

POSITION PAPER

GERMAN INSURERS ACCIDENT RESEARCH

Combating accident black spots

No. 03

There are some locations and sections of road where accidents occur repeatedly. It is unknown how many of these accident black spots there are throughout Germany. Berlin alone reports that it has 1,000 black spots, while Dresden has around 250. For roads outside built-up areas, the number of black spots can only be estimated very approximately, and it fluctuates greatly from one federal state to another.

Roads

Local accident investigations

The basic principle of local accident investigation has proved effective for over 50 years and has changed little in that time: wherever there are frequent accidents of different road users which occur independently of each other, shortcomings in the road space are generally a contributing factor. To eliminate these shortcomings, the accidents are analyzed and common factors are identified in order to ascertain what is making accidents more likely.

Accident black spots in built-up areas typically occur at intersections and junctions and where pedestrians cross the road. Outside built-up areas, as well as at intersections and junctions, they also occur at bends in the road and on sections of road where collisions with trees and overtaking accidents happen (frequent accident lines).

Accident commissions

Accident commissions are like rapid reaction forces for road safety. Their statutory mandate is to subject all accident black spots to a local accident investigation. In doing so, they focus on shortcomings in the road infrastructure. If the representatives of the road traffic authorities, road construction authorities and police are able to successfully implement measures to combat the situation, an adequate safety margin is re-established.

If an accident commission takes rigorous action, it can quickly and effectively prevent a significant proportion of the accidents from occurring or at least mitigate their consequences. The introduction and standardized initial and further training of the accident commissions has thus made a considerable contribution toward reducing the number of serious accidents on federal and state highways. These are now falling at over twice the previous rate.

Vehicles

Modern automotive technology can also make a contribution toward reducing the number of accidents that occur at black spots. It focuses on the „vehicle“ as a factor in accidents and should primarily address the accident constellations of serious accidents. Ideally, these systems influence critical situations in such a way that accidents are prevented from occurring.

Advanced driver assistance systems

Investigations indicate that around 25 - 40% of serious accidents involving passenger cars could be avoided with an electronic stability control (ESC) system. This potential is particularly significant in relation to accidents occurring at bends, for example. With effect from November 1, 2014, all newly registered cars in the EU will have to have an ESC system. As yet, there is no statutory requirement for any other live-saving systems in cars such as emergency brake assist systems.

Car-to-car and car-to-infrastructure communication

Cooperative assistance systems such as car-to-car communication or car-to-infrastructure systems may also help to bring about an improvement with regard to accident black spots in future. Research and development should be focused to a greater extent on preventing the most serious accidents, such as accidents in bends that occur as a result of inappropriate speeds or a failure to give way.

Road users

Human factors

Human cognitive capabilities and the limits to these capabilities are being studied increasingly in accident re-

search. Road and vehicle designers have to take into account the limits of human perception and attention and make sure that their roads and vehicles are as easy and self-explanatory as possible to use.

Initial and further training

Greater importance should be attached to road safety in more areas of education. That starts with road safety training for children and ranges from driving instruction and driving test preparation to the academic education of traffic engineers. Vocational initial and further training for teams of experts such as accident commissions is essential and not yet uniformly available at a high level throughout Germany.

Links

www.udv.de/en/road/planning-operation

www.udv.de/en/road/traffic-safety-management

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