



Assurance models

August 2019

Issues paper

Report outline

Title	Assurance models
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	The NTC will accept submissions until Friday 25 October 2019 online at www.ntc.gov.au or by mail to: National Transport Commission Public submission – Assurance models Level 3, 600 Bourke Street Melbourne VIC 3000
Attribution	This work should be attributed as follows: Source: National Transport Commission 2019, <i>Assurance models</i>, Issues paper, NTC, Melbourne. If you have adapted, modified or transformed this work in any way, please use the following: Source: Based on National Transport Commission 2019, <i>Assurance models</i>, Issues paper, NTC, Melbourne.
Key words	Heavy Vehicle National Law Review, HVNL, heavy vehicles, accreditation, assurance
Contact	National Transport Commission Level 3/600 Bourke Street Melbourne VIC 3000 Ph: (03) 9236 5000 Email: enquiries@ntc.gov.au www.ntc.gov.au

Have your say

What to submit

The views of a broad range of stakeholders are crucial to develop 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](https://www.hvnreview.ntc.gov.au)¹ to stay updated on the project. Planned engagements will be publicised on the website and in regular newsletters.

When to submit

The NTC invites written submissions and online feedback on this issues paper by **Friday 25 October 2019**.

Submissions or feedback received on or before this date will 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 – Assurance models
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.hvnreview.ntc.gov.au and select 'Assurance models' 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.hvnreview.ntc.gov.au

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Purpose of this paper

The National Transport Commission (NTC) is reviewing the Heavy Vehicle National Law (HVNL). The 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. We are aiming for a law that simplifies administration, compliance and enforcement and increases flexibility.

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

This is one of eight issues papers.

The purpose of this paper is to:

- describe assurance frameworks and their role
- summarise the current assurance frameworks in the HVNL and related instruments, and examine their purposes and how they operate
- identify options for an assurance model for the future HVNL
- 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 is made up of a safe driver, a safe vehicle and a suitable route. This issues paper explores assurance model options that support the safe and efficient heavy vehicle journey.

The role of assurance in regulating for risk

Assurance schemes give regulated parties options for demonstrating their capacity to comply in an alternative way to the same standard. Regulated parties can choose the option that is most suitable to their operations.

In an assurance framework, responsibility for risk management is shared between the regulator and regulated parties. A regulator is able to hand over risk management responsibility to a regulated party because they are given assurance (confidence) in compliance capacity through the regulated party's participation in the scheme. This leads to efficiencies for both the regulator and the regulated parties because each one is able to take on the role best suited to them.

Robust governance is critical to providing confidence and trust in an assurance scheme. Auditing and role allocation have to be appropriate for the level of assurance needed.

Assurance in heavy vehicle regulation

There are several heavy vehicle assurance schemes operating in Australia. Some of these schemes overlap in content but apply in different states. Some cover operational areas more broadly than others.

The National Heavy Vehicle Accreditation Scheme (NHVAS), which sits within the HVNL, and the Western Australian Heavy Vehicle Accreditation (WAHVA) scheme are led by government. The HVNL also includes several assurance mechanisms that sit outside the NHVAS. There are also industry-led schemes such as TruckSafe and CraneSafe.

These schemes don't extend to buses, even though buses are covered by the HVNL. Instead, bus operators must participate in the regulatory operator licensing scheme run by their state or territory.

Of the heavy vehicle assurance schemes, only WAHVA is considered mandatory. Commercial heavy vehicles operating on permits or orders must participate in WAHVA to access the public road network. All other heavy vehicle assurance schemes in Australia are voluntary to join, though three of the NHVAS modules work as permissioning schemes.

Challenges for assurance under the HVNL

When thinking about an assurance framework under a recast HVNL, there are several issues in our current approach to consider.

Assurance schemes and mechanisms in the current HVNL are not part of a cohesive framework. They don't link to each other or to obligations in the law very well. The schemes are also not comprehensive in their coverage of heavy vehicle operational areas.

The current HVNL assurance schemes are also not consistent in the way they link to risk management roles. Under the NHVAS, sharing of risk management responsibility is limited. Of the four modules, only one requires operators to identify and manage their own risks.

There are several assurance schemes, such as WAHVA and TruckSafe, that have similar purposes to the NHVAS but are not recognised under the HVNL. As a result, many operators participate in more than one scheme, even though this leads to duplicate effort and resources.

Overall, the heavy vehicle assurance schemes in operation are not succeeding in providing the level of confidence needed by governments and other stakeholders.

Assurance in a recast law

Through this issues paper, the NTC seeks your views on how we can regulate heavy vehicle assurance in a recast HVNL to achieve the following:

- support for what is regulated based on allocated risk management roles
- achieve equivalent safety objectives and standards
- create a purposeful, comprehensive and cohesive framework
- retain confidence in the system and certified parties.

We also present – and seek your views on – four high-level assurance framework models:

- vertical integration
- a market for regulatory certification
- a market for accreditation
- delivering flexibility through performance standards only.

The models are not recommendations. Rather, they're presented as prompts to start off discussion on what may be possible in a recast HVNL.

Questions

The NTC invites you to provide your views on the HVNL as it relates to assurance by **Friday 25 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: Have we covered the issues relating to assurance accurately and comprehensively? If not, what do we need to know? 32
- Question 2: Is there evidence of third parties, such as site managers, customers or loaders, performing audits on heavy vehicle operators that duplicate certification audits? Can third parties be assured (by an accreditor or certifier, within the HVNL, or some other means) that their audits are unnecessary?. 35
- Question 3: Does the HVNL need an assurance scheme? Could the flexibility operators want be achieved simply through performance standards, or are some operators and operations sophisticated or specialised enough to need alternative compliance options? Does technology or vehicles or any other operational area need assurance under the HVNL?..... 40
- Question 4: Which of the models do you prefer? What should they assure and why? Do you have an alternative model? Who should perform the key roles in an HVNL assurance scheme? 40
- Question 5: Fully developing a new assurance scheme could take a long time, even if writing it into law is relatively simple. What can we use from what we have, and how can we transition to the desired end-state?..... 40

1 About this project

Key points

- The Transport and Infrastructure Council directed the National Transport Commission to review the Heavy Vehicle National Law (HVNL) from first principles.
- The HVNL commenced in 2014. Despite numerous amendments to the law over the years, there is a view shared by a wide range of stakeholders that it's not functioning as effectively as it could.
- This issues paper explores how we can use assurance models to make sure the HVNL operates most effectively for those who are regulated by it and those who oversee and administer it.

1.1 Project objectives

1.1.1 Purpose of the review

The goal of the HVNL review is to deliver a modern, outcome-focused law regulating the use of heavy vehicles. The review is being undertaken by the 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 the HVNL, its administration and enforcement of the law
- support the use of new technologies and methods of operation
- provide flexible, outcome-focused compliance options.

1.1.2 Background

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

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

While the HVNL was an important step, many stakeholders have advised the NTC that the law, as it is, isn't achieving its aim to the desired level.

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.

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

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

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

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

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

1.1.3 NTC's approach to the review

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

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

This is one of eight issues papers in the HVNL review (see Figure 1). It outlines options for an assurance framework under the HVNL as a means to provide flexibility through shared risk management.

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

The next four issues papers covered 'what is regulated'. They included effective fatigue management, easy access to suitable routes, safe vehicles, and safe people and practices.

The following two issues papers, including this one, cover more specific 'how to regulate' matters. They include assurance models and managing compliance including the regulatory role technology and data could play.

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

³ www.hvnreview.ntc.gov.au

⁴ www.hvnreview.ntc.gov.au

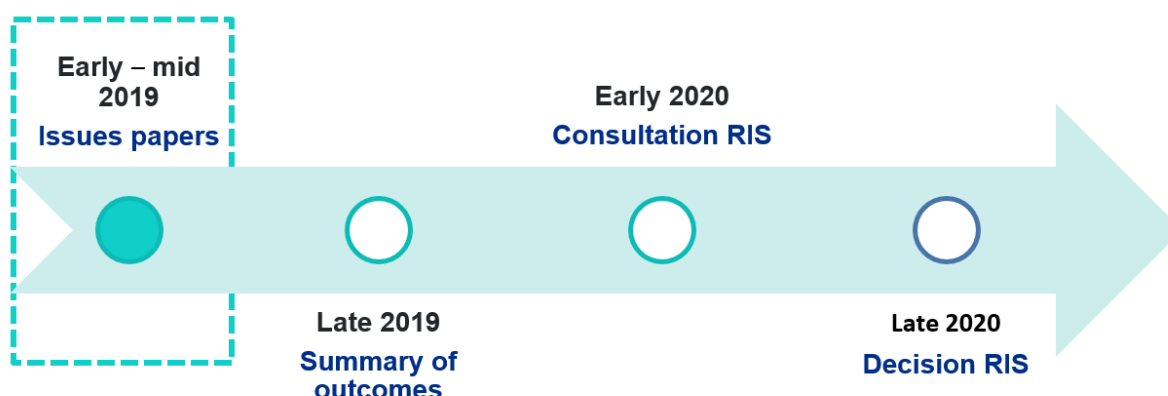
Figure 1. HVNL review issues papers

Foundation	What is regulated				How to regulate		Other
Risk-based regulation	Fatigue	Safe vehicles	Safe people and practices	Suitable routes	Assurance models (accrediting operators)	Managing compliance	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 statement (see Figure 2).

Figure 2. HVNL review timeline



RIS = regulatory impact statement

1.2 This issues paper

1.2.1 Objectives

The purpose of this issues paper is to:

- describe assurance frameworks and their role
- summarise the current assurance frameworks in the HVNL and related instruments, and examine their purposes and how they operate
- identify options for an assurance model for the future HVNL
- seek feedback on whether this paper has captured all the relevant issues.

1.2.2 Scope of the paper

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

- a **safe driver** – one who is well-trained, competent, fit for duty and alert when driving
- a **safe vehicle** – one that is registered, roadworthy and safely loaded

- a **suitable route** – one that minimises public safety risks and excessive impacts on road infrastructure (given a heavy vehicle’s mass and dimensions).

This issues paper explores the options to use an assurance framework in the future law to support the safe and efficient heavy vehicle journey. The paper looks at how we can do this in a way that meets the needs of those regulated by the HVNL and those who oversee and administer the law.

Appendices B through M are provided for information on current assurance schemes. These are a large addendum to this paper and you do not have to read them to be able to make an informed comment.

1.2.3 Compliance, enforcement and assurance

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 (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.

The focus of this paper is assurance.

2 The role of assurance in regulating for risk

Key points

- Assurance schemes give parties confidence and trust in each other.
- Assurance frameworks work best when they allow regulated parties to meet the same objectives and standards in a way that best suits their operations.
- In an assurance framework, responsibility for risk management is shared between the regulator and regulated parties. Developing a positive and cooperative relationship is critical.
- Sharing risk management roles leads to efficiencies for both the regulator and the regulated parties.
- Robust governance is central to providing confidence and trust in an assurance scheme. Auditing and role allocation have to be appropriate for the level of assurance needed.

2.1 Demonstrating compliance and meeting standards

2.1.1 Confidence and trust

Assurance is about confidence and trust that a regulated party can comply, and is complying, with the law or other requirements. In the context of an obligation between parties, assurance is about giving the parties confidence. The obligation may be one of regulatory or commercial compliance. An assurance framework gives a regulator, operator, supplier or other party confidence in themselves or in others.

Information about design, supply or operations is provided to demonstrate compliance with obligations. The information can be given to different stakeholders, including regulators, auditors and customers. The purpose is to give the recipients confidence that the operations are conducted in a way that meets required standards.

Assurance frameworks can play an important role in regulation. They can be a way for regulated parties to show they're meeting the objectives set by governments. They can offer regulated parties more flexibility compared with detailed prescribed requirements.

2.1.2 One standard, alternative regulatory compliance

Assurance frameworks work best in regulatory environments where all regulated parties must meet the same objectives, but the best way to achieve them varies between the parties. The variation may be due to factors such as organisational size, capacity, operating context or location.

Assurance frameworks aren't about setting different standards for regulated parties. Instead, they let different parties show the common objectives are met, to the same standard, in a manner suited to the operations.

The NTC doesn't propose that regulated parties should be allowed to meet different regulatory objectives, nor do we propose that parties should be allowed to comply with the

same objectives to a different standard. The same standard should be set for all regulated parties. It's only the way that compliance is measured and demonstrated that may differ.

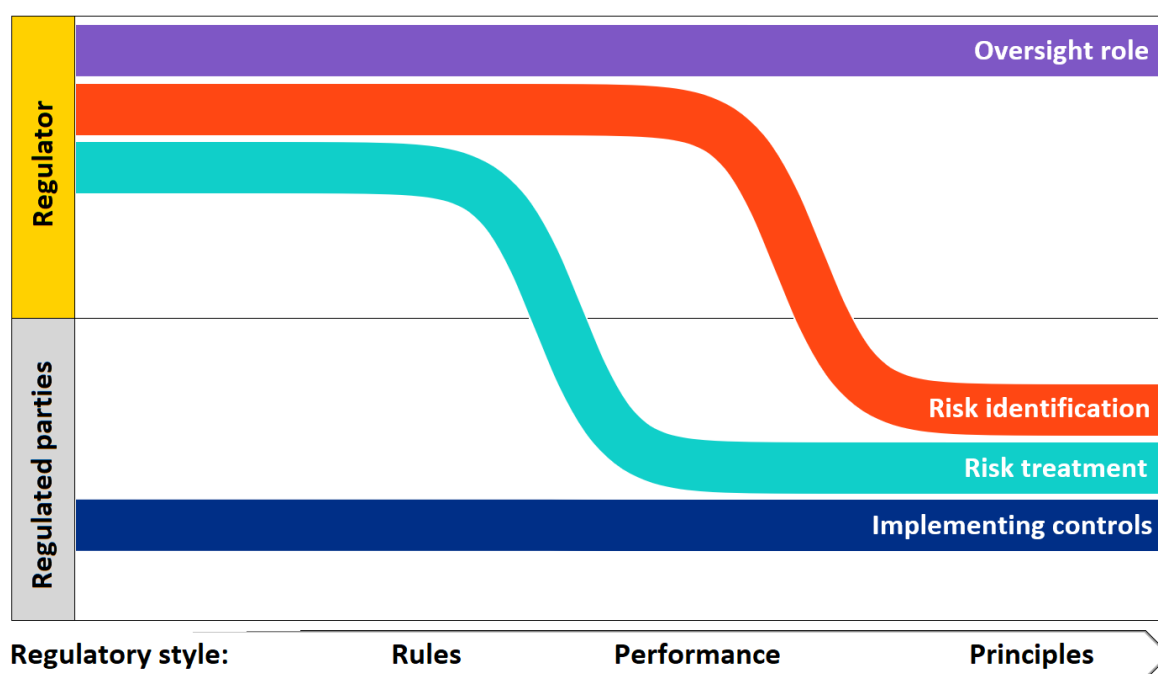
There are many ways for a regulated party to meet the same regulatory objective or outcome. As we have discussed in previous issues papers, when it comes to heavy vehicle operations, one size does not fit all.

