



## Education for older drivers in the future



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### ABSTRACT

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Five presumptions have to be considered when addressing future education for older drivers: 1. Driving a car will continue to be one element of mobility in the future; 2. Older people want to be able to keep driving; 3. Safety will be an even more important factor in mobility in the future; 4. Ecological values will be more important in the future; and 5. Innovative technological applications will be more important in the future. Hierarchical models of driving are suitable in increasing understanding of older drivers' needs and abilities. The highest levels of the driving hierarchy in the Goals for Driver Education (GDE) model are especially important for the safety of both young and elderly drivers. In these highest levels goals for life, skills for living, and social environment affect everyday decision making in general but also driving, which has an impact on driver safety. Giving up driving is very much a social decision and should be taken as such. However, the highest levels of the driving hierarchy are by nature inaccessible to teacher-centered instruction. These levels require more coaching-like education methods where the learner takes the central role and the teacher helps the drivers understand their own abilities and limitations in traffic. Testing and selecting older drivers to enhance safety is not, according to research findings, working in a proper way. Older drivers do not so much need more information concerning traffic rules, etc., but rather better understanding of themselves, their health restrictions, their skills, and their abilities to ensure daily mobility. Their closest companions also need tools to help them in discussions of traffic safety issues affecting older drivers.

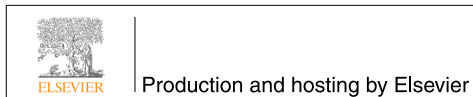
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### 1. Five presumptions concerning older drivers and the future

In this paper, the concept of driver education encompasses any kind of teaching or learning effort aimed at increasing drivers' skills in traffic and motivation to use those skills in safety-enhancing ways [1]. The

paper considers “formal” (professional) learning in driving schools, “informal” learning with non-professional supervisors, and the combinations thereof to be part of driver education. Because getting a driver license often requires passing a driving test, the scope of the paper also includes driving tests as evaluations of older drivers.

### *1.1. Presumption 1: driving a car will continue to be one element of mobility in the future*

Mobility in industrialized countries has mainly been based on private car traffic, and the same trend can be seen in developing countries [2]. Driving a car is part of Western culture, especially in rural areas, but also in urban areas where other possibilities in the form of public transportation will continue to develop into the future. The ability to drive a private car gives the driver a feeling of independence and offers a more flexible way of moving than public transportation does.

The safe, efficient, and ecological use of a car in traffic presupposes abilities, skills, and knowledge. It hinges on the permission to take part in common traffic. To be a fully “authorized” citizen, a person may indeed have to have a driving license.

The idea of private car traffic also provides the foundation for planning and constructing infrastructures in the West. However, a dense city structure creates broader possibilities for effective public transportation systems. In addition, long distances between cities offer competitive possibilities for public transportation like high-speed trains in Europe and Japan. However, long distances alone are not enough; there has to be enough large population to use the train system regularly. One advantage of driving a private car is the independence in deciding the time of departure and arrival. In large, low-population countries, there is no way to create a public long-distance transportation system where departures would happen every 10 to 15 min, as in Japan. In such countries, private car traffic will continue, and driving licenses will be necessary.

Increased free time among all citizens, especially healthy pensioners, has changed the lifestyles. Citizens often have second houses or cottages not in the city centers but rather, as is the case in Nordic countries, far away from cities in the countryside. Trips to these sorts of cottages involve taking along all kinds of supplies, which are easier to carry from door to door in a private car.

One important fact is that when a person learns and grows accustomed to using a car, it is difficult to stop using it even if alternatives exist [3]. There are extensive measures for educating citizens to use cars, but the education for using public transportation is limited. Some European countries have been experimenting on how to train older people to use public transportation when they have given up driving.

### *1.2. Presumption 2: older people want to be able to keep driving*

In industrialized countries, there is a rapidly growing group of older drivers who are used to using private cars and also want to continue using them later in life [3]. Older drivers and their road safety-related problems have drawn considerable attention since the 1960s, when studies came out arguing that the elderly represent a risk in traffic [3]. Older drivers were regarded as some kind of “other group” not belonging to “normal drivers” but rather a special segment of their own. The demands on older drivers were strict. People discussed the ideas of upper age limits for older drivers, periodical medical checks, obligatory driving tests, and education.

However, empirical investigations later revealed that older drivers are mainly dangers to themselves and not to others; compared with middle-aged drivers with the same driving exposure, older drivers do not, in fact, have more accidents. Studies have also shown that neither periodical medical checks nor re-licensing increases older drivers' safety [3–7].

It is also possible to see that the whole concept of the “older driver” is a construct firmly rooted in the corresponding time period. People are

living longer and more healthily than before, and their expected active lifespans are increasing. In the future, older drivers will be even older (+ 75 years) than today (+ 65 years). There will also be more female drivers and more active drivers than there are now [3].

Individual differences in life are big, but person-to-person variations are even larger among the elderly population [3,8,9]. The reasons that people choose to keep driving differ, too. Elements affecting these decisions include driving skill and ability (declining confidence), life and society (increased dependence), self-worth (importance of dependence), and automobile (lack of public transport) [10].

### *1.3. Presumption 3: safety will be an even more important factor in mobility in the future*

Aiming for reliable and higher-level safety seems to be becoming more and more important for the human species. The Swedish concept of “vision-zero” (1997) (nobody should be killed or seriously injured in traffic) is one reflection of this safety trend on the road [11]. In industrialized countries, this ideology has been part of working life for a long time. Given that traffic is one of the leading causes of death, especially in developed countries, it commands a great deal of attention in society. Although the fatality numbers in traffic have decreased in many countries over the last 50 years, the number of people injured in traffic is still rising.

However, it is interesting to note that older drivers are actually among the statistically safest groups in terms of crash rates [7] and that “what are perceived as being problems or errors made by older drivers are actually ‘normal driver behaviors’ or ‘bad habits’ developed over years of driving” [12]. Of course, there are still some age-related impairments that may lead to loss of sensory, cognitive, and motor skills, thereby making older people more prone to accidents [13–15].

There are many measures aimed at increasing safety on the road, and driver education will always be one of them. In the development of initial driver education, it is possible to see how the important topics have changed over the years from technical details to safety and environment-related responsibilities.

A broader view of driver education called Goals for Driver Education (GDE) [16] combined earlier ideas and findings and became a leading theoretical model concerning driver education in Europe at the beginning of 2000. The GDE model consisted of four levels (hierarchy of driving behavior) and three columns (level-specific educational content: knowledge and skills, risk factors, and self-evaluation skills). Safety was the main target of the GDE model. As early as 2009, the GDE model had already been applied to the behavior of older drivers [17].

### *1.4. Presumption 4: ecological values will be more important in the future*

In addition to safety, ecological values will be even more important in the future than they are nowadays. Traffic safety, in fact, can also be regarded as part of ecological values. Saving the nature and organic environment of the world are the goals of ecological values. The idea of ecological mobility has often been understood in too narrow a way as “ecological driving” or “anticipatory driving,” both of which usually focus on technical maneuvers and fuel-saving handling techniques.

Ecological mobility is a wider issue that concerns things like the selection of transportation means in different situations and for different trips. The driver education industry, however, has regarded the idea of teaching the selection of transportation means to be outside the agenda of initial driver education.

However, driver education must work to enhance drivers' responsibilities for ecological values outside the actual act of driving. Driver education should inspire drivers to be safe and ecological. These ecological values may be more unfamiliar to older drivers, who have grown up in a world where ecological problems were not yet as prominent as they are now.

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