INQUIRY INTO ROAD TRANSPORT AMENDMENT (MOBILE PHONE DETECTION) BILL 2019

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SUBMISSION ON THE INQUIRY INTO THE ROAD TRANSPORT AMENDMENT (MOBILE PHONE DETECTION) BILL 2019 October 2019

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This submission intends to offer emergent evidence that could help to increase the understanding of the issues surrounding mobile phone distracted driving enforcement using photographic evidence.

Scope of the legislation

The proposed legislation applies just to mobile phones, but the cameras may have (or forthcoming versions could have) the ability to detect other forms of distraction that are at least as prevalent and risky as mobile phone use, e.g. interacting with in-vehicle information systems and smartwatches.

Australian research has highlighted that in-vehicle information systems (IVIS) are becoming increasingly common and most new vehicles are now equipped with IVIS [1-2]. Additionally, these systems are available for aftermarket installation and can be easily embedded in virtually any vehicle already on the road. One of the primary particularities of IVIS is that they can be used in tandem with driving tasks. IVIS allow drivers to play music, interact with their mobile phones, and use navigation apps among other activities while driving. As the capabilities of IVIS have continued to expand over the years, questions have arisen regarding potential risks created by the use of such systems [1-2]. With regards to crash risk, a recent naturalistic study found that IVIS increase the odds of a crash by 4.6 times among drivers [1,3].

Another case is the use of smartwatches while driving. In an experiment conducted by Perlman et al. [3], drivers interacting with a smartwatch were observed to have similar decrements in performance compared to mobile phone use. Specifically, the experiment confirmed the potential for higher risk of a rear-end collision for drivers who place calls using both smartwatches and mobile phones.

We recommend that consideration be given to widening the scope of the legislation to include other forms of distraction that the cameras can detect.

Although the legislation is about detection, there is a need to consider the reasons why people persist in phone use while driving. This should include looking at sentencing options such as education or rehabilitation programs, which is currently not addressed. In Australia, recent CARRS-Q research found that there is a direct relationship between problematic mobile phone use in routine life and mobile phone use while driving [4]. Problematic phone use in routine life considers issues involving tolerance, withdrawal, craving, negative life consequences (e.g., social, financial), and escaping from other problems. The results from this research confirmed that handheld mobile phone use (e.g., texting or browsing) and hands-free mobile phone use (e.g., conversations using the Bluetooth speaker) while driving increase with problematic mobile phone use in routine life (see Figure 1). Therefore, it is important to recognise that some users might be unable to recognise the risks of injury or police prosecution because of being unintentionally absorbed with their phones. This is likely to have ongoing implications for road safety since this same study also confirmed that problematic phone use has been increasing in Australia.

We recommend that legislation relevant to penalties and sentencing take these issues into account.







Implementation of the legislation

Although the details of the implementation of the legislation lie with the police rather than with Parliament, a soundly based approach to implementation can mitigate potential problems of public credibility and ensure that risk of detection is greater for higher risk activities.

A recurrent subject in the distracted driving literature is that, under certain circumstances, drivers mitigate risks by using their mobile phones in low risk road traffic conditions. Australian research by the Centre for Accident Research and Road Safety-Queensland (CARRS-Q) has characterized this phenomenon as self-regulation or risk compensatory strategy using epidemiological [5], experimental [6-8], and naturalistic approaches [9]. Specifically, research has shown that drivers prefer to use their phone when the traffic conditions are less demanding such as at red lights or slow moving traffic [7,10]. If drivers were prevented or discouraged from using their phones in less complex road traffic conditions, they might use their phone in riskier conditions at a later stage such as high-speed roads [8]. Police enforcement programs need to consider this unintended potential consequence and should not prioritize the less complex traffic conditions while targeting distracted drivers.

We recommend that the passing of the legislation be accompanied by a commitment from the Police Minister or other appropriate authority to focus the use of enforcement cameras on higher risk situations (e.g. more complex traffic) and higher risk behaviours.