2.2 Sharing the responsibility for risk management

Regulation can be rules-based, performance-based or principles-based. Assurance frameworks become more relevant and useful as regulatory style moves along the continuum from rules-based to principles-based regulation. For more information on the different regulatory styles, see the *A risk-based approach to regulating heavy vehicles* issues paper.

We can frame the different regulatory styles in terms of who is responsible for each aspect of risk management (see Figure 3).

Figure 3. Allocation of risk management roles under different regulatory styles



The risks to be managed are inherent to the operations, design, manufacture or supply. The standard to which risks are to be managed shouldn't vary from one regulated party to the next. All that changes along the regulatory style continuum is who holds each risk management role.

In principle, risk management roles should be undertaken by the party best able to fulfil that role. Any or all regulated parties with an influence over the risk to be managed can have a role.

The success of an assurance scheme relies on the regulated party having the capacity to manage the risks. Regulators need to be confident that a regulated party has the systems in

place to manage risks before they hand over the roles beyond implementing risk controls. Assurance schemes help give regulators that confidence.

2.2.1 A positive relationship between parties is critical

In a successful assurance framework, the regulator is confident that the regulated party can take on more of the risk management roles. The confidence comes from the regulated party demonstrating they can meet the regulator's standards.

Assurance schemes rely on a cooperative and open relationship between regulators and regulated parties to be effective. The process of developing the scheme should be transparent and collaborative.

2.2.2 Efficiencies for the regulator and the regulated

Assurance frameworks recognise that some regulated parties – though not necessarily all – may have a more sophisticated level of expertise than a regulator or government. They may be better placed to identify risks in their operations and how to effectively manage them.

When government hands over risk management roles to a regulated party that has greater risk management expertise, it can result in better outcomes. It can also free up public resources, allowing more efficient compliance and enforcement activities.

Regulated parties may be able to choose risk controls that suit their operations and are therefore more efficient. This frees regulated parties from having to use onerous prescriptive processes and systems to meet their obligations. In exchange, they take on more responsibility for risk management and demonstrating compliance.

2.3 Governance

2.3.1 An audit-based system

Under an assurance scheme, compliance is checked through an audit-based system. Performance is assessed against standards. This is different to the usual compliance and enforcement approach used for prescriptive rules such as roadside enforcement.

The higher the risks, the more independent, robust and comprehensive audit processes need to be to assess if the risks are being managed. An auditor that is an impartial, competent third party establishes confidence and trust in the assurance system, giving an assurance scheme its value.

2.3.2 Levels of assurance

Different levels of risk call for different levels of assurance. For example, higher risk activities require higher levels of assurance – that is, higher levels of confidence and trust.

The assurance level required depends on several factors. These include the risks being managed, the intended use of any performance data systems, and the needs and expectations of stakeholders. Some schemes need a high degree of independent oversight and assurance. Others are effective for their intended use with lower levels of assurance.

There are as many assurance levels as there are levels of risk. For the purposes of this paper, we present them as three broad categories:

- Level 1 assurance: regulated parties self-assess, without independent oversight.
- Level 2 assurance: the party performing the assessment is a stakeholder of the regulated party. There is greater rigour, but it's not an independent assessment.
- Level 3 assurance: assessed by an independent third party. Assessment processes are secure and robust, data is depended on for high levels of accuracy or integrity.

2.3.3 Independence of assurance and auditing – the question of who pays

Supporting truly independent assurance and auditing processes challenges traditional commercial arrangements. To avoid bias, familiarity, capture or corruption, there may be a need to separate auditor payments from auditor selection. For example, a regulated party may pay a fee for an auditor to a regulator (or broker) who actually selects and pays the auditor.

2.3.4 Schemes can be voluntary or mandatory

Participation in an assurance scheme can be voluntary or it can be a requirement to operate. This usually depends on:

- the risks associated with meeting an objective and whether the group of regulated parties is sufficiently capable to take on a greater share of the risk management task
- the homogeneity of the group of regulated parties.

Where participation is voluntary, regulated parties choose either to follow prescriptive rules or to participate in an assurance scheme, as long as they meet the scheme's requirements. To avoid fickle entry and exit, schemes may require a minimum commitment period.

Where participation is mandatory, the assurance scheme works as a permitting scheme or a licence to undertake an activity. Regulated parties have to give assurance they have the capacity and systems to manage the risk if they want to operate.

The status of, and requirements for, subcontractors to certified parties need careful consideration. It's not reasonable for a subcontractor to 'free ride' on another party's certification.

2.3.5 Roles

Different roles serve specific purposes within an assurance scheme framework. A single party can perform several of these roles, but conflicts of interest should be avoided. Conflicts of interest can undermine the integrity of the scheme because parties can lose confidence and trust. The roles are described briefly below. For a more detailed explanation, see Appendix A.

- **Scheme owner** – develops the assurance scheme, including compliance criteria, and identifies the assurance level (or levels). Decides how much risk management responsibility to share with participants.
- **Standards body** – develops standards, including specifications and procedural requirements such as business rules.
- **Accreditation assessor** – an independent body authorised by government to accredit a certifier. They give scheme owners confidence that the certifier can carry out the certification process.

- **Certifier, certification body** – certifies that a regulated party has systems in place to meet required standards and can demonstrate compliance with those standards. Should be impartial and independent of the certified party and must be accredited.
- **Inspector** – examines a product, process or service and determines if it meets requirements. Their focus is on the product or output, not the management systems. Must be qualified. Depending on the assurance level, can be engaged by the regulated party or be independent of them.
- **Certified party** – any regulated party certified that they can manage risks and demonstrate compliance with requirements. Certified by an accredited certifier.
- **Auditor** – scrutinises management systems to make sure they are meeting legislation, standards and other requirements. This includes examining outputs to make sure the listed controls are being applied as stated. Must be independent, competent and have the necessary qualifications.

2.4 Setting up an assurance scheme

2.4.1 What assurance schemes cover

Assurance schemes can cover any aspect of the law where government has set an overarching objective or outcome. They can be about safety management, business management or cover other policy objectives such as increasing productivity.

Assurance schemes can also be used to certify the integrity of products and systems used to demonstrate compliance. This gives the regulator and other parties confidence in those products and systems.

2.4.2 Process for setting up an assurance scheme

In general, assurance schemes are set up through the following process:

- Identify the overall objective set by government in legislation.
- Set the standards or requirements that need to be met to demonstrate compliance with the objective. These can be existing standards, for example, set by Standards Australia or the International Organization for Standardization (ISO). They can also be standards or requirements set by government or the regulator.
- Develop an assurance scheme that lets regulated parties demonstrate their compliance with the objective identified. In a risk-based regulatory environment, the scheme should be owned by the government or the regulator.
- Develop assessment criteria for the scheme that let participants demonstrate they qualify to be in the scheme. These are developed by the scheme owner, in consultation with industry.
- Certify a regulated party after assessing that they meet the scheme's assessment criteria. This is undertaken by a certification body, a role sometimes taken by the scheme owner. If they are different parties, however, the scheme owner needs to be confident that the certification process is carried out in a competent, consistent and impartial manner. There are ISO standards that set out requirements for different types of certification bodies.
- Monitor and assess the ongoing performance of certified parties against the overall objective. This can take different forms depending on the level of assurance needed. It involves inspection and auditing against the specific standards and assessment criteria.

3 Assurance in heavy vehicle regulation

Key points

- The current heavy vehicle assurance landscape includes different certification schemes, led by government and industry. These include:
 - the National Heavy Vehicle Accreditation Scheme and other assurance mechanisms in the HVNL
 - the Western Australian Heavy Vehicle Accreditation scheme
 - TruckSafe
 - CraneSafe.
- Some of these schemes overlap in content but apply in different states. Some cover operational areas more broadly than others.
- While the HVNL applies to buses, assurance for buses is covered separately to other heavy vehicles.

There are currently several heavy vehicle assurance schemes operating in Australia. These include different schemes led by government and by industry.

In this chapter, we briefly discuss several key schemes and provide a brief evaluation of their effectiveness as assurance schemes. For comparative purposes, we also look at assurance schemes for buses, which are covered separately to other heavy vehicles, and for rail.

A more detailed discussion and evaluation against the best practice parameters outlined in chapter 2 of this paper is included in the appendices. For a comprehensive list of schemes see the Fellows Medlock and Associates' 2018 report, *Analysis of Heavy Vehicle Safety Accreditation Schemes in Australia*.

3.1 Assurance provisions in the HVNL

3.1.1 Operator certification

The HVNL sets out provisions for operator certification, though it is referred to as 'operator accreditation' (Chapter 8 of the HVNL). We use the term 'certification' in this chapter, in line with the definitions in section 2.3.5 of this paper. References to schemes by name are excepted.

The purpose of operator certification is to provide an alternative pathway for compliance with some of the HVNL's requirements. The alternative pathway is open to operators that use management systems to achieve the objectives of those requirements. It covers aspects of the HVNL that are more suited to the operators' business operations (s 456 of the HVNL).

The long-term objectives of operator certification are linked to the objectives of the HVNL (NHVR, 2018a, p. 3):

- improved road safety
- increased productivity of the transport industry through adoption of good risk management practice by participants

- improved efficiency for participants.

Operator certification is also used as a condition for granting appeals, authorities, exemptions and concessions to operators (NHVR, 2018a, p. 4).

3.1.2 The National Heavy Vehicle Accreditation Scheme

The NHVR administers the NHVAS. The scheme was set up as alternative compliance in 1999, administered by state and territory road authorities. The NHVAS is now a formal process to recognise operators who take on a greater share of risk management (NHVR, 2019a). The scheme is voluntary, with four independent modules.

3.1.3 Mass Management module

Scheme summary

The Mass Management module is designed to improve public safety, protect infrastructure and preserve amenity by decreasing risks caused by excessively large or heavily loaded vehicles (ss 456 and 94 of the HVNL). The goal is to encourage heavy vehicle operators to take more responsibility for loading their trucks correctly and making sure their trucks are not overloaded.

The module is designed to provide level 3 assurance and works as a permissioning scheme. It's mandatory for operators who want as-of-right access for mass limits above general access. The NHVR shares limited risk management responsibilities with certified operators. The NHVR identifies the risks, their causes and appropriate risk treatments. Operators have limited flexibility to choose aspects of their compliance method but must meet minimum standards set by the NHVR. The operator is responsible for implementing compliance methods and monitoring ongoing compliance. The NHVR is responsible for making sure the audit process is robust and of high quality. The NHVR and other government agencies are responsible for risk mitigation through roadside enforcement activities.

Evaluation summary

The Mass Management module delivers on some of its value propositions. The key benefit for industry is the ability to access higher mass limits. This is the main incentive for operators who participate in the module. This should result in industry and government realising the productivity gains and more efficient freight movement that the module aims to deliver.

The safety objective, however, is only partially achieved. Mass management-certified vehicles are involved in fewer crashes than non-certified vehicles. Yet mass management-certified vehicles that are not certified in maintenance have higher levels of defects than vehicles that are maintenance certified. This highlights a problem with the stand-alone nature of the NHVAS modules. The limited safety management system (SMS) approach of the scheme is also seen by the NHVR to encourage a 'minimum compliance' attitude.

For a more detailed discussion and evaluation, including references, see Appendix B.

3.1.4 Maintenance Management module

Scheme summary

The Maintenance Management module is designed to help make sure heavy vehicles used on roads are in a condition that prevents or minimises safety risks (ss 456 and 58 of the HVNL). The module is an alternative compliance pathway for operators to maintain vehicles so they are always in good mechanical condition.

The module is designed to provide level 3 assurance and is voluntary. Operators can choose to participate in it. The NHVR and governments share some risk management responsibilities with certified operators. The NHVR identifies the risks, the potential causes and appropriate risk treatments. It also sets the minimum standards for compliance. Operators are responsible for implementing compliance methods and monitoring ongoing compliance. The NHVR is responsible for making sure the audit process is robust and of high quality. The NHVR and other government agencies are responsible for risk mitigation, through roadside enforcement activities.

Evaluation summary

The Maintenance Management module has had its highest take-up rates in states that give participants exemptions from annual vehicle inspections.

The module has had limited success in achieving its objectives. Vehicles covered by a maintenance certification scheme have lower levels of non-conformity with vehicle safety standards. Yet the scheme does not provide the jurisdictions with confidence in the roadworthiness of the vehicles. The jurisdictions have concerns about the effectiveness of the scheme to manage the risks and have criticised the robustness of the audit process. In addition, some certified operators have been found to have significant roadworthiness issues with their vehicles. Rather than freeing up government resources, some jurisdictions use significant resources to target certified operators through roadside enforcement (Fellows Medlock, 2018, p. 38).

For a more detailed discussion and evaluation, including references, see Appendix C.

3.1.5 Basic Fatigue Management module

Scheme summary

The Basic Fatigue Management (BFM) module is designed to help provide for the safe management of driver fatigue while on road (ss 456 and 220 of the HVNL). The primary goal is to improve road safety. The scheme is voluntary and is designed to provide level 3 assurance.

The NHVR shares some risk management responsibilities with certified operators. The NHVR identifies the risks, the potential causes and appropriate risk treatments, and sets the minimum standards for compliance. The primary risk controls are work and rest hours. These are prescribed by government and offer longer work options than the standard hours in the HVNL.

Operators are responsible for implementing compliance methods and monitoring ongoing compliance. The NHVR is responsible for making sure the audit process is robust and of high quality. The NHVR and other government agencies are responsible for risk mitigation. Work and rest hours are checked using work diaries as part of roadside enforcement activities, as with standard hours.

Evaluation summary

No specific assessments of the effectiveness of BFM in managing fatigue have been undertaken. Research does show, however, that some of the shifts allowed under BFM represent a high risk of fatigue impairment.

Both jurisdictions and the NHVR have expressed concerns about BFM allowing unsafe practices. This indicates a low level of confidence in the scheme's ability to improve road

safety. The jurisdictions also have concerns with the audit process and with the scheme's limited SMS approach. The NTC understands that the scheme is seen as encouraging minimum compliance rather than proactive risk management.

Participation in BFM is low, with 2073 operators recorded as participating in 2016-2017. The scheme appears to offer value to a limited number of operators who have specific operational needs.

For a more detailed discussion and evaluation, including references, see Appendix D.

3.1.6 Advanced Fatigue Management module

Scheme summary

Like BFM, the Advanced Fatigue Management (AFM) module is designed to help provide for the safe management of driver fatigue while on road (ss 456 and 220 of the HVNL). The scheme's purpose is to give flexible work and rest arrangements to operators who adopt a risk management approach to managing fatigue. The scheme is voluntary and is designed to provide level 3 assurance.

The NHVR shares some risk management responsibilities with certified operators. The NHVR identifies the risks and their potential causes. The operator can determine the appropriate risk treatments and implement compliance methods, as long as they meet the scheme's standards, which are set by the NHVR. Within those parameters, operators are given the flexibility to set their own work and rest arrangements.

Operators must monitor ongoing compliance, while the NHVR is responsible for making sure the audit process is robust and of high quality. The NHVR and other government agencies are responsible for risk mitigation. As with standard hours and BFM, work diaries are the main compliance tool, checked as part of roadside enforcement.

