



Effective enforcement

September 2019

Issues paper

Report outline

Title	Effective enforcement
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 (HVNL). This is one of eight issues papers that seek your feedback on the HVNL as it is, and opportunities to improve it.
Submission details	<p>The NTC will accept submissions until Thursday 31 October 2019 online at www.ntc.gov.au or by mail to:</p> <p>National Transport Commission Public submission – Effective enforcement Level 3, 600 Bourke Street Melbourne VIC 3000</p>
Attribution	<p>This work should be attributed as follows:</p> <p>Source: National Transport Commission 2019, <i>Effective enforcement</i>, Issues paper, NTC, Melbourne.</p> <p>If you have adapted, modified or transformed this work in any way, please use the following:</p> <p>Source: Based on National Transport Commission 2019, <i>Effective enforcement</i>, Issues paper, NTC, Melbourne.</p>
Key words	Heavy Vehicle National Law Review, HVNL, heavy vehicles, compliance, enforcement, technology, data
Contact	<p>National Transport Commission Level 3/600 Bourke Street Melbourne VIC 3000 Ph: (03) 9236 5000 Email: enquiries@ntc.gov.au www.ntc.gov.au</p>

Have your say

What to submit

The views of a broad range of stakeholders are crucial to developing agreeable and workable policy options. This is why the National Transport Commission (NTC) invites stakeholders to consider the questions asked in this paper. The questions are provided as a guide only. You're welcome to provide us with feedback on any aspect of this issues paper.

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 **HVNL review website**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 **Thursday 31 October 2019**.


Submissions or feedback received on or before this date will be able to be considered as part of the review.

How to submit

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

Making a submission

 Visit **www.ntc.gov.au** and select 'Submissions' from the top navigation menu.

 Send a hard copy to:

National Transport Commission
Public submission – Effective enforcement
Level 3, 600 Bourke Street
Melbourne VIC 3000

Where possible, you should provide evidence, such as data and documents, to support the views in your submission.

¹ www.hvnreview.ntc.gov.au


Publishing your submission

Unless you clearly ask us not to, we publish all the submissions we receive online. Submissions made on a confidential basis will not be published but may be shared with parties who have entered into a deed of confidentiality with the NTC for the purpose of the HVNL review. 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 website.

 Visit www.hvnireview.ntc.gov.au and select 'Effective enforcement' to participate in surveys, forums and polls relating to matters presented in this issues paper.

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.hvnireview.ntc.gov.au

Contents

Report outline.....	2
Have your say.....	3
Purpose of this paper	7
Executive summary	8
1 About this project.....	11
1.1 Project objectives	11
1.1.1 Purpose of the review	11
1.1.2 Background	11
1.1.3 NTC's approach to the review	12
1.2 This issues paper	13
1.2.1 Purpose	13
1.2.2 Scope of the paper	13
2 Compliance and enforcement.....	14
2.1 Relationships of compliance, enforcement, data and technology	14
2.1.1 Objects of the law should be supported by compliance	15
2.1.2 Compliance is supported by effective enforcement	15
2.1.3 Data-driven, risk-based enforcement	15
2.2 Driving compliance with effective enforcement	16
2.2.1 Compliance attitudes and enforcement responses	16
2.2.2 Enforcement theories	17
2.2.3 Enforcement approaches	18
2.3 Technology and data for effective compliance and enforcement	19
2.3.1 Data, information, knowledge and technology hierarchy	19
2.3.2 Technology and data driving compliance and risk-based enforcement	20
2.3.3 Privacy and sharing data	20
3 Compliance and enforcement under the HVNL	22
3.1 Compliance responsibilities under the HVNL	22
3.1.1 Role of the operator and those in the chain of responsibility	22
3.1.2 Multiple reasons for noncompliance	22
3.1.3 Prescriptive and performance-based requirements	23
3.1.4 The primary duty	23
3.1.5 Compliance responsibilities for vehicle operations	24
3.1.6 Compliance responsibilities for fatigue	24
3.2 Enforcement roles and tools under the HVNL	24
3.2.1 Role of the regulator	24
3.2.2 Role of authorised officers	24
3.2.3 Role of police	25
3.2.4 Enforcement tools	25
3.3 Technology and data under the HVNL	26
3.3.1 Intelligent Access Program	27
3.3.2 Electronic Work Diary	29

3.3.3	Other sources of technology and data	29
3.4	Technology and data outside the HVNL	29
3.4.1	On-board mass	29
3.4.2	Fatigue and driver distraction monitoring devices	30
3.4.3	Road Infrastructure Management application	32
4	Compliance and enforcement challenges	33
4.1	Difficulty complying with the law	33
4.2	Inefficient and inconsistent enforcement	34
4.3	Data ownership, privacy, quality, security and sharing	35
4.4	Limited and inconsistent recognition of technology in the HVNL	37
5	Aspirations for a better law	39
5.1	Meeting the objects of the law through compliance	39
5.2	A law that is easy to comply with	39
5.3	Effective enforcement	40
5.4	Making use of technology and data	40
6	Next steps	42
6.1	Have your say	42
6.2	Future publications	42
Appendix A	Danish principles for digital-ready legislation	43
Appendix B	Australian Privacy Principles	44
Appendix C	Enforcement tools	46
Appendix D	Review of regulatory telematics recommendation	49
Common terms and abbreviations		50
References		51

Figures

Figure 1.	HVNL review issues papers	12
Figure 2.	HVNL review timeline	12
Figure 3.	Relationship between compliance, enforcement, technology and data	14
Figure 4.	Enforcement pyramid	17
Figure 5.	Technology generating data, information and knowledge	20
Figure 6.	Enforcement tools in the HVNL	25

Purpose of this paper

The National Transport Commission (NTC) is reviewing the Heavy Vehicle National Law (HVNL). The goal is a modern, outcome-focused law – one that improves safety and supports increased productivity and innovation such as new technologies and methods of operation. A law that simplifies administration, simplifies compliance and enforcement and increases flexibility.

This is one of eight issues papers.

The purpose of this paper is to:

- describe how compliance, enforcement, data and technology relate
- summarise the current state and identify challenges under the HVNL
- elicit options for a future HVNL enforcement approach for making better use of information, data and technology
- seek feedback on whether this paper has captured all the relevant issues.

The NTC invites your responses to the questions and issues covered in this paper.

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

Executive summary

The Transport and Infrastructure Council directed the NTC to review the HVNL from first principles. The HVNL commenced in 2014 and has been amended regularly 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 comprises a safe driver, a safe vehicle and a suitable route. This issues paper covers the role of enforcement to encourage compliance and the use of technology and data to support these activities.

How compliance, enforcement, technology and data relate

Compliance is about meeting standards and following rules in the law. The standards and rules in the law should be linked to the objects – or goals – of the law. Compliance with heavy vehicle laws and enforcement of those laws when compliance fails are important for several reasons. These include safety for all road users, equity, management of public infrastructure and health and wellbeing.

A range of tools can be used to drive compliance, and effective enforcement is key. Effective enforcement responds to noncompliance in a way that targets the root cause and is proportionate to the severity of the incident.

When used effectively, data can support compliance and enforcement outcomes. For this to happen, data must be processed, analysed and turned into information and knowledge.

Technology doesn't create information – it only generates data. When data is organised, collated, analysed and interpreted it becomes information. Structured systems need to be in place to generate and transfer data for it to become information and knowledge, ultimately to increase the effectiveness of enforcement.

Telematics, data and in-vehicle technology can also help build an effective safety culture, helping regulated parties meet their compliance obligations. From an enforcement perspective, technology is a valuable tool for enforcement agencies and regulators.

The *Privacy Act 1988* (Cwlth) and Australian Privacy Principles regulate privacy and sharing of data and information. States and territories apply their own privacy legislation slightly differently.

Current state of compliance and enforcement

Compliance with the HVNL is difficult because of the law's complexity and rigidity. Effective enforcement is a challenge given the quantity and diversity of regulated parties.

Under the HVNL, the operator of a vehicle is a person who is responsible for controlling or directing the use of the vehicle. Operators have to comply with duties and rules. There are multiple reasons for non-compliance by operators and drivers.

Legislation includes different requirements that regulated parties have to comply with. There are specific compliance responsibilities for the primary duty, vehicle operations and fatigue.

There are several enforcement tools available under the HVNL to encourage and compel compliance. These include improvement notices, formal warnings, enforceable undertakings, prohibition notices, infringements notices, demerit points and court-imposable penalties.

Technology and data are used by operators for both regulatory and commercial purposes. For regulators, data is an important component that underpins intelligence-led activities and strategies and supports risk-based regulation. For governments, data can help improve planning, investment decision making, asset maintenance and transport operations and to support the design and delivery of new infrastructure.

The Intelligent Access Program (IAP) and Electronic Work Diary (EWD) are regulated under the HVNL. There are other forms of technology that the heavy vehicle sector uses such as on-board mass, fatigue and driver distraction monitoring devices and Road Infrastructure Management application. These are not recognised under the HVNL.

Challenges under the HVNL

Operators and other regulated parties have the primary responsibility for complying with the law. Most drivers and operators want to comply with their legal obligations under the HVNL and are willing and able to 'do the right thing'. The complexity and rigidity of the law makes compliance difficult, even with the best of intentions.

For roadside enforcement to be effective, there must be an efficient system of identifying breaches, understanding motivations for noncompliance and taking suitable action. The HVNL relies heavily on roadside enforcement to detect noncompliance. It can be costly, resource-intensive and can result in a low number of detections.

There are several heavy vehicle enforcement bodies including the regulator, state and territory road authorities and police. Each of these have differing enforcement approaches and powers.

There are challenges with data ownership, security, quality and sharing. Where data exists, it's often not shared. Where it is shared, datasets can be incompatible or of poor quality and unable to be accessed by other parties or systems.

The HVNL poorly accommodates advances in technology, data and electronic communications. The HVNL only recognises the IAP and EWD as forms of technology that can be used for regulatory purposes. There are many forms of technology that can provide value to industry, government and regulators that the law doesn't acknowledge or accommodate.

Aspirations for a better law

Through this issues paper, the NTC seeks your views on how we can:

- better align the objects of the law to compliance
- deliver a future law that is easier to comply with
- make enforcement more efficient and effective, underpinned by better information.

