Good decision-making requires accurate information. Evidence suggests that the reductions in cycling will cause a dozen heart or more heart attacks and strokes for every head injury prevented by helmet laws, i.e. the community would be much better off without them.
- A strategy that ignores helmet laws as a major barrier to cycling is doomed to fail. Queensland's revised Cycling Strategy should therefore follow the example set by Israel and Mexico City by repealing helmet laws because of their detrimental effect on cycling participation, on use of public bike hire schemes, and on public health from reduced safety in numbers and discouraging a healthy environmentally-friendly means of transport.

A) Reductions in cycling since 2011 show Qld's current strategy is a total failure

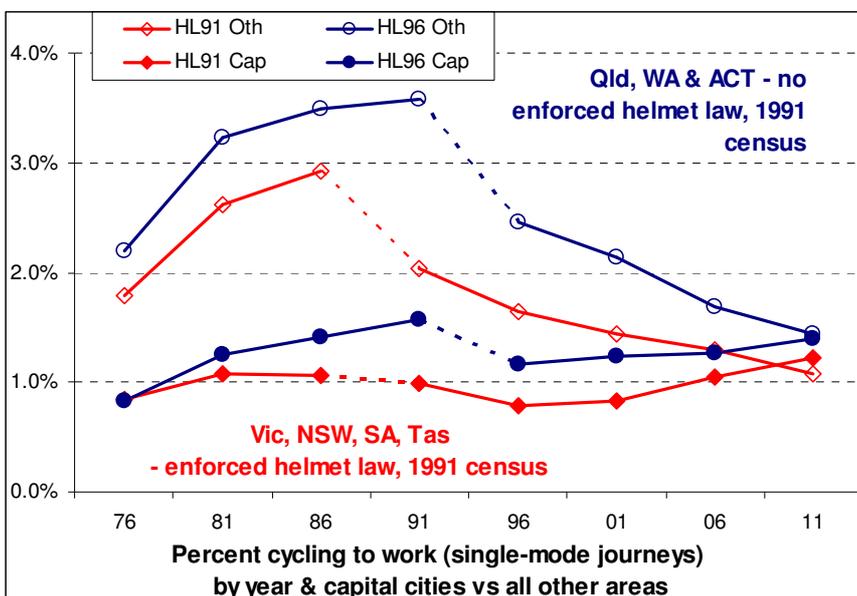
The Qld Cycling Strategy 2011-2021 states that: *“Getting people cycling more often for more types of trips will make our cities and towns more sustainable, vibrant and friendly.”*

The graphs below, based on census data and the Australian National Cycling Participation Survey show that fewer and fewer people are cycling in Queensland. The



proportions cycling weekly, monthly and in the past year have all declined. Census data show that cycling to work increased in popularity until the enforcement of Queensland's helmet law, after which the trend reversed with ever decreasing percentages cycling to work. A new approach is therefore needed to replace the 2011-2021 Strategy that has totally failed in its aim to get Queenslanders cycling.

B) Comparing census data of states with and without enforced helmet law in 1991 strongly suggests that helmet laws were the main cause of the reductions in cycling.