Evaluation summary

As with BFM, it is difficult to measure the effectiveness of AFM as an assurance scheme, though there are some positive indicators of success. This includes research currently underway that indicates that AFM participants have a mature approach to managing fatigue risks and instilling a safety culture in their organisations. This can be attributed to the sophistication of the operators and the AFM process. Operators have to demonstrate they can proactively manage fatigue risks as part of the certification process – they can't just rely on minimum compliance.

Despite this, jurisdictions have concerns with the total hours of work allowed under AFM. There is an implied scepticism that the level of fatigue risk that comes with AFM can't be safely managed.

The very small number of operators that have taken up AFM means that the scheme is of little benefit to the NHVR and to industry overall. Take-up appears to have been limited because of the scheme's complexity, though the NHVR has taken steps to simplify it. Another barrier to take-up is the inability of the NHVR to offer significant exemptions. Sophisticated risk treatments aren't acknowledged, including the use of fatigue-managing technology. Participating operators and drivers are still bound to the same prescribed record-keeping requirements as non-participants.

For a more detailed discussion and evaluation, including references, see Appendix E.

3.2 Other assurance mechanisms in the HVNL

The HVNL includes several mechanisms that perform an assurance function but are not part of the NHVAS.

3.2.1 Vehicle certification through the PBS scheme

Scheme summary

The performance-based standards (PBS) scheme aims to encourage the manufacture of innovative, safer heavy vehicles. PBS vehicles must meet specific standards based on how vehicles perform, instead of prescriptive vehicle specification standards. The goal is safer vehicles that give operators more flexibility and improve freight productivity. The scheme is voluntary to enter but works as a permissioning scheme in that PBS vehicles must be certified to obtain road access.

Risk management responsibilities are shared in the scheme. Government identifies risks and sets the standards, which are managed by the NHVR. Manufacturers and operators are responsible for identifying, implementing and managing the risk treatments through the design and manufacture of the vehicles. Compliance is then monitored and enforced by the NHVR.

Evaluation summary

The PBS scheme is delivering on the significant value it offers to both industry and government. A 2018 assessment of the scheme's effectiveness found PBS vehicles are more productive and safer than conventional heavy vehicles (NTC, 2018, p.3).

Despite this finding, many road managers are reluctant to give PBS vehicles access to roads. The high level of assurance that PBS approval should give them doesn't translate into confidence that their road assets and infrastructure will be looked after.

For a more detailed discussion and evaluation, including references, see Appendix F.

3.2.2 Telematics certification through the Intelligent Access Program

Scheme summary

In the Intelligent Access Program (IAP), telematics technology monitors heavy vehicle movements. Data captured and distributed includes location, mass and speed. The aim is to improve heavy vehicle access to the road network in exchange for monitoring compliance with the access conditions (s 401 of the HVNL).

The IAP scheme is designed to give level 3 assurance. It's a voluntary scheme under the HVNL but works as a permissioning scheme for greater road access and access to higher mass limits (HML). It's also mandatory for certain vehicle types in New South Wales, Queensland and Victoria. Risk management responsibilities are shared. Jurisdictions identify and specify risks and risk controls. Operators and drivers are responsible for implementing the risk controls. Compliance monitoring is shared by Transport Certification Australia, the jurisdictions and IAP service providers.

Evaluation summary

Non-conformance reports generated through the IAP alert jurisdictions to access breaches. Several factors, however, compromise the accuracy of the information the technology

provides. A lot of manual processing is required to clarify where breaches have actually occurred. As a consequence, the level of assurance the IAP provides is also compromised. This is somewhat demonstrated by the low level of access-related prosecutions.

Some operators running HML as a result of being in the IAP scheme are gaining significant competitive advantage. Yet despite the benefits, for several reasons take-up of the IAP hasn't been high. Those that do take it up predominantly do so because they need access to HML and specific road networks as part of their operations.

For a more detailed discussion and evaluation, including references, see Appendix G.

3.2.3 Electronic record systems

Scheme summary

Under the HVNL, operators can use an electronic record system, specifically an electronic work diary (EWD) (ss 342–355 of the HVNL). EWDs are systems that can record work and rest times. Using them is voluntary, as an alternative to written work diaries, as part of fatigue management obligations. Risk management is shared between the NHVR, jurisdictions and drivers.

Evaluation summary

EWDs have the potential to provide assurance by improving data accuracy, transparency and currency. There are currently no approved EWDs, and several issues remain unclear about how the scheme would work. It's also unclear what level of assurance the scheme would provide.

For a more detailed discussion and evaluation, including references, see Appendix H.

3.3 Heavy vehicle assurance in Western Australia

3.3.1 The Western Australian Heavy Vehicle Accreditation scheme

Scheme summary

The Western Australian Heavy Vehicle Accreditation (WAHVA) scheme is mandatory for all commercial operators of heavy vehicles operating on permits or orders. All participants must be able to demonstrate that they comply with standards under fatigue management, dimension and loading, and maintenance. Operators are required to comply with mass management standards if they wish to operate under the Accredited Mass Management Scheme. The scheme's goal is to improve road safety, productivity and community confidence in heavy vehicles on state roads. It's designed to provide level 3 assurance.

Government is responsible for most of the risk management in WAHVA. Main Roads Western Australia identifies the risks, potential causes and the preventative risk controls. It also prescribes minimum compliance standards. Operators are responsible for how they implement the risk controls. Together with other government agencies, Main Roads takes responsibility for inspections and risk mitigation, for example, through traditional roadside enforcement. Main Roads is also responsible for the quality and robustness of the auditing framework, though it doesn't conduct audits.

Evaluation summary

Approximately 10 per cent of Western Australia's total heavy vehicle fleet participates in WAHVA. The scheme delivers confidence that those participants meet the same minimum level of compliance in each module. Because the scheme is mandatory, it also delivers on other benefits to government, including productivity gains and access to audit information.

Yet there are concerns about the regular lack of physical vehicle inspections. Heavy vehicles outside the scheme aren't subject to an annual physical inspection. Even participating vehicles are only subject to a minimum of one inspection every three years (Fellows Medlock, 2018, p. 78).

For a more detailed discussion and evaluation, including references, see Appendix I.

3.4 Industry-led assurance

3.4.1 TruckSafe

Scheme summary

TruckSafe is a voluntary scheme owned by the Australian Trucking Association. It's designed to help operators fulfil their obligations under the primary duty (s 26C of the HVNL). The scheme's aim is to promote the development of Australia's trucking industry by continually improving road and industry safety.

TruckSafe is designed to provide level 3 assurance. It's not a regulatory scheme and isn't recognised under the HVNL, although TruckSafe offered alternative compliance options prior to the HVNL.

The TruckSafe standards closely align with the Master Code, so TruckSafe-certified operators ought to comply with both the code and the chain of responsibility obligations under the HVNL. Also, unlike the NHVAS modules, which are limited and independent, all seven TruckSafe standards must be met to be certified, making it a more comprehensive scheme.

Evaluation summary

Many TruckSafe certified operators are also accredited under the NHVAS, making it difficult to separate out the benefits of TruckSafe certification. There are some indicators, however, that TruckSafe does improve safety. Only a small percentage of the total heavy vehicle operators participate in TruckSafe. Those operators, nevertheless, have advised that the scheme delivers several benefits to their business.

The scheme's audit framework is robust. The scheme is considered to meet its goal of helping operators meet their primary duty obligations. Some major customers accept the scheme as well. This points to the scheme's success in giving customers confidence that certified operators have the systems to meet their obligations.

Despite these positives, jurisdictions and the NHVR haven't been willing to recognise TruckSafe in the same way as the NHVAS.

For a more detailed discussion and evaluation, including references, see Appendix J.

3.4.2 CraneSafe

Scheme summary

CraneSafe is a voluntary scheme designed to support crane owners and users in meeting their duty-of-care obligation under work health and safety (WHS) law. It provides a system for third-party assessment of the safety aspects of participants' cranes.

The scheme is designed to provide level 2 to level 3 assurance. Though CraneSafe isn't a regulatory scheme, all state WHS departments accept certification as demonstrating compliance with duty-of-care obligations. This may explain the high rate of participation in the scheme.

Evaluation summary

CraneSafe delivers benefits to both participants and their stakeholders. It improves the roadworthiness of cranes and gives operators confidence that they can demonstrate WHS compliance.

The scheme is also accepted by a wide range of stakeholders, including contractors, insurers and unions, which points to their confidence in CraneSafe participants. This in turn translates to more value for those participants.

For a more detailed discussion and evaluation, including references, see Appendix K.

3.5 Other heavy vehicle assurance – buses

3.5.1 Bus industry accreditation schemes

Scheme summary

Jurisdictions vary in their requirements of bus operators and the comprehensiveness of schemes. In each state, though, the key objective is to ensure the safety of passengers and the public more generally. All jurisdictions require operators to be suitable to conduct bus operations. For example, they must meet the 'fit and proper' or 'responsible' person test. For some jurisdictions, this also includes business and financial competency checks. The more comprehensive schemes require or favour specific training or qualifications, but some schemes don't call for either.

All bus operator assurance schemes are mandatory under relevant state or territory law. The level of assurance provided depends on how comprehensive the scheme is. Most jurisdictions include audits by independent third parties as part of their assurance framework. Some, though, rely on operator integrity to confirm compliance.

Responsibility for risk management is generally shared by respective jurisdictions' regulator and operators. The regulator identifies the primary risk and potential causes. They identify preventative risk controls and treatments, including minimum compliance requirements. Operators can then determine how to meet requirements. All jurisdictions mitigate the risk of unsafe driving through roadside enforcement.

Evaluation summary

How much value – and confidence – bus operator assurance schemes deliver to operators, regulators and the community depends mainly on how comprehensive and thorough the schemes are. Schemes in New South Wales, Victoria, Tasmania and the Australian Capital

Territory are considered by industry to meet – or be above – minimum safety requirements. Others are considered to lack minimum safety standards for passenger transport and need improvement. There are currently no common standards across Australia, leading to the substantial gap between schemes in some states and territories. Industry believe a harmonised national minimum safety standard is essential (Bus Industry Confederation, 2015, p.1). Schemes that are more comprehensive have usually been developed after a serious crash or other incident has occurred. Such incidents focus scrutiny on operational practices and heighten the need for assurance.

For a more detailed discussion and evaluation, including references, see Appendix L.

3.6 Assurance in other Australian transport modes

3.6.1 Safety assurance in the rail sector

Scheme summary

The rail transport sector takes a co-regulatory approach to safety assurance. Under the Rail Safety National Law (RSNL), rail transport operators have to ensure the safety of their operations, so far as is reasonably practicable (s 52 of the RSNL). They also have to be able to show their competence and capacity to manage risks to rail operation safety (s 61 of the RSNL). This is the purpose of certification. All rail transport operators must participate to be allowed to operate.

Co-regulation represents a different approach to sharing risk management responsibilities compared with the approaches discussed so far. The Office of the National Rail Safety Regulator identifies the major risks and requires rail operators to develop an SMS. The operators are responsible for developing the SMS, including identifying, implementing and testing risk treatments. The regulator then verifies the risk treatments and maintains ongoing oversight based on captured data.

The regulator takes a risk-based approach to safety assurance. It targets the most significant risks to rail safety and the areas with scope for improvement.

For a more detailed discussion and evaluation, including references, see Appendix M.

4 Challenges for assurance under the HVNL

Key points

- The HVNL includes multiple assurance schemes, but these don't always link up well – to each other or to obligations under the law.
- Current HVNL assurance schemes are not consistently linked to risk management roles.
- Several assurance schemes with comparable – but not identical – purposes are not acknowledged under the law. This leads to many operators participating in multiple schemes.
- Assurance schemes exist to provide confidence in certified parties, but there is evidence that they are not as successful in doing that as they should be.

The current approach to assurance in the heavy vehicle sector in Australia presents several high-level challenges, outlined here. This is not meant to be a comprehensive analysis of the current schemes but a guide to issues that must be considered for an assurance framework under the future HVNL.

4.1 Assurance under the HVNL is not cohesive and clear

The HVNL includes several assurance mechanisms with very little connection. The NHVAS, PBS scheme and IAP, for example, are all largely independent of each other. The few linkages, such as the requirement for participation in the IAP to gain access to higher mass limits, are limited. The allocation of assurance roles across the mechanisms is also inconsistent. Even the role of the regulator isn't entirely consistent across schemes in the HVNL – the regulator needs to maintain a nuanced group of skillsets when it comes to assurance.

Coverage is limited within the NHVAS, with only mass, maintenance and fatigue management modules. The scheme is also voluntary and the modules are independent of each other. The scheme doesn't take a systematic approach to managing safety with a focus on continuous improvement. Instead, it is a limited SMS approach with more of a 'plan, do, record' focus (NTC, 2014a, p. 51).

There is also no clear link between the NHVAS and the chain of responsibility primary duty. The NHVAS predates the primary duty and, for that matter, the HVNL. It has been progressively adapted to its context over many years. It may be time for a fundamental redesign.

The NHVAS modules were designed as alternative compliance options for specific areas of risk. The scheme hasn't kept up to date with the development of the chain of responsibility obligations. There is no holistic approach to building a safety culture to manage risks within an operator's business. As a result, NHVAS certification doesn't provide the broad safety assurance called for by governments and the community.

Case study: Maintenance-certified operator found to have unroadworthy vehicles

In 2013 a fuel tanker owned by maintenance-certified operator Cootes Transport was involved in a fatal crash in Mona Vale. Police investigations following the crash resulted in the operator being issued with 104 defect notices (Sydney Morning Herald, 2013). Approximately half of these were for major defects.

This incident, and others that are similar, are indicative of problems with the limited SMS approach in the NHVAS module standards. They suggest the approach hasn't provided a robust model for undertaking effective risk management. It also hasn't prompted responsible improvement responses once an incident has occurred (NTC, 2014a, p. 48).

Another consequence of incidents like the Mona Vale crash is that they significantly compromise stakeholder – and community – confidence in the assurance schemes (Sydney Morning Herald, 2014).

4.2 Assurance is not necessarily linked to risk management

As outlined in chapter 2 of this paper, assurance schemes can provide a formal mechanism to allocate roles in regulatory risk management. The same regulatory outcomes and standards apply to regulated parties, but the scheme lets parties demonstrate compliance in different ways.

For example, NHVAS mass management-certified operators can access concessional mass limits over the network. This can be regarded as certification providing a higher degree of assurance to road managers that the operators have effective mass management systems and practices. That is, the vehicle's actual mass is likely to be closer to its nominal mass, and a smaller margin of error can be tolerated. It's not because the road managers are applying a lesser standard.

In practice, the sharing of risk management responsibility is very limited under the NHVAS. Of the four modules, only AFM requires operators to identify and manage their own risks. In the other modules, government still identifies the risks and prescribes many of the risk controls. This doesn't encourage operators to be proactive in the way they manage risks.

4.3 Multiple assurance schemes exist outside of the HVNL

In our review of the HVNL, the NTC is considering the possibility of recognising in the HVNL assurance schemes that aren't currently recognised. This may cover, for example, operator certification such as TruckSafe or the WAHVAS, or technology certification beyond the IAP.

