Implementation of the Revised Directional Stability Under Braking (DSUB) Standard in the Performance Based Standards (PBS) Scheme

Industry Consultation Paper

18 July 2025

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1. Summary

This consultation paper outlines the revised PBS Braking Standard also known as DSUB or Directional Stability Under Braking and the proposed implementation approach.

Braking requirements for PBS vehicles have been revised in line with the latest advancements in vehicle technology. As such, the updated standard prescribes advanced braking systems that ensure better directional stability under braking. The revised standard will keep the PBS scheme up to date and assist in the transition to a safer heavy vehicle fleet.

The complexity of transitioning to the new Standard has been taken into consideration in developing the approach outlined in this paper. To the extent possible efforts have been made to balance the important safety benefits that will come from fully implementing the new Standard with the associated impacts on industry.

Purpose of the Consultation

The NHVR wants to work closely with industry stakeholders to ensure that the proposed implementation approach meets industry's needs and is achievable. We are inviting you to provide feedback on the implementation approach as well as some aspects of the revised technical standard, as we value your input in making sure the implementation is workable and effective.

We encourage you to forward this consultation paper to others who should be included in the discussion and to share the feedback link through SurveyMonkey.

Overview of the Revised PBS Braking Standard

Key changes overview:

- Load Proportioning Valves (LPVs) are no longer permitted in PBS.
- Hauling units must be fitted with at least an antilock braking system (e.g. ABS or EBS) and provide an electric control signal to trailing units.
- All trailers, including dollies, must be fitted with an Electronic Braking System (Trailer EBS) that includes rollover control.
- Wiring network must support Trailer EBS CAN (Controller Area Network) communication across the entire combination.
- All trailers, including dollies, must be fitted with an appropriate means of indicating the status of the brake system.

Note: These requirements apply even if not prescribed by an Australian Design Rules (ADR), as the PBS standard in some cases goes beyond what is required by the ADRs.

For more details on the revised DSUB standard, please refer to Section 4.

Existing PBS Approvals

If you currently hold an existing **PBS Vehicle Approval (VA)**, the vehicle combinations listed on it can continue to operate as long as the approval remains valid. However, if you plan to add vehicles to an existing VA, the existing vehicles on the VA will need to be upgraded to comply with the revised standard (if not already compliant).

A Transition Period will be provided during which upgrades to existing vehicles will be optional. After the end of the Transition Period, upgrades to existing vehicles will become mandatory.

Even after the Transition Period, **existing vehicles may still be grandfathered**. This can be achieved by splitting the VA; for more details on grandfathering options, refer to Section 8.

Existing **PBS Design Approvals (DA)** will not require updates. From the go-live date, the new DSUB requirements will be deemed applicable to all existing designs, even if the design has not been updated to explicitly show the new braking requirements.

Proposed Implementation Approach and Transition Period

The proposed implementation approach focuses on the operational aspects of DSUB implementation, aiming to provide a sufficient Transition Period for the industry to plan, prepare, and, if required, execute upgrades to existing vehicles to achieve full compliance by the end of the Transition Period. **An 18-month Transition Period is proposed.**

For more information about key dates and the Transition Period, please refer to Section 6.

Conclusion

The NHVR is committed to ensuring a smooth transition for the industry as we implement the revised PBS DSUB Standard. We recognise the importance of industry input and are seeking your feedback on both the proposed implementation approach and certain aspects of the revised DSUB technical standard.

2. Consultation Period and Feedback

Consultation Period:

- The Consultation and Feedback Period: **18 July 2025 – 15 August 2025.**

Feedback Submission:

- All feedback to be submitted via Survey Monkey.

NHVR Contact:

For further information, please contact:

- PBS Review Project Team at: PBSreview@nhvr.gov.au
- Please include 'DSUB Consultation Query' in the email subject line.

3. First-time vs Pre-existing PBS vehicles

Key Definitions

***First-time PBS vehicle*:** a vehicle that enters the PBS scheme for the first time and has never been issued with a PBS Vehicle Approval (VA) previously.

Note: If a vehicle was issued with a VA before the Go-live Date, but the VA was subsequently cancelled or if VINs were removed from the VA (either before or after the Go-live Date), these vehicles will be classified as First-time PBS vehicles.

