



Easy access to suitable routes

June 2019

Issues paper

Report outline

Title	Easy access to suitable routes
Type of report	Issues paper
Purpose	For public consultation
Abstract	In May 2018, the Transport and Infrastructure Council directed the National Transport Commission to review the Heavy Vehicle National Law. This is one of eight issues papers that seek your feedback on the HVNL as it is, and opportunities to improve it.
Submission details	The NTC will accept submissions until Friday 16 August 2019 online at www.ntc.gov.au or by mail to: National Transport Commission Public submission – Easy access to suitable routes Level 3, 600 Bourke Street Melbourne VIC 3000
Attribution	This work should be attributed as follows: Source: National Transport Commission 2019, <i>Easy access to suitable routes</i>, Issues paper, NTC, Melbourne. If you have adapted, modified or transformed this work in any way, please use the following: Source: Based on National Transport Commission 2019, <i>Easy access to suitable routes</i>, Issues paper, NTC, Melbourne.
Key words	Heavy Vehicle National Law Review, HVNL, access, heavy vehicles
Contact	National Transport Commission Level 3, 600 Bourke Street Melbourne VIC 3000 Phone: (03) 9236 5000 Email: enquiries@ntc.gov.au www.ntc.gov.au

Have your say

Submit your advice

The National Transport Commission wants to give everyone affected by the Heavy Vehicle National Law an opportunity to have their say on what is working, what is not working and how to improve the law. We seek your advice on the issues analysed and whether we have accurately and comprehensively covered them.

Your advice (whether by written submission or other form) will assist the NTC to conduct a regulatory impact assessment of policy reform options.

There are many ways to provide your feedback including:

- written submission
- online feedback through the interactive consultation website
- workshops and engagement activities
- through industry associations.

You can register on the [HVN review website](http://www.hvnreview.ntc.gov.au)¹ to stay updated on the project. Planned engagements will be publicised on the website and in regular newsletters.

When to submit

The NTC invites written submissions and online feedback on this issues paper by **Friday 16 August 2019**.

The NTC cannot guarantee submissions or feedback received after this date will be fully considered.

How to submit

Any individual or organisation can make a submission to the NTC.

Written submission

 Visit www.ntc.gov.au and select 'Submissions' from the navigation menu, or send a hard copy to:

 National Transport Commission
Submission – Easy access to suitable routes
Level 3, 600 Bourke Street
Melbourne VIC 3000.

Where possible, you should provide supporting evidence with your submission.

¹ www.hvnreview.ntc.gov.au.

Publishing your submission

Unless you clearly ask us not to, we publish online all the submissions we receive. We will not publish submissions that contain defamatory or offensive content.

The *Freedom of Information Act 1982* (Cwlth) applies to the NTC.

Online feedback

If you don't want to make a formal written submission, you can give us your feedback through our HVNL review microsite.

 Visit www.hvnlreview.ntc.gov.au and select 'Easy access to suitable routes' to participate in surveys, forums and polls relating to this issues paper.

Like written submissions, online feedback will inform the NTC's regulatory impact assessment of policy reform options.

Publishing your online feedback

Any content published to the interactive consultation website is subject to a **moderation policy**.² Content that violates the moderation policy will be rejected and the submitter notified.

² www.hvnlreview.ntc.gov.au.

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Purpose of this paper

The National Transport Commission (NTC) is reviewing the Heavy Vehicle National Law (HVNL).

The NTC has adopted a first-principles approach to the HVNL review. Rather than simply looking to the existing law as a starting point, assumptions underpinning the existing law are being drawn out and tested.

The goal of the HVNL review is an entirely new law.

This is one of eight issues papers.

The purpose of this issues paper is to:

- summarise the current access arrangements under the HVNL, and in Western Australia and the Northern Territory
- analyse issues with the current access arrangements under the HVNL and outside the law
- seek preliminary views on the ways we can improve heavy vehicle access.

The NTC wants to give everyone affected by the HVNL an opportunity to have a say. We seek your advice on the problems identified and whether we have accurately and comprehensively covered the key issues.

Note: A list of common terms and abbreviations is included at the end of this paper.

Executive summary

Context

The Transport and Infrastructure Council directed the NTC to review the HVNL from first principles. The HVNL commenced in 2014 and has been amended many times since then. Despite this, there is a view shared by a wide range of stakeholders that it's not functioning as effectively as it could.

The primary purpose of the HVNL is to ensure a safe and efficient heavy vehicle journey. This is made up of a safe driver, a safe vehicle and a suitable route. This issues paper covers heavy vehicle access to a suitable route.

Managing heavy vehicle access

Heavy vehicle access to public roads is regulated to manage risks to public safety, infrastructure and amenity.

Heavy vehicles need authorisation to access roads. Depending on their classification, they can be authorised for general access or restricted access.

General access vehicles have general access to the road network, without needing an authorisation.

Restricted access vehicles need an authorisation for road access. Under the HVNL, there are three classes of restricted access vehicles. This includes heavy vehicles that are part of the performance based standards (PBS) scheme.

Authorisations apply either to a vehicle category (notice) or a specific vehicle or combination (permit). To help manage risks, conditions may be imposed on access authorisation. These can include signs and warning devices, pilots, escorts and telematics.

The access decision-making process depends on the type of access being sought, for example, whether the vehicle has general access or needs to be authorised by notice or permit.

The access decision-making process under the HVNL is complex. Getting consent from road managers can be time consuming, and consent can be withheld.

Western Australia and the Northern Territory offer alternative ways to regulate access.

Analysing access under the HVNL

Most heavy vehicles in participating jurisdictions are general access vehicles. They have 'as-of-right' access to the road network. Their access is authorised under ministers' decisions, implemented in the law.

For the remaining heavy vehicles, there are inefficiencies under the HVNL access arrangements.

Operators need to apply for permits depending on the type of vehicle and access being sought. Even when journeys are low risk or routes are pre-approved, where risks are already known, operators still need to apply for permits.

The decision-making process is prescriptive and inflexible. There are many opportunities for parties to lose sight of or delay a permit application.

Road managers have 28 days to consent or request an extension to an application. If a road manager takes longer than 28 days, the National Heavy Vehicle Regulator (NHVR) has no powers under the HVNL to help resolve the delay.

There's also a high volume of permits under current arrangements. Replacing some of these permits with notices would remove many of the costs caused by the delays. The NHVR is working with road authorities and road managers to achieve this.

Matching vehicle classes to networks for access is complicated. Road managers do not necessarily have a high degree of expertise with heavy vehicle classifications. This can complicate and protract access decisions.

There are 537 local governments in Australia that own and manage approximately 80 per cent of Australia's road network in length. The HVNL clarified and formalised the role of local governments as road managers. The access decision-making process challenges road manager resources and they are unable to delegate this role.

Under the HVNL, only the NHVR's access decisions are subject to external review. There's no provision for external review of decisions made by road managers.

There are also challenges outside the HVNL. They include the freight task being misunderstood by the community, inconsistent pilot and escort arrangements and first and last mile issues.

Aspirations for a new law

Through this issues paper, the NTC seeks your views on how we can regulate access arrangements in a new HVNL to achieve:

- access arrangements that optimise the use of infrastructure, vehicles and resources
- access decisions that apply as broadly as possible
- quicker, simpler access decision-making
- clear responsibility and accountability.

Questions

The NTC will consult on the following questions until **Friday 16 August 2019**.

List of questions

- Question 1: Why do access decision timeframes vary so significantly? To what extent does the HVNL cause or allow access decision delays? 42
- Question 2: Most road managers can grant consent within seven days. Given this is the case, should we reduce the 28-day timeframe currently in the HVNL? Should we introduce a mechanism to deal with a nil response? 42

Question 3:	Is vehicle classification useful? Does the new HVNL need a vehicle classification system and, if so, should it be different from the current system?	44
Question 4:	What are the challenges road managers face under the HVNL access decision-making framework? Which road managers do it well, and why? Why are some road managers struggling with access?	47
Question 5:	Should the law allow for external review of access decisions?	48
Question 6:	Have we covered the issues with access under the current HVNL accurately and comprehensively? If not, what else should we consider?	57
Question 7:	How can the new HVNL work, most likely with other reforms, to best support optimised use of our transport assets and vehicles?	60
Question 8:	How can the new HVNL expand as-of-right access and generalise access authorisations? Can we remove time limits for notices, for example?	61
Question 9:	Do we have the right tools to implement access decisions? How can we modernise the tools for access authorisations?	61
Question 10:	How can the new HVNL accelerate access decisions? Is a proactive approach possible?	64
Question 11:	How should the new HVNL implement access decision-making? Should it specify process and roles? What role is there for the operator? What improvements to access decision-making can be made?	64
Question 12:	How do we reach consistent and predictable risk-based access decision-making? How can we make sure decision-making is transparent and fair?	64
Question 13:	How do we best share the risk management responsibilities between parties with a role in heavy vehicle access?	65
Question 14:	How do we manage the accountability of parties with a role in heavy vehicle access?	65

1 About this project

Key points

- The Transport and Infrastructure Council directed the NTC to review the HVNL from first principles.
- The HVNL commenced in 2014. Despite numerous amendments to the law over the years, there is a view shared by a wide range of stakeholders that it's not functioning as effectively as it could.
- This issues paper covers an area of the HVNL identified as a high priority for review – heavy vehicle access to a suitable route.

1.1 Project objectives

1.1.1 Purpose of the review

The goal of the HVNL review is to deliver a modern, outcome-focussed law regulating the use of heavy vehicles. The review is being undertaken by the NTC from a first-principles perspective. This means that instead of making changes to the existing law, we intend to create a completely new law. The aim is that the new HVNL will:

- improve safety for all road users
- support increased economic productivity and innovation
- simplify the HVNL, its administration, and enforcement of the law
- support the use of new technologies and methods of operation
- provide flexible, outcome-focused compliance options.

1.1.2 Background

The HVNL was passed in 2012 and came into effect in 2014. It replaced 13 model laws and six state and territory transport-related laws. The aim of the reform was to put in place a seamless, national, uniform and coordinated system of heavy vehicle regulation in a way that:

- promoted public safety
- managed the impact of heavy vehicles on the environment, road infrastructure and public amenity
- promoted industry productivity and efficiency
- encouraged and promoted productive, efficient, innovative and safe business practices.

In many ways, the HVNL represents a compromise between the views of jurisdictions, industry and other key stakeholders. The result has been inconsistency. Two jurisdictions have not adopted the HVNL. Participating jurisdictions derogate (depart) from the HVNL in the way they apply the law locally. There is inconsistent application and enforcement of the HVNL.

The HVNL comprises more than 800 sections and is supported by five sets of regulations. Together these provisions can be inconsistent in approach, difficult to read and interpret, and onerous for industry to follow. They're also difficult for the NHVR to administer.

Many parts of the HVNL are complex and prescriptive. They reflect an era when access to digital technology and innovation wasn't a consideration.

The HVNL doesn't adequately recognise that a 'one size fits all' approach to regulation is not appropriate for many locations or in different industries.

In this context the Transport and Infrastructure Council agreed in May 2018 that the NTC would bring forward the planned review of the HVNL and supporting regulations by two years, to begin in January 2019.

In November 2018 the council agreed to the **Terms of reference**³ for the HVNL review.

1.1.3 NTC's approach to the review

In January 2019 the NTC published **its approach**⁴ to the review. It outlines and explains the project framework, governance, deliverables and consultation.

The NTC adopted a first-principles approach to the HVNL review. Rather than simply looking to the existing law as a starting point, the assumptions behind it are being drawn out and tested. The aim is to deliver an entirely new law.

This is one of eight issues papers in the HVNL review, and one of four that cover 'what is regulated' under the HVNL (see Figure 1). It outlines how we regulate heavy vehicle access to suitable routes under the HVNL and how we might do so in the future.

The first issues paper, published in March 2019, looked at how we regulate the use of heavy vehicles under the HVNL.

The other three issues papers that cover 'what is regulated' include effective fatigue management, safe people and safe practices, and safe vehicles.

The next two issues papers will cover more specific 'how to regulate' matters. They include accrediting operators to deliver best practice and managing compliance, including the regulatory role technology and data could play.

The final issues paper will cover other policy matters not covered in other issues papers.

Figure 1. HVNL review issues papers

<i>Foundation</i>	<i>What is regulated</i>				<i>How to regulate</i>		<i>Other</i>
Risk-based regulation	Fatigue	Safe vehicles	Safe people and practices	Suitable routes	Accrediting operators	Managing compliance	Other policy matters



³ www.hvnreview.ntc.gov.au.

⁴ www.hvnreview.ntc.gov.au.

We will produce a summary of outcomes from the issues papers. This will bring together all your feedback and advice and form a basis to conduct a regulatory impact assessment (see Figure 2).

Figure 2. HVNL review timeline



RIS = regulatory impact statement

1.2 This issues paper

1.2.1 Objectives of the paper

The purpose of this issues paper is to:

- summarise the current access arrangements under the HVNL, and in Western Australia and the Northern Territory
- analyse issues with the current access arrangements under the HVNL and outside the law
- seek preliminary views on the ways we can improve heavy vehicle access.

1.2.2 Scope of the paper

The primary purpose of the HVNL is to ensure a **safe and efficient heavy vehicle journey**. This is made up of:

- **a safe driver** – one who is well-trained, competent, fit for duty and alert when driving
- **a safe vehicle** – one that is registered, roadworthy and safely loaded
- **a suitable route** – one that minimises public safety risks and excessive impacts on road infrastructure (given a heavy vehicle's mass and dimensions).

Key to a safe and efficient heavy vehicle journey is a capable operator, operating with safe systems and practices.

This issues paper covers heavy vehicle access to **a suitable route**. It uses the approach of the first issues paper, *A risk-based approach to regulating heavy vehicles*.

This issues paper does not cover safe driver or safe vehicle. These topics are explored in detail in other issues papers.

2 Managing heavy vehicle access

Key points

- We regulate heavy vehicle access to public roads to manage risks to public safety, infrastructure and amenity.
- Heavy vehicles are classified so they can be matched to suitable roads. They're usually classified based on mass and dimension.
- Heavy vehicles need authorisation to access roads. Depending on their classification, they can be authorised for general access or restricted access.
- Where restricted access is authorised, risks are often managed using on-road controls. These can include conditions, signs, warning devices, pilots, escorts and telematics.
- Under the HVNL, there are three classes of restricted access vehicles. This includes heavy vehicles that are part of the PBS scheme. Access authorisation is given by permit or notice.
- The access decision-making process under the HVNL is complex. Getting consent from road managers can be time consuming, and consent can be withheld.
- Western Australia and the Northern Territory offer alternative ways to regulate access.

2.1 Why regulate access?

Heavy vehicle access to public roads is regulated for three main reasons:

- to reduce the risks to public safety posed by larger vehicles
- to manage the effects of larger vehicles on public infrastructure
- to minimise any negative effects on public amenity associated with heavy vehicles.

For most heavy vehicles, access regulation is straightforward because they have as-of-right access to public roads. Larger heavy vehicles, though, may have access restricted to help manage risks.

Restricted access may be authorised for a general class of vehicles on a specific network, or for a specific vehicle on a specific route. To help manage risks, conditions may be imposed on access authorisation.

2.1.1 Reducing risks to public safety

Heavy vehicles operate on the roads differently from smaller vehicles. They can use multiple lanes to turn a corner, have limited visibility of other road users, take a longer distance to stop and may be difficult to overtake.

Risks relating to public safety are most often proportional to size. They are particularly pronounced with oversize overmass (OSOM) vehicle movements. Often the risks to be managed relate to the decisions and behaviour of other road users.

2.1.2 Managing the effects of heavy vehicles on public infrastructure

Structures

The size and mass of a heavy vehicle can threaten road infrastructure, road furniture and other surrounding structures.

A vehicle's mass (including its load), and the way the total mass is distributed across the axles, can affect different structures. This is especially so for weight-sensitive structures such as bridges and culverts. Causing infrastructure to fail is the most serious risk, but even overloading it will shorten its working life.

When road managers are deciding whether to grant heavy vehicle access, they consider the age and condition of their infrastructure. To make sensible decisions, they need to understand the infrastructure's structural capacity.

Road managers can apply different controls to mitigate structural damage risks for example, a need for authorisation to travel across certain bridges, or conditions to travel at a particular speed.

Wide and tall heavy vehicles may pose an increased risk to 'above road' structures. Examples include tunnels, overhead bridges, traffic signals and road signs.

Pavements and surfaces

Pavement and road surface degradation is very sensitive to the number of vehicles travelling on a road, and the mass of those vehicles.

Access controls for large vehicles help manage the rate of wear and tear on roads. They also help road managers understand what heavy vehicle movements are occurring.

2.1.3 Impacts on public amenity

Communities are often concerned about the impact of heavy vehicles on public amenity (Austroads, 2010). For example, they can be concerned about increases in noise or road congestion.

When they're making access decisions, road managers take community needs into account. But they balance those needs with the need for freight movements to support Australia's economy and productivity.

Road managers apply different controls to reduce impacts on public amenity. These can include authorisation to travel in certain areas, or conditions to travel at certain times of day.

2.2 Matching vehicles to the route

Any given route will have limits to the vehicles it can accommodate safely. Total mass and dimensions are key factors to consider when matching a vehicle to a route.

Vehicles are usually classified based on mass and dimension. Vehicle configuration is often used in classification as well. To a certain extent, roads are also classified.

2.2.1 Mass and loading

Heavy vehicles impose their mass on the road in a complex way. The first, obvious, effect is of a vehicle and load's total mass on the road and its infrastructure. But the distribution of that mass through the tyres and axles, and the spacing of the axles, also affects the road and road infrastructure.

Heavy vehicles must be loaded safely. The load must be restrained in a way that makes sure it doesn't dislodge or shift.

2.2.2 Dimension

Like mass, dimension requirements are considerations for authorising access. These include height, width, length and swept path. A heavy vehicle on a given route must be able to navigate fixed obstacles and other road users safely. When granting access consideration must also be given to intersection issues such as stacking distance and clearance times for long vehicles.

The level of risk increases with the vehicle's dimensions. OSOM movements in particular may need very careful route assessment and on-road controls.

2.3 Authorising access

Three types of access authorise heavy vehicles to operate on the road network:

- general access
- restricted access for a category of vehicles
- restricted access for particular vehicles.

2.3.1 General access

Vehicles within specified mass and dimension limits have as-of-right, general access to the road network. These vehicles are seen as lower risk. Limited controls and oversight are needed. By 'as-of-right' we mean the vehicle can rely on pre-existing access authorisations and doesn't have to apply for specific authorisation.

Operators still must make sure the routes they choose are suitable and safe, but they can rely on a general authorisation to use the network.