Questions

The NTC invites you to provide your views on the HVNL as it relates to compliance and technology by **Thursday 31 October 2019**. We are particularly interested in your responses to the following questions, but they are provided as a guide. You are welcome to provide us with feedback on any aspect of this issues paper.

- Question 1: Which compliance obligations in the HVNL that do not link to safety and efficiency are most important for us to remedy as part of this review? 15
- Question 2: How can the law better support a risk-based regulatory approach to enforcement? How can the law support consistency, predictability and proportionality in enforcement responses? 19
- Question 3: Are all enforcement tools being used effectively? If not, why not? Could a different set of enforcement tools give us better compliance outcomes? 26
- Question 4: How can data and information be better used to support enforcement under the HVNL? Who should own the data, who should be able to access it, and how should privacy and security concerns be managed? 37
- Question 5: Have we covered the issues relating to supporting compliance through effective enforcement, technology and data accurately and comprehensively? If not, what do we need to know? 38
- Question 6: What are some options for the future law to improve the current compliance and enforcement approach? How can the law best support enforcement strategies aligned to a risk-based approach to regulation? 41

1 About this project

Key points

- The Transport and Infrastructure Council directed the National Transport Commission to review the Heavy Vehicle National Law from first principles.
- The Heavy Vehicle National Law commenced in 2014. Despite numerous amendments to the law over the years, there is a view that it's not functioning as effectively as it could.
- This issues paper explores how technology and data can underpin compliance and enforcement under a new law.

1.1 Project objectives

1.1.1 Purpose of the review

The goal of the Heavy Vehicle National Law (HVNL) review is to deliver a modern, outcome-focused law regulating the use of heavy vehicles. The review is being undertaken by the National Transport Commission (NTC) from a first-principles perspective. We expect this will lead to a recast HVNL, rather than changes to the existing law. The aim is that the future HVNL will:

- improve safety for all road users
- support increased economic productivity and innovation
- simplify compliance with the HVNL, and 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 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 varied application and enforcement of the HVNL.

In November 2018 the Transport and Infrastructure 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.

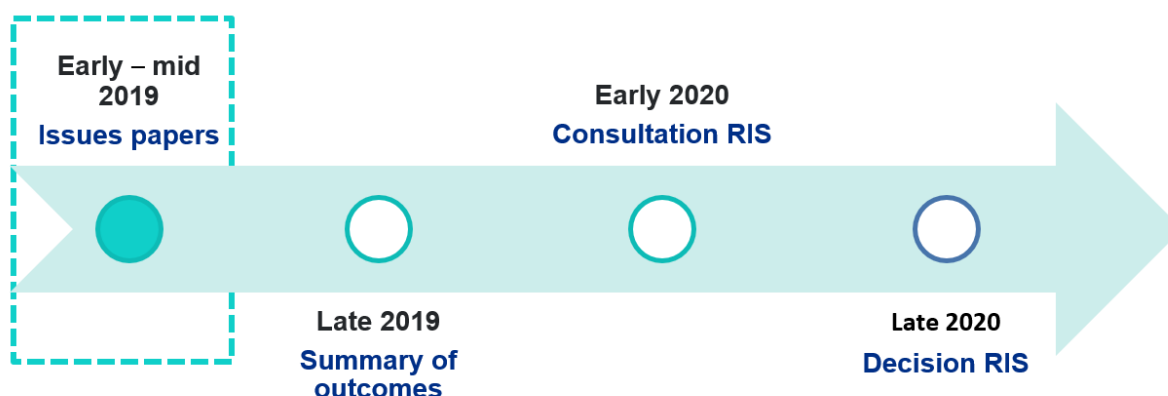
Figure 1. HVNL review issues papers

<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	Assurance models	Effective enforcement	Other policy matters



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

Figure 2. HVNL review timeline



RIS = regulatory impact statement

³ www.hvnreview.ntc.gov.au

⁴ www.hvnreview.ntc.gov.au

1.2 This issues paper

1.2.1 Purpose

The purpose of this issues paper is to:

- describe how compliance, enforcement, data and technology relate
- summarise the current state and identify challenges under the HVNL
- elicit options for a future HVNL enforcement approach for making better use of information, data and technology
- seek feedback on whether this paper has captured all the relevant issues.

1.2.2 Scope of the paper

This is one of two papers that address the linked issues of compliance, enforcement and assurance. The HVNL, like all laws, sets out specific things regulated parties – that is, those covered by the law – must do to achieve the objects of the law.

- Compliance is about doing the things the law requires. It addresses how the regulated parties must behave.
- Enforcement is concerned with detecting those who are not doing the things the law requires or are doing things the law prohibits. It identifies noncompliant behaviour and leads to sanctions that penalise and discourage that behaviour.
- Assurance is a way for regulated parties to demonstrate they are doing the things the law requires. Assurance schemes set out procedures that, if followed, will lead regulated parties to behave consistently with the requirements of the law and will deliver the objects of the law. They're also a way to demonstrate and encourage compliant behaviour, usually through independent audit.

Both enforcement and assurance are intended to promote behaviour that complies with the requirements of the law. Enforcement identifies and addresses noncompliant behaviour. Assurance identifies and promotes compliant behaviour. An effective assurance scheme can contribute to better and more effective targeting of enforcement resources. In doing so, it delivers greater efficiency overall in achieving the safety and productivity objects of the law.

This paper focuses on effective enforcement.

Out of scope for the paper

The NTC is currently considering the following issues as part of a separate project:

- fleet entry and use of automated vehicles
- the regulation of access to cooperative intelligent transport system and automated vehicle data.

The regulatory framework designed by the NTC as part of that project will capture heavy vehicles. We will consult with heavy vehicle operators, suppliers and manufacturers on potential policy and legislative options.

These issues will not be covered in this paper.

2 Compliance and enforcement

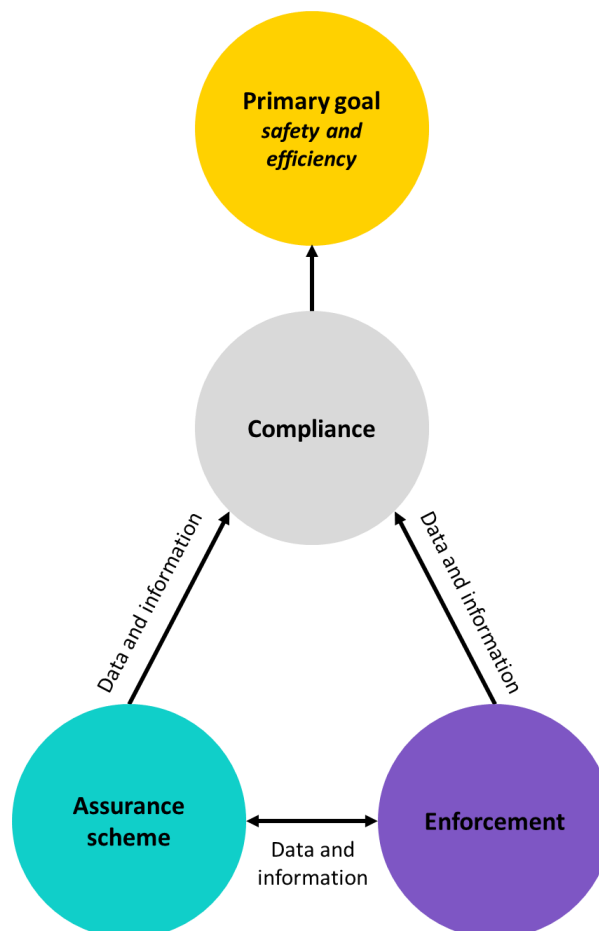
Key points

- Compliance, enforcement, data and technology should play a critical role in achieving the primary goal of the law.
- Effective enforcement targets noncompliance incidents in a proportionate way to address the root cause. Information and knowledge are key.
- Technology doesn't create knowledge on its own. Rather, there is a multi-step process that uses technology, data and information to produce knowledge and assist with planning, training and decision making.
- The *Privacy Act 1988* (Cwlth) and Australian Privacy Principles regulate privacy and the sharing of data and information.

2.1 Relationships of compliance, enforcement, data and technology

Compliance, enforcement, data and technology should play a critical role in achieving the primary goal of the law. These components interlink (see Figure 3). Their relationship is explained in the following sections.

Figure 3. Relationship between compliance, enforcement, technology and data



Due to its complexity and rigidity, the HVNL is difficult to comply with. Enforcement can be inefficient and inconsistent, in part due to a lack of information about regulated parties and noncompliance.

Many operators don't have sophisticated technology systems to collect data and information to assist with compliance, and those that do are not afforded any flexibility for managing their risks and demonstrating compliance.

Changes to the law may support more efficient compliance and enforcement activities.

2.1.1 Objects of the law should be supported by compliance

Compliance is about meeting standards and following rules in the law. The standards and rules in the law should be linked to the objects – or goals – of the law.

However, compliance with the law doesn't necessarily equate to delivering the objects of the law. The HVNL has a number of rules that must be followed that have no link – or, at best, tenuous links – to safety and efficiency.

Enforcing compliance with such rules delivers limited public good at substantial public and private cost and may divert enforcement attention and resources away from what really matters.

Question 1: Which compliance obligations in the HVNL that do not link to safety and efficiency are most important for us to remedy as part of this review?

2.1.2 Compliance is supported by effective enforcement

Enforcement is the response to noncompliance. Presuming compliance obligations are sensible, effective enforcement helps empower operators to comply (through education, for example) and offers a proportionate deterrence to those who might be willing to do the wrong thing.

To enforce the law effectively, regulators need accurate information about instances of noncompliance. This includes when, where, how and why it occurs. This information allows enforcement to target the highest risks in an efficient and cost-effective way. Without it, regulators may struggle to address material risks to safety.

Effective enforcement addresses the causes of noncompliance with the law. Information on when and where noncompliance occurs is also central to effective enforcement. Roadside enforcement is resource-intensive and relies on probabilistic detection. While it seems likely to remain necessary, it can be supported with more knowledge-driven approaches.

Information can support the highest risks being targeted and enforcement resources being allocated efficiently. There is also a role for data, and technology as a significant generator of data, to inform enforcement approaches and drive higher levels of compliance.

2.1.3 Data-driven, risk-based enforcement

When used effectively, data can support compliance and enforcement outcomes. For this to happen, data must be of a standard that can be analysed and turned into information and knowledge.

