

Mr Luis Gutiérrez
National Transport Commission
Public submission – Developing technology-neutral road rules for driver
distraction
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MEMBER OF



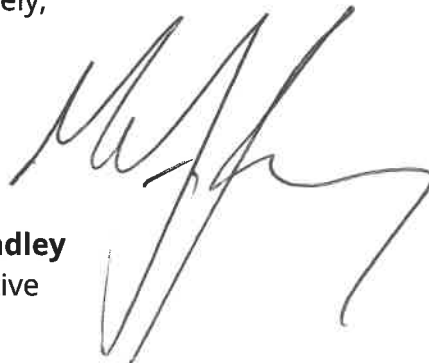
Dear Mr Gutiérrez,

***RE: Public submission – Developing technology-neutral road rules for driver
distraction***

In response to the NTC Issues Paper *Developing technology-neutral road rules for driver distraction*, please find attached a submission from the Australian Automobile Association.

If you have any questions, please contact AAA Director – Policy and Research, Mr Craig Newland on 02 62614408 or craig.newland@aaa.asn.au.

Yours sincerely,



Michael Bradley
Chief Executive

AAA SUBMISSION TO NTC ISSUES PAPER

Developing technology-neutral road rules for driver distraction

The AAA and its constituent clubs are strong advocates for road safety and are committed to reducing trauma on Australia's roads. The AAA welcomes the opportunity to provide input to the NTC Issues Paper *Developing technology-neutral road rules for driver distraction*.

The AAA agrees that driver distraction is a significant road safety risk that is not well understood, nor is it sufficiently managed through current road rules and enforcement. The AAA notes that the current road rules relating to distraction from mobile devices are based around technologies and use from some years ago, which have diminished in relevance. Current technologies and uses are not addressed, other than via the general requirement for drivers to have proper control of the vehicle. The AAA notes that the evolution of technology can change the nature of technology distractions over time.

The AAA supports the NTC's review of the Australian Road Rules for regulating driver distraction to determine whether they sufficiently address the key factors that cause driver distraction.

However, the AAA believes that all road users have a responsibility to navigate the road environment safely. Hence, it would be appropriate to also consider technology-neutral distraction regulation related to other road users such as pedestrians and cyclists, as well as drivers of vehicles. These other road user groups are also susceptible to distraction and are at risk of failing to safely interpret and use the road environment. For example:

- "Texting is associated with an 18% increase in intersection crossing times and failure to perform routine pedestrian safety behaviours before stepping into the roadway. In our study, nearly 30% of pedestrians continued distracting behaviours in the intersection"¹.
- A virtual study in the U.S.A has shown participants distracted by music or texting were more likely to be hit by a vehicle when crossing the road than undistracted participants. Distracted participant pedestrians were more likely to look away from the street environment than were undistracted participants. Findings were maintained after controlling for demographics, walking frequency, and media use frequency².

The AAA is currently undertaking research projects into (1) Distraction of young drivers from smartphones; and (2) The Distractibility of the Human-Machine Interface in vehicles, and would be pleased to share the output of these projects once they are completed later in 2019.

¹ Thompson, L., Rivara, F., Ayyagari, R., & Ebel, B. (2013). Impact of social and technological distraction on pedestrian crossing behaviour: An observational study. *Injury Prevention, 19*(4), 232-237.

² Schwebel, Stavrinou, Byington, Davis, O'neal, & De Jong. (2012). Distraction and pedestrian safety: How talking on the phone, texting, and listening to music impact crossing the street. *Accident Analysis and Prevention, 45*(2), 266-271.

Question

1. Does the proposed definition include all the key functions required to safely perform the driving task?

The Issues Paper proposes a definition of the driving task to be:

A complex, multi-task activity that involves the following functions:

- *route finding*
- *route following*
- *lateral motion control*
- *longitudinal motion control*
- *monitoring the driving environment*
- *manoeuvre planning*
- *responding to objects or events*
- *making other road users aware of the driver's presence; and*
- *complying with road rules.*

It is important to agree a clear and specific definition of the functions to safely perform the driving task, as distractions are to be defined as diversion of attention away from the driving task.

The definition should clearly articulate whether specific tasks are included within the above broad headings. For example, whether velocity control is encompassed within lateral and longitudinal motion control; whether vehicle monitoring (attending or responding to signals and warnings from the vehicle) is encompassed within monitoring the driving environment, or perhaps responding to objects or events; and whether the use and programming of GPS navigation is to be encompassed by route finding and/or route following.

Consideration should be given to broadening the description of “making other road users aware of the driver’s presence” to also include making other road users aware of the driver’s intentions.

