

Decision Regulatory Impact Statement – National Heavy Vehicle Driver Competency Framework



Final | 20 March 2023



Frontier Economics Pty Ltd is a member of the Frontier Economics network, and is headquartered in Australia with a subsidiary company, Frontier Economics Pte Ltd in Singapore. Our fellow network member, Frontier Economics Ltd, is headquartered in the United Kingdom. The companies are independently owned, and legal commitments entered into by any one company do not impose any obligations on other companies in the network. All views expressed in this document are the views of Frontier Economics Pty Ltd.

Disclaimer

None of Frontier Economics Pty Ltd (including the directors and employees) make any representation or warranty as to the accuracy or completeness of this report. Nor shall they have any liability (whether arising from negligence or otherwise) for any representations (express or implied) or information contained in, or for any omissions from, the report or any written or oral communications transmitted in the course of the project.



Contents

Executive summary	8
Introduction	8
The rationale for, and objectives of, government action	8
Two overarching reform options have been considered	9
Option 1 ‘the competency refresh’ is expected to generate safety and productivity benefits	11
Option 2b would also deliver substantial net benefits	13
Next steps	14
<hr/>	
1 Introduction	15
1.1 Background	15
1.2 The NHVDCF	15
1.3 About this Decision RIS	16
1.4 Structure of this Decision RIS	17
<hr/>	
2 The problem	18
2.1 Overview and context	18
2.2 Problem 1: Heavy vehicle licensing not sufficiently focused on key risks	19
2.3 Problem 2: Arrangements governing heavy vehicle training and assessment are affecting the quality of driver training	23
2.4 Problem 3: Driver licensing is inconsistently applied across jurisdictions	24
<hr/>	
3 Why government action is needed	25
3.1 The impetus for government involvement in heavy vehicle driver licensing remains unchanged	25
3.2 Policy objectives	27
3.3 Limitations to government action and the scope of the Decision RIS	27
<hr/>	
4 Overview of current arrangements	29
4.1 Licence classes	29
4.2 Eligibility	29



4.3	Competency	30
4.4	Licence progression	30
4.5	Training	32
4.6	Assessment	34
5	Consultation outcomes	35
5.1	Consultation and past analysis informing this RIS	35
5.2	Options included in the Consultation RIS	37
5.3	Views of stakeholders	37
5.4	Key issues raised and changes made	38
6	Reform options considered in the Decision RIS	43
6.1	Overview	43
6.2	Option 1 – Competency refresh	44
6.3	Option 2 – Eligibility criteria	57
7	Impact assessment	59
7.1	Overview of assessment approach	59
7.2	Impacts of Option 1 – Competency refresh	63
7.3	Impacts of Option 2 – Introduction of eligibility criteria	79
7.4	Summary of core results	85
7.5	Sensitivity analysis	86
7.6	Distributional analysis	87
8	Preferred option	89
9	Implementation and evaluation strategy	92
9.1	Approach to implementation of preferred package of reforms	92
9.2	Future work	94
A	Jurisdictional training and assessment requirements	97
B	Proposed NHVDCF competencies	102



C	Learning framework underpinning competency and assessment approach	113
D	Sample sheet – supervision program	114
E	Input assumptions for the cost–benefit analysis	116
F	Crash costs	124
	Number of heavy vehicle crashes under the base case	124
	Costs associated with heavy vehicle crashes	124
G	MUARC study methodology	127
	Variables considered	127
	Study design	127
	Limitations	128
H	Survey responses on Consultation RIS	129
	Overview of respondents	129
	Response to proposals	131
I	Sensitivity analysis	138
	Discount rate	138
	Cost sensitivities	139
	Additional training, assessment and behind-the-wheel time	140
	Road safety benefits	141
	Sensitivity analysis conclusions	142
Tables		
	Table 1: Overview of key elements of reform options	10
	Table 2: Breakdown of costs and benefits associated with Option 1	12
	Table 3: Costs and benefits associated with Option 2	13
	Table 4: The current NHVDCF criteria for assessing competency	30
	Table 5: Driver training units	32
	Table 6: Summary of proposed initiatives included in the Consultation RIS	37
	Table 7: Major crash rates for MC licensed vehicles 2009–2019	40



Table 8: Overview of key elements of reform options	44
Table 9: Breakdown of instructional method by licence class	47
Table 10: Comparison of minimum course lengths by licence class proposed under Option 1 with current commercial practice and measures of best practice	50
Table 11: Proposed additional expedited pathways for licence progression	52
Table 12: Pathways for licence holders to progress from the Rigid classes (MR and HR) to MC class	54
Table 13: Proposed progression pathways by licence class	56
Table 14: Breakdown of costs and benefits associated with the competency refresh and move to greater online delivery	72
Table 15: Breakdown of costs and benefits associated with support mechanisms to improve quality of training	74
Table 16: Breakdown of costs associated with amending progressive licensing requirements	77
Table 17: Breakdown of costs and benefits associated with Option 1	78
Table 18: Breakdown of costs associated with Option 2 – Eligibility criteria	82
Table 19: Breakdown of costs and benefits associated with Option 2	84
Table 20: Summary of impact analysis	85
Table 21: Summary of key sensitivities	87
Table 22: How the options compare to the objectives of the reforms	90
Table 23: Driver training courses and assessment/testing options adopted by jurisdictions	97
Table 24: Competency assessment options for light rigid to heavy combination vehicle classes	98
Table 25: Competency assessment options for multiple combination vehicle class	99
Table 26: Information sought in determining assessor suitability	100
Table 27: Requirements for assessors to maintain capability	101
Table 28: Proposed NHVDCF Competencies	102
Table 29: Learning framework underpinning competency and assessment approach	113
Table 30: CBA key assumptions and parameters	116
Table 31: Initial draft CBA detailed inputs	120
Table 32: Estimates of cost per crash, 2022	125
Table 33: Discount rate sensitivities	139
Table 34: Cost sensitivities	140
Table 35: Additional training, assessment and behind-the-wheel time sensitivities	141
Table 36: Road safety benefits sensitivities	142



Figures

Figure 1: Pathways for licence holders to progress from class C to class MC	31
Figure 2: Summary of industry support by initiative	38
Figure 3: Time involved in moving through progression pathways under current tenure arrangements and under Option 1 with additional pathways	55
Figure 4: CBA overview	60
Figure 5: Social benefit from reduced crash risk	124
Figure 6: Overview of respondents	129
Figure 7: Heavy vehicle driver respondents	130
Figure 8: Type of vehicles operated by heavy vehicle operators	130
Figure 9: Number of vehicles operated by heavy vehicle operators	130
Figure 10: Business focus by heavy vehicle operators	131
Figure 11: Size of heavy vehicle driver trainer and assessor organisations	131
Figure 12: Support for Proposal 1 by respondent type	132
Figure 13: Support for Proposal 2 by respondent type	132
Figure 14: Support for Proposal 3 by respondent type	133
Figure 15: Support for Proposal 4 by respondent type	134
Figure 16: Support for Proposal 5 by respondent type	135
Figure 17: Support for Proposal 6 by respondent type	136
Figure 18: Support for Proposal 7 by respondent type	137

Boxes

Box 1: Approach to assessing these options	11
Box 2: Overview of the purpose and content of a Regulation Impact Statement or Decision Impact Assessment	16
Box 3: Some critical driver skills and knowledge not considered within the NHVDCF	20
Box 4: Summary of findings into heavy vehicle licensing risk factors	21
Box 5: Improving training standards through existing VET-sector arrangements	51
Box 6: Trialling a young driver heavy vehicle program	58
Box 7: Transfers and CBA	62
Box 8: Implementation challenges relating to enhancing the competencies	66
Box 9: Effectiveness of training programs which address drivers' attitudes	69
Box 10: The benefit of hazard-perception training (HPT) for young learner drivers	71
Box 11: Likely impact on heavy vehicle driver availability for MC class vehicles	77



Executive summary

Introduction

The National Heavy Vehicle Driver Competency Framework (NHVDCF) was developed collaboratively by governments to establish minimum competency and assessment standards for heavy vehicle drivers across Australia. Together, the NHVDCF and the existing state and territory heavy vehicle licensing regimes exist to help protect all road users by ensuring heavy vehicle drivers are sufficiently competent to safely drive the vehicle they are seeking to operate.

At the request of transport ministers, Austroads has been undertaking an extensive program of work to review and improve the NHVDCF. In August 2022, Austroads released and consulted on possible reform options to improve Australia's heavy vehicle licensing framework, as part of its draft Regulation Impact Statement for consultation (Consultation RIS).¹

This final Regulatory Impact Statement (Decision RIS) is the next phase of that review. It takes into account feedback from stakeholders and provides a more definitive assessment of the options being considered, and outlines a preferred set of reforms on the basis of this assessment.

The rationale for, and objectives of, government action

This Decision RIS focuses on whether there are ways to make the NHVDCF better by improving its effectiveness and efficiency; first and foremost, by ensuring that the NHVDCF and associated heavy vehicle driver licensing arrangements are sufficiently focused on key driver-related risks to road safety.

Under the current NHVDCF there is limited consideration of the importance of the following factors that are known to either improve driver competency or affect the risk of a heavy vehicle driver crashing.

- **Experience:** There is strong evidence that the more driving experience a heavy vehicle driver has the less likely they are to crash, all other things being equal. A heavy vehicle licence applicant's past driving experience is not directly considered under the current NHVDCF. The current licence progression system, which enables drivers to progressively obtain licences to drive more complex and potentially more productive heavy vehicles, is based on tenure. However, tenure does not guarantee that a person has had any substantive, behind-the-wheel experience. There is evidence and industry support for increased focus on driving experience and behind-the-wheel training and supervision as part of licensing.
- **Past driving behaviour and offences:** Modelling undertaken in Victoria and Queensland has found that heavy vehicle drivers with a recent history of driving offences have a significantly higher risk of crashing. This risk factor is not considered in the heavy vehicle licensing regime.
- **Other knowledge, skills and attitude:** Some factors now understood to be important to improving the road safety awareness of heavy vehicle drivers are not currently covered or tested by the NHVDCF. These include hazard awareness, driver attitudes and approaches, and

¹ Frontier Economics, Consultation RIS – National Heavy Vehicle Driver Competency Framework, August 2022



other core knowledge, skills and behaviour necessary to safely drive a heavy vehicle – such as vehicle and load dynamics, rollovers and driving in differing road environments.

The proposed reforms to the NHVDCF considered in this Decision RIS are primarily aimed at delivering improved road safety outcomes by better considering these risk factors in licensing. They also include considerations of reforms to arrangements governing heavy vehicle training and assessment which may help improve the quality of driver training.

While the primary function of driver licensing is safety, the licensing system should not create unnecessary barriers to the efficient and effective operation of the freight and logistic industry, or other sectors that rely on heavy vehicles. Hence the reforms developed also aim to support the use of high productivity vehicles and provide reasonable access to heavy vehicle licences for social and personal benefit, and not compromise the availability of heavy vehicle drivers.

Objectives of the reform

The proposed reforms to the NHVDCF considered in this Consultation RIS are aimed at achieving the following objectives:

- Delivering improved road safety outcomes with respect to driving heavy vehicles.
- Not creating unnecessary barriers that constrain the availability of heavy vehicle drivers and the use of high productivity vehicles.
- Providing reasonable access to heavy vehicle licences for social and personal benefit.

Two overarching reform options have been considered

Option 1 (the ‘competency refresh’ option) consists of several elements designed to enhance the standard of driver training and assessment by increasing the focus on factors known to improve driver competency.

It includes enhancements to the NHVDCF competencies trained and tested against, and seeks to reduce regulatory burden by moving to online training and assessment of knowledge-based elements.

It also amends the current tenure-based licence progression framework. This places an arbitrary time-based barrier on a driver’s ability to drive more complex, productive vehicles, which may exacerbate issues around driver shortages at higher licensing classes without delivering improvements in safety. While the tenure-based pathway will continue, Option 1 enables drivers to progress to driving more productive vehicles more rapidly, where they can show evidence of a *set amount of heavy vehicle driving experience* or where they participate in a *supervision program*.

Essentially Option 1 packages together complementary reform elements that are well supported and that focus on improving driver competency through licensing.

Option 2 (the ‘eligibility criteria’ option) takes a different approach. It prevents inexperienced drivers and individuals with a recent history of driving offences from obtaining or upgrading a licence through the introduction of two new licence eligibility criteria:



- Requiring an applicant to hold an open licence before gaining an MR or above licence.
- Excluding drivers with a licence suspension or disqualification within the last two years from gaining or upgrading a heavy vehicle licence.

These criteria could be implemented in isolation or in combination.

The key elements of each of these options are summarised in **Table 1**.

The approach to assessing these options is described in **Box 1**.

Table 1: Overview of key elements of reform options

No.	Reform option
Option 1: Competency refresh	
1.1	<i>Introduction of enhanced and expanded competencies</i> – which cover a wider set of knowledge and skills and important behaviours, attitudes and approaches necessary to drive a heavy vehicle safely.
1.2	<i>Online delivery of knowledge-based elements of the assessment</i> – This is proposed as a cost-effective way of building and testing prospective drivers' foundational knowledge, reserving classroom and practical work (the yard and around-the-vehicle and behind-the-wheel training) for more complex application-focused learning.
1.3	<i>Supporting mechanisms to improve the quality of training</i> – Austroads will develop a standard framework for training and assessing applicants against the NHVDCF competencies. This will include minimum periods for training and assessment required to complete the competencies.
1.4	<i>Amendments to progressive licensing requirements</i> – Two new pathways (based on experience and participation in a supervision program) will be made available in conjunction with the existing tenure pathway (holding a licence for 12 months). This will enable a driver to progress more rapidly to driving a higher class heavy vehicle.
Option 2: Eligibility criteria	
2	Introduction of eligibility criteria (sub-options below).
2a	Requiring an open licence before a driver is eligible for an MR or above licence.
2b	Excluding drivers with a licence suspension or disqualification within the last two years from gaining or upgrading a heavy vehicle licence.

