



HEAVY VEHICLE PRODUCTIVITY PLAN

2020 - 2025

Delivering safe, efficient and productive heavy vehicle movements supporting a strong and prosperous Australia

August 2020



Foreword

We are pleased to present the NHVR's *Heavy Vehicle Productivity Plan 2020-2025* (the Plan), which outlines our objectives, goals and actions to deliver safe, efficient and productive heavy vehicle movements supporting a strong and prosperous Australia.

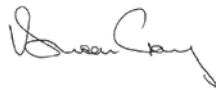
The Plan delivers on a key commitment in the *NHVR Corporate Plan 2019-2022*: to work in collaboration with industry and government to identify non-infrastructure productivity solutions for the future freight task.

In developing the Plan, we undertook significant engagement with industry and government agencies at all levels, to ensure it appropriately reflects the contributions of our customers, and pursues improvements in heavy vehicle productivity that are valued by governments and industry. We engaged with 55 stakeholders in pre-submission consultation, received 23 formal submissions, presented a webinar with 178 registered participants, and held nine workshops with the Commonwealth Government, all state and territory transport agencies and all local government associations in participating jurisdictions.

As a risk-based, intelligence-led regulator, we will use data, technology, policy and innovative practices to deliver productivity outcomes for governments and industry. The Plan provides a pathway for us to work with our diverse customer base to deliver tangible benefits to address Australia's growing road freight task. Ongoing partnership with our customers is vital to ensure the successful delivery of our actions.

While we await the outcome of the National Transport Commission's review of the *Heavy Vehicle National Law Act 2012* (HVNL) and the Productivity Commission's *Inquiry into National Transport Regulatory Reform*, we will continue to seek opportunities to improve access and productivity under the current HVNL. We believe the Plan provides this opportunity and is sufficiently flexible to adapt to any proposed changes into the future.

The NHVR Board and Executive Leadership Team value the commitment and contribution of our customers and other partners in developing the Plan, and we look forward to working together in partnership to maximise the benefits from its successful delivery.



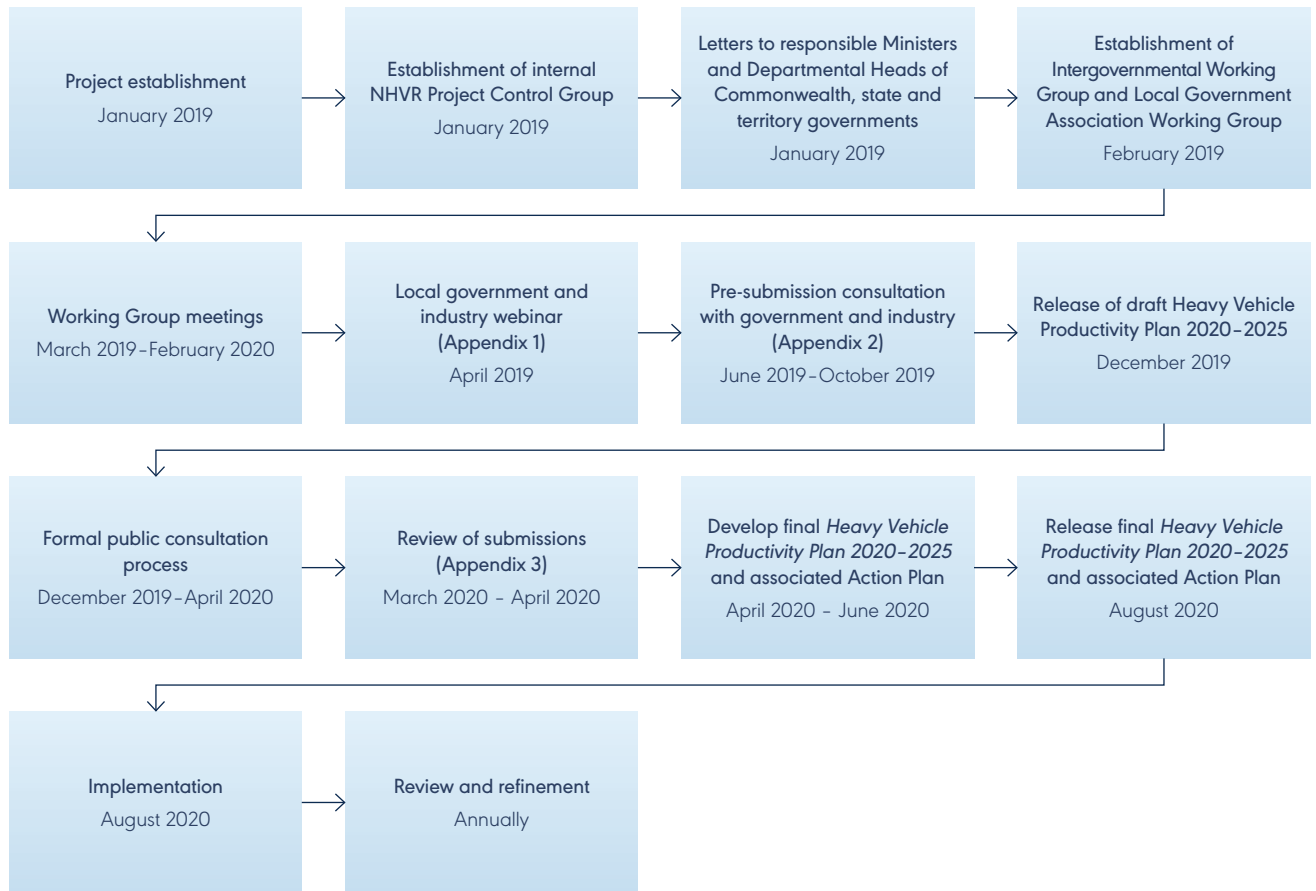
The Hon Duncan Gay
Chair of the Board



Sal Petrocchio
Chief Executive Officer



The process to deliver the *Heavy Vehicle Productivity Plan 2020–2025*



The NHVR's stakeholder profile


200,000 people
 in the Australian road
 freight industry¹


50,000
 Australian road
 freight businesses²


425 road managers
 under the HVNL



6 HVNL
 participating
 jurisdictions³

Australia's heavy vehicle profile⁴


353,759
 heavy rigid trucks


103,038
 articulated trucks


924,860
 Registered heavy vehicles
 and trailers⁵


99,379
 buses

1 Australian Bureau of Statistics, 2018, 6291.0.55.003 - Labour Force, Australia, Detailed, Quarterly, November 2018
 2 Australian Bureau of Statistics, 2018, 8165.0 Counts of Australian Businesses, including Entries and Exits, June 2013 to June 2017
 3 The Australian Capital Territory, New South Wales, Queensland, South Australia, Tasmania and Victoria.
 4 Australian Bureau of Statistics, 2018, 9309.0 - Motor Vehicle Census, Australia, 31 January 2019
 5 NHVR, 2020, Registration demographics as at January 2020



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The national road freight and heavy vehicle access picture

Access permits and notices by the numbers

Over **200,000** single access permit applications processed by the NHVR since inception⁶



Over **40,000** single access permit applications processed by the NHVR in 2018-19:

94% of all applications approved

99% of renewal applications approved

Requested routes: **1** to over **900** per permit

Road managers: **1** to over **70** per permit - **1.7** road managers involved in an average permit

Consent request: Local government road managers in 2018-19:



93% approved within 28 days with average turnaround of **5.5 DAYS**

7% approved outside of 28 days with average turnaround of **67 DAYS**

Consent requests: State and territory government road managers in 2018-19:

93% approved within 28 days with average turnaround of **4.9 DAYS**

7% approved outside of 28 days with average turnaround of **63.8 DAYS**

Over **120** national, state and transitional notices



Over **2,000** pre-approved routes covering over **43,000KM** of road

Pre-approvals reduce end-to-end permit issue time by **68%**

8.9% of granted consents made by pre-approval with average permit issue time of **4.55 DAYS**

91.1% of granted consents made with no pre-approval with average permit issue time of **14.18 DAYS**

Australia's growing freight task

The Australian economy is the **13TH LARGEST** globally but Australia has the **FIFTH LARGEST** freight task⁷

Australia's road freight task is growing almost **TWICE AS FAST** as its population.^{8,9}

Total freight task is over **738 BILLION** tonne-kilometres - **80%** growth predicted between 2010 and 2030¹⁰

163 TONNES of freight are moved per person per year¹¹

Road freight task is over **214 BILLION** tonne-kilometres¹²

Almost **30%** of all freight is moved by road¹³



Road freight movements:

75% within and **25%** between state and territory borders¹⁴

Road transport = **\$137 BILLION** in economic output¹⁵

⁶ A single access permit application may involve more than one road manager

⁷ Organisation for Economic Co-operation and Development, 2018, *Freight transport*

⁸ Bureau of Infrastructure, Transport and Regional Economics, 2018, *Australian Infrastructure Statistics Yearbook 2018*, Australian Government

⁹ Australian Bureau of Statistics, 2018, *3101.0 - Australian Demographic Statistics, Dec 2014, Dec 2015, Dec 2016, Dec 2017, Dec 2018*

¹⁰ Department of Infrastructure, Regional Development and Cities, 2018, *Inquiry into National Freight and Supply Chain Priorities - Report March 2018*, Australian Government

¹¹ Ibid

¹² Ibid

¹³ Ibid

¹⁴ NTC, 2016, *Who Moves What Where: Freight and Passenger Transport in Australia*

¹⁵ Australian Bureau of Statistics, 2018, *5270.0 - Australian Transport Economic Account: An Experimental Transport Satellite Account*

About the Heavy Vehicle Productivity Plan

Objectives and Goals

The NHVR is Australia's dedicated statutory regulator for all heavy vehicles over 4.5 tonnes gross vehicle mass or aggregate trailer mass. It also has a direct regulatory relationship with all levels of government and the heavy vehicle industry.

The NHVR is uniquely positioned to support a national approach to addressing Australia's growing road freight task, and is committed to achieving improved efficiency and productivity outcomes for the benefit of its government and industry partners.

The *Heavy Vehicle Productivity Plan 2020-2025* (the Plan), developed in extensive consultation with governments and industry (refer Appendices 1-3), outlines the NHVR's intent to facilitate safe, efficient and productive heavy vehicle movements.

This intent is to be achieved through the Plan's three objectives:

Objective 1: Provide access certainty and consistency

Objective 2: Partner with local government to build capability

Objective 3: Promote safer and more productive heavy vehicles that are better for the environment and communities

Each objective contains goals that are key elements to delivering on the intent of the Plan.

The goals outline how the NHVR will enhance existing and implement new programs and initiatives.

Because the heavy vehicle road freight sector is a service industry, improvements to access and productivity, delivered through the Plan's objectives and goals, will result in flow-on benefits across the supply chain, thereby benefiting local businesses and the community at large.

Actions

While it is not intended to encompass the NHVR's full future work program, the Plan articulates actions within each goal that will be undertaken over the next five years to improve access and productivity. Achieving genuine safety outcomes is also a key focus of the Plan.

These actions respond to requests from our stakeholders.

Consultation identified priority actions of shared importance among governments and industry that will deliver the greatest benefit to access and productivity.

Fundamentally, these priority actions can be categorised as contributing to increasing the coverage of notices and gazetted and pre-approved networks, improving the Performance Based Standards (PBS) scheme, and helping governments make more-informed decisions.

The support of the Commonwealth, state, territory and local governments and industry will be vital to delivering the Plan and outcomes, and the NHVR will partner with relevant stakeholders where required. Further, successful delivery of some actions may also be subject to funding availability.

A consolidated list of actions, ordered by short-, medium- and long-term deliverables, is located on pages 8-9, with the priority actions indicated.

Supporting information

A summary of important background information that supports the Plan is provided in the appendices:

- Appendix 4: Alignment with government initiatives
- Appendix 5: Understanding heavy vehicle access under the NHVR
- Appendix 6: Heavy vehicle data acquisition and enrichment under the NHVR
- Appendix 7: The Performance Based Standards scheme.

Actions of the Heavy Vehicle Productivity Plan

Short-term actions (1 to 2 years)¹⁶

Objective 1: Provide access certainty and consistency	Action	Key Partners
Goal 1: Provide value to government and industry through the targeted elimination of access permits	Encourage road managers to expand gazetted and pre-approved networks through enhanced data-sharing solutions for historic access permit approvals* [PRIORITY ACTION]	Road managers
	Continue to deliver and maintain national, state and territory notices prioritised by safety and productivity benefits to government and industry [PRIORITY ACTION]	State and territory transport agencies
	Establish a national working group to guide notice prioritisation, development and maintenance	Road managers Industry
	Publish and maintain a prioritised notice development and maintenance program on the NHVR website with key milestones and status updates	
Goal 2: Provide greater access and certainty for Performance Based Standards (PBS) vehicles	Continue to exempt a greater range of PBS vehicles from access permit requirements on existing equivalent prescriptive gazetted networks or PBS-specific networks [PRIORITY ACTION]	State and territory transport agencies Road managers Industry
	Encourage road managers to expand gazetted and pre-approved PBS networks through enhanced data-sharing solutions for historic PBS access permit approvals and PBS vehicle designs* [PRIORITY ACTION]	Road managers
Goal 3: Facilitate access and productivity through understanding the capacity and capability of key freight roads and structures	Develop and deliver the Strategic Local Government Asset Assessment Project [PRIORITY ACTION]	Commonwealth Government
	Build a national map of key freight roads and structures that provides a central platform to consistently store, manage and view asset information	Road managers
	Advocate for dedicated annual funding to continue the Strategic Local Government Asset Assessment Project beyond the initial funded program	
Objective 2: Partner with local government to build capability		
Goal 1: Develop an education and support program on heavy vehicle performance and route assessments	Continue to deliver and expand the range of education and training material available to road managers [PRIORITY ACTION]	State and territory transport agencies
	Continue to facilitate forums, workshops and online training for council engineers	Road managers
	Continue to facilitate engagement opportunities between road managers and industry to build relationships and enable collaboration leading to mutually beneficial outcomes	State and territory transport agencies Road managers Industry
Goal 2: Equip road managers with route assessment products	Develop an on-demand and self-paced eLearning program on the revised <i>Approved Guidelines for Granting Access</i>	
	Continue the provision and enhancement of route assessment products* [PRIORITY ACTION]	
Goal 3: Deliver digital and data solutions to enable improved government and industry decision-making	Develop an access permit data hub that analyses and visualises historic access permit outcomes by road for different vehicle types* [PRIORITY ACTION]	
Objective 3: Promote safer and more productive heavy vehicles that are better for the environment and communities		
Goal 1: Incentivise the uptake of modern vehicles with the latest safety and environmental technologies	Develop a <i>Vehicle Safety and Environmental Technology Uptake Plan</i> to accelerate and incentivise the uptake of safety and environmental technology in the heavy vehicle fleet	Commonwealth Government Industry

¹⁶ Estimated timeframes are not reflective of commencement date or duration, nor confirmation of completion date. Timeframes are an estimate of the earliest delivery of the action. Delivery of actions may be subject to funding and partnership with key stakeholders.

