PERFORMANCE BASED STANDARDS

Removing Roadblocks to Reform

Pathways to greater productivity, safety and sustainability
in Australia's heavy vehicle industry

MAY 2024

ABOUT THE NHVR

National Heavy Vehicle Regulator (NHVR)

The NHVR is Australia's dedicated statutory regulator for all heavy vehicles over 4.5 tonnes gross vehicle mass or aggregate trailer mass.

We were established in 2013 as a statutory authority pursuant to the Heavy Vehicle National Law (HVNL).

OUR PURPOSE

We provide leadership to, and work collaboratively with, industry and partner agencies to drive sustainable improvements to safety, productivity and efficiency outcomes across the Australian heavy vehicle road transport sector.

OUR VISION

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

OUR MISSION

Through leadership and advocacy we administer a national statutory system to deliver streamlined regulatory services and administration to the heavy vehicle road transport sector, minimising regulatory burdens while fostering greater safety and productivity.

The NHVR's stakeholder profile

200,000
people in the Australian road freight industry[2]

425
road managers under the HVNL

51,000
Australian road freight businesses[3]

6 HVNL
participating jurisdictions[4]

Australia's heavy vehicle profile[1]

353,759
heavy rigid trucks

103,038
articulated trucks

924,860
registered heavy vehicles and trailers[5]

99,379
buses

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

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EXECUTIVE SUMMARY AND RECOMMENDATIONS

Right now in Australia, the safest, most productive and lower emission heavy vehicles face more barriers to get on the road than a standard 'prescriptive' heavy vehicle.

As a result lives are being lost, productivity benefits are being lost and emissions are higher than they ought to be. And despite having statutory responsibilities for the heavy vehicle fleet, the National Heavy Vehicle Regulator can do little to fix it.

This needs to change, and quickly. Key to this is modernising the Performance Based Standards (PBS) scheme and its legislative underpinnings.

When the PBS scheme was launched in 2007 it was the most sophisticated heavy vehicle scheme in the world. The scheme has been effective – over 100 deaths have been prevented, more than 1.2 billion less litres of fuel have been used and 3.2 million fewer tonnes of CO_2 have been emitted.

It has also proven popular, with PBS vehicles being adopted in numbers far exceeding initial expectations. The volume of PBS vehicles on Australian roads continues to grow year on year.

This success is also a sign of the scheme's failings. PBS was meant to be a pathway where a modest number of new innovative designs and technologies could be safely developed and deployed. But instead, the scheme is now dominated by more or less the same vehicles save for minor variations.

There are very few reasons that a vehicle design replicated many hundreds of times, which has proven itself over tens of millions of kilometres of travel, still requires specific approval to be built and a permit to use the road. However, the legislation provides no other pathway for these vehicles.

The cost to industry of getting design approval can be high. And once built, PBS vehicles are required to apply for a permit (or operate in areas defined by a gazette notice) in order to access specified areas of the road network. These upfront and ongoing costs are inevitably borne by the Australian consumer.

Recommendation 1

Amend the Heavy Vehicle National Law to provide clear pathways for proven designs to exit the PBS scheme, which:

- Allow proven vehicle designs to be built and operated without requiring either a design approval or approval of the 'as built' vehicle within a specified network.
- Allow PBS vehicles which have lesser impact than a prescriptive vehicle to access the general freight network.
- Allow 'template vehicle designs' to be specified by the NHVR, enabling these to be built and operated without a design approval (but still requiring approval of the 'as built' vehicle) within a specified network.

The process for approving vehicle designs needs to be simplified. Legislation requires that the NHVR consult a PBS Review Panel before determining a design application. The design approval looks at whether the technical requirements of the performance standards are met, yet jurisdictional representation on the Panel has tended to come from an asset management rather than an engineering background.

While questions of road impacts are central as to whether a vehicle should get access to the road network, it is NHVR's view that views on access should be separate to whether a vehicle meets the performance standards. As it stands, the Panel arrangement adds additional time to the design approval process, without adding significant value from an engineering perspective.

Recommendation 2

- Amend the Heavy Vehicle National Law to remove the requirement for all design applications to be referred to the PBS Review Panel for advice, and instead provide provisions for the NHVR to consult where it considers additional engineering expertise is required.
- A mechanism, separate to the design approval process, should be established, to provide jurisdictions with the opportunity to comment on potential access impacts associated with a new design.

The standards which underpin the scheme can only be changed by joint agreement of jurisdictional transport agency officials and subsequent approval by all Australian transport ministers. Not only is this counterintuitive given the heavy vehicle mechanical engineering expertise (and statutory responsibility for safety) sit with the regulator, it's also inefficient. For example, the NHVR's attempts to change one of the standards has taken more than four years to progress. Under these arrangements it is impossible for the performance standards to keep up with new technologies and latest research findings.

Recommendation 3

- Amend the PBS Standards and Vehicle Assessment Rules and other operating documents to transfer decision-making responsibility for changes to the NHVR Board.

The above recommendations are not revolutionary, but nonetheless would be transformative. In fact, these reform proposals are not new and should not be controversial.

The 2022 review of the Heavy Vehicle National Law by Ken Kanofski made similar recommendations. Consistent with the call to 'let the regulator regulate,' Kanofski's recommendations included making changes to PBS governance arrangements, establishing a mechanism to take established designs out of the PBS scheme, and linking of PBS approvals with guaranteed road access.

However, despite Ken Kanofski's recommendations being supported by transport ministers, no progress has been made towards their implementation. The review of the Heavy Vehicle National Law is now in its sixth year, and the Kanofski recommendations are not being adopted and do not appear to be supported by jurisdictional representatives.

Until this changes, there will be road deaths that could have been avoided, prospective productivity gains will not be realised, and efforts to meet Australia's net-zero emissions target will be frustrated.

INTRODUCTION

Freight: Australia's backbone

The Australian economy is heavily reliant on an efficient road freight task. Road freight serves the most remote corners of the country and is integral to regional communities. In serving these vital needs, the process for getting road freight to where it needs to go should be as seamless as possible.

Australia's road freight industry has experienced consistently strong growth in recent decades, and this shows no sign of waning. Statistics show that 96% of the road freight task is performed by heavy vehicles (which represents less than 5% of all vehicles on-road). Between 2020 and 2050:[1]

- the total freight task is expected to increase 26%, but the road freight task will grow much faster, with 77% growth
- rail freight promises a more modest growth trajectory of 5.7%, reflecting the simple fact that it does not have the reach or flexibility of road freight
- by 2050, over 40% of all freight will be transported by road.

Australia's freight productivity and costs have stagnated since the 1990s.[2] More generally, Australia's productivity growth over the decade to 2020 was the slowest in 60 years. In response, we are seeing a new productivity agenda emerging based around improved service delivery, adoption of new technology and the transition to a net zero carbon economy.[3] Road freight can make an important contribution to this renewed productivity focus, but to fully realise the benefits, the regulation of the heavy vehicle industry needs to change.

In this paper NHVR advocates for a shift in the regulatory environment and calls upon meaningful change to remove roadblocks to the productivity potential of the heavy vehicle industry specifically, and the national economy more generally.

A simplified way for determining what heavy vehicles can go on the road and where they can go, will not only underpin productivity related growth, but it will also create the incentives needed to accelerate the transition to a younger and less polluting heavy vehicle fleet. And even more importantly, it will save lives.

A step change in productivity - the Performance Based Standards scheme

The normal rules about heavy vehicle design are called the 'prescriptive' rules because they 'prescribe' what a heavy vehicle can look like and how heavy it can be (e.g. the length, width and mass). The prescriptive rules are set up so that if you fall within the prescribed limits, the vehicle should have the required level of safety for broad use on public roads.

With PBS, we can allow longer and heavier combinations on many of the same roads which we allow prescriptive heavy vehicle combinations. This is because PBS vehicles not only meet but often exceed safety levels compared to prescriptive vehicles.

Under the HVNL, the NHVR is responsible for the administration and oversight of the PBS scheme,[4] which is a national scheme designed to offer the heavy vehicle industry the potential to achieve higher productivity and safety through innovative and optimised vehicle and trailer design.

In simple terms, moving more with fewer, safer vehicles.

Between 2008 to 2022, the freight task performed by 16,000 PBS vehicles would have required 21,400 smaller prescriptive vehicles to complete. This means that PBS vehicles have effectively displaced the need for 5,400 trucks off Australia's roads over the period.

