



Older Drivers 2015

Summary



What is the problem?

Older drivers (currently defined as drivers aged 75 years and above) have the second highest fatality rate of all age-groups. At the same time, they are not so much a risk to others, but they are at risk themselves due to their frailty and vulnerability to the personal injury or risk of death in the event of a road accident. The problem's magnitude may further increase in the future due to the expected increases in the number of people aged 75 years and above, in the rates of licensed older drivers, and in the mobility of older drivers.

How big is the problem?

Risk exposure: Older drivers typically drive a shorter distance per trip and hence have lower annual accumulated driving distances, and thus reduced exposure to risk.

Risk of accident involvement: The group of drivers aged 75 and above has the second and third highest accident rate for fatal and non-fatal injury accidents respectively. Older drivers are over-represented in accidents at intersections, possibly explained by the combined deterioration of a number of relevant perceptual and cognitive functions. Older drivers are under-represented in accidents involving loss of control, speeding, risky overtaking or driving under the influence of alcohol, suggesting that they are more willing to avoid these kinds of risk-taking behaviour.

Size of accident injury problem: Data from the Netherlands illustrate that, taking distance travelled into account, the fatality rate for car drivers and passengers is seven times higher for those aged 75 years and older than for the average for all ages.

What does science say?

Functional limitations and disorders

As people age, functional limitations and disorders occur that can increase the accident rate of road users. This is particularly the case in the decline of motor functions such as muscle strength, fine tuned coordination and the ability to adapt to sudden changes in body position, the decline in vision and perceptual abilities and the decline in cognitive abilities. Furthermore, several medical disorders related to accident proneness, such as eye disorders, dementia, Parkinson's disease, stroke, cardiovascular diseases and diabetes, are more common among older adults.

Physical vulnerability

Older adults are more vulnerable than younger adults: their injuries will be more severe given the same impact. With the same impact force, the fatality rate is approximately three times higher for a 75 year old motor vehicle occupant than for an 18 year old. Physical vulnerability has the severest consequences during 'unprotected' journeys such as walking and cycling.

Behavioural adaptation

Other characteristics of older road users, such as knowledge of personal limitations, long driving experience, and compensatory behaviour, can prevent safety problems. Older people have more freedom in choosing when to travel and more often choose to drive during daytime and dry weather. They have on average a great deal of driving experience, assisting them to anticipate possible problematic situations. Also, due to the diminishing desire for excitement and sensation when getting older, they, on average, drink and drive less often than younger adults and generally obey the traffic rules more frequently.

What are the solutions?

A variety of measures is available to improve the safety of older drivers:

Infrastructural measures

- Intersection design taking into account limitations of older adults. A good and early view of the intersections should be provided, users should be assisted in making left turns (e.g. separate signal phases for turning left, left turn lanes etc.) and the construction of roundabouts should be encouraged.
- Enhanced legibility of road signs and markings.
- Installation of road lighting and installation of backplates to traffic signals.
- Proper signage and design of exits and entries of motorways, to reduce difficulties in merging and prevent wrong-way driving.

Advanced Driver Assistance Systems (ADAS)

- ADAS systems can compensate for limitations of older drivers by: drawing attention to approaching traffic, signalling road users located in the driver's blind spot, assisting the driver in directing attention to relevant information, and providing prior knowledge on the next traffic situation.

Vehicle design and vehicle safety

- Measures aimed at improving the physical access to the vehicle, and/ or making it easier to operate through power steering, automatic transmission, and wide-angle and planar rear-view mirrors.
- Systems offering increased occupant protection, such as dual-stage airbags, intelligent restraint systems capable of adjusting for lighter, older occupants, and active head restraints and side airbags.

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Education and training

- Formal education and training are important ways to inform older drivers of the physical and cognitive changes experienced as part of the ageing process, on the implications of ceasing to drive and on the choice of safer vehicles.

Arguably assessing the fitness to drive

- Some EU countries require renewal of the driving licence at a certain age, often requiring medical examination, whereas others do not. Evidence relating to the effectiveness of age-related controls is inconclusive.
- Assessment of fitness to drive can also take place when a health problem has been identified. In that case, the question of whether to continue driving depends not on a medical diagnosis, but on the functional consequences of the illness.

Provision of alternative means of transport

- The availability of means of transport other than the car is one of the most important ways to maintain older people's mobility.
- Viable transport options need to provide opportunities for spontaneous travel and flexibility in modal choice in order to enable older users to reach the desired destinations.

Notes

1. Country abbreviations

| | | | | | | | | |
|---|----------------|----|---|-------------|----|---|----------------|----|
|  | Belgium | BE |  | Italy | IT |  | Romania | RO |
|  | Bulgaria | BG |  | Cyprus | CY |  | Slovenia | SI |
|  | Czech Republic | CZ |  | Latvia | LV |  | Slovakia | SK |
|  | Denmark | DK |  | Lithuania | LT |  | Finland | FI |
|  | Germany | DE |  | Luxembourg | LU |  | Sweden | SE |
|  | Estonia | EE |  | Hungary | HU |  | United Kingdom | UK |
|  | Ireland | IE |  | Malta | MT | | | |
|  | Greece | EL |  | Netherlands | NL |  | Iceland | IS |
|  | Spain | ES |  | Austria | AT |  | Liechtenstein | LI |
|  | France | FR |  | Poland | PL |  | Norway | NO |
|  | Croatia | HR |  | Portugal | PT |  | Switzerland | CH |

2. This 2015 edition of Traffic Safety Synthesis on Older Drivers updates the previous versions produced within the EU co-funded research projects [SafetyNet](#) (2008) and [DaCoTA](#) (2012). This Synthesis on Older Drivers was originally written in 2008 and then updated in 2012 and in 2015 by Ragnhild Davidse, [SWOV](#).

3. All Traffic Safety Syntheses of the European Road Safety Observatory have been peer reviewed by the Scientific Editorial Board composed by: George Yannis, NTUA (chair), Robert Bauer, KFV, Christophe Nicodème, ERF, Klaus Machata, KFV, Eleonora Papadimitriou, NTUA, Pete Thomas, Un.Loughborough.

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5. Please refer to this Report as follows:

European Commission, Older Drivers, European Commission, Directorate General for Transport, September 2015.



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