Source: Austroads



Box 1: Approach to assessing these options

A Decision RIS should assess how policy reform options lead to incremental changes in the benefits and costs for industry, government and the community. For this Decision RIS, a quantitative cost–benefit analysis (CBA) has been prepared to inform the impact assessment.² This is also supported by qualitative assessment which identifies impacts that could not be quantified.

A CBA is an assessment tool that compares the costs associated with a potential intervention with the benefits from society's point of view.³ A CBA is used to identify whether a particular reform option is of net benefit relative to a base case where no reform is undertaken. But also, to compare reform options to each other.

The key cost categories include additional training and assessment costs for prospective drivers, supervised driving costs for industry, and implementation costs for governments. The main quantified benefit category considered in this analysis relates to anticipated reductions in heavy vehicle crashes, while improvements in industry productivity are considered qualitatively.

The two key results of a CBA are the *benefit–cost ratio* (the total present value of benefits divided by the total present value of costs) and the *net present value* (the total present value of benefits minus the total present value of costs). A benefit–cost ratio (BCR) of greater than one and a net present value (NPV) of greater than zero imply the reform option is of net benefit to society.

Source: *Frontier Economics*

Option 1 ‘the competency refresh’ is expected to generate safety and productivity benefits

Table 2 below provides a summary of the costs and benefits associated with Option 1. Based on the quantified road safety benefits alone the option does not appear to be of net benefit. However, we expect productivity benefits to arise from revisions to the progressive licensing requirements, which would enable drivers to operate larger more complex vehicle types more quickly.

For example, a driver would be able to move from an MR to an MC licence in as little as 28 weeks under the new supervision pathway compared with 12 months under the existing tenure arrangements.

² The CBA has been developed to be consistent with the *Australian Government Guide to Regulatory Analysis*, 2020 and the Office of Best Practice Regulation's *Cost-Benefit Analysis: Guidance Note*, 2020.

³ To enable comparison the impacts that may be incurred over time are converted into a present value. This involves discounting costs and benefits using a common discount rate to present all impacts in 2022 dollars.



This is expected to enable increased utilisation of these more productive vehicles. It is reasonable to expect these additional unquantified productivity benefits would make this reform element particularly valuable and as a result make Option 1 of net benefit overall.

There are equally plausible states of the world where the Option 1 reforms would be of net benefit without the unquantified productivity benefits. Based on the assumed costs the enhancements to the NHVDCF would only need to generate a further 0.5% reduction in the crash risk to be of net benefit.⁴

Table 2: Breakdown of costs and benefits associated with Option 1

Category	Party	Impact
Costs by reform element		
Introduction of enhanced competencies AND online delivery of competencies and assessment	Jurisdictions/Austrroads	\$30.1m
	Industry and licence applicants	\$295m
Supporting mechanisms to improve the quality of training	Jurisdictions/Austrroads	\$1.9m
Amendments to progressive licensing requirements	Jurisdictions	\$9.6m
Total costs		\$336.5m
Total road safety benefits <i>(Assumes 1.75% reduction in heavy vehicle crashes)</i>		\$261m
Net present value		-\$75m
Benefit–cost ratio		0.78
Expected impact on driver availability and productivity outcomes		+ Benefits resulting from drivers being more able to more quickly progress to higher class licences

Source: Frontier Economics

⁴ When considered in isolation the benefit–cost ratio of these reform elements is 0.78. However, as shown in the sensitivity analysis (see Section 7.5), there are equally plausible states of the world where these reforms would be of value. Based on the costs assumed, these reform elements would only need to generate a further 0.5% reduction in the crash risk to be of net benefit.



Option 2b would also deliver substantial net benefits

Table 3 below provides a summary of the costs and benefits associated with Option 2. Based on the benefits that have been quantified both sub-options are of net benefit.

However Option 2b, which prevents drivers with a licence suspension or disqualification within the last two years from gaining (MR and above) or upgrading a heavy vehicle licence, appears to deliver the most substantive road safety benefits. This is because this eligibility criteria is better targeted at the most high-risk drivers. However, while still minor, it may have a relatively bigger impact on driver availability when compared to Option 2a.

It should be noted that jurisdictions expressed concerns about the legal and judicial implications of using an eligibility criterion that prevents individuals from being able to apply to drive a heavy vehicle as a result of past offences, for which they have already been punished. While this concern is noted, there are already existing instances where past history is taken into account in assessing future risk and decision-making around transport-related access.

Table 3: Costs and benefits associated with Option 2

Eligibility criteria	Option 2a – requiring an open licence	Option 2b – excluding drivers with a licence suspension or disqualification within the last 2 years
Total costs (of implementing criteria)	\$23.5m	\$23.5m
Total benefits (road safety)	\$185m <i>(3.7–4.2% reduction in heavy vehicle crashes)*</i>	\$357 <i>(6.5–8.2% reduction in heavy vehicle crashes)*</i>
Net present value	\$161m	\$334m
Benefit–cost ratio	7.9	15.2
Expected impact on driver availability	— (small negative impact) <i>6.4% of applicants may be affected[^]</i>	— (small negative impact) <i>11% of applicants may be affected[^]</i>
Expected impact on productivity	Neutral	Neutral

Source: Frontier Economics

*varies by crash type

[^] This should not be read as the impact on the pool of available drivers. Commonly, licence applicants represent around 2% of all licence holders. Also, under the reforms, applicants would only be temporarily prevented from applying for, or upgrading, a heavy vehicle licence and so any impact may be short-lived.



Next steps

Based on the impact assessment described above, and stakeholder feedback received, the preferred option is to proceed with the key reform elements proposed in Option 1 and Option 2b:

- The introduction of enhanced and expanded competencies under the NHVDCF.
- Moving to online delivery of training and assessment for knowledge-based learning elements.
- Introducing supporting mechanisms to improve the quality of training, including the introduction of minimum training times.
- Amending progressive licensing requirements to introduce two new pathways (based on experience and participation in a supervision program) to enable movement to higher tier licences more quickly.
- Introducing eligibility criteria that excludes drivers with a licence suspension or disqualification within the last two years from gaining (MR and above) or upgrading a heavy vehicle licence.

The details of these reform elements will continue to be progressed in order to move to implementation. It is possible that reform elements may be introduced in discrete packages over time.

In addition, further investigations will be undertaken into the best approach to implementing increased training and assessment requirements for more complex and larger MC class heavy vehicles⁵ in recognition of the higher crash rate, and vehicle size and complexity. Reasonable concerns were raised in the course of the development of this RIS around the heavy vehicle training industry's ability to comprehensively and cost effectively support delivery of training and assessment programs for the originally proposed split of the existing MC class (into three sub-classes). Further work is required to explore the options to address the increased risk associated with driving these very large combination vehicles. For example, this could be delivered through employer-based training and assessment programs that recognise employees who have the credential to drive these vehicle types rather than through the introduction of a formal new licence class. An employer-based approach may be best delivered through the Heavy Vehicle National Law.

Further investigation will also be undertaken into Option 2a and its impacts – most notably, how the eligibility criteria (which requires applicants to hold an open licence before being eligible for an MR or above licence) impacts on industries. And also, whether this could be implemented in combination with an inexperienced driver's apprenticeship or similar scheme that subjects these drivers to a more substantive training and assessment program. This is likely to start with a pilot trial which will explore the effectiveness of more substantive training and assessment in reducing crash risks among these target, inexperienced drivers.

This Decision RIS was developed for ministerial consideration, which is expected in June 2023. After ministerial sign off, implementation timings and programs will be further developed.

⁵ This would cover triple road trains and vehicles with four or more trailers.



1 Introduction

1.1 Background

The heavy vehicle fleet comprises a range of vehicle types (trucks, buses and special purpose vehicles). Vehicles are used for a variety of purposes including for freight and passenger movement and as ancillary support for a variety of business and community purposes.

General growth in the population and the economy has driven an increase in the heavy vehicle fleet over time. In particular, the road freight task has increased markedly, growing at a compounding rate of 2.6% per annum over the last 20 years (when considering gross tonne-kilometres).⁶ This has necessitated growth in both the heavy vehicle fleet and the number of heavy vehicle drivers.

With more heavy vehicles on the road it is important to ensure the drivers of these vehicles are able to safely operate them in order to minimise the number and severity of crashes.

Heavy vehicle driver licensing is one mechanism for doing this and is the responsibility of jurisdictional governments. The National Heavy Vehicle Driver Competency Framework (NHVDCF) was developed collaboratively by governments to establish minimum competency and assessment standards for heavy vehicle drivers across Australia.

1.2 The NHVDCF

The NHVDCF was endorsed in 2011 by the Standing Committee on Transport as part of a set of national road safety laws and guidelines.⁷

The scope of the NHVDCF is specified as follows:⁸

- *The set of training and competency assessment requirements that an applicant must satisfy for a Licensing Authority (LA) to deem the applicant competent to be issued with a heavy vehicle driver licence (HVDL); and*
- *The regulatory, policy and administrative arrangements to support the training and competency assessment process.*

While the NHVDCF states that it applies ‘across all Australian jurisdictions’,⁹ the framework has (to date) only been implemented in four jurisdictions: New South Wales, Tasmania, Victoria and the Northern Territory. As stated in Austroads 2018 review of the NHVDCF: ‘despite substantive efforts to achieve harmonisation, much of which has been successful and is to be acknowledged,

⁶ From 139 billion tonne-kilometres in 2000–01 to 230 billion tonne-kilometres in 2020–21. BITRE, *Australian Infrastructure and Transport Statistics Yearbook 2021*, December 2021.

⁷ Austroads (2018), *Review of the National Heavy Vehicle Driver Competency Framework*, p.1.

⁸ Austroads (2018), *Review of the National Heavy Vehicle Driver Competency Framework*, p.49.

⁹ Austroads (2018), *Review of the National Heavy Vehicle Driver Competency Framework*, p.49.



there remains considerable variation in jurisdictional practice with regard to heavy vehicle licensing'.¹⁰ This includes variation between jurisdictions that have implemented the NHVDCF.

The NHVDCF, and potential options to make changes to the framework, is the subject of this Decision Regulatory Impact Statement (Decision RIS).

1.3 About this Decision RIS

The development of a Regulatory Impact Statement is a two-stage process comprising the preparation of:

- a draft Regulation Impact Statement for consultation (Consultation RIS)
- a final Decision Impact Assessment or Decision Regulatory Impact Statement (Decision RIS) to inform the decision-making body.

This Decision RIS focuses on the questions outlined below in **Box 2**. In other words, it seeks to articulate the policy problem and why government action is needed; outlines some policy options being considered to address these problems and identifies the likely net benefit of each of these options; outlines the outcome of consultation, the preferred option and how it will be implemented and evaluated.

Essentially the Decision RIS provides an evidence base and recommendations for consideration in decision-making around the NHVDCF.

Box 2: Overview of the purpose and content of a Regulation Impact Statement or Decision Impact Assessment

Guidance for undertaking a Regulation Impact Statement is provided by the Office of Impact Analysis (previously Office of Best Practice and Regulation) with the *Regulatory Impact Analysis Guide for Ministers Meetings and National Standard Setting Bodies*¹¹ being a key point of reference for this Decision RIS. The guidelines contain the following descriptions of the purpose and content of a Decision RIS.

Why do regulatory impact statements matter?

Regulation is an essential part of running a well-functioning economy and society but must be carefully designed so as not to have unintended or distortionary effects, such as imposing unnecessarily onerous costs on those affected by the regulations or restricting competition. Assessing the impact of regulation, including analysing the costs and benefits, is therefore important to ensure that it delivers the intended objective without unduly causing adverse effects.

Put simply, a major decision cannot be – and should not be – made without an impact assessment.

¹⁰ Austroads (2018) *Review of the National Heavy Vehicle Driver Competency Framework*, p.3.

¹¹ Commonwealth of Australia, Department of the Prime Minister and Cabinet, *Regulatory Impact Analysis Guide for Ministers' Meetings and National Standard Setting Bodies*, May 2021.



Regulation impact analysis is important because it helps policymakers focus on the potential impact of major decisions: In other words, the nature and extent of the impact on the community (including businesses, community organisations and individuals).

The seven RIS questions

One instructive section of this guidance distils the requirements for a Decision RIS (soon to be a Decision Impact Assessment) down to seven key questions:

1. What is the policy problem you are trying to solve?
2. Why is government action needed?
3. What policy options are to be considered?
4. What is the likely net benefit of each option?
5. Who was consulted and how was their feedback incorporated?
6. What is the best option from those considered?
7. How will the chosen option be implemented and evaluated?

Source: Excerpts from the Office of Best Practice Regulation guidance. Commonwealth of Australia, Department of the Prime Minister and Cabinet, 'Regulatory Impact Analysis Guide for Ministers' Meetings and National Standard Setting Bodies,' May 2021.

1.4 Structure of this Decision RIS

The remaining sections of this Decision RIS set out the following:

- Section 2 outlines the problems with the current NHVDCF
- Section 3 makes the case for government action
- Section 4 summarises the current heavy vehicle competency and licensing arrangements
- Section 5 outlines who was consulted and how their feedback has been incorporated
- Section 6 sets out the reform options considered
- Section 7 sets out an impact assessment of the proposed options
- Section 8 describes the preferred reform option
- Section 9 details the implementation and evaluation strategy and next steps.



