

Steering behavior of cyclists while passing other cyclists on bidirectional cycle paths



Problem description

About two-thirds of all serious road injuries are due to cyclist crashes amounting to some 13,000 seriously injured cyclists per year, according to Fietsberaadpublicatie 19 in 13% of the cases due to collisions between cyclists. Bidirectional cycle paths, comprising over 70% of the length of bicycle paths along roads and almost all solitaire bicycle paths, may be particularly prone to these types of crashes because of the risk of frontal collisions. Within a project subsidized by the Ministry of Infrastructure and Watermanagement, 'Forgiving bicycle paths', new measures including edge lines and shoulder treatments were tested to reduce the risk of single-bicycle crashes such as riding off the bicycle path and falling on the verge. Bidirectional cycle paths included in the tests had a width according to the guidelines or wider. There is still relatively little knowledge about the lateral position while riding alone on narrow paths (a width of 1,5 m or less) and steering behavior and lateral position while cyclists pass other cyclists at such paths which. More knowledge about passing behavior on these paths is needed to increase our understanding of the associated risks and to develop measures for the period until road authorities widen these paths.

Assignment

The study starts with a review of the literature on lateral position and steering behaviour of cyclists including potentially relevant Human Factors theories, potentially leading to hypotheses about steering behaviour while passing other cyclists on narrow bidirectional cycle paths. This phase also includes a search for methods to observe and record cyclists' lateral position and steering behaviour while riding alone and passing other cyclists on a bicycle paths. The second phase is an observational study on narrow bidirectional cycle paths including during a period with sufficient bicycle traffic to enable observing encounters of cyclists. The results are reported in a master's thesis in the third phase.

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