1 Bureau of Infrastructure and Transport Research Economics (BITRE) 2022, Australian aggregate freight forecasts – 2022 update, Research Report 154 , Canberra.
2 Commonwealth of Australia, 2019, National Freight and Supply Chain Strategy, p. 7.
3 Commonwealth Treasury, 2023, Working Future: White Paper on Jobs and Opportunities, p. 76.
4 For more information on the PBS scheme can be found in the NHVR publication – PBS an Introduction for Road Managers or on the NHVR website.

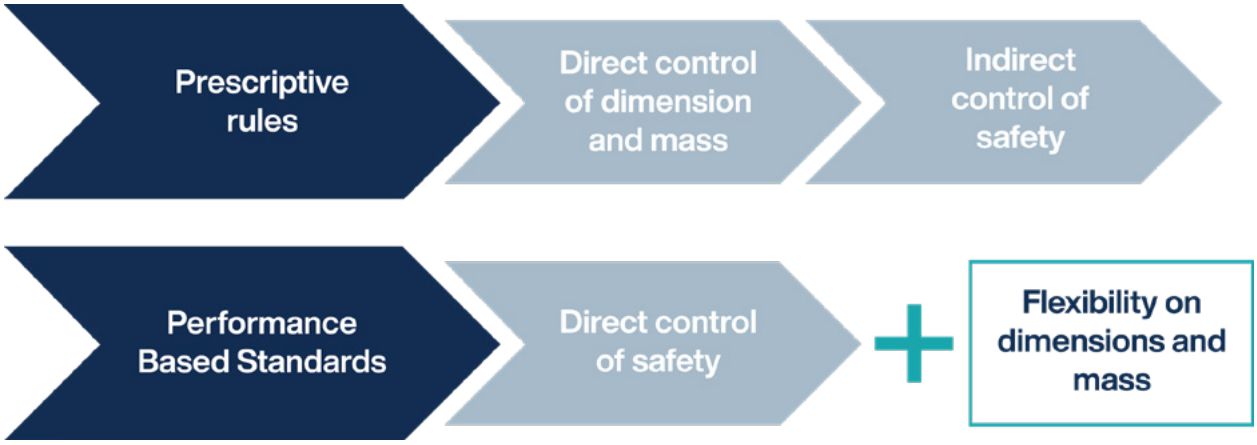

Figure 1. Prescriptive versus PBS rules (*Source: Advantia Transport Consulting)*

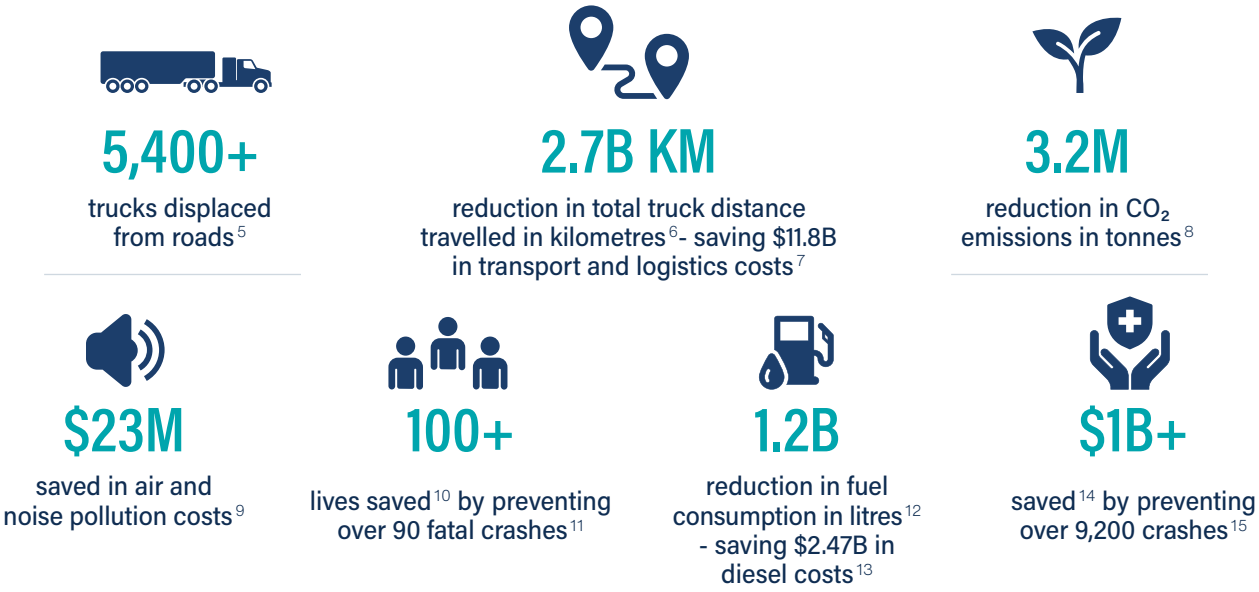

Figure 2. PBS benefits over time

5 Based on nominated vehicle equivalencies. For example, a PBS A-double replaces a conventional B-double and a PBS B-double replaces a conventional semi-trailer etc.
6 Derived from: National Transport Commission (NTC), 2020, Operator Cost Model.
7 Transport and logistics costs saved measured in terms of payload tonne kilometre efficiency. Based on the average cost per tonne kilometre and average payload across all commodities. Source: CSIRO's Supply Chain Transport and Logistics Dashboard. Data sourced on 8 September 2023.
8 Based on the diesel (L) to CO2 (kg) conversion rate of 2.67. Source: Commonwealth of Australia, 2016, Australian Transport Assessment and Planning Guidelines – PV2 Road parameter values, Canberra.
9 Commonwealth of Australia, 2021, Australian Transport Assessment and Planning Guidelines – PV5 Environmental parameter values, Canberra.
10 Lives saved is based on 1.14 deaths per fatal crash. Source: Frontier Economics & Austroads, 2023, Decision Regulatory Impact Statement – National Heavy Vehicle Driver Competency Framework, p. 120.
11 The likelihood of a crash is dependent on the total distance travelled; crash rates per 1 million kilometres (sourced from Austroads and Frontier Economics, 2023, Decision Regulatory Impact Statement – National Heavy Vehicle Driver Competency Framework); and PBS crash factors (derived from The Chartered Institute of Logistics and Transport and NTARC, 2021, Review of Major Crash Rates for Australian Higher Productivity Vehicles: 2015-2019).
12 Nominal fuel consumption formulae, inclusive of coefficients and assumptions, was sourced from: Commonwealth of Australia, 2016, Australian Transport Assessment and Planning Guidelines – PV2 Road parameter values, Canberra.
13 Based on the quarterly average cost of diesel of $2.0565. Source: Australian Bureau of Statistics (ABS), 2023, Consumer Price Index, Australia - Automotive fuel prices increase for both unleaded petrol and diesel for period September quarter 2023
14 Human capital cost approach adopted.
15 As per foot note 11.

The pinnacle of progress has become mired in the mainstream

The PBS scheme has widely been hailed as a resounding success and these benefits underscore the positive impact of PBS vehicles in our communities and for our economy. But has the PBS scheme evolved beyond its original purpose? Has the scheme, which was intended to spearhead innovation, now stagnated?

While it is the most sophisticated heavy vehicle scheme of its kind in the world, PBS now largely produces variations of existing designs. It no longer pushes engineering and ingenuity boundaries as much as it once did, and the scheme itself hasn't significantly changed since inception.

In 2023, the NHVR and external stakeholders collaborated to deliver Project London, which involved testing Australian-first, double stacked B-double and B-triples against the PBS standards. Applying PBS principles, they embody the fundamental intent of the PBS scheme – sophisticated engineering, pushing boundaries and fostering unconventional thinking, to double productivity while maintaining the highest levels of safety.

So, what factors have led to the halt in progress, and what will be lost if action is not taken now?

National challenges

Australia has benefitted immensely since the introduction of the PBS scheme in 2007 (Figure 2). But while the economic, technological, government and fleet landscape has changed considerably, the PBS scheme to its detriment, has not.

The need for reform of the PBS scheme was reflected by Ken Kanofski in his 2022 assessment of the HVNL and its review processes. The Kanofski Review[16] recommended changes to PBS governance arrangements, the elimination of established designs from the PBS process, and linking PBS approvals with networks (i.e., guaranteeing access). Despite the acceptance of these recommendations by transport ministers, reform remains at a standstill. There is an opportunity to expedite the HVNL Review to progress these reforms.

PBS vehicles with a demonstrated and successful track record have earnt the right to operate on Australia's roads, just like prescriptive vehicles. Yet many proven and tested PBS vehicles are denied this right, and must keep jumping through regulatory 'hoops' to use the same roads as prescriptive vehicles despite being better for the environment and safer for communities. This is unnecessary and a drag on national productivity.

