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## **Economic Commission for Europe**

Inland Transport Committee

### **Global Forum for Road Traffic Safety**

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Item 5 (b) of the provisional agenda

**Consolidated Resolution on Road Traffic (R.E.1):**

**Amendment proposals on distracted driving**

### **Amendment proposals on distracted driving**

#### **Submitted by Italy and Sweden**

This document proposes amendments to Consolidated Resolution on Road Traffic (R.E.1), Section 1.5 (Use of mobile phones). In doing so, it takes into account ECE/TRANS/WP.1/2017/2 and Informal document no. 11 (September 2017) discussed and presented at the previous session.

# 1.5 Inattention and distraction

## 1.5.1 Context

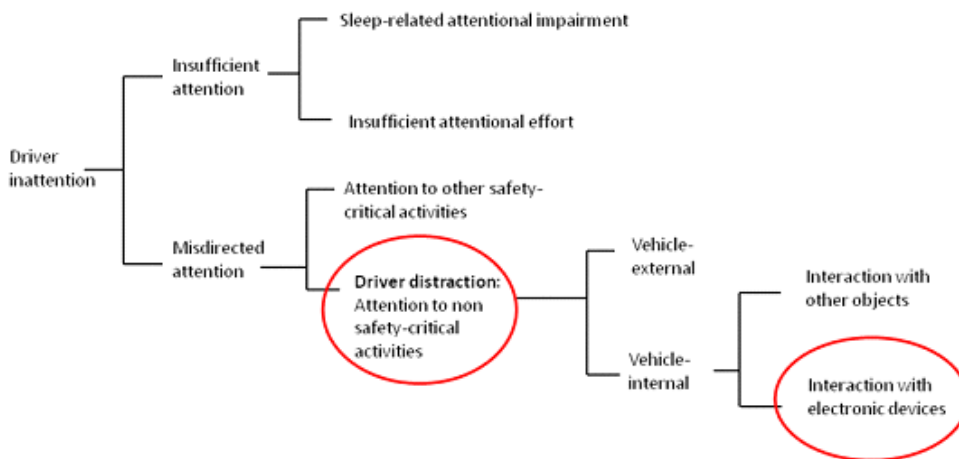
### 1.5.1.1 Inattention and distraction in general

Research is agreed on that inattention and distraction is a salient road safety problem. However, it is a very complex problem which is difficult to measure and to find effective measures against. One reason is that inattention and distraction yet have no common definition. Several proposed definitions relate to activities which are necessary for "safe driving". But defining which activities a driver must attend to in each driving situation to maintain safe driving is more or less impossible. It is only in hindsight possible to determine which activities that were critical in the actual situation and how the driver should have allocated his or her attention. In this context it is important to stress that inattention and distraction not per definition is detrimental to road safety. Depending on the traffic situation and the experience of the driver, the driver may adjust his or her behaviour to the situation and not always fully focus his or her attention to driving.

The absence of a common definition and the fact that data from accidents related to inattention and distraction by nature is hard to collect means that studies assessing the magnitude of the problem is difficult to carry out and those who have been carried out are hard to compare. It further means that measuring effects of different countermeasures directly on accidents is difficult.

Countermeasures have so far focused primarily on distraction due to the use of mobile phones and other communication devices. It is however important to note that such distraction is a subset of distraction in general which in turn is a subset of inattention (fig.1).

**Figure 1. Inattention and distraction.**



Source: Engström J, Monk CA, Hanowski RJ, Horrey WJ, Lee JD, McGehee DV, Regan M, Stevens A, Traube E, Tuukkanen M, Victor T, Yang CYD (2013). *A conceptual framework and taxonomy for understanding and categorizing driver inattention*. Brussels, Belgium: European Commission.

For that reason it is important to widen the scope of inattention and distraction and not only focus on distraction due to the use of mobile phones and other communication devices. Research shows

that taking the eyes off the driving task during longer periods increases the accident risk substantially. But even if the driver keeps his or her eyes on the road he or she may be distracted due to other reasons, e.g. cognitive distraction.