2.3.2 Restricted access for a category of vehicles

Some vehicles have as-of-right access to a part of the road network deemed suitable for that category of vehicle. These vehicles may fall outside specified mass and dimension limits but within certain risk thresholds. They are seen as lower risk on specified networks. Relatively limited controls and oversight are needed.

Operators still must make sure the routes they choose are suitable and safe, as well as being limited to a specific network. The vehicle is not authorised to access the broader road network.

2.3.3 Restricted access for particular vehicles

Specific authorisation is needed for vehicles to access parts of the network that are not available to them as-of-right. This applies to either:

- a vehicle that has access to part of the network under its vehicle category, but needs to access other parts of the network
- a vehicle otherwise unable to access the road network (typical for OSOM movements).

These vehicle movements are higher risk and are assessed on a case-by-case basis. Risks can be managed in part with on-road controls such as conditions on the authorisation.

2.4 On-road controls

Several controls can be used to mitigate the risks associated with heavy vehicle movements and include the imposition of conditions; signs and warning devices; pilots and escorts; and telematics.

2.4.1 Conditions

Road managers may place conditions on access to help manage risks. For example, the heavy vehicle may only be authorised to access the route during daylight hours, be restricted from travelling if there is low visibility or be required to have low-beam headlights on during the day.

2.4.2 Signs and warning devices

Access may be authorised subject to the use of signs and warning devices, such as lights or flags. These help other road users navigate an oversize vehicle by giving advance notice of its size and configuration.

Figure 3. A heavy vehicle displaying 'oversize' and 'road train' warning signs



Source: NHVR 2019e

2.4.3 Pilots and escorts

Pilot and escort vehicles are often used to guide OSOM loads.

Pilots and escorts both accompany the OSOM vehicle and warn other road users of its location. Escorts can also direct traffic, representing a higher level of risk control. As the act

of directing traffic requires an authority, escort duties are usually performed by road authorities or police.

2.4.4 Telematics

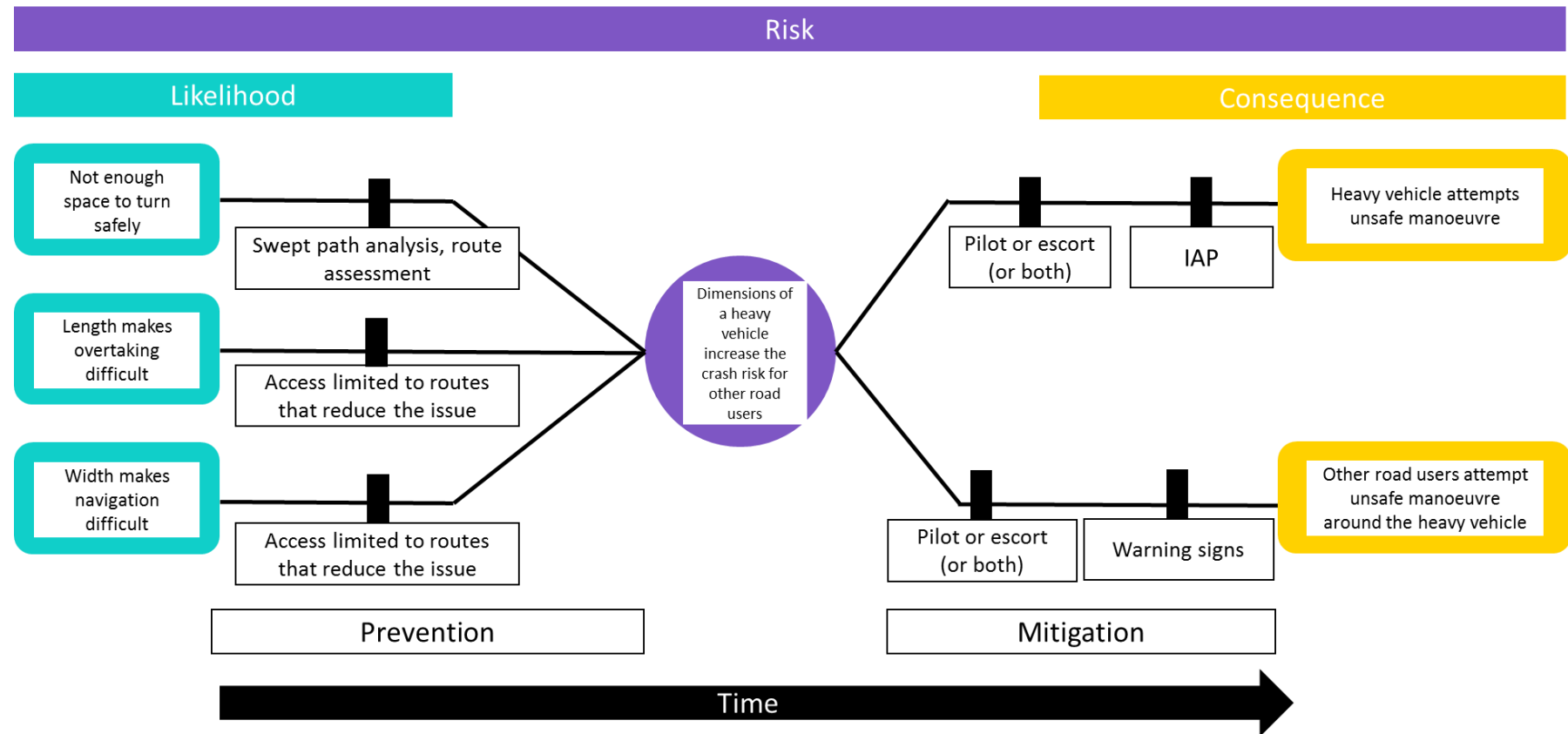
Telematics is technology that captures and sends vehicle status information electronically. This may include a vehicle's speed, location and on-board mass. Telematics are also used to monitor a driver's work and rest hours.

Telematics can provide a degree of assurance to regulators, road managers and road authorities. Its use can be a condition for granting access for certain heavy vehicles.

2.5 Heavy vehicle access under the HVNL

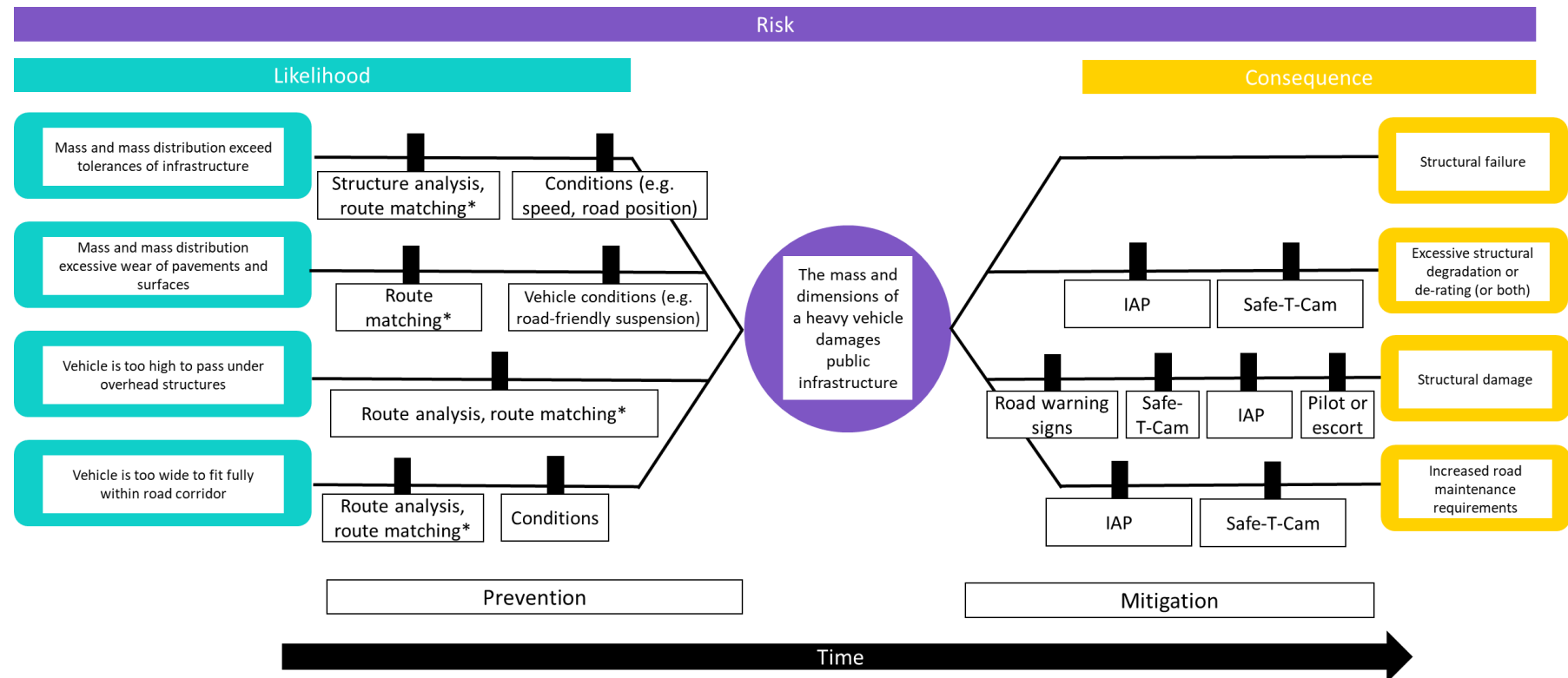
A range of controls in the HVNL help manage the key risks specific to larger heavy vehicles using public roads (see Figure 4 and Figure 5). We haven't included risks to amenity in these diagrams, as the main consequence is common and predictable – public nuisance.

Figure 4. Managing the public safety risk



IAP = Intelligent Access Program

Figure 5. Managing the impacts on public infrastructure



* We define 'route matching' to mean matching the vehicle and route. This includes axle spacing requirements, maximum axle masses and tyre width.

IAP = Intelligent Access Program

2.5.1 Vehicle classes

Heavy vehicles get access to public roads depending on their mass and dimensions. To manage road access, the HVNL classifies heavy vehicles as either general access vehicles or restricted access vehicles (RAVs).

General access vehicles have general access to the road network, without needing an authorisation.

RAVs need an authorisation for road access. RAVs may require authorisation to reduce risks to public safety, minimise negative effects on public amenity or to manage effects on public infrastructure (see Figure 4 and Figure 5). Authorisations apply either to a vehicle category (notice), to a specific vehicle or to a combination (permit).

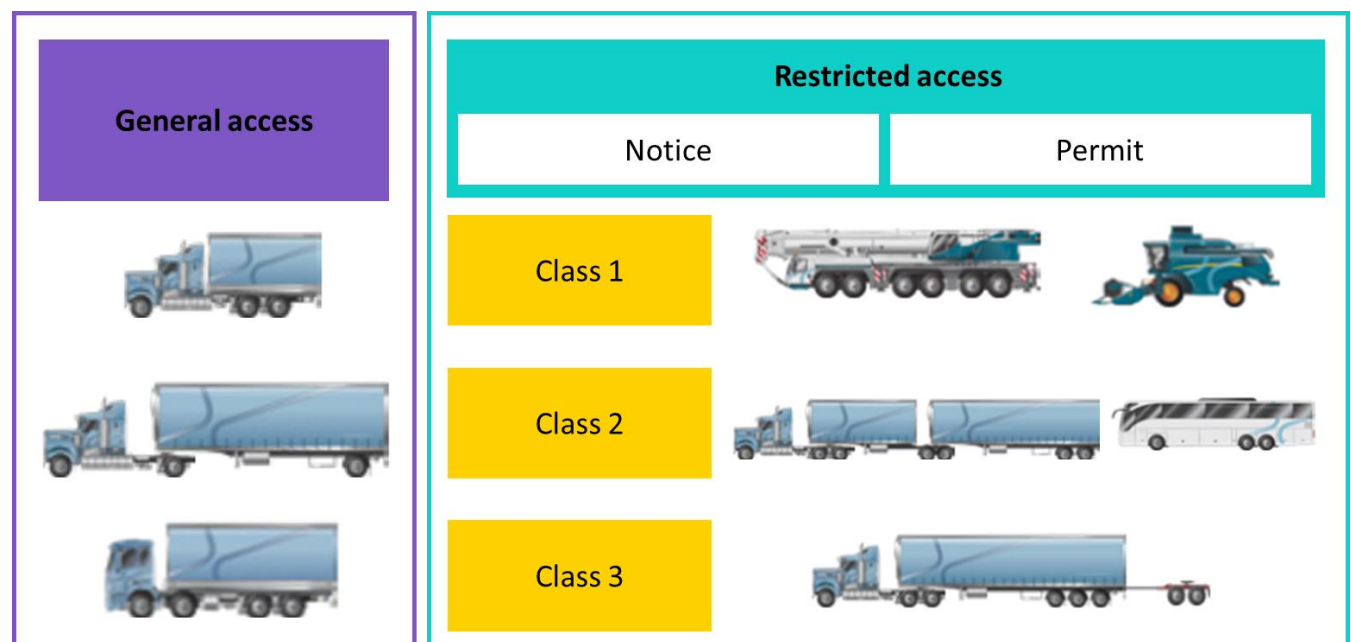
Under the HVNL there are three classes of RAVs (see Figure 6):

- Class 1 heavy vehicles. These include special purpose vehicles (SPVs), agricultural vehicles and vehicles designed to carry a large, indivisible item.
- Class 2 heavy vehicles. These include B-doubles, road trains, buses longer than 12.5 metres, multi-deck car carriers and livestock vehicles, as well as PBS vehicles.
- Class 3 heavy vehicles. These include other vehicles that don't fit a prescribed mass or dimension and aren't covered under class 1.

Class 1 and class 3 vehicles need exemptions by permit or notice for road access.

Class 2 non-PBS vehicles are within prescribed mass limits. Despite this, they need a class 2 heavy vehicle authorisation for road access, either by gazette notice or permit (ss 138 and 143 of the HVNL). This is because of their particular configurations.

Figure 6. Heavy vehicle access under the HVNL (with example vehicles)



Source: Adapted from NHVR 2019d

Performance based standards scheme

The PBS scheme gives operators the potential for higher productivity and safety through innovative vehicle design. PBS vehicles are designed to perform as productively, safely and sustainably as possible. They operate on networks that are appropriate for their level of performance.

Vehicles authorised under the PBS scheme help reduce risks to public safety, minimise negative effects on public amenity and manage effects on public infrastructure (see Figure 4 and Figure 5).

The PBS scheme has been in operation since October 2007. A key objective in creating the scheme was to develop a system that would match vehicles to appropriate road networks.

Currently there are four PBS road network levels. These four levels are roughly the same as existing networks for non-PBS vehicles. In ascending order, these are general access, B-double routes, and type 1 and type 2 road trains (see Table 1) (NTC, 2011b, p. 38).

The PBS scheme relies on jurisdictions assessing road networks for PBS vehicles. When the PBS scheme was developed, it was difficult for jurisdictions to immediately assess networks for longer vehicles. For this reason, two PBS classes were created, with class A vehicles being shorter than the same level class B vehicles. This allows jurisdictions to map road networks for the shorter class A vehicles. They can then transition from class A to class B as they assess and develop networks for the longer combinations (NTC, 2011b, p. 38).

Table 1. PBS road network levels – network access by vehicle length, L (metres)

Vehicle performance level	Access class 'A'	Access class 'B'	Existing non-PBS class
Level 1	$L \leq 20$	$L \leq 20$	General access
Level 2	$L \leq 26$	$26 < L \leq 30$	B-doubles
Level 3	$L \leq 36.5$	$36.5 < L \leq 42$	Type 1 road train
Level 4	$L \leq 53.5$	$53.5 < L \leq 60$	Type 2 road train

2.5.2 Prescribed mass and dimensions

Mass and dimension limits may target identified risks to public safety, public amenity or infrastructure (see Figure 4 and Figure 5).

Vehicles may be permitted to exceed mass limits through accreditation under the National Heavy Vehicle Accreditation Scheme (NHVAS).

The HVNL and the Heavy Vehicle (Mass, Dimension and Loading) National Regulation ('the Mass, Dimension and Loading Regulation') prescribe mass and dimension limits. Heavy vehicles can operate under the following prescribed mass limits:

- General mass limits (GML). These apply to all heavy vehicles. For example, the GML for a semi-trailer combination is 42.5 tonnes. With exceptions, general access vehicles and class 2 non-PBS vehicles are within GML.

- Concessional mass limits (CML). Permitted through accreditation (NHVAS mass management). Allows non-PBS vehicles to exceed GML.
- Higher mass limits (HML). Permitted through accreditation (NHVAS mass management) and other conditions. Allows a specific set of non-PBS vehicles to exceed GML.

To access the road network, heavy vehicles must be within GML unless they're authorised to exceed it. They are authorised if they have an exemption by notice or permit, or if they have CML or HML accreditation.

To access local roads, RAVs need a class 1 or class 3 mass or dimension exemption by permit or notice.

Even though non-PBS class 2 RAVs are within GML, they still need authorisation to travel on local roads because of the dimensions of their configurations.

The prescribed dimensions include width, height and length (see Figure 7). The width limit for heavy vehicles is 2.5 metres (with some exclusions). The height limit is 4.3 metres (with some exclusions). Overall vehicle length limits depend on the number of axles.

Figure 7. Dimension limits under the HVNL



Heavy vehicle 2.5 metre width limit

Heavy vehicle 4.3 metre height limit

Source: NHVR 2016c

Accreditation

The HVNL established the NHVAS, which is administered by the NHVR. It lets participating operators use a safety management system as an alternative to strict heavy vehicle compliance under the HVNL. Participating operators must demonstrate that their vehicles and drivers comply with the NHVAS Business Rules and Standards administered by the NHVR. By demonstrating compliance in this way, participating operators have access to flexible conditions under the HVNL. For example, if an operator is accredited for mass management, he or she may operate at CML above the national general limits.

Operating at HML comes with further conditions. The vehicle must have road-friendly suspension and use an authorised HML route. In Queensland and New South Wales,

operators operating at HML must also use telematics in the form of the Intelligent Access Program (IAP).

Operators can enrol in concessional or productivity schemes. For example, the Livestock Loading Scheme is a voluntary scheme for safely and efficiently transporting livestock. Vehicles that participate in the scheme are exempt from complying with vehicle mass limits but must comply with manufacturer's ratings.

2.5.3 Authorisation tools

All RAVs rely on authorisation by notice or permit to operate on the road network.

Different authorisation is needed depending on the class of heavy vehicle.

- Class 1 and class 3 heavy vehicles must obtain a 'mass or dimension exemption' by Commonwealth gazette notice or permit to operate on roads (ss 117 and 122 of the HVNL).
- Class 2 vehicles must obtain a 'class 2 heavy vehicle authorisation' by gazette notice or permit to operate on roads (ss 138 and 143 of the HVNL).

Notices and permits are used to reduce risks. These risks may include public safety, public amenity or negative effects on public infrastructure (see Figure 4 and Figure 5).