***Pre-existing PBS vehicle*:** a vehicle that has been previously issued with a PBS Vehicle Approval.

Verifying VIN status: First-time vs Pre-existing PBS vehicles

PBS operators can verify if a vehicle is a *First-time* or *Pre-existing* PBS vehicle through the use of the following:

- NHVR Registration Checker app | NHVR
- Having knowledge of or being in possession of a PBS Vehicle Approval

Note: The Rego Checker App allows users to look up a vehicle's registration, PBS status, and associated VA. If you believe there's an issue with the information in the Rego Checker App, please contact the PBS VA Team at pbs@nhvr.gov.au.

4. Revised PBS Directional Stability Under Braking (DSUB) Standard

Note: PBS requirements apply even if not specifically required by the Australian Design Rules (ADR).

Under the revised DSUB standard, Load Proportioning Valves (LPVs) are no longer permitted for any vehicle (other than in circumstances captured by grandfathering provisions in section 8 'Grandfathering Provisions'.

Hauling units (including rigid trucks and buses):

As a minimum, all hauling units must:

- be fitted with an antilock braking system (e.g., ABS or EBS).
- provide an electric control signal to trailing vehicles (only applies if capable of towing a trailer).
- provide a 24-volt electrical supply for the trailer brake system (only applies if hauling unit is part of a road train).

In addition:

First-time PBS Hauling units: must comply with a version of ADR 35 that was applicable within the 10 years prior to the initial PBS certification date.

- Currently, this means first-time PBS hauling units must comply with ADR 35/04 or a later version.
- Starting 1 November 2027, first-time PBS hauling units will need to comply with ADR 35/05 or a later version. This is due to ADR 35/05 coming into effect on 1 November 2017 for heavy vehicles.

If being re-certified, **pre-existing PBS hauling units** must comply with ADR 35/04 or a later version.

What does 'the 10 years prior to the initial PBS certification date' mean?

The 10-year period is designed to provide a grace period before the updated ADR is applicable to PBS vehicles. The 10-year period was selected for the following reasons.

Currently, the 10-year period means that ADR 35/04 is the earliest acceptable ADR version; this version of ADR aligns with the standard's intention of mandating ABS on hauling units. While technology requirements have progressed since this ADR version, the PBS standards need to balance practicality with safety benefits. Requiring all vehicles to be fitted with the latest braking technology would prevent a large portion of Australia's hauling units, that are not compliant to the latest ADR, from participating in the PBS scheme.

It should also be noted that it is generally not possible to retrofit this technology on hauling units and therefore it was decided to utilise this 10-year rolling period so that requirements progressively become more stringent without causing severe disruptions to industry.

Trailing units (including dollies):

- All trailers and dollies must be fitted with Trailer EBS with rollover control functionality compliant to ADR 38/05.
- Trailing units must also be fitted with an appropriate means of indicating the status of the brake system.

  This must:

  - be located on the trailing unit.
  - indicate whether the system is powered-on and whether any system faults are present.
  - if utilising lamps, comply with the lighting requirements of the Heavy Vehicle (Vehicle Standards) National Regulation and applicable ADRs.

  This may be in the form of a diagnostic display or lamps indicating the status of the braking system. For vehicle combinations with multiple trailing units, each trailing unit must be fitted with its own device.

  For more information, please consult your preferred braking supplier.

Vehicle Combinations:

- Wiring network must support Trailer EBS CAN (Controller Area Network) communication across the entire combination with adequate voltage to maintain functionality of the Trailer EBS of all trailers and dollies.

- When vehicles are in operation, wiring must be connected across the whole combination so that all braking and stability functions are operational.

For the full standard, as it will appear in the PBS Assessment Rules, refer to Appendix A.

For more information on compliance rate of existing fleet with the revised standard, refer to Appendix B.

Stakeholder Questions

Q1 Connector and system voltage for Hauling Units in PBS Combinations:

Since the implementation of ADR 35/06 it has been a requirement that:

"Each vehicle designed to be used in 'Road Train' combinations, must be equipped with a special connector conforming to ISO 7638-1:2003 together with a permanent electrical supply system configured for 24-volt operation".

Do you have any feedback on whether this should be considered a requirement for all hauling units used in PBS combinations?