Many of these schemes have proven safety benefits. Also, there is considerable overlap between the different operator certification schemes. For example, the respective maintenance modules in the NHVAS, TruckSafe and the WAHVAS are very similar. In spite of the commonalities, they're not all recognised under the HVNL. As a result, some operators are forced to join multiple schemes for different activities. This creates a financial and administrative burden for operators because they have to pay multiple membership fees and follow different audit requirements.

4.4 Low confidence in the systems

The primary purpose of assurance schemes is to give the parties involved and their stakeholders confidence. Yet there is evidence the current heavy vehicle assurance system isn't fulfilling this purpose:

- Jurisdictions have criticised the robustness and quality of the NHVAS audit process (NTC, 2014a, p. 54). This includes believing the audit process isn't adequate for the purpose of certification.
- Certified operators are not subject to less roadside enforcement. In fact, some state enforcement agencies believe operators are complacent and aren't complying with their requirements. As a result, these agencies have been targeting certified operators in enforcement campaigns (Transport for New South Wales, 2016, p. 3).
- The PBS scheme is designed to give road access to vehicles that meet certain safety performance standards. Yet even when they're certified as meeting the standards, road managers, particularly local government, are reluctant to give them access (NTC, 2018a, p. 10).

There is evidence that a lack of government and regulator confidence in certified operators' capacity to manage risks translates to a comparable lack of commercial confidence.

Case study: Whiteline audited by customers despite participating in three certification schemes

Whiteline Transport is based in South Australia but its business includes long-haul trips into Western Australia. Because of their particular operations, Whiteline participates in three different assurance schemes: TruckSafe, NHVAS (Maintenance Management, BFM and AFM), and the WAHVA scheme.

The company's participation in multiple schemes reflects the unsystematic and uncoordinated way heavy vehicle assurance has evolved over the past two decades.

Whiteline is audited on site for all three schemes. Auditors visit so frequently that Whiteline has a dedicated 'compliance room' within its offices. As the schemes overlap in areas, the audits often require the same information, but for it to be presented in different ways. Whiteline invests time and resources to prepare for them, with each audit requiring two or more office staff for two to three days.

Customer auditing has also increased significantly since the primary duty was introduced on 1 October 2018. Some of these are desktop audits, but other customers require Whiteline to undergo the same onsite auditing that is carried out for the certification schemes. For these customers it's not enough that Whiteline is certified in multiple schemes. The schemes don't provide the customers with sufficient confidence. Instead, they believe they need to do their own auditing to satisfy their chain of responsibility obligations.

Question 1: Have we covered the issues relating to assurance accurately and comprehensively? If not, what do we need to know?

5 Assurance in a recast law

Key points

This section sets out high level options for an assurance framework in a future HVNL.

We present the draft regulatory principles that will guide development of whichever framework model is determined to be most appropriate – if any. We then present four possible assurance framework models:

- vertical integration
- a market for regulatory certification
- a market for assurance
- rules-based (no scheme).

The models are prompts for discussion purposes only. They're not recommendations.

5.1 Aspirations for a better law

The NTC proposes five draft regulatory principles to guide development of an assurance framework in a recast law:

- supporting what is regulated based on allocated risk management roles
- equivalent safety objectives and standards
- a purposeful, comprehensive and cohesive framework
- confidence in the system and certified parties.

5.1.1 Supporting what is regulated based on allocated risk management roles

Draft regulatory principle 1: The future HVNL should provide alternative compliance options for regulated parties. Operators, designers, manufacturers and suppliers who can demonstrate their capacity to take a greater role in managing risks covered by the HVNL, in terms of general and specific duties, should be able to do so.

Draft regulatory principle 2: An assurance framework should be supported by a rules-based option. This option should be available for those who don't wish to, or are unable to, opt in to take on additional risk management roles.

Each risk management role should be taken by the party most competent to undertake it. Well-resourced, capable operators, who understand their operations better than anyone else, may be more effective at identifying risks or specifying controls than a regulator or government.

Other operators may understand their operations but may not have access to the capacity or data required to manage certain risks in a more effective way than by applying controls specified by governments.

Many operators have told us they like the certainty of prescriptive rules. They don't have the time, capacity or desire to create their own systems under an assurance model.

Prescriptive rules should remain for those who prefer or need them. Rules can either:

- be incorporated in a code (or similar) under an assurance framework that applies to everyone, as a form of defence or 'deemed compliance'
- remain as a stand-alone option for operators who don't interact with an assurance scheme.

5.1.2 Equivalent safety objectives and standards

Draft regulatory principle 3: The future HVNL should be structured around an assurance framework that links explicitly to a single set of objectives and standards set by governments. There should be no regulatory concessions that lower standards. The same standards should apply to everyone. Compliance options may differ depending on the level of participation in the assurance framework, which may be of benefit to some operators or operating models.

Operators certified under an assurance scheme may be safer operators, on average, but that shouldn't be because different standards apply. For example, under the current HVNL, all operators must effectively manage fatigue risk. Specific duties exist for the driver to avoid driving while fatigued, and others in the chain of responsibility to prevent a driver driving while fatigued. Whether operators are certified to BFM, AFM or neither of these doesn't change the standard. All that changes is how that risk is managed and by whom.

An assurance framework that determines compliance options under the law must have the objectives and standards set, or at least overseen, by governments. This principle doesn't prevent other parties from taking on important roles within the assurance framework.

5.1.3 A purposeful, comprehensive and cohesive framework

Draft regulatory principle 4: Irrespective of which high-level model is used, an assurance framework under the future HVNL should be set up to best accommodate the objectives of all stakeholders. This includes the objectives of governments, the regulator, regulated parties and the broader community. To achieve this, the assurance framework should be cohesive and comprehensive.

An assurance framework should:

- explicitly link to the objects of the law and duties within it
- ensure certified parties take a comprehensive approach to meeting the objectives of the assurance framework, not a piecemeal approach
- be cohesive across specific assurance schemes within the framework – for example, linking vehicle, operator and technology assurance where suitable
- have clearly defined roles for each party.

5.1.4 Confidence in the system and in certified parties

Draft regulatory principle 5: An assurance framework under the future HVNL should provide comparable levels of confidence to third parties as it does to governments and the regulator. This should be supported by robust governance and auditing and, if appropriate, explicit provisions in the law.

For the most part, confidence or trust are earned rather than set in law. In that respect, this principle is a definition of success more than it's a design steer for regulation.

Yet it may be possible to give protections in law that help foster confidence and trust. Such protections may reduce the excessive caution shown by third parties that audit operators because they believe they have to in order to meet their primary duty obligations.

An explicit provision in law that connects an assurance framework to chain of responsibility provisions may be possible – for example, providing in law that a consignor who contracts an operator doesn't satisfy the primary duty simply by auditing the operator for matters they are already assured for.

Question 2: Is there evidence of third parties, such as site managers, customers or loaders, performing audits on heavy vehicle operators that duplicate certification audits? Can third parties be assured (by an accreditor or certifier, within the HVNL, or some other means) that their audits are unnecessary?

5.2 Assurance models

The assurance frameworks presented here are high-level prompts, not recommendations. A finalised assurance framework requires clarity on:

- governance
- roles and responsibilities
- scope and operation
- whether certification must be holistic or can be modular.

The models presented all assume there are multiple operators to certify, but the models can be equally applied to technology, vehicles or anything else that might be certified under an assurance scheme.

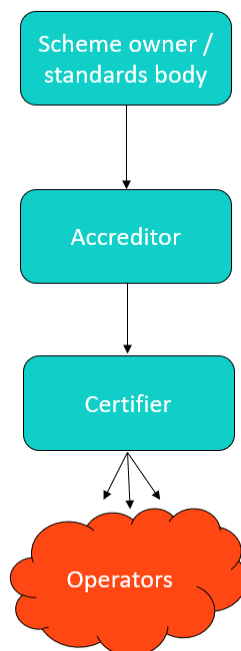
In each case we've assumed a single body responsible for oversight and standard-setting because, in regulatory environments, governments must fulfil these roles (as we assert in draft regulatory principle 3). We are not including here which specific government body takes on this role, nor the extent to which they can consult with regulated parties or others. We seek your views on the options.

5.2.1 Model 1: Vertical integration

In this model, operators are certified only by governments or their representative, such as the regulator (see Figure 4). Governments own the scheme, set the standards and certify

operators. Accreditation is not applicable, or at least not overtly, because the scheme is vertically integrated.

Figure 4. Vertically integrated assurance model



This is the model used under the current HVNL. The NHVR certifies operators to NHVAS modules. Regulatory recognition of certification is limited to the NHVAS. Even other government schemes, such as the WAHVAS, aren't recognised.

Under this model, operator certification under other assurance schemes may influence the regulator's enforcement activity or provide for a defence in the case of a prosecution, but a single certification system is recognised in legislation. Other certification schemes could potentially serve as a fast-track into the regulatory certification scheme or continue to operate as non-regulatory assurance.

Auditing functions may be controlled to a greater or lesser degree by the government or regulator, according to the business rules of the scheme.

Assurance levels are high, but there may be some issues with a single body certifying operators and enforcing compliance.

The framework is also robust – the scheme is backed by governments throughout. But it may suffer from a low imperative for ongoing improvement due to a lack of competitive pressure.

What a vertically integrated model might look like to an operator

For an operator, this model looks identical to the current NHVAS. A government body (currently the NHVR):

- sets standards on behalf of governments
- certifies operators for participation in the scheme

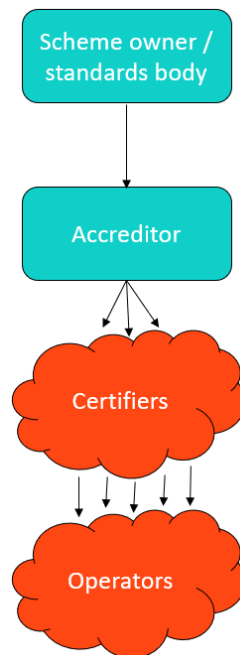
- approves auditors to undertake compliance audits.

Other assurance schemes, regardless of their content or robustness, aren't recognised by the HVNL, nor are they acceptable for demonstrating compliance with the HVNL for access to regulatory programs (such as HML or AFM).

5.2.2 Model 2: A market for regulatory certification

In this model, operators are certified by any accredited certifier who is, themselves, accredited by governments or their representative (see Figure 5). Governments own the scheme and set standards, including who is suitable to certify operators.

Figure 5. Certification market model



This model could have merit in Australia. The HVNL could recognise alternative schemes currently outside it, notably TruckSafe and the WAHVA scheme. Non-participating jurisdictions or others could be accredited as certifiers. A case could then be made to keep the accreditation and standard setting with greater oversight from fully representative bodies such as the Transport and Infrastructure Council, even if the NHVR was to act as its delegate.

Operators wouldn't necessarily need to be certified to multiple schemes. The model also allows room for industry-specific schemes to be developed and incorporated.

Auditing functions may be controlled to a greater or lesser degree by the government or regulator, or the certifier, according to the business rules of the scheme.

Assurance levels would need auditing to be conducted by a third party. This would avoid potential conflicts of interest and the lower assurance levels they would bring.

The scheme is less robust than the first model. The accreditor should make sure the certifier is suitable to enter the market, continues to meet the required standards and can provide continuity of certification. This, though, represents an additional point of risk of failure. While

competition often drives improvement, it's possible for a 'race to the bottom' that threatens the sustainability of the system. Equally, barriers to entry for certifiers should be reasonable but not excessive.

Under this model it's unlikely the accreditor would also hold a certification role, though it's not ruled out. If an external certifier can no longer perform their role, the accreditor may need to assume the role of 'certifier of last resort'. This would avoid industry and regulatory disruption.

While there are a number of bodies capable of certification, there may be a need to develop accreditation skills in the body ultimately responsible under this model.

What a certification market model might look like to an operator

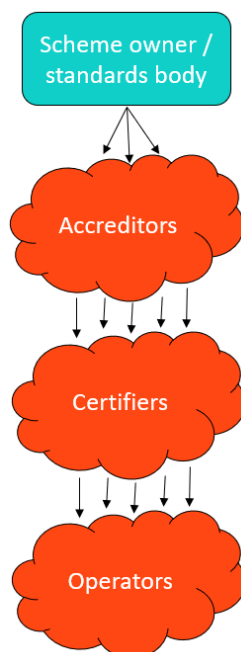
Under this model, a government body (such as the NHVR) still sets standards on behalf of governments. The standards may be no different to those in the vertical integration model. The government body that oversees the assurance framework does not run a scheme itself. Instead, it accredits any assurance scheme that can provide assurance (confidence) that the scheme's members meet the HVNL's standards.

An operator has a choice of several assurance schemes they can join to demonstrate they comply with the HVNL standards. They can then gain access to any applicable regulatory programs (such as HML or AFM).

5.2.3 Model 3: A market for accreditation

In this model, governments own the scheme and set standards, and recognise multiple bodies able to accredit certifiers (see Figure 6). There are few bodies capable of this. In practice, it may be more like an outsourcing of the accreditation role to a suitably expert body, for example, the Joint Accreditation System of Australia and New Zealand.

Figure 6. Accreditation market model



The advantage of this model is that accreditation expertise is brought in at the top, though it may be at the expense of heavy vehicle regulation expertise. A large degree of cooperation between governments, the regulator and the accreditor(s) is vital.

This model could work in a similar manner to model 2 in terms of certification and bring in current schemes operating in Australia. The NHVR could continue to certify operators, take on the 'certifier of last resort' role or completely exit the assurance scheme except as a party to be assured and informed.

This model is the most complex and potentially the most expensive to administer. Its benefits would need to be commensurately large.

What an accreditation market model might look like to an operator

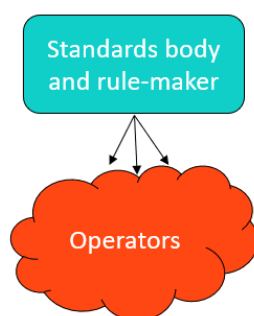
Under this model, a government body (such as the NHVR) still sets standards on behalf of governments. Again, these may be exactly the same as standards set in the previous two models. A specialist accreditation body would take on the task of accrediting assurance schemes.

For an operator, this looks identical to the certification market model. They have a choice of schemes they can join to demonstrate they comply with the HVNL standards for access to regulatory programs (such as HML or AFM).

5.2.4 Model 4: Deliver flexibility through performance standards only

For comprehensiveness we present a model that includes no assurance framework. The cost and administration of assurance schemes are removed. Flexibility for operators is limited to the use of performance standards.

Figure 7. Performance rules model



The risks to be managed, and the standards to which they are managed, are set. Bespoke risks for a given operation are managed through the primary duty only or through other laws such as WHS.

While this model would be the simplest, it is also the least flexible for operators.

What a performance rules model might look like to an operator

Under the performance rules model, the HVNL doesn't recognise any assurance scheme. Operators are treated the same, irrespective of whether they're in a scheme, such as TruckSafe, or not in a scheme at all.

In this model, the NHVAS doesn't exist. Compliance with HVNL standards is only managed through enforcement activities. These could be on road by police or other authorised officers. They could also be off-road activities – for example, police or the regulator conducting intelligence-driven audits (as can currently be done for chain of responsibility investigations).

For an operator, this might lead to greater on-road interception of vehicles and more frequent onsite visits to examine records and equipment.

