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

A Safe System Approach and amendment proposals on distracted driving

Revised Consolidated Resolution on Road Traffic (R. E.1)

Amendment proposals on distracted driving

Submitted by France, Italy and the Russian Federation

Summary

This document submitted by France, Italy, Russian Federation proposes amendments to Consolidated Resolution on Road Traffic (R.E.1), section 1.5 - Use of mobile phones. Sweden, together with other authors, contributed to the identification of the necessary key factors for the analysis of the research context on distraction and inattention. Proposed revisions (compared to ECE/TRANS/WP.1/2017/2/Rev.2) are identified in bold (additions) and strikethrough (deletions).

1.5 Use of mobile phones and other communication devices / Distracted driving

1.5.1 Context

Distracted driving is driving while doing or engaged in other activities that take the driver's attention away from the complex task of driving a vehicle. Distraction is the process of diverting the attention of a driver from a desired area of focus and thereby blocking or diminishing the reception of desired information needed to drive the vehicle¹. The cause of distraction may be including the use of mobile phone and other communication devices.

It has been shown that the basic problem is that the driver takes his/her eyes off the road irrespectively of the source of distraction. However, it makes sense to consider this problem as a whole in the interest of road safety. Thus, the case is about 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).

Using or even holding a mobile phone or other communication device can easily prevent a driver from performing driving task 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. 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/exists 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.

Research² confirms that inattention and distraction, although a salient road safety problem, are *per se* a very complex problem, multidimensional and contextual to its character, it is by this difficult to measure and to find effective measures against. One reason is that inattention and distraction yet have no common definition.

This factor leads, by inference, to the fact that data from accidents related to inattention and distraction by nature is hard to collect; therefore, crash investigations, related studies and behavioural analysis assessing the magnitude of the problem are 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 may be difficult.

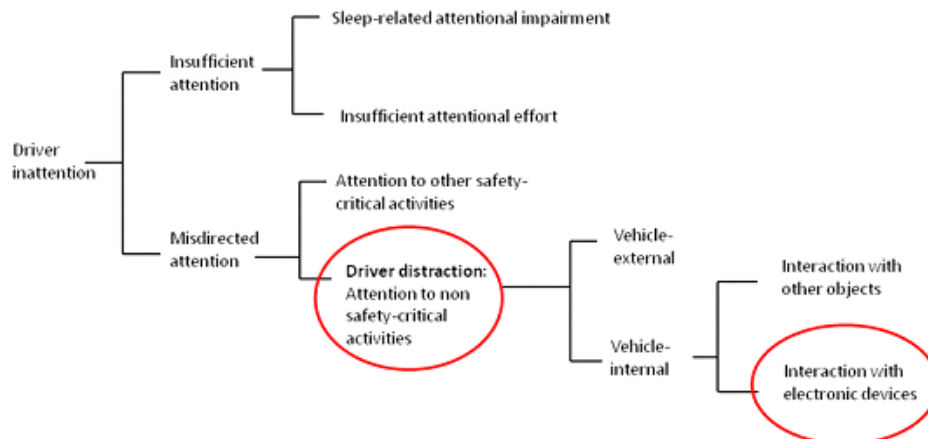
Countermeasures have so far focused primarily on distraction due to the use of mobile phones and other communication devices. In this context, it is however important to note that such distraction is a subset of distraction in general which in turn is a subset of inattention (fig.1)³.

¹ <https://en.wikipedia.org/wiki/Distraction>

² Driver distraction and driver inattention: Definition, relationship and taxonomy, Regan, C. Hallett, C.P. Gordon

³ 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.

Figure 1.
Inattention and distraction.



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.

Researches⁴ prove⁶ 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.

In the research society there is a common view that there is a need for a systematically oriented approach where vehicle technology and infrastructure measures are combined with information, education and surveillance.

With reference to 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 effect⁷. New studies indicate positive effects of emergency braking systems and lane keep assist systems even if, at this stage, 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.

Furthermore⁸, 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 should focus on ensuring that the new technologies can perform their safety function without creating additional distraction for the driver. With reference to infrastructure, it would be relevant to envisage measures to curb the consequences of inattention and distraction, e.g. median barriers, forgiving side areas, rumble strips.

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. In this context, 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. On this, specific impact education and awareness programs **should be considered** on the usage and attitude towards **texting mobile phones and other communication devices** while driving. **This approach** should be **considered elaborated** by involving civil society together with ~~transport~~ administrative authorities,

⁴ Keep Your Eyes on the Road: Young Driver Crash Risk Increases According to Duration of Distraction, Simons Morton, Feng-guo, Klauer, Ehsani, Pradhan.

⁵ Driver Distraction: A Perennial but Preventable Public Health Threat to Adolescents, Bingham.

⁶ <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812197>

⁷ Effects of visual and cognitive load in real and simulated motorway driving, Engstroma, Johanssona, Ostlundb.

⁸ Survey on In-vehicle Technology Use: Results and Findings, K.Kamalanathsharma, A.Rakha, H.Zohdy

1.5.2 Recommendations

1.5.2.1 Support the introduction of vehicle and infrastructure technology

Governments should promote the introduction of advanced driver support systems that have been approved and tested in the prescribed manner for prevent of inattention and distraction.

For these reasons Governments 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

Governments 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 consist of tools for the development of safety policies and procurement requirements. In this context Governments encourage to adopt a safety management system.

1.5.2.3. Special recommendations regarding the use of mobile phones and other communication devices, **mainly hand-held**, when the vehicle is moving.

In order to reduce the risk of accidents Governments ~~for the cause of distraction~~ 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). The same requirement should be extended to other communication devices. 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;~~

(a) Whilst driving, drivers should refrain from viewing messages and other information on display of phone and other communication devices; they should also refrain from writing messages and using other functions of the phone or other communication device for example such as using the navigation function, listening to audio messages and music, photo and video shooting.

(b) Drivers should stop in an appropriate place if they wish to use a mobile phone or other communication devices for the above purposes. 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". 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.

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.

1.5.2.4. 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.