Australia is also facing an acute shortage of heavy vehicle drivers. Many trucking enterprises are experiencing considerable financial pain due to being unable to source skilled heavy vehicle drivers, as unused fleet vehicles still incur significant costs, as well as having negative implications for productivity, inflation and the economy. Expediting the removal of proven PBS vehicles from the PBS process can help alleviate this driver shortage by reducing the total kilometres and number of trips travelled by trucks. This reduces the pressure on operators to source additional scarce labour and helps mitigate rising freight costs.

The challenge is to ensure that such mature and proven PBS vehicles are allowed to transition to the prescriptive vehicle fleet. This will help ensure that the PBS scheme remains focussed on more innovative outcomes, as it should be. To this extent, the legislative focus of PBS scheme must be geared towards the exceptions, rather than what has now typically become mainstream within the PBS scheme.

16 Kanofski Review recommendations

CHAPTER 1. OVERVIEW OF THE PBS SCHEME

Australia's heavy vehicle fleet

Australia boasts the world's most diverse heavy vehicle fleet (vehicles over 4.5t), which can be broadly classified into two distinct, yet complementary fleets:

- The **prescriptive fleet** are vehicles that adhere to the mass and dimension limits outlined in the HVNL and its subordinate regulations. These limits were established by ministers and ensure safe road operation without the need for specific vehicle assessments, essentially representing standard 'off-the-shelf' vehicles.
- The **PBS fleet** are vehicles participating in a voluntary scheme operating alongside the prescriptive system. The scheme enables Australia's heavy vehicle industry to be innovative and creative, designing and matching bespoke vehicles with specific tasks. The bespoke designs offer a high degree of engineering specificity compared to prescriptive vehicles.

PBS is a quid-pro-quo process, where improved productivity is the reward for successfully passing a stringent process to guarantee safety. Although larger and/or heavier, they are designed and built to deliver equivalent or superior on-road performance than their prescriptive counterparts, owing to rigorous assessment against vehicle safety and infrastructure standards (Figure 3).

For example, a 30m PBS Level 2 A-double demonstrates superior low-speed swept path performance compared to a prescriptive 9-axle 26m B-double (8.4m vs. 8.7m). The improved turning capability of the longer 30m PBS A-double is achieved through the inclusion of an extra articulation point between the dolly and rear semitrailer[17] (Figure 4).

Key facts

For a 10 million km freight task, a PBS A-double can:

- **Carry a higher load**
- **Travel 160,000 fewer kilometres**
- **Save 64,000 litres of fuel**
- **Save 170 tonnes of CO_2**
- **Has half the crash rate of a prescriptive B-double.**

What was the original intent of the PBS scheme?

In the late 1990s, Australia witnessed an economic resurgence, having largely overcome the earlier recession. This marked the onset of a new era of business and economic expansion, propelled by low inflation, population growth, and microeconomic reform.

This economic growth and elevated living standards led to a surge in demand for goods. It was within this context of heightened freight demand that the PBS scheme and its underlying policy framework emerged.

The then National Road Transport Commission (now National Transport Commission/NTC), sought to create a more innovative, sustainable and flexible way of transporting the increasing volume of goods by road. This sentiment is reflected in their 2001 submission[18] to the Council of Australian Governments (COAG).

The intent of the scheme *"is to develop a performance-based standards approach to dealing with heavy vehicle innovations, through a national and consistent system for the first time ... It provides a better framework than the current conventional approach for much needed innovative solutions across the whole heavy vehicle fleet to meet future freight demands, which are predicted to double over the next fifteen years.*

PBS will provide a more comprehensive approach to ensuring heavy vehicles operate safely and that road and bridge assets are protected. It will ensure that poorly performing vehicles are unable to slip through the approval process and build in systems to ensure a high standard of compliance."

A revolutionary scheme, with inherent constraints

The PBS scheme and procedures were established prior to the HVNL and existence of the NHVR, to meet the intent of the COAG principles. The NTC, as the national authority at the time, oversaw the administration of these processes with guidance and control from transport agencies.

With the introduction of the HVNL, a comprehensive legislative framework emerged, extending beyond PBS, to harmonise access regulation and processes across jurisdictions. While the fundamental rules and procedures remained largely unchanged, the administration shifted to the NHVR.

The way these rules and processes emerged served a purpose at a point in time, and ensured that concerns that various jurisdictions had about passing responsibilities to a national regulator were addressed. However, they are no longer fit for purpose. The operation of the scheme needs to reflect today's risks and level of the scheme's maturity, not the uncertainties and perceived risks at the time of the scheme's development.

Red tape has been exacerbated because the development of vehicles under the PBS scheme and decisions about where such vehicles can be used have been conflated.

The scheme in its existing state, and the legislation supporting it, need to be modernised. There is a need for a more flexible and responsive framework and a holistic review of roles and responsibilities. The current review of the HVNL should be harnessed to drive these improvements sooner rather than later.

17 NHVR Performance Based Standards, An introduction for road managers May 2019
18 National Road Transport Commission, 2001, Performance-Based Standards Policy Framework for Heavy Vehicle Regulation Regulatory Impact Statement, Melbourne