2 The problem

Key points

The NHVDCF and existing heavy vehicle licensing regimes exist to help protect all road users by ensuring heavy vehicle drivers are sufficiently competent to safely drive the vehicle they are seeking to operate. However, there are three key regulatory failures related the NHVDCF:

- **Problem 1:** Heavy vehicle driver licensing is not sufficiently focused on key risks and factors that improve the competency of heavy vehicle drivers, based on latest data and analysis. This includes hazard awareness/perception, driving attitude, a lack of past driving experience and previous driving offences. This could be reducing the NHVDCF effectiveness in improving road safety outcomes.
- **Problem 2:** Arrangements governing heavy vehicle training and assessment are affecting the quality of driver training. In particular, there are no commercial consequences for training providers based on the competency of the heavy vehicle drivers they produce.
- **Problem 3:** Heavy vehicle driver licensing is applied inconsistently even across jurisdictions that have adopted the NHVDCF. This creates a risk that interstate drivers may not meet the socially acceptable level of competency for all jurisdictions they operate in.

2.1 Overview and context

Heavy vehicles are overrepresented in casualty crashes – particularly those involving a fatality. While accounting for approximately 9% of total vehicle kilometres travelled,¹² they are involved in 16% of road crash fatalities. This is perhaps unsurprising given their relative weight and size. In 2021, there were 163 people killed in crashes involving heavy vehicles.¹³ The situation has been improving over time with deaths from crashes involving heavy trucks decreasing by 2.9% per annum over the last 10 years.¹⁴ However, in recent years this decline has stagnated.

Each year around 20,000 people apply for a heavy vehicle licence.¹⁵ The NHVDCF and existing heavy vehicle licensing regimes exist to help protect all road users by ensuring heavy vehicle drivers are sufficiently competent to safely drive the vehicle they are seeking to operate. These existing regulatory regimes are intended to reduce the number and severity of crashes involving heavy vehicles and hence the costs for society associated with these crashes.

¹² Australian Bureau of Statistics, *Survey of Motor Vehicle Use*, Australia 12 months ended 30 June 2020.

¹³ BITRE (2023) *Road Trauma Involving Heavy Vehicles, 2021 Statistical Summary*, piii

¹⁴ Table 1.2 in BITRE (2023) *Road Trauma Involving Heavy Vehicles, 2021 Statistical Summary*.

¹⁵ Over the period July 2021 to July 2022, 20,088 individuals applied for a heavy vehicle licence.



However, risk mitigation is not without cost. If existing heavy vehicle driver licensing arrangements focus on the wrong risk factors, have not kept pace with new learnings, or are inefficiently implemented, administered or enforced, then these regulations and policies may not be as effective or efficient as possible. This could:

- reduce the extent to which the risk of heavy vehicle crashes is minimised and hence the NHVDCF effectiveness in improving road safety outcomes
- unnecessarily increase regulatory burden – the costs borne by drivers and industry and government entities. This could, in turn, discourage potential drivers from entering the industry and worsen driver availability issues already being experienced in the sector.

Therefore, this Decision RIS focuses on whether there are ways to make the NHVDCF better by improving its effectiveness and efficiency. For the purpose of the Decision RIS, three key regulatory failures, related to the NHVDCF, have been identified, based on current knowledge and the latest evidence. These are discussed in turn.

2.2 Problem 1: Heavy vehicle licensing not sufficiently focused on key risks

Knowledge and skills taught and assessed

There have been advances in our understanding of key driver skills, competencies and behaviours important for safely operating a heavy vehicle. As a result, the NHVDCF could be improved to ensure it is sufficiently linked to key safety risks related to a driver's competency in operating a specific heavy vehicle.

Some factors now understood to be important to improving the road safety awareness of heavy vehicle drivers are not currently covered or tested by the NHVDCF. Some notable factors known to improve driver competency, that are not adequately accounted for or assessed under the NHVDCF include:

- **Driver hazard awareness/perception** – Work completed as part of the NHVDCF review concluded that improvements in a driver's hazard perception would improve the safety of heavy vehicle drivers. Literature suggests a correlation between a potential driver's degree of hazard perception and the risk of being involved in a crash. Currently no hazard-perception tests depicting real-world footage and visible hazards from the heavy vehicle perspective are used within the existing licence frameworks.
- **Driver attitude and approach** – Work completed as part of the NHVDCF review concluded that improvements in a driver's attitude and approach towards driving, particularly in the areas of speeding and driving fatigue, would improve the safety of heavy vehicle drivers operating in the road environment. Furthermore, the research also suggests that attitudinal training and behaviour-modification interventions can have positive impacts in reducing crash involvement (see Section 7.2.1 for further details). There is currently no focus on attitude and approach to driving within the NHVDCF.
- **Other core skills and knowledge** necessary to safely drive a heavy vehicle such as vehicle and load dynamics, rollovers and driving in a differing road environment. The need to increase exposure to skill development has been a focus of coroners' findings and recommendations from the Senate Rural and Regional Affairs and Transport References Committee's *Aspects of Road Safety in Australia: Final Report*. While the current NHVDCF spells out the 15 core areas for assessment and training, there is no standardised training material, and the short length of



some courses means it would be very difficult for learners to become competent in the breadth of knowledge and skills identified. See **Box 3** below for further details.

Box 3: Some critical driver skills and knowledge not considered within the NHVDCF

Licensing of heavy vehicle drivers is intended to ensure that people have the base skills to safely drive vehicles of the relevant class. While drivers will almost always need induction and upskilling to perform the specific duties of their job, industry is concerned that some drivers are gaining a licence without the requisite core skills for driving a heavy vehicle safely. The following are examples of skill-related issues that have been reported by industry in prospective or newly employed drivers:

- missed synchro uphill gear changes
- rollovers within first few weeks of employment
- persistent hitting of shopfront eaves in narrow laneways
- lack of knowledge about coupling and uncoupling dollies and trailers
- inability to safely and confidently reverse into loading bays
- lack of confidence in steering semi-automatic triple and quad road trains.

These observed deficits in licensed drivers support the need to strengthen skill and knowledge building as part of licence training and assessment.

When Industry cannot rely on driver training and licensing to put the necessary focus on building driver capability in these competencies, then the cost of doing this falls on industry and society more generally, where inadequate capabilities lead to an increase in the risk of crashes.

Source: Austroads

Driving experience

Recent analysis by MUARC identified various factors associated with a lack of driving experience as being correlated with higher heavy vehicle crash rates (see Box 4). People with less than five years driving experience are more likely to be involved in crashes:¹⁶

This is backed up by research showing that learner drivers (of light vehicles) who undertook mandated hours of supervised driving had significantly less traffic offending and a reduced risk of crashing (see **Box 4** for further discussion of risk factors).

Industry feedback has consistently pointed to the benefits of behind-the-wheel experience, and reflects this in the industry-based training programs, and in supervised driving with newly engaged employees. A number of stakeholders have advised that industry looks for a person to have two years' experience before they are considered a desirable employee.

¹⁶ Austroads (2022) *National Heavy Vehicle Licensing Framework: Theme 2A – Licence Class Progression* [working paper for project SRL6259 not publicly released].



The value of experience in building competent and safe drivers is also widely accepted within the insurance industry. Insurers place higher excesses on inexperienced drivers in recognition of their higher crash risk.

There are currently no minimum driving-time requirements in pre-licensing training, and the current tenure-based progression model is based on time served rather than experience.

Past driving behaviour and offences

Currently, eligibility to hold a heavy vehicle licence is based on age, evidence of period on a lower class licence, and completion of required assessment (which may also include a training component). Past driving behaviour is not taken into account in assessing eligibility or in the heavy vehicle licensing regime more generally.

In addition to a lack of driving experience, safety modelling undertaken by MUARC in Victoria and Queensland also suggests that there is a higher crash risk for heavy vehicle drivers with:

- a significant history of traffic offences or a serious offence
- prior crash involvement in a heavy vehicle.

This research is summarised in **Box 4** below.

Box 4: Summary of findings into heavy vehicle licensing risk factors

Two recent MUARC analyses into Victorian and Queensland heavy vehicle drivers and crash rates identified and evaluated the relationship between pre-licensing risk factors and heavy vehicle road safety outcomes (casualty or serious casualty crashes).

The studies compared differences in the presence of various factors for heavy vehicle drivers who crashed compared with those who did not. They included drivers who have obtained a heavy vehicle licence endorsement for the first time in the period 2006–2019 in the case of the Victorian study and in the period 2011–2021 in the Queensland study. Drivers were broken into two groups:

- Group A: Drivers who have gained an MR or HR licence from a car or LR licence
- Group B: Drivers who have gained an HC licence from an MR or LR licence.

The studies identified a range of possible pre-licensing risk factors and then assessed the extent to which they were predictors of future heavy vehicle crash outcomes in these two groups.

The study found that the following factors are statistically related to higher heavy vehicle crash rates.

- A lack of driving experience
 - gaining a heavy vehicle licence or an upgrade while holding a P proficiency
 - accelerating rapidly through heavy vehicle classes, i.e., not holding an MR class prior to an HR upgrade
 - less than two years of experience on an open car licence prior to HC upgrade



- an applicant who did not achieve 120 hours of supervised learning experience for a car licence
- an international car licence prior to an HR/MR upgrade.
- Committing a large number of traffic offences, a serious offence or receiving a licence ban or condition in the recent past (in the two years prior). This could include:
 - a ban from driving
 - accruing traffic infringement notice demerit points
 - at least one licensing or registration traffic infringement (serious crash risk increased for TIN generally) or court offence (in the case of a HC upgrade)
 - application of a work-related licence conditions following offences
 - at least one court imposed fine (serious crash risk increased if more than one)
 - at least one lane change/keep, distraction or heavy vehicle fatigue traffic infringement notice (in case of a HC upgrade).
- Prior crash involvement in a heavy vehicle (particularly with an illegal BAC [in the case of Group A]) or where associated with an offence (for Group B).

The studies suggest potential road safety benefits from reforms that target these key risk factors.

There are some limitations to the study including the inability to identify who was at fault for a crash, and the number of kilometres travelled by individual licence holders (instead BITRE data on average kilometres was utilised to take into account driving exposure). Further details regarding the methodology and limitations of the study are contained in Appendix G.

The Victorian study was completed first on behalf of the Victorian Government and then Austroads engaged MUARC to replicate the Victorian analysis in Queensland. The Queensland findings largely mirror the Victorian findings.

Source: MUARC, Pre-heavy vehicle licensing factors predicting poor heavy vehicle driver safety outcomes, April 2022, MUARC, Draft report on Queensland heavy vehicle licensing & crash risk, January 2023, Draft V1

Licence tenure requirements

Current licensing arrangements require a heavy vehicle driver to hold a lower-class heavy vehicle licence for a minimum of one year before being eligible to apply to progress to a higher licence class. These requirements were intended to promote progressive skills development. However, they do not guarantee that a person has had any, or substantive, behind-the-wheel experience and therefore do not guarantee competency at lower licensing levels before allowing progression to more complex heavy vehicles.

Rather than focusing on skill and experience, this approach places an arbitrary time-based barrier on a driver's ability to drive more productive vehicles. In addition to impacting the staging of skill development and consolidation through access to progressively more complex vehicles, this may also exacerbate issues around driver shortages at higher licensing tiers.



Increasingly, more of the road task is being done by larger combination vehicles and this trend is expected to continue. Over the last five years, the stock of newer, high productivity vehicles (approved under the NHVR's Performance Based Standards [PBS] scheme) has increased at a compounding rate of almost 25% per annum.¹⁷ Unsurprisingly, demand for multi-combination licences has also increased at a relatively higher rate when compared to other licence categories. MC licences grew by 4.7% pa over the 24-month period to October 2021, while overall heavy vehicle licence numbers grew by only 2%.

More generally, industry reports substantial shortfalls (e.g., 1,000 to 2,000 drivers per jurisdiction) in the availability of drivers. Hence, it is seeking to be able to progress competent and experienced drivers through the licensing system more rapidly.

Arrangements that unnecessarily delay drivers from operating higher productivity vehicles may reduce driver supply and prevent these vehicles from being utilised to their full potential.

2.3 Problem 2: Arrangements governing heavy vehicle training and assessment are affecting the quality of driver training

Jurisdictions each manage their own approval process for heavy vehicle driver trainers and assessors. The practice and standards of these approval processes vary between jurisdictions. In addition, most jurisdictions have, anecdotally, had issues with fraud, malpractice or poor standard of delivery by some training and assessment providers.¹⁸ This means that heavy vehicle licences may be granted to drivers who do not meet the level of competency required to achieve the desired safety outcomes.

Independent heavy vehicle driver trainers and assessors also face commercial pressures, which are inconsistent with achieving socially optimal levels of driver competency. The NHVDCF does not specify minimum training course or assessment durations.¹⁹ Therefore organisations may be able to reduce costs (and so increase profitability) by shortening training and assessment courses.

Building on this, industry does not know which training provider a heavy vehicle driver received their training from as this is not recorded on the licence documentation. This means that there is no feedback loop between training providers and operators on the competency of heavy vehicle drivers. It also means that operators cannot account for differences in quality in their hiring decisions and their approach to on-the-job training for drivers.

This creates a competitive environment where providers of higher quality heavy vehicle driver training lose their competitive advantage.

¹⁷ Austroads (2022) *National Heavy Vehicle Licensing Framework: Theme 2A – Licence Class Progression* [working paper for project SRL6259 not publicly released].

¹⁸ These issues are discussed in ICAC South Australia's 2022 report *Failing the Corruption Road Test: Corruption Risks in South Australia's Driver Training Industry* (available here: https://www.icac.sa.gov.au/documents/Failing-the-Corruption-Road-Test_report.pdf).

¹⁹ NSW mandates 5–8 hours for assessment, dependent on licence class.



2.4 Problem 3: Driver licensing is inconsistently applied across jurisdictions

As stated in Section 1.2, the NHVDCF has been implemented in four jurisdictions (New South Wales, Tasmania, Victoria and the Northern Territory). As stated in Austroads 2018 review of the NHVDCF, 'despite substantive efforts to achieve harmonisation, much of which has been successful and is to be acknowledged, there remains considerable variation in jurisdictional practice with regard to heavy vehicle licensing'.²⁰ This includes variation between jurisdictions that have implemented the NHVDCF.