Question 3: Does the HVNL need an assurance scheme? Could the flexibility operators want be achieved simply through performance standards, or are some operators and operations sophisticated or specialised enough to need alternative compliance options? Does technology or vehicles or any other operational area need assurance under the HVNL?

Question 4: Which of the models do you prefer? What should they assure and why? Do you have an alternative model? Who should perform the key roles in an HVNL assurance scheme?

Question 5: Fully developing a new assurance scheme could take a long time, even if writing it into law is relatively simple. What can we use from what we have, and how can we transition to the desired end-state?

6 Next steps

Key points

- We want to hear from you. Consultation is open until **Friday 25 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, compliance and technology and other matters.

6.1 Have your say

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

We invite your responses to the questions and issues we have identified by **Friday 25 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 will cover managing compliance, including the regulatory role that could be played by technology and data.

The last issues paper 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 statement.

⁵ www.hvnreview.ntc.gov.au

Scheme owner

- Develops a scheme that meets the overall government objective. Also develops the compliance criteria in consultation with industry and certifying bodies.
- Identifies the assurance level needed, based on the level of risk.
- In a risk-based regulatory environment, the scheme owner is the government or regulator. They decide how much risk management responsibility to hand over to scheme participants.

Standards bodies

- Develop standards, including specifications and procedural requirements. Development should be an open and transparent process. It should involve active participation of stakeholders, including technical experts from industry, government and consumer groups.
- Can be international organisations, national standards bodies, regulatory authorities or industry associations.

Accreditation assessor

- An independent body authorised by government to accredit a certifier. That is, to assess and give formal recognition that a certifier is competent to carry out the task of certification.
- They give scheme owners confidence that the certifier can carry out the certification process. They assess and approve the services of the certifier. They're required when the scheme owner doesn't certify who can participate in their scheme.
- In operator-licensing models like rail and aviation, the certifier is the regulator. In those cases, a separate accreditation assessor isn't needed. Instead, the regulator has to have the skills and processes to perform the certification function.

Certifier, certification body

- Certifies that a regulated party has systems in place to meet required standards and that they can demonstrate compliance with those standards. Also certifies that a particular product or service meets required standards.
- Must be impartial and independent of the certified party. Must be accredited by an accreditation body. This gives scheme owners confidence that they are competent to certify. It also gives scheme owners confidence that certified parties meet necessary standards.

Inspector

- Examine a product, process or service and use professional judgement to determine if it meets requirements. These include regulations, standards, specifications, inspection schemes or contracts. Inspection parameters include matters of quantity, quality, safety and fitness for purpose. Unlike auditors, their focus is on the product or output, not the management systems.
- Must have the necessary qualifications to be competent to undertake assessments.
- Carry out assessments on behalf of different parties. Where the assurance level is low, an inspector can be engaged by the party being inspected. For higher assurance

levels, they should be independent of that party. This gives third parties greater confidence that they can carry out the inspection with impartiality.

Certified party

- A regulated party certified that they can demonstrate compliance with requirements. Certified by an accredited third-party certifier.

Auditor

- Scrutinise management systems to make sure they are meeting legislation, standards and other requirements. Follow systematic, independent and documented processes. Test and challenge policies, procedures and practices to determine if they're effective. This includes examining outputs to make sure the listed controls are being applied as stated. An audit is a systematic, independent, documented process.
- Must be independent and competent. They must have the necessary qualifications and meet specific standards themselves.
- Allocated by a certifier as part of their ongoing process of certification. An audit is an essential part of the certification process as it provides the level of assurance.

Appendix B

NHVAS Mass Management

Overview

PURPOSE			
Safety objective	Improve public safety by decreasing risks caused by excessively-loaded heavy vehicles (s 94 of the HVNL).		
Specific scheme purpose	Encourage heavy vehicle operators to take more responsibility for loading their trucks correctly and ensuring that their trucks are not overloaded (NHVR, 2013, p. 4).		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	Government – NHVR	Certifier	Government – NHVR
Standards bodies	- Developed by the NHVR - Approved by Ministerial Council	Inspector	
Accreditation assessor	Not required (NHVR owns and certifies)	Auditor	Certified by exemplar global and registered with NHVR
Scheme type	Regulatory scheme – mandatory for operators who want to access mass limits above general access (permissioning)		

SHARED RISK MANAGEMENT

Responsibility for risk management

Risk identification – regulator

The regulator identifies the primary risk (heavy vehicle is excessively loaded or loaded incorrectly).

The regulator identifies the potential causes of this risk. These include:

- unclear roles and responsibilities and a lack of training in relation to mass management
- a lack of understanding regarding vehicles' mass limits
- not accurately weighing vehicles prior to departure
- poorly maintained vehicle suspension
- failing to have and keep mass management procedures up to date.

Risk treatments – responsibility is shared between regulator and operator

Based on the potential causes the regulator identifies the preventative risk controls. These are included in the scheme's standards. The regulator prescribes the minimum to be done to comply with these risk controls. The operator has limited flexibility to choose certain aspects of their compliance method.

Implementing and testing risk treatments – responsibility is shared between regulator and operator

Operators are responsible for implementing compliance methods. Operators are also responsible for monitoring ongoing compliance through quarterly compliance statements.

Whether controls have been implemented is assessed independently through the scheme's audit process. The regulator has responsibility for ensuring the quality and robustness of the audit framework.

Risk mitigation – regulator/governments

An accredited operator's vehicle is still subject to traditional roadside enforcement (weigh stations etc.). This is the only mitigation control to address the primary risk (excessive or incorrect loading) once it has occurred.

ASSURANCE ASSESSMENT

Assessment criteria

NHVR Audit matrix – Mass Management (NHVR, 2019g)

Monitoring of ongoing compliance performance	Performance is monitored through a program of: ▪ compliance audits (scheduled or triggered) ▪ investigation of complaints (by the NHVR) ▪ compliance checks (on-road intercepts, reviews of quarterly compliance statements, spot checks and random inspections) (NHVR, 2019e, pp. 8–11).
Assurance verification (level of assurance)	Designed to provide level 3 assurance. Audits are conducted by third party auditors who are certified by Exemplar Global and registered with the NHVR. Auditors are chosen by the operator but approved by NHVR.
Quality check of verification (robustness of audit framework)	NHVR may review the performance of NHVAS approved auditors. A performance review may be triggered by poor audit reports, a heavy vehicle incident or a compliant.
VALUE OF ASSURANCE SCHEME	
Value to industry	▪ Allows operators to operate at mass limits above national general limits (productivity gains). ▪ Less roadside enforcement / better relationship with enforcement agencies. ▪ Business benefits (efficient loading, increased vehicle life and lower maintenance costs, reduced rejection of vehicles by customers because of overloading) (NHVR, 2013c, p. 4).
Value for regulators and governments	Efficiencies in moving the freight task, safety benefits and better use of scarce enforcement resources.

Effectiveness as an assurance scheme

Meeting the objectives

- Vehicles enrolled in mass management accreditation are less likely to be involved in a crash (49 per cent fewer crashes than non-accredited vehicles) (Austroads, 2008, p. 34).
- However, vehicles enrolled in mass management accreditation are more likely to be involved in a crash than those enrolled in maintenance management (Austroads, 2008, p. 34). This is supported by NSW findings where mass accredited vehicles had higher levels of defects (both major and minor) than those participating in maintenance accreditation (Transport for New South Wales, 2016 p. 38).
- This highlights the potential issues with the limited SMS approach taken by NHVAS (modules are stand-alone, which means mass management requirements can be met with a poorly maintained vehicle).

Providing assurance

- There are no specific findings relating the quality and independence of mass management audits (however the general issues with NHVAS audit process apply).
- However, regulators have reservations about the limited SMS approach NHVAS takes. There is an appetite for encouraging accredited operators to take a more systematic approach to managing the broad range of risks associated with their operations (Austroads, 2008, p. 37, NTC, 2014b, p. 54).
- The primary incentive for operators to join the mass management scheme is access to higher mass limits (Austroads, 2008, p. 26). There is a view that this encourages an attitude of minimum compliance rather than proactive risk management (Fellows Medlock and Associates, 2018, p. 36).

Delivering value to regulators

- Schemes attached to mass management accreditation (concessional mass limits and HML) have allowed the freight task to be moved more efficiently.
- Road safety improvements (lower crash rates).

Delivering value to industry

- The primary reason given by operators for joining mass management accreditation is access to the high mass limits (Austroads, 2008, p. 26).
- Of the 6607 operators enrolled in NHVAS in 2016–17, 5,312 (80 per cent) were enrolled in the mass management module (Fellows Medlock and Associates, 2018, p. 74).

Appendix C

NHVAS Maintenance Management

Overview

PURPOSE			
Safety objective	Heavy vehicles used on roads are in a condition that prevents or minimises safety risks (s58 of the HVNL).		
Specific scheme purpose	Alternative compliance pathway for operators to maintain vehicles to ensure they are always in good mechanical condition (NHVR, 2013b, p. 4).		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	Government – NHVR	Certifier	Government – NHVR
Standards bodies	- Developed by the NHVR - Approved by Ministerial Council	Inspector	Operators are responsible for inspecting their own vehicles
Accreditation assessor	Not required (NHVR owns and certifies)	Auditor	Certified by exemplar global and registered with NHVR
Scheme type	Regulatory scheme – operators can choose to participate (voluntary)		

SHARED RISK MANAGEMENT

Responsibility for risk management

Risk identification – regulator

The regulator identifies the primary risk (heavy vehicle is not roadworthy).

The regulator identifies the potential causes of this risk. These include:

- a lack of regular safety checks and maintenance schedules
- failing to report faults and action repairs
- unclear roles and responsibilities and a lack of training in relation to vehicle maintenance
- failing to keep maintenance procedures up to date.

Risk treatments – responsibility is shared between regulator and operator

Based on the potential causes the regulator identifies the preventative risk controls. These are included in the scheme's standards. The regulator prescribes the minimum to be done to comply with these risk controls.

The operator has limited flexibility to choose certain aspects of their compliance method.

Implementing and testing risk treatments – responsibility is shared between regulator and operator

Operators are responsible for implementing compliance methods. Operators are also responsible for monitoring on-going compliance through quarterly compliance statements.

Whether controls have been implemented is assessed independently through the scheme's audit process.

The regulator has responsibility ensuring the quality and robustness of the audit framework.

Risk mitigation – regulator/governments

The road worthiness of an accredited operator's vehicles is tested via traditional roadside enforcement. This is the only mitigation control in place to address the primary risk (vehicle is unroadworthy) once it has occurred.

ASSURANCE ASSESSMENT

Assessment criteria

NHVR Audit matrix – Maintenance Management (NHVR, 2019g)

Monitoring of ongoing compliance performance	Performance is monitored through a program of: ■ compliance audits (scheduled or triggered) ■ investigation of complaints (by the NHVR) ■ compliance checks (on-road intercepts, reviews of quarterly compliance statements, spot checks and random inspections) (NHVR, 2019e, pp. 8–11).
Assurance verification (level of assurance)	Designed to provide level 3 assurance. Audits are conducted by third party auditors who are certified by Exemplar Global and registered with the NHVR. Auditors are chosen by the operator, but the choice must be approved by the NHVR.
Quality check of verification (robustness of audit framework)	NHVR may review the performance of NHVAS approved auditors. A performance review may be triggered by poor audit reports, a heavy vehicle incident or a complaint.
VALUE OF ASSURANCE SCHEME	
Value to industry	■ Annual inspection exemptions (NSW, Queensland and South Australia for RAVs). ■ Less roadside enforcement / better relationship with enforcement agencies. ■ Business benefits from well-maintained vehicles (increased vehicle life, less breakdowns, etc.).
Value for regulators and governments	■ Better use of scarce enforcement resources. ■ Safety benefits.

Effectiveness as an assurance scheme

Meeting the objectives	▪ Evidence shows that vehicles covered by an accreditation maintenance scheme have lower levels of non-conformity with vehicle safety standards (NHVR, 2017, p. 20).
Providing assurance	▪ While the scheme is designed to provide level 3 assurance, the robustness of the audit process has been criticised by jurisdictions (NTC, 2014b, p. 54). ▪ Incidents such as the Mona Vale accident in 2013, where the vehicles of an accredited operator were found to have significant roadworthiness concerns (Sydney Morning Herald, 2013), have also raised serious concerns with the scheme as a model for undertaking effective risk management (NTC, 2014b, p. 48).
Delivering value to regulators	▪ Has not provided regulators with opportunity to use their enforcement resources to target non-accredited operators. Because of concerns with the scheme, some jurisdictions have used significant enforcement resources to actually target accredited operators (Transport for New South Wales, 2016, p. 3).
Delivering value to industry	▪ Take up has mainly been in NSW (27.5 per cent), South Australia (30.7 per cent) and Queensland (29.0 per cent) where there are requirements for heavy vehicles to be inspected annually. Scheme participants are exempt from these requirements (Fellows Medlock and Associates, 2018, p. 74).

Appendix D

NHVAS Basic Fatigue Management

Overview

PURPOSE			
Safety objective	Provide for the safe management of the fatigue or drivers of fatigue-regulated heavy vehicles while they are driving on the road (s 220 of the HVNL).		
Specific scheme purpose	The fatigue management module is primarily about road safety, but it also provides added flexibility for operators who implement auditable accredited systems to manage driver fatigue (NHVR, 2018a, p. 4).		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	Government – NHVR	Certifier	Government – NHVR
Standards bodies	- Developed by the NHVR - Approved by Ministerial Council	Inspector	
Accreditation assessor	Not required (NHVR owns and certifies)	Auditor	Certified by Exemplar Global and registered with NHVR
Scheme type	Regulatory scheme – operators can choose to participate (voluntary)		

SHARED RISK MANAGEMENT

Responsibility for risk management

Risk identification – regulator

The regulator identifies the primary risk (driving while impaired by fatigue).

The regulator identifies the potential causes of this risk. These include:

- drivers working excessive hours
- drivers being unfit for duty
- a lack of fatigue knowledge and awareness
- unclear roles and responsibilities in relation to fatigue management
- failing to keep fatigue management procedures up to date.

Risk treatments – responsibility is shared between regulator and operator

Work and rest hours, which are the primary risk controls for managing fatigue under the HVNL, are still set by governments and prescribed in the fatigue management regulations (Schedule 2).

Other preventative risk controls are identified by the regulator and included in the scheme's standards. The regulator prescribes the minimum that must be done to comply with these risk controls.

The operator has limited flexibility to choose certain aspects of their compliance method.

Implementing and testing risk treatments – responsibility is shared between regulator and operator

Operators are responsible for implementing compliance methods. Operators are also responsible for monitoring on-going compliance through quarterly compliance statements.

Whether these controls have been implemented is assessed independently through the scheme's audit process.

The regulator has responsibility ensuring the quality and robustness of the audit framework.

Risk mitigation – regulator/governments

Compliance with fatigue requirements is still checked via traditional roadside enforcement using work diaries as the main compliance tool.

