



Best practice bicycle safety – improvement fact sheet

Poor signing



Overview

Poor signing, i.e., **missing signs, signings in a poor state** or **inappropriately placed** cycle signing, imposes risks for cyclists as it is difficult for them to understand where to ride and which traffic rules apply. This **decreases the level of service** on cycling routes and can lead to **conflicts**. This is particularly problematic at complicated **intersection alignments** and **road works**, when detours are not properly signposted, leading cyclists to undertake **risky manoeuvres** or even **break traffic rules**. Studies indicate that poor and missing signing are problematic and amongst the most important factors for the severity of bicycle crashes.

What is the problem and where does it occur?

Proper signing is essential for cyclists to know where to ride, which traffic rules apply and at which locations they must be particularly cautious to avoid existing hazards. Problems on cycle routes occur when signs are **completely missing, in a poor state, misleading, or inappropriately placed** [8]. At these occasions it is difficult for cyclists to understand where to ride and which traffic rules apply which **decreases the level of service** for cycling and can lead to **conflicts or even accidents**. In addition, this is **one of the main concerns expressed by cyclists** [7]. Poor signing is particularly problematic at **dangerous occasions**, when a warning of cyclists or motorists is needed but missing, e.g., **low headroom** in an underpass or spots with high risk of conflict between cyclists and motor vehicles, at **complicated intersection alignments** (where guiding of vehicle positioning and direction signing is essential for a safe way through the intersection) as well as at **roadworks** when **detours are not properly signed** and signs do not clearly indicate how cyclists should react which could lead to cyclists doing **risky manoeuvres or even break traffic rules** [5, 8].

What causes the problem?

Signing is particularly important for the wayfinding of cyclists but also with regard to their safety, i.e., signs warning of hazards, raise motorists' awareness of the likely presence of cyclists ahead, or guide vehicle positioning, and contribute to the level of service for cycling [1, 3, 8]. If signs are completely missing, in a poor state or inappropriately placed, the risk of confusion for cyclists increases, i.e., the **difficulty to understand where to ride and which traffic rules apply**, which also leads to a **decrease of their ability to follow the route** [6, 8]. Problems also arise when **signs are not clearly visible and legible** to approaching cyclists, e.g., obstruction by foliage or other vegetation or large parked vehicles, who have then **not enough time to make the appropriate manoeuvre** [7].

What is the size of the problem?

Numbers on accidents in which poor signing was a contributory factor are hardly available. However, [4] investigated factors contributing to the severity of bicycle crashes based on crash characteristics of 49,621 road accidents with injured or killed cyclists in Italy between 2011 and 2013 and report that road signage was the **fourth most important** predictor of the severity of bicycle crashes. For Alabama, USA, [2] analysed 1,311 bicycle-vehicle crashes that occurred between 2011 and 2015. They stated that the **crash severity of bicycle-vehicles crashes** was 42.7% **lower when bicycle signs were present** and mentioned, that the presence of bicycle signage helps reducing severity and increases driver's and bicyclists' awareness. Overall, both studies indicated that **poor and missing signing are important factors for the severity of bicycle crashes** and impose risks for cyclists.

Examples:



Incomprehensible traffic sign at road section at the EuroVelo 6 in Austria [9]



Problematic traffic signs at construction site, with unsafe detour route at EuroVelo 14 in Austria [10]

Related fact sheet

SOLUTIONS

» Signing

References and links

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