Notices

Notices authorise restricted access for a particular category of heavy vehicles. Notices are developed based on the consent of all relevant road managers and other parties.

Notices are published in a **Commonwealth government gazette**⁵ and made publicly available on the NHVR website. They can be used by all heavy vehicles that meet the requirements specified in the notice. Mass and dimension exemption notices can be granted for up to five years.

Notices may consolidate permit-based schemes. They can apply nationally or at a state or territory level. They detail the roads that the category of vehicle is authorised to travel on, often through a web map.

Permits

Permits authorise restricted access for one or more specific heavy vehicles.

Permits relate to the person who applies for the permit and the vehicle combination specified on the application. Under the HVNL, all relevant road managers and other parties must grant or deny consent for access using permits. The NHVR coordinates access permit applications. It seeks consent from relevant road managers before granting or denying the permit.

Permits can be either:

- for a single trip, applied for on a case-by-case basis
- for a defined period, for access to the network not otherwise authorised.

⁵ <https://www.legislation.gov.au/Browse/ByPublicationDate/Gazettes/InForce/1/>.

Different permits are needed depending on the class of heavy vehicle (see Figure 6). Exemptions by permit can be granted for up to three years.

2.5.4 Access decision-making process

Access decision-making depends on the type of access, whether general access, authorised by notice or authorised by permit.

General access

General access heavy vehicles are granted as-of-right access to the network because they are within the prescribed mass and dimension limits in the HVNL. Access is granted through the HVNL and, for CML and HML access, through accreditation via the NHVAS.

Transport ministers approve the mass and dimension limits under the HVNL. Any changes to the mass and dimension limits for general access must be approved by transport ministers.

Access authorised by notice

Access authorised by notice requires the NHVR to work with road authorities and road managers. They must all agree on the roads and types of vehicles the notice will include. The notice is then published in a Commonwealth government gazette. It may include conditions for each state and territory. Notices can be national or involve one or more jurisdictions.

Access authorised by permit

There are several steps to granting a heavy vehicle permit. The process requires input from the transport operator, the NHVR, the road manager and third parties (see Figure 8). The NHVR and road managers need to consider the approved guidelines for granting access when making decisions.⁶

1. The transport operator applies to the NHVR for a class 1, 2 or 3 permit. Note: class 1 permits in Queensland and New South Wales are not coordinated by the NHVR (see Appendix A).
2. The NHVR performs a quality check of the application. It assesses the route and vehicle, and determines who the relevant road managers are (i.e. state and territory road authorities and local councils).
3. The NHVR refers the application to the relevant road managers to get consent for the route. Road managers assess whether to give consent. They consider:
 - if granting the proposed permit is likely to:
 - cause damage to road infrastructure, or
 - affect the community negatively as a result of noise, emissions or traffic congestion or from other matters stated in approved guidelines, or
 - pose significant risks to public safety from heavy vehicle use that is incompatible with road infrastructure or traffic conditions and

⁶ The NHVR is currently updating the approved guideline. The NHVR intends to consult on and submit an updated version to ministers in late 2019.

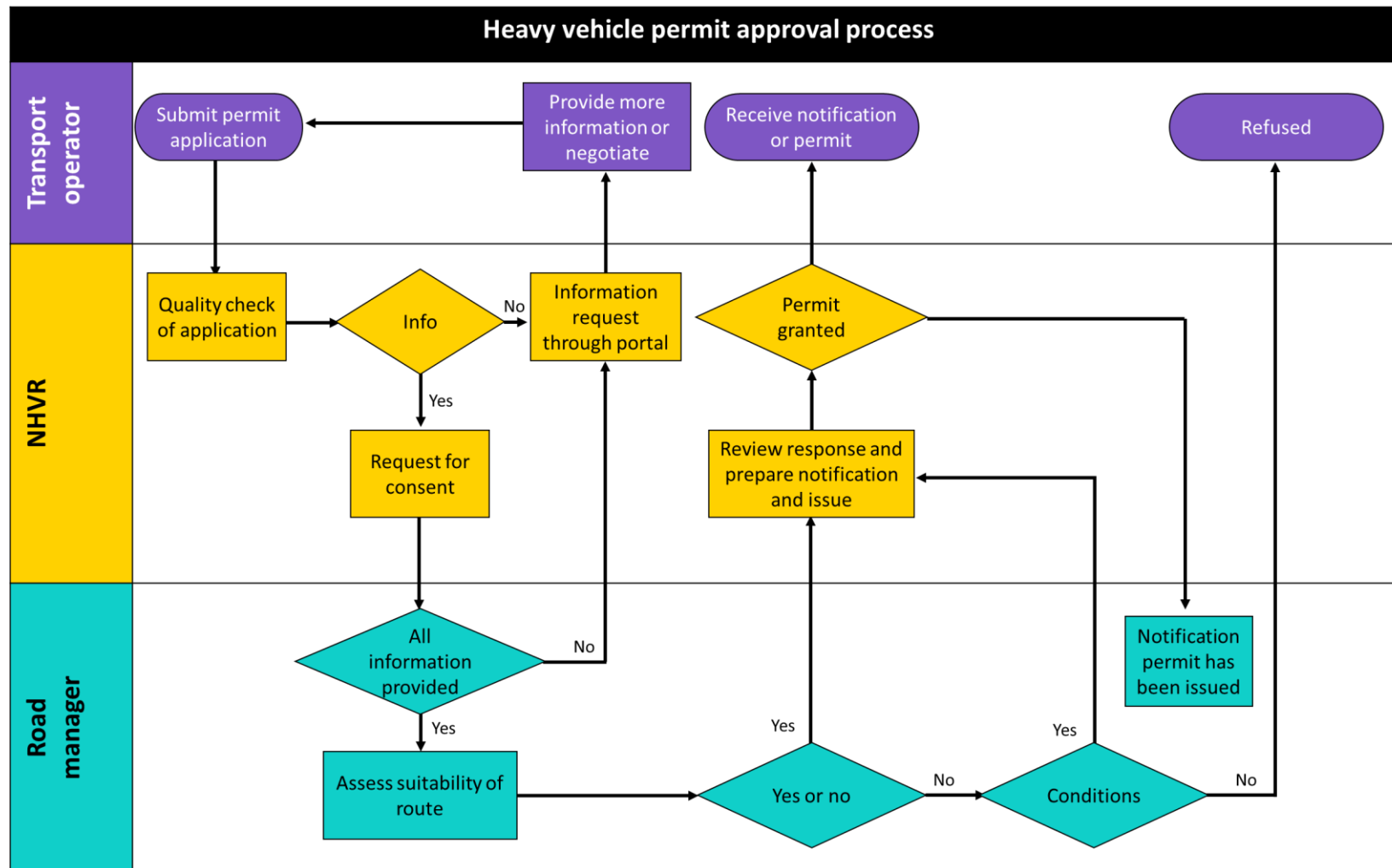
- if there are conditions that would help avoid or significantly minimise the above outcomes. They consider whether it's possible to grant access subject to those conditions.

4. The NHVR either:

- issues a permit, where all road managers give consent and it is satisfied on safety grounds, with conditions as required
- refuses the application and advises the applicant, where at least one road manager does not give consent.

In practice, parties may liaise during earlier steps to get further information.

Figure 8. Heavy vehicle permit approval process



Source: Adapted from Department of Infrastructure, Regional Development and Cities 2018b

2.5.5 Consents

The power to authorise a route for a RAV lies with the NHVR, but the NHVR must liaise with road managers to obtain consent for each applied route. Under the HVNL, road managers have 28 days from the NHVR's request to decide whether to give consent (s 156 of the HVNL).

A road manager can only withhold consent if they're satisfied:

- that authorisation is likely to:
 - cause damage to road infrastructure, or
 - impose negative effects on the community, or
 - pose significant risks to public safety, and
- it's not possible to grant the authority subject to a condition that will avoid or significantly minimise the damage, negative effects or significant risks or likelihood of these issues.

2.5.6 Conditions

Under the HVNL, road managers and the NHVR can apply road conditions, route assessments, travel conditions and vehicle conditions.

When road managers apply road conditions or travel conditions, they must give the NHVR their reason for doing so (ss 160 and 161 of the HVNL). The NHVR must then apply the conditions to the permit or notice when approving it.

The purpose of a road condition is to protect road infrastructure, prevent or minimise negative effects on amenity and prevent or minimise risks to public safety. Road conditions may include:

- For class 1 vehicles, the conditions are set out in Schedule 8 of the Mass, Dimension and Loading Regulation. They include, for example, warning signs, headlights and side and rear markers.
- For class 2 vehicles, the kind of conditions and the circumstances in which the condition can be applied are set out in Schedule 9 of the Mass, Dimension and Loading Regulation. They include, for example, requirements about the types of loads the vehicle may carry and restrictions on turning and lane use.

As well as road conditions, a road manager can also request a vehicle condition be applied. However, the NHVR makes the final decision about whether the vehicle condition should be applied (s 162 of the HVNL). Vehicle conditions are broad and are not included in the Mass, Dimension and Loading Regulation.

Telematics, including the Intelligent Access Program

The IAP is a telematics application that uses global navigation satellite systems to track heavy vehicles.

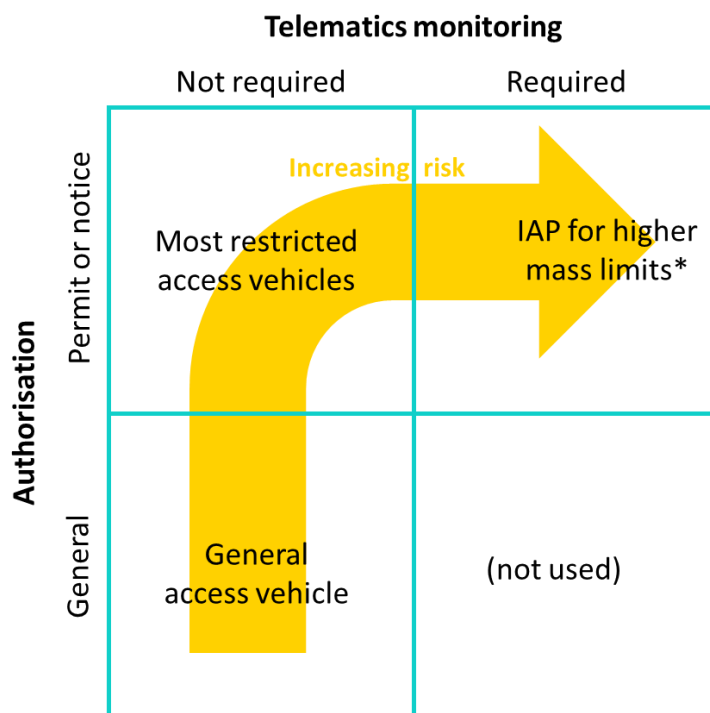
Unlike other telematics applications, the IAP is specifically called out in the HVNL. This is because it provides a high standard of evidence and level of assurance to road managers (NTC, 2018, p. 24). There are also similar applications that have lower levels of assurance, but the HVNL doesn't recognise them. Yet broad take-up of other telematics applications could offer data benefits to road managers and access benefits to operators and the

community. By not recognising anything other than the IAP, the current HVNL acts as a barrier to the potential benefits of telematics.

Enrolment in the IAP is a road condition of access in some jurisdictions for certain vehicle types to track location, mass, speed and time of day (NTC, 2018, p. 24) (see Figure 9). Vehicles that this road condition applies to include:

- HML vehicles (mandatory in Queensland and New South Wales)
- PBS vehicles
- OSOM mobile cranes
- concrete pump vehicles.

Figure 9. Monitored and authorised vehicles under the HVNL



* IAP mandatory in Queensland and NSW

2.5.7 Review mechanisms

Internal review

Operators that want a review of an access or consent decision must apply to the NHVR for an internal review (s 641 of the HVNL). The NHVR must then forward the request for the review to the road manager (s 643 of the HVNL).

The road manager then has 28 days to provide its reasons to the NHVR (s 645 of the HVNL). The NHVR then provides the road manager's review decision to the applicant.

External review

Only access decisions of the NHVR are subject to external review (s 647 of the HVNL). The HVNL does not allow for external review of decisions made by road managers.

Judicial review may be available, but it is limited to a review of the process rather than an examination of the merit of the decision. It can also be an expensive and uncertain process.

Review of local council decisions

Under the HVNL, the NHVR can seek a review of local council access decisions by a state road authority (s 163 of the HVNL). It can do this if a road manager either:

- refuses to consent
- applies an unreasonable condition that the NHVR thinks is not needed to avoid or significantly minimise:
 - damage, or likely damage, to road infrastructure
 - negative effects on the community, such as noise, emissions or traffic congestion,
 - significant risks to public safety resulting from heavy vehicle use that is incompatible with road infrastructure or traffic conditions.

Despite having the power to ask state authorities for a review, the NHVR has not yet exercised it. In fact, the NTC understands that several jurisdictions have a policy of not overriding local government decisions.

2.5.8 Funding arrangements

Under the HVNL, operators pay an access permit fee to the NHVR (s 740 of the HVNL). The fee to submit an access permit application is \$73 and is paid on lodgement.

2.6 Heavy vehicle access in Western Australia

2.6.1 Vehicle classes

In Western Australia there are general access vehicles and RAVs.

Under the Road Traffic (Vehicles) Regulations 2014 (WA) there are three classes of RAVs:

- Class 1 vehicles. These include SPVs, agricultural vehicles and vehicles designed to carry a large, indivisible item.
- Class 2 vehicles. These include B-doubles, road trains, buses not longer than 14.5 metres, multi deck car carriers and livestock vehicles.
- Class 3 vehicles. These include other vehicles that do not comply with a prescribed mass or dimension requirement and are not covered under class 1.

2.6.2 Prescribed mass and dimensions

In Western Australia, heavy vehicles can be accredited under the Accredited Mass Management Scheme. Once accredited, they can operate under three levels of concessional networks (see Table 2).

Under the scheme, vehicles can operate at concessional mass limits as long as they have suitable loading controls in place. Loading control methods aren't prescribed, and commodity types aren't restricted. Any product or proven loading control method can be used.

Table 2. Mass limits for Western Australia's concessional networks – t (tonnes)

Concessional network level	Single Steer Axle	Tandem Axle Group	Tri Axle Group
Level 1	6.0-7.0t	17.0t	21.5t
Level 2	6.0-7.0t	17.0t	22.5t
Level 3	6.0-7.0t	17.5t	23.5t

2.6.3 Authorisation tools

The *Road Traffic (Vehicles) Act 2012* (WA) authorises the Commissioner of Main Roads to approve RAV access on a public road. The Commissioner has delegated this authority to Main Roads Heavy Vehicle Services (HVS).

HVS administers the route assessment and approval process for all RAVs. It decides what conditions, if any, will be applied (Main Roads Western Australia, 2018, p. 4).

RAVs can only operate on roads approved by HVS, under an order or a permit:

- An order, previously known as a notice, is an administrative tool used by the Commissioner to grant access to a specific category of vehicle. Orders are published in a government gazette.
- Permits are used to grant access to individual RAVs. Permits grant access to certain parts of the Western Australian road network under specific operating conditions. All RAVs need a permit, unless they're authorised under a class of notice published by either the Commissioner or the Director General, Transport.

2.6.4 Access decision-making process

HVS decides whether a road will be approved for RAV access and whether conditions will be applied to the approval.

When assessing a RAV, HVS uses route assessment guidelines relevant to the vehicle configuration and mass limit. HVS also applies the *Guidelines for Approving RAV Access* (Main Roads Western Australia, 2018).

The Main Roads regional offices conduct route assessments in the respective regions on behalf of HVS. They then provide recommendations to HVS on the level of access that should be approved and if conditions should be applied (Main Roads Western Australia, 2018, p. 4).

It is Main Roads' policy to get support from the relevant road manager before approving RAV access (Main Roads Western Australia, 2017, p. 6).

There are several steps to add a local government road to a RAV network in Western Australia (Main Roads Western Australia, 2017):

1. The applicant applies to Main Roads for a road to be approved for RAV access.

2. HVS liaises with the relevant road manager to find out if there are any issues with the road that would make it unsuitable or unsafe for RAV access.
3. The road manager carries out a preliminary assessment of the road to identify any deficiencies that make the road unsuitable for RAV access. This helps make sure onsite assessments are not conducted unnecessarily.
4. Once a preliminary assessment is completed, the road manager advises HVS if it supports or rejects the application.
5. HVS coordinates the formal route assessment, including tier 3 bridge assessments.
6. If access is approved, HVS amends the relevant RAV network or permit.
7. HVS informs the applicant and road manager of the outcome.

A road manager can request a review of RAV access if:

- a safety concern is raised
- a freight generator is attracting an extraordinary load onto the road and the road cannot sustain the existing level of RAV access
- road usage or environment (or both) has changed considerably since RAV access was approved
- other circumstances apply that justify a review.

This approach applies to RAV access for truck and trailer combinations, B-doubles and road trains. This approach only applies to RAV access for OSOM vehicles in exceptional circumstances.

2.6.5 Conditions

HVS applies travel and road conditions to approvals if it thinks they're needed for road safety, infrastructure protection or public amenity (Main Roads Western Australia, 2018, p. 4). For example, a condition may require the RAV to travel at a restricted speed or during certain times.

2.6.6 Funding arrangements

Under the Road Traffic (Vehicles) Regulations 2014 (WA), there are fees for getting a permit. The money collected is hypothecated to Main Roads.

2.7 Heavy vehicle access in the Northern Territory

2.7.1 Vehicle classes

In the Northern Territory there is a general open access policy for heavy vehicles, with restricted access for some vehicles such as OSOM vehicles.

2.7.2 Prescribed mass and dimensions

The *Motor Vehicles Act 1949* (NT) and regulations set out maximum dimension and mass limits. All vehicles travelling on Northern Territory roads must comply with these limits.

Vehicles that comply, including B-doubles and road trains, have open access to the entire road network. If vehicles have road-friendly suspension, they have this access at mass limits equivalent to HML without accreditation or telematics conditions.

Statutory combination mass limits do not apply. Combinations may operate at the sum of legal axle group limits, limited only by minimum distances between axle groups.

Vehicles that comply have this access unless they're specifically excluded by the local council. Local governments may exclude otherwise compliant vehicles to address a particular safety or environmental risk such as, low-strength pavement on a residential road or a flood-damaged road. The industry and relevant authorities also operate under agreed, recommended road train routes. The routes describe preferred access corridors to key industrial areas and freight terminals in more urban areas.

For vehicles that don't comply, the Registrar of Motor Vehicles can grant an exemption through an OSOM permit or a class exemption published in a government gazette. Permits and class exemptions generally have conditions of operation on the vehicle. Examples include route restrictions and other measures to address specific safety risks.