*Subject to funding

Medium-term actions (2 to 4 years)¹⁷

Objective 2: Partner with local government to build capability	Action	Key Partners
Goal 2: Equip road managers with route assessment products	Centralise availability of route assessment tools and guidelines with the NHVR	Austrroads State and territory transport agencies
Goal 3: Deliver digital and data solutions to enable improved government and industry decision-making	Develop a national mapping solution for heavy vehicle access related services* [PRIORITY ACTION]	Commonwealth Government State and territory transport agencies
Objective 3: Promote safer and more productive heavy vehicles that are better for the environment and communities		
Goal 2: Deliver PBS 2.0 – a modern approach to the PBS scheme	Complete the review of the standards in the PBS scheme under the PBS marketplace review* [PRIORITY ACTION]	Commonwealth Government
	Continue to implement improved systems and processes that incentivise industry uptake and accelerate growth in the PBS scheme* [PRIORITY ACTION]	State and territory transport agencies National Transport Commission Industry

Long-term actions (4 years +)¹⁸

Objective 1: Provide access certainty and consistency	Action	Key Partners
Goal 4: Facilitate greater access and productivity through movement data	Work with road managers to understand how to use movement data and to develop policies enabling greater access and productivity through technology	Transport Certification Australia
	Progressively adopt a range of technology solutions, with assurance levels appropriate to the safety and infrastructure risk of vehicle operations, to facilitate greater access and productivity	Road managers Industry
	Evaluate and develop digital tools that enable analysis and visualisation of movement data collected for access purposes*	
Objective 2: Partner with local government to build capability		
Goal 1: Develop an education and support program on heavy vehicle performance and route assessments	Continue to encourage the implementation of Heavy Vehicle Access Liaison Officer in participating jurisdictions	Commonwealth Government State and territory transport agencies Local government associations
	Goal 2: Equip road managers with route assessment products	Austrroads State and territory transport agencies
Objective 3: Promote safer and more productive heavy vehicles that are better for the environment and communities		
Goal 1: Incentivise the uptake of modern vehicles with the latest safety and environmental technologies	Develop policies enabling greater access and productivity for vehicles fitted with modern safety and environmental technologies	State and territory transport agencies Industry
	Support the increased harmonisation of Australian vehicle standards with international standards to allow for the latest designs from origin markets and the fitment of safety and environmental technology from those major market designs	Commonwealth Government Industry
	Implement the <i>Vehicle Safety and Environmental Technology Uptake Plan*</i>	
Goal 3: Promote awareness of planning and design for modern and safer vehicles	Support governments and industry to build the social licence of road freight among governments and communities	Commonwealth Government
	Support and encourage governments to update planning and design standards to support modern heavy vehicles	State and territory transport agencies Road managers Industry

¹⁷ Estimated timeframes are not reflective of commencement date or duration, nor confirmation of completion date. Timeframes are an estimate of the earliest delivery of the action. Delivery of actions may be subject to funding and partnership with key stakeholders.

¹⁸ As above.

*Subject to funding

Strategic direction

The NHVR Corporate Plan 2020–2023

The Plan is aligned with the *NHVR Corporate Plan 2020–2023*, prepared under the HVNL and approved by responsible Ministers. The Plan contributes to delivering on elements of the following NHVR priorities:

- Improved and measurable safety outcomes, targeting the greatest safety risks.
- Greater and timely road network access certainty and increased productivity for the heavy vehicle industry.
- Promoting the adoption of safer, cleaner and more efficient vehicles and environmental technologies.
- Successful transition of regulatory services to improve efficiency, effectiveness and consistency for heavy vehicle regulation.
- Positioning the NHVR as the national leader and modern regulator.
- Engaging effectively and constructively with reform of the heavy vehicle regulatory framework.

The HVNL Review

The National Transport Commission (NTC) commenced a review of the HVNL in late 2018 to create a more risk-based and outcomes-focused law.

The NHVR believes it is important to commence work now on improving productivity in the heavy vehicle sector. Therefore this Plan focuses on policies and activities that are both deliverable under the current HVNL and sufficiently flexible to adapt to a new HVNL. This will allow the NHVR to deliver immediate improvements to access and productivity before the new HVNL is enacted.

The Plan also provides the opportunity to commence delivery of a longer-term, modern access regime under the new HVNL, including mechanisms to support the adoption of risk-based access, which has been widely supported by industry and government.

Inquiry into National Transport Regulatory Reform

The Productivity Commission has led an inquiry to assess the economic impact of reforms to transport regulation agreed to by the Council of Australian Governments in 2008–09.

The scope includes national heavy vehicle transport regulatory reform, in addition to that of other transport modes. The Plan has been developed to consider this inquiry.

The final inquiry report was handed to the Commonwealth Government on 7 April 2020. The date for public release of the final report has not yet been announced.

OSOM Review

The Commonwealth Government's Review of *Oversize Overmass (OSOM) Access Arrangements* (OSOM Review)¹⁹ listed 38 initiatives to improve productivity for the OSOM industry. By the end of 2020, the NHVR will have all initiatives where the NHVR is a responsible party.

The NHVR will continue to engage with other responsible parties and support them in the completion of their allocated recommendations—in particular, the recommendation for the Commonwealth Government and state and territory transport agencies to resolve inconsistent pilot and escort arrangements through the Transport and Infrastructure Council.



¹⁹ Department of Infrastructure, Regional Development and Cities, 2018, Review of Oversize Overmass (OSOM) Access Arrangements, Australian Government.

Alignment with government initiatives

The Plan aligns with and complements the heavy vehicle and road freight initiatives identified by the NHVR's government partners, inclusive of how the NHVR intends to implement aspects of agreed recommendations where it is a relevant and suitably responsible party. Importantly, the Plan also confirms the NHVR's commitment to supporting government partners to deliver some of their initiatives.

An overview of key government initiatives considered by the Plan is provided in Appendix 4.

Amendment disclaimer

The Plan may be reviewed from time to time to reflect any recommendations tabled by the finalised *HVNL Review*, the *Inquiry into National Transport Regulatory Reform*, or other reforms related to the heavy vehicle regulatory environment that have a material impact on the role and functions of the NHVR and the Plan.

The Plan may also be reviewed in response to ongoing engagement activities with governments and industry, to ensure the NHVR continues to deliver efficient and effective regulatory services to its customers.



Objective 1: Provide access certainty and consistency

Goal 1: Provide value to government and industry through targeted elimination of access permits

Outcomes we want to achieve

The NHVR envisions a future where permits are required by exception rather than as a rule. Over the last six years, the NHVR has worked with state, territory and local governments to develop national and state notices that remove the need for permits and to improve consistency within and across borders.²⁰

Prioritising the development and maintenance of notices by quantifiable benefits or to support critical industries (e.g. the agricultural sector during natural disasters) will provide the greatest value to road managers, industry and the Australian economy.

Enhanced data-sharing solutions will empower road managers and provide the evidence base to accelerate expansion of gazetted and pre-approved networks. Greater ability to strategically create end-to-end permit-free networks and maximise the use of roads is critical to delivering significant economic benefits across the country, and to reduce the regulatory and administrative burden for governments and industry.

Delivering and maintaining notices to maximise value

Through submissions to the draft Plan, there was broad support by all key parties to increase access via notices.

Industry requested that a more diverse range of heavy vehicles should be able to operate on roads without a permit (including existing vehicle types at greater mass and/or dimension limits), and road managers sought a reduction in the need for repeat route assessments, where they have deemed access is safe.

State and territory transport agencies recommended a greater focus on efficient notice maintenance, citing greater potential nationwide value from enhancing existing notices, rather than developing new notices.

Notice delivery and maintenance is not strictly an NHVR or government responsibility; industry also has a role to play. This may include providing vehicle data and research (e.g. the National Farmers Federation commissioning James Cook University to undertake a safety study on large agricultural vehicles), and assisting the NHVR to ensure industry as a whole is aware of potential changes to the access environment and that they understand their regulatory obligations.

Legacy policy issues at a jurisdictional level have played a significant role in delaying or preventing the delivery of national or multi-state notices. All stakeholder groups recognised that a combination of rationalisation, consolidation and harmonisation needs to be considered. This would suitably balance achieving greater safety and productivity outcomes nationally with consideration of significant local needs.

The NHVR recommends that a strong governance model be developed and agreed to by government stakeholders, so the NHVR can work collaboratively and expeditiously with these parties.

Improving the framework and process, and continuing to implement notices that provide the greatest value to our government and industry customers, also confirms our commitment to the Commonwealth Government's *National Freight and Supply Chain Strategy National Action Plan and the OSOM Review*.

Use evidence from the NHVR Portal to expand gazetted and pre-approved networks

Working smarter and continuing to deliver a stronger evidence base is vital to partnering with road managers to expand gazetted and pre-approved networks. Road managers and industry have recommended that information on

historic access permit applications should be made more openly accessible and easier to analyse.

Trend information from completed applications processed through the NHVR Portal will improve government and industry understanding of demand and volume on approved routes. This information will help them work more collaboratively to identify, prioritise and implement gazetted and pre-approved networks, including those not previously considered.

Digital data analysis and reporting solutions will accelerate heavy vehicle network growth to eliminate the need for industry to apply for permits (including transferring pre-approvals to gazetted). It will also eliminate the need for road managers to undertake repetitive route assessments, providing them the time to focus on complex permit applications.

Road managers, as access enablers, will continue to be engaged to ensure network growth is managed safely, sustainably and responsibly.

Many risks and network limitations should be known as most key freight roads have, at least in part, been assessed and approved multiple times before.

Over **94%** of applications are approved

Over **30%** of applications are renewals

Over **99%** of renewals are approved with little or no change

²⁰ Refer to Appendix 5 for a summary of heavy vehicle access under the NHVR.

Case study: The value of notice development and maintenance:

- Industry estimates that the *National Class 1 Agricultural Vehicle and Combination Notice 2019* eliminates over 80 per cent of permit requirements for Australia’s agricultural fleet.
- The NHVR estimates that the *National Class 1 Special Purpose Vehicles (SPV) Notice 2016* will benefit the economy by \$130 million over 20 years.
- Notice maintenance can provide greater value than new notices. From May 2020, almost one-third of OSOM permits are expected to be eliminated in New South Wales due to upgrades brought about by the *Multi-State Class 1 Load Carrying Vehicle Dimension and Mass Exemption Notices*.
- The NHVR and state and territory transport agencies regularly partner to deliver notices to support industry in emergency situations. The *National Class 3 Drought Assistance Dimension Exemption Notice 2018 (No.1)* provided farmers with vehicle dimension limit relaxations to transport baled hay more productively. Holiday travel restrictions were relaxed in 2020 to assist industry during the COVID-19 crisis.

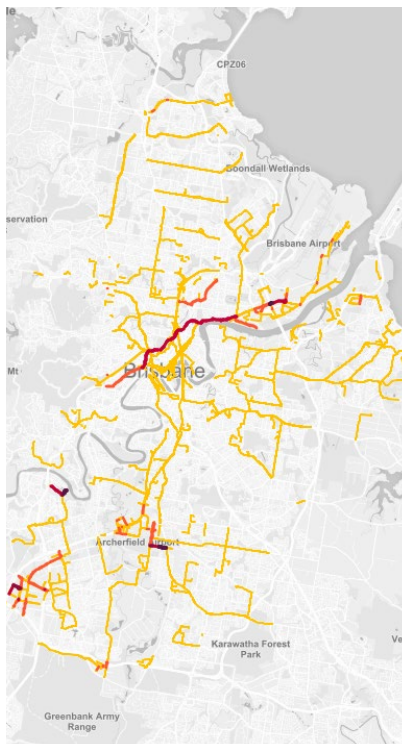


Figure 1: Granted OSOM permits on Brisbane City Council Roads in 2019–2020 (processed through the NHVR Portal)

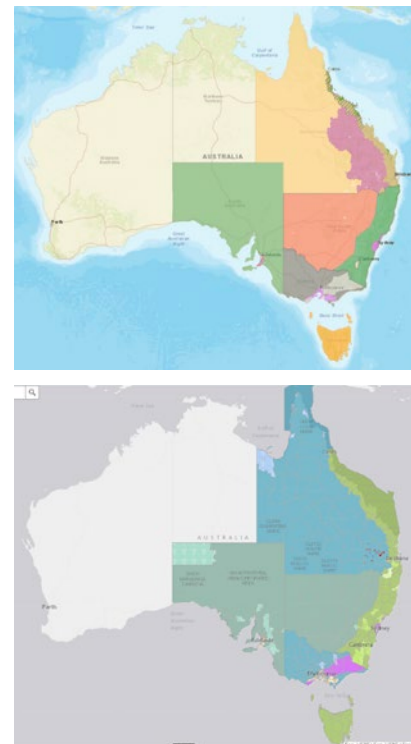


Figure 2: Increased consistency in operating conditions for agricultural movements between jurisdictions – The NHVR Class 1 Agricultural Vehicle and Combination Mass and Dimension Exemption Notice reduced operating zones from 16 (before) to five (after).

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20–22	23–24	25–			
✓	✓	✓	Encourage road managers to expand gazetted and pre-approved networks through enhanced data-sharing solutions for historic access permit approvals*	Road managers	Reduced industry need for access permits Reduced road manager need to undertake repeat route assessments
✓	✓	✓	Continue to deliver and maintain national, state and territory notices prioritised by safety and productivity benefits to government and industry	State and territory transport agencies Road managers	Increase in vehicle diversity operating under notice Net increase in pre-approved and gazetted network length (including pre-approvals transitioned to gazetted)
✓			Establish a national working group to guide notice prioritisation, development and maintenance	Industry	Improved operational consistency within and between state and territory borders
✓	✓	✓	Publish and maintain a prioritised notice development and maintenance program on the NHVR website with key milestones and status updates		Establishment of a consistent, streamlined approach to the delivery of notices

*Subject to funding

Goal 2: Provide greater access certainty for Performance Based Standards (PBS) vehicles

Outcomes we want to achieve

Collectively, governments have a responsibility to ensure heavy vehicles can meet the country's growing freight task, which means delivering more goods with fewer vehicles in a safe manner. PBS vehicles deliver on this outcome and are critical to addressing the demands of Australia's growing road freight task.