Many sources of data are available to regulators. Technology is a major data generator. Other data sources include:

- roadside intercepts
- registration
- licensing and assurance status and auditing outcomes.

The collection of quality data that can be exchanged and used can be a valuable resource. Operators can use it to drive compliance, and regulators can use it to underpin risk-based enforcement and assurance schemes. For example, collecting and sharing quality data could help regulators build risk profiles across the heavy vehicle industry. Using data would provide an efficient and cost-effective way to approach enforcement and address the highest risks.

Technology doesn't create information – it only generates data. When data is organised, collated, analysed and interpreted it becomes information. Structured systems need to be in place to generate and transfer data for it to become information and knowledge.

Operators, regulators and enforcement resources use technology for compliance and enforcement purposes. The technology generates data that can be analysed to become information. This information can then be used to inform decision making, improve safety culture and underpin commercial and regulatory activities.

To realise these benefits, the HVNL needs flexibility to accommodate technology and provide safeguards and confidence around data collection and use. As risks and harms evolve over time, the law must respond.

2.2 Driving compliance with effective enforcement

2.2.1 Compliance attitudes and enforcement responses

Compliance with heavy vehicle laws and enforcement of those laws when compliance fails are important for several reasons. These include safety for all road users, equity, protection of infrastructure and health and wellbeing (NTC, 2013, p. 5).

There are two parties involved in compliance and enforcement:

- a regulated party, who must comply with the rules in the law
- a regulator to enforce compliance with the rules in the law (this includes those working on the regulator's behalf).

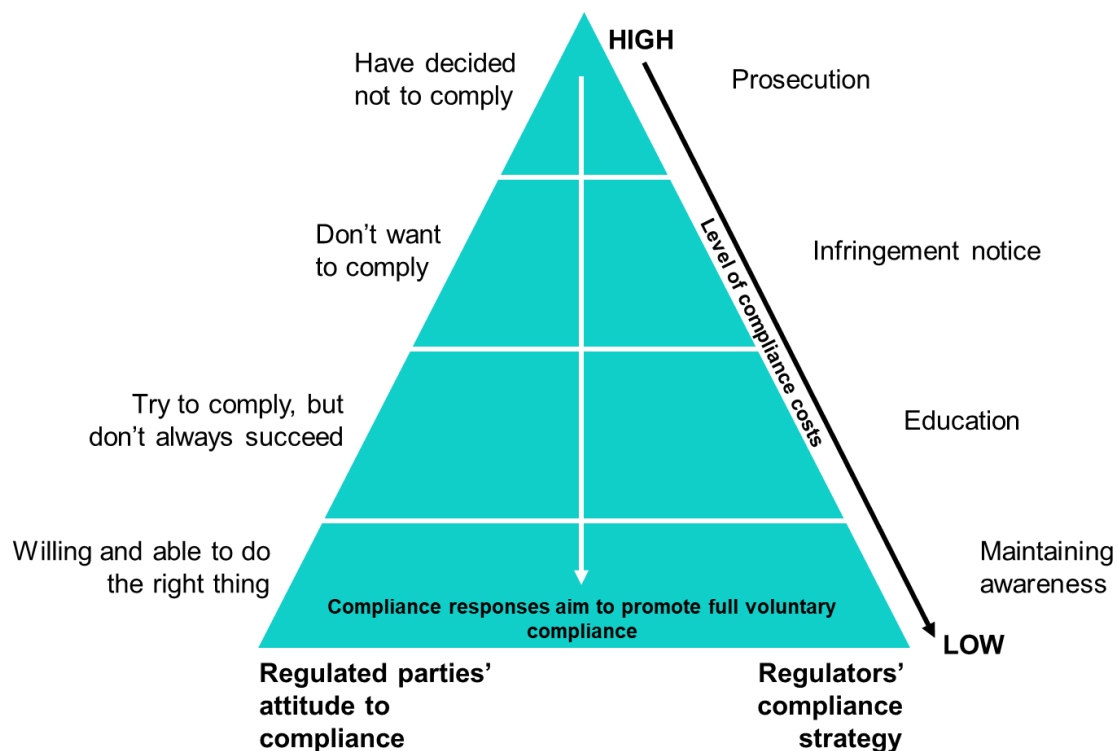
Compliance rates are more likely to increase when rules are reasonable and easy to understand. Compliance should be the easy option.

The enforcement pyramid model shows a continuum of a regulated parties' attitudes towards compliance (see Figure 4). At the base of the pyramid, they are willing and able to do the right thing. From a regulator's perspective, this is the desired attitude. At the other extreme, the regulated parties have decided not to comply.

Effective enforcement targets each noncompliance incident with a response that is proportionate to where the incident sits on the pyramid. It doesn't treat all noncompliance in the same way. Instead, it imposes a suitable enforcement strategy until the offender complies.

Under this model the full, punitive force of the law is only directed towards those who have decided not to comply (NTC, 2013, p. 28). In contrast, more educative or persuasive strategies are used with those who are inclined to comply but have made an inadvertent mistake or misinterpreted the rules and their implications (NTC, 2013, p. 28).

Figure 4. Enforcement pyramid



Adapted from Braithwaite, 2018

2.2.2 Enforcement theories

Traditional enforcement

Traditional enforcement is modelled on 'command and control' mechanisms. It focuses on detecting and punishing noncompliant behaviour that is directly observed (NTC, 2013, p. 26). It's a reactive approach to enforcement, applying only after the offence has been committed.

Under this approach different sanctions are used, including fines, defect notices, driver demerit points, restrictions on business with transport regulators and revocation of the right to drive or to property.

The traditional 'command and control' approach to compliance has several limitations that reduce its effectiveness. It's very difficult to police long stretches of roads in rural and remote areas that see little traffic. Yet the road toll is higher in rural and remote areas than in urban areas. The density of traffic in inner urban areas is another challenge. It makes interception for roadside enforcement purposes unsafe or impractical at times.

The traditional approach also focuses on the driver rather than other participants in the supply chain that can influence compliance. This means that the economic and cultural factors that may have contributed to the breach remain invisible and unchallenged (NTC, 2013, p. 26).

The effectiveness of fines as a sanction is also reduced. Operators may see them as another cost of doing business, like a tax or other business expense (NTC, 2013, p. 26). This is particularly true when challenging a fine may be impractical, given the broad coverage of the country by heavy vehicle drivers – the fine may have been issued thousands of kilometres away. It's often easier to simply pay it and move on.

Risk-based regulation

Regulators and enforcement bodies have recognised the shortfalls of the traditional compliance approach. This has led them to explore alternative regulatory approaches and develop 'risk-based regulation'.

Risk-based regulation is characterised by two key elements (NTC, 2013, p. 27):

- recognition of what motivates noncompliant behaviour; for example, an educative approach is more likely to produce a desired behaviour than an infringement
- intervention proportionate to the risk presented by the behaviour – this requires a suite of intervention strategies that apply in different circumstances.

For further information on risk-based regulation, see the first issues paper, *A risk-based approach to regulating heavy vehicles* (NTC, 2019b).

2.2.3 Enforcement approaches

Roadside enforcement

Roadside enforcement is based on visible enforcement activities that rely on identifying breaches, understanding motivations for noncompliance and taking subsequent action (NTC, 2014, p. 16). Traditional enforcement and roadside enforcement are the key strategies to ensure compliance used by regulators and enforcement agencies.

On-road enforcement activities include:

- mobile road patrols, including vehicle intercepts
- inspection at fixed sites, such as heavy vehicle safety stations
- local and national operations that target key safety risks and trends, including joint operations with partner agencies
- informing and educating industry participants to help them understand their safety and compliance obligations, including providing information at roadside interventions, industry forums and toolbox talks.

Enforcement action should respond to safety risks and noncompliant behaviour in a way that is proportionate and consistent, including prosecution where necessary.

The way offenders are treated at roadside interventions influences operators' willingness to comply with the law. Consistent and proportionate treatment can help drive compliance. In contrast, operators' goodwill is eroded when operators perceive enforcement is heavy-handed, unpredictable and disproportionate.

Audit-based and back-office activities

Alternatives to roadside enforcement include audit-based and 'back-office' activities. The intention behind these alternatives is to enhance safety culture while increasing effective enforcement outcomes. They can be used to gather intelligence in an efficient way. The data gathered is used to inform and target enforcement activities.

Audit-based activities involve auditing documents and systems to make sure the criteria for each standard is being met. Current audit-based activities rely on a manual review of documents and systems supported by objective evidence. A future approach could rely on technology to provide this information.

Technology and data are also crucial in back-office enforcement. Data is gathered through roadside intercepts, audit-based activities, in-vehicle technology or roadside technology. The data is used to detect, analyse and target systemic noncompliance. Authorised officers and police can then develop intelligence-led enforcement strategies.

Regulators and police are using off-road enforcement more frequently. The National Heavy Vehicle Regulator's (NHVR's) National Intelligence System involves monitoring and interpreting data and information from the heavy vehicle environment. The function produces reliable intelligence for strategic and operational planning and decision making (NHVR, 2018b, p. 8).

Question 2: How can the law better support a risk-based regulatory approach to enforcement? How can the law support consistency, predictability and proportionality in enforcement responses?

2.3 Technology and data for effective compliance and enforcement

2.3.1 Data, information, knowledge and technology hierarchy

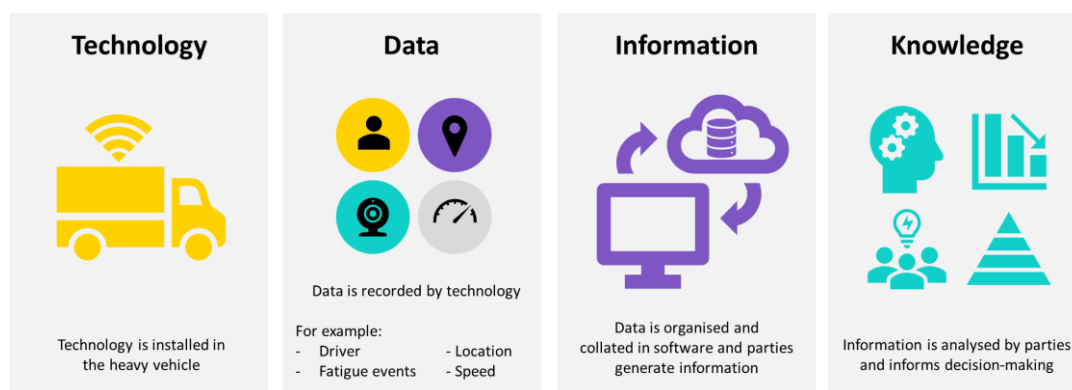
To manage a risk, you need to have knowledge of the nature of the risk and the best ways to prevent or mitigate it. Knowledge is derived from information, which comes from collecting and analysing data. These three components create a hierarchy.