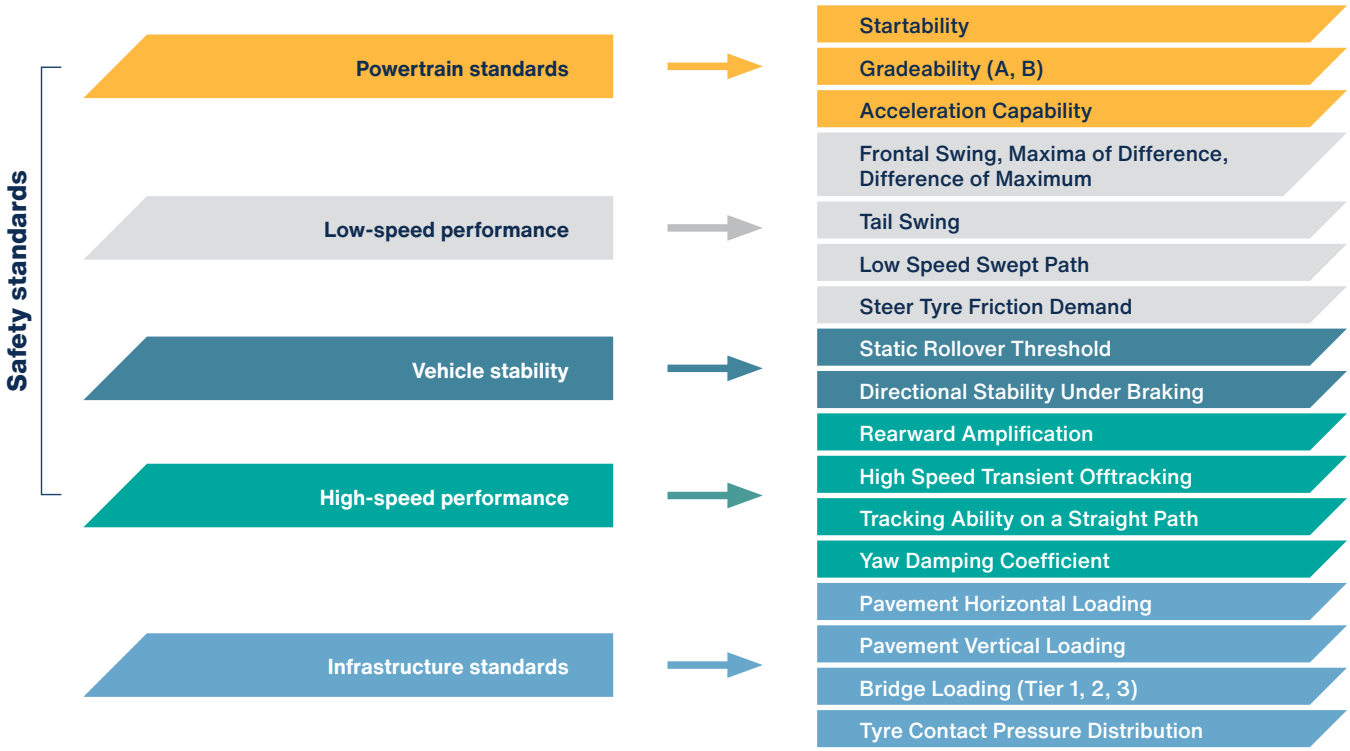

Figure 3. PBS Standards

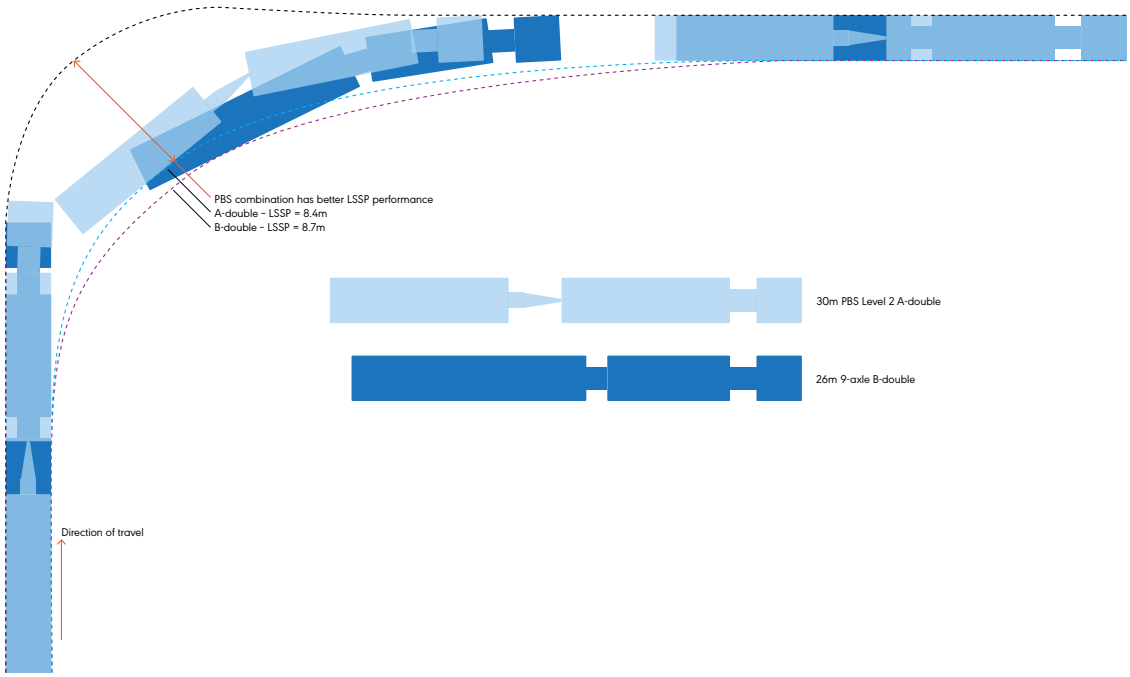

Figure 4. Swept path of a PBS level 2 A-double compared with a prescriptive 9-axle B-double

1999

The PBS scheme was initiated as a partnership arrangement between the NTC, Australian Road Research Board (ARRB), Austroads, Commonwealth, state and territory transport agencies, and industry.

Nov 2000

The NTC began drafting the Performance Based Standards Policy Framework for Heavy Vehicle Regulation and finalised this in May 2001, together with the Regulatory Impact Statement, which the Australian Transport Council (ATC) endorsed, along with the adoption of the scheme.

Feb 2002

To ensure that the developed PBS standards were compatible with the Australian heavy vehicle fleet at that time, the NTC commissioned a report on the performance characteristics of the Australian heavy vehicle fleet.

Feb 2006

The Council of Australian Governments (COAG) endorsed the PBS scheme.

Oct 2007

Implementation and administration of the PBS scheme by the NTC.

October 2012

PBS scheme incorporated into the HVNL.

Feb 2014

HVNL commenced, and administration of the PBS scheme transitioned from the NTC to the NHVR.

May 2018

The NTC PBS Marketplace Review, which evaluated the PBS scheme and provided recomendations for improving its efficiency and effectiveness, was endorsed by the Transport Infrastructure Council (TIC).

Figure 5. Timeline of key events

24
Years
since initiation

16
Years
since NTC implementation

11
Years
since HVNL incorporation

9
Years
since administration transitioned to the NHVR

CHAPTER 2. WHY SHOULD ANYONE CARE ABOUT PBS?

NHVR believes that the PBS scheme has been popular and operating well. It is broadly achieving the high level 2006 Council of Australian Governments (COAG) endorsed objectives of the PBS scheme:

- Improved freight productivity
- Reduced impact on the environment via lower vehicle emissions and CO_2
- Reduced impact on society due to reductions in road trauma and congestion.

PBS is more than just productivity for industry and contribution to the economy. There is an implicit relationship between road freight activity, and safety and environmental externalities impacting people and the community.

It may be counterintuitive to think that bigger and heavier is safer and more environmentally friendly, but that is the reality of PBS. This Chapter demonstrates the criticality of why Australia should be embracing both uptake of PBS vehicles, and mainstreaming them into the everyday fleet.

Reflecting on our objectives

COAG Objective 1: Improved freight productivity

Letting PBS vehicle numbers tell the story of its popularity

In 2022, there were more than 4,000 transport operators in the scheme, with approximately 16,000 PBS combinations in their fleet.[19] This has effectively displaced over 5,400 extra trucks from our roads.

In the five years leading up to 2022, the PBS fleet almost doubled under the NHVR administration, compared to slower growth prior to transition.

In 2023, growth more than doubled compared to the average annual uptake over the previous five years (approximately 4,000 combinations). NHVR believes that a key factor in this record growth is the simplification of tyre management for PBS combinations[20]- the single largest reform to the PBS Scheme since its inception.

There is no doubt that the PBS scheme is being adopted in record numbers. Importantly, the PBS uptake rate is exceeding BITRE's road freight task growth rate, meaning PBS vehicles are replacing the prescriptive fleet faster than expected (Figure 7).

BITRE[21] projects the total freight task to grow 25% between 2020 – 2050, with the road freight task to grow by 77%. Table 1 presents a distribution of this task between freight modes.

As of 2022, based on payload and distance travelled, PBS vehicles make up about 6% of the total freight task and 21% of the road freight task.[22]

There may come a point where combinations that have had their origins within the PBS scheme encompasses the entire fleet. Our challenge is to bring that reality to fruition sooner rather than later, albeit without the arduous PBS approval and permit processes.

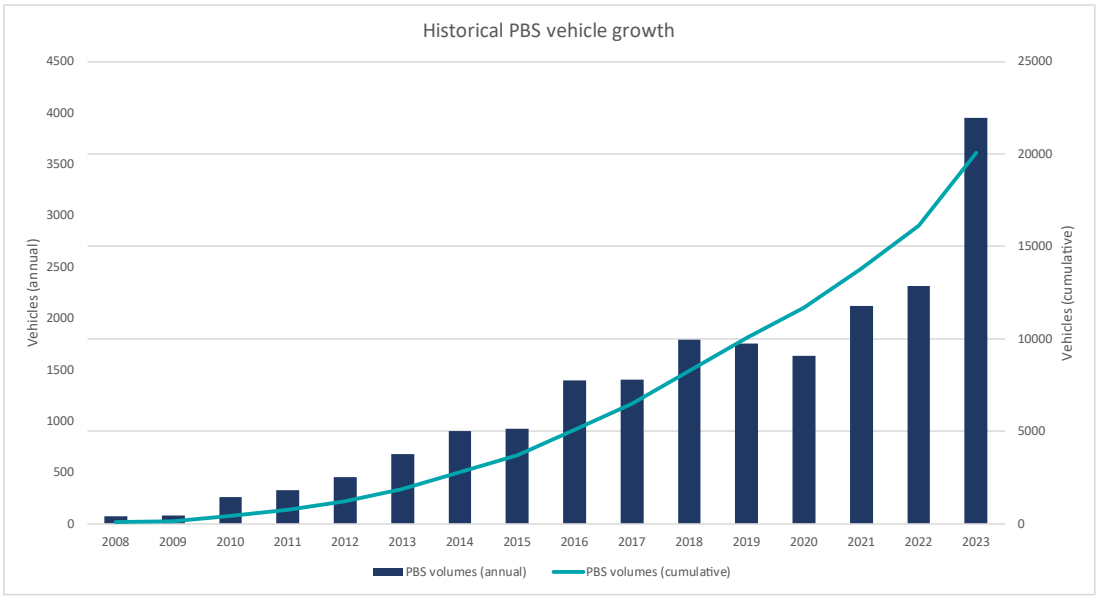

Figure 6. Historical PBS vehicle growth

19 As of 8 January 2024, there are 20,063 PBS vehicles within the fleet; however, modelling contained within this report has been based off 2022 volumes.
20 Refer to the Generic Tyre Approach on the NHVR website at www.nhvr.gov.au/road-access/performance-based-standards/pbs-review-project/generic-tyre-approach
21 BITRE, 2022, Australian aggregate freight forecasts – 2022 update, Research Report 154, Canberra
22 ABS, 2022, Survey of Motor Vehicle Use, Australia