The Registrar of Motor Vehicles doesn't have to seek consent from a local government before granting an exemption. However, some mass and dimension envelopes have been pre-approved and consultation and approval channels have been agreed for masses and dimensions outside these envelopes.

2.7.3 Authorisation tools

The following vehicle and combination types need a permit if they exceed the mass or dimension limits (or both) by construction or by carrying a large indivisible load:

- An SPV, for example, cranes, drill rigs, plant-type vehicles and agricultural equipment.
- Low loaders and load platforms that are designed to carry a large indivisible item.
- Other vehicles and combinations that transport indivisible loads.

Higher productivity vehicle combinations, such as quad trailer road trains, can also get permits under the Innovative Vehicle scheme. These combinations must demonstrate safe performance. To do this, they're assessed based on PBS performance measures and on on-road performance (Department of Infrastructure, Planning and Logistics, 2018a). The Northern Territory also recognises PBS vehicles and grants them equivalent access by permit.

2.7.4 Access decision-making process

Exemption permits are issued subject to considering the following principles (Department of Infrastructure, Planning and Logistics, 2018b, p. 18):

- the preservation of safety and convenience of all road users and the community
- the need to protect road and bridge assets from structural damage
- the designed capability and suitability of the vehicle to carry the load
- equity to all sectors and individual operators of the transport industry
- acceptable environmental impacts
- the divisibility of the load.

Each application is assessed on its merits. A previous permit issued for moving the same or similar load or vehicle type does not set a precedent (Department of Infrastructure, Planning and Logistics, 2018b, p. 18). However, project- and commodity-specific options and multiple-trip permits are available. Three-year permits and class exemptions are also in place for lower risk OSOM movements.

When applying for a permit, it's the applicant's responsibility to (Department of Infrastructure, Planning and Logistics, 2018b, p. 21):

- complete the permit application form
- seek approvals from relevant authorities, such as telecommunications and other utilities, police and local government
- investigate the proposed route to make sure access won't result in damage or undue obstruction to other road users
- prepare and provide a load movement plan (where applicable)
- make sure only accredited pilots and escorts are used (if required)
- abide by all conditions in the permit.

2.7.5 Conditions

Drivers must carry permits in the vehicle when operating it subject to the exemption. Drivers must be aware of the specified terms, conditions and restrictions.

Conditions for higher risk OSOM movements may include mandatory check weighs before departure or en route.

Regular permit and mass and dimension audits are carried out for all movements via weighbridges and roadside weigh sites. These audits are considered an effective means for detecting non-compliance, given rare opportunities to access alternative routes to avoid detection, and combined with random and targeted audit deployment strategies. When not in use by inspectors, weighbridge facilities are available to industry to monitor their loading. This aims to encourage compliance.

2.7.6 Funding arrangements

The Motor Vehicles (Fees and Charges) Regulations 2008 (NT) prescribes fees for issuing a permit of exemption. The money collected is consolidated revenue, with permit services funded from within Department of Infrastructure, Planning and Logistics budgetary allocations.

3 Analysing access under the HVNL

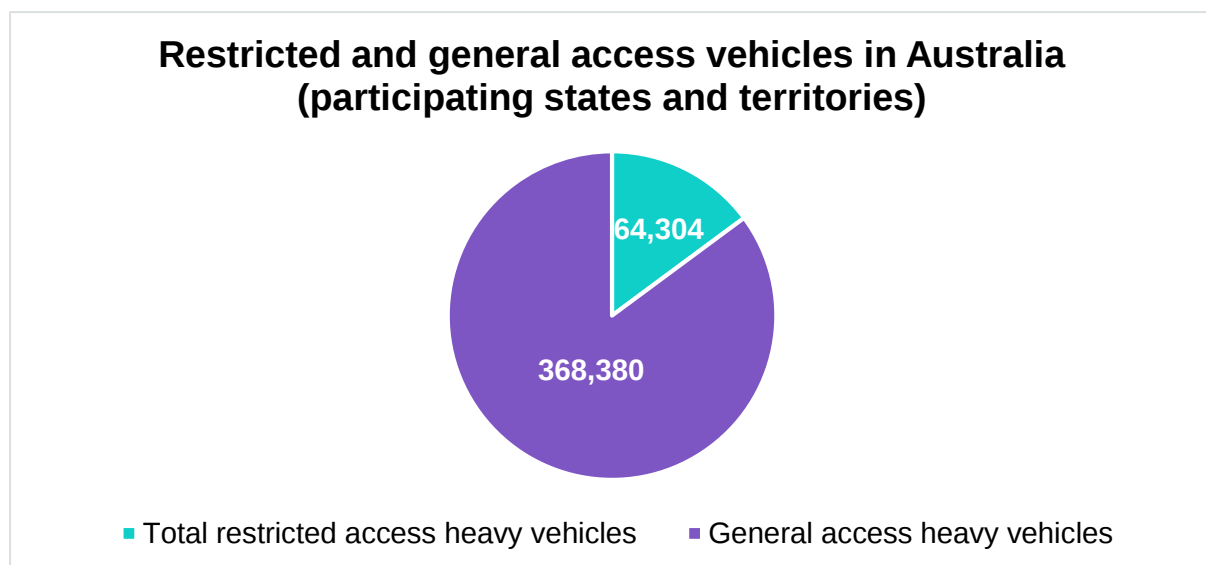
Key points

- There are inefficiencies under the heavy vehicle access arrangements. The current system results in too many permits, delays for operators and inconsistent outcomes.
- Even when journeys are low risk or routes are pre-approved, where risks are already known, operators still need to apply for permits.
- Matching vehicle classes to networks for access is complicated. Road managers do not necessarily have a high degree of expertise with heavy vehicle classifications which can complicate and protract access decisions.
- The decision-making process is prescriptive and inflexible. There are many opportunities for parties to lose sight of or delay a permit application.
- The access decision-making process challenges road manager resources and they are unable to delegate this role.
- Only the NHVR's access decisions are subject to external review. There's no provision for external review of decisions made by road managers.
- There are challenges outside the HVNL. Misunderstanding the freight task, inconsistent pilot and escort arrangements and first and last mile issues exist.

Most heavy vehicles in participating jurisdictions are general access vehicles. They have as-of-right access to the road network. Their access is authorised under ministers' decisions, implemented in the law. This includes the HVNL, regulations and the NHVAS.

Based on estimates from 2017–18 state and territory registration data, there are 368,380 general access heavy vehicles and 64,304 RAVs registered in participating jurisdictions (see Figure 10). The exact number of RAVs may be over-estimated in some cases and under-estimated in others (see Appendix B for further details).

Figure 10. Restricted and general access vehicles in participating jurisdictions 2017–18



Many RAVs access the network under the authorisation of a notice. Each notice authorises many vehicles and many journeys.

Others are authorised to use the network with a permit. The permit may authorise a single specific vehicle and load to take a single specific journey. Based on the volume compared with other authorisation tools, this chapter mostly focuses on access authorised by permits.

Between 1991 and 1992, the law increased general access limits from 17.5 metres to 19 metres. Around the same time, B-doubles were introduced and allowed to operate at up to 23 metres in length on approved routes. The Queensland Trucking Association notes that it has almost been 30 years since an increase to general access length limits was granted. The Queensland Trucking Association is of the view that current regulation limits remain stuck on a 1990s' clock.

3.1 Inefficient access costs Australians

Current heavy vehicle access arrangements result in the need for too many permits. And these permits take too long to develop. The result is delays for transport operators and waste of private sector, road manager and NHVR resources. This imposes a cost on heavy vehicle movements that is passed on to the broader community.

Most permit applications are approved (approximately 96 per cent), with or without conditions.

3.1.1 The costs to Australia

The current HVNL access decision-making framework was expected to streamline the access application process and result in better access decisions (NTC, 2011a, p. 55). The framework was expected to deliver significant productivity benefits to the Australian economy, in the range of \$9 billion to \$31 billion net present value, by promoting access for higher productivity vehicles (HPVs) (NTC, 2011a, p. 17).

Recent analysis by Deloitte suggests the benefits have not been fully realised (Deloitte, 2019, p. 47). Deloitte's analysis found the HVNL has not put industry on a new or better trajectory (Deloitte, 2019, p. 48).

PBS vehicle operators need to set aside at least seven weeks (35 business days) to get a permit (NTC, 2017, p. 23). A vehicle that looks similar, but has poorer safety performance and lower efficiency, doesn't need any process requirements (NTC, 2017, p. 39). From an economic perspective, the costs are passed on to the end consumer. For example, one month's waiting to obtain permits for 5,000 PBS vehicles, at a conservative \$2,000 per vehicle, adds up to \$10 million (NTC, 2017, p. 34). Access decision delays encourage operators to use a larger number of less safe and less efficient vehicles.

A Deloitte report prepared for the Australian Trucking Association included several policy suggestions to improve heavy vehicle access. The findings in the Deloitte report were based on an estimate only and were not the result of a cost benefit analysis (Deloitte, 2019, p. iii). The Deloitte report estimated that implementing these policies may result in costs for consumers going down by about \$352 million a year over time (Deloitte, 2019, p. 43). The report estimated that the reforms could save the average consumer up to \$8.70 a week, or \$452 per year. This assumes that the savings are passed completely through the supply chain to the consumer (Deloitte, 2019, p. 46).

3.1.2 The volume of permits

Approximately 46,000 permits are issued in participating jurisdictions. Of these, 22,000 are issued by Queensland, 9,000 by New South Wales and 15,000 by the NHVR, which includes Victoria, Tasmania and South Australia (Department of Infrastructure, Regional Development and Cities, 2018b, p. 5).

If some of these permits are replaced by notices it would remove many of the delay-related costs. The NHVR is working with road authorities and road managers to achieve this.

Operators prefer notices. A notice removes the need for permit applications and provides a higher level of access certainty. However, notices present challenges to road managers. This is because there are few options to monitor road usage, and permits are viewed as giving them a greater degree of control over access.

Several notices demonstrate the work the NHVR has been doing to reduce permits. These include the:

- National Class 1 Special Purpose Vehicle Notice (May 2016)
- National PBS Level 1 & 2A Truck and Dog Notice (June 2016)
- National Class 2 B-double Notice (February 2019)
- National Class 1 Agricultural Vehicle and Combination Notice (April 2019).

The two 2016 notices were forecast to reduce permits by 4,000 and 1,500 respectively, while the Multi-State Class 1 Oversize Vehicle Notice in Victoria, New South Wales and South Australia was expected to reduce permits by a further 25,000 (NHVR, 2016b, p. 2).

The National Class 1 Agricultural Vehicle and Combination Notice introduced a single notice for agricultural vehicles. Designated agricultural zones decreased from 26 to five. The notice reduced the complexity for cross-border movements (NHVR, 2019c). It also increased mass and dimension exemptions. This reduces the need for farmers to apply for individual permits depending on their location.

The NHVR can continue to reduce the need for permits by harmonising more notices. But it relies on participating jurisdictions being willing to negotiate. This is demonstrated in current work to redesign the National Class 2 Road Train Notice.

3.1.3 Decision-making timeframes

Road managers have 28 days to consent or request an extension to an application (s 156 of the HVNL).

In 2014, operators believed access decisions were taking too long (Queensland Audit Office, 2016, p. 5). They believed that road managers considered the 28 days to be a target, rather than the maximum time allowed (Queensland Audit Office, 2016, p. 25).

If a road manager takes longer than 28 days, the NHVR has no powers under the HVNL to help resolve the delay. For example, the NHVR can't escalate delayed applications.

Operators believe the long delays impact productivity (ATA, 2018, p. 6). The Australian Trucking Association estimates that the trucking industry could waste up to 4.5 million days per year waiting for permit decisions (ATA, 2018, p. 6). For example, it can take more than 80 days to get a permit to transport OSOM steel products on tollways in Melbourne (Deloitte, 2019). Most of the delay results from the various approval processes not working in parallel (Deloitte, 2019, p. 31).

Road authorities have advised that the introduction of the HVNL unearthed large volumes of unauthorised activity in some sectors, which is now being authorised.

Local governments have expressed concern that some operators would rather ‘run hot’ (travel without a permit) than wait for a permit (Queensland Audit Office, 2016, p. 25).

Industry believes that processing times have increased since the introduction of the HVNL (Deloitte, 2019, p. 26). But the average processing time has decreased in recent years.⁷

In 2017–18, the average end-to-end processing time was 19 days. In comparison, in 2016–17, the average processing time was 34 days (see Table 3) (Deloitte, 2019, p. 26).

Table 3. Average processing days for applications received by the NHVR⁸

Performance measure	2015–16	2016–17	2017–18
Total applications received	22,824	23,335	33,365
Average end-to-end time	31.48	33.76	18.89
NHVR processing time	6.59	5.78	7.11
Average time for local road manager (if ≤ 28 days)	7.61	7.90	5.20
Average time for state road manager (if ≤ 28 days)	11.33	8.55	4.37
Average time for local road manager (if > 28 days)	57.74	67.59	60.23
Average time for state road manager (if > 28 days)	67.58	75.21	66.83

Source: Deloitte 2019

There are many examples where road manager responses take much longer than the 28 days prescribed in the HVNL, particularly for OSOM vehicle movements, which are more complex. Class 1 processing times in New South Wales and Queensland are not reflected in the average processing time for the NHVR.

Local government road manager performance

The NHVR’s quarterly reports provide some insights into local government road manager decision times, which can vary (NHVR, 2019b). The NTC analysed a year’s worth of performance data. Based on the data, we define performance as follows:

- ‘Consistently good performance’ is when each quarter has an average time for consent (or refusal) of fewer than seven days.
- ‘Other’ is either inconsistent timing or consistently-delayed consent decisions.

We found that local government road managers who process a higher volume of permits tend to have less delay in reaching decisions (see Figure 11).

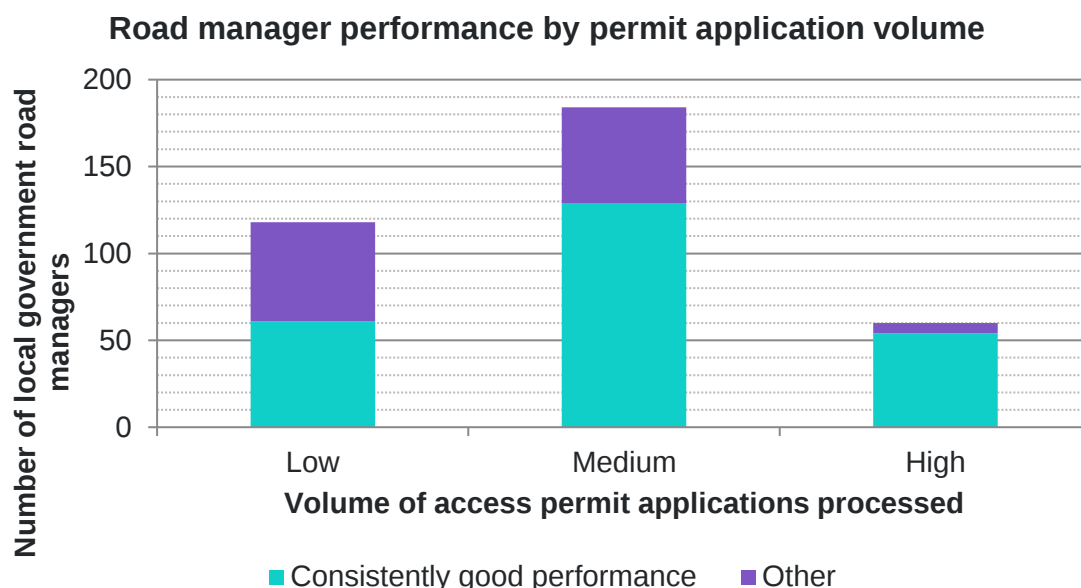
⁷ The data does not highlight the time taken for outlier applications.

⁸ The table does not differentiate between applications where road managers are consenting to simple access requests and those where road managers need to undertake route assessments.

We found that local government performance was not obviously tied to population and, by implication, resource levels (see Figure 12). In other words, local governments with more resources didn't necessarily perform better than those with less resources.

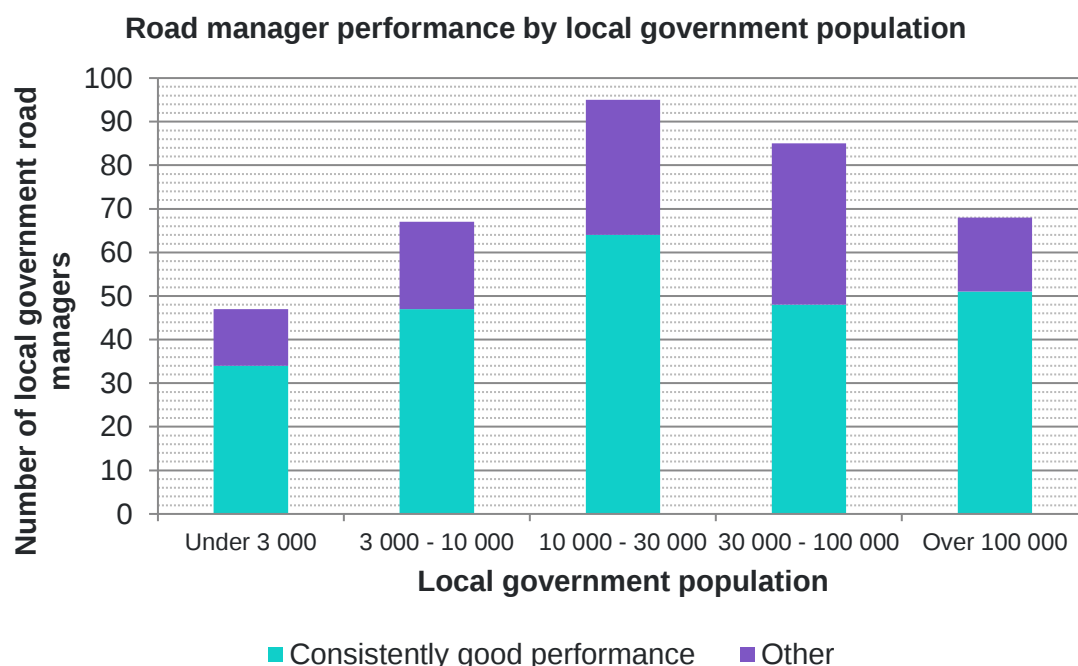
We found a significant variation in local government performance by the jurisdiction it is in (see Figure 13). The NHVR data does not provide enough information to assess whether New South Wales local governments face any particular challenges to processing access requests quickly. There may have been a lot of complex applications in the period in question. This is something we can't rule out.

