

Response to: HVNL Review *Vehicle Standards and Safety* Issues Paper

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Re: Submission on the Heavy Vehicle National Law (HVNL), Vehicle Standards and Safety Issues Paper

Thank you for the opportunity to provide a submission on the Heavy Vehicle National Law (HVNL) issues paper, *Vehicle Standards and Safety*. The role of improving vehicle safety through the HVNL is critical to advancing our overall road safety performance in Australia.

Ensuring Safer Vehicles is one of the core elements to the Safe System approach to Road Safety. As such, it is important that the issues relating to *Vehicle Standards and Safety* under the HVNL are not considered in isolation from the other areas of the HVNL review, nor from the national goals, objectives and actions agreed by Federal, State and Territory governments in the *National Road Safety Strategy 2011-2020* and subsequent *National Road Safety Action Plan 2018-2020*, which is ultimately to reduce the annual numbers of both deaths and serious injuries on Australian roads by at least 30 per cent from 2008-2010 totals.¹

The following submission provides responses specifically to Question 3 of the Issues Paper.

How can the future HVNL most effectively deliver safer vehicles to the road?

The future HVNL must recognise and encourage the take up of advanced technology that improves vehicle safety by proactive transport operators. Such technology is becoming more available, and mandatory Australian Design Rules (ADRs) have struggled to keep up with the pace. Investment in safer vehicles through crash mitigation or prevention systems should increasingly be recognised as steps taken to ensure so far as is reasonably practicable the safety of a party's transport activities under s 26C.

ADRs currently do not exist for a number of vehicle safety technologies which are both available by manufacturers and operators who proactively invest in such technology. In addition, some ADRs do not universally apply to all category of heavy vehicle. As a result, not all heavy vehicles or trailers exhibit the same level of safety to the driver or other public road users who might be involved in a collision with a heavy vehicle.

As steer axle mass concessions have been increased for heavy vehicles with engines complying with ADR 80/01 (Euro IV), Cab-Strength compliant to UNECE R29 and Front Underrun Protection Systems (FUPS) to ADR 84/00, similar regulatory concessions should be provided to heavy vehicle operators who invest in safety technologies which are not currently mandatory or where no ADR currently exists.

Recommendation: Regulatory concessions should be provided for heavy vehicles with additional safety technologies which are not mandatory or where no ADR currently exists, such as:

- Class VI 'Front' Blind Spot Mirrors under ADR 14/02 – Rear Vision Mirrors;
- Side Underrun Protection Devices compliant to UN ECE R 73;
- Rear Underrun Protection Devices compliant to UN ECE R 58;
- Electronic Stability Control under ADR 35/06 – Commercial Vehicle Brake Systems;
- Lane Departure Warning Systems compliant to UN ECE R 130; and
- Autonomous Emergency Braking compliant to UN ECE R131.

¹ National Road Safety Strategy 2011-2020. Source: <https://www.roadsafety.gov.au/nrss/>

Which aspects of the PBS scheme are working well, and which aren't?

The PBS Scheme should encourage the uptake of vehicle safety technologies that are effective in reducing crash outcomes, such as those previously mentioned. These include both passive and active safety technologies designed specifically to prevent or reduce road trauma.

The PBS Scheme currently does not require these safety technologies, but rather requires that safety performance standards are met. Certainly, there is evidence to suggest PBS vehicles appear safer than comparable conventional vehicles. This is based on insurance data for major crashes summarised by the NTC:

Major-crash involvement rate of PBS vehicles is 46 per cent lower per kilometre travelled than for comparable freight vehicles²

However, the NTC has also cautioned in the same report that in reference to the accident insurance data used:

...this data does not include all fatalities (such as trucks hitting pedestrians or motorcycles) and may distort the reported benefits³

This is particularly important when considering the safety benefit of PBS vehicles in road environments with greater interaction with vulnerable road users (pedestrians, cyclists, motorcyclists), such as in urban and metropolitan built-up areas.

Whilst the PBS Scheme can demonstrate safety benefits (i.e. 16 additional safety & infrastructure standards; lower median age; indirect benefits of reducing overall number of vehicles), it is not clear that these standards provide additional road safety benefits in terms of crashworthiness or crash prevention measures, compared to a similar non-PBS approved model with greater on-board active and passive safety technologies. Heavy vehicles participating in the PBS Scheme on routes through sensitive land use areas for example, should be further required to meet additional passive and active vehicle safety standards.