Regarding countermeasures it is clear that there is not one or a few countermeasures that will solve the problem of inattention and distraction. In the research society there is a common view that there is a need for a system oriented approach where vehicle technology and infrastructure measures are combined with information, education and surveillance. It is about trying to both decrease distraction in itself and to decrease the consequences of distraction. Since there are so many sources of distraction it is however more effective to a greater extent focus on countermeasures against the effects or consequences of distraction and not only on different sources.

But up until now focus has been on countermeasures directed towards the driver in order to change his or her behavior regarding the use of mobile phones, e.g. legislation, education and information campaigns. Due to the mentioned definition and data collecting problems it is difficult to evaluate the effects of such measures, especially on accident rates. It is also clear that legislation mainly is directed towards the individual, putting the responsibility for tackling the distraction problem solely on the driver. Legislation is seldom directed towards other stakeholders with a possibility to influence the problem, e.g. manufacturers of nomadic technical devices, telecommunication providers and professional buyers and sellers of transports.

Regarding vehicle technology the judgement is that different types of advanced driver support systems, e.g. "Forward Collision Warning" and "Lane Departure Warning" will have a positive effect<sup>1</sup>. Furthermore, there are new studies that indicate positive effects of emergency braking systems and lane keep assist systems even if the isolated effect on inattention and distraction is not possible to evaluate. In time vehicle with higher levels of automation may have a very positive effect. Furthermore,<sup>2</sup> Vehicle-to-vehicle (V2V) safety technologies could help drivers avoid or reduce the severity of specific types of crashes by sending a warning to the driver during specific hazardous traffic situations, such as when approaching blind intersections, making lane changes, or when a stopped or slowly moving vehicle is ahead in the travel lane. A key aspect of the Connected Vehicle program is ensuring that the new technologies can perform their safety function without creating a distraction for the driver.

Regarding infrastructure it is primarily measures that handle the consequences of inattention and distraction, e.g. median barriers, forgiving side areas and rumble strips, which is highlighted.

It is also important to bear in mind that the above-mentioned vehicle technology and infrastructure measures are indifferent to different sources of distraction and also minimizes the consequences of other types of reduced driving ability, e.g. drink driving, fatigue and illness. For that reason, they are more effective than measures directed towards specific types or sources of distraction since they address a wide range of accident factors relating to the driver's ability.

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<sup>1</sup> Effects of visual and cognitive load in real and simulated motorway driving  
JohanEngströma –EmmaJohanssona -JoakimÖstlundb,

<https://www.sciencedirect.com/science/article/abs/pii/S1369847805000185>

<sup>2</sup> NHTSA Study – Distraction by cell –phone and texting, 2012

### 1.5.1.2 Mobile phones

Mobile phones and other communication devices can be used in a motor vehicle for various purposes, such as notifying the emergency services in the event of an accident; telephoning a breakdown mechanic, etc.; and, making use of the numerous possibilities for stopping inside and outside built-up areas and on motorways.

Studies have shown that there is a link between using a mobile phone or other communication devices while driving and the increased risk of an accident. It is now evident that if you are using a mobile phone while driving you are approximately four times more likely to be involved in a crash than a driver who is not using a phone. This risk appears to be similar for both hand-held and hands-free phones, because it is the cognitive distraction that is an issue, not only the physical distraction associated with holding the phone. Text messaging appears to have an even more severe impact on driving behavior and crash risk. (WHO Report)

Recent studies have shown that the basic problem is that the driver takes his/her eyes off the road for a rather long time irrespectively of the source of distraction, which is comprised of three elements:

- (a) Visual (Attention of the driver away from monitoring traffic).
- (b) Manual (Driver cannot properly control the vehicle whilst he or she is manipulating the mobile phones or other communication devices).
- (c) Cognitive (Attention of the driver away from the task of controlling the vehicle).

While at the wheel, driver needs to pay attention to the road and to the traffic, and to be capable of performing easily and instantly the necessary manoeuvres dictated by the circumstances. Using or even holding a mobile phone or other communication device can easily prevent a driver from performing these tasks correctly and safely.