Figure 11. Road manager performance by permit application volume



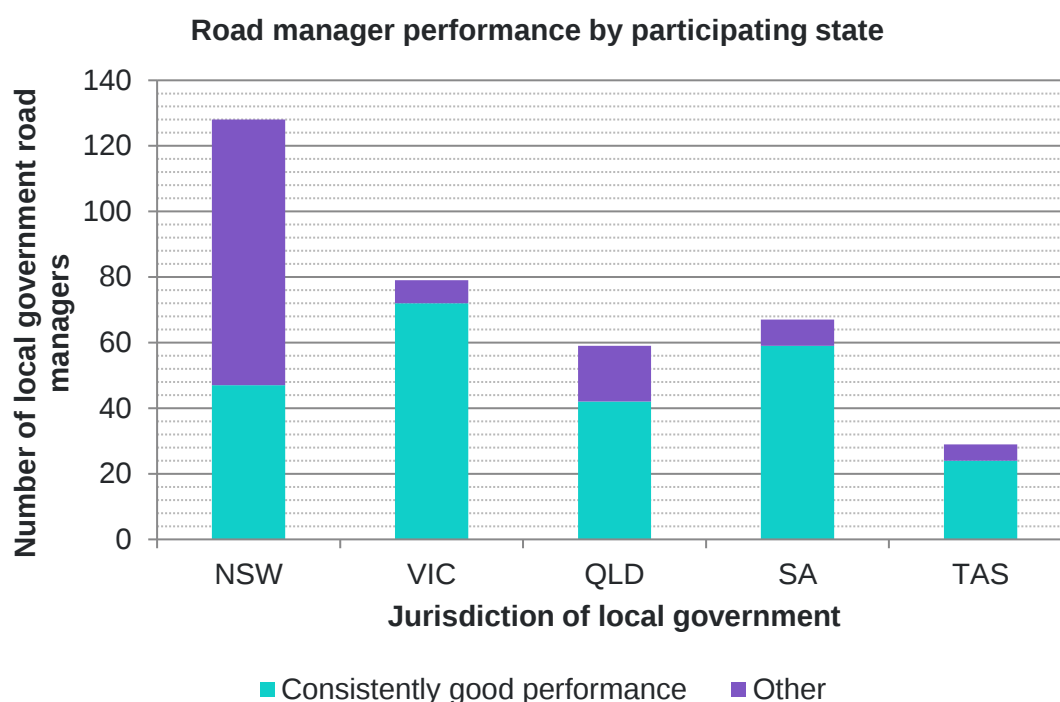
Source: Adapted from NHVR 2019b, 12 months to March 2019

Figure 12. Road manager performance by population



Source: Adapted from NHVR 2019b, 12 months to March 2019

Figure 13. Road manager performance by participating state



Source: Adapted from NHVR 2019b, 12 months to March 2019

Question 1: Why do access decision timeframes vary so significantly? To what extent does the HVNL cause or allow access decision delays?

Question 2: Most road managers can grant consent within seven days. Given this is the case, should we reduce the 28-day timeframe currently in the HVNL? Should we introduce a mechanism to deal with a nil response?

3.1.4 Low-risk permits are slowing us down

Operators need to apply for permits depending on the type of vehicle and access being sought. There are three categories of permits. Each category includes different types available for particular vehicles (see Figure 6).

Even when journeys are low risk or routes are pre-approved, where risks are already known, operators still need to apply for permits. Around one third of permits granted by road managers are for class 2 permits. If these routes were pre-approved this could reduce the burden on road managers. The NTC acknowledges there is a common desire among road managers to achieve higher levels of access under notice and that many road managers are working towards expanding notices for class 2 vehicles.

Industry believes that road managers have a perception of greater control if they issue permits more frequently for shorter timeframes. For example, road managers issue permits for three months at a time, instead of for six or 12 months. But this is a false perception because it's equally easy to cancel permits for both short and long timeframes.

The NHVR has worked with road managers to develop pre-approvals for agreed routes. This has reduced the administrative burden for the NHVR and those road managers.

Victoria's City of Greater Dandenong, for example, has introduced pre-approvals for common access types. This includes vehicles that need a class 2 permit. The pre-approval has reduced the workload on the council's transport team. It has also eliminated the need to approve requests on a case-by-case basis (see Appendix C).

Although pre-approved routes reduce delays, operators still face an administrative burden. They're still required to apply for a permit to authorise their travel.

The Review of OSOM Access Arrangements suggested that an envelope or tiered system could reduce the need for many types of permits (Department of Infrastructure, Regional Development and Cities, 2018b, p. 25).

The Review of OSOM Access Arrangements found that OSOM movements should be able to operate on previously consented routes with similar configurations. The vehicle envelope approach would decrease the number of permits required (see Table 4 and Table 5).

The envelope approach takes two factors into account:

- most OSOM access applications are approved
- most journeys have been travelled before, at least in part, so the risks are known.

The same reasoning can be applied to other permit classes: relying on precedents could reduce the volume of permits needed.

Table 4. Proposed OSOM envelope dimensions

Proposed envelope	Width	Height	Length	Mass
1	≤ 3.5 m	≤ 5.2 m	≤ 25 m	≤ 150 t
2	≤ 4.5 m	≤ 5.2 m	≤ 30 m	≤ 150 t
3	≤ 5.5 m	≤ 5.2 m	≤ 35 m	≤ 150 t

Source: Department of Infrastructure, Regional Development and Cities 2018b⁹

⁹ This has been adapted from a NHVR presentation from 2015 and uses permit data from 2015.

Table 5. Percentage of permits granted for OSOM loads for proposed envelopes

Proposed envelope	NHVR	State road manager	Local road manager	Average
1	29%	18%	24%	24%
2	31%	21%	44%	32%
3	34%	44%	25%	34%
Total	94%	83%	93%	90%

Source: Department of Infrastructure, Regional Development and Cities 2018b¹⁰

3.2 Determining access is complicated

3.2.1 The vehicle classification system is complex

As outlined in section 2.5.1, there are three classes of RAVs. Vehicle classification helps determine the type of access the NHVR and road managers can grant for a vehicle. However, there are a lot of different heavy vehicle combinations, and matching vehicles to networks for access is complicated.

Operators must understand their vehicle classification to apply for the correct access and to comply with other provisions of the HVNL.

To make an appropriate access decision, road managers must understand the:

- vehicle classification
- access being sought.

Road managers do not necessarily have a high degree of expertise with heavy vehicle classifications. While the NHVR has a detailed understanding of the many heavy vehicle types, not all road managers have the same level of knowledge. This can complicate and protract their access decisions, causing lengthy delays.

Question 3: Is vehicle classification useful? Does the new HVNL need a vehicle classification system and, if so, should it be different from the current system?

3.2.2 Route assessments are inconsistent

Under the HVNL, road managers may have to do a route assessment before granting access. This is particularly the case for OSOM movements (s 159 of the HVNL).

¹⁰ This has been adapted from a NHVR presentation from 2015 and uses permit data from 2015.

There is no consistent route assessment process applied by road managers. Some road managers use the *Restricted Access Vehicle Route Assessment Tool*, but using it is not mandatory. As a result, road managers apply inconsistent criteria when assessing routes. This in turn results in inconsistent access outcomes for operators.

Some road managers undertake routine assessments of their infrastructure. They use information gathered to make better access decisions.

Other road managers don't have the capability or funding to undertake regular detailed assessments. Not having the information on hand when they need it can lead to lengthy delays in the decision-making process.

3.3 The decision-making process is prescriptive and inflexible

3.3.1 The process is flawed

There are many opportunities for parties to lose sight of or delay a permit application under the prescribed process in the HVNL.

The operator doesn't have full visibility of how their application is progressing. Instead, they rely on the NHVR contacting them for more information. This can involve back and forth email or telephone conversations.

The NHVR can't progress an application until they hear from the road manager. The system doesn't include a way for the NHVR to track how an application is progressing.

The road manager has to go back to the NHVR to seek extra information from an operator through the portal. Having to work through third parties means the process is complex and not well controlled.

Industry and road managers have commented that the portal needs to be improved. For example, audit history and reporting facilities could be improved so road managers can identify routes of interest, areas of concern and vehicle and route trends.

While the HVNL requires road managers to advise of a decision with 28 days, there's no penalty for a road manager who fails to respond within the timeframe. There's also no mechanism to deal with a delayed or non-existent response.

The NTC notes that many road managers respond consistently within seven days. However, any value in reducing the consent timeframe would be lost if we didn't also include a mechanism to deal with nil response. Otherwise, it wouldn't matter if the timeframe was reduced to 24 hours, there would still be situations in which road managers don't respond. And there would still be nothing the NHVR or operators could do about it.

3.3.2 The access decision-making process challenges road manager resources

Before the HVNL

There are 537 local governments in Australia that own and manage approximately 80 per cent of Australia's road network in length (ALGA, 2017, p. 3).

Before the HVNL, local governments were not always consulted for access decisions. Instead, state road authorities often led the way on local road access issues. They had both the resources to assess and the power to grant access to all roads in the state. They took on the whole task, including the more challenging aspects. Local governments didn't need lots

of staff to manage road access requests. They more or less trusted the decisions made by the state road authority (Austroads, 2018, p. 28).

In some jurisdictions, this agreement was formalised in the law. For example, in South Australia, the Department of Planning, Transport and Infrastructure had agreements in place with approximately 45 out of the 67 local governments. As a result, the department was able to maintain average turnaround times of two to three days for annual, simple or straightforward permits.

Under the HVNL

The HVNL clarified and formalised the role of local governments as road managers. Some local governments already had the capacity and resources to take on this role. For others it was a completely new responsibility.

Many local governments face ongoing challenges in their role as road managers. These include:

- limited resources to assess access applications and undertake detailed route assessments
- lack of established asset management information on their road networks and key assets
- having to follow multiple laws when making access decisions, including the HVNL and local government legislation and by-laws.

The increased burden on local governments was evident in the Austroads report of 2018. The report used the City of Greater Dandenong, home to industrial areas in Melbourne's south-east, as an example. Before the HVNL, the municipality received approximately ten road access requests per year. After the HVNL, that number rose to more than 50 per week, with well over 3,000 in the first year (Austroads, 2018, p. 28) (see Appendix C).

In 2018, 408 local governments across Australia participated in the National State of the Assets Project. The project found that \$30 billion was needed to renew and replace ageing infrastructure (ALGA, 2018, p. 2). The project also reported local government infrastructure assets were deteriorating from wear and tear at an estimated rate of 1.7 per cent or \$5.5 billion per year (ALGA, 2018, p. 55).

Road managers have reported that access decisions often rely on asset assessments. These need time, resources and expertise they may have difficulty in gathering. Some local governments have tried to streamline their own processes to help them make efficient access decisions (see Appendix C).

Case study – Moree Plains Shire Council

The Moree Plains Shire Council recognises the value of freight in its local area. Before it implemented its new system, access was managed in an ad hoc manner.

Streamlining the access process hasn't happened overnight. Instead, it's been a series of improvements.

The council credits its success to the following tips, which it put into practice:

1. Create a dedicated email address to receive correspondence from the NHVR about submitted applications.
2. Provide inbox access to all team members who deal with applications.
3. Check the inbox regularly for new applications and acknowledge any emails received.
4. Work with local businesses and transport operators to identify transport needs.
5. Have clear roles for all members of the team dealing with applications.
6. Set internal targets for the turnaround of access requests.
7. Code local roads and capture the information on a spreadsheet. This will allow easy comparison of current applications with previous decisions. The spreadsheet should include a list of:
 - All council control roads approved for 25/26 metre B-double at HML, type 1 road train (up to 36.5 metres including A-double, B-triple, AB triple, modular B-triple at HML and PBS vehicles).
 - All the roads (including surface type and formation width) and the existing bridges and culverts on the road.

The spreadsheet described above was key to reducing both the turnaround time and staff workload. The spreadsheet serves as a database of local roads and their characteristics relevant to assessing heavy vehicle access. The spreadsheet can also be used to assess standard vehicle types against the recorded characteristics of local roads. This results in a preliminary or basic assessment that highlights any barriers to access or where further investigation is needed.

The council has been proactive in assessing and upgrading its local roads to expand heavy vehicle access and minimise individual access applications by operators.

The council usually processes heavy vehicle access requests quickly. Its benchmark response time for class 1 OSOM heavy vehicles is five business days. The council mostly attributes its timely performance in dealing with access requests to its proactive and planned approach to the heavy vehicle road network. The network either already provides extensive access or, where further road assessments are needed, much of the data has already been recorded.

Source: Adapted from NHVR 2016a

Question 4: What are the challenges road managers face under the HVNL access decision-making framework? Which road managers do it well, and why? Why are some road managers struggling with access?

3.3.3 Road managers can't delegate their roles

Local governments have to make consent decisions, even if they don't have the right resources to do it. They can't delegate this role. But some local governments would prefer that the state road authority managed access decisions for them.

There's nothing in the HVNL to stop road managers from engaging third parties to help them for example, contracting engineers to help with route and infrastructure assessments. However, outsourcing expert advice can be beyond some local governments' budgets. There's also no way under the HVNL for local governments to recoup money spent on investigations, maintenance and internal education (City of Greater Dandenong, 2019).

Under the HVNL, road authorities in participating jurisdictions can step in if needed. They can over-ride local government access decisions, or step in when decisions aren't made. But the NTC understands road authorities are reluctant to exercise that power.

3.3.4 Third-party consent slows down decision-making

Under the HVNL, an operator may have to consult with one or more third parties before the NHVR can consent to a permit (ss 157 to 158 of the HVNL). This may be necessary on safety grounds. Third parties include police, rail infrastructure managers, roadwork controllers, tunnel operators and utilities providers.

The NHVR can't provide consent until all relevant third parties are consulted with and have given their approval. The access decision must be withheld until then. However, the NHVR has a low level of influence over third parties. There's nothing in the HVNL that helps the NHVR incentivise a timely response from them. This can cause more delays in the decision-making process.

3.3.5 Decisions are not properly capable of being appealed under the HVNL

Under the HVNL, only the NHVR's access decisions are subject to external review (s 647 of the HVNL). There's no provision for an external review of decisions made by road managers.

Operators want to be able to seek an external review of decisions made by road managers. They'd like to be able to request a statement of reasons for decisions and to have access to an external merits review mechanism. Operators want an administrative appeals body to be able to review access decisions for example, the Victorian Civil and Administrative Tribunal or NSW Civil and Administrative Tribunal.

The NHVR's view is that a statement of reasons should only be necessary if the applicant is not satisfied with the decision. This would avoid wasted effort.

The absence of a review mechanism makes operators wary of investing in innovative schemes like PBS.

Only an internal review mechanism is available under the HVNL. The basis for this was that councils would need to source second opinions and legal expertise if decisions by road managers were open to external review (NTC, 2011a, p. 57). There was concern this could prompt road managers to restrict as-of-right access rather than incur costs of challenges to access decisions (NTC, 2011a, p. 57).

The NTC's HVNL regulatory impact statement suggested that an external review of road manager decisions may be an option for the future (NTC, 2011a, p. 57).

Question 5: Should the law allow for external review of access decisions?

3.4 Decision making is inconsistent

3.4.1 Approved guidelines are not used uniformly

When granting access permits and notices, the NHVR and road managers must consider the approved guidelines (ss 118, 124, 139, 145 and 156A of the HVNL). The NHVR published the *Approved Guidelines for Granting Access* in February 2014. They were approved by ministers under s 653 of the HVNL.

The approved guidelines help road managers understand how to make access decisions. They outline a best-practice decision-making process.

But the approved guidelines aren't used consistently. This was suggested by observation and analysis undertaken during the Review of OSOM Access Arrangements.

The approved guidelines aren't promoted or mandated either. This is contributing to delays and poor operator experiences (Department of Infrastructure, Regional Development and Cities, 2018b, p. 10).

The NHVR is currently updating the approved guidelines. They intend to consult on and submit the proposed updated version to ministers in late 2019.

3.4.2 Reasons for access refusal are broad and varied

A road manager can refuse access on three grounds. They can only do so, however, if they can't grant access with conditions to manage the risks (s 156A of the HVNL). If the road manager doesn't give consent, a written statement must be provided. It must set out the findings and reasons for the road manager's decision (s 172 of the HVNL).

The Queensland Audit Office (2016, p. 4) found that consent decisions from local government road managers tend to lack evidence of road infrastructure risks. Also, Austroads found that some road managers use the grounds in the HVNL without compelling reasons. For example, they may refuse access on the grounds of 'significant risks to public safety' without pointing to any specific, substantiated safety risks (Austroads, 2018, p. 31).

Austroads also found that statements didn't always include information on what access was available if risk-mitigating conditions were applied. In the example given, access was refused at HML but not granted at an acceptable lower mass (Austroads, 2018, p. 70). Access was then requested and refused at CML and GML. Each cycle of this process added weeks to the access request. It would've been more efficient if the road manager provided more details on why access couldn't be granted and offered access with conditions, such as reduced mass or a variation to the proposed route.

The Australian Livestock and Rural Transporters' Association (ALRTA) and the National Farmers' Federation (NFF) report that access decisions made by road managers are expensive, uncertain and often ill-informed (ALRTA, 2017, p. 9; NFF, 2017, p. 13). ALRTA and the NFF advised that in some cases, local government road managers deny access because of unfounded concerns about safety or local amenity impacts, and there is little the applicant can do about it (ALRTA, 2017, p. 9; NFF, 2017, p. 13).

Case study – access decision in South Australia

In 2018, an operator applied for an A-double combination permit to operate on a major freight route in South Australia.

The operator sought the help of the South Australian Road Transport Association (SARTA) after they'd waited 114 days for a response to their application.

SARTA raised the issue with the NHVR, who liaised with the local council involved to understand their concerns and issues with the application. The council advised that the route needed a swept path assessment at a major intersection. The NHVR questioned the need for this because the vehicle was travelling straight ahead, not turning at the intersection. The council conceded on this point. They then raised a new objection relating to the need for a bridge assessment. The NHVR advised that the council that owned the other half of the bridge did not have concerns with it. But the first council advised that a bridge assessment was still necessary.

SARTA contacted the bridge team at the Department of Planning, Transport and Infrastructure about the issue. The department advised SARTA that the bridge was designed so the vehicle type seeking access to travel over it could do so without restriction. SARTA provided evidence of this confirmation to the NHVR.

Two days later, and more than 200 days after the operator applied for the permit, the permit was issued.

SARTA believes this case highlights some of the issues with the current permit system, including:

- The council was blocking the application without having a logical or reasonable cause.
- The HVNL is inadequate because it doesn't give the NHVR power to do anything other than try to persuade council staff.
- The parameters in the portal system allowed the permit application time to reach 114 days without being flagged for urgent attention.

3.4.3 Conditions are outdated and applied inconsistently

Before the HVNL, transport operators requested access from relevant parties. This resulted in inconsistent approval conditions. The use of standard conditions on notices and permits sought to address this.

Under the HVNL, notices and permits can contain road conditions and travel conditions. The NHVR portal has a set of standard road and travel conditions to ensure consistency. But the NHVR reports there are many older permits that have outdated and inconsistent conditions.