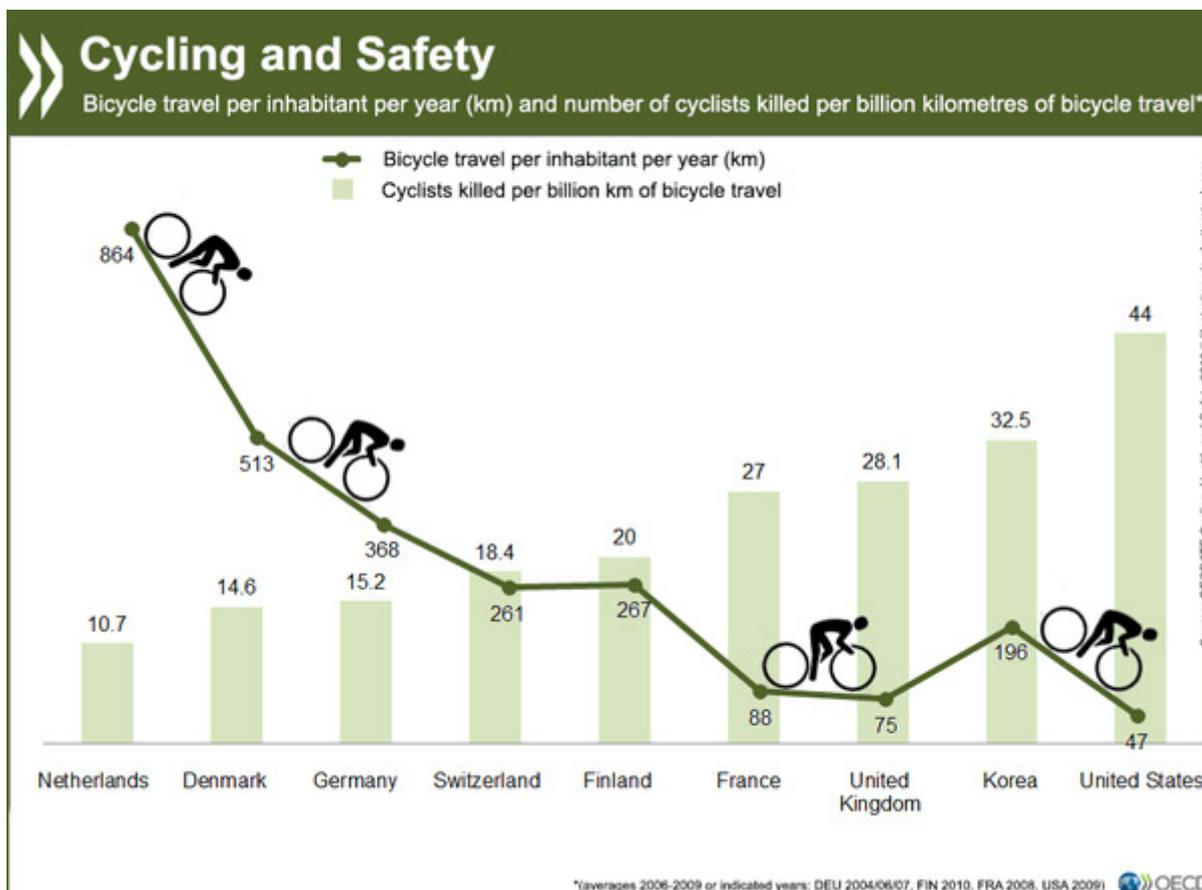
Until helmet laws were introduced, cycling to work was increasing, especially in regional areas, where there is generally less traffic and shorter travel distances. Helmet laws reversed the trend. In 1991, every state with an enforced helmet law had a reduction in cycling to work, but the increasing trend continued in states without enforced laws, only to be reversed by 1996, when all states had enforced laws and only 1.66% cycled to work in Qld, WA and the ACT, substantially less than the 2.28% in 1991.

In capital cities, other factors such as busy roads and longer commutes affect the amount of cycling, but the

divergence between states with and without enforced helmet laws is still clear. This is despite the fact that in areas where cycling is perceived to be more dangerous, cyclists are more likely to wear helmets, so a much larger proportion will not be directly affected by the laws.

C) Reduced cycling reduces safety in numbers

The graph below shows a clear and consistent relationship between the amount of cycling per capita and the risk of cycling fatalities per billion km of cycle travel. It was produced by the Israel Bicycle Association as



part of their successful campaign to show that helmet laws can make cycling more dangerous and damage public health by discouraging cycling.

*(averages 2006-2009 or indicated years; DEU 2004/06/07, FIN 2010, FRA 2008, USA 2009) OECD

D) Australians say helmet laws discourage them from cycling

An evaluation of Australia's bicycle helmet laws was published in the British Medical Journal.¹ It cites evidence (from several telephone surveys and questionnaires) that many people said helmet laws discouraged them from cycling¹ including a telephone survey in Western Australia asking adults if they would cycle more if not legally required to wear a helmet. A figure equivalent to 64% of adult cyclists said they would.

