

The graduated driving licence

Summary

When compared with experienced drivers, young novice drivers, have an extremely high risk of being involved in a road crash. This is only to a limited extent caused by a lack of the basic skills of vehicle control and application of traffic rules. Improving the standard driving course is therefore no solution to this problem. However, a substantial road safety effect can be expected from a graduated driving licence system, which entails a longer learning period in various phases.

What problems are typical for young novice drivers?

The risk of a crash per kilometre travelled is extremely high for young novice drivers and is still growing relatively (see SWOV Fact sheet [Young novice drivers](#)). A large number of Dutch and international studies indicate that there are a number of causes. The causes can be divided into four groups: 1) a lack of skills, 2) age-related factors, 3) poor self-knowledge, and 4) exposure to dangerous circumstances.

1. The lack of skills is mainly a lack of so-called higher order skills. This is the capability to concentrate on those things that are relevant for road safety, to be able to judge traffic situations, and to adequately predict in time how traffic situations will develop. For example, hazard perception is a higher order skill (see SWOV Fact sheet [Hazard perception](#)). A lack of the basic skills vehicle control and application of traffic rules also plays a role, but to a lesser extent. The basic skills have had such a short time to sink in with novice drivers that they require a lot of attention. This attention is at the expense of attention necessary for higher order skills.
2. Important, age-related factors are found especially among young men. In adolescence they behave rather wildly. They love exciting matters and trying new things, they regard themselves as invulnerable, and like to impress their friends, for example with a 'sportive' driving style. This is done while their capability to suppress impulses and weighing up risks still is underdeveloped (Reyna & Farley, 2006)
3. Their poor self-knowledge means that many youths are not properly capable of adjusting the tasks necessary in traffic to what they are actually capable of doing. This adjusting is known as calibration. To a large extent one determines oneself how difficult the driving task is. For example, by driving faster and closer to each other, the burden of the task increases. If one correctly judges oneself to be a very competent driver, one may possibly be able to cope with the higher driving task requirements. If, on the other hand, one incorrectly judges oneself to be a competent driver (as many novice drivers do) this overestimation will lead to dangerous situations.
4. Young drivers relatively often drive under circumstances that are dangerous for every driver. If they drive in their own car (and not that of their parents or a lease car), this is usually an older car with somewhat fewer primary and secondary safety devices than average. This increases the risk of a crash (e.g. because of poorer brakes) and the consequences will be more severe (e.g. because there is no airbag). Youths also more frequently drive late at night and more frequently with passengers who distract them. When young drivers drink alcohol, their driving skills are even more seriously affected than those of older drivers. Young drivers also more frequently drive under the influence of drugs than older drivers.

Could improving the basic driving course be a solution?

Initially, it was attempted worldwide to lower the high crash rate of young novice drivers by improving the driver training that preceded the driving test. This has not been very successful. Up till now, research has not indicated that youths who have been trained by certified instructors are safer drivers than youths who learned to drive more or less casually, accompanied by their parents (for a survey, see Christie, 2001). The limited success of the official driver training is not very surprising, considering the causes of the problem. A lack of basic skills (vehicle control and everyday road use) is only to a limited extent the cause of young novice drivers having such a high crash rate. That is why from the 1980s the United States, Canada, New Zealand, and Australia, the emphasis was shifted from looking

for a better driving course to lengthening the learning phase. This has resulted in the so-called graduated driver licensing system.

What is a graduated driving licence?

A graduated driving licence aims to provide novice drivers with driving experience in such a way that they themselves or others encounter as little danger as possible. As the higher order skills get better, they are gradually allowed to gain more experience in more dangerous situations. At the same time, the graduated licence attempts to increase the motivation to drive safely by only lifting limitations if no offences have been committed and/or the novice driver has not been involved in any crashes. A graduated licence usually comprises three phases. The first phase is the 'learner phase' in which only accompanied driving is allowed (see SWOV Fact sheet [Accompanied driving](#)). The supervisor and learner must usually keep a logbook of the operations that the learner has carried out, together with an assessment of how well they were done. Often the number of kilometres driven must also be recorded. Some versions of the graduated driving license do not require driving lessons from a recognized driving school before or during this phase of accompanied driving; other versions do. The duration of the learner period is between six months and year. The learner phase is followed by the 'intermediate phase'. Nearly all types of graduated licence have a test before moving on to the intermediate phase. During the intermediate phase the learner may drive independently, but only under circumstances in which the risk of a crash is small. In this phase even the smallest amount of alcohol is usually prohibited when driving. Often driving in the dark and driving with passengers in the same age group are also forbidden. This intermediate phase can have different durations. It lasts from three months to a year in the United States, but in Australia the length of the intermediate phase is three years. The intermediate period can be lengthened if an offence has been committed and/or a crash has been caused. Another test sometimes follows the intermediate phase; this test focuses on the higher order skills like hazard perception. The intermediate phase is followed by the phase can be called the 'beginner's licence'. This phase entails stricter rules during the first years after obtaining a driving licence than for experienced motorists (e.g. lower alcohol limit or a heavier demerit point system). It is also possible to demote the learner to the intermediate phase after having committed a traffic offence.