Using template conditions is important in making sure there's equity, fairness and consistency for operators (Department of Infrastructure, Regional Development and Cities, 2018b, p. 18).

3.5 Risk controls are insufficient

3.5.1 There are limited controls to reduce risk

On-road – inspection

Heavy vehicles are inspected for compliance with mass, dimension and loading requirements. Inspectors can request a copy of the permit, notice or accreditation. They can then check whether the vehicle complies with any conditions imposed.

Authorised officers may direct the driver or operator of the heavy vehicle to take one of the following immediate actions (ss 533 to 535 of the HVNL):

- fix breaches of mass, dimension or loading requirements
- move the vehicle until the breaches are fixed.

Of course, on-road inspections are limited in frequency, and mass is not easily verified unless the inspection occurs at a weigh station. The NTC understands operators 'running hot' is still a big problem, given the relatively low probability of detection.

On-road – Safe-T-Cam and weigh-in-motion

The Safe-T-Cam system is an automated monitoring system that reads heavy vehicle number plates. It makes it possible for government to track heavy vehicle movements. Data from a Safe-T-Cam can be used to prove a heavy vehicle was travelling on a route not permitted under general access, notice or permit.

Weigh-in-motion systems estimate a vehicle's static mass based on the dynamic axle weights of a passing vehicle. These systems can detect a mass breach in an otherwise authorised vehicle.

However, the coverage of Safe-T-Cam and weigh-in-motion systems is limited and, because operators know where they are, they can be avoided.

On-road – warning signs, pilots and escorts

Vehicle warning signs vary in size. There are very prescriptive rules for constructing and fitting them. In a practical sense, though, they just need to be visible to other road users and sufficiently durable to fulfil that purpose. Some flexibility in the rules for warning signs could reduce operator costs without reducing safety.

Pilot and escort requirements vary from jurisdiction to jurisdiction. Harmonised requirements would reduce the complexity and cost of co-ordinating interstate OSOM journeys. The NTC acknowledges that there may be a challenge of proper authorisations for escorts, given their need to hold a road authority to direct traffic. Harmonising pilot arrangements should be simpler.

In-vehicle – telematics

The IAP generates more than one million non-conformance reports per year, with the majority being false-positives. Transport agencies analyse the non-conformance reports to detect access breaches.

Operators and drivers travelling interstate face a 'highest common denominator' approach to compliance. They must follow the strictest jurisdiction imposing the IAP for HML. This comes with an increased administrative burden and increased costs (Deloitte, 2019, p. 29).

There are also enforcement challenges related to proving access breaches under the IAP. Road transport agencies have so far only prosecuted crane operators under IAP. As of 2018, New South Wales had 15 successful prosecutions (NTC, 2018, p. 41).

IAP certifies vehicle location. Other elements of proving an offence (usually mass and trailer combination) rely on self-declaration. This could be one reason why there have been no IAP prosecutions in relation to HML, or other vehicle combinations, where – unlike cranes – mass and vehicle combinations are variables (NTC, 2018, p. 42).

3.6 Many challenges are beyond the current HVNL

3.6.1 The freight task is misunderstood

The freight task doesn't change in response to access being granted or otherwise. Access decisions only affect the types of vehicles used and the number of movements needed. The amount of road freight transported in Australia is independent of the types of heavy vehicles used.

The community has low levels of awareness and understanding of freight and the freight industry (Department of Infrastructure and Regional Development, 2014, p. 2). Generally, people don't see the connection between freight and its importance to the Australian economy. Nor do they connect freight to quality of life for individuals and communities (Department of Infrastructure and Regional Development, 2014, p. 5). Most light vehicle drivers can't tell the difference between types of trucks. For example, they can't differentiate HPV and PBS vehicles from traditional freight vehicles (Department of Infrastructure and Regional Development, 2014, p. 2).

Amenity is more likely to come up as a barrier to local road access for HPVs in inner-city areas. In these areas, residents are less likely to acknowledge the role that heavy vehicles play in supporting their way of life (Austroads, 2018, p. 40). In contrast, in rural and remote areas people generally appreciate the fact that heavy vehicle road access is essential for local industry (Austroads, 2018, p. 40).

When a local community has a general aversion to heavy vehicles, local road managers are less likely to grant access. Refusing access can be easier than trying to convince residents of the benefits of HPVs or defending access approval decisions when residents complain after the fact (Austroads, 2018, p. 41).

3.6.2 Pilot and escort requirements vary across borders

To protect the safety of all road users, OSOM vehicles often rely on pilot and escort vehicles to guide them and manage traffic.

States and territories developed their own pilot and escort systems separately. Requirements to become a pilot or escort vehicle driver and qualifications, where they exist, vary across jurisdictions (see Table 6). This means pilot and escort arrangements usually need to change at state and territory borders.

There are three general approaches to pilot accreditation adopted across states and territories:

- mandatory accreditation for all pilots
- accreditation required for some pilots
- no requirement for accreditation.

In Western Australia, pilots have to complete competencies administered through a registered training organisation (NTC, 2014, p. 7).

Queensland, Victoria and the Northern Territory each have two levels for pilots, although only Queensland places qualification requirements on both levels (NTC, 2014, p. 7) (see Table 6).

In contrast, New South Wales, South Australia, the Australian Capital Territory and Tasmania currently have no training or qualification requirements attached to pilot vehicle drivers (NTC, 2014, p. 7) (see Table 6).

In all states and the Australian Capital Territory, only officers of the road authority or police can undertake escorting duties (NTC, 2014, p. 7). In the Northern Territory, escorting duties may be undertaken by accredited third-party escorts or police (see Table 6 and Table 7).

Table 6. Summary of current pilot and escort arrangements

State/territory	Level 1 (or registered) pilot	Level 2 (or accredited) pilot	Escort
Queensland	Accreditation required	Accreditation required	Police
Northern Territory	No requirements	Accreditation required	Accredited third-party escorts or police
Victoria	No requirements	Accreditation required	Road authority officers
Tasmania	No requirements	Accreditation required	Police or transport inspectors attached to road authority

Table 7. Summary of current pilot and escort arrangements (states with single pilot level)

State/territory	Pilot	Escort
Western Australia	Accreditation required	Police or traffic warden attached to road authority
South Australia	No requirements	Police
New South Wales	No requirements	Police
Australian Capital Territory	No requirements	Police

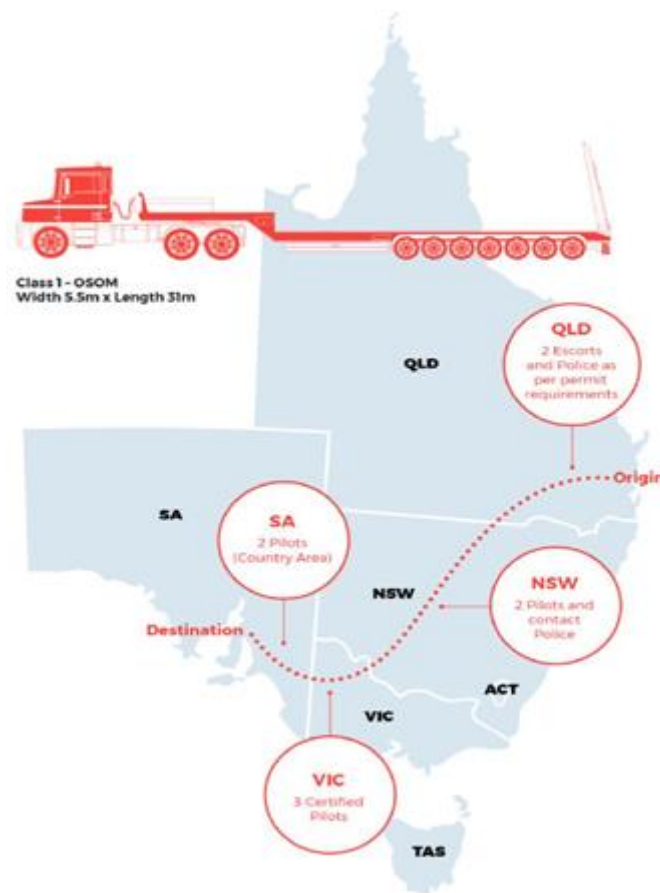
The Review of OSOM Access Arrangements report included a case study of a class 1 heavy vehicle, with a width of 5.5 metres and a length of 31 metres, travelling from Queensland to South Australia (see Figure 14) (Department of Infrastructure, Regional Development and Cities, 2018b, p. 22).

During the trip from Queensland to South Australia the OSOM load required:

- two escorts and police in Queensland

- two pilots and contact police in New South Wales
- three certified pilots in Victoria
- two pilots (country area) in South Australia.

Figure 14. Pilot and escort case study



Source: Department of Infrastructure, Regional Development and Cities 2018b

In 2014, the NTC released a discussion paper on harmonising pilot and escort accreditation requirements. We proposed a two-tiered framework for a new scheme. This was followed in 2015 by an Austroads report on harmonising pilot and escort accreditation.

Operators supported a uniform national accreditation scheme for pilots instead of the graduated two-tier approach the NTC proposed in 2014 (Austroads, 2015, p. 10). The scheme would include a full set of training competencies. Operators reached this position on the understanding that there would be exemptions for oversize agricultural equipment. This was because they didn't want current arrangements for the agricultural industry affected (Austroads, 2015, p. 10).

In a recent report Deloitte suggested industry pilot vehicles, or at least traffic warden-operated escort vehicles, for OSOM vehicles could be encouraged over police escort vehicles (Deloitte, 2019, p. 36). This would limit the involvement of external bodies in the process. It would also limit the long waiting times associated with coordinating them (Deloitte, 2019, p. 36).

The Review of OSOM Access Arrangements report included the following recommendations:¹¹

- Transport and Infrastructure Council should agree to harmonise inconsistencies around accreditation for pilot drivers by 2020 (Department of Infrastructure, Regional Development and Cities, 2018b, p. 23).
- Transport and Infrastructure Council should agree to simplify pilot and escort process to simplify the consent process. The NHVR, Department of Transport and Main Roads and Queensland Police Service should undertake a process-improvement exercise (Department of Infrastructure, Regional Development and Cities, 2018b, p. 24).

3.6.3 Road manager incentives

Funding for constructing and maintaining roads is currently independent of the amount of revenue collected on any particular road. The budgets of road agencies and local governments are set in advance. Changes in road usage don't change the amount of funding available to road agencies in the short term.

But changes in road usage do have a direct and immediate effect on the wear and tear imposed on the road system. As a result, road managers have an incentive to minimise the wear and tear on the roads they manage. Controlling heavy vehicle access is one way to achieve this.

Governments are making efforts to reform the way roads are managed and funded as part of the Land Transport Market Reform project. But any reforms will take time to fully develop and implement.

3.6.4 Lack of proactively facilitating higher productivity vehicle access

PBS vehicles offer productivity gains and meet stringent safety standards. Yet, road managers have not granted access to PBS vehicles as anticipated and in line with the *PBS Scheme: Network Classification Guidelines* (Deloitte, 2019, p. 27).

In 2016, the NHVR approved 2,893 PBS vehicles (NTC, 2017, p. 26). This reduced the fleet size by about 900 vehicles (NTC, 2017, p. 26). An eight per cent switch to HPVs on highways would be the same as removing five per cent of trucks off the highway (Austroads, 2014, p. 49).

The NTC regulatory impact statement estimated the benefits of having one consistent approach to OSOM vehicles across Australia. These were estimated to range between \$134 million and \$298 million over a 20-year period, from 2011 to 2030 (NTC, 2011a, p. 9 and p. 18). The majority of those benefits were in \$107 million to \$238 million in productivity gains that would result from:

- greater access being given to higher-productivity OSOM vehicles (especially SPVs)
- a more streamlined approach to OSOM permits (Deloitte, 2019, p. 31).

Addressing challenges in the use of modern, larger articulated vehicles will generate cost savings. Deloitte recently estimated a potential cost saving of \$13.6 billion over the period of 2020 to 2050 (Deloitte, 2019, p. v).

¹¹ Not all recommendations have been agreed by states and territories.

We acknowledge that many road managers are working to facilitate HPV access. Some road managers are proactive in undertaking routine assessments of their bridges. They use information gathered for access decisions. Some road authorities have created frameworks to help develop freight networks for HPVs. For example, New South Wales has developed the *Heavy Vehicle Access Policy Framework* (Transport for NSW, 2018).

Working together provides an opportunity to address issues at the network level, rather than as individual roads. This opportunity can be realised if local governments work with state road managers and the NHVR (Department of Infrastructure, Regional Development and Cities, 2018a, p. 35). This approach makes more efficient and effective network development possible. It addresses network issues such as connectivity, consistency and equity (Department of Infrastructure, Regional Development and Cities, 2018a, p. 35). It also lends itself to undertaking assessments, then enabling common routes to come under a notice or pre-approval.

Opening up access to HPVs will realise many benefits, including:

- fewer truck trips
- less wear and tear on roads
- reduced greenhouse gas emissions
- savings for the entire supply chain.

3.6.5 Planning and the first and last mile

Most road freight journeys start or finish on a local road. Industry believes first and last mile issues are a barrier to an efficient freight system (ALGA, 2017, p. 3).

Operators have explained that due to first and last mile issues they must choose one of the following approaches (ALRTA, 2017, p. 9):

- use less productive heavy vehicle combinations for the whole journey
- de-couple trailers for larger combinations to pass through local government areas.

The NFF provided the example of a New South Wales livestock saleyard facility. There are many access roads leading to it, but local government by-laws only permit B-double access on one of them. Depending on the direction the driver is travelling from, delivering livestock illegally on the most direct route or delivering legally on the designated access is the difference of four hours (NFF, 2017, p. 12).

In the Australian Local Government Association's view, first and last mile issues are not just one stakeholder's responsibility. The issue needs all parties to collaborate. This includes all levels of government and, where appropriate, the transport industry (ALGA, 2017, p. 14).

Case study – First and Last Mile Freight Pilot Project, Queensland

The First and Last Mile Freight Pilot Project integrated the Department of Transport and Main Roads' Heavy Vehicle Network Plan with existing and future land-use. The project identified and analysed key first and last mile deficiencies on local government controlled roads.

The project assessed 34 high priority routes across the study area. A medium to long term freight strategic plan was produced. It aligned freight networks incorporating HPV

access. This allowed for increased funding requests through the Bridges Renewal Program. Identified deficient bridges were then renewed or replaced.

The combined analysis of all routes showed estimated benefits exceeded costs. There was an overall benefit-cost ratio of 1.27 (Local Government Association of Queensland, 2017, p. 5). This project enabled larger, heavier and more productive freight vehicles access on adjoining state highways to use local roads. Even though not specifically aimed at OSOM vehicles, it is a proactive approach that could be applied to class 1 heavy vehicles.

Source: Department of Infrastructure, Regional Development and Cities 2018

Question 6: Have we covered the issues with access under the current HVNL accurately and comprehensively? If not, what else should we consider?

4 Aspirations

Key points

This section sets a high-level vision for managing access to suitable routes in a future HVNL. It outlines four draft regulatory principles to guide development of the new law:

- access arrangements optimise the use of infrastructure, vehicles and resources
- access decisions that apply as broadly as possible
- quicker, simpler access decision-making
- clear responsibility and accountability.

4.1 Access arrangements optimise the use of infrastructure, vehicles and resources

Draft regulatory principle 1: The fundamental goal of new HVNL access arrangements should be to make the best, most efficient use of infrastructure, vehicles and resources so we can:

- ensure safety for all road users
- efficiently deliver Australia's freight task
- support our domestic services and economy
- promote competitiveness in international trade.

4.1.1 Road user safety

Safety should remain at the core of the new HVNL. Any access decisions that have specific safety implications must be made through the lens of risk management.

Access conditions that relate to managing the safety risk are important. All parties have a role in managing the risks to drivers and other road users, and conditions should consider who is best placed to manage the risks.

4.1.2 Economic productivity, efficiency and competitiveness

Australia relies more on road transport to deliver goods and services than almost any other country. Barriers and delays relating to heavy vehicle access impose significant costs on our economy.

The new HVNL should better recognise the economic impacts in making access decisions. This includes recognising whether decisions:

- affect households directly, through increased freight costs for essentials
- limit our key export industries, such as mining and agriculture.

Australia needs to manage an ever-growing freight task while continually improving safety and lowering costs and environmental impacts. Strategic access decisions are crucial.

The new HVNL shouldn't be able to compel access authorisation in all cases. Road managers must be able to manage roads under their responsibility. But the new HVNL should support Australia's broader economic and social goals. It should make it more difficult to make access decisions against the greater national interest.

Education can help. The new HVNL will benefit from a broad and improved understanding of what access decisions mean. The freight task, for example, does not change. The trucks don't stop if HPV access is denied. Rather, the same amount of freight moves through the same route on *more* trucks, at higher cost, with higher safety risk, and with higher environmental and amenity impacts.

Denying access can't stop heavy vehicles. Instead, it sets a higher level of transport costs. The new HVNL should support making access decisions with this perspective in mind.

4.1.3 Optimising the use of infrastructure and resources

We use public assets (roads) and private assets (vehicles) to meet our needs and drive our prosperity. Access decisions set the balance point between where costs are incurred and by whom – and the optimal point will include a certain degree of road wear.

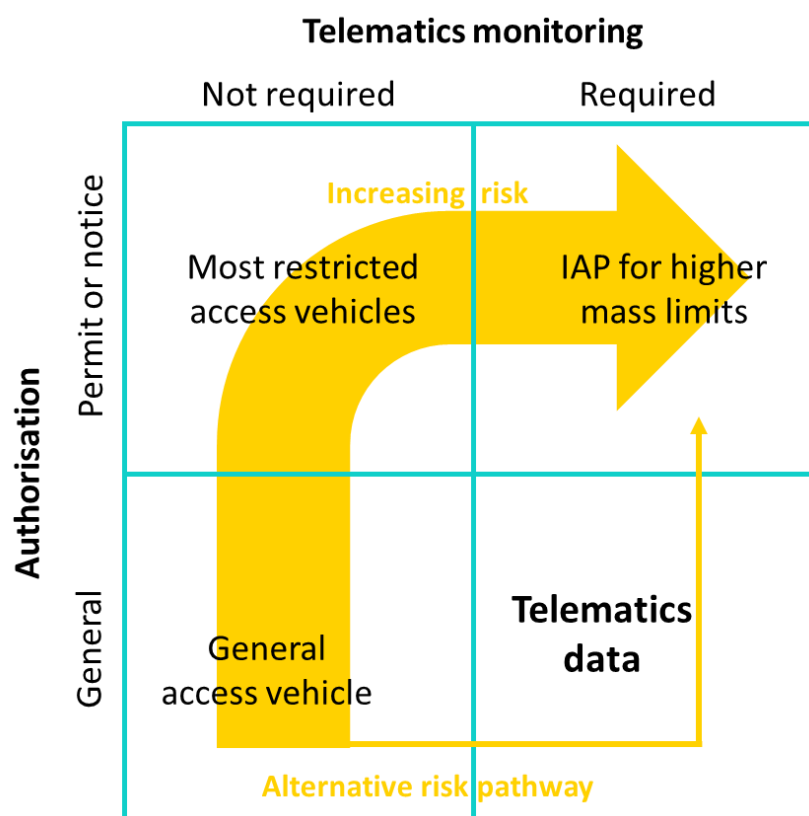
The road transport task results in substantial and complex cross-subsidisation. Efforts to reform road user charging are beyond the scope of the HVNL review. However, the NTC acknowledges the review should support and not result in any barriers to a future, more efficient charging model.

