



# Safety factored

A major new study on transport and health is strongly pro-cycling but not pro-helmet. **Malcolm Wardlaw** weighs up what it says

**H**ealth on the Move was published by The Transport and Health Study Group in 1991. It pioneered analysis of the links between transport policies and health outcomes. Since then, a great deal has been learned about the benefits of physical activity, not least because the harm done by lack of exercise is now so apparent. Increasing rates of obesity and other chronic health problems make clear the consequences of an over-motorised society.

The new book, *Health on the Move 2011 (HotM)*, is more than a 20-year update; it provides a vision of a healthier and safer transport network for all. It concludes that cycling can make a substantial contribution to public health, through achieving higher levels of physical exercise across the population. A cycling revival would also be expected to contribute to road safety. However, it acknowledges that there are serious issues with public perception, most notably the incorrect belief that cycling is unduly hazardous.

## Cycling's low risks

A key issue driving this perception has been the long-standing focus on head injury and cycle helmets. HotM examines both risk and helmet effectiveness. Concerning

(Above) Cycling is a low-risk activity, and it gets safer the more cyclists there are

risk, there are clear difficulties in comparing like with like, in that the cycling population is male dominated and younger than the driving population. Also, comparison of cycling and driving varies substantially from one country to another. UK drivers have the best safety record in the world, but there are other industrialised countries where drivers face higher risks than UK cyclists.

Bearing in mind all the variables, it cannot be said that cycling is systematically more hazardous than driving. The risks are very low. The bicycle and train combination reduces the risks further. If someone chooses to cycle rather than drive, it is extremely unlikely that any change in risk would be outside the range experienced in normal life. For instance, few would agonise over whether to use an A-road or a motorway, or whether to be driven by a 21-year-old or a 25-year-old, even though there are some changes in risk.

Young people are likely to be safer on bikes than driving, and on bikes the risk imposed on others is negligible. An older person using the train, combined with a bike trips at each end, could well reduce their risk too. It all depends on the specific case. It must be stressed that the health benefits of cycling are so large that the issue of risk is, in effect, a non-issue. This is one reason why HotM does not support promotion of helmets; it is not proportionate to

## In public discussion, stories of broken helmets have proved more persuasive than graphs

the actual risk.

Cycle helmet promotion began nearly 40 years ago, specifically in countries where cycling had fallen into neglect with the rise of the car culture. It was assumed that rising traffic levels had made cycling dangerous, and that physical protection must be needed. Early helmet research predicted great benefits. Helmet laws followed naturally. Those who just counted head injuries or hospital admissions held the laws (and thus helmets) to be a success.

### Helmet promotion problems

On the other hand, those who considered the broader perspective found that death and injury reductions were explained by falling cyclist numbers and road safety improvements. For instance, when helmets were made compulsory in Australia, safety improved more for pedestrians than for cyclists. Indeed, risk for those who continued to cycle often increased, a consequence probably due to the 'safety in numbers' effect being inverted by the deterrence of cycling.

The problem is that early research was based on the assumption that all cyclists are created equal, whether they choose to wear a helmet or not. It is now known this assumption was greatly mistaken. There are in fact systematic differences between those who choose to wear a helmet and those who do not. For example, social class has a strong influence on the likelihood of injury of all kinds. Alcohol and drug use also account for many cases where injury was previously associated with the non-use of helmets. Due to these confounding factors, those choosing to wear a helmet are generally less likely to suffer serious head injury in any case. That is, it would be possible to see an apparent effectiveness with paper helmets. However, this only became clear long after helmet laws had been introduced.

These findings have not found a ready audience amidst official agencies long committed to helmet programmes. The Department for Transport's 2009 research review failed to find any evidence of helmet benefit, despite which it still predicted that lives might be saved. This was on the basis of assuming certain levels of protection to start with. The researchers stated clearly that there was no evidence to support these assumptions, which were really only opinion, but the DfT did not publicise this vital qualification. DfT research has in addition frequently exaggerated the risks of cycling by using hospital admission figures in a misleading way.



Right: TFL. Below & opposite: iStockphoto.com

(Above) There have been no serious injuries of any kind associated with the Barclays hire bikes (Below) Business commuters in cars or on the tube don't dress like this, despite facing similar levels of risk

In public discussions, stories of broken helmets have proved more persuasive than graphs showing no noticeable reduction in serious injuries after large increases in helmet use. Anecdote cannot reveal whether a cyclist would even have struck their head without a helmet on; there is ample evidence that helmets change behaviour. Hence, while it is now fairly well understood why early helmet research yielded a false positive, it is not widely recognised.

