HEAVY VEHICLE
INDUSTRY AUSTRALIA

HVIA Submission

On the NHVR's Options Paper
for LSSP and TS

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Heavy Vehicle Industry Australia
Represents and advances the interests of manufacturers and suppliers of heavy vehicles and their components, equipment and technology.

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Background

Heavy Vehicle Industry Australia (HVIA) represents and advances the interests of the entire industry involved in the design, manufacture, importation, distribution, modification, sale, service, and repair of on-road vehicles with a gross vehicle mass or aggregate trailer mass over 3.5 tonnes as well as their components, equipment, and technology.

The industry directly employs over 70,000 people and provides some of the world's most efficient, safe, innovative, and technologically advanced vehicles. HVIA seeks to work with government and industry stakeholders to promote an innovative and prosperous industry that supports a safe and productive heavy vehicle fleet operating for the benefit of all Australians.

A significant number of HVIA members are involved in the design, assessment, certification, and manufacture of PBS vehicles.

Introduction and summary of key topics and relationships

The NHVR's Options Paper discusses the review of the Low Speed Swept Path (LSSP) and Tail Swing (TS) standards in the Performance Based Standards (PBS) scheme. These two standards do not act in isolation, and are linked to:

- the PBS Network Classification Guidelines
- the Austroads Design Vehicles and Turning Templates.

It is worth briefly summarising these inter-relationships, the PBS scheme itself, and some practical implications before discussing the Options Paper's findings and recommendations.

The *PBS scheme* provides a pathway to road access for heavy vehicles that do not comply with prescriptive mass and/or dimension regulations, provided they achieve the required performance levels in a set of twenty standards. Assessment of the vehicles against those standards enables regulators and road managers to approve them and grant appropriate road access. Generally, PBS vehicles achieve better (i.e., safer) performance than prescriptive vehicles due to the more-stringent PBS performance requirements.

The *Network Classification Guidelines* comprise design criteria and guidance relevant to the critical areas of road and bridge infrastructure necessary to make access decisions. They are intended to be used by road managers to inform designs, and/or classify existing infrastructure for each of the PBS Levels.

The *Austroads Design Vehicles* are intended to represent the prescriptive fleet and were used to generate a series of prescriptive *Turning Templates*. Those templates are used by road managers to design road and intersection layouts that adequately cater for the classes of prescriptive vehicles expected to use them.

A set of turning templates also exists in the Network Classification Guidelines. They were generated from a set of PBS vehicles considered representative of the PBS fleet at the time. Curiously, the Guidelines state that they need not be used for intersection assessment in classification exercises because vehicle swept path performance is "*controlled by vehicle performance standards to match existing vehicle types*". That statement is somewhat misleading, because PBS vehicles typically achieve better performance than the equivalent prescriptive vehicles.

In the context of the above, it is arguable that PBS vehicles should be given greater geometric access than prescriptive vehicles. Unfortunately, the opposite tends to occur in practice, and poorer-performing prescriptive vehicles are given greater access than better-performing PBS vehicles.

Notably, two studies have shown that some vehicle designs based on the prescriptive fleet fail to meet their equivalent PBS Levels with respect to swept path width. The first was a 2013 review of the Austroads

Turning Templates, and the second is the current NHVR LSSP and TS Options Paper. This mismatch should be rectified by a study that benchmarks the performance of the prescriptive fleet and amends the PBS levels accordingly.

HVIA feedback on the Options Paper

HVIA is committed to working with the NHVR and road managers to improve the PBS scheme as a mechanism for promoting the uptake of safer high productivity vehicles. Accordingly, HVIA supports the project and its stated key drivers.

HVIA agrees with all points outlined by the NHVR as being either in scope, or out of scope, respectively, and applauds the proposal to suggest amendments to both the PBS Network Classification Guidelines, and various jurisdictional Route Assessment Guidelines, based on the findings of the project.

HVIA's only recommendation regarding the project's scope is that it be expanded to include the review of the other PBS performance measures that may be affected by future changes in vehicle width (e.g. MoD and DoM). In doing so, it would also be prudent to assess the on-going merit of those measures.

