

**Submission
No 40**

INQUIRY INTO HEAVY VEHICLE SAFETY AND USE OF TECHNOLOGY TO IMPROVE ROAD SAFETY

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Inquiry into Heavy Vehicle Safety and Use of Technology to Improve Road Safety

Submission to the Parliament of New South Wales Joint Standing Committee on Road Safety (Staysafe)

1 March 2018

Terms of Reference

The Committee will inquire into and report on heavy vehicle safety and the potential for technology to improve road safety with specific reference to:

- a) The management of heavy vehicle driver fatigue and other safety risks through in-vehicle technologies, including benefits, costs, availability and adoption by industry.
- b) The development of connected and automated vehicle technologies specific for the heavy vehicle industry and opportunities for further development in this space.
- c) The role of compliance and enforcement in maintaining the safety of heavy vehicles on our roads.
- d) Heavy vehicle safety strategies implemented in other jurisdictions, both domestically and internationally.
- e) The road toll during the period commencing 1 December 2017 through to 31 January 2018.

Using technology to improve heavy vehicle safety

The National Heavy Vehicle Regulator (NHVR) is Australia's dedicated, independent statutory regulator for all vehicles over 4.5 tonnes gross vehicle mass and is the predominant body for national heavy vehicle safety.

The role of the NHVR is to develop and maintain a regulatory framework that supports the heavy vehicle industry and all parties in the supply chain to take responsibility for safety while promoting sustainable improvements in productivity and efficiency. The NHVR also supports the development and industry take-up of new technologies to improve heavy vehicle safety.

a) The management of heavy vehicle driver fatigue and other safety risks through in-vehicle technologies, including benefits, costs, availability and adoption by industry

1. The use of technology to improve safety is critical to achieve road safety improvements. The NHVR supports the following initiatives to increase the use of technology in the heavy vehicle industry and improve road safety:
 - a) Accelerating harmonisation with international standards
 - b) Removing regulatory barriers to safer vehicles
 - c) Promoting uptake of safer vehicle technology in-service
 - d) Considering mandating proven heavy vehicle safety technologies.
2. The majority of the heavy vehicle industry is proactive about road safety, as demonstrated by their voluntary uptake of safety features. Many operators are early adopters of technology, review their own operating conditions, and adopt safety features that address risks they identify.
3. While Australia has made progress in mandating new safety features for new vehicles, this does not address older vehicles that are already in-service. Commonly, for a new vehicle standard, the Commonwealth allows a three-year implementation period from when the standard is made so that vehicle manufacturers can incorporate the feature into the design of their vehicles. However, as the average age of the heavy vehicle fleet in Australia is approximately 15 years, relying only on the mandatory introduction of new vehicle standards through regulation may take 20 years for any new safety features introduced through these standards to reach 50% of the fleet. Given the current cycle for introducing a new vehicle standard, it will take significantly longer for any new safety features to be present in all vehicles in the heavy vehicle fleet. Therefore, without mandating the retrofitting of proven safety technology, a significant proportion of the fleet would not obtain the safety benefits available.

b) The development of connected and automated vehicle technologies specific for the heavy vehicle industry and opportunities for further development in this space

Technology to monitor driver behaviour

4. Technological developments since written work diaries were introduced have created a range of potential lead indicators of fatigue impairment—from pupilometry, to drowsiness and inattention, to inconsistent speed control or uncontrolled lane departures. While there is increasing evidence showing that these measures are becoming more reliable and effective predictors of fatigue impairment and/or driver distraction and inattention, uptake of these devices by industry is inconsistent. A common difficulty faced by industry in the adoption of such technology is the back office costs associated with monitoring the reports generated.
5. The NHVR believes that the refinement and promotion of driver behaviour monitoring devices, in association with broader adoption of risk management systems that encourage continuous improvement in scheduling and driver management, provides the greatest opportunity to mitigate fatigue and/or driver distraction and inattention and improve safety.

Increasing access for Performance-Based Standards vehicles

6. While in many respects Australia is a follower of global vehicle trends, we are world leaders in relation to innovative vehicle design. Originally introduced in 2007, the Performance-Based Standards (PBS) scheme is a locally developed initiative that offers the heavy vehicle industry the potential to achieve higher safety and productivity through innovative and optimised vehicle design.
7. PBS vehicles are designed to perform their tasks as safely, productively and sustainably as possible and to operate on networks that are appropriate for their level of performance. The basic principle of PBS is matching the right vehicles to the right tasks. PBS vehicles are tested against 12 stringent safety standards and four infrastructure standards to ensure they are safe and fit the existing road network.