In this paper we use these terms and definitions (Productivity Commission, 2017, pp. 56–57):

- *Data* is a collection of material that can include characters, text, words, numbers, pictures, sound or video. Without being organised and put into context, data may have little, if any, meaning.
- Data becomes *information* when it's organised, collated, analysed and interpreted.
- *Knowledge* is information and experience that has been internalised or assimilated through learning.

As outlined in section 2.1 of this paper, technology doesn't create knowledge on its own – there is a multi-step process (see Figure 5 for an illustration based on in-vehicle technology).

Figure 5. Technology generating data, information and knowledge



First, technology must be in use and able to record data. Second, structured systems need to be in place to organise and collate the data generated. Third, parties need to access these systems to analyse the data and turn it into meaningful information. Last, once information is available parties can use it to assist with planning, training and decision making.

2.3.2 Technology and data driving compliance and risk-based enforcement

From a compliance perspective, telematics, data and in-vehicle technology can help build a more effective safety culture. They can be used to:

- identify and monitor ‘at risk’ driving behaviour
- reduce the frequency of safety problems
- help in developing targeted driver education programs
- reward drivers for safe driving behaviours.

By managing and improving driver behaviour, an organisation’s safety culture can move from reactive to proactive.

Technology is also valuable for enforcement agencies and regulators. It enables large amounts of data to be gathered and processed in real time. The data captures compliance and noncompliance with different rules and standards – for example, vehicle condition and work history, loading and mass, and driver work management (Department of Infrastructure, Regional Development and Cities, 2016). Collecting data doesn’t allow an agency to use it to change behaviour; it’s merely a tool to support other action.

The Danish Government has proposed seven principles for digital-ready legislation (see Appendix A). These principles focus on simple and distinct rules, digital communication, enabling automated case processing, consistency and re-use of data, safe and secure data management, public IT infrastructure and fraud and error prevention (Agency for Digitisation Ministry of Finance, 2019). These principles could be considered as part of a recast HVNL.

2.3.3 Privacy and sharing data

Data has a high value and can potentially reveal more than it’s ostensibly meant to. Controls are in place to mitigate the risk of data misuse, and this is a critical consideration when using data for compliance and enforcement.

The *Privacy Act 1988* (Cwlth) regulates the way individuals' personal information is handled. 'Personal information' means information or an opinion about an identified individual or an individual who is reasonably identifiable (s 6 of the Privacy Act).

States and territories that have their own privacy legislation and apply the Privacy Act slightly differently. There is no privacy legislation in Western Australia or South Australia.

The Privacy Act includes 13 Australian Privacy Principles (see Appendix B). These apply to some private sector organisations and most Australian government agencies.

In addition to privacy legislation, Victoria and Queensland also have human rights legislation that they must comply with.

Australia has set a goal of making public sector non-sensitive data 'open by default' (Turnbull, 2015). Compared with many similar countries, though, Australia lags in opening access to public sector data (Productivity Commission, 2017, p. 74).

3 Compliance and enforcement under the HVNL

Key points

- Under the HVNL, the operator of a vehicle is a person who is responsible for controlling or directing the use of the vehicle. Operators have to comply with duties and rules.
- There are prescriptive and performance-based requirements under the HVNL that regulated parties have to comply with. There are specific compliance responsibilities for the primary duty, vehicle operations and fatigue.
- The HVNL establishes the NHVR to achieve its objects. Authorised officers and police also play an enforcement role under the HVNL.
- There are several enforcement tools available under the HVNL to encourage and compel compliance.
- In the heavy vehicle sector, technology and data are used by operators for both regulatory and commercial purposes.
- The Intelligent Access Program and Electronic Work Diary are regulated under the HVNL. There are other forms of technology that are used by the heavy vehicle sector that are not recognised under the HVNL.

3.1 Compliance responsibilities under the HVNL

3.1.1 Role of the operator and those in the chain of responsibility

Under the HVNL, the operator of a vehicle is a person who is responsible for controlling or directing the use of the vehicle (s 5 of the HVNL). Operators have to comply with duties and rules.

An operator is one of the parties in the chain of responsibility (CoR). Operators and others in the CoR have a duty, so far as is reasonably practicable, to ensure the safety of heavy vehicle transport activities.

Besides the HVNL, operators and others have to comply with workplace health and safety legislation. Depending on their operations, some regulated parties also have to comply with dangerous goods, animal welfare and safe handling of food regulations.

3.1.2 Multiple reasons for noncompliance

In 2013 the NTC consulted with transport operators to get a better understanding of the motivations for noncompliance (NTC, 2013). The consultation found there are several categories for motivations (NTC, 2013, pp. 32–40).

- **No or limited understanding of the law and its obligations.** Some parties captured by the HVNL simply don't see themselves as part of heavy vehicle operations and bound by the law's rules – for example, seasonal operators, or drivers of vehicles that are not immediately recognisable as heavy vehicles such as large utes towing large caravans or motorhomes.

- **Lack of ability to comply.** There is a mismatch between what the law prescribes and the infrastructure that makes it possible – for example, a lack of rest areas to help drivers comply with fatigue requirements.
- **Lack of willingness to comply.** Industry suggested that some supply chain parties are less inclined to comply because they don't see a link between legal compliance and better safety outcomes.
- **False belief or misinformation.** Some industry members don't comply with the HVNL because they rely on advice provided by an expert third party – for example, an operator relying on advice from a repairer.
- **Market forces.** Some industry members may be more prepared to accept greater risk due to driver shortages and the imperative for operators to deliver freight.
- **Economic imperative.** The economic reality of the industry can encourage noncompliance. Margins can be slim and competition fierce, so operators look for ways to cut costs, speed up delivery and do more trips. Some operators see fines as a cost of doing business and build this into their budget or quoting system.
- **Opportunism.** Some industry members don't comply with the HVNL because they believe they'll get away with it. They know it's impractical for enforcement authorities to conduct roadside activities on all roads. These operators and drivers usually know the areas where roadside enforcement is more likely. They make sure they're compliant in those areas but not in areas where enforcement is less likely.
- **Determined recidivism.** A segment of the general population is inclined towards noncompliance. Some industry members fall into this category.

3.1.3 Prescriptive and performance-based requirements

Safety legislation can impose compliance responsibilities by specifying prescriptive rules or general duties. The HVNL has both. With prescriptive rules, regulated parties must meet specific detailed responsibilities. With general duties, they must meet a level of performance or a safety standard.

Different methods of enforcement are appropriate for different compliance responsibilities.

3.1.4 The primary duty

The primary duty is a general compliance responsibility under the HVNL. It sets an expectation that CoR parties do what is reasonably practicable to make sure heavy vehicle transport activities are safe. This is a positive duty, described by Toll Group as being 'proactive and preventative' (Toll Group, 2019, p. 5).

'Transport activities' include conducting business activities and making decisions associated with using a heavy vehicle on a road. They include contracting, directing or employing a person to drive a heavy vehicle, consigning goods, scheduling transport of goods and packing goods (s 5 of the HVNL).

To comply with the primary duty, CoR parties are only expected to do what is reasonably practicable. In other words, the duty is scalable depending on the risk to be managed and the party's role in the CoR.

3.1.5 Compliance responsibilities for vehicle operations

The HVNL makes it an offence to use a heavy vehicle that is unsafe or permit it to be used (s 89 of the HVNL). This includes the vehicle as a whole or any of its component parts that could make the use of the vehicle unsafe or endanger public safety.

This general safety requirement is supplemented by a requirement to comply with detailed heavy vehicle standards in the Heavy Vehicle (Vehicle Standards) National Regulation and Heavy Vehicle (Mass, Dimension and Loading) National Regulation.

3.1.6 Compliance responsibilities for fatigue

The HVNL specifies that a person must not drive a fatigue-related heavy vehicle on a road while impaired by fatigue (s 228 of the HVNL).

This general responsibility is supplemented by prescriptive rules for:

- maximum work and minimum rest hours
- work diaries and record keeping.

3.2 Enforcement roles and tools under the HVNL

3.2.1 Role of the regulator

The HVNL establishes the NHVR to achieve its objects. The NHVR's functions include:

- investigating contraventions or possible contraventions of the HVNL's provisions, including offences against the HVNL (s 659 of the HVNL)
- bringing and conducting proceedings relating to contraventions or possible contraventions of the HVNL's provisions, including offences against the HVNL (s 659 of the HVNL).

Under the HVNL, the NHVR has to work collaboratively with other enforcement agencies to make sure there is a nationally consistent enforcement approach (s 659(2)(l) of the HVNL).

3.2.2 Role of authorised officers

An authorised officer is either:

- a police officer declared by a participating jurisdiction's law to be an authorised officer for the purpose of the HVNL
- a person who holds office under the HVNL as an authorised officer (s 5 of the HVNL).

Under s 479 of the HVNL, an authorised officer's functions are to:

- monitor, investigate and enforce compliance with the HVNL
- monitor or investigate whether an occasion has arisen for the exercise of powers
- facilitate exercise of power under the HVNL.

Authorised officers undertake both on-road and off-road enforcement activities. They can enter and search heavy vehicles and premises associated with heavy vehicles for monitoring purposes. They are also allowed to direct a heavy vehicle.

3.2.3 Role of police

As outlined in section 3.2.2 of this paper, police officers are authorised officers under the HVNL. As well as having powers as authorised officers they have additional powers and responsibilities under state and territory legislation – for example, legislation applying the Australian Road Rules.

