

Demerit points systems

Summary

International studies show that the introduction of a demerit points system has a limited long term road safety effect. In spite of this, many countries have introduced such a system: in 2010, 19 of the 27 EU Member States had a demerit points system. Its popularity is very probably the result of people seeing it as fair to tackle multiple offenders more strictly. In 2002, a demerit points system for novice drivers was introduced in the Netherlands which is called the beginner's licence. After introduction of the demerit points system, novice drivers' crash involvement has not decreased more than that of experienced drivers who are not involved in the demerit points system. A demerit points system is being developed for all experienced drivers in the Netherlands which in any case will give points to drink driving.

Background and content

Traffic rules aim at promoting a safe and rapid traffic flow. However, these rules are violated very often. Offenders are punished in order to achieve traffic rule compliance. The added value of a demerit points system is that it takes recidivism into account. This fact sheet describes what a demerit points system is and how it works. Next, it presents the effects of the demerit point system as a method to prevent further traffic law violations or crashes. Finally, this fact sheet gives a description of the current status of a demerit point system in the Netherlands.

What is a demerit points system?

In a country using a demerit points system, demerit points are meted out to the offender in addition to the normal penalty for the offence. These demerit points are personal, which with regard to enforcement means that they can only be imposed if the offender is halted by the police; they cannot be imposed on the vehicle owner via the vehicle registration number. In the UK, however, points may be imposed via the vehicle registration number; for example, when fixed position speed cameras are being used. The registration number holder is then assumed to have been the driver at the time of the offence. In the UK the burden of proof falls on the registration number holder; if the registration number holder was not the driver at that time, he or she must provide the evidence for it. In nearly all current demerit points systems offenders receive more demerit points if the offence is more serious. If a certain points limit is exceeded, revocation of the licence usually follows. In order to be allowed to drive again, the offender then has to pass the driving test again. In other demerit points systems, the licence is suspended temporarily (for a long period) if a points limit is reached. In nearly all countries that have a demerit points system, drivers can lower their number of points by good behaviour. Points are subtracted when the offender is not fined for an offence that falls under the demerit points system for a certain (long) period. Practically all countries that have a demerit points system also have what are known as 'driver improvement courses', which also reduce the number of points.

How does a demerit points system work?

Demerit points systems usually consist of three effective elements: prevention, selection, and correction.

Prevention

The preventive effect of a demerit points system lies in the risk of losing the driving licence if caught for offences repeatedly. This is an extra reason to obey the traffic laws. There is a difference between the 'general' preventive effect and the 'special' preventive effect of a demerit points system. The general preventive effect should be found in a decrease in the number of offences for all drivers: they drive more carefully, in order to avoid getting a demerit point. The special preventive effect should be shown by a decrease in the number of offences by drivers who have already been imposed a demerit point after an earlier offence: they drive more carefully to avoid getting another point.

Selection

If a system can remove from traffic those road users who often behave dangerously, before they have actually caused a crash, this is good for road safety. Such a system can only be an effective means of selection if reckless drivers are tracked down in time, and if demerit points are indeed a good predictor of future crashes.

Correction

Systems in which drivers can have the number of points reduced by following a driver improvement course have an educational element that is intertwined with the preventive effect. A demerit point system with educational elements can only work if it is proven that following a training aimed at changing behaviour reduces the chance of recurrence.

What is known about the general preventive effect of a demerit points system?

Although more and more countries implement a demerit points system - 19 of the 27 EU member states had demerit points system in 2010 - rather little is known about their effects. The decrease in the number of crashes in the first year after the introduction is often taken as evidence of the effectiveness of the demerit points system. The decrease generally is spectacular in the first months after the introduction. However, after the first year the number of serious crashes nearly always increases again (OECD, 2006). On the basis only of a comparison of the number of crashes before and after the introduction of a measure, it is hard to determine whether a measure has been effective. After all, there are many more factors (confounding factors) involved, factors which change in time and which influence the number of crashes. For example, it turns out that the introduction of a demerit points system often coincides with an increase in enforcement and with public campaigns. Only Norway, Finland and the Netherlands are known to have done research into the effectiveness of the demerit points system as a whole. This research has tried to take confounding factors into account (Stene, Sakshaug & Moe, 2008, cited in Elvik et al., 2009; Hatakka et al., 2000, cited in OECD, 2006; Vlakveld & Stipdonk, 2009). All three studies show that the demerit points system has no lasting effect on the number of serious crashes.