The lack of consistency in licensing practices across jurisdictions means that different standards are used to assess driver competency across jurisdictions.

A driver who receives their heavy vehicle licence in one jurisdiction is permitted to drive that class of heavy vehicle in another jurisdiction. This applies even if the second jurisdiction has a higher standard or more stringent criteria for assessing driver competency than the jurisdiction in which the licence was granted. This creates an incentive for heavy vehicle candidates to seek a licence in the least stringent jurisdiction. Since competency assessments differ across jurisdictions, there is a risk that interstate drivers may not meet the socially acceptable level of competency for all jurisdictions they operate in.

This situation arises as a flow on from Problems 1 and 2.

A number of respondents to the Consultation RIS commented on the lack of a national approach noting that:

- There is unacceptable variation in jurisdictional heavy vehicle licensing, including between the jurisdictions that have adopted the framework.
- The lack of a consistent approach to licensing creates many problems including difficulties and unnecessary costs for companies trying to understand and work with the various nuances across the states. This unnecessary cost provides little benefit except maybe to those who want to 'shop around' for the best or easiest option.
- Given licensed drivers are able to drive anywhere in Australia, modifications should not be allowed to licensing requirements.

²⁰ Austroads (2018) *Review of the National Heavy Vehicle Driver Competency Framework*, p.3. (<https://austroads.com.au/publications/freight/ap-r564-18>)



3 Why government action is needed

Key points

Heavy vehicles are overrepresented in serious and fatal road incidents. Governments have a responsibility to attempt to protect road users. In the case of crashes, externalities are created. An externality is a cost (or benefit) that affects a third party who was not involved in the action or activity.

Therefore, the proposed reforms to the NHVDCF considered in this Decision RIS are, first and foremost, aimed at delivering improved road safety outcomes by reducing crashes involving heavy vehicles.

In addition, the licensing system should not create unnecessary barriers to the efficient and effective operation of the freight and logistics industry and other sectors that rely on heavy vehicles. For this reason, the following secondary objectives have also been considered in developing the reforms:

- Not compromising the availability of heavy vehicle drivers and supporting use of high productivity vehicles.
- Providing reasonable access to heavy vehicle licences for social and personal benefit.

3.1 The impetus for government involvement in heavy vehicle driver licensing remains unchanged

There are a number of reasons why governments are, and should continue to be, involved in licensing heavy vehicle drivers.

First, governments have a responsibility to attempt to protect road users. As previously outlined, heavy vehicles are overrepresented in serious and fatal road incidents. This should come as no surprise given heavy vehicles are heavier and larger and therefore crashes are more likely to result in fatalities and casualties. Data from the Bureau of Infrastructure and Transport Research Economics shows that heavy trucks were involved in 15% of fatal crashes in the year to December 2020.²¹ Data from the Australian Bureau of Statistics suggests that for the 12 months to June 2020 heavy trucks comprised 9% of total vehicle kilometres travelled.²² The implication of this data is that heavy trucks are overrepresented in fatal crashes, compared to their share of road kilometres travelled, by a factor of two-thirds.

Some proportion of the crashes involving a heavy vehicle will be attributable to heavy vehicle driver error which could potentially be improved through reforms to the NHVDCF and existing

²¹ Bureau of Infrastructure and Transport Research Economics, *Road Deaths In Crashes Involving Heavy Vehicles – Quarterly Bulletin*. October to December 2021.

²² Australian Bureau of Statistics, *Survey of Motor Vehicle Use*, Australia 12 months ended 30 June 2020.



heavy vehicle driver licensing regimes. Available evidence suggests driver error could contribute to 20% of fatal crashes involving a heavy vehicle.²³ However, it is worth noting that assignment of fault is not necessarily feasible for all crashes. Insurance data suggests around 60% of non-fatal crashes and 20% of fatal crashes are attributed to heavy vehicle driver error. This includes crashes that result from inappropriate driving (e.g., poor vehicle positioning), inattention or distraction, speeding and fatigue. It is worth noting that this is based on insurance data and therefore attributions determined for this purpose, rather than as a result of police investigation.²⁴

Second, crashes create externalities. An externality is a cost (or benefit) that affects a third party who was not involved in the action or activity. In the case of crashes involving heavy vehicles, operators and drivers do not bear the full social costs of crashes.²⁵ These include:

- costs associated with death and rehabilitation of people injured or killed in crashes
- property damage costs (i.e., costs to repair or replace other vehicles)
- costs associated with damage caused to road infrastructure (where applicable)
- productivity costs from delayed or lost freight
- costs on other road users from resulting delays or disruption to their journeys.

Some of these costs will be internalised. For example, an operator will incur the costs associated with any lost, damaged or delayed freight and some property damage costs in part through insurance regimes. However, some costs associated with heavy vehicle crashes will still be incurred by society such as the delay and disruption costs, and those associated with the ongoing rehabilitation and care of any injured road users. This means that, in the absence of government policy, some individual heavy vehicle operators and drivers may not sufficiently invest in mitigating road safety risks (including investing in ensuring driver competency). This creates the risk that without government involvement the industry may not deliver road safety outcomes that would be valuable to society.

In managing other safety risks associated with heavy vehicles, employer- or operator-focused arrangements are commonly utilised including, for example, in the Heavy Vehicle National Law. This law and its associated regulations in some areas mandates certain actions operators must take and/or clarifies an operator's responsibilities in order to strengthen the penalties applied to irresponsible operators.

However, not all individuals that wish to drive a heavy vehicle are employed as heavy vehicle drivers; rather they may be using this for personal benefit. Therefore it is not feasible to shift responsibility for managing the entirety of the driver-related risk to industry.

Driver licensing remains a key lever that government has at its disposal to influence whether heavy vehicle drivers are able to safely operate their vehicles.

²³ BITRE, *Heavy Truck Safety: Crash Analysis And Trend*, December 2016, p.1.

²⁴ Insurance data suggests that in 64.5% of non-fatal crashes and 21.7% of fatal crashes involving both a heavy vehicle and a light vehicle, the heavy vehicle was deemed to be at-fault party. National Transport Insurance, *National Truck Accident Research Centre (NTARC) Major Accident Investigation Report*, 2021, p.17.

²⁵ Noting some of these costs are incurred indirectly through insurance costs.



3.2 Policy objectives

The proposed reforms to the NHVDCF considered in this Decision RIS are aimed at achieving the following primary objective:

- **Delivering improved road safety outcomes by reducing crashes involving heavy vehicles**
For this Decision RIS, an improvement in safety outcomes refers to a reduction in the number and/or severity of accidents involving heavy vehicles where the outcomes could be affected by heavy vehicle drivers. Safety outcomes can be measured by metrics that reflect the incidence of heavy vehicle crashes at different levels of severity. For example, for a given year, the number of heavy vehicle crashes per kilometre travelled occasioning death, or serious injury, or property damage only.

While the primary function of driver licensing is safety, the licensing system should not create unnecessary barriers to the efficient and effective operation of the heavy vehicle industry and entities that rely on heavy vehicles. For this reason, there are also a couple of secondary objectives of this framework:

- **Not creating unnecessary barriers that constrain the availability of heavy vehicle drivers and the use of high productivity vehicles**
For this Decision RIS, ensuring the availability of heavy vehicle drivers means ensuring that there are a sufficient number of licensed drivers to meet the heavy vehicle driving task for each type of heavy vehicle or licence class. Supporting driver progression through the licence classes to allow driving of higher productivity vehicles, which carry greater freight, will enable an overall productivity benefit. Availability can be measured by metrics that relate to the number of heavy vehicle drivers at each licence class relative to the fleet, or more specifically to the demand for drivers of particular classes of heavy vehicle. Reforms that impact on the pool of individuals that can apply to be a heavy vehicle driver do not necessarily have a negative impact on productivity.²⁶
- **Providing reasonable access to heavy vehicle licences for social and personal benefit**
For this Decision RIS, providing reasonable access to licensing pathways supports individuals to pursue personal and career goals, and to engage in a range of community and volunteer activities which require a heavy vehicle licence.

3.3 Limitations to government action and the scope of the Decision RIS

3.3.1 Reforms relating to other legislative instruments

Governments can influence road safety outcomes through a variety of mechanisms, not just heavy vehicle licensing. This Decision RIS is concerned solely with how the heavy vehicle licensing framework can be improved.

²⁶ In theory, reducing the potential labour supply to an industry does not necessarily reduce productivity at a societal level, particularly in the longer run. The Productivity Commission has suggested there is some empirical evidence that points to a trade-off between productivity growth and labour participation, but that this is short lived and dissipates over time. In fact, some degree of scarcity of labour can promote productivity growth if it leads to businesses facing a greater incentive to find more efficient ways to use their workforce, including by investing in productivity-enhancing capital. (See Productivity Commission, *5-year Productivity Inquiry: A More Productive Labour Market, Interim Report no. 6*, Canberra, October 2022.)



It does not set out to make the case for how governments can best improve road safety more broadly. Nor does it seek to make a case for overarching reform to regulation of the heavy vehicles sector. Stakeholders interested in these broader reforms are referred to the NTC's work on reforms to the Heavy Vehicle National Law.²⁷

3.3.2 Improving the availability of heavy vehicle drivers

As discussed in the section above, reforms to the NHVDCF as described in the Decision RIS could have an impact on the availability of heavy vehicle drivers. This could be the case where the reforms create or remove barriers to entry by virtue of licensing requirements.

Industry representatives have raised the lack of supply of professional heavy vehicle drivers as a pressing issue for the industry.²⁸ There are likely to be a large number of factors that contribute to current industry driver shortages including the growing freight task and the aging workforce. The industry's ability to recruit more drivers could also be affected by drivers pay and conditions, personal lifestyle choices and perceived career paths within the sector.

Most of these factors are outside the influence of licensing authorities. For this reason this Decision RIS is not focused on addressing the problems of heavy vehicle driver shortages; however, it is cognisant that the options considered could have some impact on this. Hence, the Decision RIS includes the secondary objective of not compromising the availability of heavy vehicle drivers.

This is not to say that there are not wider government actions that can increase driver supply and availability such as change to migration policies. Decisions about whether and how government could address these concerns are best progressed by ministers outside this Decision RIS process.

²⁷ See <https://www.ntc.gov.au/transport-reform/ntc-projects/hvnl-safety-productivity-program>

²⁸ See, for example, submissions to the Consultation RIS by Ron Finemore and ADTA



4 Overview of current arrangements

Key points

Heavy vehicle licensing is the responsibility of state and territory governments.

There is some commonality in the overall licensing frameworks applied across jurisdiction, even though the NHVDCF has only been implemented in four jurisdictions: New South Wales, Tasmania, Victoria and the Northern Territory. Notably licence classes are largely standardised and licence progression is based on tenure at lower licence classes.

More broadly, there is some minor variation between jurisdictions in terms of eligibility, competency, training and assessment requirements (even across those jurisdictions that have implemented the NHVDCF).

4.1 Licence classes

Heavy vehicle licence classes are nationally agreed and fall into two main groups relating to the type of vehicles that can be driven:

- **Rigids** – light rigid (LR), medium rigid (MR) and heavy rigid (HR)
- **Articulated/Combinations** – heavy combination (HC) and multi-combination (MC).

The definition of these classes is largely standardised across jurisdictions, although there are some limited variations.

4.2 Eligibility

Each jurisdiction has a set of criteria which an applicant must meet before they may be issued with a heavy vehicle driver licence – the ‘eligibility criteria’. The current eligibility criteria are similar, but not always identical, across jurisdictions and variously include, but are not limited to, matters such as:

- the age of the applicant
- period of holding a lower class driver licence (licence tenure)
- medical requirements
- training requirements
- written or oral knowledge test
- practical driving assessment.



4.3 Competency

Eligible applicants are required to demonstrate their knowledge and competency to drive a heavy vehicle. The NHVDCF outlines 15 criteria for assessing heavy vehicle competency (see **Table 4**).

Table 4: The current NHVDCF criteria for assessing competency

NHVDCF criteria	
Pre-drive <ul style="list-style-type: none"> • Pre-operational check • Cabin drill 	Low-risk driving behaviours <ul style="list-style-type: none"> • Create and maintain crash avoidance space • Protect crash avoidance space
Vehicle operation and control <ul style="list-style-type: none"> • Staff off, move off, shut down and secure • Manages steering • Manages gears • Manages brakes • Manages accelerator 	Additional risk management <ul style="list-style-type: none"> • Reverse • Hill stop/start • Load securing • Coupling/uncoupling • Bus stop procedure
Compliance <ul style="list-style-type: none"> • Road rules and directions 	

Source: NHVDCF

While the NHVDCF states that it applies ‘across all Australian jurisdictions,’²⁹ the framework has only been implemented in four jurisdictions: New South Wales, Tasmania, Victoria and the Northern Territory. Even within these jurisdictions, there are variations in how the NHVDCF has been implemented.

4.4 Licence progression

Licence progression is based on tenure at lower licence classes

In general, licence progression is based on time served on a lower licence class. That is, in order for a heavy vehicle driver to be eligible to apply to progress to a higher licence class, the driver must hold a licence for a lighter vehicle class for a minimum period of one year.

The imposition of minimum time periods before progression is based on the assumption of paced skill development with the aim of maximising safety outcomes. However, licence tenure requirements are simply a requirement to hold a licence for a period of time and there is no guarantee of how much, if any, behind-the-wheel experience a person has had during the period.