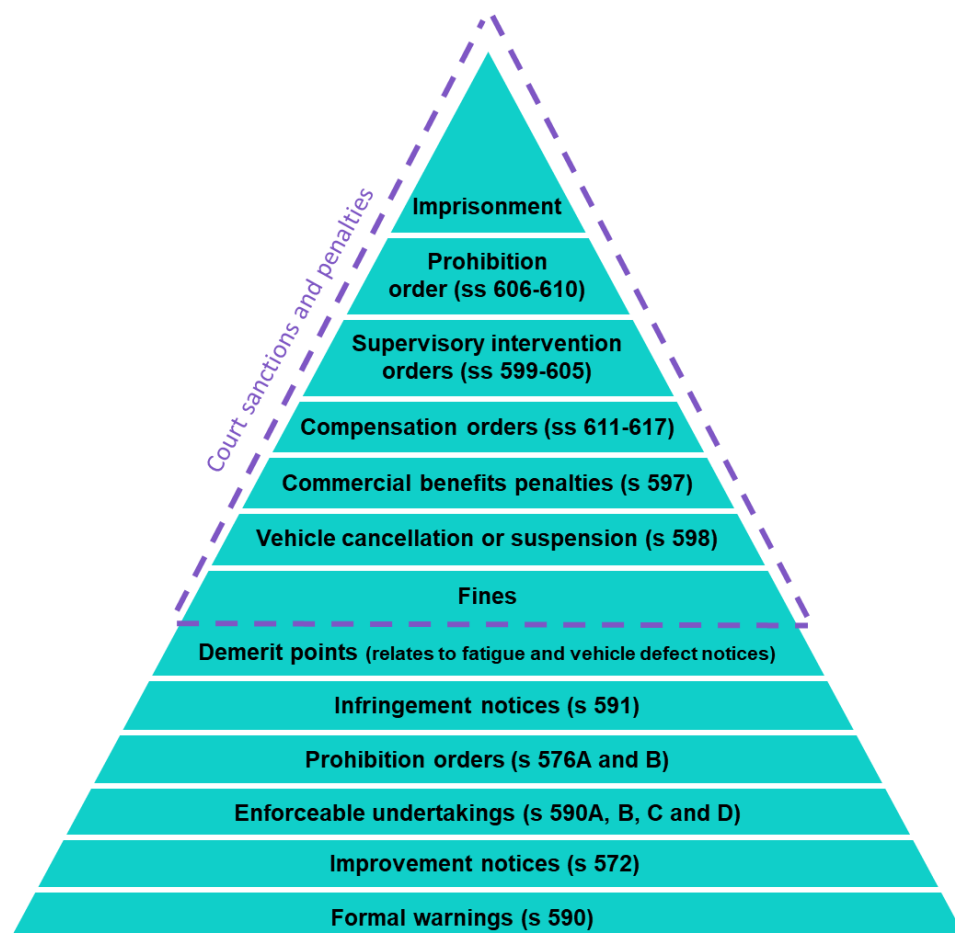
Limitations on authorised officer powers under the HVNL don't apply to police. For example, authorised officers don't have the power to use force against a person (s 491 of the HVNL), but this limit doesn't apply to police officers.

3.2.4 Enforcement tools

There are several enforcement tools available under the HVNL to encourage and compel compliance. These tools include formal warnings, improvement notices, enforceable undertakings, prohibition orders, infringement notices, demerit points and court sanctions and penalties (Figure 6). More information about these tools is provided in Appendix C.

These tools align with the enforcement pyramid (see Figure 4 and Figure 6). As explained in section 2.2.1 of this paper, effective enforcement targets each incidence of noncompliance with a response that is proportionate to where it sits on the pyramid.

Figure 6. Enforcement tools in the HVNL



Question 3: Are all enforcement tools being used effectively? If not, why not? Could a different set of enforcement tools give us better compliance outcomes?

3.3 Technology and data under the HVNL

Technology and data are used by operators and others for both regulatory and commercial purposes. Data generated by technology can be used for multiple purposes including information for research, planning and prosecution functions. The level of evidentiary value required will vary depending on the purpose of information collection.

Regulatory purposes

Two initiatives in the HVNL use telematics for regulatory purposes:

- providing greater network access through the Intelligent Access Program (IAP)
- recording hours of work and rest through an Electronic Work Diary (EWD).

These systems either store data on the vehicle for subsequent download or transmit the data to a database, service provider or person.

The NHVR approves EWDs, while Transport Certification Australia (TCA) approves IAP service providers.

Commercial purposes

Operators use technology for commercial purposes to:

- understand how vehicles are being driven, for example, speed, braking and performance of engine
- help with in-house functions, such as payroll and rostering
- record on-board vehicle mass
- calculate fuel tax credits and distance charging for kilometres
- monitor driver fatigue and distraction events
- understand the location of vehicles and drivers to help with providing arrival times to customers as well as future scheduling.

Some of this information is also used to develop targeted training for staff. It's used to coach and motivate drivers to modify their behaviours to become a safer driver.

Importance of data to regulators and government

For regulators, data is an important component that underpins intelligence-led activities and strategies. They use data such as intercept information to understand and track the compliance rates of vehicles, operators and drivers.

For governments, data is an extra resource. It can be analysed to improve planning, investment decision making and transport operations and to support the design and delivery of new infrastructure (Department of Infrastructure, Regional Development and Cities, 2016). The recent *Victorian freight plan* recognised the potential to use de-identified data from

telematics to provide information not currently available to road managers (Freight Victoria, 2018, p. 36) – for example, the routes, times of day and types of freight vehicles moving on the network.

In May 2018 the Transport and Infrastructure Council approved the NTC's review of regulatory telematics report and the recommendations it made (NTC, 2018c). One of the recommendations was that the NTC should develop a best practice model for regulatory telematics in consultation with relevant stakeholders (see Appendix D). This best practice model will be legislated under the future HVNL.

3.3.1 Intelligent Access Program

Technology

Under the IAP, an access and compliance application fitted to heavy vehicles uses global navigation satellite systems to monitor the vehicle's movement. The resulting data is used to assure road authorities that vehicles enrolled in the program are complying with agreed access conditions.

A telematics application records different data elements. When collected and combined, the data elements enable data records to be generated. TCA's *Telematics data dictionary* (TCA, 2018d) describes the data elements used within TCA's *National telematics framework*. The data dictionary provides a common understanding of data types, formats and definitions.

In October 2018, there were 5,129 vehicles enrolled in the IAP (TCA, 2018a). Enrolment in the IAP is required for the following vehicles:

- Higher Mass Limit vehicles (mandatory in Queensland and New South Wales)
- Performance-Based Standards vehicles
- oversize and/or overmass mobile cranes
- concrete pump vehicles.

The IAP collects data on:

- vehicle ID
- date and time
- location.

The IAP can also collect data on mass and speed.

The IAP generates non-conformance reports when the vehicle breaches location, time or speed conditions. Transport agencies manually analyse the non-conformance reports to detect access breaches. Road transport agencies don't have access to IAP databases. They also don't undertake roadside activities to enforce the IAP.

As outlined in section 2.3.3 of this paper, privacy rights are regulated by the Privacy Act and state and territory laws. The HVNL also defines personal information:

- In general, it means information or an opinion about an individual whose identity is apparent, or can reasonably be found out, from the information or opinion. It includes information forming part of a database, whether true or not, and whether recorded in a material form or not (s 5 of the HVNL).

- For the purposes of provisions about the IAP (Chapter 7 of the HVNL), it means personal information that is IAP information. This includes personal information collected for the purposes of those provisions (s 403 of the HVNL).

The IAP provisions in the HVNL include data collection roles and responsibilities for drivers, operators, service providers, TCA and auditors.

Drivers and operators have to keep written records and report system malfunctions to the NHVR (ss 406 and 408 of the HVNL). Service providers, TCA and auditors share similar data collection and management responsibilities. For example, the data collected must be necessary for the purpose for which it's collected, must not be excessive and must be accurate, complete and up to date (ss 410–411, 427 and 441 of the HVNL). The HVNL restricts how and when IAP information can be shared. It also prescribes how information is to be collected, stored and destroyed.

The HVNL's IAP provisions go further than the privacy principles in that they enshrine legislative obligations and penalties on those who participate in the framework. There are maximum fines for breaching prohibitions on collecting IAP information (currently set at \$6,000). These protective measures can be enforced more strongly than other general privacy principles in Australia.

Case study: IAP information used for public policy research purposes

In August 2019 Austroads released a report that aggregated 1,200 million position records for vehicles enrolled in the IAP. The dataset was managed by TCA in accordance with its privacy policy, the Australian Privacy Principles and provisions in the HVNL.

The aggregated data provided a summary of:

- traffic volume estimates and volume maps
- vehicle trip counts by time of day and route
- average heavy vehicle speeds and variability of vehicle speeds by location and time of day
- proportion of journeys by day of week, weekdays and weekends
- travel times for key freight routes
- origin–destination trip patterns
- proportion of journeys on key freight routes by trip length
- congested network locations for freight vehicles on key freight routes.

The project found that telematics can provide a wide range of statistics that can help inform public policy and road planning.

Source: Austroads, 2019

3.3.2 Electronic Work Diary

Technology

The EWD is an electronic recording system that can record work and rest times. EWDs may be used as a voluntary alternative to the written work diary for fatigue-regulated heavy vehicle drivers.

The NHVR is responsible for implementing and approving EWDs. There are currently no approved EWDs. The NHVR is currently reviewing applications from technology providers.

Unlike the IAP, the NHVR has adopted a model that doesn't require government certification of electronic recording systems. This remains consistent with the EWD provisions in the HVNL, which only require the NHVR to approve an electronic recording system without the need for third-party certification.

The EWD standard specifies the data collection, sharing and use requirements for EWDs (NHVR, 2018a, pp. 9–11).

3.3.3 Other sources of technology and data

As well as the IAP and EWDs, regulators capture data and information using several other sources. The NHVR believes that technology and data will play a key role in its future compliance and enforcement strategies (NHVR, 2018b, p. 4).

With respect to heavy vehicle operations, regulators collect information from roadside intercepts such as defect records and formal warnings. The NHVR's Intercept app helps authorised officers and police with roadside vehicle intercepts. The app is a web-based software application. It records driver intercept compliance inspection details and history. It can also be used to update details during a new intercept.

Regulators also use data and information generated from cameras installed across the road network. The National Compliance Information System (NCIS) captures data using state and territory cameras and monitoring systems (NHVR, 2019). The NCIS contains nation-wide information about Australia's heavy vehicles, their movements, drivers and operators.

3.4 Technology and data outside the HVNL

3.4.1 On-board mass

Technology

On-board mass (OBM) measures the axle groups and calculates the gross vehicle mass of a vehicle (TCA, 2018c).