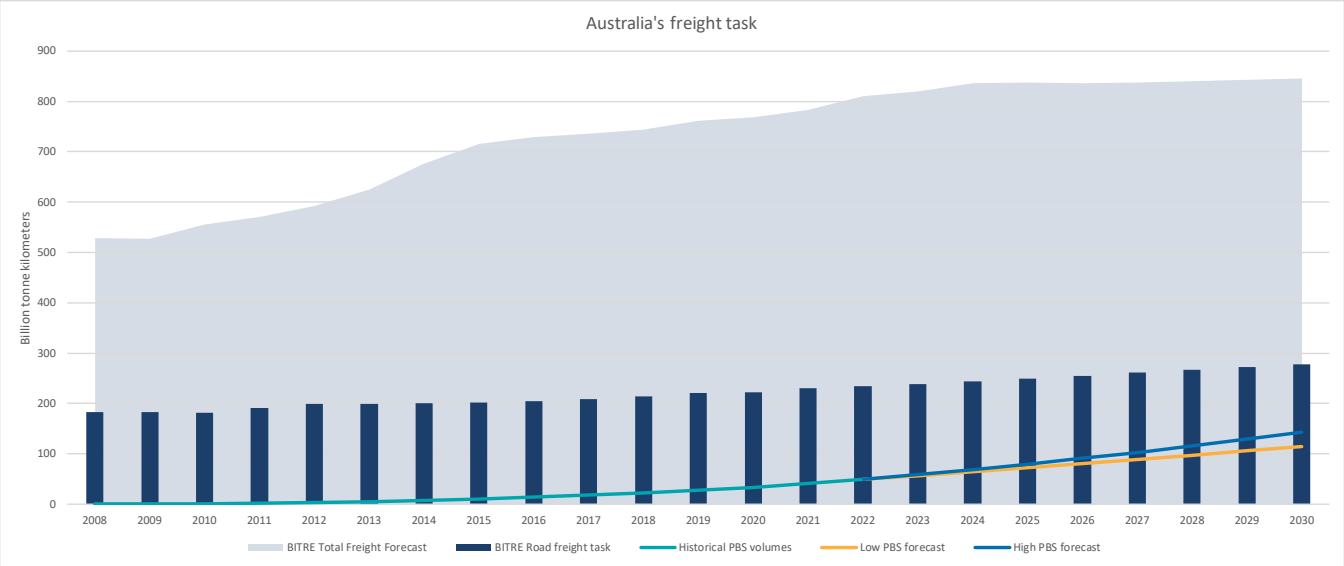

Figure 7. PBS freight task growth in the context of Australia's freight task growth

Table 1. Freight task mode distribution projections 2020 - 2050

Year	Road	Rail	Freight mode Coastal (billion tonne kms)	Air	Total
2020	222.9	433.2	111.4	0.3	767.9
2050	393.7	457.8	110.1	0.6	962.2
Growth	**76.6%**	**5.7%**	**-1.2%**	**100.0%**	**25.3%**

COAG Objective 2: Reduced impact on the environment in regard to vehicle emissions and CO_2

For the year to September quarter 2023, the transport sector accounted for 21.2% of Australia's emissions, an increase of 4.5% over the previous year.[23] Although road freight constitutes only 4%[24] of all vehicles on Australia's roads it disproportionately contributes 38% of transport emissions,[25] and consumes 23% of overall road transport fuel requirements.[26]

Transition to rail will not achieve decarbonisation targets, as rail growth is predicted by BITRE (2022) to grow only 5.7% to 2050 compared to 77% growth for road freight. To achieve Australia's net zero targets, change needs to occur within the heavy vehicle road freight sector. Support and acknowledgement of the role of heavy vehicles in the transition to net zero is vital, and there is the opportunity to get the policy, regulatory and strategic settings correct now to properly support the role of more efficient PBS heavy vehicles in emission abatement activities.

Key facts

Between 2008 and 2022, PBS vehicles have saved an estimated:
- **1.2 billion litres of fuel and $2.47 billion in fuel cost**
- **3.2 million tonnes of CO_2**
- **$22.5 million of societal costs related to air pollution.**[27][28]

If PBS operations were to be optimised and barriers removed, we anticipate that the scheme has the potential to save from 2023 – 2030:

- 3.2 – 3. 8 billion litres of fuel
- 8.5 and 10.1 million tonnes of CO_2
- $47.1 - $55.6m societal costs related to air pollution (e.g. health and amenity)

Significant volume of CO_2 also represents a mortality cost. 4,434 tonnes of CO_2 has recently been estimated as representing one life over 80 years.[29][30][31]

Key facts

Between 2020-2030, PBS vehicles are forecast to:
- **Save up to 2,277 CO_2 related deaths**
- **Save over $10 billion from a value of statistical life perspective**[32]

23 Department of Climate Change, Energy, the Environment and Water, Quarterly Update of Australia's National Greenhouse Gas Inventory, September 2023.
24 Electric Vehicle Council and the Australian Trucking Association, 2022, Electric trucks: Keeping shelves stocked in a net zero world, p. 4
25 Electric Vehicle Council and the Australian Trucking Association, 2022, Electric trucks: Keeping shelves stocked in a net zero world, p. 4
26 Department of Infrastructure, Transport, Regional Development and Communications, 2020, Heavy vehicle emission standards for cleaner air: draft regulation impact statement, p.13, Canberra
27 Cost of air pollution includes health costs, building and material damage, crop losses.
28 Infrastructure and Transport Ministers, (2021), Australian Transport Assessment and Planning Guidelines PV5 Environmental parameter values, Canberra, ACT
29 Bressler, R.D., 2021, The mortality cost of carbon, Nature Communications 12: 4467
30 Rose, J., 2023, Estimating mortality cost and social cost of CO_2 emitted by items, applied to passenger vehicles, Renewable Energy and Environmental Sustainability 8:21
31 Schwartz, J., 2021, A carbon calculation: How many deaths do emissions cause? The New York Times (29 July 2021)
32 Value of statistical life (October 2023), Office of Impact Analysis, Department of Prime Minister and Cabinet, Australian Government

COAG Objective 3: Reduced impact on society in regard to reductions in road trauma and congestion

In 2021, heavy vehicles were involved in about 15.4% of road crash fatalities, of which 50% were light vehicle occupants and 25% were vulnerable road users such as motorcycles, cyclists or pedestrians.[33] Note the heavy vehicle was not necessarily at fault in most cases, with 70% of fatalities involving a truck and a car being the fault of the car driver.[34]

While there are many factors affecting crashes, there is a relationship between the likelihood of a crash and network exposure.[35] By reducing the number of trucks required for the same freight task, we decrease total kilometres travelled and the frequency of interactions between trucks and other road users.

A joint investigation into major crash rates for PBS vehicles undertaken with the Chartered Institute of Logistics and Transport Australia (CILTA) and the National Truck Accident Research Centre (NTARC)[36] showed that, compared to the prescriptive heavy vehicles they replace, PBS vehicles are safer in every truck category and involved in:

- 60% fewer major crashes per 100 million kilometres travelled (payload agnostic)
- 33% fewer major crashes per 100 million gross tonne kilometres transported (payload dependent)
- Our model estimates that between 2008 and 2022 the PBS scheme has prevented a total of 9,259 crashes, including:
- 91 fatal crashes, saving 104 lives
- 880 hospitalisation crashes
- 1,212 non-hospitalisation injury crashes
- 7,075 property damage only crashes.

Looking ahead to 2030, the PBS scheme has the potential to prevent an additional 26,052 to 30,216 crashes, saving between 293 and 340 lives.

Inaction and suppressing the growth of the PBS fleet may result in an unnecessary additional 4,164 crashes and 47 road fatalities.

33 BITRE, 2021, Road trauma involving heavy vehicles 2021 statistical summary, Canberra, ACT
34 NTI NTARC, 2022, Major Crash Investigation 2022 Report
35 Austroads, 2022, Consultation RIS – National Heavy Vehicle Driver Competency Framework
36 NHVR, CILTA & NTARC, 2021, Review of Major Crash Rates for Australian Higher Productivity Vehicles: 2015–2019

CHAPTER 3. LIMITATIONS OF THE PBS SCHEME

While the PBS scheme has and will continue to deliver on its productivity, safety and sustainability outcomes, it is well known that barriers exist that have and will continue to prevent us from reaching the scheme's full potential.

The scheme cannot truly be successful if it is complicated and cumbersome. Feedback received from our stakeholders is that the current approach is inefficient, and outdated processes are enshrined in the Heavy Vehicle National Law (HVNL) and its subordinate regulations.