To be able to carry out some of the identified driving activities also requires the selection of a roadworthy vehicle, and the maintenance of this vehicle before and during the journey, including refuelling. The maintenance task could be considered to be addressed through the activity of responding to objects or events. However, a number of the above activities are unable to be undertaken without a suitable vehicle (eg lateral motion control and longitudinal motion control are not possible with defective steering or brakes) and there is an increasing body of evidence suggesting that the level of distractibility of the human-machine interface in the vehicle varies between vehicle models. Hence the selection of vehicle to be driven can directly influence the level of distraction of the driver.

Whilst it is acknowledged that the road rules to regulate in-vehicle distraction are not expected to control the specification of the vehicle to be driven, and therefore the definition of the driving task could be rather narrow in this case, a general definition of the driving task may also need to consider the selection and maintenance of a suitable vehicle.

Question

2. Does the proposed definition capture all the behaviours that lead to driver distraction and a reduction in driving performance?

As noted above, it is important to agree a clear and specific definition of the functions to safely perform the driving task, as distractions are to be defined as diversion of attention away from the driving task. Any errors or omissions in the definition of the driving task will deem these activities to be distractions, and incorporating additional tasks within the list of driving tasks will deem that these are not distractions.

The NTC Issues Paper proposes a definition of driver distraction as follows:

Driver distraction is the voluntary or involuntary diverting of attention, in a visual, manual, auditory or cognitive sense, away from the driving task to focus on a competing secondary activity.

This definition characterises distraction as the diversion of attention and does not consider variations in the level of attention. Reduction in the level of attention, complacency, or loss of concentration could perhaps be also be considered, but may require different rules and strategies to mitigate these effects. The AAA notes that the scope of this work is specific to the diversion of attention, characterised as distraction.

The specification of visual, manual, auditory or cognitive attention begs the question of attention being diverted by other senses (taste, smell or touch). Auditory attention is not a pre-requisite for control of a motor vehicle as hearing-impaired individuals are licensed to drive, however, auditory attention can assist in collecting information about the driving environment. The diversion of attention resulting from unexpected sounds could equally result from unexpected smells, tastes or tactile sensation. Whilst these other sensory stimuli may be less commonplace in a vehicle, they should also be considered for inclusion.

Question

3. How could a distinction between manageable and unmanageable levels of driver distraction be used to inform the way distraction is regulated? What evidence-based distinctions could be considered?

The Issues Paper states that future legislation seeking to regulate driver distraction from the use of technology devices may need to consider commercial freight and passenger vehicle drivers separately to accommodate their needs and strike a balance between minimising their distraction and allowing them to perform their job.

Compromising the safety objectives in the interests of accommodating commercial operations is not supported by the AAA. It seems inappropriate to develop performance-based, technology-neutral road rules for driver distraction and then create prescriptive

exemptions. The definition for eligibility for exemption may also become problematic if it is based on the “need” to use a device while the vehicle is being driven.

Instead of creating exemptions in road rules for equipment being used by commercial drivers, it would be preferable to require the equipment to be designed and used in such a way that it complies with applicable rules and minimises or eliminates distraction, the same as for other drivers.

The roadside assistance operations of the AAA’s constituent clubs have similarities with the commercial freight and passenger vehicle drivers discussed in the Issues Paper. The clubs take their Work, Health and Safety responsibilities for these employees very seriously and would not support road rule exemptions that potentially increased the level of risk for these staff and/or other road users.

Question

4. Should conventional and technology-based causes of distraction be treated equally in the Australian Road Rules? Why?

The AAA supports the consideration of all types of distraction in the NTC’s work and these should be treated equally in the Australian Road Rules if the risk profiles are shown to be equivalent. This will necessitate the use of appropriate performance measures to be able to determine the level of distraction and consequent reduction in driving competency.

Question

5. Can you provide examples of effective non-regulatory approaches to driver distraction that assist drivers to self-regulate their behaviour in a dynamic driving environment?

As the Issues Paper identifies, there are many aspects to consider, including, but not limited to, what forms of distraction should be regulated, how they could be enforced, and how regulation could be agile enough to allow for ongoing advancements in technology.

Driver self-regulation is critical given there are forms of distraction (such as speaking on the phone with hands-free) that would be difficult to enforce. Driving while talking on the phone using hands-free has been widely demonstrated to impair a driver’s ability to maintain critical attention to the driving task, significantly increasing the likelihood of having a crash. In fact, drivers who use a mobile phone while driving are up to 4 times more likely to be involved in a serious injury crash, regardless of whether a hands-free device is used³.