Note the existing "Vehicle Combinations" requirements above relating to wiring, voltage and functionality.

Q2 Braking System Fault Identification:

For the trailing unit requirement to provide a means of indicating the status of the braking system, do you think it is important to identify the specific unit causing a fault? Do you believe this should be a requirement, and how might it be implemented?

Q3 Other Feedback:

Do you have any other general feedback on the revised DSUB standard proposal?

5. DSUB Implementation Timeline

1. Announcement Date

Changes are publicly announced to the industry, giving everyone advance notice before the changes start on the Go-live date.

2. Go-live Date

The new standard officially starts, marking the beginning of the **Transition Period.**

Transition Period

Transition period during which the industry can adjust to the new standard.

Transition period duration: 18-months

3. Effective Date

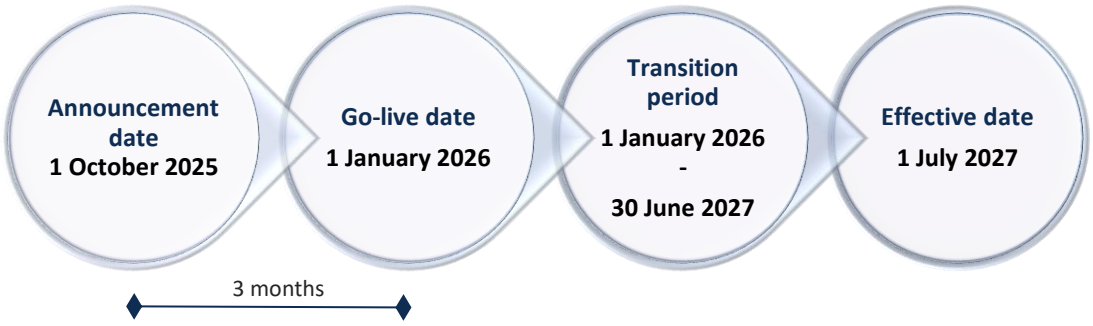
The **Effective Date** marks the end of the Transition Period, at which point the revised DSUB standard will be fully implemented for all vehicles.

6. Transition Period

To provide industry and affected stakeholders with sufficient time to make required vehicles upgrades, the NHVR is proposing an 18-month Transition Period.

Suggested transition period timeline is show below; note that final dates are to be confirmed.

Option 1: 18-Month Transition Period



The new PBS braking standard primarily affects trailers that are not fitted with an Electronic Braking System (EBS) that includes rollover control functionality. Most trailers manufactured post-2019 are already equipped with this technology due to requirements in ADR 38/05, so it is predominantly trailers built prior to 2019 that will be impacted, along with dollies. Additionally, trailers (including dollies) must be fitted with an appropriate means of indicating the status of the braking system. Hauling units must also be fitted with an electric control signal.

Due to the changes being introduced, and expected number of vehicles impacted, we suggest that the 18-month period may be appropriate for most operators.

Stakeholder Questions

Q4 Is 3 months a sufficient notice period before the commencement of the transition period for the new standard?

Q5 Are there any substantive barriers to an 18-month transition period?

7. PBS Vehicle Approval Compliance Requirements

Go-live and Transition Period

Brand-new VA application:

- All vehicles (First-time or Pre-existing) on a *brand-new* VA application must comply with the revised DSUB standard during the Transition Period.

Adding vehicles to an existing VA:

- When adding vehicles to an existing VA during the Transition Period (**1 January 2026 – 30 June 2027**), compliance depends on when the VA was issued:
    - **VA issued *prior* to the Go-live date (1 January 2026):** Revised DSUB compliance is **optional** for all vehicles (both existing vehicles and those being added to the VA).
    - **VA issued *after* the Go-live date (1 January 2026):** DSUB compliance is **mandatory** for all vehicles (both existing vehicles and those being added to the VA).

Effective Date

Brand-new VA application:

- All vehicles (First-time or Pre-existing) on a *brand-new* VA application must comply with the revised DSUB from the Go-live date (1 January 2026).

Adding vehicles to an existing VA:

- When adding vehicles to an existing VA after the Effective date (1 July 2027), compliance is **mandatory for all vehicles** (both existing vehicles and those being added to the VA). This means that **existing vehicles on the VA must be upgraded to comply with the new standard.**

Stakeholder Questions

Q6 Do you have any feedback on the DSUB compliance requirements during the Transition Period (1 January 2026– 30 June 2027)?