Over the past decade, PBS vehicles have been responsible for delivering significant safety, productivity and sustainability benefits for industry, governments and the community (refer to Appendix 7). Without greater access certainty for PBS vehicles, these benefits will be lost.

These achievements were possible through the NHVR working with road managers to embrace the PBS scheme and supporting them to open access for PBS vehicles on their roads. By being equipped with better data on historic permit approvals, fleet design and vehicle performance, road managers will be better placed to make more effective, efficient and informed decisions—enabling more PBS vehicles to operate on expanded networks and greater access certainty.

Increased network availability and access certainty for the entire PBS fleet will also encourage PBS vehicle uptake and design innovation.

Provide access to equivalent prescriptive gazetted networks

Permit-free access is limited for many PBS vehicles. Where there is sufficient capacity and capability on existing equivalent prescriptive gazetted networks, permit requirements should be eliminated.

Currently an approved PBS Level 2A B-double at General Mass Limits (GML) with safer on-road performance has no access under notice, whereas its prescriptive equivalent—the 26m B-double—benefits from a broad gazetted network (Table 1). No access is currently provided to PBS Level 3A and 4A vehicles under notice.²¹

This access disparity does not facilitate PBS vehicle operations, and results in sub-optimal transport system outcomes in terms of safety, freight productivity and asset management.

The NHVR and road managers need to work together to collectively open up access on equivalent prescriptive gazetted networks for PBS vehicles—through notices initially and by changes to the HVNL.

Provide improved data to open up access on PBS-specific networks

Inadequate access to PBS design data is limiting road managers' ability to develop PBS networks for longer and heavier PBS vehicles. For example, determining network suitability for heavier PBS vehicles requires road managers to undertake complex bridge assessments. This process is difficult, given significant variation in the load effects of different PBS vehicles, even within the same PBS level.

State and territory transport agencies have advised that access to comprehensive configuration data for a broad range of PBS vehicles will allow them to undertake more efficient geometric and structural analysis to support the development of PBS-specific networks for longer and heavier PBS vehicles.

Targeted expansion of PBS networks

In response to industry and road manager requests to reduce the need to apply for, and undertake route assessments, the NHVR intends to enhance data-sharing and make historic PBS access permit approvals more transparent.

This will enable more efficient and consistent permit responses, reduce end-to-end permit issue times, accelerate PBS pre-approved and gazetted network growth (including transferring pre-approvals to gazetted), and complement other PBS data-sharing initiatives.

Provide technical information to increase permit access

Road managers have advised that they would be able to make more efficient and better-informed access decisions if detailed performance results of individual PBS vehicles were made available to them.

In the absence of technical information on PBS vehicle performance, route assessments for PBS access permit applications are conducted using the 'worst-case scenario' (e.g. the Low Speed Swept Path of a 30m long PBS Level 2B vehicle will never exceed 8.7 metres, but for its prescriptive equivalent—the shorter 26m B-double—it can be greater than 9 metres).

Provision of technical information will enable road managers to better match PBS vehicles to suitable networks that would otherwise have been refused or conditioned. They may further elect to not undertake route assessments, reducing permit issue times.


21 Refer to Appendix 7 for an overview of the PBS scheme and PBS levels.

Case study: Access certainty leads to safer, cleaner and more productive outcomes

There have been more than 20,000 separate PBS approvals (trucks, trailers and buses), which together make up more than 10,000 PBS combinations. For the last three years, PBS vehicles have achieved a 20 per cent share of the relevant heavy vehicle market.²²

PBS access reforms²³ have historically benefited truck and dog trailer combinations. The success of PBS truck and dog trailer combinations demonstrates that when greater productivity and access certainty is achieved, a safer, cleaner and more-productive replacement becomes industry's first choice of vehicle (e.g. PBS four-axle and above dog trailers dominate the market segment, with up to 90 per cent market share).²⁴

Table 1: Example of current access comparison – Prescriptive B-double versus PBS 2A B-double

Vehicle Description	Axle Group Mass (GML)				Maximum Dimension (m)			Maximum Low Speed Swept Path (m)	Access to Gazetted 26m B-double Routes	
					Length	Height	Width			
9-axle B-double (Prescriptive)		6.5t	16.5t	20.0t	20.0t	26	4.3	2.5	9.1	Yes Access allowed under notice
9-axle B-double (PBS 2A)		6.5t	16.5t	20.0t	20.0t	26	4.6	2.5	8.7	No Access permit is required

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20-22	23-24	25-			
✓	✓	✓	Continue to exempt a greater range of PBS vehicles from access permit requirements on existing equivalent prescriptive gazetted networks or PBS-specific networks	State and territory transport agencies Road managers Industry	Reduced industry need for access permits Reduced road manager need to undertake route assessments Increase in vehicle diversity operating under notice Net increase in pre-approved and gazetted network length (including pre-approvals transitioned to gazetted)
✓	✓	✓	Encourage road managers to expand gazetted and pre-approved PBS networks through enhanced data-sharing solutions for historic PBS access permit approvals and PBS vehicle designs*	Road managers	Improved operational consistency within and between state and territory borders Improve road manager understanding of the performance and network suitability of PBS vehicles
✓	✓		Enable tailored access to parts of the road network that would otherwise have been deemed unsuitable through data-sharing of PBS vehicle technical assessment results	Road managers	

*Subject to funding

22 NHVR and ARTSA-i, 2020, *Performance Based Standards – Australia's PBS fleet 2020 Edition*

23 The HVNL was amended on 1 October 2018 to provide general access to PBS Level 1 vehicles operating at GML. Level 1 PBS truck and dog trailer combinations can operate at 50.5t GML, while non-PBS variants can only operate at 42.5t GML. The following PBS notices have been delivered (as at 30 June 2019): the *National Class 2 PBS Level 1 & 2A Truck and Dog Trailer Authorisation Notice 2016* and the *Queensland Class 2 Performance Based Standards A-Double (Toowoomba to Port of Brisbane) Authorisation Notice 2018*.

24 NHVR and ARTSA-i, 2020, *Performance Based Standards – Australia's PBS fleet 2020 Edition*

Goal 3: Facilitate access and productivity through understanding the capacity and capability of key freight roads and structures

Outcomes we want to achieve

Currently, there is limited information available regarding the capacity and capability of key freight roads and bridges, particularly on local government roads. There is also no centralised source for accessing this information in a transparent way for industry and governments.

The Commonwealth Government's *National Freight and Supply Chain Strategy* and the *OSOM Review* call for a centralised approach to collecting and sharing asset data, highlighting it as integral to facilitating heavy vehicle access. However, this task remains challenging for all levels of government and, critically, data may not exist in some cases.

The NHVR will assist local governments to better understand their key road freight assets. Asset data will fill a critical knowledge gap and assist road managers with the evidence-based data to advocate for funding for the projects they need to support their local communities, the road freight task and the economy.

By continuing to support local governments into the future, the NHVR will increase the availability of asset data to better understand infrastructure quality on key freight roads nationally.

Deliver the Strategic Local Government Asset Assessment Project

In late 2019, the Commonwealth Government provided the NHVR with \$7.96 million in funding to assist road

managers with assessments of assets, such as bridges and culverts, on key local government roads.

The nationwide Strategic Local Government Asset Assessment Project aims to identify the existing capacity and capability of road infrastructure and share this information centrally, to inform heavy vehicle road access.

The project will support local government road managers and industry by:

- identifying key heavy vehicle routes on local government roads
- assisting local government road managers with the management of road asset data related to heavy vehicles
- delivering prioritised road asset assessments
- providing a central database for road managers and industry to access road asset information.

The NHVR will work with the Commonwealth Government to establish an ongoing program of prioritised infrastructure assessments.

Building a national map of key freight roads and structures

Improved visibility of road assets and their condition will allow the NHVR, government and industry to better match heavy vehicles to suitable routes, opening new and improved access possibilities in a safe and more productive way.

This information could be displayed on the NHVR Portal Route Planner tool to inform operator applications or road manager assessment decisions.

Progressing towards an access model based on infrastructure capacity and capability

Government and industry stakeholders have requested greater flexibility in how access can be provided, with a common theme being transitioning from individual route assessments for individual vehicles, towards access for a range of vehicles (that demonstrate the same level of performance). This can be achieved through road managers assessing and consenting to an agreed set of infrastructure parameters (e.g. the maximum mass or dimension limits for a given road or bridge).

Any vehicle that is determined to be able to be safely accommodated within the agreed infrastructure parameters would be granted access under an expedited access model (to be determined).

This approach also provides the opportunity for road managers to identify clear 'no go zones', where certain heavy vehicles on certain roads have been assessed to represent an unacceptable risk to safety and infrastructure. Access for these vehicles would then be considered on a case-by-case basis by road managers.

This model does not diminish road managers' rights to approve or refuse access but, where data is available, it would greatly improve transparency and timeliness in providing access decisions. Further, this model also supports shared risk responsibility, where industry is required to take accountability for their movements when they are aware of infrastructure parameters set by road managers.

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20-22	23-24	25-			
✓			Develop and deliver the Strategic Local Government Asset Assessment Project	Commonwealth Government	Improved understanding of the condition of key freight roads and structures
✓			Build a national map of key freight roads and structures that provides a central platform to consistently store, manage and view asset information	Road managers	Data enabling governments to better target infrastructure investment to facilitate new or improved access and productivity
✓	✓	✓	Advocate for dedicated annual funding to continue the Strategic Local Government Asset Assessment Project beyond the initial funded program		Enabling safe access outcomes within the assessed capacity and capability of key freight road infrastructure

Goal 4: Facilitate greater access and productivity through movement data

Outcomes we want to achieve

There is strong perceived value in the NHVR, road managers and industry partnering to understand how to share and use movement data (e.g. GPS tracking data) to achieve productivity and economic outcomes. This focus on movement data recognises that the full suite of information collected by telematics is not required by everyone to make better access decisions.

Submission feedback from road managers suggested that awareness of movement volume from de-identified movement data could encourage the adoption of a lower risk profile when making heavy vehicle access decisions. Importantly, some road managers suggested that they would be more likely to expand networks, grant approvals instead of refusals, provide quicker responses and apply fewer conditions if they were given greater assurance of what vehicles were moving where, when and how often.

Peak industry associations and operators indicated that industry would be willing to voluntarily share movement data, if there is a convincing incentive from improved access. This includes productivity gains and long-term access certainty to justify involvement and sufficient data security to protect privacy and commercial information.

Acknowledging the opportunities provided by technology, and appropriately balancing assurance with risk, will lead to better access and productivity outcomes for industry.

Partner with government and industry to agree to the benefits of applying technology and sharing movement data

As road managers and the NHVR obtain more information on heavy vehicle movements and asset utilisation, the performance of the entire supply chain will progressively improve through increased awareness and network optimisation possibilities (e.g. the evidence base to upgrade roads or gazette roads under notice).

It is essential that there is a nationally agreed and consistent approach for the use of technology and movement data to increase access and productivity, while reducing the regulatory and administrative burden on industry and promoting safety and infrastructure protection for governments.

Incentivising the take-up of technology by industry (particularly by smaller operators) will also require the removal of cost barriers.

For example, commonly cited issues with the Intelligent Access Program (IAP) are its historically high cost and inconsistent application, relative to other technology solutions available on the market.

GPS tracking data enabling access and productivity

A range of notices exists that allow participating operators to access, or have improved access, to the road network without a permit in return for GPS monitoring.

Improved access and productivity could be facilitated through technology solutions where assurance levels are commensurate with the risks associated with the operation of certain vehicles on certain infrastructure (i.e. a risk-based approach to the use of technology).

For example, the NHVR believes there is a role for the IAP in monitoring higher-risk vehicles (e.g. use on the heaviest mobile cranes to protect sensitive bridges), given its high level of assurance and high cost.

Considering most medium-to-large road transport companies already use a range of technology solutions to address specific tasks or needs regarding safety and productivity, it is important, where possible, to leverage these substantial investments.

Using a diverse range of technology solutions, with greater overall network coverage, will also assist to accumulate the data to assist road managers with asset management, network planning, and prioritising the expansion of pre-approved and gazetted networks.

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20-22	23-24	25-			
✓	✓	✓	Work with road managers to understand how to use movement data and to develop policies enabling greater access and productivity through technology	Transport Certification Australia	Reduced industry need for access permits Reduced road manager need to undertake repeat route assessments
✓	✓	✓	Progressively adopt a range of technology solutions, with assurance levels appropriate to the safety and infrastructure risk of vehicle operations, to facilitate greater access and productivity	Road managers Industry	Increased adoption of a range of telematics applications Data enabling improved understanding of heavy vehicle movements to support access and infrastructure investment decision-making
	✓	✓	Evaluate and develop digital tools that enable analysis and visualisation of de-identified movement data collected for access purposes*		

*Subject to funding

Objective 2: Partner with local government to build capability

Goal 1: Develop an education and support program on heavy vehicle performance and route assessments

Outcomes we want to achieve

Road managers are key partners in providing access, and play a vital role in making access decisions that balance safety, productivity and the long-term sustainability of the road network for all road users.

In alignment with the Commonwealth Government's *Freight and Supply Chain Strategy National Action Plan*, the NHVR is committed to improving road manager capability through continuous training and education.

Providing opportunities to acquire and refine skills and knowledge in route assessment and network classification will lead to improved timeliness, consistency and capability in decision-making, benefiting both governments and industry.

Forums that facilitate road manager and industry collaboration will ensure road managers have a clear understanding of how industry operates and an appreciation of the freight task. Industry will also be more understanding of the resource impacts for road managers and the complexity of their processes in making access decisions.

Road manager feedback

Road managers acknowledge their roles and responsibilities as key partners in providing efficient, safe and sustainable growth in access and productivity.

Consultation with road managers, in particular in local government, identified the following issues that can affect timely, accurate and consistent decisions:

- varying understanding of the infrastructure impacts and safety and environmental performance of different heavy vehicles
- uncertainty regarding the engineering assessments required for different heavy vehicles on different roads and bridges
- not all road managers are engineers, and specialist engineers may not be available to provide advice
- high road manager staff turnover results in the loss of valuable accumulated corporate knowledge.

Promote and support continuous education to improve capability

The NHVR's current education activities focus on direct engagement with road managers, in particular in local government, and bringing them together with industry.