TCA independently assesses hardware and system 'types' for conformance against performance-based requirements. TCA type-approves OBM systems against a functional and technical specification. The specification links location, speed, time, vehicle configuration and mass data through a single service.

TCA has type-approved four OBM systems. Type approval brings reassurance that systems meet high levels of accuracy, reliability and robustness. It also gives assurance of meeting tamper evidence requirements and relevant security levels.

There are a diverse range of uses for OBM systems and data, though, as yet, OBM has not been broadly adopted as a condition of access for regulatory telematics.

Data

The data collection, transfer and processing requirements are outlined in the *OBM system functional and technical specification*. They include:

- the data transfer method is secure and reliable
- transmission of data must occur at regular intervals
- a risk-based data access control policy is used.

3.4.2 Fatigue and driver distraction monitoring devices

Technology

Fatigue monitoring devices monitor and assess a driver's level of alertness. They then give out a warning when the driver's alertness is determined to have fallen beyond a threshold (NTC, 2018a, p. 12).

Fatigue itself is hard to measure, so fatigue monitoring technology uses a range of factors to determine alertness. It calculates an approximate level of driver fatigue by:

- monitoring a driver's eyelid movements
- monitoring and assessing steering wheel movements and speed of steering movements (NTC, 2018a, p. 12).

Devices can use an infra-red camera and image-processing technology to measure the duration of retina visibility over a given period. The information is used to calculate an approximate level of fatigue that is initially communicated to the driver on a visual basis. This is generally done through a series of lights mounted on the dashboard (NTC, 2018a, p. 12). At a certain level, an audible warning is triggered, alerting the driver and prompting them to stop for rest. The systems can also allow a fleet supervisor to monitor the driver's performance and condition in real time (NTC, 2018a, p. 12).

Fatigue monitoring and detection technology was in its infancy when the current HVNL was written. This is no longer the case.

Research suggests that fatigue warning systems may prevent between four and 10 per cent of fatal crashes, reduce the severity of injuries and achieve cost savings up to \$28 million (NTC, 2018a, p. 14).

Case study: No benefits under the HVNL for using fatigue monitoring technology

To manage driver fatigue, a large logistics company uses a fatigue management system, along with other support tools.

The system is supplied by MTData (a technology service provider). Drivers log on at the beginning of every trip. An in-cab camera registers fatigue and provides an audio alert and seat vibration. Images can be viewed remotely by the work health and safety manager in the company's head office. Also, all journeys are recorded and assessed by a third party. Actions are taken to improve safety if there are any issues, including

recording near-misses and communicating them to the driver. The company's 'three-strikes' policy is well understood.

The logistics company doesn't only use technology to manage fatigue. It also has a zero-tolerance drug and alcohol policy, a policy of no smoking in cabs, a safety management system and fatigue management plans.

In the first year following implementation of the full safety process, including providing extra training and support, there was only one significant event. To date there have been no issues in the second year.

Although the company has seen benefits, there is nothing in the current HVNL that allows for a reduction in compliance costs.

Source: Queensland Transport and Logistics Council (QTLIC), 2019b, p. 5

Driver distraction monitoring devices collect observable information about the driver to assess the driver's capability to perform the driving task in a safe manner. The devices use a camera to monitor eye movements to gauge driver distraction. Operators who use this technology have experienced improved safety outcomes.

Case study: Tangible safety benefits from using driver distraction technology

At the Australian Trucking Association's 2019 Trucking Australia Conference, a mining company advised they had installed driver distraction and fatigue monitoring devices in their vehicles following a series of roll overs and driver distraction incidents.

Since installing the technology in 2017 there have been no roll overs. Distraction events for mobile use have decreased from 41 to two incidents per month. Since installing the monitoring devices, the company has imposed a ban on all mobile phone use while driving.

The company reported using driver distraction and fatigue alerts for driver coaching and performance management. They also use them to refer drivers for medical treatment for obstructive sleep apnoea and other sleep disorders.

Data

Fatigue and driver distraction technology isn't regulated under the HVNL. As a result, there is little public information available on the data elements recorded and how data is collected, transferred and processed.

It can be assumed that fatigue and driver distraction monitoring devices collect substantial amounts of sensitive data such as video and audio recordings and the health information of drivers. It's imperative that technology companies have processes in place to manage such sensitive data.

3.4.3 Road Infrastructure Management application

Road Infrastructure Management (RIM) is a recently developed application that collects telematics data from monitored vehicles such as identity, location and time data (TCA, 2019b). RIM is a telematics application under the TCA's *National telematics framework*.

RIM provides road managers with access to aggregated and de-identified data from heavy vehicles. Road managers can use this data to make better investment decisions (TCA, 2019b). Because the data is aggregated, it isn't used for enforcement purposes.

Industry report that RIM costs around \$10 per month and is an affordable option for operators (QTLC, 2019a, p. 7).

4 Compliance and enforcement challenges

Key points

- Operators and other regulated parties have primary responsibility for complying with the law. Most drivers and operators want to comply with their legal obligations under the HVNL and are willing and able to 'do the right thing'. This can be a challenge, however, due to the complexity of the law.
- The HVNL relies heavily on roadside enforcement to detect noncompliance. It can be costly, resource-intensive and can result in a low number of detections.
- There are several heavy vehicle enforcement bodies including the NHVR, authorised officers, state and territory road authorities and police. Each of these have differing enforcement approaches and powers.
- There are challenges with data ownership, security, quality and sharing. Where data exists, it's often not shared. Where it is shared, datasets can be incompatible or of poor quality and unable to be accessed by other parties or systems.
- The HVNL only recognises the IAP and EWD as forms of technology that can be used for regulatory purposes. There are many forms of technology that can provide value to industry, government and regulators that the law doesn't acknowledge or accommodate.

4.1 Difficulty complying with the law

Operators and other regulated parties have the primary responsibility for complying with the law. Most drivers and operators want to comply with their legal obligations under the HVNL and are willing and able to 'do the right thing'. This can be a challenge, however, due to the complexity of the law. Drivers, operators and other regulated parties can find it difficult to understand what the law requires them to do to comply.

Regulated parties report that fatigue management requirements are the most challenging part of the law to understand and comply with. Many breaches of work and rest requirements or record-keeping requirements are based on misunderstanding the law rather than an intent to break it (NTC, 2019a, p. 37).

Inconsistencies between jurisdictions can also make it difficult for regulated parties to comply. Interstate operators and drivers may believe they're complying with the law by following their usual business practices, but this may lead to inadvertent noncompliance in other jurisdictions.

For example, drivers travelling from a participating jurisdiction into a non-participating jurisdiction and back again within seven days must comply with the work and rest hours under the HVNL (s 245 of the HVNL). Yet, the South Australian Road Transport Association (SARTA) reports that the longstanding practice has been that drivers comply with the law of the jurisdiction they are in at the time (NTC, 2018b, p. 9). SARTA has questioned whether operators and drivers are aware of their obligations under this section of the HVNL (NTC, 2018b, p. 2).

Smaller and more occasional operators or other regulated parties may also fail to comply with the law if they have a limited understanding of their obligations as a party in the CoR (NTC, 2019b).

4.2 Inefficient and inconsistent enforcement

Best practice enforcement should be risk-based and proportionate. Enforcement resources should be proportionate to the level of risk. Enforcement action should be geared towards deterrence and reducing risk (OECD, 2018).

Inefficient enforcement

For roadside enforcement to be effective there must be an efficient system of identifying breaches, understanding motivations for noncompliance and taking subsequent action (NTC, 2014, p. 16).

The HVNL relies heavily on roadside enforcement to detect noncompliance. As recognised in section 2.2.2 of this paper, roadside enforcement relies on physical detection of noncompliance and has several limitations. It can be costly, resource-intensive and can result in a low number of detections. Essentially, it offers high effort for low reward.

Operators have reported examples of officiousness, pedantry and 'revenue-raising' enforcement responses. Malcolm Sparrow describes this approach as regulation of illegal-but-not-harmful behaviours (Sparrow, 2011). In contrast, well-targeted regulation allows most, if not all, harms and risks to be sensibly and effectively managed.

Case study: Drivers face fines for administrative errors in work diaries

In 2019 a driver was subject to a roadside inspection where his work diary was examined. The driver received three penalty notices for administrative work diary breaches:

- \$165 for not recording some information in the work diary, most likely failing to sign and date a diary page
- \$330 for not removing a yellow copy page
- \$661 for not recording his base location in the front of the work diary.

The driver complied with the work and rest time requirements, managed his fatigue and did not pose a safety risk to himself or other road users. Despite this, he was penalised \$1,156.

Source: NTC, 2019a, p. 42

Inconsistent enforcement

There are several heavy vehicle enforcement bodies, including the NHVR, authorised officers, state and territory road authorities and police. Each of these have differing enforcement approaches and powers. The NHVR's 'compliance by education' philosophy may be undermined if police and state and territory road authorities don't share the same viewpoint.

Industry advises that differences arise between the way the police and road authorities enforce the law (NatRoad, 2019, p. 1). This causes situations where there are inconsistent approaches within the same jurisdiction and can lead to inconsistent outcomes (NatRoad, 2019, p. 1). It may be that an individual officer doesn't have a sound understanding of the law, given its complexity.

Case study: Police issue defect and infringement notices for non-existent offence

In March 2019 NSW Police issued defect and infringement notices for a bug deflector installed on a heavy vehicle since purchase.

There was no legal basis for the infringement. It appeared to misconstrue ADR42/04, which states that a vehicle must not have anything affixed to the vehicle that prevents the driver from having an adequate view of traffic either side of the vehicle and in all directions in front of the vehicle. The defect notice referred to the need for an 11-metre view; however, this is a requirement for light vehicles. There is nothing in the *Heavy vehicle inspection manual* that requires an 11-metre view.

The driver sought assistance from NatRoad to review the offence. NatRoad liaised with Roads and Maritime Services, who in turn liaised with NSW Police to determine that the offence had no legal basis.

While this process played out, the operator suffered multiple expenses. These included the cost of removing the bug catcher to clear the alleged defect, as well as the cost of having the vehicle off the road while it was defected.

Source: NatRoad, 2019, pp. 1–2

Efficient enforcement requires:

- adequate training
- appropriate expertise
- professionalism of enforcement officers (OECD, 2018).