This Chapter highlights key issues that the NHVR has experienced and those raised by stakeholders which are inhibiting the PBS scheme's ability to permeate through the entire heavy vehicle fleet.

A leader of standards, or lagging behind?

The PBS scheme was intended to push the boundaries of engineering – be a leader in heavy vehicle innovation and inspire the prescriptive fleet to adopt safer and more sustainable designs.

While the performance of the prescriptive fleet has evolved, the technical standards for the PBS fleet by which their performance is assessed have remained largely unchanged, despite significant technological advancements in the overall heavy vehicle fleet in the last few decades.

The key issues are:

- **Issue 1**: Even as administrators and technical experts, the NHVR still do not hold the authority to amend the PBS Standards
- **Issue 2**: There are no established processes that enable the NHVR or its stakeholders to efficiently update the PBS Standards
- **Issue 3**: There is no opportunity to expedite the testing and inclusion of new technologies into the PBS scheme.

Issue 1

The *Heavy Vehicle (General) National Regulation* dictates procedure for granting a PBS vehicle approval.[37] According to the Regulation,[38] the PBS Review Panel (PRP) must have regard to the Standards and Vehicle Assessment Rules when evaluating an application for PBS approval.

The Rules in turn specify that any modifications to them can only be made by the National Transport Commission (NTC) with the approval of responsible ministers, or senior officials of transport agencies for minor administrative amendments.

Despite the NTC transferring its operational and technical matters to the NHVR upon enactment of the HVNL, they have retained their powers to progress standards amendments. Under the current HVNL Review, there is an opportunity to streamline processes and make NHVR primarily responsible for delivering changes to the PBS Standards and Vehicle Assessment Rules. Such reform would help expedite long overdue amendment to current PBS Standards, whilst still ensuring ministerial oversight of significant reforms.

Issue 2

In the 16 years since inception, there has been minimal change to the PBS Standards. The introduction of the revised approach to tyre management in 2022 was the first wholesale change, resolving an issue which existed for more than a decade. The NHVR believes this is a key factor in the sharp rise in PBS Vehicle Approvals issued over the past 12 months.

To ensure ongoing evolution of the PBS Standards, we need efficient processes that enable the NHVR and stakeholders to put forward proposals to update entire standards or an aspect of a standard, or to introduce new standards. As noted in the following case study, it has taken four years to get agreement on changes to the standard related to pavement horizontal loading impacts. Such processes are a clear handbrake on productivity.

Issue 3

The innovative nature of the PBS approach means vehicles do not always have to comply with the standards and regulations applied to prescriptive vehicles.

The granting of exemptions from certain standards and regulations, such as those contained in the Australian Design Rules and HVNL subordinate regulations, allows for innovation and unique vehicle designs.

To further spur innovation, the range of exemptions available to PBS vehicles could be broadened, where it can be demonstrated that safety will not suffer.

Case Study 1 – Four Years to amend a Standard: Pavement Horizontal Loading

When the PBS standards were first established, a performance-based approach for assessing the pavement horizontal loading standard (PHLS) did not exist. The original PHLS is a prescriptive assessment method based on the mass of a vehicle (i.e. contrary to the performance aspects of PBS).

In 2019 NHVR proposed setting the PHLS back onto the right path by making it a performance-based measure. Following a two-year development process, involving transport agencies and industry, NHVR's proposal received in-principle approval from transport ministers in May 2021, pending one jurisdiction being satisfied with the approach. This led to a further two years of engineering analysis and technical evaluation, after which NHVR's proposal was validated without amendment. The final stage of formal acceptance was completed in April 2024 – four years after work commenced.

For PBS vehicles to remain at the forefront of innovation, the scheme MUST be supported by dynamic standards. In this context, a four-year process to reach agreement, on a proposal which did not change, to significantly evolve the standards, is far too long.

37 Part 2 of the Heavy Vehicle (General) National Regulation
38 Part 2, Section 5 of the Heavy Vehicle (General) National Regulation

The PBS cost barrier is a significant participation deterrent

Our stakeholders have told us the costly PBS scheme is an obstacle to broader take up of PBS vehicles across the freight industry.

The prescriptive fleet is much cheaper and easier for operators to navigate. Vehicles are available somewhat 'off-the-shelf' with access arrangements known in advance. The vehicle may not be ideally suited to an operator's particular task, it may cost more to run over the long term, create more CO_2 and have fewer safety features, but it is a readily available and well understood option.

On the other hand, PBS vehicles have to go through a costly design and approval process, and there is usually no guaranteed access to the road network. This happens even if it is the 100th iteration of a vehicle previously approved under the scheme.

And the costs can be significant. For example, the cost of engaging someone to design a PBS A-double variant that is largely the same as a previous design, is in the order of $8,000-10,000. For exceptionally innovative vehicles[39] the design costs can exceed $120,000.

Compounding the situation is a lack of access certainty. Industry therefore wears the risk of upfront investment and potentially having an asset parked in a yard, unable to move and generate revenue. Even though the vehicle meets performance standards, its usage may be restricted by road managers who have an obligation to protect and prolong the life of their road assets and public safety, and may not grant access.

The overall cost and commercial risk discourages smaller operators from participating, leaving PBS predominantly a scheme for the 'big end of town'. Transitioning well proven vehicles out of the PBS process, and guaranteeing access based on existing vehicle access, minimises these deterrents.

PBS access requirements impose costs on industry, governments, and ultimately, consumers

Under the HVNL, a heavy vehicle must obtain a permit to access the road network. A Notice serves as an instrument that provides access to a certain class/type of vehicle without the need to obtain a specific permit. PBS vehicles are designed and built to operate on networks appropriate for their level of performance, with access arrangements determined accordingly. For example, a 20m long truck and dog combination would be afforded greater levels of access compared to a 60m long BAB Quad road train (i.e., the truck and dog is a better performing combination from an access perspective compared to the BAB Quad).

But there is little incentive for industry to participate if they cannot reliably obtain access. Most PBS vehicles require access permits to use the road network, and the rigmarole and uncertainty associated with obtaining a permit can be discouraging for many operators.

PBS access permit data from FY19 to FY23 indicates:

- **61,710** access permit applications submitted by industry (63,590 for non-PBS freight vehicles)
- **191,760** consent requests to road managers to assess access (162,060 for non-PBS freight vehicles)
- **12.9** days average road manager turnaround (8.8 days for non-PBS freight vehicles)
- **7.5%** refusal rate (4.2% for non-PBS freight vehicles).

Obtaining an access permit can take anything from a few weeks to several months, or even years in some cases. It must be acknowledged that some delays are for good reasons, such as a road manager wanting a structural assessment of a bridge they control before they decide whether it can accommodate a particular vehicle. This is good asset management practice.

However, the number of well understood PBS vehicles needing access permits to travel well understood roads remains high. This imposes unnecessary costs on industry, on the NHVR in administering access permits, and road managers which must consider each application and make an access decision. These productivity losses can be minimised and in many cases avoided all together.

Key facts

Between 2023 – 2030 the NHVR estimates there could be:[40]

- **Up to 140,000 access permit applications submitted**
- **Up to 452,000 consent requests to road managers**
- **Almost 1.2 million hours spent by industry and road managers on permit administration**
- **Up to $9.2 million Net Present Value (NPV) spent by industry on permit fees**
- **Up to $67.5 million spent by industry and road managers on labour costs.**

Despite far fewer PBS vehicles compared to the prescriptive fleet, PBS represents a disproportionate amount of access permits and their associated administrative processes and costs.

As PBS grows in popularity, the regulation and processes must be changed to ease the economic burden. The larger prescriptive vehicles used to be treated differently, and they are now mostly incorporated into law and supported by numerous access instruments. We need to achieve the same outcome for PBS vehicles, especially where PBS vehicles have a lesser impact than prescriptive vehicles yet don't have access to the general freight network.

39 NTC, 2017, Assessing the effectiveness of the PBS scheme Discussion Paper, Melbourne
40 Assumptions: Base year applications: 16,200, Road manager multiplier: 3.23; Base permit fee: $83; Permit admin. time: 2hrs; Permit avoidance rate: 0%; Discount rate: 7%; Industry labour wages: ABS (AWOTE) Transport, Postal and Warehousing; Road manager labour wages: ABS (AWOTE) Public Sector.

CHAPTER 4. WHAT IS STANDING IN THE WAY OF REFORM?

From its inception, the PBS scheme was a world first, with an ambitious agenda that sought to deliver innovative, industry-led solutions and efficiencies that maximised the delivery of freight across Australia.

More than two decades on from its original policy intent, it's fair to say that the PBS scheme has lost its edge.

So what's gone wrong with the PBS scheme?

