



Best practice bicycle safety – improvement fact sheet

Junctions and crossings: left turn issues

Overview

Left turns for cyclists are a demanding task and can impose safety risks because cyclists often have to **weave with traffic from behind** and **identify acceptable gaps** in the traffic flow of oncoming traffic. This can lead to conflicts with motor vehicles. This issue is particularly problematic for cyclists with **high traffic volumes** and **high speed** of motor vehicles as well as at **wide and complex intersections** which make turning difficult and could lead to cyclists doing risky manoeuvres, i.e., turning without a sufficient gap. Studies indicate that at least a small number of cyclist fatalities is related to these left turn issues.

What is the problem and where does it occur?

Turning left at intersections can be **challenging and impose risks for cyclists** as they often have to weave with traffic from behind as well as identify acceptable gaps in the traffic flow of oncoming vehicles which can lead to **conflicts** [2, 7]. Left turns for cyclists are particularly difficult and risky for cyclists with **high traffic volumes** and **high speeds of motor vehicles**, i.e., intersections with higher speed limits, where both weaving with traffic from behind as well as **finding an acceptable gap** for turning is difficult [3, 6, 7, 10]. In addition, **wide and complex intersections** at which bicycle lanes end and the cyclist has to **merge with motorised traffic** or even cross multiple lanes to get into the left-turning lane are especially problematic for cyclists [2, 4].

What causes the problem?

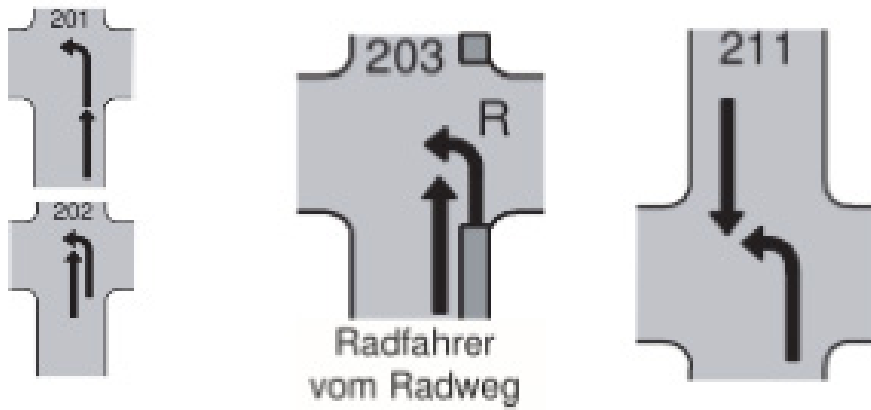
Left turns for cyclists typically require more planning and entering the active traffic lanes. Left turn manoeuvres are a demanding task for cyclists as they typically have to position themselves from the right edge of the road to the middle of the roadway, to cross and turn left [7]. Thus, turning left is a **difficult, oblique weaving movement** at junctions [8]. Cyclists need to **look over their left shoulder and take up sufficient space on the road as well as clearly gesture their intention to turn left**, i.e., signalling with left hand at shoulder height [1, 7]. In addition, left-turning bicycles – unless at a signalised intersection with a specific left-turn phase – have to wait and find acceptable gaps in the traffic flow of oncoming motor vehicles which, especially with high traffic volu-

mes of motor vehicles, becomes difficult and can lead to **risky manoeuvres of the cyclists**, i.e., turning without a sufficient gap, leading to **collisions with oncoming motor vehicles** that can result in **serious injuries or even death of the cyclists** [10].

What is the size of the problem?

[9] – based on an analysis of cyclist fatalities in Germany between 2013 and 2019 – indicated that a total of **125 out of 2,761 cyclist fatalities (4.5%)** occurred in **left-turn collisions** (where a cyclist or another vehicle was turning left). **38 cyclist fatalities** occurred in **accidents between bicyclists turning left and vehicles from behind** and **14 cyclist fatalities** occurred in **accidents between bicyclists turning left and oncoming motor vehicles**. Similarly, for Berlin, [5] – analysing fatal bicycle accidents between 2011 and 2016 – reported that out of a total of 76 fatal bicycle accidents **two fatal bicycle accidents** involved a left turning bicyclist and an oncoming vehicle and **one fatal bicycle accident** involved a left turning bicyclist and a motor vehicle coming from behind. Both studies indicate that turning left at intersections for bicyclists imposes safety risks and that at least **a small share of cyclist fatalities is related to these issues**.

Examples:



Various crash constellations with regard to left-turning cyclists: cyclist turning left collides with vehicle from behind (cyclist on main carriageway or leaving cycle lane); cyclist turning left collides with oncoming motor vehicle. [9]

Related fact sheets

SOLUTIONS

- » Junctions and crossings
- » Roundabouts

References and links

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Publisher & Media Owner: SABRINA Project Partners

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The SABRINA Project has been co-funded by European Union Funds (ERDF, ENI).

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