Q7 Do you have any feedback on the DSUB compliance requirements after the Effective Date (1 July 2027)?

8. Grandfathering Provisions

Existing PBS Vehicle Approvals are grandfathered indefinitely.

If you currently hold an existing PBS Vehicle Approval, the VA can be used as long as the approval remains valid. These approvals are grandfathered indefinitely.

Option to Grandfather existing vehicles after the Effective Date.

For operators who wish to add new vehicles to an existing VA after the Effective Date without upgrading their existing non-compliant vehicles, there is an option to administratively 'split' their VA.

A VA can be administratively 'split' into two VA's: select vehicles can be removed from the existing VA and transferred to another VA, while the remaining VINs will stay on the original VA and thus be grandfathered. Any associated access permits with the original VA will continue to be valid. VINs transferred will get a new VA number and will thus require a new access permit.

Splitting of VA's is an administrative pathway and will not require a re-certification by a PBS Certifier.

Minor Modifications to Existing VAs are grandfathered indefinitely.

After the Go-live Date, certain modifications can be made to a VA without being impacted by the revised DSUB standard. These include:

- VA Transfer either in whole or in part
- Removal of Operator Name from an existing VA
- Removal of vehicles from an existing VA
- Updates to the VA Tyre List
- Updates to Payload Heights
- Other minor administrative changes

Stakeholder Questions

Q8 Do you have any feedback on the proposed grandfathering provisions?

Q9 Are there any specific VA modifications that you think should be added to the list of minor modifications that can be made without being impacted by the revised DSUB standard?

9. Braking upgrade for Pre-existing vehicles

Requirements for Braking Upgrade

A braking upgrade for an existing vehicle must meet the following criteria:

- Be performed and certified in accordance with VSB6 (Vehicle Standards Bulletin).
- A modification plate must be fitted to the vehicle.
- A modification certificate issued by an Approved Vehicle Examiner (AVE).

Proof of Compliance for PBS Certification Purposes

To verify compliance with the revised DSUB standard for PBS Certification Purposes, the following will be accepted:

- A photo of the modification plate; and
- A declaration from a PBS Certifier confirming the vehicle complies with the revised DSUB standard.

Note: When a pre-existing PBS vehicle is upgraded, a re-inspection by a PBS Certifier is not required. A copy of a certifier's declaration and a photo of the modification plate will be sufficient at the time of the VA application to verify compliance.

For upgrades that only involve the addition of devices to indicate the status of the brake system, a photo or declaration will be sufficient for PBS Certification purposes.

Stakeholder Questions

Q10 Are there any aspects of upgrading vehicles with new braking technology that you think the NHVR needs to consider?

Q11 Do you have any feedback on the proposed process for providing proof of compliance for upgraded vehicles?

10. Recording of DSUB compliance status on PBS Certifications

This section is mostly relevant to PBS Certifiers on recording compliance status on PBS Certifications.

To ensure visibility and track DSUB compliance status, Certifiers will be required to record braking specifications and DSUB compliance status (via use of a label) for each VIN being certified. These details must be added to the Certifier's Certificate and will be translated to the VA document.

This requirement will apply to all vehicles on the Certifier's Certificate including existing ones and new vehicles being added which means that the existing vehicles will need to be 're-certified' to confirm DSUB compliance status, regardless of if they are compliant or not. This is required to keep track of DSUB compliance status going forward.

Proposed DSUB label

DSUB compliance status for each VIN will be recorded on the VA via the use of ADR and DSUB labels, which will indicate compliance with the DSUB standard for each VIN on the VA.

This label will be added to all VA's issued after the Go-live date.

DSUB Label will encode the following information:

1. ADR version compliance:
    a. For hauling units – version number of ADR35/..
    b. For trailing units – version number of ADR38/..
2. Type of Brakes – ABS/EBS/TEBS/LPV
3. Factory-Compliant / Retrofitted – F/R
4. Revised DSUB Compliance – 1=Compliant; 0-Non-compliant

Example ADR and DSUB labels on the VA:

Truck 1	Make	GCM (t)	DSUB
00000000000000000	KW	70	03.LPV.R.0

Dolly 1	Make	ATM (t)	DSUB
00000000000000000	VAW	17	05.TEBS.F.1

Stakeholder Questions

Q12 Do you foresee any issues with the proposed method of recording compliance with the revised DSUB standard for PBS certifications?