While the intent of the PBS scheme was transformative, the regulatory and procedural mechanisms have increasingly proven not to be fit for purpose, much to the frustration of all parties.

While technically robust, the operational limitations meant that the PBS scheme was destined to increasingly struggle as the scheme grew in popularity, both in terms of meeting its objectives and fulfilling its potential with industry.

Further, efforts to reform the PBS scheme have been met with obstacles, many of which persist to date. Even modest proposals for changes to the scheme have proved problematic. Some jurisdictions are more in favour of reform than others, and industry in general would like a much more ambitious agenda. NHVR believes that the productivity, environmental and safety benefits of reform are too important to be waylaid by a slow and incremental approach to change.

Unburdening tried and tested PBS vehicles

There are few compelling reasons why tried and tested PBS designs need to be captured within the costly and time-consuming PBS scheme. As already noted, navigating the scheme means taking on the risk that access for a PBS vehicle may be more constrained than a prescriptive vehicle that has greater impact on roads, is less safe and emits higher levels of CO_2.

Some stakeholders have a preference for remaining within the PBS scheme given it carries a certain industry cache around performance. And the current constraints in the scheme's operations does create a market for the relatively small cohort of PBS designers and assessors. However, maintaining the status quo is a lost opportunity.

Transitioning PBS vehicles out of the PBS process to form the backbone of a higher performing conventional fleet - this is the vision to which we should all aspire.

A key reason for why the PBS scheme has not evolved to allow transition to occur is the difficulty in reaching agreement across the various stakeholders. Too often the focus is on the 'how' rather than the 'why', and hence there is not enough impetus to enable:

- Agreement on the exact vehicle designs that should be removed from the PBS process
- Development of a supporting access network tailored to the vehicle design
- Major amendments to the HVNL, and its subordinate regulations, to support the approach.

From NHVR's perspective, detail is not required at this stage. The outcomes above are not controversial and have already been endorsed by transport ministers following the Kanofski Review. At this time, the task is to ensure there is clear commitment to achieving these objectives.

In line with the Kanofski recommendations, the only realistic option is for proven mature and safe combination types to no longer be subjected to the PBS process. Major amendments to the HVNL must occur to enable this in a manner which does not impact upon existing PBS participation and access arrangements previously agreed by road managers.

PBS must be the bastion of the 'rare, weird and wonderful', while proven, safe and mature vehicles are considered the everyday and should be removed from the PBS process.

Case Study 2 – Removing Truck and Dogs from the PBS process

The National Class 3 20m Long 3-axle Truck and 4-axle Dog Trailer Mass and Dimension Exemption Notice 2022 (No.2) serves as the case study of our first attempt to effectively take combinations out of the PBS process and into the 'normal' regulatory framework. The reform reflects the maturation of the PBS scheme.

Taking these common and well-understood truck and dog trailer combinations out of the PBS process, reduced the regulatory and cost burden for industry, and has allowed PBS to focus on new vehicle innovation.

For the truck and dog Notice to work, rigorous, tried-and-tested templates (a range of vehicle schematics) were developed, learning from designs transacted through the PBS scheme. The combinations operating under the Notice are required to use these templates. Industry and transport agency agreement for new templates is a critical milestone for fleet exiting.

However, existing HVNL provisions are not sufficient to support an efficient removal of proven combinations from the PBS process. Legislative limitations meant established access arrangements for PBS truck and dogs did not seamlessly transition to combinations removed from the PBS process, thus resulting in a burdensome process to re-seek consent for the same combinations on the same networks from road managers.

For removal of common and well-understood combinations from the PBS process to occur effectively, pre-existing access arrangements must be preserved. The NHVR is working on A-double templates, a far more complex task than truck and dogs, with larger network risks and implications. In order to preserve existing network access arrangements, these templates are being specifically developed to align to the requirements stipulated in the National Class 2 Performance Based Standards (High Productivity) Authorisation Notice 2022 (No.3).

Outcomes of this work will serve a valuable case study for how the NHVR will address the rest of the fleet.

The right levers for the right problem

It is recognised that the PBS scheme provides benefits that go beyond its primary purpose. For example, by requiring vehicles to pass through the PBS approvals and permit processes, road managers have a level of confidence that their road networks are being managed appropriately.

Data generated, as a by-product of these processes, can be used to inform maintenance schedules and infrastructure improvements (i.e., be used as a proxy for traffic counts).

Is this an appropriate use of the PBS scheme? Are there alternative means of providing road managers with a similar sense of comfort without the associated time and cost implications and loss of safety, productivity and environmental benefits?

We need to be using the right levers to solve the right problems. Exploring alternatives must be a policy imperative. In line with the Kanofski recommendations, the NHVR advocates for modernised governance arrangements to protect the integrity of the PBS scheme as the innovation test-bed for the next generation of safer and more productive heavy vehicles.

Road manager considerations

Road managers are both access decision-makers and asset managers. In FY21, $31.7b was spent on road-related construction and maintenance. Despite overall funding growing 27% over the last 10 years, local government funding has decreased by 8% in the same period.[41]

It is understandable that, given roads are a consumable and come at a cost with every pass of a vehicle, that road managers would take a cautious approach to access for heavier PBS vehicles. The natural outcome, from their perspective, is a desire to leave PBS vehicles within the PBS scheme.

Some states and territories have applied additional (in some cases conflicting) requirements on PBS vehicles by way of additional operating conditions such as reduced payload and time of travel. This has led to a fragmented access environment, which contributes to reducing the capacity for vehicle manufacturers to provide more innovative and productive heavy vehicles nationally.

Local governments have a responsibility to ensure that routes are suitable for heavy vehicle access. They are responsible for assessing and providing consent to the 'first and last mile' local roads, which represents a key part of the end-to-end route that vehicles use to access pick-up or delivery points. Given the limited resources, most local councils have conflicting priorities and also generally demonstrate a very cautious approach towards PBS vehicles, due to concerns about public safety and protection of their road assets and infrastructure. Their cautious approach has a relationship to their limited funding for infrastructure.

There is a general lack of understanding within local councils about PBS vehicles, and this can often lead to an emotional rather than an informed response when granting PBS vehicle access. It is often assumed that bigger unknown trucks will cause greater infrastructure wear, and this assumption is often based on the lack of knowledge about the benefits of PBS vehicles, the lack of guidelines on how to assess a PBS vehicle access application, resource limitations, and a reluctance in decision making due to the perceived risks.

This has led to localised decision-making, and inconsistent route and bridge assessments being undertaken across jurisdictions, often to the frustration of industry and distrust towards the PBS system.

Without a greater appreciation of PBS vehicles and consistency in their treatment by road managers from an engineering perspective, networks cannot be developed with the sufficient range and speed in order to support a transition of mature PBS combinations to the prescriptive fleet (i.e. access is a fundamental part of transition).

A reluctance to let go

Despite outperforming most of the prescriptive fleet, PBS vehicles still predominantly operate under access permits – effectively a de facto traffic count. Keeping the PBS status quo provides road managers, who have a responsibility to protect their assets and therefore can be risk averse, with greater control over the vehicles operating on their roads.

Jurisdictional support for the scheme has always been conditional on the premise that state road managers have the power to conduct appropriate checks and balances to ensure their road assets are not degraded, along with safety considerations for PBS access.

The scheme is just as much about policies and procedures, and not just the technicalities of vehicles and access. Transport agencies have a dual role, as both policy makers and access decision-makers. These lines have become blurred, with the PBS Review Panel, comprising members from transport agencies, often deliberating matters unrelated to bettering the PBS scheme and therefore not advancing safety, productivity and sustainability.

These additional steps, as shown in Figure 8, have become the new-normal, causing the scheme to stray from its original intent by giving road managers discretionary authority on the direction of the scheme by using access consent as a veto power against change they are uncomfortable with.

This role and expanded PBS process became enshrined in the HVNL, however in doing so, it was never evaluated from the point of view of meeting the original PBS policy intent as devised long before the HVNL.

41 BITRE, 2022, Australian Infrastructure and Transport Statistics – Yearbook 2022, Canberra, ACT

Unnecessary layers of bureaucracy

As a further hangover of these processes being enshrined in the HVNL, unnecessary layers of bureaucracy are a legacy where decision-making authority ought to have been devolved. For example:

1. The blurred lines of the PBS Review Panel

- Legislation requires that the NHVR consult the PBS Review Panel before determining a design application. The design approval looks at whether the technical requirements of the performance standards are met, yet jurisdictional representation on the Panel has tended to come from an asset management rather than a heavy vehicle engineering background.