For example, in October 2019, the NHVR hosted a heavy vehicle access forum to help council engineers understand how to make informed decisions on PBS access and the benefits of PBS vehicles, relative to other vehicles, on their road networks. The two-day event also included presentations from the NHVR and industry experts, and field trips to crane, PBS and OSOM operators. These forums provide road managers and industry the opportunity to better understand how each other operates, so that they can make better decisions and better work together in the future.

Using innovative methods, expanding education and training material, and improving accessibility to this material will

further improve road managers' capability and confidence for future access decisions. Educational materials and activities may include information sheets, in-person forums, online webinars and on-demand eLearning.

Education is a shared responsibility, and all levels of government have a role to play to ensure a minimum acceptable national standard of knowledge and capability.

Implementing Heavy Vehicle Access Liaison Officers

Most jurisdictions' freight strategies communicate an intention and willingness to support local government. The NHVR supports the *OSOM Review* recommendation that having a Heavy Vehicle Access Liaison Officer (HVALO) in each jurisdiction would offer significant benefits to local government.

The NHVR and the Local Government Association of Queensland (LGAQ) partnered to implement a HVALO arrangement between 2017 and 2020. The Queensland HVALO has been integral to relationship building between stakeholders, proactively assisting local government to understand its freight task, and leading the development and delivery of training on heavy vehicles and route assessments across Queensland. This has proven to be a valuable support model for local government.

The NHVR, South Australian Department of Planning, Transport and Infrastructure and Local Government South Australia partnered to implement a HVALO in South Australia in July 2020.

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20-22	23-24	25-			
✓	✓	✓	Continue to deliver and expand the range of education and training material available to road managers	State and territory transport agencies	Improved knowledge of the heavy vehicle fleet and heavy vehicle performance
✓	✓	✓	Continue to facilitate forums, workshops and online training for council engineers	Road managers	Improved understanding of the freight task and freight supply chains
✓	✓	✓	Continue to facilitate engagement opportunities between road managers and industry to build relationships and to enable collaboration leading to mutually beneficial outcomes	State and territory transport agencies Road managers Industry	Improved understanding of route assessments and network classification Reduced route assessment and permit issue time Improved consistency in route assessment and network classification outcomes
✓	✓	✓	Continue to encourage the implementation of Heavy Vehicle Access Liaison Officer in participating jurisdictions	Commonwealth Government State and territory transport agencies Local government associations	



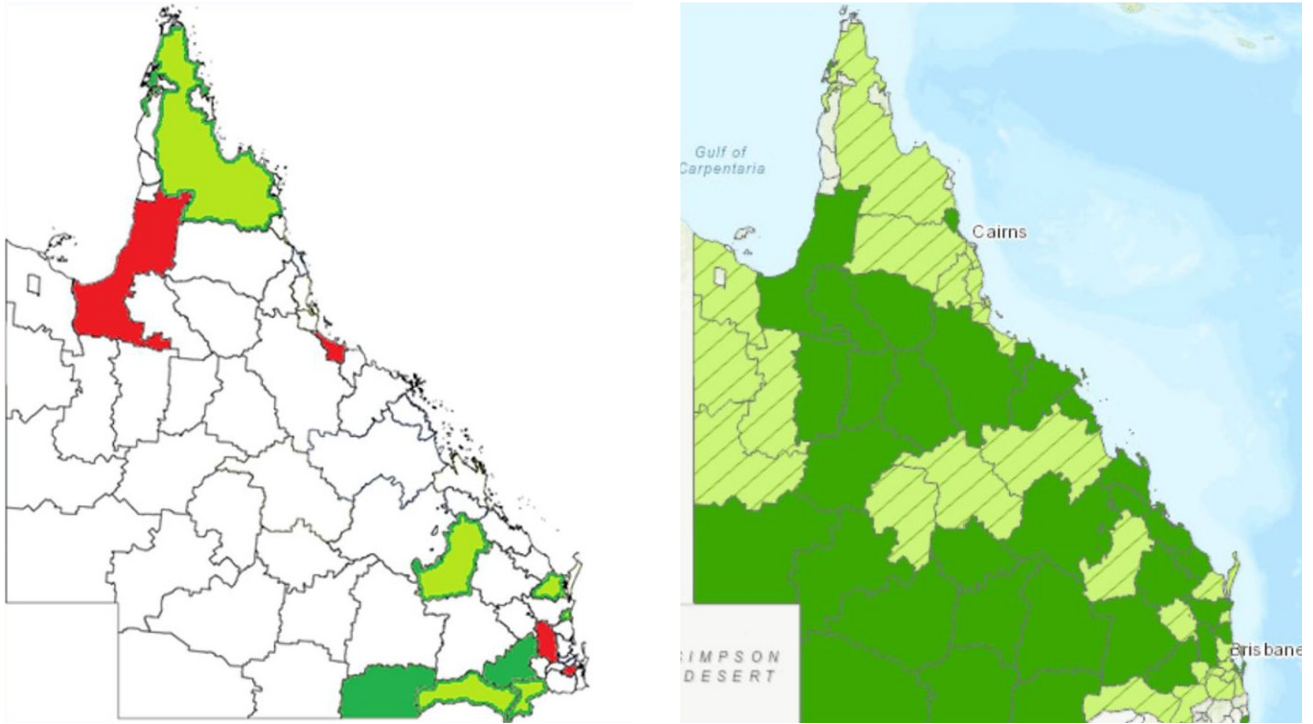


Figure 3: Increase in road managers in Queensland providing access under the *National Class 1 Special Purpose Vehicles (SPV) Notice 2016* after the work of the HVALO arrangements between the NHVR, LGAQ and the Crane Industry Council of Australia



Goal 2: Equip road managers with route assessment products

Outcomes we want to achieve

To support road managers in making more timely and consistent access decisions, nationally consistent tools and guidelines will be progressively developed and more readily available.

Having evidence-based decision-making tools to assist with route assessment activities will improve the speed and likelihood of access being granted, while appropriately managing risks to public safety or damage to infrastructure.

Industry and road manager feedback

It is critical that assessments are undertaken in a consistent manner to ensure equity and fairness for industry.

Road managers have stated that undertaking route assessments, and, in particular, determining the structural capacity of a bridge, is a complex, costly and resource-consuming task. Resource constraints and not having easy access to the right type of engineer can act as a barrier to timely access decisions, particularly for regional road managers.

Operators have also mentioned that they can have a different access outcome than another operator for the same freight task, despite relevant vehicle and route factors being the same.

These issues can be resolved through improving the availability, comprehensiveness and user-friendliness of resources to assist road managers to undertake route assessments.

Existing route assessment products

Route assessment and network classification guidelines have been developed by the NTC, jurisdictions and Austroads. In August 2018, the NHVR, the Australian Road Research Board and local government associations partnered to deliver the Restricted Access Vehicle Route Assessment Tool (RAVRAT) to local governments for free. RAVRAT is an online tool designed to provide a consistent and defensible route assessment method.

Consultation with local government identified that tools and guidelines in their current form are infrequently used because: there is a lack of awareness they exist; they are not sure which one to use; and/or they are too complex, prescriptive or time consuming.

“Austroads has developed ... a set of nationally consistent guides ... However, guidelines such as these can only be of use if local governments have sufficient resources with the expertise and capacity to assess and map networks.”²⁵

Delivering new route assessment products

Continuing the delivery and enhancement of fit-for-purpose route assessment products that meet the needs and expectations of road managers can contribute to creating a consistent and informed national assessment standard and enable more timely decisions.

Three frequently requested products include:

- a heavy vehicle bridge assessment system
- calculators comparing pavement impacts for different heavy vehicle types and mass
- tools to conduct and compare swept paths for different vehicles.

Case study: Pavement wear comparison between an as-of-right vehicle and a restricted access vehicle

Road managers have, in the past, refused to grant access to PBS A-doubles operating at GML in the belief that this will protect roads from pavement deterioration. However, these refusals are causing more damage over time compared to the impact of smaller general access vehicles required to complete the same freight task (Table 2).

To provide the best net balance between safety, infrastructure protection and productivity, it is important to ensure access decisions are informed and in line with the actual performance of heavy vehicles on roads. Better tools will ensure road managers make accurate and sustainable decisions.

Table 2: Pavement wear comparison²⁶

	Semitrailer	PBS A-double	Difference
GML mass (t)	43	79.5	+85 %
Trips per 1,000t	42	21	-50 %
Equivalent Standard Axles per 1,000t	304	225	-26 %

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20-22	23-24	25-			
✓			Develop an on-demand and self-paced eLearning program on the revised 'Approved Guidelines for Granting Access'		Improved knowledge of the heavy vehicle fleet and heavy vehicle performance
✓	✓	✓	Centralise availability of route assessment tools and guidelines with the NHVR	Austroads	Improved understanding of route assessments and network classification
✓	✓	✓	Develop nationally consistent route assessment and network classification guidelines	State and territory transport agencies	Reduced route assessment and permit issue time
✓	✓	✓	Continue the provision and enhancement of route assessment products*		Improved consistency in route assessment and network classification outcomes

*Subject to funding

²⁵ NTC, 2017, Assessing the effectiveness of the PBS Scheme

²⁶ NHVR, 2019, Performance Based Standards – An introduction for road managers

Goal 3: Deliver digital and data solutions to enable improved government and industry decision-making

Outcomes we want to achieve

The NHVR's access intelligence is underpinned by consolidated and harmonised national data previously only provided by state and territory transport agencies.

Continuing to enhance digital and data capabilities—including expanding the functionality of the NHVR Portal and Safety and Compliance Regulatory Platform to give users broader, open and 24/7 access to information collected by the NHVR—will lead to more effective, efficient and consistent access decision-making.

Data captured by the NHVR will also assist local government to better plan their infrastructure. This information can provide the evidence base to advocate for funding from Commonwealth, state and territory government programs to upgrade and build new infrastructure on the first and last mile to support the growing road freight task.

Improving the timeliness, consistency and transparency of access decisions

Prior to the NHVR, there was limited capturing and sharing of heavy vehicle access related information across borders. Data from over 150,000 access permit applications across all participating jurisdictions has been captured by the NHVR Portal since May 2016, and this data is growing daily.

Easy access to granular information (e.g. by vehicle type, mass or dimension) and developing tools that analyse, visualise and report on Australia's most comprehensive dataset of access decisions will enable road managers to respond to future permit applications quicker, more accurately and more consistently. This data will also preserve valuable road manager knowledge, thereby addressing road manager concerns of staff turnover.

NHVR data and programs to support funding advocacy

Productivity is dependent on the performance of all roads. Knowing where, when and how often industry has had access permits approved, conditioned or refused, and the standard of key national road freight assets, will assist in identifying and prioritising investment opportunities to upgrade existing or open new access on key freight roads and bridges of interest.

NHVR data can also assist to inform long-term asset management planning. For example, it may be better to regularly maintain one key corridor, and other corridors less regularly. Data would also be useful for determining levels of service. Understanding how roads and bridges are being used by heavy vehicles avoids the risks and costs of underdesigning key routes and overdesigning routes not used by heavy vehicles.

A national mapping system for heavy vehicle access

The NTC (2011) suggests that due to disparate regulatory services, "...some drivers may not comply because it is complicated and time consuming, while other drivers may attempt to comply but fail to do so due to a lack of understanding of what is required."

A national mapping solution for heavy vehicle access services will reduce the regulatory and administrative burden for industry and improve their efficiency and productivity. The NHVR envisions a map that can:

- display all gazetted and pre-approved networks in a consistent form in the one location
- provide intelligent routing and dynamic mapping capabilities to optimise industry use of the most suitable routes
- enable road manager self-service of gazetted and pre-approved networks to accelerate their ability to provide and maintain safe access for industry.

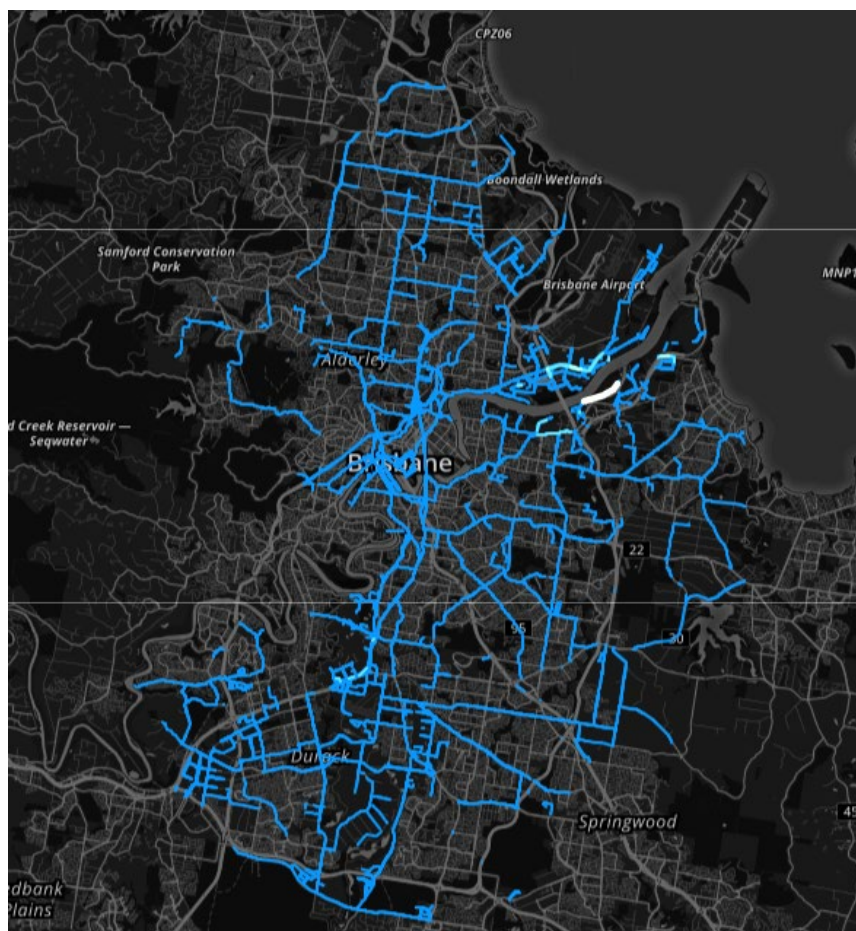
Case study: Contextualising the road freight access challenge

The Commonwealth Government has announced an investment of \$100 billion on transport infrastructure as part of its 10-year rolling infrastructure plan,²⁷ and the state and territory government infrastructure spend is over \$150 billion from 2018–22.²⁸ Some of this is directed to local government (e.g. the Fixing Country Roads program by the New South Wales Government, and the Northern Australia Beef Roads Program co-funded by the Commonwealth, Northern Territory, Queensland and Western Australian Governments).