ASSURANCE ASSESSMENT	
Assessment criteria	NHVR BFM Audit Matrix (NHVR, 2019g)
Monitoring of ongoing compliance performance	Performance is monitored through a program of: - compliance audits (scheduled or triggered) - investigation of complaints (by the NHVR) - compliance checks (on-road intercepts, reviews of quarterly compliance statements, spot checks and random inspections) (NHVR, 2019e, pp. 8–11).
Assurance verification (level of assurance)	Designed to provide level 3 assurance. Audits are conducted by third party auditors who are certified by Exemplar Global and registered with the NHVR. Auditors are chosen by the operator, but the choice must be approved by the NHVR.
Quality check of verification (robustness of audit framework)	NHVR may review the performance of NHVAS approved auditors. A performance review may be triggered by poor audit reports, a heavy vehicle incident or a compliant.
VALUE OF ASSURANCE SCHEME	
Value to industry	- Access to longer hours which provides flexibility in how trips are scheduled when the prescribed limits. - Business efficiencies – with flexibility comes more scope to meet different business operation needs.
Value for regulators and governments	Improvements in road safety (through operators taking more responsibility for the safety and well-being of drivers and other road users).

- Transport productivity (through flexibility for accredited operators).

Effectiveness as an assurance scheme

Meeting the objectives

- There have been no specific assessments of the effectiveness of BFM in managing fatigue. Drivers registered for BFM can also operate under standard hours. Data on fatigue related incidents does not record whether the driver was operating under BFM or standard hours at the time of the incident.
- However, research continues to show that some of the shifts allowed under BFM represent a high risk of fatigue impairment (CRC, 2019, p. 3).

Providing assurance

- There are no specific findings relating the quality and independence BFM audits (however the general issues with NHVAS audit process apply).
- Suffers from the same limitations as other NHVAS modules – limited SMS approach. Vehicles driven by those under fatigue management accreditation have higher levels of defects (both major and minor) than those participating in maintenance accreditation (Transport for New South Wales, 2016, p. 38).
- There is anecdotal evidence that drivers registered under BFM are more likely to be involved fatigue related incidences, however this is difficult to verify because of incident data recording limitations.
- Concerns expressed by governments/regulators that BFM allows for unsafe practices indicate that they are not assured the higher risk of fatigue impairment is being adequately managed (NTC, 2015, p. 24).

Delivering value to regulators

- Governments/regulators have expressed concerns about BFM allowing unsafe practices. Therefore, we assume that they do not believe the scheme is improving road safety.
- The scheme design has made it difficult to test whether the preventative risk controls are sufficient.

Delivering value to industry

- In terms of the total number of operators, the take up of BFM has been relatively low (NTC, 2019, p. 37).
- The scheme offers limited flexibility so is really only of value to those operators who regular business is based on long haul operations that can't be covered in standard hours.

Appendix E

NHVAS Advanced Fatigue Management

Overview

PURPOSE			
Safety objective	Provide for the safe management of the fatigue for drivers of fatigue-regulated heavy vehicles while they are driving on the road (s 220 of the HVNL).		
Specific scheme purpose	To give flexible work and rest arrangements to operators who adopt a risk management approach to managing driver fatigue (NHVR, 2019b, p. 2).		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	Government – NHVR	Certifier	Government – NHVR
Standards bodies	- Developed by the NHVR - Approved by Ministerial Council	Inspector	
Accreditation assessor	Not required (NHVR owns and certifies)	Auditor	Certified by Exemplar Global and registered with NHVR
Scheme type	Regulatory scheme – operators can choose to participate (voluntary)		

SHARED RISK MANAGEMENT

Responsibility for risk management

Risk identification – regulator

The regulator identifies the primary risk (driving while impaired by fatigue).

The regulator identifies the potential causes of this risk. These include:

- drivers working excessive hours
- drivers being unfit for duty
- a lack of fatigue knowledge and awareness
- unclear roles and responsibilities in relation to fatigue management
- workplace conditions
- failing to keep fatigue management procedures up to date.

Risk treatments – responsibility is shared between regulator and operator

Governments prescribe an outer 'maximum' limit that drivers can work. This is prescribed in the fatigue management regulations (schedule 4 of the Heavy Vehicle (Fatigue Management) National Regulation).

Other preventative risk controls are primarily to be determined by the operator. They must demonstrate to the regulator that they've addressed each of the AFM standards in their fatigue management system. This is done through a safety case which must be approved by the regulator.

The operator has the flexibility to set their own work and rest arrangements.

Implementing and testing risk treatments – responsibility is shared between regulator and operator

Operators are responsible for implementing compliance methods. Operators are also responsible for monitoring on-going compliance through quarterly compliance statements.

Whether these controls have been implemented is assessed independently through the scheme's audit process.

The regulator has responsibility ensuring the quality and robustness of the audit framework.

Risk mitigation – regulator/governments

Compliance with fatigue requirements is checked via traditional roadside enforcement using work diaries as the main compliance tool.

ASSURANCE ASSESSMENT

Assessment criteria

NHVR AFM Audit Matrix (NHVR, 2019g)

Monitoring of ongoing compliance performance

Performance is monitored through a program of:

- compliance audits (scheduled or triggered)
- investigation of complaints (by the NHVR)
- compliance checks (on-road intercepts, reviews of quarterly compliance statements, spot checks and random inspections) (NHVR, 2013a, pp. 33–37).

Assurance verification (level of assurance)

Designed to provide level 3 assurance.

Audits are conducted by third party auditors who are certified by Exemplar Global and registered with the NHVR. Auditors are chosen by the operator, but the choice must be approved by the NHVR.

Quality check of verification (robustness of audit framework)

NHVR may review the performance of NHVAS approved auditors. A performance review may be triggered by poor audit reports, a heavy vehicle incident or a compliant.

VALUE OF ASSURANCE SCHEME

Value to industry

- Commercial benefits – having hours to cover new routes, completing routes more effectively than competitors, attracting and retaining experienced drivers, a higher level of efficiency and demonstrating a commitment to safety.

Value for regulators and governments

- Simplification – creating a set of work and rest rules that are easier to understand, being able to develop simpler schedules, and reducing confusion and compliance stress for drivers (NHVR, 2019b, p. 3).
- Improvements in road safety (through operators taking more responsibility for the safety and wellbeing of drivers and other road users).
- Transport productivity (through flexibility for accredited operators).

Effectiveness as an assurance scheme

Meeting the objectives

- As with BFM it can be difficult to measure the effectiveness of AFM in providing for the safe management of driver fatigue. Plus, the number of operators accredited under AFM is very small.
- However, research that is currently underway indicates that AFM participants have developed a mature approach to managing fatigue risks and are at the more advanced end of safety culture maturity (advice from Andreas on work that's being undertaken for the NHVR but won't be released until the end of the month).
- It is widely acknowledged that the effectiveness of safety codes and accreditation programs relies on embedding a safety culture within organisations to give real effect to improvements in safety performance (Mooren et al, 2012, p. 7).

Providing assurance

- The rigorous process associated with getting AFM requires operators to demonstrate that they are capable of proactively managing fatigue risks – not a 'tick the box' exercise – an attitude of minimum compliance is not possible.
- While not a direct measure of safety, AFM operators were found to be 100 per cent compliant with fatigue law requirements in a recent national operation (NHVR, 2019f).
- Governments have expressed concerns with the continuous hours of work allowed under AFM (NTC, 2015, p. 24). It is implied by governments that this level of fatigue risk cannot be safely managed.

Delivering value to regulators

- There are no specific findings relating the quality and independence AFM audits (however the general issues with NHVAS audit process apply).
- Only a small number of operators (0.12 per cent of operators) (NTC, 2019, p. 37) have taken up AFM which means the potential benefits to regulators is limited.

Delivering value to industry

- AFM has not been taken up by industry. Previously operators viewed the AFM accreditation process as too complex and expensive, which undermined the potential benefits of the scheme (noting that NHVR has done a lot in the past 12–18 months to simplify the process).
- AFM is still based on work and rest hours and the exemptions that the NHVR can give are limited. Accredited operators and drivers have the same recording requirements as those under standard hours. Use of technology is not currently acknowledged. This may limit the value of AFM for industry.

Appendix F

PBS scheme

Overview

PURPOSE			
Safety objective	To encourage innovation in manufacture of safer heavy vehicles through a performance-based scheme instead of prescriptive vehicle specification standards.		
Specific scheme purpose	To provide flexible arrangements to vehicle operators and manufacturers so that they can make safer, more productive vehicles that might not be allowed under prescriptive vehicle standards regulation.		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	NHVR	Certifier	NHVR, on receiving certificate from PBS Certifier
Standards bodies	NHVR (advised by the PBS Review Panel)	Inspector	PBS Certifier (NHVR appointed)
Accreditation assessor	NHVR (advised by the PBS Review Panel)	Auditor	NHVR
Scheme type	Voluntary scheme under the HVNL		

SHARED RISK MANAGEMENT

Responsibility for risk management

Risk identification – regulator, PBS review panel, PBS certifier and road managers

The PBS Scheme centres on 16 safety standards and 4 infrastructure standards. A PBS vehicle must comply with all standards to be manufactured and then used on roads. These standards are managed by the NHVR who receives advice from the PBS review panel.

Before a vehicle becomes an approved PBS vehicle a PBS certifier will check that it complies with the relevant PBS design approval. An application for a PBS design approval is usually submitted before the vehicle is manufactured.

Once a vehicle is approved to be manufactured and certified as complying with the PBS design approval, vehicle operators must ensure that their vehicle complies with the terms of the PBS design approval throughout its in-service life. The regulator enforces this.

While a PBS vehicle is in use, regulators may identify if the vehicle does not comply with a relevant performance-based standard, in the same way that a non-PBS vehicle may be identified as defective through roadside enforcement.

On roads that are not general access roads, a PBS vehicle operator must obtain approval to access certain roads. This process manages the risk that PBS vehicles pose to road infrastructure.

Risk treatments – responsibility of manufacturer, operator and regulators

Manufacturers must ensure their vehicles comply with the PBS standards and the relevant PBS Approval.

Operators must ensure the vehicle continues to apply with the PBS standards and the relevant PBS Approval for its in-service life.

The Regulator may enforce failure to comply with PBS standards through sanctions in the HVNL.

Implementing and testing risk treatments – responsibility of manufacturer, operator, and regulators

Before the vehicle is approved the manufacturer and operator have responsibilities for ensuring the vehicle is manufactured according to the PBS approval specifications.

After the vehicle is approved the operator has responsibility for ensuring the vehicle continues to comply.

Risk mitigation – responsibility of operators and regulators

Operators have responsibility for continual vehicle maintenance to ensure vehicles remain compliant.

ASSURANCE ASSESSMENT	
Assessment criteria	A PBS design approval is needed before a PBS vehicle is manufactured. The NHVR assesses design approval applications against the 16 safety standards and 4 infrastructure standards.
Monitoring of ongoing compliance performance	Once a PBS vehicle is manufactured a PBS certifier confirms it has been built according to the design approval. After a PBS vehicle is approved and the vehicle is in use, operators have responsibility for ensuring the vehicle continues to comply with the PBS approval and the PBS standards. Regulators monitor and enforce this.
Assurance verification (level of assurance)	Most closely aligned to level 2 assurance. The NHVR appoints PBS certifiers who certify that the vehicle has been manufactured according to the PBS design approval.
Quality check of verification (robustness of audit framework)	PBS certifiers assess vehicles using the PBS Scheme Vehicle Certification Rules. Once a certificate is supplied to the NHVR, the NHVR then issues the PBS vehicle approval.
VALUE OF ASSURANCE SCHEME	
Value to industry	Industry can manufacture higher productivity vehicles with more flexible design options.
Value for regulators and governments	Scheme encourages continuous innovation and adoption of new safety technologies to improve road safety and road freight productivity.

Effectiveness as an assurance scheme

Meeting the objectives

- A 2018 assessment of the effectiveness of PBS scheme found that PBS vehicles are more productive and involved in fewer major road incidents when compared to conventional vehicles (NTC, 2018a, p. 8).
- Despite this finding, in many instances road managers are unwilling to recognise that the PBS standards adequately protect road assets and therefore often refuse road access for PBS vehicles (NTC, 2018a, p. 10).

Providing assurance

- A PBS approval provides a high level of assurance that a vehicle complies with highly detailed specifications of the PBS design approval and the PBS standards.

Delivering value to regulators

- PBS vehicles contribute to improved road safety outcomes for all road users.

Delivering value to industry

- PBS vehicles allow higher productivity vehicles on the road.

Appendix G

Intelligent Access Program

Overview

PURPOSE			
Safety objective	To allow heavy vehicles to have access, or improved access, to the road network in return for monitoring, by an intelligent transport system, of their compliance with stated access conditions (s 401 of the HVNL).		
Specific scheme purpose	In the Intelligent Access Program (IAP), telematics technology is used to monitor and distribute heavy vehicle location, mass and speed, and other relevant data (TCA, 2013).		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	TCA	Certifier	TCA
Standards bodies	TCA	Inspector	TCA
Accreditation assessor	TCA	Auditor	TCA, or third parties engaged by TCA
Scheme type	Voluntary scheme under the HVNL. Mandatory scheme in some jurisdictions for certain vehicle types. NSW – HML vehicles, B-triples, AB-triples, some modular B-triples, PBS level 2B and above vehicles and OSOM mobile cranes (RMS, 2019b).		

- Queensland – HML vehicles, OSOM mobile cranes, drilling rigs, concrete pumping trucks (TMR, 2019a).
- Victoria – OSOM mobile cranes, some concrete pumping trucks, some PBS vehicles (VicRoads, 2019).

SHARED RISK MANAGEMENT

Responsibility for risk management

Risk identification – jurisdictions

Jurisdictions identify the primary risk (high-risk vehicles travelling on the wrong route).

Jurisdictions identify the potential causes of this risk (the left side of the bow tie). These include:

- vehicle travelling off route
- vehicle travelling across vulnerable infrastructure
- vehicle travelling at high-risk times.

Risk treatments – responsibility is shared between jurisdictions and operator/driver

Based on the potential causes, jurisdictions identify the preventative risk controls. This is also dependent on the needs and transport policies in their jurisdiction. The risk controls are included as conditions under the IAP.

The operator/driver must comply with the IAP conditions. If they do not comply, a non-conformance report will be generated and provided to the jurisdiction.

Implementing and testing risk treatments – responsibility is shared between operator/driver, jurisdictions and TCA

Operators/drivers are responsible for implementing compliance methods (using the IAP and complying with conditions). Operators can request non-conformance reports from IAP service providers for a fee.

Whether these controls have been implemented is assessed manually by jurisdictions through non-conformance reports provided by IAP service providers.

TCA has responsibility for certifying, auditing and cancelling certification of IAP service providers.

Risk Mitigation – IAP service providers, TCA and jurisdictions

Compliance with access conditions under the IAP is confirmed through IAP service provider monitoring. Non-conformance reports are generated for any access breaches. This is the only mitigation control in place to address the primary risk (high-risk vehicles travelling on the wrong route) once it has occurred.

Jurisdictions do not have access to the IAP databases or undertake roadside activities to enforce the IAP.

ASSURANCE ASSESSMENT

Assessment criteria

TCA IAP Functional and Technical Specification

- TCA certifies companies that meet the probity, financial, functional and technical standards of the IAP (TCA, 2013, p. 2).
- The specification translates policy objectives into performance-based outcomes that service providers have to meet.
- Estimates suggest developing an IAP solution and having it certified by TCA to be between \$500,000 and \$2 million (NTC, 2018b, p. 38).