The need to future-proof the standards by incorporating anticipated changes to vehicle width is also welcomed. HVIA's position on increases to truck and trailer width is publicly available, and is based on the following key points:

- any changes to regulations must apply a 'no disadvantage' test for Australian industry
- current limits to truck width generally restrict model availability and add costs to the industry – therefore HVIA supports increasing truck width to 2.55 metres, with axle mass limit increases
- current limits to trailer width do not limit model availability, nor add cost to the industry, and are not a productivity impediment – therefore, HVIA does not support increases to trailer width.

HVIA's feedback on the various sections of the Options Paper follows, and are summarised at the end.

Feedback on the vehicle width impact assessment

The assessment findings highlight the misalignment in performance between prescriptive and PBS vehicles, as the assessed 'standard width' 26-metre B-double cannot achieve the swept path requirements of its equivalent PBS Level (i.e., 8.7 metres as per PBS Level 2).

The findings show that the increases in width generally push each vehicle above its expected PBS performance level. HVIA considers that this should not be interpreted as meaning that wider vehicles are unsafe; but rather that the PBS Levels may be too stringent.

HVIA does not agree that the findings indicate a need for additional road space on road networks for wider vehicles. In all cases, the magnitude of the difference in performance between the narrowest and the widest versions of the vehicles assessed is around 1 percent of the total result.

HVIA agrees that the findings warrant further investigation into the current PBS limits, and the performance of the prescriptive and PBS fleets. HVIA suggests this be done in conjunction with the NHVR's project to investigate and propose revised PBS levels for the measures that will be impacted by width increases.

Feedback on approaches to review the current standards

Option 1 – Review of current performance levels

HVIA agrees that a review of the existing measures and limits is an appropriate approach to manage changes in vehicle width. If the limits are not amended, operators wanting to utilise wider vehicles would

have to reduce another dimension (e.g., trailer length) to offset the swept path increase, which may impact productivity, and would limit interoperability between newer, wider trucks, and existing PBS equipment.

HVIA does not consider that the increases in vehicle width discussed in the Options Paper are likely to present a risk to either safety or infrastructure. While a more comprehensive study may be needed, HVIA does not believe that the clear space allowances for turning manoeuvres at intersections are tuned such that the increases in swept width could not be safely accommodated.

HVIA may support the establishment of a TS limit for rigid vehicles and buses, pending the results of an investigation into their performance and the risk levels posed. Such vehicles typically operate in urban areas where road space is low, and the presence of roadside objects (e.g., signs, light posts, etc.) can hinder turning manoeuvres. This should be included in the NHVR's research project, suggested earlier.

The review of the current performance levels should be completed in conjunction with Option 2 (a review of the Network Classification Guidelines, discussed below), due to the interdependency that exists between them.

Option 2 – PBS Network Classification Guidelines

HVIA agrees that the templates within the PBS Network Classification Guidelines should be reviewed. If this is not done, they may not accurately represent the swept path requirements of future PBS vehicles that may be wider than the vehicles used to generate them.

HVIA also recommends the following changes:

- Amend the PBS guidelines to recommend that its turning templates be used for intersection assessment in classification exercises. If this is not done, classification exercises may unfairly restrict PBS vehicles.
- Amend the minimum turn radius used for longer vehicles in both the PBS and the Austroads turning templates. If this is not done, users of the templates may have unrealistic expectations of driver behaviour and vehicle performance.

Option 3 – Alternative standard

HVIA does not consider that an EU-style roundabout test is an appropriate approach for the Australian fleet. As identified by the NHVR, it isn't immediately clear how well it would be suited to assessing the performance of long combinations such as road trains.

HVIA considers that assessing such vehicles using tests based on infrastructure they are not designed to encounter does not appear to hold merit.

Summary of HVIA's position

A summary of the key points of HVIA's feedback follows:

- The project's scope should be expanded to include the other PBS performance measures that may be affected by future changes in vehicle width (e.g. MoD and DoM), whilst also assessing their on-going merit.
- In carrying out the project, the NHVR should conduct research to:
    - investigate and propose revised PBS levels for the measures impacted by width increases
    - investigate and address misalignment between the PBS performance levels and the prescriptive fleet
    - quantify the need for a TS limit for rigid trucks and buses.
- Both sets of turning templates (i.e., Austroads and PBS Guidelines) should be revised to reflect the findings of the above.