

Since its formation in 2003, Cycling Scotland, along with many other organisations, has followed the lead of the National Cycling Strategy Board in supporting individuals who wish to wear cycling helmets but rejecting calls for compulsion. Recent admissions by the British Helmet Initiative Trust (BHIT) that their justifications for cycle helmets becoming a legal requirement were based on opinion rather than evidence have encouraged the British Medical Association (BMA) to re-examine their pro-compulsion policy advice released last year. We acknowledge that many pro-compulsion campaigners are well meaning, but it is clear that the emotive arguments and exaggerated statistics used to gain support are not borne out by reliable data.

To assist in developing a policy on helmets, and to be able to continue advising other organisations on theirs, Cycling Scotland has commissioned a report based on reliable, available evidence gathered on both the effects of cycling helmets in the event of a crash, and the effects on cycling and accident statistics where compulsion has been introduced. The report also recognises the benefits of the continued and successful promotion of cycling's adoption into everyday life.

Cycling Scotland has written to both BHIT and the BMA asking them to moderate their positions on helmet promotion and inviting correspondence to take advantage of the health advantages of increased cycle use and to work towards promoting safety through good practice by all road users. This approach is partly based on the fact that even reliable statistics on cycling head injuries do not recognise the type of cycling activity being carried out, so in the same way that for walking it may be appropriate to advise winter mountaineers to wear a helmet on steep terrain while a family waking to school on a quiet road would not even consider it, it is difficult to establish why cyclists should be advised to wear a helmet in all circumstances.

It is important to keep in sight that the benefits of cycle helmets have never been proven on a population basis, while the effect of compulsion has been to significantly reduce cycling uptake, thus removing a healthy and accessible activity from the lifestyle of significant numbers of people. It is also worth noting that many of the organisations opposed to compulsion either exist to protect the wellbeing of cyclists or stand to gain from the sale of helmets.

We do have one clear indication of the real world impact of helmet wearing in Scotland. Since shell cycle helmets became available to the general public in the late eighties Edinburgh has attained the position of having the UK's highest proportion of journeys completed by (voluntarily) helmeted cyclists. Since the mid 1990's, from which time helmet use has become firmly established, the injury record for cyclists has been relatively poorer than that for pedestrians, reversing a previous favourable trend. If around 50% of cyclists are now wearing helmets, why should there now statistically be a more pronounced improvement in an unhelmeted group?

In summary, Cycling Scotland continues to support individuals who wish to wear cycle helmets but strongly opposes calls for helmet compulsion where it will negatively impact uptake in cycle use as part of a healthy, active lifestyle.

Cycle Helmets Briefing Paper

For a number of years there has been debate over whether cycle helmets should be made compulsory in the UK. As the debate has intensified, observed helmet use has

increased and some other countries have passed helmet legislation. This briefing reviews the issue.

Cycling as transport:

Cycling is a low-risk activity akin to walking or driving, not a high risk activity like motorcycling. 4% of all UK road fatalities are cyclists. There were no child cyclist deaths due to head injury in Scotland in 2002. Long-term data collected by the government show that on average, cyclists face lower risks per mile travelled than pedestrians, and similar long-term risks to drivers. Cycling is not a leading cause of head injury in any age group. An estimated 0.7% of hospital admissions for head injury are due to cyclists in road traffic accidents. Amongst children, 7% of serious head injuries are due to cycling accidents of any type.^{1,2,3,4,5,6}

Reasons to Encourage Cycling:

Public Health: "If the government were to achieve its target of trebling cycle use in the period 2000-2010, that might achieve more in the fight against obesity than any other individual measure". From the report⁷ of the Commons Health Committee, 2004. Cycling is a very healthy activity. It has repeatedly been shown that the health benefits greatly exceed the risks⁸.

Road Safety: Edinburgh, York and London have boosted cycle use substantially without an increase in reported casualties. Therefore more cycling leads to safer cycling⁹. Countries with the lowest levels of cycle use have the poorest cyclist safety records. Cyclists also pose negligible risk to pedestrians. Conversely, the proportion of UK road deaths in cars or on motorcycles increased from 62% in 1994-98 to 69% in 2003, and these modes impose a great risk to pedestrians³.

Traffic congestion: The Congestion Charge has doubtless aided the approx. 40% increase in cycle use¹⁰ in London since 2002.

Effect of (non-enforced) helmet legislation:

From October 1995, helmets became compulsory for child cyclists in the province of Ontario, Canada. The law was not enforced. No Toronto child has been ticketed for cycling without a helmet. After an initial increase, helmet use fell back to pre-law levels¹¹. Non-enforced legislation is of doubtful efficacy, except perhaps to teach children that laws need not be obeyed.