Lastly, Australian research confirms that drivers will try to compensate for the increased risk of being caught using behavioural adaptations. In Queensland, research has shown that drivers actively seek to avoid police enforcement through strategies such as scanning for police officers, covering their phones with their hands, and holding the phone low [5, 11-12]. It has been argued that these strategies could actually increase the risk among offenders [13]. Ongoing research and monitoring are needed to ensure successful implementation of new enforcement programs and to lessen behavioural adaptations.

We recommend that the passing of the legislation be accompanied by on-going evaluation and monitoring due to the risk of driver behavioural adaptation.



References

[1] King, M., Legge, M., Oviedo-Trespalacios, O., Regan, M., & Rakotonirainy, A. (2017) Scoping study of mobile phone use while driving: Final report. *Centre for Accident Research & Road Safety – Queensland (CARRS-Q)*, Brisbane.

[2] Oviedo-Trespalacios, O., Nandavar, S. & Haworth, N. (In press). How do perceptions of risk and other psychological factors influence the use of in-vehicle information systems (IVIS)?. *Transportation research part F: traffic psychology and behaviour*.

[3] Perlman, D., Samost, A., Domel, A. G., Mehler, B., Dobres, J., & Reimer, B. (2019). The relative impact of smartwatch and smartphone use while driving on workload, attention, and driving performance. *Applied ergonomics*, 75, 8-16.

[4] Oviedo-Trespalacios, O., Nandavar, S., Newton, J. D. A., Demant, D., & Phillips, J. G. (2019). Problematic use of mobile phones in Australia... is it getting worse?. *Frontiers in psychiatry*, *10*, 105.

[5] Oviedo-Trespalacios, O., King, M., Haque, M. M., & Washington, S. (2017). Risk factors of mobile phone use while driving in Queensland: Prevalence, attitudes, crash risk perception, and task-management strategies. *PLoS one*, *12*(9), e0183361.

[6] Oviedo-Trespalacios, O., Haque, M. M., King, M., & Demmel, S. (2018). Driving behaviour while self-regulating mobile phone interactions: A human-machine system approach. *Accident Analysis & Prevention*, *118*, 253-262.

[7] Oviedo-Trespalacios, O., Haque, M. M., King, M., & Washington, S. (2019). "Mate! I'm running 10 min late": An investigation into the self-regulation of mobile phone tasks while driving. *Accident Analysis & Prevention*, *122*, 134-142.

[8] Oviedo-Trespalacios, O., Haque, M. M., King, M., & Washington, S. (2018). Should I text or call here? A situation-based analysis of drivers' perceived likelihood of engaging in mobile phone multitasking. *Risk analysis*, *38*(10), 2144-2160.

[9] Young, K. L., Osborne, R., Koppel, S., Charlton, J. L., Grzebieta, R., Williamson, A., ... & Senserrick, T. (2019). What contextual and demographic factors predict drivers' decision to engage in secondary tasks?. *IET Intelligent Transport Systems*. doi: 10.1049/iet-its.2018.5546

[10] Gauld, C. S., Lewis, I. M., White, K. M., & Watson, B. (2016). Key beliefs influencing young drivers' engagement with social interactive technology on their smartphones: A qualitative study. *Traffic injury prevention*, *17*(2), 128-133.

[11] Oviedo-Trespalacios, O. (2018). Getting away with texting: Behavioural adaptation of drivers engaging in visual-manual tasks while driving. *Transportation Research Part A: Policy and Practice*, *116*, 112-121.

[12] Gauld, C. S., Lewis, I., White, K. M., Fleiter, J. J., & Watson, B. (2017). Smartphone use while driving: What factors predict young drivers' intentions to initiate, read, and respond to social interactive technology?. *Computers in Human Behavior*, *76*, 174-183.

[13] Wittmann, M., Kiss, M., Gugg, P., Steffen, A., Fink, M., Pöppel, E., & Kamiya, H. (2006). Effects of the display position of a visual in-vehicle task on simulated driving. *Applied Ergonomics*, *37*(2), 187-199.