Yet research in Italy shows that the use of seat belts has permanently increased since the introduction of the demerit points system in 2003 (Zambon et al., 2008). It must however be noted that the introduction coincided with an increase of the enforcement and that the use of seat belts was exceptionally low before the introduction; only 53% of all drivers wore a seat belt previously. It is possible that the introduction of the demerit points system gave just the last push towards a new habit. In Italy (Farchi et al., 2008) as well as in Ireland (Hussain et al., 2005), the number of crashes causing hospitalization decreased immediately after the introduction of the system. However, in both countries the number of hospitalizations increased again later.

How large is the special preventive effect of a demerit points system?

In Canada, Redelmeier, Tibshirani & Evans (2003) found that only in the first month after having receive demerit points drivers adapted their driving style to such an extent that the crash rate clearly dropped. After this period, the crash rate returned to the same level as before. The crash rate was halved in the period of just over a month after being caught where it concerned offences for which points of average severity are given. The points limit would have been exceeded with four such offences. After this period the effect had disappeared. If it concerned serious offences with a lot of demerit points, i.e. two such offences would cause exceeding the limit, the crash rate decreased slightly, but not significantly, during this period. This seems to show that the small group of frequent offenders does not care about the consequences of a demerit points system, and carries on driving in the same manner as before.

Indications for a special preventive effect of elaborate points systems have also been found in Australia and the UK. Research in these countries (Hague, 1987; Corbett et al., 2008) shows that when drivers approach the limit of the maximal number of points allowed, the period between the identified offences for which points are imposed, increases. It must however be noted that in the UK others can take the responsibility for an offence and, hence, receive the demerit point (in return for money) because of the reversed burden of proof that is applied there. This way it is possible not to receive any demerit points by letting other people pay for them (illegally). Dutch research (Vlakveld & Stipdonk, 2009) shows that the beginner's licence has no special preventive effect. If there were a special preventive effect, the number of drivers with two or three points would have been lower than

could be expected based on probability calculation (where the calculation assumes a situation with no special preventive effect). This lower number was not found. The Dutch beginner's licence only imposes points for serious offences and only when the offender is halted by the police. One will not get any points when caught for a serious offence by, for example, a fixed position speed camera. Thus, in the Netherlands only serious offences are considered and the probability of detection is low. Moreover, in May 2009 the Dutch Minister of Justice informed the House of Representatives that in many cases novice drivers had not been given demerit points for identified serious offences. All of this may have contributed to the apparent absence of any special preventive effect.

The results of the studies discussed above, point towards a temporary special preventive effect. This preventive effect is proportionally greater and lasts longer as the subjective probability of detection increases, as people also start to receive points for less serious offences, and as the maximum number of points allowed comes closer. Meanwhile, a demerit points system hardly seems to deter the group of serious offenders from continuing the same driving behaviour.

How large is the selective function of a demerit points system?

Research (Chen et al., 1995; Daimantopoulou, 1997) has shown that especially serious offences in which drivers get many demerit points are good predictors of future crashes. The relation is strongest with young novice drivers. One fine already had so much predicting power that a second or third one hardly added any value. A demerit points system, and certainly one in which only serious offences get demerit points, has a limited selection value. Most offences are not detected. Licence withdrawal as a consequence of a demerit points system will often be too late. The selective effect of a demerit points system on road safety is assumed to be negligible.

How large is the corrective effect of a demerit points system?

Driver improvement courses attempt to change behaviour and attitude. Some meta-analyses have been done on the effect of such compulsory trainings. An overview of these studies can be found in the SUPREME report *Rehabilitation and Diagnostics* (SUPREME, 2007). Missing in that overview is the meta-analysis made by Ker et al. (2005). The meta-analyses show that on average, driver improvement courses have very little to no effect. Nevertheless, some courses show a clear decrease in recidivism; almost all of these courses are aimed at the prevention of drink-driving.

How does the licence on probation in the Netherlands work?

Since 2002 there has been a rather simple demerit points system for novice drivers in the Netherlands. Those who, in the five years after having obtained their driving licence, commit three serious offences for which they have been halted by the police, must take a driving test. If the driving skills during the test are insufficient, the official driving exam must be taken again. Since the introduction of this beginner's licence, the number of serious crashes among young drivers (many of whom had such a licence on probation) has not decreased more than the number among a group of somewhat older drivers (of whom only a small percentage had a licence on probation; Vlakveld & Stipdonk, 2009). It is therefore unlikely that the Dutch licence on probation for novice drivers has a positive effect on the crash involvement of these novice drivers.

