

The influence of sharrows on road users' rule knowledge, attitudes and reported behavior

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With the numbers of cyclists increasing worldwide each year, the demand for cycling infrastructure intensifies. Due to width constraints, it is not always possible to accommodate a separate cycle lane or cycle path on a street. In such cases, shared lane markings (so-called "sharrows") can be used to indicate to cyclists that they are allowed to ride their bike on the street and that motorists need to be vigilant and share the road with them. This study, to date the first to examine the bicycle symbols in a German traffic context, examines the impact of sharrows on road users' rule knowledge, attitudes and reported behaviour on 5 two-lane streets without cycling infrastructure in 3 German cities. Data was gathered by on-the-road interviews with cyclists, pedestrians and motorists, both before and after the implementation of the sharrow symbols (N = 1 799).

Results show that the number of road users indicating that cycling on the road was permitted increased, whereas the number of those reporting that cycling on the sidewalk was allowed decreased. Ratings of perceived safety and appeal of interactions with other road users improved. Compared to motorists and pedestrians, cyclists felt less safe riding their bikes on the road, both before and after the symbols had been marked. Motorists and pedestrians claimed that, if they were cycling on the street under consideration, they would use the sidewalk less and the road more often in the after-condition compared to before; cyclists reported the same. Participants stated no substantial changes in vehicles' perceived speed and passing distances after the implementation of the sharrows, but a reduction in reported (near-)crashes involving a bicycle.

In conclusion, sharrows seem to be effective in improving road users' rule knowledge, perceived safety and attitudes towards interactions with others as well as their reported behavior. However, from the results in this study, it cannot be concluded with certainty whether cyclists used the road less after the implementation of the symbols or whether they just reported doing so.