

Speed as a Factor in Motorised Road Traffic

Like almost no other factor, high driving speed increases both the risk of accidents occurring and their severity. A potentially successful accident prevention strategy requires knowledge-based measures that are effective, economical and realisable. Such measures include, among others, the intensification of stationary police controls, the promotion of selected driver assistance systems, forgiving roads in rural areas and a more widespread introduction of the bfu-model Tempo 50/30.

Problem

Driving speed of motor vehicles has a decisive effect on traffic safety. On the one hand, high speeds decrease the time available in which to respond to a traffic situation, and thereby increase the likelihood that an accident will result. On the other hand, speed affects the severity of an accident. In each year between 2004 and 2008, an average of 1,251 people were seriously injured and 163 died as a result of speed-related accidents. Half of the fatalities involved single-vehicle accidents on rural roads; a quarter occurred on urban roads. The originators of speed-related accidents are, in the main, young males.

Method and objective

The safety dossier "Speed as a Factor in Motorised Road Traffic", presents accidents in Switzerland firstly in regard to excessive or inappropriate driving speeds. The problem of speed is then considered from the viewpoint of traffic-related, legal and psychological aspects and in terms of very general accident prevention. Finally, on the basis of diverse information sources (accident data, scientific studies, general scientific findings, expert opinion), possible measures to reduce speed-related accidents are critically assessed. From this we have the essence of the work: a list of concrete speed-related recommendations for improved safety in motorised road traffic in Switzerland. The safety dossier should serve as a reference work and be used by decision-makers when discussing goal-oriented measures.



Results

Central measures for the reduction of speed-related accidents in road traffic

Intensification of stationary speed controls (both manned and automatic, as well as accompanying publicity campaigns)
Concentration of activities on all those who speed (not only racers)
Possibilities for vehicle technology, introduction of Intelligent Speed Adaptation (ISA)
Clearly promote awareness and use of Electronic Stability Controls (ESC) through information and publicity campaigns
Continuation of existing activities to increase the wearing of seat belts in all seats and on all road types
Obligatory warning systems, with sound and light, to remind drivers when someone in the car is not wearing a seat belt (also in the back seats)
Increased use of the administrative measure of suspension of driver's licence (also in combination with behaviour-oriented driver courses) in addition to the fine
Use of integrated concepts, which consider the psychological, gender-specific and social factors of speeding behaviour
Scientific investigations on various topics such as the effect of passengers on young drivers, effectiveness of the 2-phase driver education and evaluation of the 'cascade system'
Evidence-based measures against driving under the influence of alcohol
In both the basic education as well as in further training for traffic engineers and planners, the following issues in relation to the planning of traffic infrastructure should be addressed more intensively:
- Design of traffic-oriented urban streets
- Planning and specification of rural roads
- Principles for the signalisation of speed limits
Road Safety Audits and Road Safety Inspections established as standard measures
Changes to Art. 4a of the VRV ('Road Rules Regulations') as well as Art. 22 of the SSV ('Road Signage Regulations') or disassociation of the regulations for Tempo-30-Zones from Art. 108.2 of the SSV
Promote the acceptance of the bfu-model Tempo 50/30 to the responsible authorities and the general public

Conclusions

Measures against so-called 'racers' cover only the tip of the iceberg. Just as essential are efforts to ensure the average driver does not exceed speed limits (either signed or general) and drives appropriately for the conditions. Suitable elements in the design of infrastructure encourage appropriate speed selection. The 2-phase model of

driver education will hopefully – only evaluation will show if this is actually the case – make an important contribution in regard to new drivers. Widespread enforcement (visible police controls, suspension of driver's licence) will also be necessary after educational, infrastructural and vehicle-related measures are exhausted.

Source: Ewert U, Scaramuzza G, Niemann S, Walter E. Der Faktor Geschwindigkeit im motorisierten Strassenverkehr. Berne: bfu – Swiss Council for Accident Prevention; 2010. bfu safety dossier no. 06, only in German.

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