

## Essential Evidence on a page: No 25

### Cycling Safety - Lessons from The Netherlands, Denmark and Germany

Adrian Davis 19/06/2009

Top line: Evidence from countries with high cycling levels suggests that the key is the provision of separate cycling facilities along heavily travelled roads and at intersections, combined with residential street traffic calming.

A study by US researchers examined factors which contribute to major differences in cycling levels between the US, UK, and The Netherlands, Denmark and Germany.<sup>1</sup> This included a review of trends in cycling safety. Averaged over the years 2002 to 2005, the number of cyclist fatalities per 100 million km cycled was 5.8 in the USA and 3.6 in the UK, compared to 1.7 in Germany, 1.5 in Denmark, and 1.1 in the Netherlands. Thus, cycling safety, measured in this way, is over five times as safe in the Netherlands as in the USA and more than three times as safe as in the UK. That helps explain why the Dutch do not perceive cycling as dangerous. Cycling in Germany and Denmark is three to four times safer than in the USA and twice as safe as in the UK.

The cycling safety ranking for countries is the same for injuries as for fatalities. Thus, the Netherlands has the lowest non-fatal injury and fatality rate, while the USA has the highest. Indeed, the non-fatal injury rate for the USA is about 8 times higher than for Germany and about 30 times higher than for the Netherlands and Denmark. The injury rate in the UK is second highest, but much lower than in the USA. Germany, Denmark and the Netherlands have greatly improved cycling safety since 1970. Cycling levels have increased in all three countries over the past 35 years, the total number of cycling fatalities has declined by over 70%. Fatalities fell by 60% in the UK over the same period, but cycling also decreased. The least improvement in cycling safety has been in the USA.

Longer term data are available for the Netherlands. They dramatically portray the strong relationship between cycling safety and cycling levels.<sup>2</sup> During the 1950/60s, car use rose rapidly in the Netherlands. Since the mid-1970s, Dutch cities have undertaken major improvements to cycling infrastructure and restricted car use. The result has been an 81% fall in the cyclist fatality rate from 1978 to 2006, thus encouraging a 36% increase in km cycled per inhabitant. This statistical relationship does not prove causation, but there is every reason to believe that increased safety is a key to promoting more cycling.

In the USA, much effort to improve cyclist safety has focused on increasing helmet use, if necessary by law, especially for children. Thus, it is important to emphasize that the much safer cycling in northern Europe is definitely *not* due to widespread use of safety helmets. On the contrary, in the Netherlands, with the safest cycling of any country, less than 1% of adult cyclists wear helmets, and even among children, only 3–5% wear helmets. The Dutch cycling experts and planners interviewed in this study adamantly oppose laws to require the use of helmets, claiming that helmets discourage cycling by making it less convenient, less comfortable and less fashionable. They also mention the possibility that helmets would make cycling more dangerous by giving cyclists a false sense of safety and thus encouraging riskier riding behaviour.

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<sup>1</sup> Pucher, J., Buehler, R. 2008 Making cycling irresistible: Lessons from the Netherlands, Denmark, and Germany, *Transport Reviews*, 28(4): 495–528.

<sup>2</sup> See Essential Evidence No. 1 <http://www.bristol.gov.uk/ccm/content/Transport-Streets/Walking-Cycling/cycling-in-bristol/essential-evidence/essential-evidence.en>