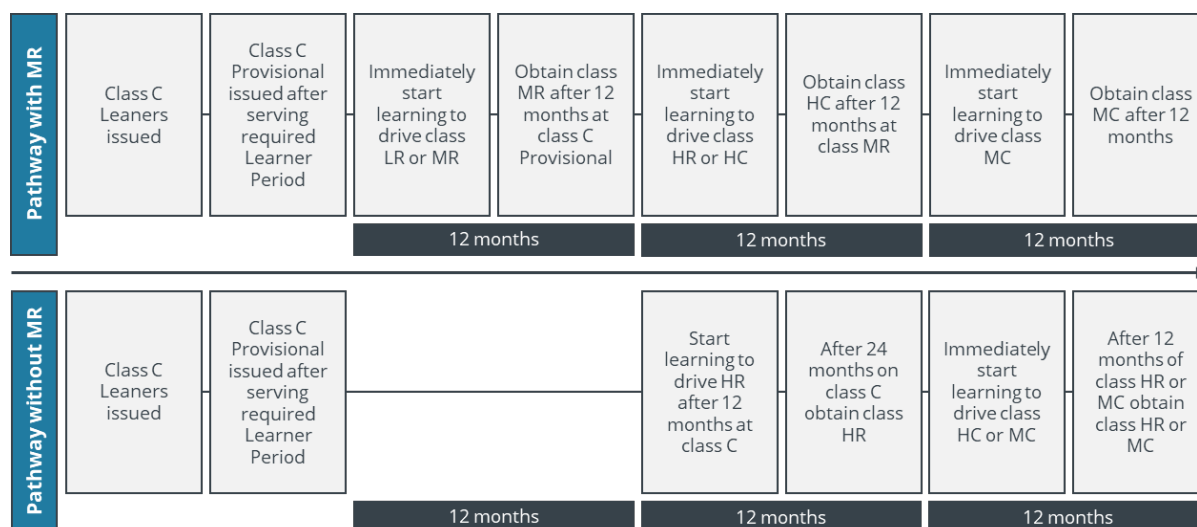
²⁹ Austroads, Review of the National Heavy Vehicle Driver Competency Framework, 2018, p.49.



The tenure system increases the time required to obtain higher tier licences

The concept of minimum periods for progression (or tenure) is central to the current licensing regime. **Figure 1** shows two possible pathways for licence holders to progress from class C to class MC. In both cases, the minimum period for this progression is 36 months. At present, apart from testing to secure the next class in the progression, licence holders are not required to gain specified or evidenced on road driving experience.

Figure 1: Pathways for licence holders to progress from class C to class MC



Source: Austroads

The minimum age at which an individual can hold a provisional car licence determines the minimum age at which they can hold licences for categories of heavy vehicles. As a result of these requirements and the heavy vehicle licence progression system, in most jurisdictions the earliest age that an individual could apply for an HC licence is 19 years, and for an MC licence is 20 years.

There are limited exemptions from the licence tenure requirements

All jurisdictions have the regulatory capacity to make exemptions from their standard graduated scheme to allow for accelerated licence progression in certain circumstances. Jurisdictions have different arrangements for these accelerated models and there is no national consistency.

The circumstances under which exemptions can be granted include particular employment needs including for the agriculture sector, personal/ family hardship, remote operation, or membership of the Defence Force. In addition, South Australia operates a Training In Lieu of Experience (TILE) program under the exemption framework. When an exemption is granted, it may be conditional upon factors such as driving history, participation in driver training and continued employment with the same employer. Exemptions are in many cases only available to people with certain attributes such as age or Australian driving experience.



4.5 Training

Driver training is typically provided by the VET sector

Driver training is not a precursor to assessment and licensing in all jurisdictions. In jurisdictions where driver training is mandated, this is typically delivered through one of two vocational education and training (VET) sector programs – *Drive a Heavy Vehicle* units and the *Licence to Drive a Heavy Vehicle* units (see **Table 5** below). Appendix A provides further details in relation to these arrangements.

Table 5: Driver training units

Unit code	Pre-framework units	Unit code	Framework-related units
TLIC 2002	Drive a Light Rigid Vehicle	TLILIC 2014	Licence to Drive a Light Rigid Vehicle
TLIC 3003	Drive a Medium Rigid Vehicle	TLILIC 2015	Licence to Drive a Medium Rigid Vehicle
TLIC 3004	Drive a Heavy Rigid Vehicle	TLILIC 2016	Licence to Drive a Heavy Rigid Vehicle
TLIC 3005	Drive a Heavy Combination Vehicle	TLILIC 3017	Licence to Drive a Heavy Combination Vehicle
TLIC 4006	Drive a Multi-Combination Vehicle	TLILIC 3018	Licence to Drive a Multi-Combination Vehicle

Source: Austroads

These training courses are provided by outsourced organisations. In some but not all jurisdictions training providers are required to be registered training organisations (RTOs). These are training providers registered by the Australian Skills Quality Authority (ASQA) or state-based VET regulators. The two courses are only a sub-set of the available heavy vehicle-related approved VET offerings. There are over 4,000 RTOs in Australia, of which about 200–250 are registered to deliver some aspect of heavy vehicle driver training, ranging from full certificate courses (such as the TLI31216 Certificate III in Driving Operations) to individual units of competency (such as TLILIC2016 *Licence to Drive a Heavy Rigid Vehicle*).

Training requirements differ across jurisdictions.

The *Drive a Heavy Vehicle* training units pre-existed the *Licence to Drive* training units and are still largely used by jurisdictions that have not adopted the NHVDCF. The *Licence to Drive* units were developed to align with the NHVDCF and are mostly utilised by jurisdictions that have adopted the NHVDCF, as well as some other jurisdictions that have also nominated these units.

Key features of note:

- **NHVDCF jurisdictions:** Victoria and the Northern Territory offer NHVDCF based options only. New South Wales offers NHVDCF as the main path and a non-NHVDCF path for those with



special needs or in remote areas, however training is not mandated even under NHVDCF pathways. Tasmania offers primarily NHVDCF options however has alternate arrangements resulting in a restricted licence for residents of King and Flinders Island and bus drivers for metropolitan Tasmania.

- **Non-NHVDCF jurisdictions:** For LR to HC classes, there are a number of options including: practical test with a departmental officer, practical test with an external approved provider, and training and assessment (TLIC *Drive a Heavy Vehicle* or TLILC *Licence to Drive a Heavy Vehicle* dependent on the jurisdiction). For the MC class, there are also a number of options including: training and assessment (TLIC *Drive a Heavy Vehicle* or TLILC *Licence to Drive a Heavy Vehicle* dependent on the jurisdiction), log book hours only, and practical test with an external approved provider.

Further information on jurisdictional requirements for training and assessment is provided in Appendix A.

There are differences in the training programs offered

Competency-based training programs assess students against agreed industry standards. Progression through a competency-based training program is determined by the student demonstrating that they have met the competency standards, and is not linked to the time spent in training. Nationally recognised qualifications in the VET sector all have a volume of learning range (minimum – maximum) which is intended to provide guidance on the time that a qualification will take to obtain. However, these learning ranges are not mandatory.

There are large differences in the depth and breadth of heavy vehicle driver training offered by different training providers. One reason for this is the lack of a nationally agreed set of learning and assessment materials to support training and assessment activity. The duration of training also differs, noting the NHVDCF does not mandate minimum training and assessment durations.

Limited regulatory oversight of training

While there is existing regulatory oversight of RTOs, this oversight is not focused on the subject matter or the quality or suitability of the training itself. Existing VET regulators (such as the ASQA) monitor RTO performance against the *Standards for Registered Training Organisations* – but they do not develop or approve training content.³⁰

While VET regulators provide a level of assurance and oversight, they are not aware of, nor focused on, licensing risks and issues. They are not subject matter experts with respect to heavy vehicles, and are unable to assess whether the training package is ‘fit for purpose’.

³⁰ The ASQA is the national regulator for Australia's VET sector. ASQA regulates courses and training providers in Qld, NSW, ACT, Tas, SA and NT to ensure nationally approved quality standards are met. The ASQA also has regulatory oversight of training offered by Vic and WA RTOs where courses are offered across state and territory boundaries. The Victorian Registration and Qualifications Authority and the Western Australian Training Accreditation Council regulate RTOs in these states that are not under ASQA regulation.



4.6 Assessment

Assessment of driver competency varies across jurisdictions

The process for assessing the competency of licence applicants is a mixture of VET assessment against the licensing units of competency and transport regulators' jurisdictionally developed assessment processes and instruments.

Currently in New South Wales, Queensland, South Australia, and Western Australia assessment is undertaken by jurisdictional agencies although in some cases this may be restricted (e.g. only in remote locations) (see Appendix A for further details).

Since assessment tools used by state and territory licensing authorities differ, it is likely that a driver licensed in one jurisdiction will not have demonstrated exactly the same set of competencies as a driver licensed in the neighbouring jurisdiction. The NHVDCF allows for two paths to demonstrate competency:

- Progressive assessment (linked to training provision) and then a final competency assessment (FCA), including on-road assessment
- A competency test (CT), which is available for rigid classes only.

Importantly, the FCA does not include a final assessment of an applicant's ability to perform *all* competency criteria.³¹ As a result, there is a risk that short cuts are being taken when training the criteria that is not included in the FCA. This includes critical skills such as securing a load, reversing, coupling and uncoupling of trailers.

Further information on jurisdictional requirements for assessment are provided in Appendix A.

Required qualifications for assessors varies across jurisdictions

The requirements for approving assessors similarly varies across jurisdictions. Most, but not all jurisdictions, require approved assessors to also be approved as driving instructors under relevant legislation. The qualifications and additional characteristics required of heavy vehicle driver trainers and assessors reflect interaction between:

- the mandated professional qualifications as prescribed by the RTO Standards and therefore as conditions for the registration of a training organisation
- the requirements and conditions imposed by jurisdictional transport authorities for approval/authorisation of instructors, assessing organisations and/or individual assessors
- the requirements of individual RTOs.

Further information on jurisdictional requirements for approving assessors is in Appendix A.

³¹ This is not the case in the Northern Territory where all competencies are assessed in the FCA.



5 Consultation outcomes

Key points

Consultation has underpinned the development of this Decision RIS. A key element of this was seeking feedback on the Consultation RIS. Austroads received around 250 responses in the form of either formal submissions or survey responses.

Following feedback provided by industry, the initiatives proposed in the Consultation RIS were further developed.

Most notably, an option to impose minimum requirements for supervised behind-the-wheel driving hours after applicants have obtained or upgraded their heavy vehicle licence has not been pursued based on feedback received.

5.1 Consultation and past analysis informing this RIS

At the request of transport ministers in 2017, Austroads has been undertaking an extensive program of work to review and improve the NHVDCF. The work has also been informed by the findings of the Senate Rural and Regional Affairs and Transport References Committee – *Aspects of Road Safety in Australia: Final Report* published in 2017.

This work has been undertaken in three stages:

- Stage 1 provided a comprehensive review of heavy vehicle licensing in Australia.
- Stage 2 investigated best practice overseas experience and available research.
- Stage 3, which is nearing completion, has used evidence from research and industry to develop strengthened licence training and assessment standards based in a more comprehensive heavy vehicle driver preparation framework. This has included a review of licensing arrangements more broadly, including consideration of licence class eligibility and progression.

The heavy vehicle industry, driver training industry and licensing authorities have been engaged throughout all stages of this review work.

In January 2022 ministers and National Cabinet also asked Austroads to include within this program of work, a competency-based licensing framework for heavy vehicle licence class progression.

As part of this review process, and during the development of the policy proposals included within this RIS, there was extensive consultation with industry and regulators. This included:

- trucking associations
- bus associations
- other heavy vehicle-related industry associations
- heavy vehicle operators



- training providers
- heavy vehicle insurers
- licensing authorities
- state and national regulators.

Stakeholders and all members of the public were also able to submit on the Consultation RIS through a formal submission and/or by completing a survey on key policy proposals via the Austroads website.

The Consultation RIS was up for comment between 24 August 2022 and 28 October 2022,³² with an online briefing session held on 14 September 2022. There was extensive promotion of the online briefing session, with organisations and individuals registered with Austroads as interested in heavy vehicle matters receiving an invite. For those unable to attend the session, a recording of the session was made available on the Austroads website.

In addition to the online briefing session there were also:

- presentations made to industry forums which were held during the consultation period
- one-on-one engagement with some peak representational bodies and individuals.

To ensure as many interested stakeholders as possible were made aware of the release of the Consultation RIS the following actions were undertaken:

- media release including targeted distribution to heavy vehicle focused media outlets
- advice to Austroads news subscribers
- updates via Austroads social media channels including LinkedIn, Twitter and Facebook
- inclusion in the Austroads monthly newsletter
- advice to heavy vehicle and driver training associations.

It was recognised that many people who would be interested in the potential reforms would be seeking a succinct summary of the proposals being considered and the opportunity to provide quick feedback on the areas that interested them. To maximise audience reach, a series of easily consumed fact sheets and videos were developed and a simple survey made available. These fact sheets, videos and the survey were heavily promoted through all communication activities to ensure maximum engagement. The large number of survey respondents (over 200) points to the success of this strategy.

The objective of the engagement processes was to gather input, additional evidence and data on the extent of the problem, and to seek views on the benefits, costs and implementation challenges associated with the options outlined.

Austroads received around 250 formal and survey submissions.

³² Austroads, *Have your say on proposed changes to the National Heavy Vehicle Driver Competency Framework*, 24 August 2022, available at: <https://austroads.com.au/latest-news/have-your-say-on-proposed-changes-to-the-national-heavy-vehicle-driver-competency-framework>.



5.2 Options included in the Consultation RIS

A summary of the options taken to the Consultation RIS is provided in **Table 6**.