Monitoring of ongoing compliance performance

Performance is monitored through an ongoing review and audit program to make sure certified parties continue to meet standards (TCA, 2013, p. 5).

There are five companies certified to provide IAP services.

Assurance verification (level of assurance)

Designed to provide level 3 assurance.

Audits are conducted by TCA and third-party auditors (TCA, 2013, p. 3).

Quality check of verification (robustness of audit framework)

TCA's certification and auditing program gives operators and road managers certainty and confidence that a certified device:

- meets a specified standard
- can produce reliable evidence.

VALUE OF ASSURANCE SCHEME

Value to industry

- Provides productivity gains associated with greater road access and higher mass limits (NTC, 2018b, p. 35).

Value for regulators and governments

- Provides high degree of certainty that vehicles are travelling on the right route (NTC, 2018b, p. 36).
- Asset protection data (NTC, 2018b, p. 35).
- Provides data to jurisdictions about network and infrastructure use (NTC, 2018b, p. 35).

Effectiveness as an assurance scheme

Meeting the objectives

- Evidence shows a high number of non-conformance reports are generated due to geofencing of routes and radius of vulnerable assets and infrastructure (NTC, 2018b, p. 40).
- There have only been 15 crane-related prosecutions for access breaches (NTC, 2018b, p. 41).

Providing assurance

- The IAP does not guarantee location information will always be accurate. However, TCA can provide certificates of evidence that clarify whether IAP was working at a point in time (NTC, 2018b, p. 23).

Delivering value to regulators

- Non-conformance reports provide jurisdictions with data on access breaches and use of the network.

Delivering value to industry

- Some operators are gaining a significant economic advantage when running HML (NTC, 2018b, p. 37).
- Take up has not been as high as anticipated. In October 2018, there were 5,129 vehicles enrolled in the IAP (TCA, 2018). The majority of enrolled vehicles participate because it's mandatory.
- The cost of the IAP is expensive, around \$80 to \$250 per month per vehicle (NTC, 2018b, p. 38).

- Non-conformance information is not readily shared with operators so this limits potential commercial benefits or requires two devices to be installed (NTC, 2018b, p. 39).
- Only crane operators have been prosecuted for access breaches (NTC, 2018b, p. 41).
- Annual checks of the system can be a barrier for operators in rural and regional areas. They or the technician must travel to perform annual inspection per vehicle (annual inspection dates can vary) (NTC, 2018b, p. 37).

Appendix H

Electronic recording systems

Overview

PURPOSE			
Safety objective	To prevent heavy vehicle driver fatigue.		
Specific scheme purpose	EWDs are systems that can record work and rest times. They can be used as a voluntary alternative to the written work diary for fatigue-regulated heavy vehicle drivers (NHVR, 2019c).		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	NHVR	Certifier	NHVR
Standards bodies	NHVR	Inspector	NHVR
Accreditation assessor	NHVR	Auditor	NHVR
Scheme type	Voluntary scheme under the HVNL		

SHARED RISK MANAGEMENT

Responsibility for risk management

Risk identification – jurisdictions

Jurisdictions identify the primary risk (heavy vehicle drivers driving while fatigued).

Jurisdictions identify the potential causes of this risk (the left side of the bow tie). These include:

- drivers exceeding work hours
- drivers not correctly recording work and rest hours.

Risk treatments – responsibility is shared between regulator, jurisdictions and driver

Based on the potential causes, jurisdictions identify the preventative risk controls. The risk control is recording work and rest hours electronically.

The driver must comply with work and rest requirements and record their work and rest times. The EWD system will highlight potential breaches of work and rest rules for roadside enforcement (NHVR, 2018b p. 10).

Implementing and testing risk treatments – responsibility is shared between driver and regulator

Drivers are responsible for implementing compliance methods (complying with work and rest rules and recording their work and rest details).

Whether these controls have been implemented is assessed by the regulator and police.

Risk mitigation – regulator and police

Compliance with work and rest rules is confirmed through inspection of the EWD. This is the only mitigation control in place to address the primary risk (heavy vehicle drivers driving while fatigued) once it has occurred.

ASSURANCE ASSESSMENT

Assessment criteria

NHVR EWD standards

- Under the HVNL, the NHVR is responsible for approving the use of electronic recording systems as an alternative to a written work diary (NHVR, 2018b, p. 4).

	- Technology providers and transport operators must apply to the NHVR to have their EWD system assessed against the EWD standards (NHVR, 2019c). These are minimum performance requirements developed by the NHVR (NHVR, 2019d). They include requirements for: - design and operation - provision of technology - enforcement and compliance - data interoperability and specification (NHVR, 2019d).
Monitoring of ongoing compliance performance	There are currently no approved EWDs (NHVR, 2019c). The NHVR is currently reviewing applications from technology providers.
Assurance verification (level of assurance)	It is not clear which level of assurance will be provided. Audits are conducted by the NHVR as required (NHVR, 2018b, p. 26).
Quality check of verification (robustness of audit framework)	It is not clear how robust the audit function will be.
VALUE OF ASSURANCE SCHEME	
Value to industry Value for regulators and governments	The NHVR anticipates that EWDs will improve safety and significantly reduce the administrative burden for the heavy vehicle industry (NHVR, 2019d). They have the potential to provide assurance through: improved data accuracy and transparency for drivers, transport operators and authorised officers; real-time data, enabling operators to respond immediately to breaches and monitor performance; and information enabling drivers to plan work and rest and take action to an imminent or actual breach.

Effectiveness as an assurance scheme

The effectiveness of the assurance scheme cannot be evaluated as no systems have been approved.

Appendix I

WA Heavy Vehicle Accreditation scheme

Overview

PURPOSE			
Safety objective	Mandate accreditation to improve road safety, productivity and community confidence in the operation of heavy vehicles on state roads (Fellows Medlock and Associates, 2018, p. 19).		
Specific scheme purpose	Based on OHS approach to manage safety through regulatory means (Austroads, 2008, p. 17)		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	Government – Main Roads Western Australia	Certifier	Main Roads Western Australia
Standards bodies	Main Roads Western Australia	Inspector	Main Roads Western Australia (and other agencies nominated by them), WorkSafe WA and police
Accreditation assessor	Commissioner (Main Roads Western Australia owns and certifies)	Auditor	Certified by Exemplar Global

Scheme type	Mandatory scheme for all commercial operators of heavy vehicles that perform transport tasks under permit or order
SHARED RISK MANAGEMENT	
Responsibility for risk management	Risk identification – Main Roads Main Roads identify the primary risks (lack of roadworthiness of vehicle and lack of appropriate systems/processes to manage maintenance, fatigue, dimension and loading and mass) Main Roads identify the potential causes of this risk (the left side of the bow tie). These include: ▪ lack of regular vehicle checks and maintenance schedules ▪ lack of appropriate policies and procedures to address standards ▪ failing to meet fitness for duty (fatigue management and fatigue operating standards) ▪ failing to record faults and fault repairs ▪ lack of appropriate training and education. Risk treatments – responsibility is shared between Main Roads and operator Based on the potential causes Main Roads identifies the preventative risk controls. These are included in the scheme's standards. Main Roads prescribes the minimum that must be done to comply with these risk controls. An operator must comply with the minimum standards under the mandatory modules (Maintenance Management, Fatigue Management, Dimension and Loading; and Mass Management (if applicable). Implementing and testing risk treatments – responsibility is shared between Main Roads, relevant authorities and operator Operators are responsible for implementing compliance methods. Operators are also responsible for monitoring on-going compliance through quarterly compliance statements. Whether these controls have been implemented is assessed independently through the scheme's audit process. These are also assessed by Main Roads, WorkSafe WA and the police. Main Roads has responsibility ensuring the quality and robustness of the audit framework.

Risk mitigation – Main Roads / government

- Roadworthiness is tested via traditional roadside enforcement.
- ‘Show cause’ process to improve safety and ensure compliance. Show cause is prompted if a transport operator has been identified as not complying with standards.
- Where appropriate, Main Roads may provide information to other government agencies.

ASSURANCE ASSESSMENT

Assessment criteria

- WAHVA Audit Matrix – For each module (Main Roads Western Australia, 2019c, p. 10).

Monitoring of ongoing compliance performance

Main Roads Western Australia monitors operators’ compliance with standards and legislation.

Performance is monitored through a program of:

- scheduled compliance audits
- random audits
- triggered audits (by Accreditation Officers from Main Roads Western Australia; and HVAA certified by Exemplar Global on behalf of Main Roads) or show cause
- investigation of complaints (by Main Roads Western Australia)
- random compliance checks (on-road intercepts, review of WAHVA compliance statements, spot checks, triggered audits, random audits) (Main Roads Western Australia, 2019b, pp. 8–11).

Assurance verification (level of assurance)

Designed to provide Level 3 Assurance.

Audits are conducted by third party auditors who are certified by Exemplar Global and registered with the Western Australian Heavy Vehicle Accreditation Scheme. Auditors are chosen by the operator.

**Quality check of verification
(robustness of audit
framework)**

All auditors may be subject to examination and review by Main Roads and Exemplar Global.
An investigation may be undertaken following a formal complaint or negative report.

VALUE OF ASSURANCE SCHEME

Value to industry

- Lower vehicle maintenance costs.
- Route access to restricted access vehicles (RAVs).
- Flexibility of driving hours.
- Accredited Mass Management scheme.

**Value for regulators and
governments**

- Ensures all participating operators achieve the same minimum level of compliance.
- Focuses on high-risk vehicles such as RAVs and requires transport operators to demonstrate they have appropriate systems and processes in place to manage operations safely (Hon. Rita Saffioti, 2019, p. 5).
- Route access to RAVs can result in high productivity gains.
- Audit information available to relevant authorities to assist with monitoring.

Effectiveness as an assurance scheme

Meeting the objectives

- Difficult to assess effectiveness of scheme in terms of quantifiable benefits.

Providing assurance

- Delivers confidence that all heavy vehicle operators achieve the same minimum level of compliance and have undertaken mandatory modules on fatigue management, maintenance management, dimension and loading and mass management (if applicable).

Delivering value to regulators

- However, there is some concern on the rigour of physical inspections: For example, heavy vehicles outside of an approved maintenance scheme are not subject to annual physical inspections (NTC, 2014a, p. 10).
- In 2009–10, Main Roads conducted 229 random, five triggered audits and three consultations (Main Roads Western Australia, 2010, p. 52). No recent figures are available.
- As at February 2018, there are 4,347 accredited operators in Western Australia (Fellows Medlock and Associates, 2018, p. 25).
- The scheme covers approximately 10 per cent of the total heavy vehicle fleet in Western Australia (Fellows Medlock and Associates, 2018, p. 19).

Delivering value to industry

- Focuses on education of employers and employees (rather than enforcement actions) to ensure obligations are met (Hon. Rita Saffioti, 2019, p.5).

Appendix J

TruckSafe

Overview

PURPOSE			
Safety objective	Each party in the chain of responsibility for a heavy vehicle must ensure, as far as is reasonably practicable, the safety of the party’s transport activities relating to the vehicle (s 26C of HVNL).		
Specific scheme purpose	To promote the development of the trucking industry in Australia by continually improving road and industry safety, through the development and application of appropriate industry and business standards and solutions.		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	ATA	Certifier	TruckSafe Industry Accreditation Council
Standards bodies	TruckSafe Board	Inspector	Operator is responsible for ensuring inspections are undertake by a competent person (vehicle standards and maintenance management)
Accreditation assessor	None	Auditor	Certified by exemplar global, registered with NHVR as an NHVAS auditor. Must also

	complete TruckSafe auditor training.
Scheme type	Industry scheme – operators can choose to join (voluntary)
SHARED RISK MANAGEMENT	
Responsibility for risk management	This is a voluntary industry scheme, not a regulatory scheme. The regulator does not specifically share any responsibility for regulatory risk management with TruckSafe accredited operators. However, TruckSafe's standards align closely with the Master Code (ATA & ALC, 2018). Complying with TruckSafe standards means operators automatically comply with the Master Code and the new primary duties under the HVNL. This provides operators with a strong 'so far as is reasonably practicable' defence (TruckSafe, 2019). The TruckSafe standards are centred around the concept of risk assessment using the AS/NZS ISO 31000:2018 Risk Management – Principles and Guidelines. (TruckSafe, 2019). There are seven core standards: ▪ Management ▪ Risk management ▪ Responsibilities ▪ Speed risk management ▪ Fatigue risk management ▪ Mass, dimension, loading and load restraint ▪ Vehicle standards.
ASSURANCE ASSESSMENT	
Assessment criteria	▪ TruckSafe external audit report on compliance to TruckSafe standards.

	▪ Secretariat analysis of the external auditor's report. ▪ Operator's recent past history of compliance to road transport law. ▪ Information obtained from state transport agencies (where applicable). ▪ Complaints received by TruckSafe about the operator prior to entering the TruckSafe program and during their previous period of accreditation. ▪ Any other information considered by the TIAC to be relevant (ATA, 2019, pp. 10–11).
Monitoring of ongoing compliance performance	Internally, the accredited operator monitors perform through quarterly compliance statements, annual reviews and risk assessments (ATA, 2019, p. 15). Externally perform is monitored by: ▪ compliance audits ▪ complaint investigation ▪ random compliance checks ▪ random audits ▪ triggered audits (ATA, 2019, p. 23).
Assurance verification (level of assurance)	Designed to provide level 3 assurance. Audits are undertaken by an independent third party. TruckSafe is responsible for choosing the auditor to conduct the audit.
Quality check of verification (robustness of audit framework)	TruckSafe reserves the right to revoke an auditor's authorisation to conduct any TruckSafe audit. However, the business rules do not outline a process for reviewing an auditor's performance.

VALUE OF ASSURANCE SCHEME

Value to industry

- Competitive advantages.
- Shows operators are meeting their due diligence and duty of care.
- Provides customers with confidence that operators have responsible work practices, well maintained vehicles, healthy and trained drivers and management systems to meet their transport needs.
- External audits can be used as evidence demonstrating compliance with the TruckSafe Standards, which in turn, provides a strong defence with respect to chain of responsibility and the Master Code.

Value for regulators and governments

- Improvements in road and industry safety.

Effectiveness as an assurance scheme

Meeting the objectives

- It's difficult to separate the benefits associated with TruckSafe accreditation because many of the accredited operators are also accredited under NHVAS (Austroads, 2008, p. 24).
- Crash rate associated with TruckSafe accreditation is still less than the crash rate for non-accredited operators (Austroads, 2008, p. 24).
- Based on NTI data, NTI insured operators accredited to TruckSafe had claim rates 33 per cent lower than those not accredited (for the period 2001–2005) (Austroads, 2008, p. 24).
- Also found that the total cost of claims during the two years after getting TruckSafe accreditation was 57 per cent lower than during the two years before accreditation, suggesting operators improve through the process of becoming accredited (Austroads, 2008, p. 25 – note small sample size).