Q13 Do you foresee any issues with the proposed method of labelling displayed on PBS Vehicle Approvals?

11. Changes to Design Approvals

All existing PBS Design Approvals will be deemed to comply.

After the Go-live Date, all existing PBS Design Approvals (DAs) will be deemed to comply with the revised DSUB standard. This means that existing DAs will *not* need to be updated to explicitly state the updated DSUB requirements.

For existing DA's a revised DSUB checklist, developed by NHVR, will be used for certifications in place of existing Braking Specifications listed on the DA's Part B.

Design assessments after Go-live Date.

From the Go-live Date **all new design** applications must be assessed using the **revised DSUB standard**.

From the Go-live Date and during the Transition Period, all **design modifications** (variations and amendments) must be assessed using **both the previous and revised DSUB standards**. This is due to compliance with the revised DSUB standard being optional for adding vehicles to existing VAs during the Transition Period.

From the Effective Date all designs must be assessed using the revised DSUB standard.

From the Effective Date **all design applications** (new, variations and amendments) must be assessed using **the revised DSUB standard**.

Operational aspects will be further explained in an IPAC.

Details on the DA updates and requirements for certifications with be further explained in an IPAC.

Stakeholder Questions

Q14 Do you have any feedback on the proposed process for PBS assessments during the Transition Period?

12. Key messages for PBS operators

- PBS operators should be aware of the impending changes to the DSUB standard and how it will impact their business operations.
- NHVR encourages all PBS operators to use the Transition Period to plan and prepare for the Effective Date of the revised DSUB standard, especially if they intend to add new vehicles to existing VAs after the Effective Date.
- NHVR has carefully considered the impacts of its implementation approach on business operators, with the aim of minimising disruption to business operations while ensuring a safe and smooth transition to the revised DSUB standard.

If stakeholders are unsure of how the revised DSUB standard will impact their operations or have any further queries about the DSUB standard, they should contact NHVR at the earliest.

Appendix A – Revised Directional Stability Under Braking Standard Proposal

R1: DIRECTIONAL STABILITY UNDER BRAKING

R1.1 Applicability

(1) All existing PBS Design Approvals issued prior to <Go-live date>:

(a) remain valid; and

(b) do not require reassessment.

(2) From <Go-live date> this standard (R1) must be used for all new assessments and all amendments to existing assessments.

R1.2 Purpose and intent

(a) Purpose

The primary purpose of this standard is to manage safety risk of vehicle instability when braking in a turn, on a loose surface, or on pavement cross slopes.

(b) Intent

The ability of a vehicle to remain stable, controllable and kept within its lane during heavy braking is a key safety consideration in all road transport tasks and in all areas of heavy vehicle operation – urban, regional and remote. Rollover or loss of control (such as if a jack-knife occurs), present high safety risks to the driver and to other road users, which can lead to injury and fatalities.

Heavy braking in a turn is a challenging manoeuvre that subjects the vehicle to a complex combination of longitudinal and lateral acceleration placing severe demands on both driver skill and vehicle performance. A high level of stability reduces the likelihood of a crash and is therefore desirable, particularly in environments where traffic volumes and/or travel speeds are high, and the probability of a crash having a severe outcome is high.

R1.3 Definition

(a) Summary statement

The ability to maintain directional stability under braking.

R1.4 Requirements

R1.4.1 Hauling unit/s - first-time PBS vehicle/s only–

a) must comply with a version of ADR 35/.. that was applicable[1] to vehicles entering the Australian market in the 10 years prior to the PBS certification date; and

b) must be fitted with an antilock braking system; and

c) must comply with the antilock braking system and vehicle stability function (if applicable) optical warning signal (indicator) requirements specified in ADR 35/04 or a later version; and

d) if capable of towing a trailer, the vehicle must supply an electric control signal complying with ISO 11992-1 and ISO 11992-2, and be a point-to-point type using the seven pin connector according to ISO 7638-1 or 7638-2; and

e) if being used in a road train combination, the vehicle must be equipped with a connector conforming to ISO 7638-1 together with a permanent electrical supply system configured for 24-volt operation.