The feasibility of options to actively encourage self-regulation beyond education could be further explored, such as the use of incentives (eg apps that provide rewards for safer driving behaviours) to motivate individuals to self-regulate, or requiring telecommunications

³ McEvoy, S.P., Stevenson, M.R., McCartt, A.T., Woodward, M., Haworth, C., Palamara, P., & Ccarelli, R. (2005). Role of mobile phones in motor vehicle crashes resulting in hospital attendance: a case-crossover study. *BMJ*. Doi: 10.1136/bmj.38537.397512.55

companies to block signals to driver devices at the network level. Technology manufacturers are already offering systems to minimise distraction and/or prevent or restrict the use of certain technologies whilst the vehicle is in motion or being driven

Question

6. Can you provide examples of strategies successfully implemented by other international jurisdictions and industries (for example, aviation) that could be applicable to driver distraction?

The AAA does not have examples to provide.

Question

7. Are there other parties besides the vehicle driver who can influence the risk of driver distraction? If so, are there mechanisms to ensure those parties are doing all that is reasonably practicable to ensure safety?

Other parties and mechanisms, besides driver behaviour, that can influence the risk of distraction include:

- Authorities responsible for the design, management and maintenance of roads and streets – the road environment can be designed to be more intuitive and with less distracting external stimuli, including roadside advertising.
- Fleet policies – fleet operators can purchase vehicles with a lower propensity for distraction, supply or fit technologies to minimise in vehicle distraction (eg mobile phone blocking) and/or enforce policies regarding distraction (eg driver monitoring of phone use while driving)
- Technology manufacturers can design technologies to maximise positive safety outcomes and minimise distraction and/or prevent or restrict the use of certain technologies whilst the vehicle is in motion or being driven.
- Vehicle manufacturers can design vehicles to be more intuitive and less distracting to drive, whilst also seeking to minimise the risk of driver complacency (eg resulting from over-reliance on the in-vehicle technology and/or drivers not fully understanding the capabilities and limitations of driver assistance systems).
- Passengers can be a source of distraction and thus have the ability to reduce distraction for the driver by modifying their behaviour.

Question

8. Can you provide examples of effective strategies for ensuring that new in-vehicle technology and mobile apps minimise driver distraction?

The AAA does not have examples to provide, but considers that manufacturers of in-vehicle technology and mobile apps could be required to comply with guidelines to minimise distraction through mechanisms such as the Australian Design Rules or industry Codes of Practice. This may become increasingly important as marketing companies seek new ways to provide advertising to consumers whilst they are in the vehicle.

Education on the responsibilities and limitations of vehicle technology could be included within the driver licencing process. This will need to consider how to deal with the differences between characteristics of the “same” technologies on different vehicle models, and the evolution of technologies over time.

The AAA’s member clubs are providing a level of information to consumers on automation technologies through automated vehicle trials and demonstration projects, as well as through published articles and car reviews.

Question

9. Can you provide examples of strategies to ensure that users of partially automated vehicles are fully informed about their responsibilities, and the limitations of their vehicle’s technology?

Changes to the Australian Road Rules should not discourage the use of critical safety technologies, such as collision warning systems, lane departure warnings etc, and the safe way to use these features must be actively promoted. The safety of in-vehicle technology is being promoted by organisations such as ANCAP and could be addressed by the Australian Design Rules in time.

Organisations such as Euro NCAP (<https://www.euroncap.com/33613>) and the American Automobile Association (<https://newsroom.aaa.com/2018/11/americans-misjudge-partially-automated-driving-systems-ability-based-upon-names/>) are conducting consumer education campaigns to inform drivers about terminology/nomenclature such as “auto pilot” and explain the limitations, use cases and behaviour of such systems.

The Can Drive trial (<https://www.seeingmachines.com/humanfactors/can-drive/>) being undertaken by Seeing Machines may provide some useful information on the best ways to manage the transition of control between driver and automated driving system.

Manufacturers of automated driving systems should be required to make information available to consumers that clearly explains the use, operation and limitations of the automated driving system.

Consideration should also be given to educating drivers about the appropriate use and potential distraction of technologies other than automated vehicle technologies.

Question

10. What evidence is available in support of a performance-based approach or a prescriptive approach for managing the risks of driver distraction?

A performance-based approach is preferred as it should be flexible enough to accommodate changes in technology and types of distraction. However, this will be more difficult to

enforce and drivers may struggle to understand the distinction between legal and illegal situations, resulting in a level of resentment and/or distrust of the rules and potential distrust resulting from perceived appropriateness or inappropriateness of penalties. This will require careful explanation to the driving public.

Additions to the road rules should include forms of distraction which are both observable and enforceable. To be successful, regulatory measures taken to reduce or eliminate driver distraction must be clear and accompanied by consistently high levels of enforcement, and members of the public must equally consider levels of enforcement to be consistently high⁴.

⁴ World Health Organisation (2011). Mobile phone use: a growing problem of driver distraction.
https://www.who.int/violence_injury_prevention/publications/road_traffic/distracted_driving_en.pdf