Operators have advised the NTC that inconsistent enforcement could be resolved if the NHVR and enforcement bodies developed a clear education course (NatRoad, 2019, p. 13). NatRoad states the course should be developed with industry input. It should be made publicly available to ensure offences are assessed consistently and transparently.

4.3 Data ownership, privacy, quality, security and sharing

The HVNL doesn't provide a framework for regulating data. It only contains prescriptive requirements for the type of information that must be recorded and stored as part of the IAP for operators, service providers, TCA and auditors.

There are challenges with data ownership, security, quality and sharing. Where data exists, it's often not shared. Where it is shared, datasets can be incompatible or of poor quality and unable to be accessed by other parties or systems.

Ownership challenges

One of the greatest challenges of data is the question of who has right of ownership.

For example, heavy vehicle operators express frustration with ownership of IAP data. Although they pay for the technology, service providers hold the data. TCA has clarified that transport operators own the IAP data collected and are entitled to it at no additional cost (NTC, 2018c, p. 39).

Quality and format challenges

The quality and format of a dataset affect the ease and extent to which data can be used to achieve specific goals (Productivity Commission, 2017, p. 159).

High-quality datasets have several inherent characteristics. These include machine readability and the extent to which they make use of open standards and commonly accepted definitions and methodologies (Productivity Commission, 2017, p. 159). To facilitate interoperability, a data dictionary is a key component of the common dataset.

At present, state and territory road authority agencies collect and store compliance and enforcement data using different processes, formats and database systems. For example, data collection methods for fatigue-related incidents differ across jurisdictions and are used for different intents (NTC, 2015, pp. 26–33).

Standards and protocols for collecting data vary depending on whether the data is being used to provide assurance generally that operators are compliant or whether data is being used for more formal compliance and enforcement activity. For example, data used to demonstrate how an operator is managing their risks and obligations as part of an accreditation regime would arguably have a lower standard than data collected for formal breaches of the law where the information may be required to be submitted as evidence in court proceedings.

Security challenges

New technologies and datasets come with risks relating to security, privacy and misuse of data. These factors can limit the extent and depth of data that is made available, and the timely release of data.

The Productivity Commission's view is that risk of harm should be assessed based on both the likelihood and scale of harm associated with data being more widely available (Productivity Commission, 2017, p. 8). Where increased data access is considered to have a high negative consequence, the availability of the data needs to be carefully managed (Productivity Commission, 2017, p. 8).

Different types of data have different risks and can generate different benefits. This can range from highly sensitive, identifiable real-time data shared between agencies, to non-sensitive open data (Productivity Commission, 2017, p. 174).

Data collectors and processors also have a number of de-identification techniques at their disposal. If proper de-identification techniques and re-identification risk management procedures are used, re-identification becomes difficult.

Sharing challenges

There are no provisions under the HVNL for operators, regulators and governments to actively share data. Yet, data is critical to moving to a back-office and desktop compliance model and increasing safety and productivity of industry.

An inquiry into data availability and use by the Productivity Commission found that while some data can't be released, the Privacy Act is often cited – where there are no grounds to do so – as a barrier to releasing government data (Productivity Commission, 2017, p. 284).

The Australian Public Service Commission identified three major issues facing agencies that need to share data (Australian Public Service Commission, 2018):

- shared infrastructure
- common standards and protocols that allow easy exchange of information between agencies
- better information and reuse of existing data sources to reduce duplication.

Industry has been critical of government not sharing IAP data with monitored companies. As an alternative to the IAP, some heavy vehicle operators use their own telematics systems to make sure they receive noncompliance notifications (Cement Concrete & Aggregates Australia, 2018, p. 4).

Operators are reluctant to share data with regulators and governments because they're uncertain about how it will be used. They want to make sure driver privacy is protected and that sharing the data won't expose them to increased enforcement. Operators will remain reluctant to share data unless they receive clarity about data use or an incentive is provided, such as fewer intercepts or a reduction on insurance premiums (Austroads, 2019, p. 10).

Technology provider TomTom recognises that many organisations are afraid to share their data because it may be out of date, incomplete or contain errors. TomTom believes good data is better than mediocre data, but mediocre data is better than nothing. If the data isn't complete, a quality statement can be included to alert consumers of any shortcomings (TomTom, 2019, p. 2).

Question 4: How can data and information be better used to support enforcement under the HVNL? Who should own the data, who should be able to access it, and how should privacy and security concerns be managed?

4.4 Limited and inconsistent recognition of technology in the HVNL

Many smaller operators don't use technology systems to collect data and information to assist with compliance and commercial activities. These operators are reluctant to take up technology unless the benefits outweigh the costs. The limited and inconsistent recognition of technology in the law reduces the likelihood or incentive for operators to take up technology.

Limited recognition

As outlined in previous issues papers, many parts of the HVNL are complex and overly prescriptive. They reflect an era when access to digital technology and innovation was

limited (NTC, 2019a, p. 14). As a result, the HVNL poorly accommodates advances in technology, data and electronic communications (NTC, 2019a, p. 34).

The HVNL only recognises the IAP and EWD as forms of technology that can be used for regulatory purposes. As explained in section 3.3 of this paper, there are many forms of technology that can provide value to industry, government and regulators that the law doesn't acknowledge or accommodate. Industry's view is that a recast HVNL shouldn't stifle technological innovation (NatRoad, 2019).

Operators have also cited expense as a barrier to IAP take-up. Service providers charge between \$80 and \$250 per month per vehicle (NTC, 2018c, p. 38).

Operators who use the IAP have also been critical of its effectiveness as an access management tool. Information on non-conformance isn't readily shared with operators. This limits potential regulatory benefits of operators detecting and responding to noncompliance. It also means operators must install more than one device in vehicles to capture and use data for commercial purposes (NTC, 2018c, p. 39).

Inconsistent recognition

The HVNL treats the IAP and EWDs inconsistently. Provisions for the IAP are detailed in a cohesive chapter. EWDs are not covered in the same detail and are captured in different sections. Standards for EWDs are also the NHVR's responsibility.

The IAP and EWDs represent two different regulatory models that have inconsistent approaches on certification, evidentiary standards and data collection. The 2018 review of regulatory telematics recognised that it isn't sustainable to have two parallel models for regulatory telematics (NTC, 2018c, p. 6). Industry has also raised concerns about legislating for particular technology or approaches to technology. They recommend the law be technology-neutral.

Under the IAP, TCA certifies service providers that meet the probity, financial, functional and technical standards of the IAP. TCA conducts an ongoing review and audit program to make sure certified parties continue to meet standards (TCA, 2019a, pp. 2–3). Its functional and technical specifications translate policy objectives into performance-based outcomes that service providers have to meet. This ensures certified technology achieves the intended objectives and gives government and regulated parties a high level of assurance.

For EWDs, the NHVR is responsible for approving the use of electronic recording systems as an alternative to a written work diary. Technology providers and transport operators must apply to the NHVR to have their EWD system assessed against the EWD standards.

As technology will continue to evolve, the law should be set up to accommodate emerging technology and provide clarity and certainty to industry, regulators and government.

Question 5: Have we covered the issues relating to supporting compliance through effective enforcement, technology and data accurately and comprehensively? If not, what do we need to know?

5 Aspirations for a better law

Key points

This section sets a high-level vision for regulating compliance, enforcement, technology and data in a future HVNL. It outlines four draft regulatory principles to guide development of a recast law:

- meeting the objects of the law through compliance
- a law that is easy to comply with
- effective enforcement
- technology and data that underpin compliance, enforcement and assurance.

5.1 Meeting the objects of the law through compliance

Draft regulatory principle 1: The future HVNL should have strong links between compliance and the goals – or objects – of the law. The objects should reflect the desired behaviour. Clear goals in the law will help regulated parties understand their responsibilities and ultimately drive compliance. It may result in fewer offences.

As suggested in earlier issues papers, the objects of the new law should:

- have a clear primary purpose of safety, complementing more general work health and safety laws
- promote the safe and efficient use of road infrastructure and assets by heavy vehicles
- encourage and facilitate operators to be innovative in their business.

A recast HVNL should contain clear objects that are supported by compliance with the law. Duties or rules for which compliance doesn't clearly link to the objects should be challenged. A recast law may include fewer offences, and those offences have direct links to risk management and to achieving the law's goals.

5.2 A law that is easy to comply with

Draft regulatory principle 2: The future HVNL should make it easier for regulated parties to understand what is needed for compliance and to demonstrate that they are complying. Regulated parties should have a right to challenge allegations of noncompliance. This may mean providing parties with options to respond to noncompliance such as more defences and practical ways to present them.

A recast HVNL should include clear rules that are easy for operators to understand and follow. It should be easy to demonstrate compliance, and enforcement decisions should be robust and open to appeal in a practical way.

As outlined in previous issues papers, the law should accommodate the diverse range of operators in the transport industry and contain prescriptive, performance-based or principles-based compliance options.

5.3 Effective enforcement

Draft regulatory principle 3: The future HVNL should support regulators to target enforcement to the most significant risks. The use of sanctions and enforcement tools should be proportionate to the severity of the risk and should target the root cause of the risk.

Enforcement should aim to lift compliance in a way that best delivers on the objects of the law. Effective enforcement targets the origins of noncompliance as well as encouraging compliance. It doesn't lead to punitive responses to trivial noncompliance.

A recast HVNL should target the most significant harms and risks. It should contain sensible and proportionate sanctions and enforcement tools. These sanctions and enforcement tools should correspond to the level of risk posed by the breach. Technical and administrative breaches that don't pose a safety risk should be managed proportionally.

Roadside enforcement should still play a role, and there must be powers to intervene proportionally where there is an imminent safety risk identified.

5.4 Making use of technology and data

Draft regulatory principle 4: The future HVNL should be able to recognise emerging technology and data. Data and technology with demonstrable safety or efficiency benefits should be encouraged under the law, not ignored or, perversely, discouraged or prohibited. The future law should steer clear of prescribing particular technologies and take an outcome-focused approach. Sharing of de-identified and aggregated data should be facilitated and encouraged to inform non-regulatory decision making.

A recast HVNL should recognise technology as a primary data generator that can underpin compliance, enforcement and assurance.

If safety is a primary goal of the law, data and technology can help stop drivers driving while fatigued or accessing networks with vulnerable infrastructure. In-vehicle technology can generate data and information to identify, manage and mitigate risks for operators and regulators.