Table 6: Summary of proposed initiatives included in the Consultation RIS

Option	Initiative
Option 1 – Competency refresh	<ol style="list-style-type: none"> 1. Expanding the existing 15 elements in the Licence to Drive units to identify over 150 areas for learning and assessment. This includes introducing online training for knowledge-based learning and heavy vehicle-specific hazard-perception skills 2. Introducing minimum training hours including behind-the-wheel hours 3. Maintenance of existing tenure-based licence progression arrangements, with introduction of two alternate experience-based options for progression: <ul style="list-style-type: none"> o driving experience o supervision program 4. Splitting the MC licence class into three 5. Requirement to hold an HC licence class before gaining an MC licence 6. Development of standard training and assessment materials for the revised Licence to Drive units 7. Development of national sound-practice governance and compliance monitoring including tools and templates
Option 2 – Competency refresh plus eligibility criteria	<ol style="list-style-type: none"> 8. Excluding drivers with recent high-risk driving history from gaining or upgrading a heavy vehicle licence 9. Requiring a person to hold an open licence before gaining an MR or above licence
Option 3 – Competency refresh, eligibility criteria plus supervised driving	<ol style="list-style-type: none"> 10. Requiring a period of post-licence supervised driving

Source: Frontier Economics

5.3 Views of stakeholders

This section focuses on analysing stakeholders' views as expressed formally through submissions to Austroads on the Consultation RIS. Stakeholder responses were also gauged via a survey published on the Austroads website. A summary of survey responses to the Consultation RIS are provided in Appendix H.



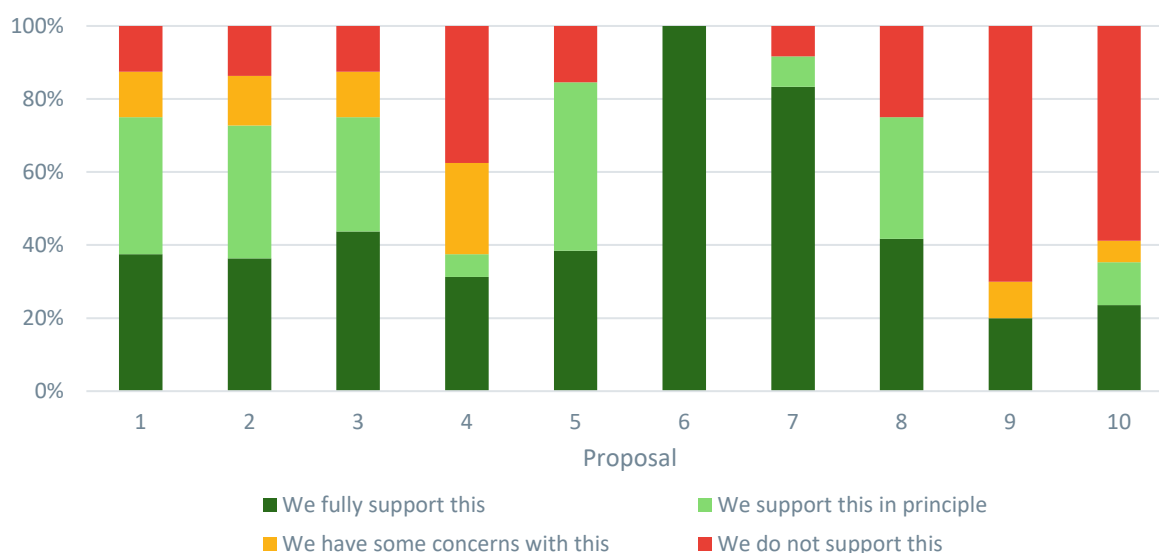
Stakeholder views varied by initiative. **Figure 2** illustrates the extent to which industry responded in favour of each proposed initiative. The majority of proposed initiatives were broadly supported. However, the following specific proposals faced pushback:

- Splitting the MC licence class into three sub-classes (Proposal 4)
- Requiring a person to hold an open licence before gaining an MR or above licence (Proposal 9)
- Requiring a period of post-licence supervised driving (Proposal 10).

Feedback received through the survey was mostly consistent with this.

Some more specific concerns were raised about the details of reform elements and the approach to their implementation.

Figure 2: Summary of industry support by initiative



Source: Frontier Economics analysis of formal responses to Consultation RIS

5.4 Key issues raised and changes made

Following feedback provided by industry, the initiatives proposed in the Consultation RIS were further developed. This section focuses on significant issues raised by industry representatives.

Where more specific changes have been made to a reform proposal in order to address feedback received, we have discussed this feedback when describing the reform to which it relates.

5.4.1 Introduction of eligibility criteria

Option 2 ('supervised driving plus eligibility criteria') in the Consultation RIS proposed that:

- Persons on a provisional/probationary car licence would be ineligible to apply for a medium rigid (MR) or heavy rigid (HR) licence.
- High-risk drivers (based on their recent driving history) would be excluded from applying for their first heavy vehicle licence or from upgrading to a higher heavy vehicle licence class.



Significant concerns were raised about the proposal to prevent a person on a provisional/probationary licence from gaining or upgrading a heavy vehicle licence. The main concerns raised were that:

- The proposal will exacerbate the problem of attracting young people to the industry, limiting supply of heavy vehicle drivers and therefore long-term industry viability.
- It targets the wrong issue, namely, the issue that drivers are not adequately competent, which could be addressed by further training. There is insufficient evidence to put this measure in place.

There were also concerns raised by some respondents around excluding persons with a recent significant traffic offence history. Some respondents considered that this would effectively punish a person twice and impact on driver availability. Others supported the proposal in principle but would like to see traffic offence history reported to employers with any action taken by employers not by government.

The option to prevent persons on a provisional/probationary licence from gaining an MR licence or above has been dropped from consideration at this time. Concerns related to imposition of a criteria related to a recent high-risk driving history are considered further in the impact assessment (see Section 7.3).

5.4.2 Post-licence supervised driving (Option 3 in the Consultation RIS)

The Consultation RIS included Option 3 (the ‘supervised driving, eligibility and refresh’ option), which included minimum requirements for supervised behind-the-wheel driving hours after applicants have obtained or upgraded their heavy vehicle licence.³³ Supervised driving would need to be delivered by an authorised supervisor.

There was significant pushback and strong concerns were raised about this proposal. The main concerns include:

- Benefits are limited as industry already implements (or is expected to) similar requirements. A number of industry associations have already implemented, or are progressing implementation of, voluntary programs that have a strong focus on behind-the-wheel components. In addition, most larger transport operators already have in place new employee programs that include supervised driving.
- There may be a significant cost impost for smaller operators and those with limited vehicle fleets. A significant proportion of heavy vehicle drivers do not work for transport operators, or work for small-to-medium entities that have limited capacity to support post-licence supervised driving.
- There may be operational and compliance issues for jurisdictions. There may be significant legislative, policy and system complexity in managing licence regression if supervision requirements are not met. Further, there are expected to be significant administration and compliance costs in ensuring that supervision was properly undertaken.

³³ It was proposed that drivers would need to complete their supervised driving hours in a heavy vehicle that belongs to their new/current licence class. Within the first 3 months of obtaining an MR or HR licence, it was proposed that the person would need to undertake a minimum of 4 hours of supervised behind-the-wheel driving. For an HC licence – within the first 3 months of obtaining an HC licence, the person would need to undertake a minimum of 6 hours of supervision. For an MC licence – within the first 3 months of obtaining an MC licence, the person would need to undertake a minimum of 8 hours of supervision.



As a result of this feedback, the proposal has not been pursued. As noted in submissions, extra behind-the-wheel experience required pre-licence could result in similar outcomes. This is achieved through Proposal 2, which pursues introducing minimum training hours (including behind-the-wheel hours).

5.4.3 Revisions to the MC licence class

Option 1 in the Consultation RIS (the ‘competency refresh’ option), included a proposal to split the MC licence class into three.³⁴

This was, in part, to account for the significant variation in vehicle types and hence vehicle dynamics within the MC class (which has expanded substantially since it was first introduced)³⁵ but also to account for the significant variation in crash rates between vehicle types (as shown in **Table 7** below).

Table 7: Major crash rates for MC licensed vehicles 2009–2019³⁶

Level	Vehicle type	Crash rate /100m kms ³⁷	Crash rate/10K vehicles
1a	B-double	9.6	141.5
1b	B-triple* (PBS B-coupled only)	3.8	77.0
2a	Road train (type 1) single dolly	23.0	286.8
2b	A-double* (PBS road train) single dolly	11.4	149.1
2a	Triple road train (type 2) (multi dolly)	23.9	296.4
3a	Quad road train (non PBS) (multi dolly)	41.6**	493.1**

Notes: *A PBS class of vehicle **Referenced publications plus tow truck operator data 2022 (averaged)

Source: Austroads 2014, NTC 2017, NHVR 2021 (averaged)

There was some in-principle support for this reform element. In parts of the country where there is extensive use of more complex combination vehicles, there was some industry support for the provision of more targeted skills development in very large vehicles.

³⁴ It was proposed that the MC licence class be split into three: MC1 – B-doubles or B-triples with B-couplings only (configurations with no dollies); MC2 – double and triple road train type 1 and 2 (configurations with one or two dollies); and MC3 – configurations with four or more trailers. A person would be able to progress from an HC to either an MC1 or MC2. An upgrade to an MC3 would be allowed from either an MC1 or MC2

³⁵ The split between MC1 and MC2 as proposed in the Consultation RIS was to separate vehicles with and without dollies. This was to allow driver training and assessment to be better targeted to the considerable difference in driving and handling techniques between vehicles with no dollies, double and triple road trains, and the quad road train configuration.

³⁶ Data drawn from studies undertaken by Austroads, NTC and NHVR.

³⁷ By way of example, every 100 million kilometres travelled by B-doubles there will be 9.6 major crashes.



Jurisdictions noted that the introduction of new sub-classes of MC licences will create costs and implementation issues associated with integrating the new classes into existing licensing arrangements. They noted that system changes for some states and territories could be quite complex.

Some concerns were also raised about the sufficiency of the evidence base for splitting MC1 and MC2.

Finally, consultation also highlighted practical access issues and limitations in the availability of training providers to provide learning and assessment for vehicles in the MC2 and, in particular, MC3 proposed classes. It was noted that there are limited routes on which very heavy combination vehicles can operate. As a consequence, a number of existing MC licence training providers may be unable to offer services for the proposed MC2 or MC3 classes.

In response to the feedback, Austroads then considered splitting the MC licence class into two instead of three. The two classes being:

1. super combination (SC) – triple road trains and vehicles with four or more trailers
2. MC – all existing MC vehicles excluding those in the new SC class.

However, the same issues which would have been encountered in delivering training and assessment for MC2 and MC3 class vehicles would be experienced with the proposed SC class. Some states expected that they would have no training providers available in SC class.

This suggests that the ability of the training market to cost effectively support delivery of programs for any split of the current MC class is questionable and that it may be worth considering a mechanism, other than licensing, for increasing competency development for people driving very large heavy vehicles. Therefore, this reform element is not being progressed as part of Option 1.

That said, Austroads will investigate options for pursuing the outcome of enhanced skill development for this small cohort of drivers through mechanisms other than licensing (see Section 9.2).

5.4.4 Progression from HR to MC

The Consultation RIS included within Option 1 a new requirement to hold an HC licence class before gaining an MC licence. Currently some jurisdictions allow applicants to move directly from an HR licence to an MC licence, therefore skipping the HC class. Therefore, under the reform elements in Option 1 this would be prevented.

Feedback from stakeholders commented that it was more important to focus on competency, not time on lower class licences.

In reviewing this element, consideration was given to the experience of countries that allow rapid progression. In the European Union, Canada, and the United States it is possible to progress directly from a car licence to the heaviest vehicle class licence; however, training requirements are generally substantially greater than in Australia. Training programs typically range from 120–280 hours. Therefore rapid progression to higher class vehicles is enabled by more stringent experience and skill-building during the pre-licensing phase.

These arrangements are not all that different from what is proposed under Option 1 more generally. This is because the new progression pathways will enable applicants to progress more



quickly with greater behind-the-wheel experience, or with direct supervision to enable additional skill development. On this basis this reform element remains a part of Option 1.

5.4.5 Support for a national approach

As outlined in Section 2.4 one of the problems with the current approach to heavy vehicle licensing is the lack of consistency in approach across jurisdictions. A number of stakeholders highlighted the importance of this moving forward.

- “There is unacceptable variation in jurisdictional practice with regard to heavy vehicle licensing, including between the jurisdictions that have adopted the Framework.”³⁸
- “The Consultation RIS rightly points out that despite past agreements to adopt a consistent approach to heavy vehicle driver licensing, the reality is that each state has different and varying requirements that undermine this objective and create many problems. This includes difficulties and unnecessary costs for companies trying to understand and work with the various nuances across the states. This unnecessary cost provides little benefit except maybe to those who want to “shop around” for the best or easiest option.”³⁹
- “A national and standardized approach is strongly supported (this) will better clarify and agree the core safety requirements and criteria associated with heavy vehicle licensing for government and across the transport supply chain. A standardized approach will remove the incentive to obtain a licence in a state or territory that is perceived to have less onerous licence assessments procedures and transferring to another state with more perceived stringent requirements.”⁴⁰

³⁸ Submission from NatRoad on the Consultation RIS.

³⁹ Submission from Ron Finemore on the Consultation RIS.

⁴⁰ Submission from the National Heavy Vehicle Regulator on the Consultation RIS.



6 Reform options considered in the Decision RIS

Key points

Two options for improving the NHVDCF have been proposed:

- **Option 1** ('competency refresh' option) consists of a number of elements designed to enhance the standard of driver training and assessment by increasing the focus on factors known to improve driver competency. It was developed by packaging together proposed reform elements that were complementary and well supported.
- **Option 2** ('eligibility criteria' option) aims to ensure licensing arrangements take into account the key factors known to increase an applicant's future risk of crashing. It does this by preventing inexperienced drivers and individuals with a recent history of driving bans from obtaining or upgrading a heavy vehicle licence through the introduction of heavy vehicle licence eligibility criteria. Two criteria are considered in separate sub-options. These criteria could be implemented in isolation or in combination.

In practice Option 1 and Option 2 could be implemented together.

6.1 Overview

A summary of the reform options being considered are set out in this section.

Option 1 was developed by packaging together proposed reform elements that were complementary and well supported.

Option 2 relates to the introduction of new licence eligibility criteria. Two criteria are considered. These could be implemented in isolation or in combination.

