

POSITION PAPER

GERMAN INSURERS ACCIDENT RESEARCH

Cycling safety

No. 01

417 cyclists died on German roads in 2012, 14,496 were seriously injured, and 64,835 suffered minor injuries. While the number of accidents involving injuries has been falling in recent years throughout Germany, the number of cycling accidents involving injuries has increased. Cyclists were accounted for one in nine fatalities and one in five injuries on German roads. The statistics for built-up areas give rise to particular concern: one in four fatalities on the roads in built-up areas is a cyclist.

However, police accident statistics do not cover all accidents by any means. Only around a third of the people treated in hospitals for injuries suffered in cycling accidents are known to the police. The numbers of unreported cycling accidents without any injuries or involving only minor injuries and of unreported accidents in which no motor vehicles are involved are likely to be much higher than the official figures.

As a result of demographic change, greater numbers of cyclists and the rising number of electric bicycles on the roads, there will be even more cycling traffic in future, more senior citizens will be cycling on the roads, and cyclists will be moving at higher speeds. The consequence will be an increase in the number and severity of cycling accidents. Measures to improve the safety of cycling are therefore indispensable to prevent the politically desirable promotion of cycling from resulting in a rising number of fatalities and accidents.

Roads

Cycling accidents are generally the result of errors or infringements on the part of road users. However, shortcomings of the infrastructure often play a significant role in these accidents. It is particularly noticeable that a large percentage of accidents occur at intersections with traffic lights, junctions and road crossings and on cycle paths that are too narrow. This is due not least to the fact that increasing numbers of cars and cyclists are having to share a road infrastructure that is outdated and coming up against its capacity limits. It is therefore extremely important that safe facilities are provided for cyclists.

Compliance with technical regulations

The publication of the revised German recommendations for cycling facilities (ERA) by the FGSV in 2010 was a very important step toward this. The ERA recommendations describe how safe cycling facilities can be planned, implemented and operated. It is therefore to be hoped that these recommendations will be made mandatory by the responsible ministries of all German federal states. The recommendations have so far been officially introduced in some federal states but not in others.

Planning of comprehensive cycling networks

The prerequisites for a safe cycling infrastructure are network planning that meets requirements and firm acceptance of the importance of cycling by politicians

and the relevant authorities. Cycling facilities refer not just to cycle paths, which have to be constructed, but to all forms of guidance for cycling traffic. Increasingly, lane markings are provided for cyclists on the carriageway - protection lanes or cycle lanes, for example. Over recent decades these have proved to be a safe and cost-effective option. However, roads with priority for cyclists have also proved to be effective.

Suitable dimensioning and improvement of visibility

The ERA 2010 recommendations for cycling facilities describe in detail the applications, implementation and design parameters of safe cycling facilities both generally and at the particularly critical points around intersections and junctions. The recommendations place particular emphasis on the appropriate dimensioning of cycling facilities, the visibility of their markings and the visual contact between cyclists and other road users. Simple, clear and easily identifiable markings for cycling facilities, preferably on the carriageway, make a significant contribution toward improving safety.

Improvement of safety at intersections and junctions

Safety at intersections and junctions depends critically on avoiding conflicts between traffic flows that are not fully compatible. Wherever cyclists and pedestrians are protected by a separate signal phase, accidents caused by motor vehicles turning off are prevented.

Road users

The development and improvement of cycling facilities alone will only go some way toward reducing the risk of accidents. In the long term, the atmosphere on the roads among pedestrians, cyclists, drivers and motorcyclists must be improved through a combination of communication, road safety training and enforcement through selective checks.

Opportunities to learn to cycle properly

German children learn how to use the roads as safely as possible and independently at elementary school and even before they start school. In their fourth year of school, they generally take a cycling test. When they go on to secondary school, they are presented with new challenges. They then often have to cycle greater distances. To ensure that children are not left alone at this point, accompanying instruction classes are also required in secondary schools.

But adults who have never learned to cycle or who want to start riding a pedelec after many years without any cycling experience should also receive cycling training before starting.

Targeted campaigns and penalties to promote consideration for others

Improving the risk awareness of drivers and cyclists is the key to improving the consideration they show to other

road users and getting them to exercise greater caution. In addition to extensive awareness-raising campaigns, this also involves selective checks and penalties for specific types of infringement. In particular, it is important to focus on particularly critical patterns of behavior. As far as drivers are concerned, these include turning off to the nearside without considering cyclists (without looking over their shoulder, for example), parking on road space reserved for cyclists, opening doors without thinking of others and overtaking cyclists without keeping a sufficient distance from them. However, thoughtless behavior of cyclists can also lead to dangerous situations and accidents. This includes, above all, cycling on the wrong side of the road or on the sidewalk, cycling under the influence of alcohol, violating red lights and failing to take pedestrians into consideration.

Wearing of a cycling helmet

Cyclists should be encouraged to wear cycling helmets and bright or reflective clothing. A cycling helmet helps to prevent serious head injuries, and high-visibility clothing makes cyclists easier to see for drivers. According to the statistics on causes of death, head injuries are the primary cause of death for over 50% of the cyclists killed on the roads.

The statistics of the UDV show that 55% of cyclists without a helmet suffer a head injury in a collision with a motor vehicle compared to 27% of helmet wearers. Cyclists without a helmet are

thus twice as likely to suffer a head injury. Unprotected cyclists also suffer serious head injuries significantly more often than those wearing a helmet.

According to German federal statistics, almost a quarter of the 399 cyclists killed in traffic accidents in 2011 (92 cyclists) were killed in accidents without third-party involvement. Over half of the remaining 307 cyclists were killed in collisions with passenger cars.

Vehicles

Improvement of passive and active safety systems in vehicles

The development and spread of active and passive technical systems in vehicles to improve the safety of cyclists should be encouraged. These include soft vehicle fronts, exterior airbags at the front and emergency brake assist systems. Active systems that prevent accidents or mitigate the consequences of accidents (emergency braking systems) should be given priority over purely passive systems (e.g. pedestrian airbags).

Above all, turning assistants in trucks can help to prevent collisions with cyclists when trucks turn off to the nearside, which is a very critical situation. Analyses of the data in the GDV accident database have revealed that over 40% of all serious truck accidents involving cyclists and pedestrians could be avoided with this system.

Links
www.udv.de/en/road/cycling-facilities
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www.udv.de/en/publications/compact-accident-research/turning-accidents-between-motor-vehicles-and-cyclists
YouTube-Video
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