A possible interim solution could be to link infrastructure funding to providing access in some way. This type of approach may help prioritise infrastructure funding allocation. It may also help manage costs for road managers who are higher performers in opening up access.

In the meantime, we acknowledge that roads are built to be used. The new HVNL should provide for public asset use at safe and reasonable levels of wear and tear. It shouldn't support asset protection at all costs, just as it shouldn't support asset overuse.

The new HVNL could allow operators to trade non-financial value for access. For example, operators could provide data using telematics (see Figure 15). This would not necessarily be for enforcement purposes, like the IAP is currently. Instead, it could help road managers to plan road asset assessments, upgrades and maintenance programs.

Figure 15. Monitored and authorised vehicles under the HVNL (potential future approach)



Question 7: How can the new HVNL work, most likely with other reforms, to best support optimised use of our transport assets and vehicles?

4.2 Access decisions that apply as broadly as possible

Draft regulatory principle 2: Access decisions should apply as broadly as possible, so they're needed less often. It should be possible to implement decisions using a choice of instruments.

The new HVNL should aim to expand general access and broaden its application, as far as it may be possible to do. For example, including authorisations implemented by notices under the current HVNL. Lowering the number of access decisions needed should lower the costs of delay.

4.2.1 Reducing the number of access decisions needed

The new HVNL should expand general access of the road network as far as reasonable. Where general access can't be granted, the law should prioritise as-of-right authorisation (for example, by notice) over individual authorisations where possible. The new HVNL should strive to maximise the applicability and scope of all access decisions. For example, it should acknowledge precedents.

As shown in section 4.1.3, there are opportunities to increase road manager assurance for as-of-right access through telematics. For the most part, the current HVNL applies telematics

assurance only for higher-risk RAVs. It may be possible for lower-risk RAVs to gain general access rights on condition they share telematics data with road managers, road authorities and the regulator. This data should be at an appropriate regulatory assurance level for the purpose. For example, it may focus on aggregated data for planning purposes rather than individualised, high-assurance data for prosecutions.

4.2.2 Broadening access decision applicability

The new law should support a transition to as-of-right alternatives to broaden access. This could occur, for example, where there is a large volume of similar access conditions. Under the current decision-making framework, this relies on permits being 'assembled' to form notices. In a future model, though, access requests of equal or lesser risk could be granted access without needing to seek consent.

Limits placed on specific access decisions should be minimised. For example, decisions and authorisations should apply for longer periods, if not ongoing. And they should apply to equivalent vehicle combinations, not specific vehicle combinations.

Road managers should be able to change, suspend or revoke consent if circumstances change. For example, weather damage to a road or road infrastructure may affect access. This gives assurance that road managers keep control over the assets they manage.

4.2.3 Implementing access decisions in the most appropriate instrument

Access decisions should be implemented in an appropriate instrument under the new HVNL. The NTC believes arrangements like those in the current HVNL would be, for the most part, suitable. That is:

- General as-of-right access decisions would be implemented in the primary legislation. CML and HML would be implemented in the regulations, supported by an accreditation scheme.
- Restricted as-of-right access decisions would be implemented in broadly-applicable notices.
- Specific access decisions would be implemented by permit.

There are opportunities to lift the sophistication of these instruments though. For example, using a geographic information system to present relevant access data in the form of a map that can be updated easily. Such an instrument would:

- serve as a single and contemporary source of truth
- help operators and the regulator to assess decisions
- provide transparency over road manager and road authority consents.

A modern HVNL should consider the use of such modern subordinate instruments.

Question 8: How can the new HVNL expand as-of-right access and generalise access authorisations? Can we remove time limits for notices, for example?

Question 9: Do we have the right tools to implement access decisions? How can we modernise the tools for access authorisations?

4.3 Quicker, simpler access decision-making

Draft regulatory principle 3: Access decision-making should be simple, consistent, fair and transparent. It should be proactive wherever possible. Decisions in response to a request should be made quickly.

The new HVNL should support eliminating the avoidable delays in making an access decision. Reducing the time taken for decision-making will lower the cost of delays.

The NTC notes that general access and similar as-of-right access arrangements are still decisions so they're also vulnerable to drawn-out decision-making. However, most access decisions made under the HVNL relate to specific access requests and result in permits.

This section focuses on specific access decision-making. By sheer volume it represents the greatest opportunity for gains.

The NTC acknowledges the efforts the NHVR continues to make with relevant parties to improve access decision-making.

4.3.1 Proactive decisions

The new HVNL should support road managers to make proactive access decisions.

For example, road managers could use available information to anticipate potential RAV routes. This includes using current and planned land use data, transport analysis and strategy. They could then 'pre-condition' key routes. This would allow them to give either proactive or immediate consent advice to the regulator if there's an access request.

The NTC recognises it takes time to conduct route assessments. The broader cost of the time taken is likely to be reduced if it is proactively done, rather than within the critical path of decision-making.

Under this approach, there could be standing consents for suitable HPVs in specific locations. For example, roads in industrial areas and ports and intermodals.

This approach also supports:

- improved road and road infrastructure design decisions
- more targeted maintenance regimes
- a more even demand on expert resources.

While the new HVNL is unlikely to be able to drive such activity, it should support and not impede road manager best practice. Case studies in Appendix C provide examples of road manager efforts in this area.

4.3.2 Quick and highly responsive

The current permit application process (see Figure 8) includes many handovers between defined parties who are unable to delegate their roles. When the process runs well, permits can be granted within a short period of application. But costly delays are possible if any part of the process doesn't run efficiently.

There are opportunities to untangle this process. It could be less dependent on individual actors and actions. Setting conditional decision parameters rather than manual decision-making could be an alternative model.

The goal is to speed up the process by:

- removing superfluous steps – automating actions, handovers and decisions
- setting triggers to alert decision-makers to delays or process failures
- considering the use of non-binary decision models that focus on risk management.

Access decision-making can be improved, as indicated during the NTC's consultations and in the Review of OSOM Access Arrangements (Department of Infrastructure, Regional Development and Cities, 2018b).¹² Improvements could be made by developing a new HVNL that:

- prescribes a maximum time for parties to refer matters onwards and for road managers to provide or deny consent
- requires process handovers to be more robust (so that applications aren't lost), and include 'triggers' for action when there is no response
- provides incentives and consequences for road managers to meet the decision-making timeframes
- requires road managers to consider the costs and benefits of granting consent
- requires consistency in definitions underpinning access decisions (for example, defining an 'indivisible load')
- improves dealings with third parties (such as utilities managers)
- provides the power for a local government to delegate its responsibilities as a road manager, in whole or in part, to another party.

We're not proposing specific changes to the process in this issues paper. But we flag our intent to co-design an improved process for specific access decisions to make sure the result is agreeable and workable.

4.3.3 Simple

Access decisions should be as simple as possible. Under the new HVNL, conditions for access should be standardised and condition types minimised. Each party should understand their responsibilities. Compliance and enforcement should not be complicated.

The new HVNL should not over-simplify access to the extent that it creates a 'one size fits all' solution. Taking that approach would most likely compromise the HVNL's ability to deal with diverse needs with flexibility.

4.3.4 Consistent

Access decision-making should be predictable and repeatable, independent of personal bias or other subjective reasoning. Nonetheless uncertainty is inherent to decision-making, and consistency does not mean that relying on expert judgement is unacceptable.

¹² Not all recommendations have been agreed by states and territories.

The new HVNL should set a range of parameters for consideration in making access decisions, and the nature of conditions imposed on operators.

4.3.5 Fair

Under the new HVNL, access decision-making should be carried out to the same quality and timeliness for every applicant. But the decision-making process should acknowledge the different risk profiles of applicants and their applications.

Operators may be able to show they apply effective risk controls in key access decision-making parameters. Those operators may be given broader access or less stringent conditions on the basis that they're taking a larger share of the risk management task. The current HVNL supports this principle. For example, through accreditation and the IAP. There may be scope to expand this principle and apply it in a more explicit way.

The new HVNL may also support fairness in decision-making through provisions that increase administrative transparency and accountability.

4.3.6 Transparent

All relevant parties should be able to track the access decision-making process. They should be able to see how the process is advancing and its status. Operators should understand the reason for any delays in an access decision. What is being considered and the rationale behind each decision should be clearly communicated.

Transparency supports an improved, more trusting culture. It also helps operators better understand the information decision-makers rely on. Operators can then tailor their applications to match, reducing delays associated with requests for more information.

Question 10: How can the new HVNL accelerate access decisions? Is a proactive approach possible?

Question 11: How should the new HVNL implement access decision-making? Should it specify process and roles? What role is there for the operator? What improvements to access decision-making can be made?

Question 12: How do we reach consistent and predictable risk-based access decision-making? How can we make sure decision-making is transparent and fair?

4.4 Clear responsibility and accountability

Draft regulatory principle 4: Access decision-makers, beneficiaries, facilitators and enforcement should have clear responsibilities and accountabilities.

Those who are responsible for access decisions, and those who make use of them, should be accountable. It should be possible to appeal and review decisions.

4.4.1 For the regulator

The new law may permit the regulator to make access decisions on a risk-management basis, rather than being forced to follow a prescribed process. The regulator then has capacity and accountability to operate within the limits of states and territories' agreed bounds and its own risk appetite in making access decisions.

On-road enforcement should be easily achieved. It shouldn't depend on operators carrying documentation.

4.4.2 For road managers

Road managers should retain accountability for the roads they manage. Their role means they necessarily play a key role in access decision-making. They should also be accountable for their performance in making decisions about consent.

The new HVNL should give road managers options to delegate consent decisions in a way that manages resources, expertise and risk. Depending on the circumstances, road managers might choose to delegate consent decisions to a party such as:

- the NHVR
- the relevant jurisdictional road authority
- private assessors
- other local governments (by collective agreement or by an outsourced service)
- other qualified parties.

Access conditions imposed should be pre-defined, predictable and consistent. This would include any requirements to use pilots and escorts. Mutual recognition will help in this regard. A single journey should be able to rely on the same pilot and escort combination from start to finish, regardless of any border crossings.

4.4.3 For transport operators

Under the new HVNL, transport operators must continue to be responsible for:

- complying with access conditions
- managing the risks of their operations so they operate safely.

In certain cases, there may be increased or expanded accountabilities for transport operators to demonstrate their compliance and risk management. This could be done through accreditation, technology or other means. These increased accountabilities would be matched by expanded access.

Question 13: How do we best share the risk management responsibilities between parties with a role in heavy vehicle access?

Question 14: How do we manage the accountability of parties with a role in heavy vehicle access?

5 Next steps

Key points

- We want to hear from you. Consultation is open until **Friday 16 August 2019**.
- Other issues papers provide opportunities to tell us about the specifics of safe vehicles, safe people and safe practices, accreditation, compliance and technology and other matters.

5.1 Have your say

The NTC wants to give everyone affected by the HVNL an opportunity to have a say.

We are seeking your advice on the problems we have identified and whether we have suitably outlined them.

We will consult on the questions asked in this paper until **Friday 16 August 2019**.

To stay updated on the project, visit the [**HVNL review website**](http://www.hvnlreview.ntc.gov.au)¹³ and register to receive newsletters and consultation alerts.

5.2 Future publications

This is one of eight issues papers.

The next issues papers will cover safer people and safe practices, and safe vehicles.

Other issues papers will cover more specific 'how to regulate' matters such as accrediting operators to deliver best practice and managing compliance, including the regulatory role that could be played by technology and data.

The last issues paper will cover other policy matters not covered in other issues papers.

We will produce a summary of outcomes from the issues papers to bring together all your feedback and advice, and to serve as a basis for a regulatory impact assessment.

¹³ www.hvnlreview.ntc.gov.au.

Appendix A NHVR delegations project

JURISDICTION	TRANSFER DATE	PERMIT TYPE	STATUS
Australian Capital Territory	Completed	Class 1	With NHVR
	Completed	Class 3	With NHVR
New South Wales	30 April 2019	Class 1 agriculture	Underway
	2019	Class 1 SPV	Underway
	2019	Class 1 OSOM	Underway
	Completed	Class 3	With NHVR
Queensland	2019	Class 1	Underway
	Completed	Class 3	With NHVR
South Australia	Completed	Class 1	With NHVR
	Completed	Class 3	With NHVR
Tasmania	Completed	Class 1	With NHVR
	Completed	Class 3	With NHVR
Victoria	Completed	Class 1	With NHVR
	Completed	Class 3	With NHVR

Source: NHVR 2019a

Appendix B General and restricted access vehicles

Vehicle category	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia total	Participating jurisdiction total
Type T SPV	3,335	5,526	0	1,854	1,822	293	177	77	13,083	11,084
Type O SPV	1,394	790	6,055	628	2,928	125	277	39	12,236	9,030
B-doubles, B-triples, road trains	7,859	9,997	10,998	3,780	7,403	383	799	42	41,261	33,059
Rigid truck and trailer combinations exceeding mass and/or dimension limits	5,251	2,439	2,539	570	980	283	94	48	12,204	11,131
Total restricted access heavy vehicles	17,840	18,752	19,592	6,832	13,132	1,083	1,347	206	78,784	64,304
General access heavy vehicles	119,607	109,904	91,307	32,923	70,605	12,312	6,229	2,329	445,214	368,380
Total heavy vehicles	137,447	128,656	110,899	39,754	83,737	13,395	7,576	2,534	523,997	432,684

Notes and caveats on registration data

The table above is our best estimate of the number of restricted access and general access vehicles, using quarterly registration data provided by states and territories to produce an average for 2017–18.

Although it is our best estimate, the number of RAVs may be overestimated in some cases and underestimated in others, as highlighted by the following caveats.

- All type T and type O SPVs have been assumed to be RAVs for this analysis. Type P SPVs have been excluded on the basis that they are assumed to not be used on public roads.
- All multi-combination prime movers have been counted as RAVs, as they can be used in combinations such as B-doubles, B-triples and road trains. In practice, however, these prime movers may tow a single semitrailer on a given day.
- Rigid truck and trailer combinations have been assumed to be all medium combination trucks and long combination trucks, on the basis that these trucks would weigh more than 42.5 tonnes and/or be towing two or more trailers. In practice, however, these may operate without a trailer or have a GCM below 42.5 tonnes on a given day.
- We are unable to determine several categories of vehicle within each class of RAV from our registration dataset (for example, vehicle carriers, livestock carriers, buses between 12.5 and 14.5 metres and some vehicles not meeting height or mass limits).
- We expect that most PBS vehicles may already be captured as RAVs in the above table (as multi-combination prime movers or truck and trailer combinations). However, some PBS semitrailer combinations cannot be identified as restricted access vehicles within our dataset.

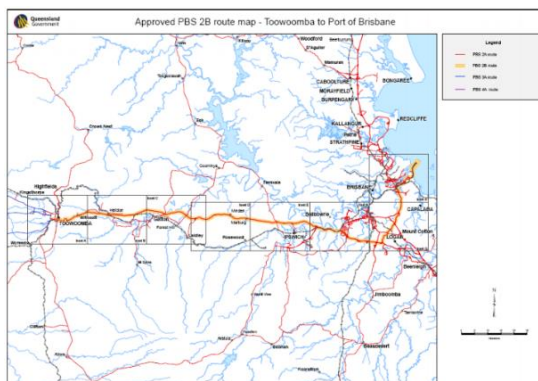
Appendix C Case studies

Toowoomba to Brisbane Port

Opening access to PBS class 2B vehicles on the route between Toowoomba and the Port of Brisbane has seen productivity gains of up to 100 per cent for carting grain to the port.

The route from Toowoomba to the Port of Brisbane is important to grain growers seeking to access export markets. Approximately 97 per cent of the Port of Brisbane's container trade is presently handled by road, but PBS class 2B vehicles were not permitted on the road network.

The Department of Transport and Main Roads (TMR) engaged ARRB Group to conduct a route assessment from Toowoomba to the Port of Brisbane for PBS class 2B vehicles. TMR classified the route suitable for PBS class 2B vehicles.



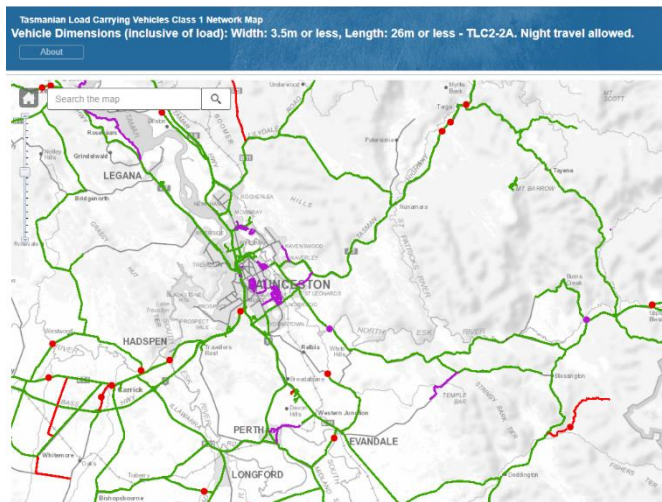
A transport operator who has benefitted from the opening of access to PBS class 2B vehicles stated they previously had to use a single trailer combination to move one 20-foot container to the port per trip, however their PBS class 2B vehicle allows for two containers of export grain to be moved per trip and a third empty container on return. The transport operator says that this has led to a doubling in productivity on the export leg, a reduction in trips by 50 per cent and a saving in fuel use of almost 40 per cent.

Modelling by TMR indicated that a transport operator would have needed to make 4 800 trips between Toowoomba and the Port of Brisbane to carry 120 000 tonnes per annum. With a PBS class 2B vehicle those trips could be reduced by half.

Department of State Growth – OSOM case study

The oversize overmass (OSOM) access project resulted in approximately 80 per cent of OSOM activity operating under notice.

In 2015 Tasmania's Department of State Growth (State Growth) began a project to create 'pre-consented' state and local road networks for OSOM vehicles under a gazetted notice. The purpose of the project was to maximise safe and efficient access for these vehicles and to minimise the need for permits.



