

Road Safety Newsletter



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Driver distraction: an increasing factor in road crashes

Driver distraction has been a growing phenomenon in recent years and it is becoming a major contributing factor in road crashes. With the installation of more and more devices in cars, and especially the increased use of mobile telephones while driving, the problem is likely to get worse. The European Commission has recently published a study on good practices for reducing risks caused by distraction.

Driving requires continuous attention to the road and traffic, as well as good vehicle control. Not paying full attention can lead to a loss of control, thus putting the driver and other road users in danger. Drivers get distracted when they are occupied with other activities. Their attention can be attracted by people or activities inside or outside the car. They may also become tired or daydream.

As Shaun Helman of the Transport Research Laboratory explains: 'The term "driver distraction" is used widely in road safety.

Although there is currently no common definition, it is generally agreed that a driver is "distracted" if their attention is focused on something other than driving. This, of course, must have consequences for safety; however, estimating the size of the problem is difficult, because different countries use different ways of coding distraction in their accident databases, and some countries don't even collect such data. The best estimate we have is that around 10-30% of road accidents (in the EU) have distraction of some kind as a contributory factor.'



It is also difficult for police to prove whether a driver was distracted at the time of a crash. Dr Helman adds: 'Distraction is possible from a range of sources. For example, a driver may be distracted by passengers in their car (a particular problem for younger drivers in social situations), or by roadside advertising, or perhaps even by their own internal thoughts. Often however, it is technology that is assumed to be the culprit. Mobile phones, smartphones, internal vehicle systems such as sat-navs and entertainment systems, and even poorly designed human-machine interfaces on vehicle sensors and other systems can lead to situations where the limited cognitive capacity of the driver is drawn away from, rather than toward, the task of keeping their vehicle on a safe path.'

Four types of distraction

While sources of distraction are many and varied, there are four basic types:



visual distraction
(e.g. looking away from the road),



auditory distraction
(e.g. a phone ringtone),



biomechanical distraction
(e.g. tuning the radio),



cognitive distraction
(e.g. daydreaming).

As driving is primarily a visual task, visual distraction appears to be the most dangerous. Use of mobile phones, GPS or music devices while driving can cause all four of these types of distraction, leading to slower driving and reaction times, weaving, looking away from the road longer and more frequently, and more conflicts with other road users.

Nonetheless, according to Dr Helman: 'Technology may also help to reduce distraction – systems such as automated braking and lane keeping can help to mitigate the effects of distraction, and in the future higher levels of automation may even remove the effects of distraction altogether. For now however, it will be important that all drivers understand the risks and the unacceptability of being distracted while driving. In short, you cannot do two things at once, if one of those things is driving.'

Research shows that drivers spend some 25-30% of driving time on distracting activities, of which conversation with passengers accounts for about half. A third is linked to things outside of the vehicle and about a fifth is technology related. Levels of distraction among young road users are higher than those among middle-aged or older users.

Five ways to tackle distraction

Measures to address the issue generally fall into five categories: legislation and enforcement, driver training, publicity campaigns, technology-based measures and actions connected to road infrastructure. Target groups and areas for such measures include drivers, transport companies, roads and vehicles.

Much of the focus of work related to distraction has been on car drivers, as they are the road user group liable to cause the largest number of distraction-related collisions. However, the risk of distraction among non-motorists such as pedestrians and cyclists, as well as among motorcyclists, has also increased with the proliferation of mobile technologies.

Commission study makes recommendations for tackling driver distraction

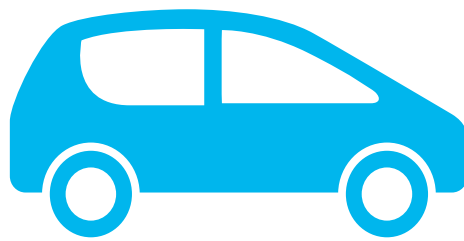
The European Commission study on good practices for reducing road safety risks caused by distraction examined the nature and size of the problem in the EU and measures to reduce injuries caused by distraction. It sought to identify best practices for tackling the problem, resulting in a series of recommendations.



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Technologies and applications, such as wireless and voice-controlled functions that reduce the need for visual interaction between the driver and devices, are considered very useful according to the study.

In the short term, distraction mitigation systems, such as collision warning, lane departure warning and emergency braking systems, are likely to play a key role in reducing distraction. These systems are already well developed and widely available and can be expected to have a big impact in the near future.





In the longer term, development of highly automated driving systems is likely to reduce the risk of distraction, but may also present new challenges.

Education and enforcement efforts are needed, particularly for young and novice drivers. Possibilities for improving Member State driver training and testing systems could be of interest.

Although phone-call blocking systems and advanced driver warning systems (such as eye movement detectors) can be very effective, their low levels of availability mean that they currently have little impact on crash figures.

Common guidelines for the automotive and telecommunications industries have considerable potential, the study points out. They could cover standards for such things as human-machine interfaces, phone-call blocking functions and systems for mounting wireless devices on dashboards.

The full study is available at http://ec.europa.eu/transport/road_safety/pdf/behavior/distraction_study.pdf

The elderly: a particularly vulnerable road user group

Older road users (those aged 75 and above) have the second highest road fatality rate of all age groups. They generally present a greater risk to themselves than to others, due to their frailty and vulnerability to injury or death in the event of a crash.