"One of the greatest challenges facing local government in the infrastructure funding process is the lack of visibility of heavy vehicle movements on the road network. Having access to this fundamental information would help inform all parties about first and last mile roads important to the freight task. Importantly, it would also allow easier and more informed decision-making regarding access and would help to ensure road funding is properly targeted."

(Submitter response to the Draft Plan)

²⁷ Department of Infrastructure, Regional Development and Cities, 2019, Building Our Future: Delivering the Right Infrastructure for a Growing Nation, Australian Government
²⁸ Infrastructure Partnerships Australia, 2018, Australian Infrastructure Budget Monitor 2018–2019



877,000KM
of roads (150,000km urban
and 727,000km non-urban)²⁹

662,000KM
of local government roads
(75% of total road network)³⁰

65,000 bridges³¹

Figure 4: Applications processed through the NHVR Portal for Brisbane City Council as a road manager in 2018-19

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20-22	23-24	25-			
✓			Develop an access permit data hub that analyses and visualises historic access permit outcomes by road for different vehicle types*		<ul style="list-style-type: none"> Reduced route assessment and permit issue time Improved consistency in route assessment and network classification outcomes Data enabling improved understanding of heavy vehicle movements to support access and infrastructure investment decision-making
✓	✓		Develop a national mapping solution for heavy vehicle access related services*	<ul style="list-style-type: none"> Commonwealth Government State and territory transport agencies 	<ul style="list-style-type: none"> Nationally consistent heavy vehicle network spatial services and standards Improved road manager heavy vehicle network establishment and management capabilities Solution enabling dynamic mapping and intelligent routing

*Subject to funding

29 Bureau of Infrastructure, Transport and Regional Economics, 2018, *Australian Infrastructure Statistics Yearbook 2018*, Australian Government

30 Australian Local Government Association, 2019, *2019 Local Government Roads and Transport Agenda*

31 Austroads, 2019, *Scoping Study: Heavy Vehicle Bridge Assessment System - DRAFT INTERNAL REPORT*

Objective 3: Promote safer and more productive heavy vehicles that are better for the environment and communities

Goal 1: Incentivise the uptake of modern vehicles with the latest safety and environmental technologies

Outcomes we want to achieve

There have been significant advancements in, and uptake of, safety and environmental technologies in domestic and international markets. The NHVR supports further voluntary uptake of technology already being used by the Australian heavy vehicle industry.

To achieve this, the NHVR will identify productivity opportunities to incentivise the adoption of safety and environmental technologies, and collaborate with governments and industry on the removal of regulatory barriers that limit the adoption of advanced technologies in the domestic market.

International harmonisation of vehicle standards

Most heavy vehicles in Australia are imported from Asia, Europe or North America. Australian heavy vehicle standards are more than 90 per cent harmonised with international vehicle standards (depending upon the vehicle category), such as United Nations regulations.

Further harmonising Australia's heavy vehicle standards with international standards, and progressive regulation that incentivises fleet modernisation, will offer major benefits, such as improved driver and community safety (Figure 5) and reduced environmental pollutants (Table 3).

It should be noted that the NHVR has no ability to mandate technology; this is a Commonwealth Government responsibility (e.g. through the Australian Design Rules). Instead, the NHVR welcomes advancements in technology that improve safety, environmental sustainability and productivity.

Ongoing Austroads research, Commonwealth Government regulatory impact statements and recommendations from the Strategic Vehicle Safety and Environment Group will assist in determining options that the NHVR can pursue.

Supporting technology that improves safety and productivity

Australia is among a few countries in the developed world to have a regulated maximum vehicle width of 2,500mm. Major international markets are generally wider, such as the United States at 2,600mm and the European Union at 2,550mm.

To comply with Australia's width limits, imported vehicles often undergo modifications, such as removal of non-compulsory safety components. Industry may also not purchase optional vehicle inclusions to ensure compliance with Australia's width limits.

Current Australian practice is to provide standard traffic lane widths of 3.5m, or 3.0m for low-speed roads with low truck

volumes.³² Safety technology, such as lane departure warning systems and cameras, may provide the confidence that vehicles wider than 2,500mm can remain in lane and not compromise road safety.

To mitigate the potential for rollovers, 4.6m high freight vehicles have their mass limited to 90 per cent of what could normally be carried legally on the same road if the vehicle was 4.3m high.

Subject to rigorous research, safety technology, such as electronic and rollover stability control systems, may enable 4.6m high vehicles to operate at 100 per cent payload without having a higher risk of vehicle rollover.

Incentivising cleaner and greener vehicles

The UN Euro VI emission standard is better for the environment than Australia's currently mandated Euro V standard. However, Euro VI emission standard compliant vehicles are heavier than Euro V vehicles.

As a payload critical industry, there would be no commercial incentive to justify an investment to upgrade without an increase in mass limits to maintain existing levels of productivity. There is precedent for this to occur (e.g. the 500kg mass concession provided to upgrade to Euro IV).³³

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20-22	23-24	25-			
✓	✓	✓	Develop policies enabling greater access and productivity for vehicles fitted with modern safety and environmental technologies	State and territory transport agencies Industry	Increase in safer, cleaner and more-productive vehicles and technologies in the national heavy vehicle fleet
✓	✓	✓	Support the increased harmonisation of Australian vehicle standards with international standards to allow for the latest designs from origin markets and the fitment of safety and environmental technology from those major market designs	Commonwealth Government Industry	Increased network accessibility for safer, cleaner and more-productive vehicles Improved vehicle diversity and purchasing options (domestic and import market) Reduced average vehicle age
✓			Develop a <i>Vehicle Safety and Environmental Technology Uptake Plan</i> to accelerate and incentivise the uptake of safety and environmental technology in the heavy vehicle fleet		
✓	✓	✓	Implement the <i>Vehicle Safety and Environmental Technology Uptake Plan</i> *		

*Subject to funding

³² Austroads, 2016, Guide to Road Design Part 3 - Geometric Design

³³ This mass concession is also to accommodate the fitment of Front Underrun Impact Protection that meets UN ECE Regulation No. 93 or ADR 84, and cabin strength that meets the requirements of UN ECE Regulation No. 29

Estimated average age of:³⁴

BUSES



11.6 YEARS

(29.4% manufactured before 2003)

HEAVY RIGID TRUCKS



15.6 YEARS

(41.4% manufactured before 2003)

ARTICULATED TRUCKS



11.8 YEARS

(27.8% manufactured before 2003)

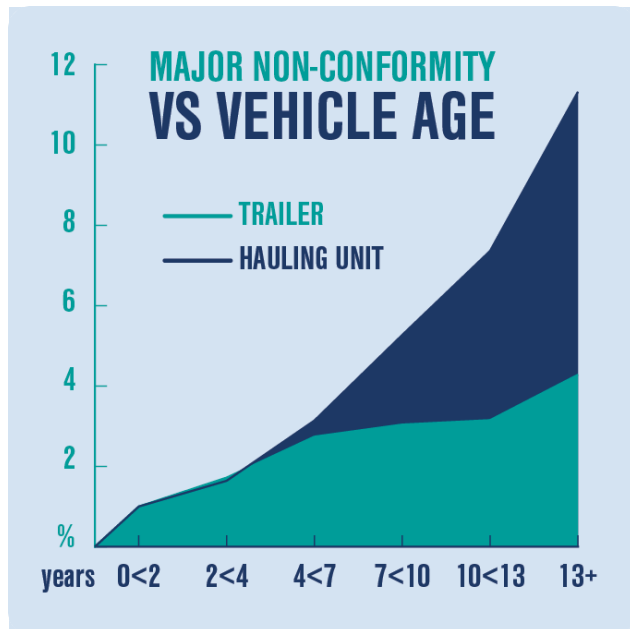


Figure 5: Major non-conformity vs vehicle age³⁵

Table 3: Exhaust emissions based on year of manufacture³⁶

Year	Emission Standard	PM		NO _x	
		Test Limit	Multiple	Test Limit	Multiple
Pre-1996	None (Euro 0)	1.2	x120	16.0	x40
Pre-2003	ADR70/00 (Euro I)	0.4	x36	7.6	x28
Pre-2008	ADR80/00 (Euro III)	0.1	x10	5.0	x13
Pre-2011	ADR80/00 (Euro IV)	0.02	x2	3.5	x9
2011	ADR80/00 (Euro V)	0.02	x2	2.0	x5
Not yet known	ADR80/00 (Euro VI)	0.01	x1	0.4	x1

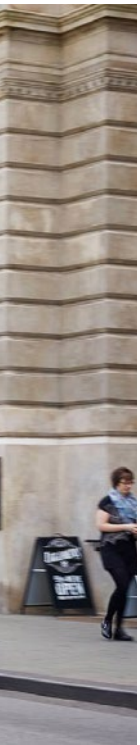
Notes:

- Exhaust emission levels are measured as g/kWh (grams per kilowatt hour).
- Data for pre-1996 is an average.
- Data for other years assumes engines are built to applicable Euro standard.

³⁴ Australian Bureau of Statistics, 2018, 9309.0 - Motor Vehicle Census, Australia, 31 January 2019

³⁵ National Heavy Vehicle Regulator, 2017, National Roadworthiness Baseline Survey

³⁶ Truck Industry Council, 2019, Truck Industry Council Budget Submission 2019/20



Goal 2: Deliver PBS 2.0 – a modern approach to the PBS scheme

Outcomes we want to achieve

From 2007 to 2019, compared to the vehicles that would have been otherwise required to complete the same task, PBS vehicles have:

- reduced CO₂ emissions by over 2.2 billion kilograms
- reduced fuel consumption by over 800 million litres
- removed over 2,700 trucks from the road
- reduced truck distance travelled by over 1.6 billion kilometres
- reduced major crashes per kilometre by 46 per cent.³⁷

The success of the PBS scheme is a clear statement of Australia's heavy vehicle industry's desire to innovate and be smarter.

Having administered the PBS scheme since 2013, the NHVR has gained important learnings and identified key areas that, when implemented, will further enhance and modernise the PBS scheme.

NHVR-led initiatives that reduce the time and cost of participating in the PBS scheme will incentivise industry uptake and accelerate PBS market representation in the national fleet. Accordingly, we will see accelerated growth in the safety, environmental and economic benefits that can be delivered by PBS vehicles.

Updating the PBS standards

The PBS standards were originally developed in the late 1990s by the NTC, and the modelling and testing procedures were approved by the Australian Transport Council in 2007. The NTC has recommended that the standards be reviewed to reform and modernise the PBS scheme.³⁸ They suggested that a review of the scheme standards would assist to overcome barriers to innovation, increase uptake, and provide the opportunity to further improve productivity.

The standards review has already commenced, starting with the review of tyre management practice and tyre characteristics—as they relate to different performance measures—and the review of the Frontal Swing, Directional Stability Under Braking and Pavement Horizontal Loading standards.

Completing the review of the standards will ensure the PBS scheme reflects the highest standards of safety and provides further opportunities to improve productivity.

Pre-advised designs and PBS blueprints

The NHVR has worked closely with industry and jurisdictions to improve regulatory efficiency of the PBS scheme. For example, the NHVR introduced the pre-advised design approval process in March 2017.³⁹

Since implementation, processing times for pre-advised designs have on average reduced from four weeks to three business days. To date, most major designs have been pre-advised by the PBS Review Panel,⁴⁰ and 90 per cent of all design approvals qualify for the simplified pre-advised design approval process.

A PBS blueprint is an approved PBS design that allows bypassing early stages in the PBS approvals process and progression straight through to certification (i.e. checking that a vehicle is built in accordance with the approved design). Most PBS blueprints are developed by manufacturers. Some open-access PBS blueprints exist, but these are not widely used by industry.

Pre-advising more PBS blueprints and other PBS designs, as recommended by the NTC,⁴¹ will make it cheaper, quicker and easier to get PBS vehicles onto roads, thereby making the PBS scheme more attractive to new market entrants.

Enabling fleet interchangeability

The PBS scheme is currently structured to approve whole combinations (e.g. B-double and semitrailer), rather than individual vehicle units. These approvals are specific and do not allow for simple fleet interchangeability, even when it poses no additional safety risk (e.g. swapping compatible prime movers if a prime mover is unavailable).

Enabling fleet interchangeability would provide increased flexibility and reduce costs and inconvenience to industry. This approach would need to be carefully designed and incrementally introduced to preserve confidence in the safety performance of PBS vehicles currently provided by whole combination approvals.

Transition of common and mature designs into the prescriptive fleet

The PBS scheme was designed to be a testing ground for innovative heavy vehicle concepts, some of which could transition out of the PBS scheme and into the prescriptive fleet (e.g. through regulation). For example, the HVNL was amended on 1 October 2018 to provide general access to 20m long PBS Level 1 vehicles operating at GML. This approach would assist to increase the uptake of PBS vehicles through greater certainty of operation and reducing the cost and time to get vehicles proven to be of minimal risk onto roads.

Given the significant variety and complexity of PBS vehicles, the NHVR will work with governments and industry to identify and prioritise PBS vehicle designs that are able to transition into the prescriptive fleet. For unique and more complex vehicle designs, the NHVR will seek opportunities, where available, to enable access through other methods, such as by notice.

³⁷ Austroads, 2014, Quantifying the benefits of Australian High Productivity Vehicles

³⁸ NTC, 2018, Reforming the Performance Based Standards Scheme

³⁹ A pre-advised PBS design is a well-known design that has been frequently assessed and approved, and no longer requires further assessment by the PBS Review Panel.

⁴⁰ The PRP determines whether or not a vehicle meets the performance-based standards approved by the Transport and Infrastructure Council and, if necessary, the national conditions under which a vehicle is to operate to ensure that it continues to comply with those standards once it is on the road. A set of approved business rules, performance standards, vehicle assessment rules and other governing documents ensure the panel operates in a transparent and nationally consistent manner.

⁴¹ NTC, 2018, Reforming the Performance Based Standards Scheme

PBS manufacturer self-certification

Around 80 manufacturers are involved in supplying PBS vehicles and equipment. With a compound annual growth rate of 28 per cent since 2007, enabling manufacturers to self-certify⁴² the PBS vehicles they design and build will accelerate this growth, and make it quicker, easier and cheaper to deploy a PBS vehicle onto the road network.

Based upon 2018–19 average certification costs and number of certifications, the NHVR estimates that up to \$5 million could be saved annually through manufacturer self-certification.