8. As part of a recent project, the National Transport Commission (NTC) undertook an analysis of the effectiveness of the current PBS vehicle fleet. This research found that:
 - a) articulated PBS combinations are 60% safer in avoiding major impact crashes, whilst both rigid and articulated classes together are delivering 46% less major impact accidents than the existing conventional Australian trucking fleet
 - b) during the years 2014 to 2016, PBS operations were estimated to have saved 440 million kilometres in truck travel and at least four lives. It is predicted that these figures will rise substantially over the period to 2034.
9. The research also forecast, based on the PBS fleet growing up to 8.5% per year, that by 2034 PBS vehicles could save between:
 - a) 5.38 and 11.42 billion kilometres in truck travel (therefore reducing exposure)
 - b) 1.97 and 4.18 billion litres in fuel consumption reduction
 - c) \$9.5 and \$22.2 billion in operating costs
 - d) 70 and 149 fatalities.
10. Despite the clear safety and productivity benefits that PBS vehicles deliver, obtaining road access approvals is still a major hurdle to increased uptake. The NHVR strongly advocates that increasing the level of pre-approved access that state, territory and local government road managers provide to PBS vehicles will accelerate the significant safety benefits that PBS vehicles offer. To provide the greatest level of certainty for vehicle operators, dedicated and gazetted networks that are classified in line with the *PBS Network Classification Guidelines* should be developed and implemented.

c) The role of compliance and enforcement in maintaining the safety of heavy vehicles on our roads

11. The NHVR is committed to continually improving the performance of its compliance and enforcement services to ensure they continue to effectively support the regulatory framework underpinning road safety. This will be enhanced through an integrated national network of compliance monitoring technologies, coupled with the establishment of an intelligence capability.
12. This evidence-based approach will contribute to the safety of heavy vehicles on our roads, whereby not only will compliant parties be identified, but non-compliant parties and trends will be revealed. This will inform where and when the NHVR needs to allocate and refocus its investigative and on-road compliance priorities.
13. Where industry participants are engaged and seeking to operate safely and compliantly, the NHVR will work with and always strive to collaborate with them through education, awareness and monitoring in the first instance. However, where an industry participant is disengaged or demonstrates a sustained or blatant lack of willingness to operate safely, the NHVR will consider more traditional enforcement approaches to achieve desired safety and compliance objectives.
14. To achieve an integrated approach to compliance monitoring and information analysis, a top-down commitment is required from all states and territories to overcome barriers to meaningful information sharing. This includes forging collaborative approaches in acquiring and using contemporary information gathering and analysis technologies and systems.

Generating a consistent compliance and enforcement culture

15. Inconsistent approaches to compliance and enforcement processes and the application of law leads to inconsistent outcomes, with participants being unsure about what is expected of them and how they will be assessed. The NHVR is committed to developing a national framework for compliance and enforcement, including related policies, standards and other key documented processes.
16. All jurisdictional law enforcement agencies are encouraged to actively contribute to and participate in consultation around the development, review and implementation of the NHVR's safety assurance framework and associated compliance and enforcement policies and procedures. The adoption of, or alignment with, this framework by all law enforcement agencies will greatly enhance the consistency of safety outcomes and generate a culture of more informed participants.

d) Heavy vehicle safety strategies implemented in other jurisdictions, both domestically and internationally

17. In 2016, the NHVR released *Setting the Agenda – Strategies for a Safer, Productive and more Compliant Heavy Vehicle Industry 2016-2020*. This document outlines the three core strategies:
- a) safety
 - b) compliance and assurance
 - c) productivity.
18. The focus of the National Heavy Vehicle Safety Strategy is the development of a regulatory framework which will support the heavy vehicle industry to take responsibility for managing risk to deliver safety outcomes. The safety objectives outlined in the strategy are:
- a) Establish industry standards for heavy vehicle operations appropriate to the task.
 - b) Maintain high safety standards that deter and discourage operators and drivers who demonstrate unacceptable levels of risk through an integrated compliance and assurance program.
 - c) Promote and support continuous safety improvements in industry through information and education.
19. The NHVR's recent submission to the *Inquiry into progress under the National Road Safety Strategy 2011-2020* proposed the introduction of a National Heavy Vehicle Accreditation Framework. Key components of the framework would include operator certification and a national heavy vehicle driver licensing framework including the development of a set of nationally consistent driver licensing standards for all heavy vehicle drivers.

e) The road toll during the period commencing 1 December 2017 through to 31 January 2018

20. No submission.