As well as making cycling less enjoyable, the requirement to wear a helmet makes many people think that cycling is an exceptionally dangerous form of transport. Some might even come to believe that the risks are unacceptable, except on segregated cycleways. In 1991, just before WA's helmet law, an estimated 5.7% of trips in Perth were by bike.² The Metropolitan Transport Strategy aimed to increase cycling to 8% of trips by 2010 and 11.5% by 2029.³ Instead, cycling plummeted to 1.6% of trips (2003-2006).⁴ The much higher pre-law levels of cycling (accounting for 5.7% of trips in Perth in 1991 and 3.6% of trips to work in regional areas), despite less cycling infrastructure, suggests that people who dislike helmets (but have been led to believe that cycling without one is unsafe, so it would be illogical to argue against helmet laws) might list safety or lack of infrastructure as the main reason for not cycling.

In 2011, Prof. Chris Rissel studied the extent to which helmet laws continue to discourage cycling and concluded that making helmets optional could double the amount of cycling - <http://theconversation.edu.au/make-helmets-optional-to-double-the-number-of-cyclists-in-australia-4578>.

Prof Rissel concluded *"Not all cycling is equally dangerous – mountain biking and racing are far riskier than recreational riding on a separated off-road bike path. Mandating helmets for all riders at all times, therefore, is a very blunt tool to attempt to increase bicycle safety If we're serious about improving Australians' health and getting more people active, it's time to bring Australia and New Zealand in line with the rest of the world and acknowledge that the helmet experiment has failed."*

E) Discouraging cycling increases overall health costs

In 2013, an Australian Government Discussion paper: 'Walking, Riding and Access to Public Transport' reviewed the benefits of cycling and concluded: *"the net health benefit (adjusted for injury) for each kilometre cycled is 75 cents – about half of the total economic benefits of a typical bikeway project"*.

An overseas study found that *people who don't cycle to work are 39% more likely to die prematurely* than those who do.⁵ The British Medical Association's publication 'Cycling for Health and Safety' cites evidence that the life years gained from regular cycling are much greater than those lost from cycling accidents.⁶

A recent review lists more than a dozen studies of the health benefits of cycling (in countries without helmet laws), saying *"The combined evidence presented in these studies indicates that the health benefits of bicycling far exceed the health risks from traffic injuries, contradicting the widespread misperception that bicycling is a dangerous activity. Moreover, as bicycling levels increase, injury rates fall, making bicycling safer and providing even larger net health benefits."*⁷

Cycling for transport provides regular exercise to maintain health and reduces the risk of "lifestyle" diseases such as heart attacks and strokes. [One in six people in Australia will be affected by stroke. It is the nation's leading cause of disability.](#) Because they discourage cycling, helmet therefore increases overall health costs.

F) Helmet laws will have an even greater effect on future cycling by reducing the popularity and viability of city bike schemes

The City of Sydney wanted to introduce a bicycle hire scheme if it could be granted an exemption from compulsory helmet laws. The poor performance of Melbourne's scheme, in which only 20,600 bikes were hired in the first four months, convinced the council to hold off. Successful schemes tend to be in cities without compulsory helmet laws. One million bikes were hired in the first two weeks of London scheme's, and 1 million were hired in the first four months in Montreal - <http://www.smh.com.au/nsw/bike-hire-plans-hinge-on-helmets-20120304-1ub4f.html>