[1] For determining applicability, the dates of applicability for all vehicles (i.e. not just new models) of the relevant vehicle category (NC, NB, ME or MD) are to be used.

R1.4.2 Hauling unit/s - pre-existing PBS vehicle/s only–

a) must be fitted with an antilock braking system that meets the requirements of ADR 35/04 or a later version; and

b) must comply with the antilock braking system optical warning signal (indicator) requirements specified in ADR 35/04 or later; and

c) if capable of towing a trailer, the vehicle must supply an electric control signal complying with ISO 11992-1 and ISO 11992-2, and be a point-to-point type using the seven pin connector according to ISO 7638-1 or 7638-2; and

d) if being used in a road train combination, the vehicle must be equipped with a connector conforming to ISO 7638-1 together with a permanent electrical supply system configured for 24-volt operation.

R1.4.3 Trailing unit/s (including converter dollies) - first-time PBS vehicle/s only–

a) must comply with a version of ADR 38/.. that was applicable[2] to vehicles entering the Australian market in the 5 years prior to the PBS certification date.

R1.4.4 Trailing unit/s (including converter dollies) - pre-existing PBS vehicle/s only–

a) must comply with ADR 38/05 or a later version.

R1.4.5 Trailing unit/s (including converter dollies) – both first-time and pre-existing PBS vehicle/s–

a) must be fitted with Trailer EBS with enabled ABS and roll-over control functions. These systems and functions must comply with the requirements specified in ADR 38/05 or a later version; and

b) if capable of towing a trailer, must be fitted with wiring between electrical connections to ensure all braking systems are able to operate correctly; and

c) installed Trailer EBS must be fitted with an appropriate means of indicating the status of the system. This must:

i) be located on the trailing unit; and
ii) indicate whether the system is powered-on and whether any system faults are present; and
iii) if utilising lamps, comply with the lighting requirements of the Heavy Vehicle (Vehicle Standards) National Regulation and applicable ADRs.

R1.4.6 Combination vehicle/s:

a) must have a functioning wiring network to support Trailer EBS CAN communication across the entire combination, with adequate voltage to maintain functionality of the Trailer EBS of all trailers and dollies in the combination; and

b) must have wiring connected so that all braking and stability functions are operational; and

c) if combination is a road train, trailing units must utilise the 24 volt electrical supply provided by the hauling unit for the trailer brake system.

Note: It is recommended that all PBS combinations utilise a 24 volt electrical supply for the trailer brake system.

[2] For determining applicability, the dates of applicability for all vehicles (i.e. not just new models) of the relevant vehicle category (TC or TD) are to be used.

Appendix B – PBS Fleet Statistics: ADR 35 and ADR 38

		PBS-approved in the last 18 months[1]	All time
	Portion of PBS trailer fleet manufactured prior to introduction of ADR 38/05[2]	15%	42%
	Portion of PBS hauling unit fleet manufactured prior to introduction of ADR 35/06[3]	30%	-
	Portion of PBS hauling unit fleet manufactured prior to introduction of ADR 35/04[4]	17%	-

1) Vehicles approved in PBS for the first time - PBS Vehicle Approval issued between 1 Nov 2023 and 31 May 2025 included.
2) Date that ADR 38/05 became applicable for all vehicles (1 November 2019) used for analysis.
3) Date that ADR 35/06 became applicable for all MD, ME, NB and NC category vehicles (1 January 2022) used for analysis. ADR35/06 is the first version of ADR 35 that included requirements for ME and certain NC category vehicles to be fitted with a Vehicle Stability Function (e.g. Electronic Stability Control).
4) Date that ADR 35/04 became applicable for all vehicles (1 January 2015) used for analysis. Although 17% of PBS hauling units entering the Scheme in the last 18 months were manufactured prior to the introduction of ADR 35/04, these vehicles will be fitted with ABS due to requirements included in the deemed-to-comply provisions in the existing DSUB standard. The deemed-to-comply provisions are currently used by all vehicles entering the PBS Scheme.

Appendix C – Project Background

The following section details the background, rationale and specific requirements of the revised DSUB standard.