2. Ministerial oversight of operational matters

- Existing guidelines for the appointment of PBS assessors and certifiers have limited scope for the management of assessors and certifiers where a regulatory response is required. This inflexibility in operational aspects of the scheme, can only be changed by agreement of transport ministers. In line with the Kanofski recommendation to 'let the regulator regulate' decision-making authority to manage operational aspects of the scheme should be vested in the regulator.

Reform has been agreed, yet has stalled

A clear focus on returning the PBS scheme to its original objectives is required. The need for this reform measure has already been agreed to by transport ministers following the Kanofski Review. While agreement has been reached, the reform process has stalled, having become captive to the broader review of the HVNL.

Our vision for a reimagined PBS scheme is aligned to recommendations of the Kanofski Review as accepted by transport ministers:

1. Recommendation 2.8. That PBS approvals be better linked with access to networks:

- Provide certainty of access for PBS Design Approvals.
- Recognise common and proven PBS combinations under gazette or in regulations and provide certainty of access through designated networks (i.e. take them out of the PBS process).

2. Recommendation 2.10. Proposed improvements to the PBS Scheme:

- Update PBS standards to reflect learnings over the last 20 years and recognise technologies where appropriate (NHVR has started this work – it should accelerate if possible).
- Streamline governance of PBS scheme (nearer term) and continue to gazette networks for PBS vehicles, until online notices are developed.

However, the journey will not be easy. There will be obstacles and vested interests that stand in the way. Working together with our stakeholders is central to overcoming challenges and achieving the direction accepted by ministers

Case Study 3 - Review of the HVNL: Six years and counting...

In May 2018, the Transport Infrastructure Council endorsed a first principles review of the HVNL. A two-year consultation process resulted in no changes being made to the HVNL.

In 2020, and in lieu of substantive progress by the NTC, ministers appointed Ken Kanofski to undertake an independent review of the law-review process. Various legislative and non-legislative recommendations were made by Mr Kanofski, including item 2.10, which suggested improvements to the Performance Based Standards (PBS) approval process to maximise opportunities for safer and more productive vehicles. When the report was provided in 2022, transport ministers agreed to:

'...a package of propositions recommended by Mr Kanofski that will improve safety and productivity in the heavy vehicle sector. Ministers resolved to consider further advice from officials on the best mechanism to efficiently deliver this package of reforms across all jurisdictions.'

However, this has not been reflected in the subsequent work on the review of the HVNL. In fact, some jurisdictional representatives have continued to argue that the ministerial communiqué did not constitute endorsement of the Kanofski recommendations.

As at March 2024, there has only been agreement to progress a minimal reform package for the HVNL Review, and this does not consider proposed improvements to the PBS scheme. Any potential PBS scheme-related amendments have been deferred to an unknown date in the future.

It is disappointing that after six years, changes to the HVNL that could save lives, increase productivity and reduce emissions remain nowhere in sight.

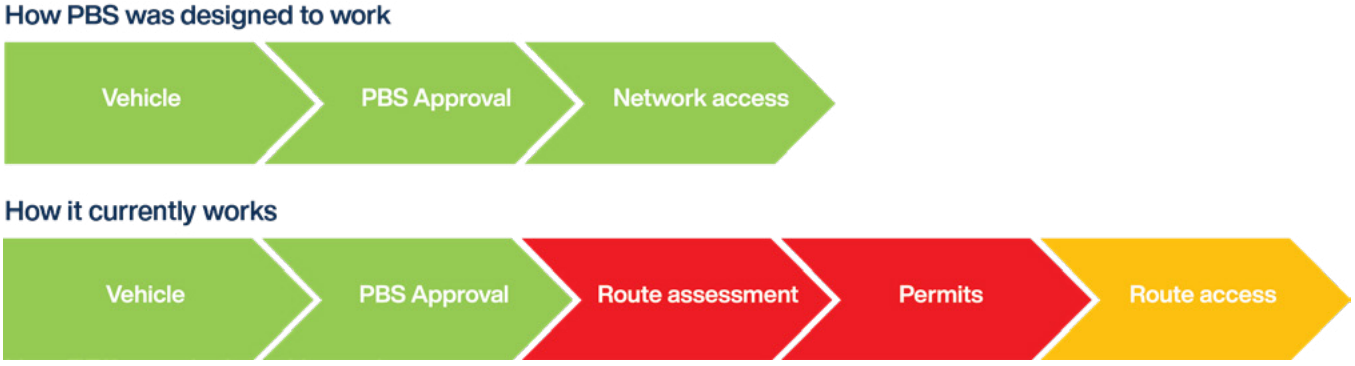

Figure 8. How PBS scheme was designed to work and how it currently works[42]

42 NTC, (2017), Assessing the effectiveness of the PBS scheme Discussion Paper

CHAPTER 5. WHAT NEEDS TO CHANGE?

In its current iteration, the PBS scheme has hit its ceiling

Three things need to happen for the PBS scheme to be the spearhead of heavy vehicle innovation:

1. *Well established designs need to be taken out of the PBS process.* These vehicles have proven themselves over an extended period and there is no justification for continuing to subject these designs to a costly approval process and cumbersome access arrangements.

2. *The standards underpinning the scheme need to be dynamic and reflective of new technology.* The proven inflexibility in setting new standards or adjusting existing standards is a handbrake on innovation.

3. *Usage of the PBS scheme for extraneous purposes must be discouraged.* Where the current arrangements are used by road managers to achieve policy objectives unrelated to the PBS scheme (e.g. via the PBS Review Panel), NHVR need to help them find alternative mechanisms to meet these same outcomes.

Failure to act is a choice to accept more deaths on roads, more pollution and ignoring the potential for improved productivity.

What needs to be done

As the national regulator, we have canvassed the opinions of the broadest range of stakeholders on how to improve the PBS scheme. Reflecting on our role as the independent regulator and objectively assessing the merits of various positions to improve safety and productivity, we believe legislative reform to give effect to the Kanofski recommendations is required.

As such, and in-line with the Kanofski theme of 'let the regulator regulate', the NHVR recommends the following:

Recommendation 1

Amend the Heavy Vehicle National Law to provide clear pathways for proven designs to exit the PBS scheme, which:

- Allow proven vehicle designs to be built and operated without requiring either a design approval or approval of the 'as built' vehicle within a specified network.
- Allow PBS vehicles which have lesser impact than a prescriptive vehicle to access the general freight network.
- Allow 'template vehicle designs' to be specified by the NHVR, enabling these to be built and operated without a design approval (but still requiring approval of the 'as built' vehicle) within a specified network.

These changes will enable mature combinations to transition to the normal regulatory framework and preserve existing Class 2 access arrangements while reducing regulatory impost on industry and road managers.

The process for approving vehicle designs also needs to be simplified. Legislation requires that the NHVR consult a PBS Review Panel before determining a design application. The design approval looks at whether the technical requirements of the performance standards are met, yet jurisdictional representation on the Panel has tended to come from an asset management rather than a heavy vehicle engineering background.

The NHVR contends that views on access should be separate to whether a vehicle meets the performance standards. The NHVR therefore recommends:

Recommendation 2

- Amend the Heavy Vehicle National Law to remove the requirement for all design applications to be referred to the PBS Review Panel for advice, and instead provide provisions for the NHVR to consult where it considers additional engineering expertise is required.
- A mechanism, separate to the design approval process, should be established to provide jurisdictions with the opportunity to comment on potential access impacts associated with a new design.

In addition to the above recommended changes to the HVNL, the NHVR recommends that:

Recommendation 3

- Amend the PBS Standards and Vehicle Assessment Rules and other operating documents to transfer decision-making responsibility for changes to the NHVR Board.

Transferring responsibility, inclusive of statutory requirements for the NHVR to consult stakeholders, will allow the standards, and their management, to more expeditiously reflect contemporary best practice. As safety is paramount, this will ensure the performance standards keep up with new technologies and latest research findings

To support these recommendations, and ensure the PBS scheme is best positioned for ongoing success, state and territory governments must work with the NHVR and industry to:

- Reset the PBS scheme's policy settings to align with original COAG-agreed principles while incorporating current national economic, environmental and road safety objectives
- Update the PBS Standards by capturing the lessons of the last 20 years and removing unnecessary barriers to innovation either in the standards or associated regulations (safety and environmental)
- Develop appropriate policy settings and associated frameworks as appropriate levers to manage the impact of PBS vehicles on the road network (i.e., the PBS scheme, and permits associated with PBS access are not utilised as the mechanism to control non-PBS related problems).

Ambitious timeframes for these reform measures to be implemented are required. Industry confidence in the PBS scheme is vital not only for industry sustainability and national productivity growth but also for road safety and environmental targets to be met. A failure to act upon these reform measures is acceptance of the perverse outcome.

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