As an example, the NSW SPECTS Scheme⁴, which only applies to construction heavy vehicles, currently requires the following additional vehicle safety technologies:

- Electronic Stability Control;
- Roll-over control system on trailer;
- Systems to improve visibility and detection of vulnerable road users, such as blind spot mirrors;
- Reversing lights on both truck and trailer; and
- Enhanced vehicle visibility markings.

Recommendation: The PBS Scheme should consider introducing additional minimum vehicle safety technologies to the PBS Standards and Vehicle Assessment Rules, such as Electronic Stability Control for trucks, Roll-Stability Control for Trailers and Systems to improve the visibility and detection of vulnerable road users, to support the delivery of safer vehicles to the road.

² National Transport Commission (2018) Reforming the Performance-Based Standards scheme. Source: [https://www.ntc.gov.au/Media/Reports/\(D23D6B79-7D68-2853-F544-9FEC5991346A\).pdf](https://www.ntc.gov.au/Media/Reports/(D23D6B79-7D68-2853-F544-9FEC5991346A).pdf)

³ Ibid. refer page 8 - 2.1 How well is the PBS scheme performing?

⁴ Safety, Productivity & Environment Construction Transport Scheme (SPECTS). Source: <https://www.rms.nsw.gov.au/business-industry/heavy-vehicles/schemes-programs/spects.html>

What barriers to the broad uptake of safer vehicles exist?

Width Dimensions

Current barriers to the uptake of safer vehicles include the limited list of permitted exemptions to heavy vehicle width under the Heavy Vehicle (Vehicle Standards) National Regulation ('HV(VS)NR').

The current list of exemptions to vehicle width is restricting new safety technologies which will become more available over time and are provisionally agreed to be introduced as mandatory new heavy vehicle safety technologies in the European Union (EU) under the EU's General Safety Regulation (Regulation (EC) No 661/2009).⁵

As Australia's heavy vehicle fleet is a mix of European, Japanese and American models, the HVNL and supporting Regulations which apply to vehicle dimensions should be amended to provide for such technological advancement which feature demonstrable safety benefits.

As a specific example, width exemptions should be provided to facilitate the design of radar sensors on the sides of a heavy vehicle which function to detect vulnerable road users, such as pedestrians and cyclists, in the close proximity blind spot of a heavy vehicle.

Such devices (i.e. blind-spot radar sensors) were recommended following the Coronial Finding into death without inquest of Eugene William Twinning⁶ and Finding into death without inquest of Brooke Smith⁷, both of which involved pedestrians who were fatally struck by a heavy vehicle in Victoria.

Both Finding's had referred to coronial data from Victoria between 1 January 2000 and 31 October 2016, whereby more than 50% of pedestrian fatalities with heavy vehicles (42 of 80 fatalities) had occurred where the heavy vehicle driver was unable to see the pedestrian before the collision. Of these fatalities, 22.5% (18 fatalities) involved the heavy vehicle crashing with an unobserved pedestrian after moving forward from a stationary position.

The Heavy Vehicle (Mass, Dimension and Loading) National Regulation does not currently permit vehicle width exemptions for active safety technologies such as side mounted radar sensors being introduced in the EU which may increase vehicle width by less than that of a truck's mirrors.

Width requirements for heavy vehicles in Australia are found under Schedule 6 Dimension Requirements, Part 2 Heavy Vehicles, stating the following:

7 Width

- (1) A heavy vehicle must not be wider than 2.5m.
- (2) For this Regulation, the width of a heavy vehicle must be measured in accordance with section 8 of the Heavy Vehicle (Vehicle Standards) National Regulation.⁸

⁵ Road safety: Commission welcomes agreement on new EU rules to help save lives. Source: https://europa.eu/rapid/press-release_IP-19-1793_en.htm

⁶ Coroner's Court Victoria (2016). Finding into death without inquest of Eugene William Twinning. COR 2016 3244. Source: <https://www.coronerscourt.vic.gov.au/sites/default/files/2019-03/Twining%20finding.pdf>

⁷ Coroner's Court Victoria (2017). Finding into death without inquest of Brooke Smith. COR 2017 6378. Source: https://www.coronerscourt.vic.gov.au/sites/default/files/2018-12/brookesmith_637817.pdf

⁸ Heavy Vehicle (Mass, Dimension and Loading) National Regulation (Qld) sch 6 pt 2.