Manufacturers would need to adhere to some form of audit process, like the Commonwealth Government’s Single Unit Type Inspection (SUTI) or the National Heavy Vehicle Accreditation Scheme.

PBS combinations - annual new approvals

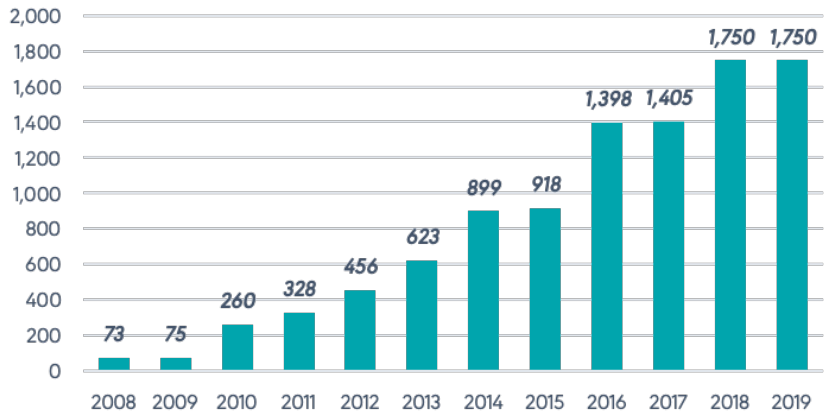


Figure 6: Growth in the PBS scheme has accelerated since coming under the administration of the NHVR in 2013

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20–22	23–24	25–			
✓	✓		Complete the review of the standards in the PBS scheme under the PBS marketplace review*	Commonwealth Government	Increase in safer, cleaner and more productive vehicles and technologies in the national heavy vehicle fleet
			Continue to implement improved systems and processes that incentivise industry uptake and accelerate growth in the PBS scheme*	State and territory transport agencies NTC Industry	Reduced time and cost to participate in the PBS scheme Reduced administrative and regulatory burden to participate in the PBS scheme Reduced average vehicle age Growth in PBS vehicle market share (relative to equivalent vehicle type)
✓	✓				

*Subject to funding



42. Currently under the PBS scheme Vehicle Certification Rules, manufacturers can only issue manufacturer’s certificates for vehicles built in accordance with a previous certification by a PBS Approved Certifier (i.e. based on previously approved concepts). The current process does not allow for manufacturer self-certification of new concepts.

Goal 3: Promote awareness of planning and design for modern and safer vehicles

Outcomes we want to achieve

While land use, transport and infrastructure planning is not an NHVR responsibility, industry has requested that the NHVR play a more active role in this space.

The NHVR's role would be focused on supporting the Commonwealth Government, state and territory transport agencies and local government to improve planners' and the community's understanding of the requirements of heavy vehicles and road freight.

It is also important to partner with industry and government to build the social licence of road freight. Improving community acceptance and building relationships will make it easier for industry to operate efficiently.

This initiative aligns with Recommendation 5.3 of the Commonwealth Government's *Inquiry into National Freight and Supply Chain Priorities* report:

“Raise awareness of the importance of freight and the need for appropriate planning, development approval conditions, protection and regulatory regimes in the government sector, particularly land use and transport planners, environmental regulators and developers, through formal and informal education.”

Planning that supports heavy vehicles

Governments are responsible for managing growth and change through planning that balances the social, environmental and economic needs and aspirations of their communities.

Heavy vehicle access and productivity are dependent upon zoning and development being appropriately located and serviced by the right infrastructure. Local policies should also support the local freight task and safeguard freight-related operations, particularly those operating overnight or 24 hours a day to serve the community.

The NHVR is aware of cases where truck bans and curfews have been implemented in industrial and commercial areas because of adjacent residential development and communities misunderstanding the freight task and the impacts of heavy vehicles.

These decisions impact productivity, can increase the cost of goods and services for the community, and may affect logistics operations for domestic and international supply chains. An increased risk to safety, infrastructure and amenity may eventuate when the opposite effect was desired.

Resilient and reliable infrastructure

During the consultation process, industry and government indicated that heavy vehicle access was refused, even within industrial and commercial areas (often where key gateways are located), due to substandard site and road design. Importantly, examples were provided where everyday general access heavy vehicles (e.g. waste removal trucks) and emergency vehicles (e.g. fire engines) could not service properties safely and effectively because of inadequate site and road designs.

Common design deficiencies include: narrow lanes, inadequate driveway designs, insufficient lot size, rear of vehicles protruding into oncoming traffic because of short turn-pocket space, and small intersections requiring vehicles to veer onto the wrong side of the road to make turns.

Many industrial and commercial developments and roads were constructed for historically smaller and lighter vehicles. Continued use of outdated design standards will mean land and infrastructure will increasingly fail to accommodate innovation in the heavy vehicle fleet.

Case study: Victoria Heavy Vehicle Network Access Considerations

The Department of Transport, Victoria has developed a Road Design Note for heavy vehicle road access considerations.⁴³ The Road Design Note contains guidelines that must be considered on all new road and road upgrade projects during the design phase along corridors used by heavy vehicles. They outline the minimum requirements that should be adopted to ensure the current and future performance of the network for large and heavy vehicles.



Proactive initiatives from planners and infrastructure providers, such as this Road Design Note, contribute to progressive and suitable updating of road networks. Accordingly, access is expanded over time to accommodate larger and more modern vehicles that are safer, more productive and better for the environment.

43 Department of Transport, 2019, Road Design Note 04-01: Heavy Vehicle Network Access Considerations, Victorian Government

Case study: Upgrading infrastructure to unlock the potential of freight networks

Upgrading freight networks to safely accommodate the length and mass of higher categories of freight vehicles will lead to significant productivity benefits for industry and, at the same

time, deliver significant improvements to safety and environmental sustainability (refer Appendix 7). An important example of planning and design to unlock the potential of freight networks is upgrading B-double networks to be able to accommodate PBS Level 2B vehicles, such as the 30m A-double.

Heavy vehicle combination types	Length (m)	Network Access	GCM (t)	Nominal Payload (t)	Payload Efficiency	Trips per 10,000 (t)	Trip Savings (%)
	≤ 26	B-double network	68.5	43.5	1.62	230	39
	≤ 30	PBS Level 2B	85.5	63.8	2.39	157	59

Estimated Action Horizon			Action	Key Partners	Performance Outcomes
20-22	23-24	25-			
✓	✓	✓	Support governments and industry to build the social licence of road freight among governments and communities	Commonwealth Government State and territory transport agencies	Improved knowledge of the heavy vehicle fleet and heavy vehicle performance Improved understanding of the freight task and freight supply chains
✓	✓	✓	Support and encourage governments to update planning and design standards to support modern heavy vehicles	Road managers Industry	Increased network accessibility for safer, cleaner and more productive vehicles



Appendix 1: Online webinar registrations

Road managers and local government associations

Adelaide Plains Council
Bass Coast Shire Council
Barunga West Council
Baw Baw Shire Council
Bega Valley Shire Council
Boral Australia
Brisbane City Council
Buloke Shire Council
Brimbank City Council
Cardinia Shire Council
Cassowary Coast Regional Council
City of Ballarat
City of Burnside
City of Charles Sturt
City of Greater Bendigo
City of Greater Dandenong
City of Greater Geelong
City of Hobart
City of Latrobe
City of Melton
City of Mitcham
City of Port Adelaide Enfield
City of Port Phillip
City of West Torrens
Clarence City Council
Clarence Valley Council
Colac Otway Shire Council
Coolamon Shire Council
Department of State Growth, Tasmania
Department of Transport and Main Roads, Queensland
Derwent Valley Council
Devonport City Council
District Council of Loxton Waikerie
East Gippsland Shire Council
Flinders Ports of South Australia
Gibsons Groundspread
Glen Eira Shire Council
Glenelg Shire Council
Greater Hume Council
Griffith City Council

Hornsby Shire Council
Horsham Rural City Council
Inverell Shire Council
Ipswich City Council
Kingsborough Council
Launceston City Council
Leeton Shire Council
Light Regional Council
Liverpool Plains Shire Council
Local Government Association of Tasmania
Logan City Council
Maitland City Council
Maribyrnong City Council
Maroondah City Council
Mildura Rural City Council
Moreton Bay Regional Council
Mornington Peninsula Shire Council
Municipal Association of Victoria
Nillumbik Shire Council
Northern Grampians Shire Council
Office of Environment and Heritage, New South Wales
Port of Brisbane Pty Ltd
Pyrenees Shire Council
Redland Shire Council
Road and Maritime Services, New South Wales
Rockhampton Regional Council
Rural City of Wangaratta
Shire of Wellington
South Gippsland Shire Council
Surf Coast Shire Council
Swan Hill Rural City Council
Tablelands Regional Council
Tasmania Parks and Wildlife Service
Tatiara District Council
Tenterfield Shire Council
Toowoomba Regional Council
Towong Shire
Town of Gawler
Transport for New South Wales
Transurban

VicRoads
Wagga Wagga City Council
Wattle Range Council
West Wimmera Shire Council
Whyalla City Council
Wollondilly Shire Council
Yarra Ranges Council

Industry and industry associations

Active Supply Chains Asia Pacific
Advance Sweepers
AHG Refrigerated Logistics
Bunzl Australasia
Craig Arthur Pty Ltd
Endeavour Energy
Ergon Energy
Essential Energy
Fennell Forestry
Fleet Plant Hire Pty Ltd
Grain Growers Ltd
Hanson Australia
JMA Engineering
Kennedy Express
Killen Trucking Company
LINX Cargo Care Group
Longmuir Transport Services
McArdle Freight
PepsiCo Australia & New Zealand
Phoenix Transport
Qube Holdings Ltd
Queensland Trucking Association
Rapid Haulage
Rocky's Own Transport
SPC
Stef's Transport Pty Ltd
SunRice
Toll Group
Transport Auditing
Vellex
Western Suburbs Concrete
Other individuals (7)
Other private entities (14)



Appendix 2: Pre-submission consultation register

Commonwealth, state and territory government

Department of Infrastructure, Transport, Cities and Regional Development, Commonwealth
Department of Planning, Transport and Infrastructure, South Australia
Department of State Growth, Tasmania
Department of Transport, Victoria
Department of Transport and Main Roads, Queensland
Main Roads Western Australia
Regional Development Victoria
Road and Maritime Services, New South Wales
Transport Canberra and City Services
Transport for New South Wales
VicRoads
Victoria Cross Border Commissioner

Non-jurisdictional road managers and local government associations

Adelaide Plains Council
Albury City Council
Australian Local Government Association
Brimbank City Council
Brisbane City Council
City of Greater Dandenong
City of Marion
City of Port Adelaide Enfield
District Council of Cleve
District Council of Streaky Bay
Forbes Shire Council
Inner West Council
Kyogle Council
Light Regional Council

Local Government Association of Queensland
Local Government Association of South Australia
Local Government Association of Tasmania
Local Government New South Wales
Maribyrnong City Council
Moree Plains Shire Council
Municipal Association of Victoria
Naracoorte Lucindale Council
Port Augusta City Council
Port of Brisbane Pty Ltd
Shoalhaven City Council
Walcha Council

Industry and industry associations

AgForce
Australian Livestock and Rural Transporters Association
Australian Logistics Council
Australian Trucking Association
Centurion
DP World Australia
Grain Growers Ltd
Queensland Transport and Logistics Council
Queensland Trucking Association
Qube Holdings Ltd
Road Freight NSW
Ron Finemore Transport
Toll Group
Victorian Transport Association

Other associations

Institute of Public Works
Engineering Australasia
Roads Australia
Transport Certification Australia





Appendix 3: Formal submission register for the draft Plan

Submitter (listed by name)	Submitter Type
Australian Livestock and Rural Transporters Association	Industry Association
Australian Logistics Council	Industry Association
Australian Trucking Association	Industry Association
Brisbane City Council (Queensland)	Local Government
Chris Wong	Private Individual
City of Ballarat (Victoria)	Local Government
City of Gold Coast (Queensland)	Local Government
Gas Energy Australia	Industry Association
Hindmarsh Shire Council (Victoria)	Local Government
Institute of Public Works Engineering Australasia (NSW)	Professional Association
Local Government Association of Queensland	Government Association
Local Government New South Wales	Government Association
National Farmers' Federation	Industry Association
National Road Transport Association	Industry Association
Queensland Transport and Logistics Council	Industry Association
The Department of Transport and Main Roads (Queensland)	State/Territory Government
Toll Group	Industry
Town of Port Hedland (Western Australia)	Local Government
Transport Certification Australia	Government Association
Transport for New South Wales	State/Territory Government
Victorian Farmers' Federation	Industry Association
Wynham City (Victoria)	Local Government
Name withheld	Submitted in confidence

Appendix 4: Alignment with government initiatives

The Plan aligns with and complements the heavy vehicle and road freight initiatives identified by the NHVR's government partners, inclusive of how the NHVR intends to implement aspects of agreed recommendations where it is a relevant and suitably responsible party. Importantly, the Plan also confirms the NHVR's commitment to supporting government partners to deliver some of their initiatives. Refer to Figure 7 for primary reference material.

Of note is that government documents collectively recognise the significance of heavy vehicles in supporting the growing freight task and predominantly focus on infrastructure outcomes to improve road freight productivity. The NHVR is not an infrastructure provider but supports the continuation of government infrastructure investment.

The Productivity Commission warns that infrastructure alone will not be enough to support road freight in Australia,⁴⁴ and first and last mile funding remains a significant challenge for local government.⁴⁵ The Plan therefore proposes non-infrastructure initiatives within the NHVR's ambit to support and complement government infrastructure investment.

Heavy Vehicle Access Policy Framework

In April 2020, the Transport and Infrastructure Senior Officials' Committee (TISOC) agreed that the jurisdictions would develop a scoping document for the staged development of a National Heavy Vehicle Access Policy Framework, which would set out a national vision, goals and principles to achieve a national harmonised access policy.

TISOC also agreed that the Framework would be scoped and drafted in consultation with industry, local government, the NTC and the NHVR.

The NHVR welcomes this opportunity to work with all its stakeholders. A shared and collaborative commitment will deliver improved access and productivity outcomes for industry nationally.

Freight Data Hub

The Commonwealth Government has committed \$8.5 million to improve national freight data,⁴⁶ which will help business and governments plan and make better operational and investment decisions. Better freight data will enhance the efficiency of Australia's freight supply chain, and benefit the community and economy through higher productivity.

