

Improved credibility of speed limits possible

Speed limits in the Netherlands are exceeded on a large scale. Credible speed limits can elicit improved compliance. In the report entitled '*Speed and speed management; Summary of the most important findings from the speeding projects in SWOV's 2003-2006 research programme*', researchers conclude that certain road characteristics determine the speed limit's credibility. These characteristics are the presence of bends and physical speed limiters, road width, type of road surface, and the spaciousness of the immediate vicinity. This finding makes it possible to introduce *more credible speed limits*.

The relation between speed and crashes

The faster motorists drive, the greater the risk of a crash, and the greater the risk of the crash being fatal or with severe injury. The relation between speed and crashes is not the same for all roads. Speed has a larger impact on urban roads than on 80 km/hour roads; the effect on motorways is smallest. The more complex the traffic situation and the more varied the traffic composition, the larger the impact. Speed's effect is related to specific road characteristics such as number of exit roads, road width, and traffic composition.

Obeying limits results in reduction of casualties

Calculations show that many traffic casualties could be spared if road users would indeed obey the (safe) speed limits which apply. The question is how to achieve this in the short term. Infrastructural measures and speed enforcement are the most obvious instruments, but it isn't feasible to lay speed bumps or to place cameras everywhere. SWOV has great expectations of credible speed limits as an additional measure. It happens far too often that a speed limit does not match the road environment and is, therefore, considered implausible by many road users.

Implausibility does not only influence speed behaviour but we expect it to also undermine the trust in speed limits in general.

Credibility is determined by road characteristics

In a number of studies SWOV has made the term 'credible limits' more concrete. Studies show that '*the credible speed limit*' does not exist. Motorists vary quite a lot in their judgement about which limit is credible given a particular traffic situation. What has been shown, however, is that there are demonstrable characteristics that greatly influence the credibility of a speed limit, and that these characteristics are more or less the same for all motorists. This offers the possibility to make speed limits *more credible*.

Checklist for road authorities

The study gave an initial impetus to a checklist for road authorities. With this checklist the credibility of speed limits can be assessed according to the five most important credibility characteristics: the presence of bends and physical speed limiters, road width, type of road surface, and the spaciousness of the immediate vicinity.

Especially this last characteristic has an important influence on the credibility of a speed limit. In an open vicinity without vegetation and buildings, a higher speed limit is more credible than in a closed vicinity.

Dynamic limits

Technological developments offer many new possibilities for speed management. In the first place, there are dynamic limits which can adapt to real time traffic and weather conditions. We expect that dynamic limits will not only have a positive road safety effect, but that they also will increase the credibility of speed limits. The first tests of dynamic limits on the main road network are already planned for this year. Intelligent Speed Assistance (ISA) is a very promising technology. The ISA variant, such as SpeedAlert, which informs the driver about the local speed limit and gives a warning if he exceeds the limit, is already on sale.

Start the introduction of credibility and ISA

SWOV argues to start putting the *credibility of speed limits* into practice. A first version of the checklist is available. This can be used to assess the credibility of a certain speed limit on existing road. In the design phase of a new road, the same checklist can already be used to tune the road characteristics with the planned speed limit.

SWOV also recommends promoting the introduction of ISA. A step-by-step, market guided introduction is the most realistic short term scenario.

The complete report entitled [*Speed and speed management; Summary of the most important findings from the speeding projects in SWOV's 2003-2006 research programme*](#), R-2006-13 has been available since 26 April 2007 at www.swov.nl. The report is in Dutch, but has an English summary.

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