The exemptions to vehicle width are found under section 8 of the Heavy Vehicle (Vehicle Standards) National Regulation ('HV(VS)NR'), however, do not allow for additional active safety technologies being adopted globally, as outlined below:

8 Measurement of width of vehicles

(1) For this Regulation, the width of a heavy vehicle is measured disregarding the following devices—

- (a) an anti-skid device mounted on the wheels of the heavy vehicle;
- (b) a central tyre inflation system fitted to the heavy vehicle;
- (c) a side marker light fitted to the heavy vehicle;
- (d) a mirror fitted to the heavy vehicle;
- (e) a reflector fitted to the heavy vehicle;
- (f) a signalling device fitted to the heavy vehicle;
- (g) a tyre pressure gauge fitted to the heavy vehicle;
- (h) a permanently fixed webbing assembly-type device, if the maximum distance across the body of the heavy vehicle, including any part of the device, is not more than 2.55m;

Example of permanently fixed webbing assembly-type device—

a curtain-side device

- (i) removable load restraint equipment, if the maximum distance across the body of the heavy vehicle, including any part of the equipment, is not more than 2.55m.⁹

The Commission Regulation (EU) No 1230/2012 for the type-approval requirements for masses and dimensions of new vehicles allows, among other things, for the additional exemption of 'watching and detection aids including radars' under Table II Vehicle Width.¹⁰

As such technology becomes more available, it is vitally important that our heavy vehicle safety regulations do not inhibit the adoption of innovative systems designed to improve the safety of heavy vehicles. The exemptions in the EU for such technology should similarly be included in the HV(VS)NR.

Recommendation: The HV(VS)NR should be amended to permit exemptions under r 8 Measurement of width of vehicles to allow for active safety technology exemptions permitted by the Commission Regulation (EU) No 1230/2012, such as 'watching and detection aids including radars'.

⁹ Heavy Vehicle (Vehicle Standards) National Regulation (Qld) r8.

¹⁰ Commission Regulation (EU) No 1230/2012. Source: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012R1230>

Steer Axle Mass Limitations

Steer axle mass limitations under the HVNL may further restrict the uptake of safer vehicles in Australia. When compared to the European Union and the United States, both regions permit a single axle mass of up to 10 tonne, compared to the equivalent axle masses permitted in Australia of 6 tonne (or 6.5 tonne for complying heavy vehicles).

Currently, eligible two axle buses are permitted an axle mass of up to 7 tonne on the front steer axle in Australia. Similar exemptions should be considered for low-entry cab-forward heavy vehicles which feature significant improvements to driver forward field of view or more commonly referred to as 'direct vision'.

According to research by the Transport Research Laboratory in the UK, improvements to heavy vehicle 'direct vision' are estimated to save 553 lives/ year across the EU.¹¹

Some manufacturers provide low-entry models in Australia; however, their adoption is fairly limited and other manufacturers have not introduced low-entry models to the Australian market due to the mass restrictions within the HVNL.

Due to such restrictions, the appetite to industry to invest in such vehicles is limited, despite their improvements to safety. Providing similar axle mass concessions for vehicles which exhibit significant improvements to driver field of view can offer marked improvements to road safety outcomes in Australia, predominantly in urban road environments.

Recommendation: The HVNL should consider introducing steer axle mass exemptions for heavy vehicles which feature low-entry cabs with significant improvements to direct visibility.

Thank you for the opportunity to provide a submission on the Issues Paper, *Vehicle Standards and Safety*. Should you have any questions or wish to discuss the points raised in my submission, please don't hesitate to get in contact.

Michael Holmes

30 August 2019

¹¹ Transport Research Laboratory (2015). Benefit and Feasibility of a Range of New Technologies and Unregulated Measures in the fields of Vehicle Occupant Safety and Protection of Vulnerable Road Users. Source: <https://publications.europa.eu/en/publication-detail/-/publication/47beb77e-b33e-44c8-b5ed-505acd6e76c0>