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Proposal to establish an Informal Working Group to develop new Regulations under the 1958 Agreement, for driver drowsiness and distraction warning systems

Submitted by the expert from Australia

The text reproduced below was prepared by the expert from Australia to propose the establishment of an Informal Working Group to develop new Regulations under the 1958 Agreement, for the detection of driver drowsiness and distraction.

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Proposal to establish an Informal Working Group to develop new Regulations under the 1958 Agreement, for driver drowsiness and distraction warning systems

A. Key points and proposal

1. Fatigue and distraction have long been considered two of the most significant road safety problems in Australia. For this reason, fatigue and distraction, together with not wearing a seatbelt, speeding, and drug and alcohol impairment, are often collectively referred to as the fatal five.
2. While long driving trips increase the likelihood of fatigue, and Australians regularly drive particularly long distances in a single trip, the impact of driver fatigue and distraction on road safety is not just limited to countries with similar geographical layout or lengths of road network.
3. The prevalence of fatigue and distraction in many other countries is similar to Australia, indicating that driver fatigue and distraction are topics which should be prioritised for collective international action.
4. In Australia there have been many education campaigns over several decades to warn drivers of the dangers of driving when fatigued or distracted, but these have remained sizeable road safety problems.
5. Vehicle-based systems are available to warn a driver when they are drowsy/fatigued or distracted, and in some cases also include a risk mitigation function, for example to bring the vehicle to a stop (with steering control) in the event that the driver is determined to be unresponsive.
6. The European Union (EU) has already made regulations for vehicle-based driver drowsiness (fatigue) and distraction warning systems, and it would be possible to make United Nations (UN) Regulations similar to those.
7. Australia proposes the establishment of an Informal Working Group (IWG) to develop two new UN Regulations under the 1958 Agreement, one for driver drowsiness warning systems and one for driver distraction warning systems.
8. This work could be conducted under the auspices of the Working Party on General Safety (GRSG), with consideration of the driver state monitoring and disengagement warning requirements for Driver Control Assistance Systems (DCAS) developed by the Working Party on Automated/Autonomous and Connected Vehicles (GRVA), and the existing EU Regulations.
9. Australia would be prepared to chair and provide secretariat for the IWG, with the agreement of GRSG and WP.29.

B. Background

10. Australia, along with other Contracting Parties, work towards greater international harmonisation of vehicle standards, and therefore propose to make national vehicle regulations based on UN Regulations.

Fatigue/drowsiness

11. When a driver is fatigued, they have a lack of alertness, which impairs performance.

12. Fatigue can be caused by a range of factors, including lack of sleep, long periods of work, disruption to circadian rhythms, monotonous tasks, and the use of drugs with sedative effects.

13. Fatigue can cause drivers to have difficulty maintaining a constant speed and/or lane position, slower reaction times, lapses in attention, altered decision-making, and to fall asleep (including both micro-sleeps and falling into deeper sleep).

14. In Australia, various studies have found between 10-20% of serious (hospitalisation) and fatal crashes to involve fatigue as a contributing factor¹. However, these studies have generally relied heavily on police reported data, which is likely to understate the true size of the problem, including due to difficulties faced by police and other accident investigators in identifying where fatigue was a factor (e.g. surviving drivers are reluctant to admit they were fatigued, there are no reliable tests used to detect fatigue post-crash) and the attribution of some fatigue related crashes to other causes which are easier to identify and prove (e.g. speeding, alcohol impairment).

15. The severity of fatigue related crashes can be particularly high, as drivers that are drowsy or asleep are much less likely to re-act effectively to reduce the severity of an impending impact (e.g. by braking, steering to avoid severe impact etc.), and so an even greater proportion of fatal crashes in Australia (at least 20-30%) are estimated to be caused by fatigue.

16. The results reported from international studies on fatigue related crashes can vary considerably. Some of this is likely due to differences between countries, but is also likely to reflect difficulties in identifying all fatigue related crashes, given data collection and study limitations. Overall, the range of results from these studies indicate the size of the problem (in percentage terms) is similar to that found from comparable studies for Australia. For example, the European Commission (EC) has estimated that driver fatigue is a factor in 10-25 % of all road crashes in the EU².

Distraction

17. When a driver is distracted their attention is diverted away from activities critical for safe driving toward a competing activity, which impairs performance.

18. Types of distraction include visual (eyes off the road, for example reading a text message), manual (hands off the wheel, for example holding a hand-held device or operating a centre console control or menu), and cognitive (mind off driving, for example talking on the phone, thinking about something other than driving).

19. In Australia, 16% of serious (hospitalisation) crashes are estimated to be caused by distraction³. Similar to fatigue, this is likely to be an underestimate, due to difficulties in identifying distraction as a contributing factor after a crash has occurred.

20. Various international studies indicate driver distraction is a causal factor in 10-30% of serious and fatal crashes. For example, the EC has estimated that between 10% and 30% of crashes in Europe are caused by road user distraction⁴.

¹ [Fatigue and Driving: An International Review](#).

² Explanatory Memorandum for the Regulation (EU) 2019/2144 of the European Parliament and of the Council.

³ [NRSPP Fact Sheet: Distracted Driving – What You Need To Know](#).

⁴ EU Road Safety Policy Framework 2021-2030 - Next steps towards "Vision Zero": Commission staff working document, 2019.

C. Task list

The major tasks that could be performed by an IWG include:

- Review of existing regulations, standards and protocols;
- Assessment of the adequacy of those to form the basis of the technical requirements for UN Regulations under the 1958 Agreement to address the road safety problems of driver drowsiness and distraction;
- Consideration of the need for parallel amendments to other UN regulation/s, including for example to ensure the design of vehicle dashboard areas and hand controls for the driver are designed in ways which minimise the need for warnings from improved systems for the detection of driver distraction;
- Consideration of the need for additional research; and
- Production of draft UN Regulations for consideration by GRSG and subsequently WP.29.

D. Existing regulations and protocols

Draft UN Regulation (note: limited in scope)

[Draft UN Regulation on uniform provisions concerning the approval of vehicles with regard to Driver Control Assistance Systems](#) – note: this includes some requirements for driver state monitoring and disengagement warning strategies, but the scope of the draft Regulation is limited to vehicles with hardware and software collectively capable of assisting a driver in controlling the longitudinal and lateral motion of the vehicle on a sustained basis (Driver Control Assistance Systems).

Other Regulations

[COMMISSION DELEGATED REGULATION \(EU\) 2021/1341](#) of 23 April 2021 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of motor vehicles with regard to their driver drowsiness and attention warning systems and amending Annex II to that Regulation.

[COMMISSION DELEGATED REGULATION \(EU\) 2023/2590](#) of 13 July 2023 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of certain motor vehicles with regard to their advanced driver distraction warning systems and amending that Regulation.

New Car Assessment Protocols

[Euro NCAP Assessment Protocol – SA – Safe Driving \(v10.4\)](#) – Occupant Status Monitoring – Driver State Monitoring.

[ANCAP Assessment Protocol – Safety Assist: Safe Driving \(v10.1.2\)](#) – Occupant Status Monitoring – Driver State Monitoring.

E. Timeline

The timeline for the work of the IWG, including adoption of terms of reference, and the timing of subsequent meetings would be discussed at the first meeting of the IWG.