As a result of demographic change, more and more elderly people are using Europe's roads, and the extent of their mobility may contribute to increased road deaths among older road users. In light of this trend, a European Commission study has assessed the related risks and identified countermeasures to improve the safety of elderly people on the road.

Older people's high fatality rate in crashes is largely determined by deteriorating motor functions related to muscle strength, coordination and rapid body movement. Decline in visual and cognitive functions is less of an issue, apart from in severe cases.

Drivers in poor physical health are more likely to suffer severe injury in the event of a crash. Distance travelled also plays a part, with crash rates higher among people who drive less frequently or shorter distances.



Advantages of older drivers

At the same time, older road users' driving behaviour and experience can weigh in their favour. They are often more aware of their limitations and compensate by driving more safely, for example when roads are less busy or in daylight or dry conditions.

Given the physical vulnerability of elderly people, measures are needed to reduce both injury severity (such as improvements in active and passive vehicle safety) and the involvement of older drivers in crashes. The latter could include developments in road infrastructure and driver assistance systems, education and training. In cases of progressive functional decline, there is a need to ensure a timely end to driving, which could involve the introduction of additional licensing procedures and consultations with medical professionals.

Any new requirements should not cause older drivers to lose their licence when they can still drive safely. Fatality rates among older cyclists and pedestrians are much higher than among drivers and so older people are safer in cars. Losing their car may also impinge on their social life, causing distress and loss of self-esteem, as well as creating obstacles to the performance of daily activities.

Providing alternative forms of transport also helps older people to stay mobile. As no one form of transport can provide mobility for everyone in all circumstances, a variety of services is needed to enable elderly travellers to choose the one that best meets their needs, including public transport and good bicycle and pedestrian infrastructure.





Study makes proposals to address risks to elderly road users

A study by the European Commission-funded ElderSafe project* assesses the main trends and road safety risks for older road user groups and gives an overview and analysis of measures to increase their safety. It also suggests ways of reducing risks, some of which are detailed in this section.



tests and tailored training, and a community-based referral system to identify high-risk drivers. The study considers that encouraging older drivers to take part in assessments to raise awareness about the effects of functional limitations on driving, and training to enable licensing agencies to support older people when they have to stop driving might be useful. In addition, it puts forward the ideas of drawing up guidelines for healthcare professionals and licensing and law enforcement agencies to refer drivers for tests, and getting research institutes to produce criteria for evaluating driving ability and risks.

Vehicle and intelligent transport system technologies

Advanced vehicle technologies can help to compensate for the effects of the ageing process and ElderSafe examines the issue of production of elderly-friendly vehicles. It sees development of vehicle safety standards for older road users, introduction of a standardised testing procedure to assess the suitability of advanced vehicle technologies for older drivers, and the involvement of elderly people in the design process as elements that could contribute to this. The study also proposes training older people in the use of safety technology, encouraging further development of crash avoidance systems and exploring the potential of (semi-) automated driving to keep older road users driving for longer.

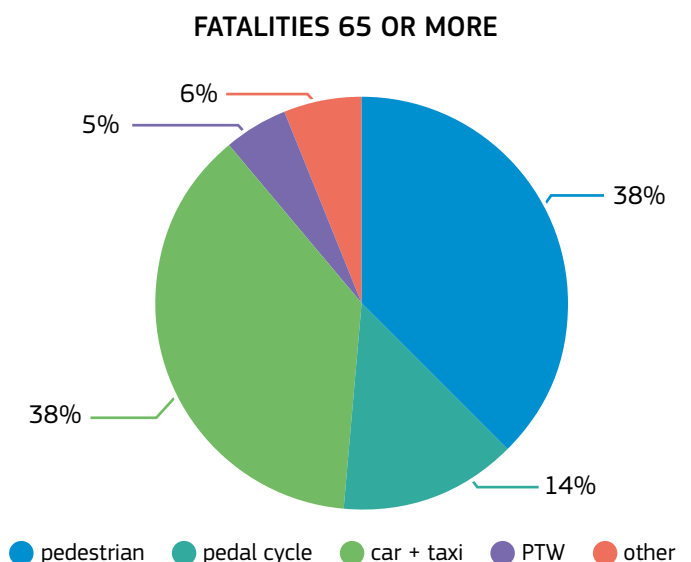
* The project's findings are aimed at making Europe's roads safer for elderly road users in general terms; they are not formal recommendations or represent an official policy line by the European Commission towards Member States.

Infrastructural interventions

Improvements to infrastructure and road design can bring immediate benefits. To address the main risks to elderly people, the study recommends separating vulnerable road users from motorised traffic and taking account of the needs of the elderly when designing new roads in areas with many vulnerable road users. Self-explaining and forgiving roads which give users clear information and the chance to correct mistakes could also be designed in urban and rural areas. Furthermore, the study suggests reducing the possibility for conflict between vulnerable road users and vehicles – and between vehicles at urban junctions – and developing standards for age-friendly road design.

Licensing and enforcement

The elderly should be given the help they need to keep driving for as long as they are fit to drive. According to ElderSafe, gradual licensing restrictions could be underpinned by EU-wide arrangements on fitness to drive, specialised centres providing medical and driving



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