For this reason, legislation in many countries prohibits and punishes the use of a hand-held phone and other communication devices, while nevertheless tolerating the use of hands-free mobile phone kit. It was concluded that neither a hands-free option nor a voice controlled interface removes the safety problems associated with the use of mobile phones in a car.<sup>3</sup> Even in this case, however, some national laws make the driver liable in the event of an accident. And, in fact, the risk of an accident increases even when a hands-free phone or other communication device is used, since a major part of the driver's attention is taken up by the telephone conversation. For example, drivers tend to look less frequently in the rear-view mirror or to the sides; pay less attention to the various road signs, and to pedestrians, particularly in town, etc. In fact, there is no conclusive evidence to show that hands-free phoning is any safer than hand-held phoning, because of the cognitive distraction involved with both types of phones.

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<sup>3</sup> Cognitive load and detection thresholds in car following situations: safety implications for using mobile (cellular) telephones while driving  
Dave Lamble \*, Tatu Kauranen, Matti Laakso, Heikki Summala,  
<https://pdfs.semanticscholar.org/2ab9/3b912b5dd28467e59e11fce7d409859dae47.pdf>

It is noteworthy that research has also shown that many drivers consider the use of mobile phones and other communication devices to be so important that they completely ignore the associated increase in accident risk. Moreover, it seems that individual drivers have difficulties in understanding an increase in risk level, which of course is normally statistically very low in individual cases. This is partly because of the difficulty of demonstrating that the use of a mobile phone or other communication devices while driving poses a specific risk in any particular set of circumstances.

## **1.5.2 Recommendations**

### **1.5.2.1 Support the introduction of vehicle and infrastructure technology**

Contracting Parties should speed up the introduction of advanced driver support systems with a documented effect on inattention and distraction by using different policy instruments, e.g. introducing financial incentives (e.g. tax reduction for vehicles with advanced driver support systems), introducing mandatory requirements for such systems and using different forms of consumer information.

Contracting Parties should influence and stimulate road authorities and infrastructure providers to a greater extent prioritize median barriers, forgiving side areas and rumble strips (where median barriers and forgiving side areas are hard to introduce) when investing in the infrastructure.

### **1.5.2.2 Education and information**

Contracting Parties should carry out educational and information measures with a documented effect towards drivers.

They should also take measures to support and engage business managements in organisations buying or selling transport services to develop activities to generally prevent road traffic accidents, where inattention and distraction could be a specific area. This support may e.g. consist of tools for the development of safety policies and procurement requirements. In this context Contracting Parties may encourage to adopt a safety management system, e.g. ISO 39001.

### **1.5.2.3 Special recommendations regarding the use of mobile phones and other communication equipment**

To avoid the risk of such accidents, Contracting Parties should at least prohibit the use by drivers of hand-held phones in a moving vehicle, as is already provided for under the Convention on Road Traffic, 1968 (article 8). In addition, it should be recommended that drivers observe the following rules:

- (a) Drivers should switch off their phones and other communication devices before moving off and leave them on voicemail;
- (b) Whilst driving, drivers should refrain from viewing messages and other information on display of phone and other communication devices;
- (c) Drivers should stop in an appropriate place if they wish to use a mobile phone or other communication devices, or if they wish to listen to or read any messages received. However, they should never stop in a dangerous place, such as the hard shoulder of a motorway.

These recommendations should be accompanied by information campaigns, if possible in partnership with the various phone operators. Such campaigns could adopt appropriate slogans, e.g. “Drive or phone, but NEVER both, you choose”, or slogan linked to law enforcement crackdown “U Drive. U Text. U Pay”. The idea is to increase the awareness of drivers about the importance of respecting these rules, both for their own safety and also for the safety of other road users.

#### **1.5.2.4 Facilitating the investigation related to an accident**

It should be recommended that users of mobile phones and other communication devices ensure that the names of the person or persons to be contacted in the event of an accident are clearly indicated in the list of names stored in their phone or other communication device. This would help authorized personnel in emergency services and authorized personnel from wasting time trying to locate such contacts. For example, in some countries, it is becoming common practice to recommend that users of mobile phones and other communication devices should indicate the name of the person to be contacted in the event of an emergency by using the internationally recognized acronym ICE (In Case of Emergency), or, if there are several people, ICE1, ICE2, ICE3, etc.

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