Each option has been compared to a business-as-usual base case. However, Options 1 and 2 are complementary in the sense that they can both be adopted.

**Table 8:** Overview of key elements of reform options

No.	Reform option
Option 1: Competency refresh	
1.1	Introduction of enhanced and expanded competencies
1.2	Online delivery of knowledge-based elements of assessment
1.3	Supporting mechanisms to improve the quality of training including minimum training times.
1.4	Amendments to progressive licensing requirements
Option 2: Eligibility criteria	
2	Introduction of eligibility criteria (sub-options below)
2a	Requiring an open licence before a driver is eligible for an MR or above licence
2b	Excluding drivers with a licence suspension or disqualification within the last two years from gaining a first MR or HR heavy vehicle licence or upgrading a heavy vehicle licence.

Source: Austroads

6.2 Option 1 – Competency refresh

Option 1 consists of four key features designed to enhance the standard of driver training and assessment. It also includes elements aimed at reducing regulatory burden, namely, moving to online delivery of training and assessment for knowledge-based elements and amending the current licence progression framework.

6.2.1 Introduction of enhanced competencies

Expanded set of knowledge and skills

Under this reform initiative the list of competencies that are assessed under the NHVDCF will be expanded to cover a wider set of knowledge and skills that are necessary to drive a heavy vehicle safely. While the 15 modules of the current NHVDCF are essentially sound, they provided insufficient specificity to ensure the full suite of required skills and knowledge were covered.

The overall new proposed competency program includes over 150 elements (see Appendix B). These address deficiencies with the current NHVDCF and jurisdictional licensing training and assessment approaches, identified through:

- Consistent industry feedback which suggested that newly licensed drivers are not sufficiently skilled or job ready, and industry views (gained from past Austroads industry surveys) of the importance of behind-the-wheel experience in training programs.
- Findings of various coroner's investigations.



- Findings from the Senate Rural and Regional Affairs and Transport Reference Committee – *Aspects of Road Safety in Australia: Final Report*.

The revised and expanded elements were developed based on research, industry input, a review of overseas approaches and domestic and international heavy vehicle training material. Trainers and selected training providers (including the Defence Force) were also engaged to develop and refine the elements.

While competency elements are repeated across vehicle classes, the content and learning are vehicle specific, and the framework assumes that capability in lower-class heavy vehicles has already been achieved. Therefore, for each upgraded licence class the trainee will be learning knowledge and skills that are specifically focused on that vehicle class. In other words, previously obtained capability is not reviewed.

Attitudinal training

In addition to focusing on skills and knowledge, the enhanced NHVDCF also includes a unit focused on a driver's attitudes and approach to the driving task (or affective state). Following are the key focus areas of the planned unit:

- raising awareness of relevant road safety issues and their impact (e.g., fatigue)
- challenging drivers' key beliefs regarding unsafe behaviour (e.g., sharing the road environment)
- motivating drivers to generate strategies to avoid situations that may place themselves and others at risk on the road (e.g., show courtesy when driving)
- achieving a commitment to incorporate one chosen risk reduction strategy in each driver's daily driving.

This unit is expected to be interactive and delivered by approved trainers virtually via Zoom/Teams. It is estimated it will take two hours to complete. Austroads will lead work to identify and approve suitable persons/organisations to deliver this training. This unit will only need to be conducted once, as part of gaining a first heavy vehicle licence, and so is expected to encourage positive behaviours and attitudes in inexperienced drivers.

Hazard-perception training and assessment

Option 1 also involves introducing heavy vehicle-specific hazard-perception training and assessment on gaining of a first heavy vehicle licence. Research has found a strong connection between hazard-perception testing (HPT) results and real-world crashes.⁴¹ Research has also found that hazard-perception training can improve safe on-road driving. Light vehicle licensing already includes HPT and is being introduced for motorcycle licensing in some jurisdictions. It is anticipated that one HPT will be developed to be undertaken when first obtaining a rigid licence.

Industry reports that drivers are often not job ready and that additional investment is required by employers to bring them up to standard. The enhancement and strengthening of competencies could improve the safety-related skills of new drivers and so address an element of this concern.

⁴¹ See references cited in Section 7.2.



This additional training is intended to develop higher order cognitive skills, in addition to vehicle handling and driver knowledge, and research suggests this will produce better safety outcomes (see Section 7.2.1).

The competencies and training and assessment approach have been based on research and adult learning principles. More detail about the learning framework is provided in Appendix C.

6.2.2 Incorporating online delivery of knowledge-based elements

Training and assessment against the enhanced competencies is expected to increase the length of training required.

To counter this, Option 1 also envisages that online learning will be used as a cost-effective way of building prospective drivers' foundational knowledge in some areas, reserving classroom and practical work for more complex integration and application-focused learning. Online learning approaches have the potential to be more engaging than the current paper-based theory approaches used by most training organisations. Online learning programs can also be done progressively at a place and time that suits the learner.

Of course, face-to-face and hands-on behind-the-wheel training is critical. In order to get the balance right the NHVDCF review considered and identified the most appropriate method of delivery and assessment for each individual competency element included in the framework. This was informed by research on the ways that people learn.

As a result of this, Option 1 proposes that training be broken into two stages (using three instructional methods):

1. Online learning modules – Option 1 includes the introduction of mandatory online learning modules to be completed prior to enrolling in a formal training program. This will include training and testing against some existing and proposed competencies. Most notably, the HPT will be conducted online.
2. Knowledge and skill development during formal training which is broken into:
 - face-to-face classroom-based training, and
 - in-the-yard and around-the-vehicle and behind-the-wheel training.

It is envisaged that foundational knowledge built through online learning will be reinforced through classroom learning and further embedded through practical application while driving and working around the vehicle.

The following table identifies the anticipated break up of time per instructional method by licence class.

**Table 9:** Breakdown of instructional method by licence class

	LR	MR	HR	HC	HC – MC
Online	40%	40%	40%	10%	35%
Driving and yard	35%	35%	35%	60%	45%
Classroom	25%	25%	25%	30%	20%
Total	100%	100%	100%	100%	100%

Source: Austroads

It is recognised that online learning will not suit all people. For those unable to undertake online training (e.g., because of limited internet access or literacy challenges), trainer-facilitated options or modified online options will be developed. These may include the use of the online content by the trainer, supplemented with in-person support.

6.2.3 Supporting mechanisms to improve quality of driver training

Driver training and assessment materials

Austroads has developed training and assessment material for all classes of heavy vehicle licences to meet the competencies set out in the NHVDCF.

Standardisation of training and assessment material will help to promote a sound-practice approach and assist in ensuring that interstate drivers meet the required level of competency in all the jurisdictions in which they operate. The way jurisdictions use this Austroads-developed material will vary for online and face-to-face modules:

- National online training and assessment modules will be used by jurisdictions as part of their licensing requirements. These modules are expected to be adopted by all jurisdictions. Online content will build driver knowledge, which will be assessed using methods such as multiple choice and scenario building (e.g., what is next). Knowledge is the foundation on which skill is developed and will be a precursor to face-to-face learning.
- Face-to-face training and assessment modules will be made available to jurisdictions that can modify them to meet local requirements. Jurisdictions will decide whether to mandate the use of this material.

The training and assessment material would be subject to an agreed review cycle by Austroads. Initially, it is proposed that a review would be conducted on a short cycle (e.g., 6 to 12 months after their initial release). Following this, reviews would be undertaken less frequently and would align with a periodic review of the competency criteria in the NHVDCF.

As is currently the case, jurisdictions will continue to decide whether training and assessment is insourced or outsourced.



Other materials to support a more consistent approach to management of outsourced training provision

Option 1 also envisages that Austroads will develop material to support consistent jurisdictional management and oversight of heavy vehicle training and assessment providers. Draft material has been developed and includes:

- Training provider approval framework (key eligibility criteria).
- Standards covering delivery, reporting and non-compliance for inclusion in contracts.
- Skills/qualifications/experience required for trainer/assessors including any ongoing professional development.
- A template audit (compliance monitoring) tool.
- Skills/qualifications/experience required of auditors (compliance officers).

The above tools and materials will be provided to jurisdictions who may modify them for local use.

Minimum training and behind-the-wheel time

Where training is mandated as part of jurisdictional licensing arrangements, one of two VET-sector nationally recognised qualifications are generally required – *Licence to Drive* or *Drive a Heavy Vehicle*. In line with the principle of competency-based learning, no minimum times are set for VET-sector courses, although often a volume of learning range (minimum to maximum recommended periods) are specified. In the case of the two heavy vehicle licensing units there are no specified volume of learning ranges.

It is therefore up to the commercial market to determine the length of training courses offered. While, in theory, the time take by each individual is based on their own learning and competency journey, courses are advertised for set periods and anecdotal advice is that enrollees are generally passed within this set period.

Industry has also provided consistent feedback about the importance of behind-the-wheel experience, and industry-sponsored training programs place considerable focus on this aspect of learning and skill development.⁴²

In response to this feedback, and to ensure an adequate standard of training that meets licensing regulatory requirements, Option 1 proposes the NHVDCF include mandated minimum training and assessment periods with minimum behind-the-wheel periods as part of the overall training program. The introduction of mandated minimum training hours for programs that support a regulatory certification is already in place in several other industry sectors.

To develop these minimums, timings were estimated for each element of the enhanced NHVDCF. These were developed by asking trainers and selected training providers how long it would take to train or build competency in each element, and then averaging the input from these experts. These times were split based on whether training was best conducted online, face to face or behind the wheel/in the yard. This split was based on advice from Professor Sharon Newnam as

⁴² For example, the Queensland Trucking Association suggested that four days of classroom training followed by 160 hours of supervised driving was required to appropriately train a heavy vehicle driver. The Victorian Transport Association training program has a period of classroom learning followed by 48–72 hours behind-the-wheel time – 72 hours for first time licensees and 48 hours if upgrading a licence.



to the nature of the learning (as discussed in Section 6.2.2 above). It will remain open to providers to provide longer courses, either across the board or to ensure competency of individual licence applicants. The intent of minimums is to provide a floor level of training and experience to meet regulator’s responsibilities of licensing safe and competent drivers.

The following table compares current market practice (average course lengths⁴³ as well as unusually short courses) to both sound practice (as determined by government funding programs,⁴⁴ selected industry association and government sponsored programs) and the recommended minimums proposed under Option 1.

⁴³ As found in a survey of providers in work reported in *IR-268-18 Review of National Heavy Vehicle Driver Competency Framework – Austroads 2018*. Survey responders were generally recognised as the more professional training providers. In addition, as part of the work program to support these reforms Professor Kim Hassall examined current training offerings.

⁴⁴ A number of governments offer free or subsidised licensing courses as part of employment programs. These programs set nominal hours of training. The figures shown in the table are those in the *Victorian Purchasing Guide for TLI Transport and Logistics* Release 13.0, December 2022, Department of Education, Victoria.

**Table 10:** Comparison of minimum course lengths by licence class proposed under Option 1 with current commercial practice and measures of best practice

	Current commercial practice		Current best practice		Recommended NHVDCF minimums under Option 1. [^]
	Unusually short courses*	Average available course lengths*	Hours nominated by government funding agency	Industry and government sponsored programs	
LIGHT RIGID	4 hours	6–8 hours	40 hours		20.5 hours: 10 hours online; 4.5 hours of class-based learning and 6 hours of behind-the-wheel time
MEDIUM RIGID	4–7 hours	8–12 hours	40 hours		20.5 hours: 10 hours online; 4.5 hours of class-based learning and 6 hours of behind-the-wheel time
HEAVY RIGID	4–7 hours	8–15 hours	50 hours	6 weeks – WA Govt-sponsored Heavy Vehicle Driving Operations program 28 hours of classroom followed by 160 hours of behind-the-wheel- (Queensland Trucking Association) Classroom followed by 72 hours of behind-the-wheel (Victorian Transport Association)	24.5 hours: 10 hours online learning; 4.5 hours of class-based learning and 10 hours of behind-the-wheel time
HEAVY COMBINATION	4–7 hours	8–20 hours	60 hours	Classroom followed by 48 hours of behind-the-wheel (Victorian Transport Association)	19 hours: 4 hours online learning; 4 hours of class-based learning and 11 hours of behind-the-wheel time
MULTI-COMBINATION	4–7 hours	12–20 hours	60 hours		25.5 hours: 10 hours online learning; 4 hours of class- based learning and 11.5 hours of behind-the-wheel time

* excludes expected self-paced pre-course learning and knowledge tests which are estimated at 5 hours

[^] In addition, on first gaining an HV licence, hazard-perception training and assessment of 1.5 hours will be required

Source: Austroads



What is evident from the table is that:

- Current commercial offerings of heavy vehicle licence programs are sometimes well below sound practice. Even after accounting for expected self-paced pre-course learning which is estimated at five hours.
- Industry expects substantially more behind-the-wheel time to develop a competent driver than is found in current commercial offerings.
- The proposed NHVDCF minimums under Option 1 are moderate in that they remain below sound-practice levels but provide a floor level of learning and experience which will exclude the continuation of current offerings that are patently too short to develop a competent driver.

Box 5: Improving training standards through existing VET-sector arrangements

Current Licence to Drive training and assessment programs are delivered under the VET umbrella and are subject to the standard approval and oversight functions of this sector.

There are varying views about whether heavy vehicle licensing programs should be managed directly by licensing authorities or continue to be managed through the VET sector. Licensing authorities are aware of the benefits that come from licensing programs being part of this sector, including the availability of government funding which is generally restricted to VET-sector approved courses. However, there are also concerns that the current regulatory oversight arrangements do not focus on the quality of training delivery including whether the program aligns with the standard expected by licensing regulators.

As part of implementation planning, discussions will be held with the VET-sector regulators and training providers to determine how increased standards, including potential introduction of minimum training times (which have been imposed by other regulators), could be achieved within a VET-sector arrangement if this continues to be preferred.