### Cycling levels hindered

Cycle hire schemes have brought helmets and risk into sharp public focus. In London and Dublin, over 3 million journeys have now taken place without a serious injury of any kind, and without much use of helmets. That is a very low level of risk, in line with the assessment of HotM. Most of the other 170 or so schemes worldwide have been similarly successful. On the other hand, where helmet use has been required – in Melbourne, Brisbane and Auckland – the schemes have had relatively little take-up. This is raising public debate over the wisdom of focusing on helmets as never before.

The long dispute over cycle helmets has damaged public health across the world. This is because the health benefits of cycling are large relative to the risk. Actually, the health benefits are large relative to any other public health measure. Clinical depression, obesity (particularly child obesity), heart attacks, stroke, diabetes and cancer of the colon would all be alleviated by a cycling revival. The health benefits of previously sedentary people taking up cycling are actually greater than giving up cigarette smoking, in terms of reduced mortality.

This is why any measure that hinders cycling programmes, or just might be expected to, should not be tolerated. Enforced helmet laws have a decisive deterrent effect and can be seen in the





Enforced helmet laws can be seen in the same light as cigarette advertising, as a threat to public health



Left: by Adam Coffman

same light as cigarette advertising, as a threat to public health. Recent research has shown that child helmet laws in certain provinces of Canada (Alberta, Prince Edward Island and Ontario) were associated with falls in cycling, by up to 50% in the case of Alberta. These results were presented in papers concluding that helmet legislation had not suppressed cycling (!). They added to papers that did conclude helmet laws suppressed cycling.

Prominent helmet promotion has also been a deterrent factor. Denmark has promoted helmets for the last 20 years, initially for children and recently for adults, and has been rewarded with a long decline in cycle use. In contrast, the Netherlands has not promoted helmets much and has got more people on bikes.

Getting people on bikes has in addition a direct benefit to safety – the ‘safety in numbers’ effect. This has been demonstrated many times. It is one of the most important rebuttals to the ‘more cycling means more danger’ attitude commonly found amongst officialdom. In the research for HotM, no case was found from recent decades where an increase in cycling led to an increase in serious casualties. Reduced risk was the consistent result.

The greatest obstacle to gaining official enthusiasm for cycling programmes is the conviction there will be more road deaths and serious injuries. That conviction rests only on stereotype. Cycling actually contributes to reducing road deaths, because cycling is itself low risk and because cyclists almost never kill other people.

### Safety in numbers

In summary, cycling is a low risk form of travel, like walking or driving, as HotM is at pains to point out. Young people in particular are safer on bikes than in cars, with less risk imposed on society. Cycling gets safer as more

For evidence supporting CTC's opposition to helmet laws, and scepticism over the case for Government pro-helmet campaigns, see [ctc.org.uk/helmets](http://ctc.org.uk/helmets) or the website of the Independent Bicycle Helmet Research Foundation: [cyclehelmets.org](http://cyclehelmets.org). And for the 'safety in numbers' evidence that cycling gets safer the more cyclists there are, see [ctc.org.uk/safetyinnumbers](http://ctc.org.uk/safetyinnumbers)

people do it. The better health from regular cycling is such a powerful benefit that arguments over risk are simply wasted time. It is very disappointing that the DfT, rather than building on these advantages, instead scares youngsters from cycling by portraying it as unsafe and needing helmets.

HotM seeks to affirm reality, by respecting the full range of evidence. Its conclusions strongly support cycle promotion. They do not support helmet promotion, any more than they support helmets for pedestrians. HotM describes an evidence-based programme that will make cycling safer and improve public health.

We are a long way from a cycling culture in Britain. The challenge to transform public opinion is one for all of us. Safer roads and better public health will happen when more people ride bikes and they do so more often.

## The study's authors

The Transport and Health Study Group is an independent society of public health and transport specialists committed to promoting a healthy transport system. Founded in the 1980s, the Chair is Dr Steve Watkins, Director of Public Health for Stockport and the Vice-Chairs are Professor Linda Jones, School of Health & Social Welfare, Open University and Dr Jenny Mindell, Clinical Senior Lecturer, Dept of Epidemiology and Public Health, University College, London.