A data-driven, risk-based approach to enforcement would support a transition to back-office and audit-based enforcement. This approach would provide an intelligence-driven, cost-effective way to manage harms and risks sensibly and effectively.

The sharing of data should be encouraged to create a valuable resource for operators to drive compliance and for regulators to underpin risk-based enforcement and assurance schemes. Where data is shared, the purpose must be clear. For example, it should be clear if data is being shared for enforcement purposes or to inform future planning and maintenance.

Question 6: What are some options for the future law to improve the current compliance and enforcement approach? How can the law best support enforcement strategies aligned to a risk-based approach to regulation?

6 Next steps

Key points

- We want to hear from you. Consultation is open until **Thursday 31 October 2019**.
- Other issues papers provide opportunities to tell us about the specifics of effective fatigue management, easy access to suitable routes, safe people and practices, safe vehicles, assurance and other matters.

6.1 Have your say

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

The NTC invites your responses to the questions and issues we have identified by **Thursday 31 October 2019**.

To stay updated on the project, visit the [HVNL review website](https://www.hvnreview.ntc.gov.au)⁵ and register to receive newsletters and consultation alerts.

6.2 Future publications

This is one of eight issues papers.

The next issues paper is the final issues paper we will release as part of the review. It will cover remaining 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.

⁵ www.hvnreview.ntc.gov.au

Appendix A Danish principles for digital-ready legislation

Source: Agency for Digitisation Ministry of Finance, 2019

Principle 1: Simple and distinct rules

Legislation should be simple and distinct, thus contributing to a more uniform and digital administration.

Principle 2: Digital communication

Legislation should underpin digital communication with citizens and corporations.

Principle 3: Enable automated digital case processing

Legislation should underpin fully or partly automated digital case processing while still taking into account the legal rights for citizens and companies.

Principle 4: Consistency across authorities – uniform concepts and re-use of data

Data and definitions of concepts are re-used across authorities.

Principle 5: Safe and secure data management

Data security should be prioritised.

Principle 6: Using public IT infrastructure

Public IT solutions and standards should be applied.

Principle 7: Legislation should prevent fraud and errors

Legislation must be designed to support the use of IT for purposes of control.

Appendix B Australian Privacy Principles

Source: Office of the Australian Information Commissioner, 2019

Principle	Title	Purpose
APP 1	Open and transparent management of personal information	Ensures that APP entities manage personal information in an open and transparent way. This includes having a clearly expressed and up to date APP privacy policy.
APP 2	Anonymity and pseudonymity	Requires APP entities to give individuals the option of not identifying themselves, or of using a pseudonym. Limited exceptions apply.
APP 3	Collection of solicited personal information	Outlines when an APP entity can collect personal information that is solicited. It applies higher standards to the collection of sensitive information.
APP 4	Dealing with unsolicited personal information	Outlines how APP entities must deal with unsolicited personal information.
APP 5	Notification of the collection of personal information	Outlines when and in what circumstances an APP entity that collects personal information must tell an individual about certain matters.
APP 6	Use or disclosure of personal information	Outlines the circumstances in which an APP entity may use or disclose personal information that it holds.
APP 7	Direct marketing	An organisation may only use or disclose personal information for direct marketing purposes if certain conditions are met.
APP 8	Cross-border disclosure of personal information	Outlines the steps an APP entity must take to protect personal information before it is disclosed overseas.

Principle	Title	Purpose
APP 9	Adoption, use or disclosure of government related identifiers	Outlines the limited circumstances when an organisation may adopt a government related identifier of an individual as its own identifier, or use or disclose a government related identifier of an individual.
APP 10	Quality of personal information	An APP entity must take reasonable steps to ensure the personal information it collects is accurate, up to date and complete. An entity must also take reasonable steps to ensure the personal information it uses or discloses is accurate, up to date, complete and relevant, having regard to the purpose of the use or disclosure.
APP 11	Security of personal information	An APP entity must take reasonable steps to protect personal information it holds from misuse, interference and loss, and from unauthorised access, modification or disclosure. An entity has obligations to destroy or de-identify personal information in certain circumstances.
APP 12	Access to personal information	Outlines an APP entity's obligations when an individual requests to be given access to personal information held about them by the entity. This includes a requirement to provide access unless a specific exception applies.
APP 13	Correction of personal information	Outlines an APP entity's obligations in relation to correcting the personal information it holds about individuals.

Appendix C Enforcement tools

Formal warnings

Sometimes a person can try to comply with the Heavy Vehicle National Law (HVNL) but still contravene it without realising. In those circumstances, authorised officers can issue a formal written warning, if appropriate.

The purpose of a formal warning is to give a person an opportunity to rectify a minor breach that they're not aware of.

The HVNL states that formal warnings must not be given for certain breaches. These include contravention of a mass, dimension or loading requirement that is a substantial risk breach or a severe risk breach, or a fatigue requirement that is a severe risk breach or a critical risk breach (s 590(3) of the HVNL).

After receiving a formal warning, the person cannot be prosecuted for the relevant contravention until the warning is withdrawn.

Improvement notices

Authorised officers can issue an improvement notice when they believe that a provision of the HVNL is being contravened or about to be contravened (s 572 of the HVNL).

An improvement notice requires a contravention to be remedied within a set timeframe (generally not more than seven days). They're seen as an educative or persuasive enforcement option under the HVNL and an opportunity to improve behaviour (NHVR, 2018b, p. 11).

Failure to comply with conditions of an improvement notice is an offence under the HVNL, though the original contravention (to which the improvement notice relates) is not an offence.

Once an improvement notice has been remedied, an authorised officer may issue a clearance certificate stating that all requirements of the improvement notice have been complied with (s 576 of the HVNL). The improvement notice is then rendered inoperative.

Enforceable undertakings

An enforceable undertaking is available as an alternative to prosecution for a serious offence under the HVNL (s 590A of the HVNL). Category 1 offences are excluded (s 590A(1) of the HVNL).

Someone being prosecuted under the HVNL can propose an enforceable undertaking to the National Heavy Vehicle Regulator (NHVR). This generally involves substantial, ongoing obligations involving organisational change and the implementation of effective safety measures for transport activities. It is NHVR policy that an enforceable undertaking is not a suitable sanction for minor or trivial offences.

Prohibition notices

Authorised officers can issue a prohibition notice if they reasonably believe that an activity involves an immediate or imminent serious risk to the health or safety of a person (Division 5A of the HVNL).

A prohibition notice prohibits a person from carrying out the relevant activity. The direction can be given orally but must be confirmed in writing.

Infringement notices

Infringement notices are used as an enforcement tool for offences that are generally considered to be less serious in nature (Part 10.2 of the HVNL). They are usually given for strict liability offences – that is, offences where the subjective element of intent doesn't need to be determined. The purpose is to deter and punish.

Of the 330 offences in the HVNL, 144 can be dealt with by infringement notice. While the infringement can be challenged in a court, the recipient can pay a lesser amount by immediately conceding the offence.

Enforcement authorities regard infringement notices as an efficient enforcement tool, although there is limited evidence of deterrent effect (NTC, 2014, p. 14). They're an alternative to court proceedings, which are expensive for both government and prosecuted parties. They can also deliver immediate punishment for an offence.

Demerit points

Demerit points attach to a driver's licence and are managed through state and territory road traffic law. There are eight offences in the HVNL that can be dealt with by way of a demerit point penalty.

Court-imposable penalties

Commercial benefits penalty

If a court finds that a defendant benefitted commercially from contravening a provision of the HVNL, it can penalise the defendant by making a commercial benefit penalty order (s 597 of the HVNL). The amount ordered to be paid can't be more than three times the amount estimated by the court to be the gross commercial benefit.

Supervisory intervention orders (s 599 of the HVNL)

If a court considers a convicted person is or will most likely become a systematic or persistent offender, it can make a supervisory intervention order imposing conditions it considers will improve a person's compliance with the HVNL. Conditions can include appointing or removing staff, training and supervising staff, installing equipment, and/or monitoring or managing compliance with the HVNL.

Prohibition orders (s 607 of the HVNL)

If a supervisory intervention order isn't appropriate for a person a court considers would most likely be a systematic or persistent offender, the court can make a prohibition order that prohibits the person from having a stated role or responsibility associated with road transport.

Compensation orders (s 611 of the HVNL)

If a court finds that a person has caused damage to road infrastructure as a result of an offence against the HVNL, the court can make an order for the person to pay compensation to the road manager.

Suspension orders (s 598 of the HVNL)

If there is a severe risk breach of a mass, dimension or loading requirement of the HVNL, a court can cancel or suspend a vehicle registration.

Appendix D Review of regulatory telematics recommendation

Source: NTC, 2018c, pp. 13–14

Recommendation 5:

That, in collaboration with the NHVR, road transport agencies, the road transport industry, TCA and technology providers, the NTC co-designs a best practice model for regulatory telematics. The best practice model should provide a technology- and application-neutral model that supports the use of regulatory telematics data to achieve heavy vehicle compliance and enforcement objectives, and in doing so supports the key objectives of Australian transport legislation at minimal cost and with limited government certification and regulation of service providers. Drawing on the implementation of the EWD model, the best practice model should:

- describe the roles and responsibilities of government agencies, police, service providers and heavy vehicle operators
- set expectations as to what regulatory telematics should address, including in relation to:
 - electronic recording devices
 - communications
 - physical and cybersecurity
 - back-office systems
 - data storage, sharing and destruction
- update and apply the *Compliance and enforcement framework for heavy vehicle telematics*’ data dictionary that standardises the terminology and format of data inputs that can be used by industry in minimum standards
- update and apply the *Compliance and enforcement framework for heavy vehicle telematics*’ evaluation tool that sets out in what circumstances government certification of regulatory telematics is appropriate
- identify low-cost options and measurable benefits for industry.

Common terms and abbreviations

Term	Definition
CoR	chain of responsibility
EWD	Electronic Work Diary
HVNL	Heavy Vehicle National Law
IAP	Intelligent Access Program
NCIS	National Compliance Information System
NHVR	National Heavy Vehicle Regulator
NTC	National Transport Commission
OBM	on-board mass
RIM	Road Infrastructure Management
SARTA	South Australian Road Transport Association
TCA	Transport Certification Australia

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