The Dutch road to a high level of cycling safety

J.P. Schepers[1], D.A.M. Twisk[2], E. Fishman[3], A. Jensen[4], A. Fyhri[5]

[1] Ministry of Infrastructure and the Environment
Schoemakerstraat 97, 2600 GA Delft, Netherlands
e-mail: paul.schepers@rws.nl

[2] SWOV Institute for Road Safety Research
Bezuidenhoutseweg 62, 2509 AC Den Haag,
Netherlands
e-mail: Divera.Twisk@SWOV.nl

[3] Utrecht University
Department of Human Geography & Spatial Planning
Utrecht, the Netherlands
e-mail: e.fishman@uu.nl

[4] Aarhus University
Department of Environmental Science
Frederiksborgvej 399, 4000 Roskilde, Denmark
e-mail: ajen@dmu.dk

[5] Aslak Fyhri
TØI Institute of Transport Economics, ,
Gaustadalléen 21, 0349 Oslo, Norway
e-mail: af@toi.no

ABSTRACT

Many governments attempt to improve cycling safety to reduce the number of bicycle crashes and encourage people to take up cycling. The Netherlands is a world leader in bicycle use and safety. This paper explores how the Netherlands achieved an 80% reduction in the number of cyclists killed (predominantly bicycle-motor vehicle crashes) per billion bicycle kilometres over a thirty year period. Factors found to contribute to this improvement include the establishment of a road hierarchy with large traffic-calmed areas where through traffic is kept out. A heavily used freeway network shifts motor vehicles from where cycling levels are high. This reduces exposure to high-speed motor vehicles. Separated bicycle paths and intersection treatments decrease the likelihood of bicycle-motor vehicle crashes. The high amount of bicycle use increases safety as a higher bicycle modal share corresponds with a lower share of driving and greater awareness of cyclists among drivers. Low cycling speed was also found to contribute to the high level of cycling safety in the Netherlands.

Keywords: bicycle, road safety, cycling safety, infrastructure, safety in numbers, conceptual model.