

HELMET LAWS / CASE STUDY: AUSTRALIA

“Head Injuries and bicycle helmet laws in Australia and the State of Victoria”

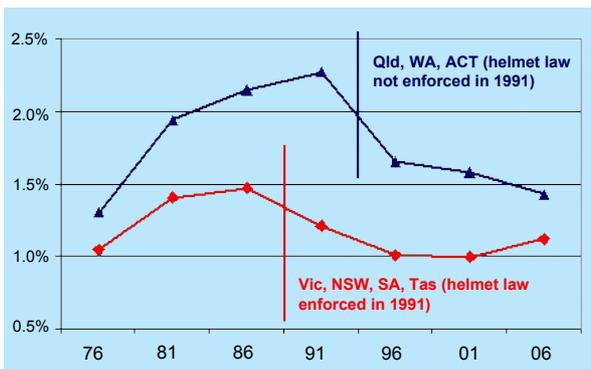


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AUSTRALIA

In all states, cycling to work increased from 1976-1986. The states with enforced laws at the time of the 1991 census (red line on the graph below) saw a reversal of the trend of increasing percentages of people cycling to work. In contrast, the percentage cycling to work in states with no enforced helmet laws (blue line on graph) continued to increase, the sharp decline occurring only in the 1996 census, when helmet laws were enforced throughout Australia¹. There has been no recovery - the trend continued downward over the next decade, followed by a slight increase in some states in the 2006 census as health authorities in some states try to counteract increasing health problems, due to inactivity and obesity, by increased promotion of cycling. But in some, like Victoria, cycling rates are still at the same levels of the 1970's.

Census data: percentage cycling to work (single-mode journeys)

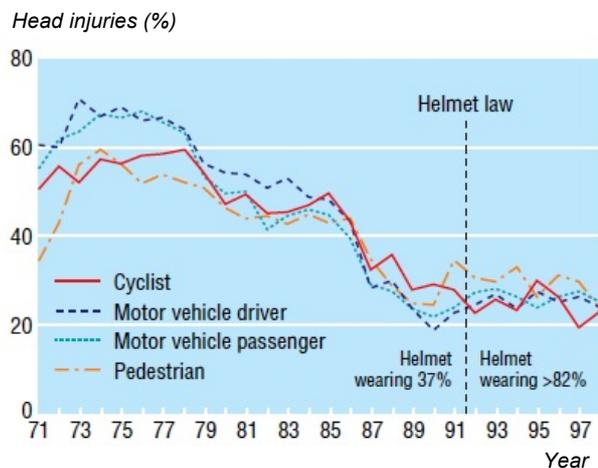


Cycling to work in Victoria (Census data)

1976	1981	1986	1991	1996	2001	2006
1.35%	1.79%	1.75%	1.36%	1.15%	1.15%	1.40%

But what happens to the safety figures, how does this affect the number of head injuries? The following graph (see "Fig 2" below) shows that head injuries were falling before the laws were enacted (at the same time numbers of cyclists were slowly increasing) and then after the law was enacted this fall stops and the figures level off. But what is interesting is that the figures for other modes of transport also level off, meaning that there were other factors at play other than bicycle helmet laws (such as a large Australian road safety campaign at the time, including pedestrian awareness, drink driving enforcement and speed reduction). So in fact we could hypothesise that, at worst the helmet law actually increased the risk of head injury, while at best it neither increased nor decreased the risk. What is very unfortunate is that evidence after 2000 is not available, however, it is known that an average 884 cyclists were hospitalised in Western Australia each year from 2004 to 2008. This average of 884 is 37.6% higher than the pre-law average of 642, though this is not specifically head injury data².

Fig 2 - Head injuries among cyclists and other road users admitted to hospital in Western Australia



CLOSER INSPECTION: THE CASE OF THE AUSTRALIAN STATE OF VICTORIA

A famous study by Thompson et al suggests that head injuries fell after helmet legislation was passed in the Australian state of Victoria³.

However the graph to the right (Graph A) shows the fall in pedestrian accidents at the same time as the helmet law for cyclists was introduced! The Thomson study fails to mention that there was a state wide road safety campaign at the same time as the helmet law; could this be the real contributor to lower head injuries.

Looking closer the second graph (Graph B) shows those admitted to hospital with and without head injuries. Both head injuries and non-head injuries follow a similar trajectory in Victoria. Including after the helmet law was introduced; **if helmets lower head injuries why do head injuries not fall more than non-head injuries⁴?**

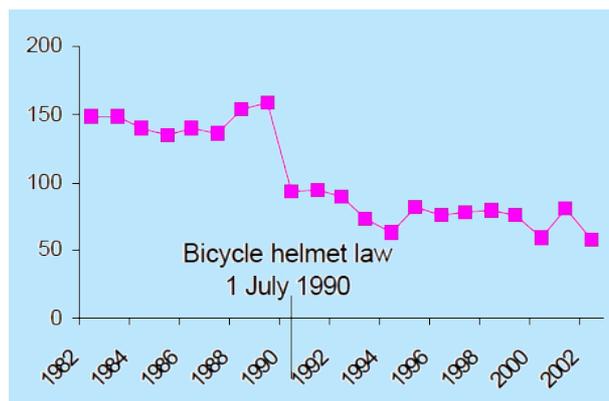
CONCLUSION

1. Injuries did fall at the same time as the helmet law was passed, though this fall was for head injuries and non-head injuries alike, implying that helmet did not have an effect on head injuries.

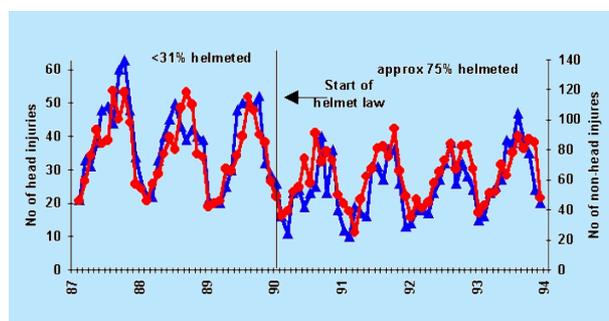
2. In Victoria helmet laws were enacted at the same time as anti-drink driving, road safety and speed enforcement campaigns

There is no conclusive proof that the Australian helmet law caused a decrease in head injuries, since all injuries fell. In fact the helmet law may have decreased the effectiveness of road safety campaigns that were also activated at the time.

GRAPH A - Pedestrian fatalities, Victoria



GRAPH B - Cyclists admitted to hospital in Victoria with/without head injuries (from Carr et al. 1995)



FOOTNOTES

¹ <http://www.cyclehelmets.org/1194.html>

² Full details can be found here <http://www.cyclehelmets.com/results.html>

³ Thompson DC, Rivara FP, Thompson RS., 2002. Helmets for preventing head and facial injuries in bicyclists (Cochrane Review). Cochrane Database Syst Rev issue 4, 2002

⁴ <http://www.cyclehelmets.org/1242.html>

PHOTO (COVER)

<http://www.flickr.com/photos/itspaulkelly/4539229198>