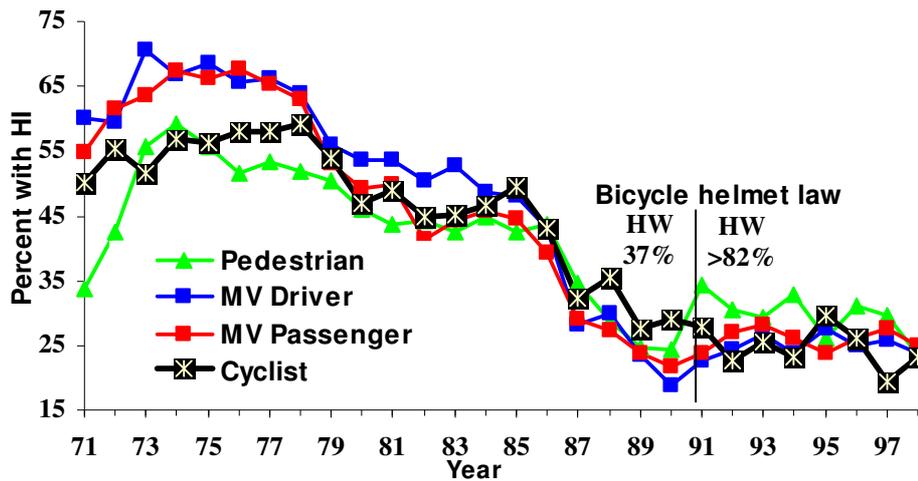
Australia's bicycle helmet laws became newsworthy because of evidence that Melbourne's bike hire has been crippled by the helmet law - see the Herald Sun article at <http://www.heraldsun.com.au/opinion/let-our-cyclists-bare-all-if-thats-what-they-want/story-e6frfhqf-1225911314577> Melburnians were taking 140 rides a day on the 600 bikes at a cost to taxpayers of \$5.5 million over four years <http://m.theage.com.au/victoria/a-new-helmet-to-bring-riders-into-the-fold-20100828-13wxk.html>

Compare this with Dublin's 450 bikes - used nearly 4,000 times per day - <http://www.irishtimes.com/newspaper/ireland/2010/0809/1224276416971.html>

G) Cycling increased by 54% after repeal of Israel's helmet law

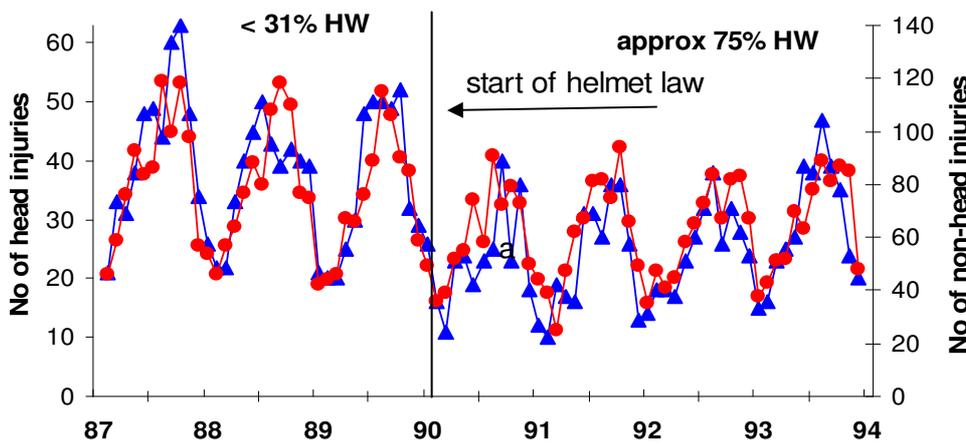
Israel repealed its bicycle helmet law for adults cycling in urban areas. A survey in Tel Aviv found that cycling participation increased by 54% from 2010 to 2012, after repeal of the helmet law.^{8,9}

H) No obvious decline in percentages of cyclists with head injury when helmet laws were introduced - hospital statistics show percentages of cyclists with head injury followed the same trends as other road users



The graph above of road users admitted to hospitals in Western Australia clearly shows that head injury percentages follow a similar trend for all road users, with little or no obvious benefit of a law that increased helmet wearing from 37% to about 82% of all cyclists.

I) Obvious decline in numbers of non-head injuries as well as head injuries, suggesting that the main effect of the law was to reduce cycling, not prevent head injuries



Hospital admissions for head and non-head injury in Victoria provide considerable insight into the effects of helmet laws. If, rather than discouraging cycling, the laws had been effective in preventing head injuries, there would have been an obvious fall in head, but not other, injuries. The graph above shows that this was not the case. There was a clear fall in non-head injuries as well as

head injuries, suggesting that the main effect of the law was to discourage cycling.