As part of the consultation process, the Commonwealth Government held workshops in Melbourne and released the 2019 Discussion Paper seeking submissions to inform design considerations for the Freight Data Hub.

The NHVR participated in the workshops and provided a submission, articulating its view on data sources, data gathering, data management and data sharing. The Commonwealth Government is currently considering this feedback along with other submissions. The NHVR will continue to engage with the Commonwealth Government to explore opportunities to contribute and benefit from the development of the Freight Data Hub.

The Heavy Vehicle Road Reform

The Heavy Vehicle Road Reform (HVRR)⁴⁷ is a Commonwealth Government led program that is exploring "demand side" reforms (changes aimed at influencing consumption of road services) and "supply side" reforms (changes to the way in which road services are provided).

The Commonwealth Government is currently working with state and territory transport agencies to improve data quality and availability, and transparency around road spending, road assets and levels of service for heavy vehicle road users.

It has led numerous forums nationally to consult with governments and industry on the development and progress of the HVRR. The NHVR participates at the request of the Commonwealth Government, and will continue to be available, as required, to contribute to, and benefit from, the development of the HVRR.

44 Productivity Commission, 2017, Shifting the Dial: 5 year productivity review, Australian Government

45 Australian Local Government Association, 2019, 2019 Local Government Roads and Transport Agenda

46 Department of Infrastructure, Transport, Regional Development and Communications, The National Freight Data Hub, www.infrastructure.gov.au/transport/freight/national-freight-data-hub/index.aspx [viewed 11 May 2020]

47 Transport and Infrastructure Council, Heavy Vehicle Road Reform Phase One, www.transportinfrastructurecouncil.gov.au/publications/heavy_vehicle_road_reform_phase_one [viewed 11 May 2020]

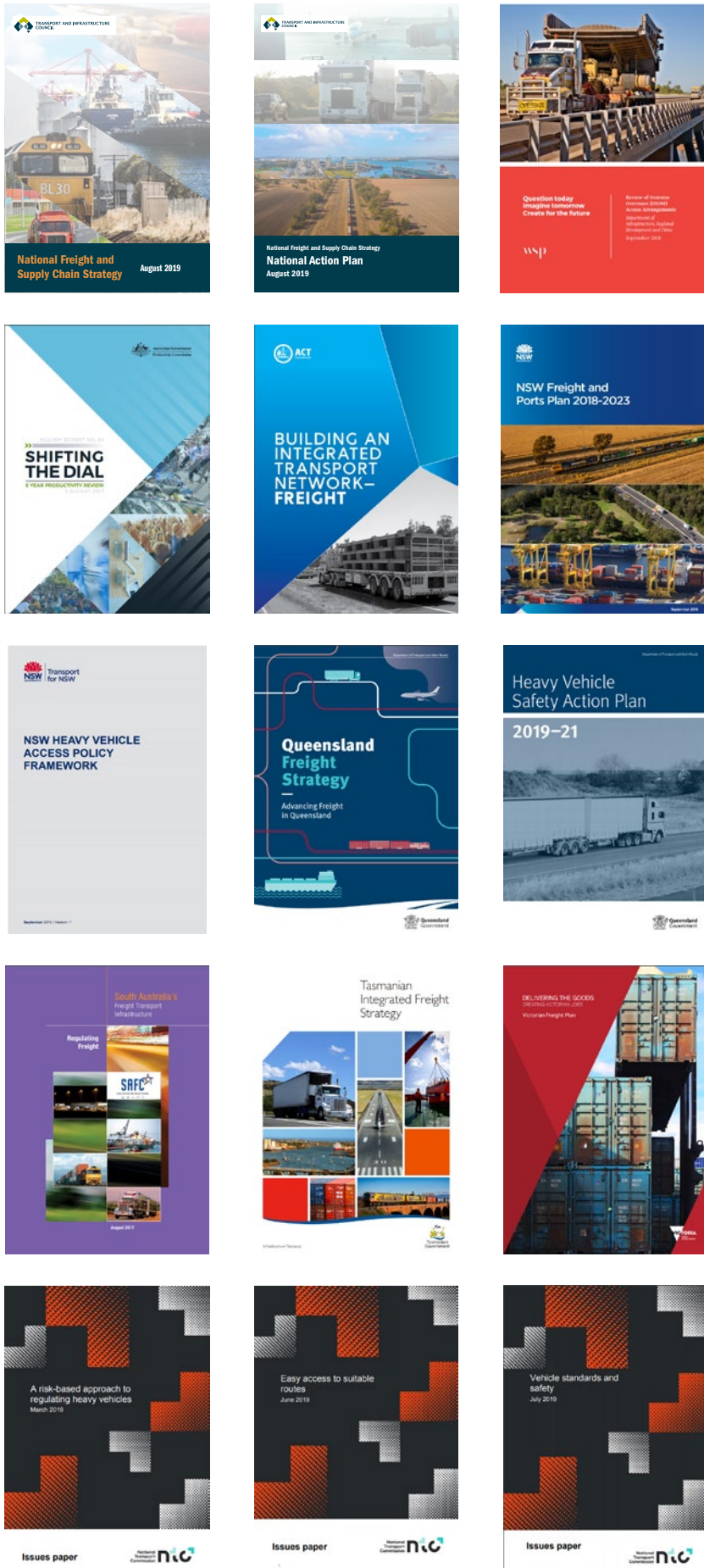


Figure 7: Primary reference material that has informed the Heavy Vehicle Productivity Plan 2020-2025

Appendix 5: Understanding heavy vehicle access under the NHVR

Understanding heavy vehicle access

Heavy vehicles provide a critical link in the end-to-end supply chain process for the movement of goods and services across Australia and internationally. Heavy vehicles require access to the road network and they can either be a general access vehicle or a restricted access vehicle.

Simply put, general access vehicles comply with mass and dimension requirements of the HVNL and have access to the full road network unless signposted otherwise.

Restricted access vehicles do not comply with mass and dimension requirements of the HVNL and must only operate on roads under a mass or dimension authority (e.g. a notice or permit).

Mass and dimension authorities require the consent of relevant road managers (i.e. the road owner), and typically some level of assessment is conducted prior to an issue of consent, to ensure the movement does not come at risk to public safety, public amenity or infrastructure.

Types of restricted access vehicles

The HVNL currently provides for three classes of restricted access vehicles. The NHVR has developed a chart that illustrates the most common heavy vehicle types for each class as defined by the HVNL.

The chart is not a comprehensive representation of the Australian heavy vehicle fleet and is provided for guidance only. The chart is located on the NHVR website.

Road managers

Road managers include road authorities, local governments and other road owners (e.g. ports, airports and toll road operators).

Road managers are responsible for deciding whether or not to provide consent to restricted access vehicles seeking to operate on roads under their responsibility.

The NHVR is not a road manager. Under the HVNL, it is unable to make an access decision without road manager consent and cannot overrule the decision of a road manager.

Route assessment

Road managers may conduct route assessments to determine whether or not to issue consent.

The range and complexity of restricted access vehicles, their mass and dimension, the varying condition and knowledge of infrastructure, differing systems and processes, and the depth of experience of road managers all combine to present a challenge to undertaking route assessments and making access decisions.

Third-party entities

Third-party entities are sometimes required by laws outside of the HVNL to provide approval or be consulted if a heavy vehicle exceeds certain mass or dimension limits.

Examples of third parties include police, toll road operators and rail infrastructure managers.

Third-party approvals are outside the scope of the Plan and fall under the remit of the HVNL Review or review of other laws outside of the HVNL.

Access by permit

Permits are a legal instrument issued to specific operators that provide access for certain restricted access vehicles to roads approved by road managers. Permits may contain conditions of access that must be adhered to by operators.

The HVNL outlines the legal requirements for the application, assessment and issuing of permits and the types of conditions that may be applied.

Permits are the preferred method of providing access for high-risk movements. Permits are also the preferred method of providing access for low-volume movements, as they are also more flexible and easier to change than notices and do not need to undergo the notice development process under the HVNL.

Access by notice

Notices are an instrument that provides access to gazetted networks or areas approved by road managers. Notices apply to any operator and, similar to permits, provide access only to certain types of restricted access vehicles and may contain conditions of access that must be adhered to by operators.

The HVNL outlines the legal requirements for the development of notices and the consultation process with road managers. Notices require only a single initial consent by road managers that lasts for the notice duration (typically five years). Road managers may change their consent status or conditions of access for notices by writing to the NHVR.

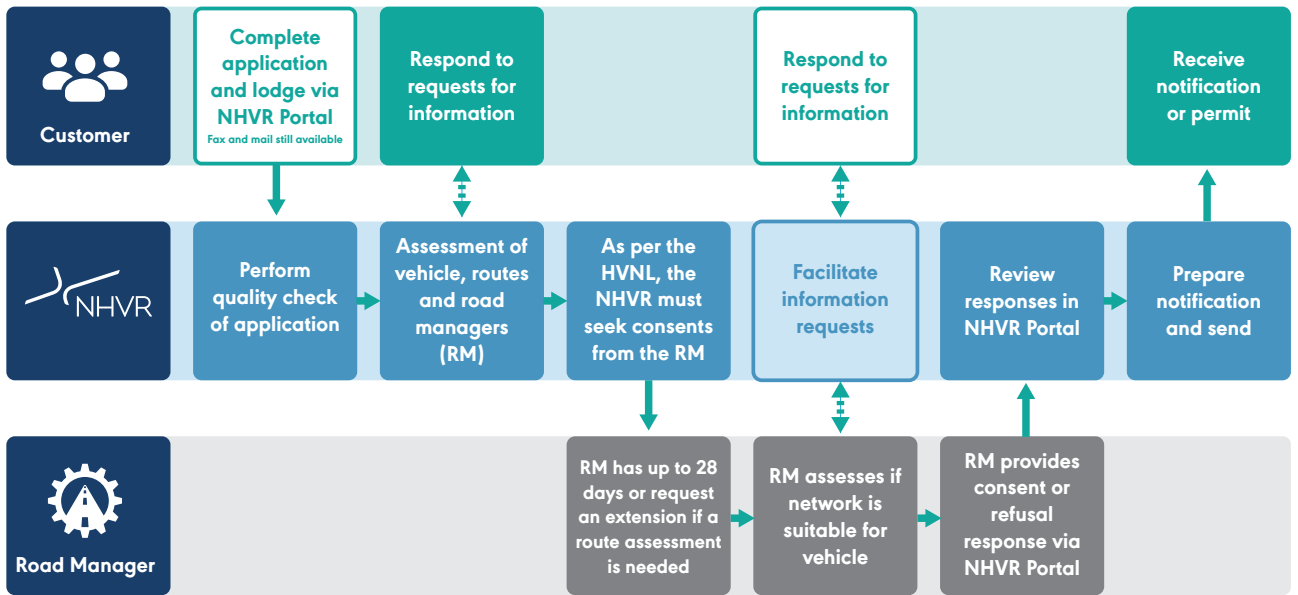


Figure 8: Flowchart of the NHVR permit process

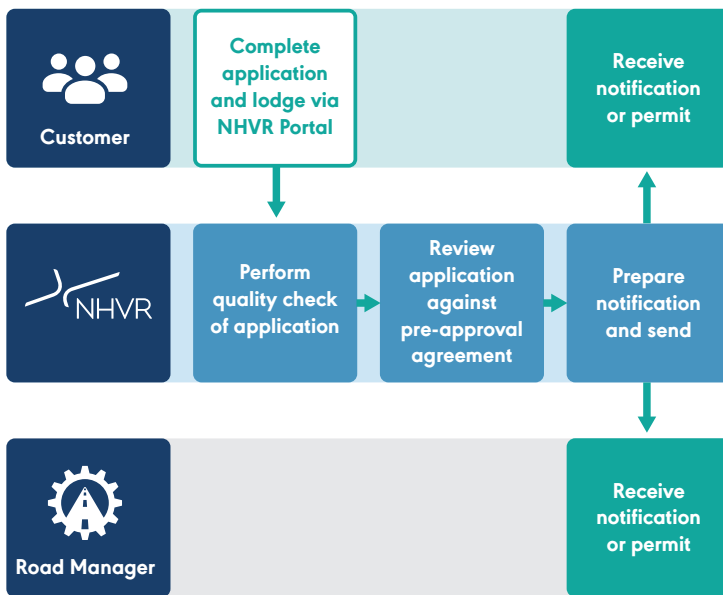


Figure 9: Pre-approved access permit flowchart

Appendix 6: Heavy vehicle data acquisition and enrichment under the NHVR

Prior to the existence of the NHVR, there was limited capturing and sharing of heavy vehicle related information across borders.

The NHVR Portal and the Safety and Compliance Regulatory Platform (SCRP) comprise the main data-collection and sharing channels between the NHVR and its government and industry stakeholders.

The NHVR Portal and the SCRP form part of an advanced technology ecosystem within the NHVR. Their information warehousing is agnostic and does not limit any type of interfacing or integration, ensuring they remain current and interoperable with future internal and external data sources and digital products.

Continuing to enhance the NHVR's digital and data capabilities—including expanding the functionality of the NHVR Portal and SCRP to give users broader and open access to unique information collected by the NHVR, and developing complex tooling with analytics capabilities—is a key element of the Plan, to deliver improvements to access and productivity.

The NHVR will continue to invest in enhancing the NHVR Portal and the SCRP, developing other complementary front- and back-end systems and data acquisition and enrichment programs as required to advance its regulatory capability as a modern regulator.

The NHVR Portal

The NHVR Portal was first launched to industry in August 2016, with road manager support provided in October 2017.

The NHVR Portal moved applications and permits from a paper-based environment to an integrated online experience, and allowed the NHVR, industry and road managers to interact on the same platform for the first time.

Over 99 per cent of applications and permits are delivered through the NHVR Portal, making it a valuable database of information on approved and refused routes for different types of restricted access vehicles.

Data from over 150,000 applications by industry has been captured since implementation of the Customer Module in May 2016.

The Safety and Compliance Regulatory Platform

The SCRP provisions core regulatory and safety functions within the NHVR, and enables the NHVR to securely receive and store safety and compliance-related data with industry and government stakeholders.

The SCRP currently focuses on nationwide information about Australia's heavy vehicle fleet (e.g. vehicle registration and configuration), sightings and movements (e.g. collected by real-time monitoring cameras), and drivers and operators (e.g. driver history and participation in the National Heavy Vehicle Accreditation Scheme).

The SCRP provides the first unique national picture of the heavy vehicle fleet, compliance and assurance information, and will deliver national visibility of heavy vehicle movements across Australia. The NHVR will continue to invest in the SCRP to grow its intelligence and expand the program to include data on road accidents, traffic volumes and congestion.