Effect of (enforced) helmet legislation:

Cycle helmets became compulsory in New Zealand from 1st January 1994. The law was enforced with vigour, driving adult helmet use up from 40% to 90+% where it has remained. However, there was no reduction in the severity of serious head injuries^{12,13}. Cycle use fell by 22% between 1993 and 1997¹⁴.

On the other hand, in the state of Victoria, Australia, where cycle helmets also became compulsory, the number of cyclists hospitalised with head injuries, after road accidents, fell by 48% and 70% in the first and second years of the helmet law, respectively¹⁵. However, the helmet law was introduced alongside campaigns against drink driving and speeding, and this also contributed to fewer accidents. For instance, pedestrian deaths also fell by 42% in the first year of the cycle helmet law¹⁶. Road casualty data provide no evidence of death or serious head injury prevented by the helmet law¹⁷. Cycle use fell by about one third as the law was enforced¹⁸.

These population-level outcomes are not consistent with documented hospital-based case-control studies^{19,20}, which predicted that helmet use reduced the risk of serious head injury in a crash by 50-80%. This literature has been widely cited by organisations seeking to establish a case for the compulsory wearing of cycle helmets. One would expect that mass helmet use should give an obvious reduction in the proportion of cycling injuries that

are to the head, yet such a reduction is not observed in reality. In epidemiology, it is now recognised that case-control studies are prone to erroneous results when applied to self-selected behaviour^{21,22}. This is due to confounding by social factors – “selective recruitment”. It is hard to evaluate what protection a cycle helmet may provide at the individual level, but the effect of mass helmet use does not clearly emerge at the population level²³. This counter-intuitive result is not widely appreciated.

Enforced helmet legislation drives cycle use down. In Australia, cycle use was generally growing before the helmet laws of the early 1990s¹⁸. Since then it has declined steadily in most states. In New South Wales, child cycle use had fallen by 44% by the second year of the helmet law²⁴. In Sydney, cycle use was still 48% down on pre-law levels five years after legislation²⁴. The state of Western Australia has made considerable efforts to promote cycling, yet per-capita cycle use has barely recovered to pre-law levels ten years after legislation²⁵, in contrast to big increases in the decade preceding the law.

In Nova Scotia, Canada, cycle use dropped by 40+% after legislation²⁶. In British Columbia, Canada, cycle use fell by an estimated 28% following legislation²⁷.

Possible Undesired Results of Helmets:

Risk compensation by cyclists: It is accepted that safety equipment can change behaviour under certain circumstances²⁸. This may “use up” some of the benefit or even increase the risk. Risk compensation has been formally observed amongst risk-averse child cyclists²⁹. Measured adult helmet use is highest on busy roads and at peak times³⁰. A leading authority has warned: “Don’t over-predict benefits. Unduly optimistic predictions will hamper injury prevention efforts in the long run”.²⁸

Risk compensation by drivers? There is suspicion that some drivers may be less careful towards cyclists apparently protected by helmets. A cycle helmet is intended to protect in a simple fall at low speed, not in a collision with a motor vehicle. There is no known case of a UK court accepting that a cycle helmet would have reduced the severity of head injury suffered in a serious crash with a motor vehicle³¹. Fortunately such incidents are rare for cyclists.

Slower thinking: In other activities, it has been observed that helmets may slow reaction times by heating the brain³². If this is true of cycle helmets, it could lead to increased risk.

Discouragement of cycling: Enforced helmet laws drive cycle use down, thereby increasing the risk for those who still cycle and negatively impacting public health. There is also evidence that child cycling levels have fallen after local helmet campaigns³³. It is difficult to deny that clumsy helmet promotion will label cycling incorrectly as a dangerous activity. Some kinds of cycling do incur higher risks of head injury, such as stunt riding, mountain biking, and competition. Informed helmet use in specific activities is unlikely to deter cycle use overall. The perceived attitude that cycling is “inevitably dangerous” is a major obstacle to raising mass cycle use as daily transport. On-road cycling is a low-risk mode of travel that gets safer when it gets more popular.

Recommendations

1. *Cycle helmets should not be made compulsory now or at any time.* It would be arbitrary to impose legislation on cyclists, who do not face clearly higher risks than pedestrians or drivers. Enforced helmet laws drive cycle use down, thereby increasing the risk per cyclist and harming public health. Enforced helmet laws have not effected material prevention of serious head injury at the population level.

2. *A large increase in cycle use should have political and social priority.* Increasing cycle use is one of the most effective measures to reduce the risk of death per cyclist, due to the “safety in numbers” effect. It is also “probably the most effective measure” to tackle obesity and lack of physical exercise in general..

3. *Helmet guidelines should be realistic.* “Don’t over-predict benefits. Unduly optimistic predictions will hamper injury prevention efforts in the long run”.

Further Information: www.scottish.parliament.uk/msp/crossPartyGroups/groups/cpg-cycle.htm

www.cyclehelmets.org