What experience is there with graduated driving licences?

Very many types of graduated driving licence systems are being used, but hardly any of them contain all the elements that are described above. The first more-or-less complete system, with three phases, was introduced in New Zealand in 1987. During the 1990s, just about all states and provinces in the USA, Canada and Australia introduced a version of the graduated driving licence that is tuned to their laws. In Europe, 13 countries have the possibility of accompanied driving (the first phase of a graduated licence) and 11 countries, among which the Netherlands, have a beginner's licence (the third phase of a graduated licence). Different from the graduated licence in the USA, Australia and New Zealand, the intermediate phase, independent driving, but not in the dark and not accompanied by peer group passengers, does not exist in Europe. Only Croatia has a ban on driving with peer group passengers in the first period after having passed the driving test. Dutch policy has the intention to start an experiment with accompanied driving. This proposal allows youths to take driving lessons from the age of 16½ and to get their driving licence by passing a regular examination from the age of 17 onwards. This is followed by the period until their 18th birthday during which they are only allowed to drive accompanied by an experienced driver who has to meet specific standards, for instance in relation with years of driving experience and driving behaviour (see SWOV Fact sheet [Accompanied driving](#)). The reason why the intermediate phase, which has proven to be so effective (later in this fact sheet), has not yet been introduced in Europe, may be the minimum age for driving a car. In by far most European countries the minimum age for taking the driving examination has always been 18 and in the USA, Australia and New Zealand this age is 16 or even lower. To make the intermediate phase into a success, the parents' cooperation and supervision is required. This is much easier for parents whose children are 16 or younger, than for those whose children are 18.

What is the road safety effect of a graduated driving licence system?

In all countries where a more-or-less complete graduated driving licence was introduced, the crash rate of young novice drivers decreased strongly in the first year after introduction. This decrease varied from 10 to 40% for drivers to which the graduated licence applied (for a meta-analysis see Hartling et al., 2004). The continued effect of the graduated licence in the following period has also been demonstrated, but not in all countries (Begg & Stephenson, 2003; Gregersen et al., 2000). The great differences in the effect of the graduated licence can be explained by the great differences in the

point of departure (the situation before the graduated licence), and the implementation of the graduated driving licence (age, duration of the phases, with or without official driving lessons). Moreover, many of the effect studies are methodologically weak, e.g. because a control group is missing or sampling has not been random (see SWOV Fact sheet [Contents and assessment of traffic education programmes](#)). The methodologically most sound effect studies show the smallest effects, but even then the crash rate decreases by 10-20%. If the crash rate of 18-24 year old drivers in the Netherlands were to decline by 20% after the introduction of a full graduated licence, this would save approximately 40 road deaths per year.

Which components of a graduated driving licence system are effective and which are not?

Senserrick & Whelan (2003) carried out a literature study of the individual components of a graduated driving licence. In their report, they have listed all effect studies by item.

The components that will certainly work are:

- long learning phase with accompanied driving, in any case longer than 6 months;
- not being allowed to drive at night during the intermediate phase;
- not being allowed to drive with passengers of peer age group during the intermediate phase. This has a smaller effect than the driving-at-night prohibition because this measure leads to more exposure (they each drive separately);
- total alcohol prohibition (also for the supervisor) during the entire period (including the third phase: the beginner's driving licence).

Components that will probably work are:

- raising the age at which the intermediate phase may begin;
- lengthening the intermediate phase to a minimum of one year, and preferably longer;
- lengthening the phase the learner is in after having been caught committing an offence;
- stricter demerit points system for both the intermediate and beginner's licence phases.