At the May 2018 meeting of the former Transport and Infrastructure Council, the outcomes of the National Transport Commission's PBS Marketplace project were endorsed. This project outlined four recommendations, one of which was for the NHVR to complete a review of the PBS Standards.

To deliver on this recommendation, the NHVR commenced the PBS Review Project and contracted TERNZ Transport Research Ltd (TERNZ Transport), to undertake a review of the first three standards, including the DSUB performance requirements.

In November 2019, Ministers endorsed the recommended amendments to this standard that were proposed by the NHVR in alignment with the recommendations from TERNZ Transport, noting that the NHVR would develop a set of transitional arrangements to manage the impact the change may have on older vehicles. Table 1 outlines the ministerial approved amendments to the DSUB PBS Standard.

Table 1: Ministerial approved amendments to the DSUB PBS Standard

Current standard	**Three alternative 'deemed to comply' provisions:** 1. A vehicle that has a functioning anti-lock brake system that effectively prevents gross wheel lock-up on each axle group (as defined in the definitions) is deemed to comply with the standard; or 2. A motor vehicle in a combination vehicle that has a functioning anti-lock brake system that effectively prevents gross wheel lock-up behaviour on the motor vehicle can be ignored when the test or simulation assessment is made. That is, the motor vehicle is deemed-to comply and only the performance of the trailer(s) against the performance standard needs be addressed; or 3. A combination vehicle that has a load proportioning brake system (variable proportioning brake system) on each part that has been set to meet the lightly laden compatibility limits in the pending revisions to Australian Design Rules 35 and 38 (Australian Design Rule 35/02 and 38/03) is deemed to comply with this standard. Note that a motor vehicle that has an antilock brake system as described in the preceding paragraph and trailer(s) that meet the lightly laden compatibility limits are deemed to comply with this standard.
Summary	The endorsed standard increases the requirements for newly built or newly approved PBS vehicle units to be fitted with the latest safety technologies including: • Anti-lock Braking System (ABS) (as a minimum) • Electronic Stability Control (ESC), Electronic Stability Program (ESP), Roll Stability System (RSS), or Roll Stability Program (RSP) The endorsed standard will also remove the option for Load Proportioning Brake Systems (Variable Proportioning Brake Systems) from the deemed to comply provision. The performance requirements will not change as a result of the amended standard. The NHVR will develop a set of transitional rules to manage the impact the change may have on older vehicles.

Key drivers

The ability of a vehicle to remain stable, controllable and kept within its lane during heavy braking is a key safety consideration in all road transport tasks and in all areas of heavy vehicle operation – urban, regional and remote. Rollover or loss of control (such as if a jack-knife occurs), present high safety risks to the driver and to other road users, which can lead to injury and fatalities.

Heavy braking in a turn is a challenging manoeuvre that subjects the vehicle to a complex combination of longitudinal and lateral acceleration placing severe demands on both driver skill and vehicle performance. A high level of stability

reduces the likelihood of a crash and is therefore desirable, particularly in environments where traffic volumes and/or travel speeds are high, and the probability of a crash having a severe outcome is high.

The revised DSUB standard will ensure that all PBS vehicles are aligned to the latest safety technologies, and that the PBS fleet continues to operate at a higher safety performance than available prescriptive alternatives. Table 2 describes the individual safety benefits of each of the required braking technologies.

Table 2: Braking technology benefits

Braking Technology	Benefits
Anti-lock Braking Systems (ABS)	ABS assists the driver to maintain control of the vehicle and allows the vehicle to come to a more complete stop. It helps to reduce wheel lock up and ensure safety in the event that hard braking is required. ABS also assists with traction control and allows the wheels to have greater traction on the road. This allows for greater safety in unpredictable road conditions. ABS allows the driver to steer while simultaneously braking in order to avoid an incident.
Electronic Stability Control (ESC)	ESC is an active safety motor vehicle safety system that detects and prevents skids and rollovers. It works on dry, wet, icy, and gravel roads, helps drivers manage unexpected road hazards such as black ice or wildlife, and helps drivers 'crash safer' by preventing deadly rollovers and side collisions
Roll Stability Systems (RSS)	RSS assists the driver by automatically intervening if a high rollover risk is detected while driving. If a high rollover risk is detected, RSS works to immediately reduce the vehicle's speed to minimise any potential risk.