Providing assurance

- The audit framework for TruckSafe is robust. The independent third-party audit demonstrating compliance with the TruckSafe Standards provides a strong defence with respect to chain of responsibility.
- TruckSafe accreditation is being accepted by some customer (like Coles) as evidence operators have systems in place to meet their legal obligations. Providing this confidence means that accredited operators are not required to meet different assurance requirements for different customers.
- However, despite the robust audit framework, governments/regulators have not been willing to provide TruckSafe accredited operators with access to the same regulatory benefits associated with NHVAS accreditation (NTC, 2007, p. 10).
- This may be reflective of the fact that there is no process to accredit the certifier. Governments don't have confidence in the certification process. It's seen to be industry accrediting industry without government oversight. Confidence in the certification process is an essential part of an assurance framework when the regulator is not the certifier.

Delivering value to regulators

- Some indications that TruckSafe accredited operators are safer than non-accredited operators.

Delivering value to industry

- In 2017 there were 212 operators in TruckSafe (Fellows, Medlock and Associates, 2018, p. 24). This represents a very small percentage of total operators (less than 1 per cent).
- The re-designed standards (released in early 2019) now give operators a strong defence under chain of responsibility and can provide customers with confidence in the operator's management systems without having to do separate assurance checks. These are recent changes so it is not possible to say if they will result in more operators joining TruckSafe.
- Accredited TruckSafe operators have indicated that accreditation delivered business benefits such as reduced insurance costs, less breakdowns, improved company image, better subcontractor management and improvements in managing legal and financial risks (Austroads, 2008, p. 26).
- In an environment where there are multiply accreditation scheme choices for operators, TruckSafe is at a disadvantage because it does not have access to the regulatory benefits. As outlined in the 2008 Austroads report (p. 26) the primary reason why operators because NHVAS accredited rather than TruckSafe was to gain the regulatory concessions.

Appendix K

CraneSafe

Overview

PURPOSE			
Safety objective	Crane owners and users have a duty of care obligation under WHS to ensure their cranes are in safe condition		
Specific scheme purpose	To provide crane owners, suppliers and users with a common industry wide system for third-party assessment of the safety aspects of their cranes (CraneSafe, 2019).		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	CraneSafe (a division of the Crane Industry Council of Australia)	Certifier	CraneSafe
Standards bodies	CraneSafe	Inspector	Qualified assessor endorsed by CraneSafe
Accreditation assessor	N/A	Auditor	CraneSafe
Scheme type	Voluntary industry scheme		

SHARED RISK MANAGEMENT	
Responsibility for risk management	This is a voluntary industry scheme, not a regulatory scheme. However, CraneSafe accreditation is accepted as demonstrating compliance with duty of care obligations by all state WHS departments. It provides a legally defensible case for owners 'duty of care.'
ASSURANCE ASSESSMENT	
Assessment criteria	Check list provided to endorsed assessors by CraneSafe.
Monitoring of ongoing compliance performance	Assessments can be carried out annually (in line with the requirements in AS 2550 Cranes – Safe Use).
Assurance verification (level of assurance)	Levels 2–3 – provided by independent third-party assessors (chosen by the crane operator).
Quality check of verification (robustness of audit framework)	Assessments can be subject to a random audit by CraneSafe.
VALUE OF ASSURANCE SCHEME	
Value to industry	Provides assurance to third parties (major contractors, insurers, unions, mining companies, etc.) about the safety of the participating operators. Assist operators in meeting their obligations under WHS laws.

Value for regulators and governments

Safer crane operations

Effectiveness as an assurance scheme

Meeting the objectives

- In the NHVR's National Roadworthiness Survey the incidence of major or minor non-conformities was lower for accredited crane operators (NHVR, 2017, p. 80).

Providing assurance

- Is accepted by a wide range of stakeholders as providing assurance about the safety of participating operators.

Delivering value to regulators

- Some evidence that cranes covered by the scheme have better roadworthiness outcomes.

Delivering value to industry

- Based on the NHVR National Roadworthiness Baseline Survey 2016 it would seem that the take-up of CraneSafe is high (compared to other voluntary industry schemes), with about 46 per cent of cranes surveyed being participants in the scheme.
- Operators see value in being able to demonstrate compliance with OHS obligations and requirements in existing safety standards like AS 2250 Cranes – Safe Use.

Appendix L Bus assurance schemes

Overview of common elements across states and territories

PURPOSE			
Safety objective	Buses are to be responsibly operated (competence) to ensure the safety of passengers and the public.		
Specific scheme purpose	Each jurisdiction requires operator ‘suitability’ – for example, fit and proper/responsible person test. Several jurisdictions require additional business/financial competency checks, including assessments relating to solvency, past business practices and the ongoing viability of an operators’ enterprise.		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	Relevant road authority (where applicable) or department (except Victoria – Transport Safety Victoria).	Certifier	N/A – Relevant road authority (where applicable) or department (except Victoria – Transport Safety Victoria). Where training courses are required, certifiers are usually a third-party tertiary education institution – for example, University of Sydney (NSW), Monash University (Victoria).
Standards bodies	Relevant road authority (where applicable) or department (except Victoria – Transport Safety Victoria).	Inspector	Unclear whether inspectors are commonly used to examine processes and the outcome of accreditation processes. However, if applicable, they would be employed exclusively by the jurisdictions – for example, Queensland requires completion of an Operator Accreditation Workbook that is assessed by

Accreditation assessor	Relevant road authority (where applicable) or department (except Victoria – Transport Safety Victoria).	Auditor	Department of Transport and Main Roads-approved assessors (TMR, 2019b). Some jurisdictions require consistent periodic auditing of bus accreditation. Those jurisdictions that need audits require: ▪ approved auditors be authorised under a legislative instrument ▪ audits are (usually) to be conducted on an annual basis. In NSW, whilst independent audits are part of the process, the annual audit process includes a self-assessment based. Transport Safety Victoria (annually). NSW – certified auditors listed on RMS website (RMS, 2019a). Tasmania – auditors approved under legislation listed on Department of State Growth website (Department of State Growth, 2019).
Scheme type	Mandatory scheme under relevant state/territory law		
SHARED RISK MANAGEMENT			
Responsibility for risk management	Risk identification – regulator Jurisdictions identify the primary risk (bus drivers operating their vehicle unsafely). Jurisdictions identify the potential causes as including:		

- lack of operator/driver experience and/or training
- inadequate vehicle maintenance
- lack of understanding of responsibilities of operating a business.

Risk treatments – responsibility is shared between regulator and operator

Based on the potential causes, jurisdictions identify the preventative risk controls. The risk control include requiring potential drivers to establish they are:

- responsible and competent to operate a passenger transport business
- a fit and proper person/of good character.

Some jurisdictions also require:

- completion of an approved training course
- completion of self-assessment materials for audits (NSW).

In establishing the above, operators may produce:

- proof of driver qualification
- national police certificate
- proof of identity documents
- medical assessment documents
- roadworthiness certificate
- insolvency check
- evidence of a management information system, maintenance management system or a safety management system.

Implementing and testing risk treatments – responsibility is shared between regulator and operator

- Operators are responsible for implementing ensuring compliance with accreditation requirements.
 - Operators in jurisdictions with comprehensive accreditation schemes with training and audit controls (for example, NSW, Victoria, Tasmania) have both the opportunity and incentive to maintain consistency in their observance of their responsibilities.

- Operators in jurisdictions with less comprehensive accreditation schemes (for example, South Australia), compliance with responsibilities is both more difficult to maintain and leaves greater latitude for rogue operators to compromise safety.

Risk mitigation – regulator/governments

- The mitigation of the risk of unsafe driving of a bus is achieved by some jurisdictions by ensuring drivers are adequately trained and aware of their obligations prior to their being permitted to drive (see above).
- All jurisdictions mitigate the risk of unsafe driving by observation of vehicle behaviour and enforcement of laws by local law enforcement.

ASSURANCE ASSESSMENT

Assessment criteria

Legislative

- Responsible and competent to operate a passenger transport business
- A fit and proper person/of good character
 - additional criteria are applicable depending on the jurisdiction

Certificates/qualifications

- National Police Check
- Driver's licence or commercial passenger vehicle licence
 - additional materials are required depending on the jurisdiction

Monitoring of ongoing compliance performance

It is unclear if there are specific ongoing monitoring of compliance performance, but all would have:

- complaints investigated by their local police force
- compliance checks (on-road intercepts, spot checks and random inspections) conducted by the local police force.

**Assurance verification
(level of assurance)**

Levels 1–2. It is unclear what level of assurance is available. For example, NSW requires a self-assessment component be completed as part of independent audits conducted by approved, independent auditors. South Australia, by contrast places greater reliance on operator cognisance and integrity when confirming compliance, with no noted compliance or audit measures in place.

In most jurisdictions, audits are conducted by third party auditors who are either certified by the relevant road authority or department and registered with that organisation. Auditors usually cannot be chosen by the operator, but if they can they are from a list of choices approved by the relevant road authority or department.

**Quality check of verification
(robustness of audit
framework)**

The robustness of the audit framework is dependent on the comprehensiveness of the audit framework in the relevant jurisdiction.

- All jurisdictions with an audit framework appear to incorporate an examination of competence.
- Some incorporate a requirement (or favour) for qualifications (for example, NSW).
- Some require an independent third party to conduct the audit.

Overall, the audit framework has room for improvement.

VALUE OF ASSURANCE SCHEME

Value to industry

Tends to focus specifically on regulated market (interstate services); however, this results in inconsistent approaches to accreditation despite having the same personnel doing the same jobs in different jurisdictions.

**Value for regulators and
governments**

Value for regulators and government is dependent on the jurisdiction – those with more comprehensive assurance schemes (for example, including pre-requisite approved training course) are more likely to benefit from a more consistent standard of operation.

Effectiveness as an assurance scheme

Meeting the objectives	▪ Unclear due to the range of inconsistency between jurisdictions. This is partly a consequence of the different needs of each.
Providing assurance	▪ Jurisdictions reliant predominantly on self-regulation and lacking periodic audits, established safety standards and/or some means of independently establishing competence – for example, qualifications to drive have limited scope. ▪ Unclear if actual qualifications needed, though this provides established structure for assessment of (and consistency in) competence.
Delivering value to regulators	▪ Value varies depending on the scheme and jurisdictions in which it is applying. Most jurisdictions can benefit from improvements to ensure both greater safety and consistency across jurisdictions but will concurrently consider the cost of such improvements potentially prohibitive. ▪ Qualifications being developed in partnership with well-regarded local tertiary education institutions (University of Sydney (NSW), Monash University (Victoria) could increase value of accreditation process to regulators, ensuring a minimum standard of competency without substantially adding to cost (can use course fees to offset increased costs of administering accreditation). ▪ There appears to be overlap between the roles of certifiers, inspectors and/or auditors in most jurisdictions (many being either co-located and/or potentially carrying out both or all three roles). The technical commonality of skills sets for each role and limitations on resources necessitate seeking efficiency in these roles where possible. — If this overlap exists (arguably in less well-resourced jurisdictions where such efficiencies are more essential), they challenge the real and perceived independence of affected audit schemes, arguably limiting them from being considered a level 3 assurance scheme.
Delivering value to industry	The Bus Industry Confederation (BIC) has indicated that it considers NSW, Victoria, Tasmania and the ACT are considered by industry to be above or meeting minimum safety requirements for accreditation standards. BIC indicated that other jurisdictions (for example, South Australia) lack minimum safety standards for passenger transport and need improvement.

Appendix M

Rail sector assurance

Overview

PURPOSE			
Safety objective	A rail transport operator (RTO) must ensure, so far as is reasonably practicable, the safety of the operator’s railway operations (s 52 of the RSNL).		
Specific scheme purpose	The purpose of accreditation is for a rail transport operator to show the competence and capacity to manage risks to safety associated with rail operations (s 61 of the RSNL).		
GOVERNANCE AND ADMINISTRATION			
Scheme owner	Governments	Certifier	ONRSR
Standards bodies	Government / ONRSR	Inspector	Not applicable (approval of equipment and services not covered by the RSNL)
Accreditation assessor	Not required (ONRSR owns and certifies)	Auditor	ONRSR – Rail Safety Officers
Scheme type	Regulatory scheme – operator licencing (mandatory for all rail transport operators)		

SHARED RISK MANAGEMENT

Responsibility for risk management

Coregulatory approach – governments do not directly prescribe the standards or rules by which railways need to operate. Instead they set a performance requirement on railways to operate safely and provide operational flexibility for RTOs to establish and implement standards, rules and methods necessary to achieve this for their operations (ONRSR, 2018, p. 8).

Risk identification – government/regulator

Governments set the overarching safety objective – that railway operations are safe

As part of the accreditation process, RTOs must develop an SMS for their railway operations. Governments have identified the elements that an RTO's safety management system must address. These are covered in s 99 of the RSNL and Schedule 1 of the Rail Safety Regulations.

The SMS must identify and provide for a comprehensive and systematic assessment of any risks to safety in relation to the RTO's railway operations (s 99 of the RSNL).

Risk treatments – responsibility sits with RTO

The RTO is responsible for specifying the control they will use to manage identified risk (s 99 of the RSNL).

Implementing and testing risk treatments – responsibility sits with the RTO but the regulator verifies

The RTO is responsible for developing procedures to monitor, review and revise the adequacy of the risk controls and treatments (s 99 of the RSNL).

ONRSR verifies risk controls have been implemented and are working through ongoing oversight and examination of the organisation's railway operations and safety management performance. Undertaken by the ONRSR through operational investigations and compliance investigations. Risk based approach which targets the most significant risks to rail safety and the areas with scope for improvement. Based on regulatory intelligence/data captured by the ONRSR (ONRSR, 2018, p. 4).

ASSURANCE ASSESSMENT

Assessment criteria

- Confirm the SMS is compliance with the requirements of the RSNL.

	- Confirm the SMS is implemented and being used to manage the safety of the operator's railway operations. - Review whether the SMS is effective in addressing the safety risks associated with the operator's railway operations (ONRSR, 2018, p. 30).
Monitoring of ongoing compliance performance	SMS must include procedures for monitoring, reviewing and revising the adequacy of the risk controls. Safety performance reports must be provided to the ONRSR annually.
Assurance verification (level of assurance)	Audits are undertaken by the ONRSR rail safety officers.
Quality check of verification (robustness of audit framework)	Not applicable.
VALUE OF ASSURANCE SCHEME	
Value to industry	It's mandatory if you want to operate a rail transport service.
Value for regulators and governments	Shows that a rail transport operator has the competence and capacity to manage risks to safety associated with rail operation.

Effectiveness as an assurance scheme

Not assessed as the scheme is a regulatory operator licensing scheme.

Common terms and abbreviations

Term	Definition
AFM	Advanced Fatigue Management
BFM	Basic Fatigue Management
EWD	electronic work diary
HML	higher mass limits
HVNL	Heavy Vehicle National Law
IAP	Intelligent Access Program
ISO	International Organization for Standardization
NHVAS	National Heavy Vehicle Accreditation Scheme
NHVR	National Heavy Vehicle Regulator
NTC	National Transport Commission
ONRSR	Office of the National Rail Safety Regulator
PBS	performance based standards
RSNL	Rail Safety National Law
RTO	rail transport operator
SMS	safety management system
TCA	Transport Certification Australia
WAHVA	Western Australian Heavy Vehicle Accreditation
WHS	work health and safety

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