State Growth was of the view that it was necessary to develop a series of 'pre-consented' networks under a notice, developed with the NHVR, to allow OSOM operators safe and efficient access, while managing road transport infrastructure.

At the time, State Growth understood that local government would not generally be sufficiently resourced to manage the volume of OSOM permit applications after the expiry of hundreds of 'various to various' permits. The Tasmanian Government provided State Growth with funding to engage civil engineering consultancy services to help develop the OSOM networks and undertake assessment of road corridors, bridges and other structures.

Industry participation was critical to being able to describe actual OSOM combinations and loads and to develop the **Tasmanian Class One Load Carrying Vehicle Guide**¹⁴.

State Growth adopted a partnership approach with industry and local government that involved consulting in small groups of eight to 10 people in regional areas.

State Growth used spatial technologies to create a **web map system**¹⁵ that displays OSOM network maps. Users enter vehicle details and the system automatically maps the approved network for that combination and load. The maps provide details on roads and bridges, pilot and escort requirements, load limits, speed restrictions and other features. The system can be used by infrastructure owners to inform future capital works programs and by industry to inform procurement of vehicle fleet.

¹⁴ <https://www.nhvr.gov.au/files/201705-0516-tas-class1-load-carrying-vehicle-guide-v4.pdf>.

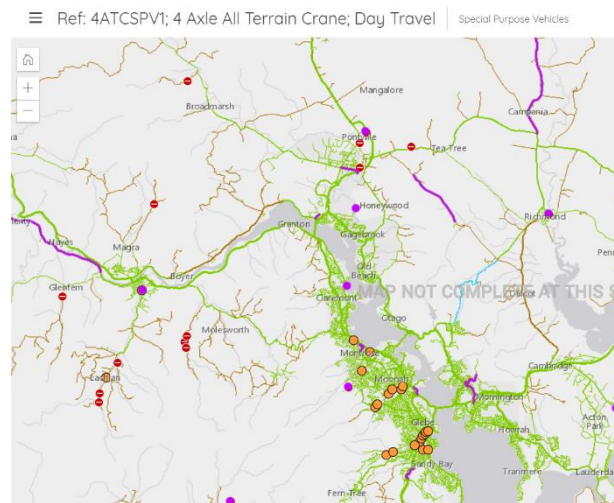
¹⁵ <https://data.stategrowth.tas.gov.au/Networks/?mapName=TLC1>.

Department of State Growth – SPV case study

State Growth is currently working on a project for SPVs. The SPV access project aims to have approximately 95 per cent of SPV activity operating under notice.

Typical examples of SPVs are mobile cranes, concrete pumps and drill rigs.

State Growth has another project underway to build on the OSOM access project and provide network access to SPVs. The aim of the project is to provide approximately 95 per cent of SPV access under notice, rather than via individual permits, and to publish this information in a web map system. State Growth and other Tasmanian road managers and industry partners are planning to launch the SPV system by July 2019 and are working with the NHVR to prepare the notice.



The SPV project has involved screening bridges to identify those that may not have adequate strength to facilitate access; assessing these bridges to determine their structural capacities; and assessing the various road geometry challenges to identify appropriate access conditions. This information is used in a web map system allowing industry, road managers and customers to view the roads that have access and any conditions that apply. The new SPV system will have a similar look and feel to the existing OSOM system, however it is more sophisticated in its ability to allow access under notice.

The SPV project involves assessing more than 3,000 bridge structures for a suite of possible SPV configurations (theoretically millions of variations). This equates to an average cost per bridge of several hundred dollars. However, if the assessments were to be undertaken individually in response to permits, a typical cost would exceed \$3,000 per bridge assessment. Consequentially the project delivers for customers and road managers, a comprehensive result at a lower cost, and without the need to procure and wait for each assessment to be undertaken if a case-by-case analysis model was used.

Additional benefits of the project include certainty of access for operators of existing SPVs and the ability for industry to instantly view road access for SPVs they are seeking to purchase to add to their fleet. Infrastructure owners can use the data to inform and prioritise future bridge strengthening and capital infrastructure programs to enhance levels of access.

State Growth has plans to build on the sophistication developed for the SPV project and create a web map system linked to notices and providing a single heavy vehicle access system that will optimise all heavy vehicle access under a notice, and minimise permits to only those activities that involve the highest risks.

Shire of Cardinia

The Shire of Cardinia, in the south-east of Melbourne, covers a broad range of areas including urban growth, agricultural, rural and mountainous areas.

There are more than 100 bridges in the council's road network, ranging from 1930s' timber bridges to current standards. For this project, the council assessed the load capacity of its bridges using a set of design vehicles ranging from HML to HPVs and cranes.¹⁶ The only type of vehicles not assessed were non-standard types such as OSOM.

Prior to this project being undertaken, the council didn't have the in-house skills to assess the load capacity of these bridges, relying on educated assumptions for some bridges.

With most bridges located in agricultural areas, the council obtained funding through a Victorian Government agricultural grant to undertake the assessments.

At the conclusion of the project, the council reviewed the network and increased the gazetted and pre-approved networks. Areas of the municipality that the council previously couldn't provide access to were now able to be accessed because the bridge suitability was known.

The information on the bridges was saved in the council's asset management system and linked with its geographic information system. This information is used when reviewing bridges to be able to quickly check if they are suitable for a given type of vehicle. Non-standard vehicles, such as OSOM vehicles, can be compared with the set of vehicles assessed to determine if a bridge is suitable for it based on mass, axle spacing and bridge dimensions or if an assessment is required.

This information is also used to inform the bridge capital works programs. This data is used to assist in determining replacement and strengthening works for the future.

By assessing the new categories of vehicles, the council is also ready for the newest heavy vehicles being introduced to the network.

¹⁶ A vehicle load assessment is different from a structural assessment.

City of Greater Dandenong

Dandenong Council is home to growing Victorian state significant industrial areas in Melbourne's south-east and hosts a significant volume of heavy vehicle transport.

The council has a policy of being open for business (as much as is practicable), supporting heavy vehicle operators and their access needs on its local roads. This policy is supported from the most senior levels (councillors) downwards.

Prior to the HVNL, the council received approximately 10 road access requests per annum. After the HVNL that number rose to more than 50 per week, with well over 3,000 in the first year (Austroads, 2018, p. 28).

The council reduced its 3,000+ access requests significantly by introducing pre-approvals for the more common access types. This has reduced the ongoing workload on the council's transport team by avoiding the need for team members to approve access requests on a case-by-case basis. In doing so, their administrative burden was reduced to approximately three to four applications per week that were not covered by pre-approved routes (Austroads, 2018, p. 28).

The task of developing a pre-approved road network has included both assessing road infrastructure for its suitability in being accessed by different heavy vehicle types and upgrading that infrastructure where necessary to make it suitable. The majority of access requests that are not pre-approved are SPVs or OSOM vehicles that cannot generally be pre-approved, or requests that could be better served than by using the pre-approved routes.

Council reviews applications to assess for structures, accessibility and amenity. Generally, this can be undertaken using a desktop review with information stored within council's asset database and vehicle swept path assessment software. These tools, along with the existing pre-approved network, allow relatively new council officers who are unfamiliar with the area to easily assess heavy vehicle applications.

This planned approach has supported the council in adopting an internal policy of assessing heavy vehicle access requests (that don't fall under pre-approval conditions) within two business days – well under the HVNL statutory limit of 28 days. The council has consistently (or uniformly) met this internal standard.

Common terms and abbreviations

Abbreviation	Term
ALRTA	Australian Livestock and Rural Transporters' Association
ALGA	Australian Local Government Association
CML	concessional mass limits
GML	general mass limits
HML	higher mass limits
HPV	higher productivity vehicle
HVNL	Heavy Vehicle National Law
HVS	Heavy Vehicle Services
IAP	Intelligent Access Program
NFF	National Farmers' Federation
NHVAS	National Heavy Vehicle Accreditation Scheme
NHVR	National Heavy Vehicle Regulator
NTC	National Transport Commission
OSOM	oversize overmass
PBS	performance based standards
RAV	restricted access vehicle
SARTA	South Australian Road Transport Association
SPV	special purpose vehicle

References

- Australian Livestock and Rural Transporters Association (ALRTA), 2017, *Inquiry into National Freight and Supply Chain Priorities*, viewed 18 April 2019, <https://infrastructure.gov.au/transport/freight/freight-supply-chain-submissions/Aust_Livestock_and_Rural_Transport_Assoc.pdf>.
- Australian Local Government Association (ALGA), 2017, *Submission to the Department of Infrastructure and Regional Development Australia in response to the National Freight and Supply Chain Priorities Discussion Paper May 2017*, viewed 18 April 2019, <https://infrastructure.gov.au/transport/freight/freight-supply-chain-submissions/ALGA_submission.pdf>.
- Australian Local Government Association (ALGA), 2018, *National State of the Assets*, viewed 18 April 2019, <https://alga.asn.au/site/misc/alga/downloads/publications/2018-National-State-of-the-Assets.pdf?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter:33063&utm_content=>>.
- Australian Trucking Association (ATA), 2018, *Inquiry into impediments to business investment*, viewed 18 April 2019, <<http://www.truck.net.au/sites/default/files/submissions/20180511ATAsubmissionInquiryImpedimentstoBusinessInvestment.pdf>>.
- Austroads, 2010, *Guidelines for Assessing Heavy Vehicle Access to Local Roads*, viewed 18 April 2019, <<https://www.onlinepublications.austroads.com.au/items/AP-R367-10>>.
- Austroads, 2014, *Quantifying the Benefits of High Productivity Vehicles*, viewed 18 April 2019, <<https://austroads.com.au/publications/freight/ap-r465-14>>.
- Austroads, 2015, *Harmonisation of pilot and escort vehicle driver requirements: Stage 2*, viewed 18 April 2019, <<https://austroads.com.au/publications/freight/ap-r482-15>>.
- Austroads, 2018, *Local road access for high productivity freight vehicles*, viewed 18 April 2019, <https://austroads.com.au/publications/freight/ap-r559-18/media/AP-R559-18-Local_Road_Access_for_High_Productivity_Freight_Vehicles.pdf>.
- City of Greater Dandenong, 2019, *Response to National Transport Commission's issue paper: A risk based approach to regulating heavy vehicles*, viewed 18 April 2019, <<https://www.ntc.gov.au/media/1988/hvnlr-risk-based-regulation-submission-city-of-greater-dandenong.pdf>>.
- Deloitte, 2019, *Economic benefits of improved regulation in the Australian trucking industry*, viewed 18 April 2019, <<https://www2.deloitte.com/au/en/pages/economics/articles/economic-benefit-improved-regulation-australian-trucking-industry.html>>.
- Department of Infrastructure and Regional Development, 2014, *Surface Transport Policy, Community engagement on freight issues, Case study compendium*, viewed 18 April 2019, <https://infrastructure.gov.au/transport/freight/files/Case_Study_Compendium_Community_Engagement_on_Freight_Issues.pdf>.
- Department of Infrastructure, Planning and Logistics, 2018a, *Motor Vehicle Registry Information Bulletin, V33 – Innovative Vehicle Combinations*, viewed 23 May 2019, <https://nt.gov.au/_data/assets/pdf_file/0009/374346/ibv33-innovative-vehicle-combinations.pdf>.
- Department of Infrastructure, Planning and Logistics, 2018b, *Permit Guidelines for Oversize and Overmass Vehicles*, viewed 18 April 2019, <https://nt.gov.au/_data/assets/pdf_file/0005/163949/permit-guidelines-for-oversize-and-overmass-vehicles.pdf>.

Department of Infrastructure, Regional Development and Cities, 2018a, *Inquiry into National Freight and Supply Chain Priorities*, viewed 18 April 2019, <https://infrastructure.gov.au/transport/freight/freight-supply-chain-priorities/files/Inquiry_Report.pdf>.

Department of Infrastructure, Regional Development and Cities, 2018b, *Review of Oversize Overmass (OSOM) Access Arrangements*, viewed 18 April 2019, <https://infrastructure.gov.au/vehicles/vehicle_regulation/files/Oversize_Overmass_review_September_2018_FINAL_REPORT_sans_appendices.pdf>.

Local Government Association of Queensland, 2017, *Inquiry into National Freight and Supply Chain Priorities*, viewed 18 April 2019, <[https://infrastructure.gov.au/transport/freight/freight-supply-chain-submissions/Local Govt Association of QLD.pdf](https://infrastructure.gov.au/transport/freight/freight-supply-chain-submissions/Local_Govt_Association_of_QLD.pdf)>.

Main Roads Western Australia, 2017, *Framework – Adding a Local Government Road to a Restricted Access Vehicle Network*, viewed 18 April 2019, <<https://www.mainroads.wa.gov.au/Documents/Framework%20-%20Adding%20a%20Local%20Government%20Road%20to%20a%20Restricted%20Access%20Vehicle%20Network%20-%20As%20at%20August%202017.RCN-D17%5E23676356.PDF>>.

Main Roads Western Australia, 2018, *Standard Restricted Access Vehicle (RAV) Route Assessment Guidelines*, viewed 18 April 2019, <[https://www.mainroads.wa.gov.au/Documents/Standard%20Restricted%20Access%20Vehicle%20\(RAV\)%20Route%20Assessment%20Guidelines%20-%20As%20at%20September%202018.RCN-D18%5E23803147.PDF](https://www.mainroads.wa.gov.au/Documents/Standard%20Restricted%20Access%20Vehicle%20(RAV)%20Route%20Assessment%20Guidelines%20-%20As%20at%20September%202018.RCN-D18%5E23803147.PDF)>.

National Farmers' Federation (NFF), 2017, *Submission to the National Freight and Supply Chain Strategy*, viewed 18 April 2019, <[https://infrastructure.gov.au/transport/freight/freight-supply-chain-submissions/National Farmers Federation.pdf](https://infrastructure.gov.au/transport/freight/freight-supply-chain-submissions/National_Farmers_Federation.pdf)>.

National Heavy Vehicle Regulator (NHVR), 2016a, *Local government in focus – Moree Plains Shire Council*, viewed 18 April 2019, <<https://www.nhvr.gov.au/news-events/hv-tv/local-government-videos>>.

National Heavy Vehicle Regulator (NHVR), 2016b, *Regulation of Australian Agriculture Productivity Commission Draft Report*, viewed 18 April 2019, <https://www.pc.gov.au/data/assets/pdf_file/0018/207036/subdr192-agriculture.pdf>.

National Heavy Vehicle Regulator (NHVR), 2016c, *National heavy vehicle mass and dimension limits*, viewed 27 May 2019, <<https://www.nhvr.gov.au/files/201607-0116-mass-and-dimension-limits.pdf>>.

National Heavy Vehicle Regulator (NHVR), 2019a, *Delegations Project*, viewed 17 May 2019, <<https://www.nhvr.gov.au/road-access/access-management/delegations-project>>.

National Heavy Vehicle Regulator (NHVR), 2019b, *LGA Road Manager Consent Performance 2019-19 Q3*, viewed 18 April 2019, <<https://app.powerbi.com/view?r=eyJrIjoiaNTMwNmI1NjktY2VIZC00NjQ5LTgxY2UtNzk5YWZkN2RmNGZhliwidCI6ImM2ZjAyZTMwLWRjZGUtNDQzZi1hZGVjLWNkYzFiZDVkZjZkZjY9>>.

National Heavy Vehicle Regulator (NHVR), 2019c, *NHVR On the Road*, viewed 8 May 2019, <<https://www.nhvr.gov.au/files/201904-1045-on-the-road-issue-58.pdf>>.

National Heavy Vehicle Regulator (NHVR), 2019d, *National Heavy Vehicle Regulator Classes of Heavy Vehicles*, viewed 17 May 2019, <<https://www.nhvr.gov.au/files/201708-0672-classes-of-heavy-vehicles-in-hvnl.pdf>>.

National Heavy Vehicle Regulator (NHVR), 2019e, *Oversize Overmass (OSOM) vehicles*, viewed 17 May 2019, <<https://www.nhvr.gov.au/files/201402-0121-oversize-overmass.pdf>>.

National Transport Commission (NTC), 2011a, *Heavy Vehicle National Law Regulation Impact Statement September 2011*, viewed 18 April 2019, <[https://www.ntc.gov.au/Media/Reports/\(93553E07-FCA8-7238-D6B9-4D1CEF88ECE3\).pdf](https://www.ntc.gov.au/Media/Reports/(93553E07-FCA8-7238-D6B9-4D1CEF88ECE3).pdf)>.

National Transport Commission (NTC), 2011b, *Performance Based Standards Regulatory Impact Statement*, viewed 18 April 2019, <[https://www.ntc.gov.au/Media/Reports/\(6585A591-25E5-FA9F-1A07-0E2B67330D5C\).pdf](https://www.ntc.gov.au/Media/Reports/(6585A591-25E5-FA9F-1A07-0E2B67330D5C).pdf)>.

National Transport Commission (NTC), 2014, *Harmonisation of Pilot and Escort Vehicle Driver Requirements – National Accreditation Scheme*, viewed 18 April 2019, <[https://www.ntc.gov.au/Media/Reports/\(6FBA188D-0DD6-4F35-CAC2-40D16042E371\).pdf](https://www.ntc.gov.au/Media/Reports/(6FBA188D-0DD6-4F35-CAC2-40D16042E371).pdf)>.

National Transport Commission (NTC), 2017, *Assessing the effectiveness of the PBS Scheme Discussion Paper*, viewed 18 April 2019, <[https://www.ntc.gov.au/Media/Reports/\(EE70D6AE-0895-3CE0-C3C4-6AEE88C7138F\).pdf](https://www.ntc.gov.au/Media/Reports/(EE70D6AE-0895-3CE0-C3C4-6AEE88C7138F).pdf)>.

National Transport Commission (NTC), 2018, *Review of regulatory telematics*, viewed 18 April 2019, <[https://www.ntc.gov.au/Media/Reports/\(58FFC40D-7F0C-C889-F83E-107C3BE07825\).pdf](https://www.ntc.gov.au/Media/Reports/(58FFC40D-7F0C-C889-F83E-107C3BE07825).pdf)>.

Queensland Audit Office, 2016, *Heavy vehicle road access reforms*, viewed 18 April 2019, <https://www.qao.qld.gov.au/sites/all/libraries/pdf.js/web/viewer.html?file=https%3A%2F%2Fwww.qao.qld.gov.au%2Fsites%2Fqao%2Ffiles%2Freports%2Frtg_road_access_reforms_for_heavy_vehicles_report_20_2015-16.pdf>.

Transport for NSW, 2018, *NSW Heavy Vehicle Access Policy Framework*, viewed 5 June 2019, <https://www.transport.nsw.gov.au/system/files/media/documents/2018/TfNSW%20Heavy%20Vehicle%20Access%20Policy%20Framework_0.pdf>.