Monash University's Monash Obesity & Diabetes Institute (MODI) reports that Australia is today ranked as one of the fattest nations in the developed world. The prevalence of obesity in Australia has more than doubled in the past 20 years. According to MODI, obesity has become the single biggest threat to public health in Australia and has overtaken smoking as the leading cause of premature death and illness.

The significant and continued reductions in cycling because of helmet laws add to the burden of ill-health caused by obesity and lack of exercise.

J) Increased risk of injury per cyclist since helmet laws were introduced

Several analyses have compared numbers of injuries with the numbers of cyclists. They all suggest that injuries per cyclist have increased from what would have been expected without helmet laws.

In New Zealand, from 1989 to 2011, average time spent cycling (on roads and footpaths) fell by 79% for children aged 5-12 (from 28 to 6 minutes per person per week) and 81% for 13-17 year olds (52 to 10 mins/person/week). Adult cycling declined from 8 to 5 minutes/person/week then trended back up to 8 minutes. Graphs of cycle use over time provide strong evidence that the requirement to wear a helmet discouraged cycling.¹⁰

The reductions in cycling were accompanied by increased injury rates. Between 1989 and 2012, fatal or serious injuries per million hours of cycling increased by 86% for children (from 49 to 91), 181% for teenagers (from 18 to 51) and 64% for adults (from 23 to 38).¹⁰

Reduced Safety in Numbers. The reduction in cycling for transport since helmet laws is of great concern because reduced cycling has been shown to reduce safety in numbers and increase the risk of injury per cyclist. As shown above, countries with the lowest injury rates per cycling km have more cyclists and very low helmet wearing

rates.

Discouraging the safest cyclists. A Norwegian study asked cyclists about their attitudes to risk and concluded that helmet laws disproportionately discourage the safest cyclists.¹¹ A good example is the disproportionate drop in cycling to work in regional areas, evident in Australian census data. Regional cities such as Armidale, NSW, have wide streets, less traffic, and shorter travel distances than major capital cities. Armidale and other regional cities seemed like very safe places to cycle until helmet laws were introduced. The large reductions in cycling to work in regional areas illustrate how well-meaning policies can backfire. Cycling was discouraged because helmet laws made cycling less convenient and less enjoyable, and made people think that it was extremely dangerous.

The photos below, compiled by the [Upright Bicycle Riders Society of Australia](http://www.uprightcyclists.com.au/) aptly illustrate evidence that riskier types of cycling (where it's normal to wear a helmet) were much less discouraged than safe, normal, everyday cycling for transport. This may be one reason why injury rates per cyclist are much higher than would have been expected without helmet laws.

Mandatory Helmet Laws (MHL)
Effects on bike riding in Australia.

MHL introduced 1990-1994

20 years before MHL		20 years after MHL
	Road Cycling	
<small>Pic source: smh.com.au</small>		<small>Pic source: smh.com.au</small>
It's not the bikes you see...		
	Everyday Bike Riding	
20 years before MHL		20 years after MHL
It's the bikes you <u>don't see</u> that tell the full story.		
<small>#endMHL</small>		

Risk compensation. Helmet wearing can increase accidents by changing the attitude of drivers. In certain urban environments, drivers gave less room when overtaking helmeted cyclists.¹² The research was conducted by Dr Ian Walker, who was hit twice when conducting this research - by a truck and a bus - both times when he was wearing a helmet http://www.eurekalert.org/pub_releases/2006-09/uob-wah091106.php Dr Walker and several other researchers also found that drivers give more room to female cyclists. The difference in drivers' attitudes seemed particularly apparent in the months after the helmet law was introduced. I personally found that the combination of reduced safety in numbers and the riskier attitude of drivers towards a helmeted female cyclist made

the roads seem so much more dangerous that I seriously considered giving up cycling. Many people say they don't cycle because of the dangers. Repealing helmet laws could increase safety in numbers and encourage less risky driver behaviour, creating much greater improvements in cyclist safety than large amounts infrastructure spending.

Incomplete and misleading evaluations. Very few evaluations of helmet laws have considered the full effect of helmet laws in discouraging a healthy activity and reducing safety in numbers.