Not expected to work are:

- shortening the phases if the learner is taking official driving lessons or follows road safety courses;
- official driver training by professional driving instructors as a total replacement of accompanied driving.

The age for commencing accompanied driving can be low without having a negative road safety effect. The lowering from 17½ to 16 years in Sweden in 1993 had a clearly positive road safety effect. The age limit for driving independently (with restrictions) should be as high as possible.

How can a graduated driving licence system be applied in the Netherlands?

As has been indicated, an experiment with accompanied driving, the first phase of a graduated licence, will be held in the Netherlands. This is already expected to have positive effects see SWOV Fact sheet [Accompanied driving](#)). With respect to the consecutive phases, especially the introduction of restrictions for novice drivers, there are some objections in the Netherlands. One of the objections is that night time and peer age group prohibitions are difficult to control. In the countries where they apply, their enforcement has no police priority. In spite of all this, the measures have a demonstrably positive road safety effect. This is largely due to the role of the parents. The legal driving prohibition is a support for parents who don't want their children to drive the parents' car at night when they have just obtained a driving licence. The young possibly don't mind not being insured at the time of a crash, but their parents do mind. This also helps parents to ensure their children obey the prohibition.

How large is public support and can it be increased?

Youths know that, in general, their age group has a high crash rate, but regard it as simply unavoidable. You learn by trial and error. Moreover, they can't imagine that anything could happen to them. They see the driving licence as a right, and this right cannot be different for novice drivers than for experienced ones. Many youths regard such measures as being meant to spite them, in which the good suffer with the bad. It will take a lot of convincing to get youths to understand that restrictions are opportunities of improving driving skills under relatively safe circumstances. Many parents in the Netherlands also think that once their children have a driving licence, there should be no limitations (Heidstra, 1999). A graduated licence makes parents co-responsible; they are often the supervisor and ensure that restrictions are adhered to. This possibly explains why countries with a graduated licence know widespread support (Mayhew & Simpson, 1996, NHTSA, 1998, Williams, 2001). It can also be assumed that, once it has been introduced in the Netherlands, parents will see its importance.

Good information can possibly help winning over the youths. Because starting accompanied driving at an early age has a positive effect on road safety (Gregersen et al., 2000), it is justifiable to set the minimum age below 18. The prospect of driving (accompanied) at a younger age will probably lead to the young putting their objections aside. It must be emphatically stated that it is very bad for road safety to lower the minimum age for unaccompanied driving. This means that the minimum age for commencing the intermediate phase cannot be younger than 18, and should preferably be older.

What costs and benefits can be expected?

Once a complete graduated licence system has been introduced in the Netherlands, the crash rate of novice drivers will decrease drastically. Without knowing what the system will exactly look like, its effect cannot be estimated accurately. The above-mentioned saving of 40 fatalities is only a very rough indication. Much of the effect depends on the exact model (starting age, duration of the phases, restrictions that apply, etc.). If we assume an annual saving of 40 lives, and the costs of one fatality to be €11 million euro (see SWOV Fact sheet [Road crash costs](#)), the cost of a graduated licence system should be less than €440 million euro. It is expected that this will easily be the case. Direct costs include those for enforcement of the restrictions during the intermediate phase. As this enforcement will probably be carried out in combination with the alcohol enforcement, the extra costs will be quite low. The environmental costs will also be quite low. On the one hand there will be more accompanied driving journeys (often journeys that the parent would have made anyway), and on the other hand, fewer journeys will be made because of the restrictions such as the night time prohibition. The restrictions will result in youths sometimes travelling less easily. This will result in longer journey durations and possibly more expensive ones (e.g. a taxi at night). This can be quite a large cost item. The introduction of a graduated licence barely has any effects for driving schools if – as is a requirement in the proposed experiment – youths first have to pass the driving exam before they are allowed accompanied driving.

Conclusion

During many past years, in the Netherlands as well as abroad, many attempts have been made to reduce the crash rate of young novice drivers. If there were any effects, they were very small. The only exception to this, up till now, is the graduated driving licence. Although the safety effect can only be estimated accurately once the exact version is known, it is certain that its introduction in the Netherlands will result in a substantial reduction of the annual number of traffic casualties.

Publications and sources (SWOV reports have an English Summary)

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