Appendix 7: The Performance Based Standards scheme

First introduced in 2007, the PBS scheme is a world-leading program providing industry with the opportunity to innovate vehicle design to improve productivity by 15–30 per cent. The PBS scheme is voluntary and complements the prescriptive regulatory system for heavy vehicles.

PBS vehicles are designed and built to perform their tasks as safely and sustainably as possible. They are assessed against 16 vehicle performance and infrastructure protection standards to ensure they are safe (Figure 10). Every vehicle is assessed against these standards by an authorised PBS Assessor via a computer simulation, or physical testing.

Depending on the assessment results, a vehicle can be assigned one of four PBS levels (Table 4).

Originally administered by the NTC and managed by the NHVR since 2013, it provided an economic value of \$185 million to \$326 million during 2014–2019.⁴⁸ The future economic value is projected to be \$800 million to \$1.5 billion from 2014–2030.⁴⁹

There have been more than 18,000 separate PBS approvals (trucks, trailers and buses), which together make up more than 9,000 PBS combinations. In 2017, approximately one in six new heavy vehicles was PBS approved. In 2018, this increased to approximately one in five.

Growth in the use of PBS vehicles on roads has resulted in significant productivity, safety and sustainability benefits for industry and the community. From 2007 to November 2019, compared to the vehicles that would have been otherwise required to complete the same task, the PBS scheme has benefited Australia by:

- reducing CO₂ emissions by over 2.2 billion kilograms
- reducing fuel consumption by over 800 million litres
- removing 2,700 trucks from the road
- reducing truck distance travelled by over 1.6 billion kilometres
- reducing major crashes per kilometre by 46%.⁵⁰

Table 4: Approved PBS levels and their equivalently performing prescriptive vehicles

Approved PBS Level	Equivalent prescriptive vehicle
PBS Level 1	Similar to general access vehicle
PBS Level 2	Similar to 26m B-double
PBS Level 3	Similar to Type 1 Road train
PBS Level 4	Similar to Type 2 Road train

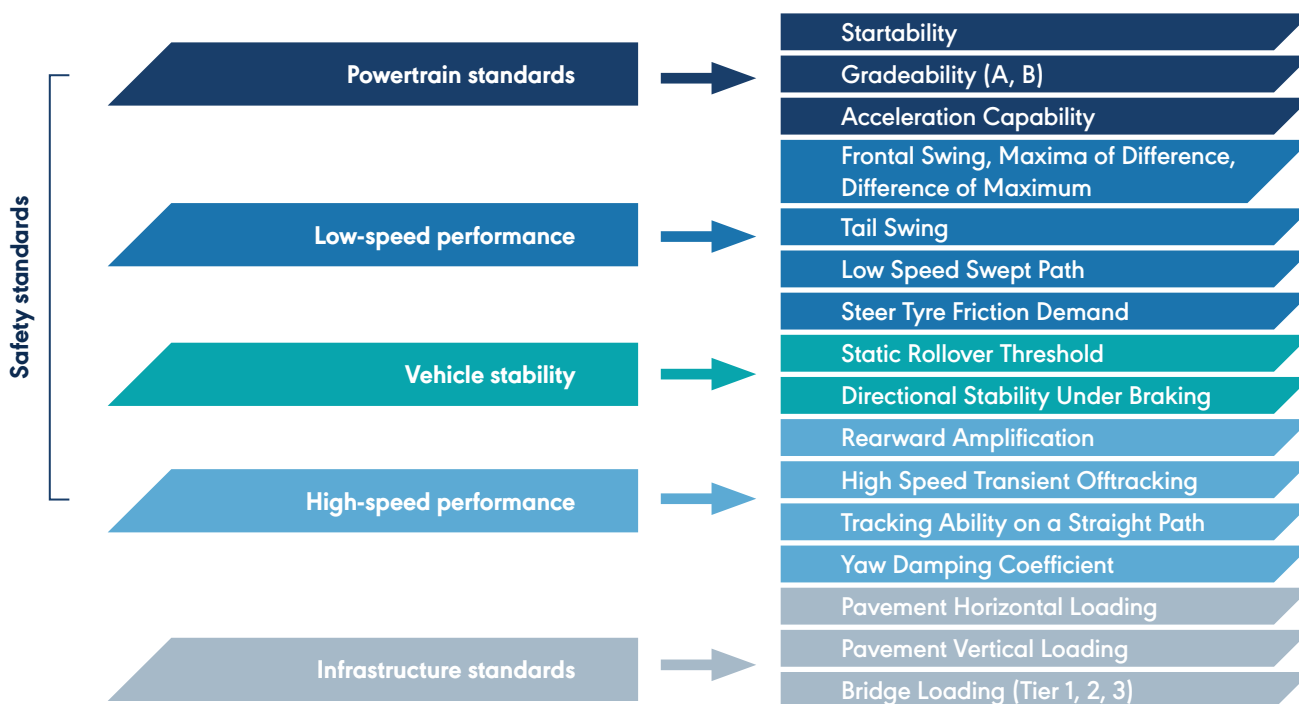
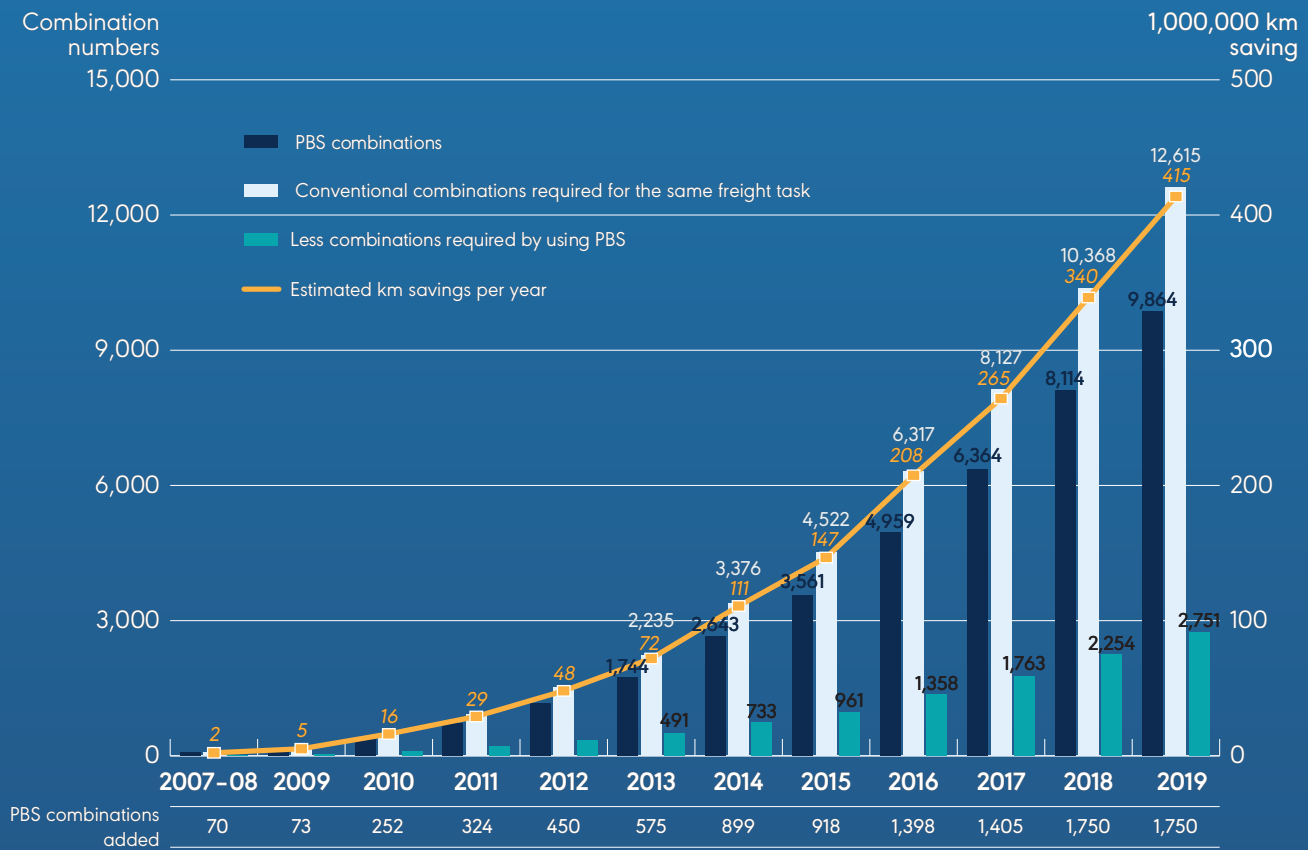


Figure 10: PBS vehicle performance and infrastructure protection standards

48 Chow, M., Kleyer, H. and McLeod, B., 2019, Economic benefits of heavy vehicle regulatory reform, HoustonKemp Economists

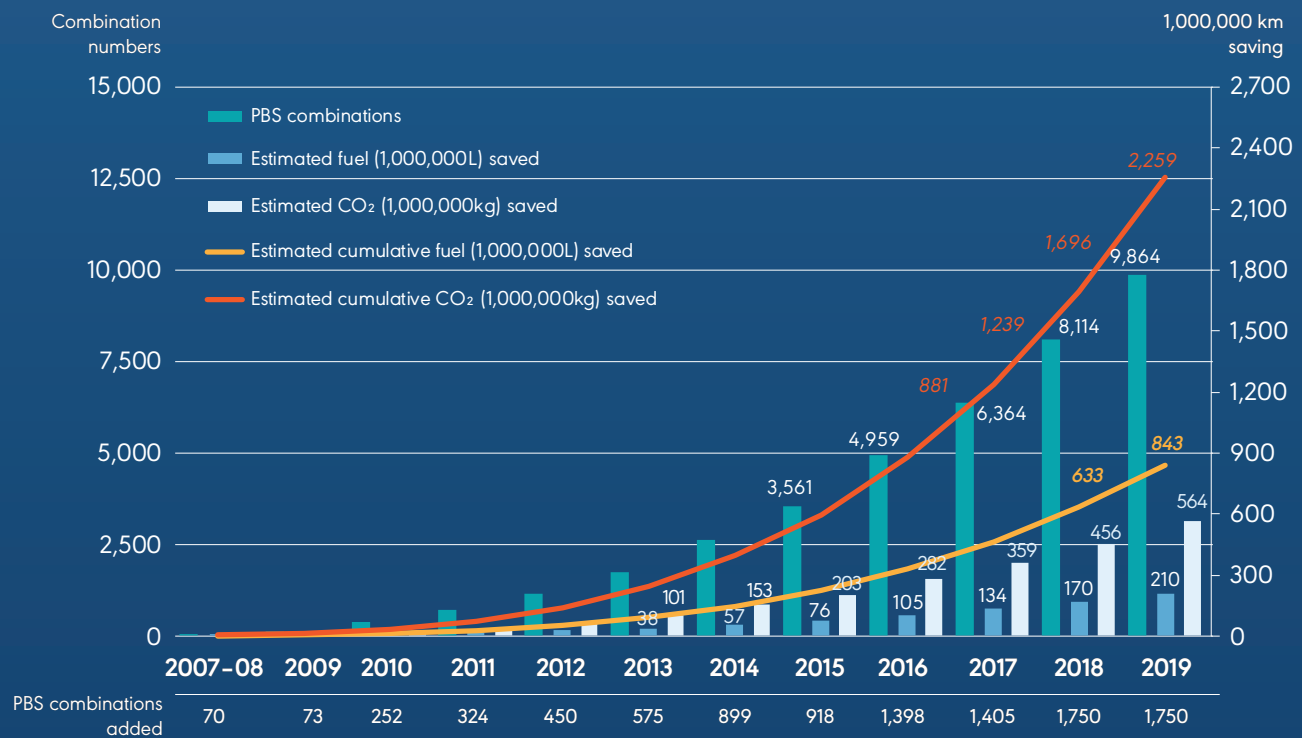
49 Ibid

50 Austroads, 2014, Quantifying the benefits of Australian High Productivity Vehicles



The factor and methodology from the Austroads Research Report AP-R465-14 (Quantifying the Benefits of High Productivity Vehicles) has been used with the number for approved PBS combination to quantify the benefits achieved from PBS.

Figure 11: Productivity and congestion benefits of PBS vehicles (2007-2019)



1. The factor and methodology from the Austroads Research Report AP-R465-14 (Quantifying the Benefits of High Productivity Vehicles) has been used with the number for approved PBS combination to quantify the benefits achieved from PBS.
2. Rated fuel burn used from ATA - TAPs - Truck Impact Chart September 2016.
3. Diesel to CO₂ conversion rate of 2.68kg per litre used.

Figure 12: Environmental benefits of PBS vehicles (2007-2019)



About the NHVR

The establishment of the National Heavy Vehicle Regulator (NHVR) was agreed upon under an intergovernmental agreement between all Australian governments. It formally opened for business on 21 January 2013.

As Australia's dedicated, statutory regulator for all vehicles over 4.5 tonnes⁵¹, the NHVR provides leadership and drives sustainable improvements to safety, productivity and efficiency outcomes across the heavy vehicle transport sector and the Australian economy.

The NHVR's purpose and functions are established by the *Heavy Vehicle National Law Act 2012* (Qld), and its activities are guided by its statutory mandate.

Accordingly, the NHVR seeks to ensure public safety, to manage the impact of heavy vehicles on the environment, road infrastructure and public amenity, and to encourage innovation, productivity and safety. To do this, the NHVR works in partnership with the Commonwealth Government, its state and territory counterparts, local governments, other agencies, industry and industry bodies.

Disclaimer

While every care has been taken in preparing this publication, the NHVR accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained within. To the best of our knowledge, the content was correct at the time of publishing.

Interpreter service statement

The NHVR is committed to providing accessible services to people from all culturally and linguistically diverse backgrounds. If you have difficulty understanding this document, please contact us and we will arrange an interpreter to communicate it to you.

Contact information

For further information about the *Heavy Vehicle Productivity Plan 2020-2025* or the NHVR's activities, functions and services, please visit our website or contact us via:

Email: info@nhvr.gov.au

Phone: 1300 MYNHVR (1300 696 487)

PO Box 492, Fortitude Valley QLD 4006

⁵¹ A heavy vehicle is defined in the Heavy Vehicle National Law (HVNL) as a vehicle that has a gross vehicle mass (GVM) or aggregate trailer mass (ATM) of over 4.5 tonnes.



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www.nhvr.gov.au

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