A newspaper report in 1996 described the experience of a pregnant mother spending a night in a lock-up for refusing to pay helmet-law fines. Mr Max Cameron, a senior researcher at Monash University Accident Research Centre, was quoted, saying “his studies of bicycle-related hospital admissions showed conclusive evidence that helmets worked. For four consecutive years after helmets became compulsory we had a 40 percent drop in head injuries over what we had before.” Such comments could mislead the public into thinking that the entire 40% reduction was due to increased helmet wearing, even though a cursory examination of the data (graph, E above) reveals large and obvious reductions in non-head injuries, implying that much of the reduction was because the law discouraged cycling.

No benefit from helmet laws in Canada. An editorial in the BMJ in 2013 discussed research showing that the effect of Canadian helmet legislation on hospital admission for cycling head injuries “seems to have been minimal.”¹³ The editorial noted that the new study “has somewhat superior methodology” and discussed potential flaws in case-control studies where “analyses are conditional on having an accident and therefore assume that wearing a helmet does not change the overall accident risk.” Also noted were the health benefits of cycling and potential losses from reduced cycling, reduced safety in numbers and risk compensation.

Conclusion

Queensland's revised Cycling Strategy should consider following the example set by Israel and Mexico City of repealing helmet laws because of their detrimental effect on cycling participation and public bike hire schemes, as well as the damage to public health because of reduced safety in numbers and discouraging a healthy environmentally-friendly means of transport.

Appendix 1 – further details, evidence and information

1. Robinson, D.L., *No clear evidence from countries that have enforced the wearing of helmets*. BMJ, 2006. **332**: p. 722-725.
2. WADOT, *Perth metropolitan transport strategy, 1995-2029*. Western Australia Department of Transport. Available at: www.transport.wa.gov.au/mediaFiles/active-transport/AT_TS_P_PerthMetroTransportStudy.pdf, 1995.
3. Transport WA, *Bike Ahead: Bicycle Strategy for the 21st Century*. Available at: http://www.transport.wa.gov.au/mediaFiles/active-transport/AT_CYC_P_bike_ahead.pdf, in Perth, WA1996.
4. Ker, I., *Empty Cells, Damned Half-Truths and Pseudo-Statistics: The Lot(tery) of the Bicycle Planner*. Paper presented at the the PATREC Planning and Transport Research Centre Forum, 13 September 2011. <http://www.cycle-helmets.com/ker-perth.pdf>. 2011.
5. Andersen, L.B., et al., *All-cause mortality associated with physical activity during leisure time, work, sports, and cycling to work*. Arch Intern Med, 2000. **160**(11): p. 1621-8.
6. BMA, *Cycling: towards health and safety*1992, Oxford: Oxford University Press.
7. Pucher, J., J. Dill, and S. Handy, *Infrastructure, programs, and policies to increase bicycling: an international review*. Preventive medicine, 2010. **50**: p. S106-S125.
8. Lior, I. *Sharp Rise in Number of Cyclists in Tel Aviv*. Haaretz, Sep 24. Available at: <http://www.haaretz.com/israel-news/sharp-rise-in-number-of-cyclists-in-tel-aviv-1.466441>. 2012.
9. Fleet, N. *SA cyclists and police face head-on clash over helmet law*. 2016.
10. <http://cycle-helmets.com/>. *Trends in cycling, walking, and injury rates in New Zealand*. Available at: cycle-helmets.com/new-zealand-road-users.html. 2014.
11. Fyhri, A., T. Bjornskau, and A. Backer-Grondahl, *Bicycle helmets - A case of risk compensation?* Transportation Research Part F: Traffic Psychology and Behaviour, 2012. **15**(5): p. 612-624.
12. Walker, I., *Drivers overtaking bicyclists: Objective data on the effects of riding position, helmet use, vehicle type and apparent gender*. Accident Analysis and Prevention, 2007. **39**(2): p. 417-425.
13. Goldacre, B. and D. Spiegelhalter, *Bicycle helmets and the law*. BMJ, 2013. **346**.