In 2008 the Dutch Road Traffic Act was altered in such a way that the driving licence is suspended if a driver is caught for driving under the influence for the second time in five years. This is done only if the second time the blood alcohol content is higher than 1‰. This act will not become operative until the underlying law has been adapted, which is expected to happen in 2010. However, in the meantime the need has risen to include other excessive violations in the points system. These only concern violations for which the driver is halted by the police. At present, the police halt drivers in about 20% of all violations; the remaining 80% is dealt with through the vehicle registration number.

Is there public support for a demerit points system in the Netherlands?

A survey in 23 European countries (SARTRE, 2004) shows that 76% of all drivers in these countries supports a demerit points system that is uniform in all European Union countries. However, there are signs of a decreasing public support in the UK, which was the first European country to introduce a demerit points system in the 1960s.

There is wide support for the introduction of a demerit points system among the Dutch population as well. In a survey in 2002, about 75% of all Dutch was in favour (NEA, 2002). In the same year, another survey (Groeneveld, Frederikse & Mazor, 2002) showed that 85% of the Dutch population was in favour. This survey also asked about the expected effectiveness of a demerit points system, and this

was much larger than was to be expected based on research. If a general demerit points system were introduced in the Netherlands, 33% of the Dutch would expect a 'large' road safety improvement, and a further 23% would expect a 'fairly large' improvement.

What are the road safety effects of the introduction of a demerit points system in the Netherlands?

Based on a number of findings (Redelmeier, Tibshirani & Evans, 2003), it is possible to make a rough estimate of the special preventive effect of a demerit points system in the Netherlands. The number of road deaths will be reduced by a few, assuming that the special preventive effect for violations of *medium severity* in Canada will be the same for serious offences in the Netherlands. This effect in Canada was a reduction of the crash rate by 50% during the month after the demerit point or points were imposed. Furthermore, the reduction can only take place under the additional assumptions that in the Netherlands:

- points are only imposed for serious offences after being halted by the police;
- lighter offences continue to be settled administratively through the vehicle registration number;
- two offences with demerit points, within a period of five years, are necessary for (temporary) suspension of the driving licence.

However, if it is assumed that the special preventive effect of *serious* offences in Canada (an effect which was not significant) is equal to that of serious offences in the Netherlands, the special preventive effect of the points system would be almost zero.

In addition to the special preventive effect, there is also the general preventive effect. This effect cannot be estimated. Experiences in other countries show that the general preventive effect is large during the first months after introduction of a demerit points system: in that period the number of crashes often decreases. When the first year after the introduction has passed and drivers find out that the risk of losing the driving licence is quite small, the positive effect is reduced again.

The effect of demerit points systems becomes larger through an increased probability of detection, through public campaigns which increase the subjective probability of detection, and through also imposing points for less serious offences.

Which undesirable behaviour can a demerit points system encourage?

Side effect: driving without a driving licence

If a penalty (in this case not being allowed to drive anymore) hits a motorist hard, but the enforcement of the penalty is weak, he/she will soon be inclined to ignore the penalty. 40% of the drivers in the UK whose driving licences were suspended due to the demerit points system, admitted in a survey to still drive (Knox et al., 2003). One might imagine that drivers without a licence would follow all the rules strictly so as not to get caught. Yet the aforementioned survey showed that the crash rate of drivers without a driving licence was 3 to 9 times higher than the average crash rate for all drivers.

Side effect: hit-and-run crash

Another undesired side effect of a demerit points system is that the inclination to drive on after causing a crash will increase. The chance of being halted by the police after having committed an offence must be increased to prevent this and to ensure that the effect of a demerit points system is greater. This, by necessity, calls for a greater police effort. The police should, however, not only concentrate on the small group of serious offenders, but also on the large group of less serious offenders.

Conclusions

The facts do not entirely agree with the expectation that a demerit points system greatly improves road safety. There has been little research into the road safety effects of demerit points systems, but the indications are strong that their contribution to road safety is only modest. There will most probably be a large decrease in the number of traffic casualties in the first year after the introduction, but this is due to the overestimation of the probability of having one's driving licence suspended.

A demerit points system can have a greater effect by increasing the chance of detection, by increasing the subjective probability of being caught through public information campaigns, and by also imposing points for less serious offences.

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