Source: Austroads

6.2.4 Amendments to progressive licensing requirements

As noted in Section 4.4, at present drivers must hold a licence for a particular heavy vehicle class for a minimum period of one year before being eligible to progress to the next higher heavy vehicle class. As discussed in Section 2.2 these tenure requirements do not guarantee that a person has had any relevant or substantive, behind-the-wheel experience. This is a problem as a lack of driving experience is a key risk factor affecting road safety.

To address the concerns of industry as well as the direction of National Cabinet, two experience-based pathways have been developed and are proposed to operate in conjunction with the existing tenure pathway.

These new pathways will allow a driver to progress more rapidly to a higher heavy vehicle class than is possible currently. These two additional pathways will enable career heavy vehicle drivers who wish to move into more productive heavy vehicles to do so after demonstrating that they have gained experience in lower class vehicles.



It is important to note that these three pathways will coexist in parallel. Therefore, a driver will be able to choose which pathway suits them. Further they may choose a different pathway at various points in their progression up the heavy vehicle licence classes (e.g., via tenure when going from MR to HR and driving experience when going from HR to HC).

The three proposed pathways are:

1. *Tenure alone*, as per current arrangements where a driver is required to hold a licence for a minimum of 12 months.
2. Evidence of a *minimum of heavy vehicle driving experience* as outlined in **Table 11** – The minimum amount of total driving experience varies by class.
3. Participation in a *supervision program* over a minimum period as outlined in **Table 11** – The supervision program will comprise a minimum number of total work hours and supervision. The duration of the supervision program will vary depending on the licence class.

A summary of the proposed additional expedited pathways for licence progression is provided in **Table 11**.⁴⁵

The supervision program pathway offers the fastest progression route as, over and above driving experience alone, there appears to be additional value generated through supervised driving. By way of example, the benefits of supervised driving for novice car drivers (in the form of decreased crashes and traffic offences) is well documented both overseas and in Australia (see Section 7.2 for further discussion of this).

Table 11: Proposed additional expedited pathways for licence progression

Progression	Supervision program pathway	Driving experience pathway
MR or HR to HC	<ul style="list-style-type: none"> • Minimum 420 hours of work experience in an MR or HR vehicle • Minimum 6 x 2-hour blocks or equivalent of supervision, including behind-the-wheel driving • Minimum period of 12 weeks 	<ul style="list-style-type: none"> • Evidence of 600 hours of driving in MR or HR class vehicles over a minimum of 26 weeks
HC to MC	<ul style="list-style-type: none"> • Minimum 560 hours of work experience in an HC vehicle • Minimum 8 x 2-hour blocks or equivalent of supervision including behind-the-wheel driving • Minimum period of 16 weeks 	<ul style="list-style-type: none"> • Evidence of 700 hours of driving in HC class vehicles over a minimum of 26 weeks

Source: Austroads

⁴⁵ There is currently no requirement to hold an LR licence before obtaining an HR or MR licence. This remains unchanged from current practice, so there is no specific pathway for LR licences outlined.



Tenure pathway

Experienced-based pathways are preferred over the tenure pathway because they ensure that drivers have built their competence on lower class vehicles before progressing to heavier vehicles. However, the tenure pathway has been retained so as not to close off opportunities for people who have limited access to a vehicle.

Supervision program pathway

Drivers who provide evidence of completion of the supervision program will be eligible to move up to the next heavy vehicle class in 3–4 months rather than the current 12 months.

The program would be delivered by an authorised supervisor. It is anticipated that this will generally be someone nominated by the driver's employer; however, it will also be possible for an external third party to be a supervisor.

To be an authorised supervisor a person will need an appropriate approval or certification. It is proposed that this certification will be a combination of the following:

- Have held a heavy vehicle licence of the relevant class for at least 2–5 years.
- Have completed a specific credential (to be developed by Austroads) which will be delivered either online or face to face. Estimated time to undertake the training and assessment will be less than one day.

The supervision program would involve a series of documented discussions and identification of learning goals that would be expected to involve the following key steps:

1. An initial, accompanied driving session and also any non-driving related tasks which would include completion of a record such as the sample provided at Appendix D
2. A discussion between supervisor and driver about areas where competency could be improved or where specific driving or non-driving experience is required.
3. A record of the discussion and agreement such as in a journal or checklist.
4. A period of solo driving and non-driving tasks with the driver recording notes or evidence of experience in the journal or checklist.
5. A discussion between driver and supervisor about the learnings and experience since the last session, which may or may not also involve some practical demonstration of competence via an accompanied drive. An update of the journal or checklist.
6. Repeat of steps 3–5 until the supervisor is satisfied that the driver has achieved sufficient breadth and depth of competence.

It is expected that this pathway will be particularly attractive to industries which have already invested in driver supervision programs.

Driving experience pathway

Individuals who provide evidence of completion of the minimum driving hours will be eligible to upgrade to the next highest heavy vehicle class in 6 months rather than the current 12 months.

This approach provides an experience-based pathway that requires little or no additional overhead to the driver or the employer. This ensures that sole, small and medium-size operators will also have access to an expedited pathway without investing in a supervision program.



All that will be required is evidence of completion of driving hours. The practical mechanisms for establishing this will need to be worked through in conjunction with industry as part of implementation planning, however it could include options such as:

- in-vehicle telematics data or another technology-based approach
- work rosters and work diaries – It is noted that these records include both driving and non-driving time, and options such as standard assumptions around the split of driving and non-driving time could be explored.

Progression from HR licence to MC

Currently some jurisdictions allow applicants to move directly from an HR licence to an MC licence, therefore skipping the HC class. It is proposed that all applicants for an MC licence will have first had a period on an HC licence to enable them to build their capability and skills in driving less complex combination vehicles before moving to an MC licence.

Under existing tenure arrangements this would imply it would take an additional year for a heavy vehicle driver to progress from an HR to an MC licence. However, it is anticipated that most heavy vehicle drivers in this position would take one of the alternative progression pathways (as outlined in the section above) such that the time to progress would likely be between 14 weeks and 6 months.

Feedback from industry on this reform element is discussed in Section 5.4.4.

Combined impact on progression

The implications of the proposed changes in Option 1 on the pathways for licence holders to progress from the rigid classes (MR and HR) to the HC and MC classes are shown in **Table 12** and **Figure 3** below.

Table 12: Pathways for licence holders to progress from the Rigid classes (MR and HR) to MC class

	Minimum timeframes under current arrangements	Minimum timeframes with access to alternative pathways
MR or HR to HC	12 months	12 weeks–12 months
MR to MC	24 months	28 weeks–24 months
HR to MC	12 months	28 weeks–24 months

Source: Frontier Economics

The introduction of the requirement to hold an HC licence before progressing to an MC licence may, for some drivers, extend the time required to drive the most complex of vehicles. This would only be the case if drivers took the tenure pathway. However, it is important to recognise that Option 1 introduces new pathways to progression that are faster or equal in timeframe to current arrangements:

- The *supervision program pathway* delivers an MC licence in approximately six months instead of the current 12 or 24 months from an MR or HR licence.

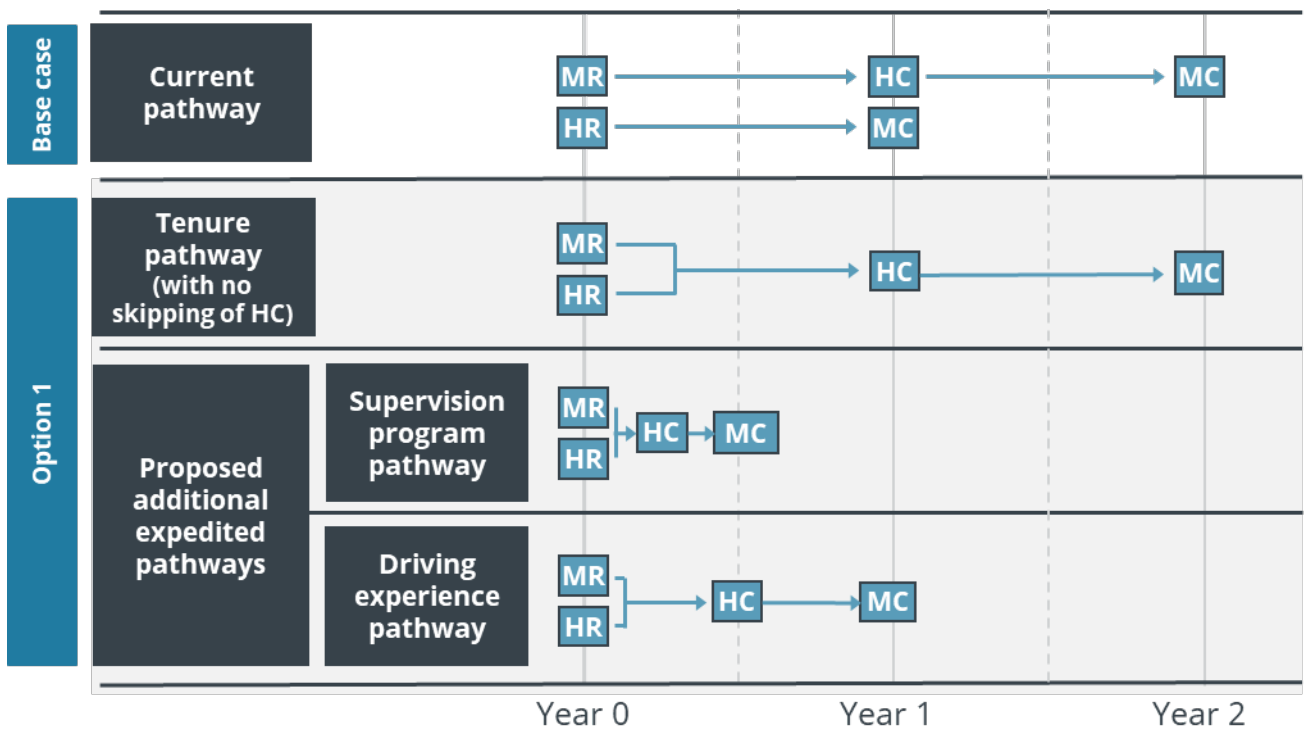


- The *driving experience pathway* delivers an MC licence:
 - in the same timeframe as the existing HR to MC pathway
 - one year faster than the current MR to HC to MC pathway.

Under Option 1, the only groups who will have an extended heavy vehicle licensing pathway are those drivers progressing to an MC licence who choose to remain on the tenure pathway and would previously have taken the HR direct to MC class route.

It is expected that most, if not all, heavy vehicle drivers will take the experience and/or supervision-based pathways to obtain an MC licence, meaning they will be able to achieve this in the same or less time than is possible under the current pathways.

Figure 3: Time involved in moving through progression pathways under current tenure arrangements and under Option 1 with additional pathways






Source: Frontier Economics

The following table outlines the step differences in vehicle combinations between HR and MC vehicles, highlighting the significant jump in vehicle complexity between HR and MC class vehicles, and supporting the requirement to have a period on an HC licence before moving to an MC licence.



Table 13: Proposed progression pathways by licence class

Licence classes	Sample configurations (indicative only)			Fastest progression time from HR			
	Image	Max length	Max mass (GML)	Proposed pathways			
				Current	Tenure	Driving experience	Supervision program
HR		12.5 m	30.0 t	-	-	-	-
HC		19.0 m	42.5 t	12 months	12 months	6 months	12 weeks
MC		26.0 m	62.5 t	12 months	24 months	12 months	28 weeks

Source: Frontier Economics, Austroads. Images supplied by the NHVR.



6.3 Option 2 – Eligibility criteria

Option 2 involves the introduction of new **eligibility requirements**. The new eligibility requirements relate to applicants being required to demonstrate low-risk driving history and experience on a car licence. Two sub-options have been considered.

- Requiring an applicant to hold an open licence before gaining an MR or above licence.
- Excluding drivers who have had a licence ban or suspension in the previous two years from gaining a first MR or HR licence or upgrading a licence class
- This option can be progressed with or without the reforms proposed in Option 1.

6.3.1 Requirement to hold an open C class licence to obtain an MR or HR licence

This sub-option would require an applicant to hold an unrestricted (open) driver's licence before they can apply for an MR or HR licence. This is supported by the MUARC research in both Queensland and Victoria (cited in **Box 4**), which found that heavy vehicle crash risk was greater for drivers endorsed for a MR or HR licence while still on a P2 car licence.

Drivers with an open car licence are likely to have greater behind-the-wheel experience (by virtue of the minimum period of time that drivers are required to hold a provisional licence) and are less likely to engage in unsafe driving practices.

This change would prevent applicants with a provisional/probationary (P1 or P2) car licence from applying for an MR or HR licence. All Australian states and territories impose age restrictions on when a driver can apply for a provisional/probationary car licence, and minimum periods of time that a driver must hold that licence before being issued an open licence. As a result, this change would have the effect of increasing the earliest age at which an applicant would be permitted to apply for an MR or HR licence.

MUARC's research found no statistically significant increase in crash risk for people who moved from a car licence to an LR licence, and therefore this option assumes a person can continue to apply for an LR licence while on a P2 licence.

It is recognised that this may have a negative impact on young people entering the heavy vehicle industry; however, this change is being proposed because of the evidence of the safety risk associated with these younger drivers.

While there are likely to be a range of factors that influence young people's views about the attractiveness of the heavy vehicle industry as a career, it is recognised that regulatory restrictions will be a contributing factor. In response to these concerns, Austroads is considering trialling a young heavy vehicle driver program (see **Box 6** and Section 9.2). The aim of this program would be to understand if additional, significantly more substantive, training and supervised behind-the-wheel driving can offset the crash risk posed by younger, less experienced drivers.

**Box 6:** Trialling a young driver heavy vehicle program

While there have been significant reductions in young driver involvement in fatal and serious road incidents over the past 10 years (BITRE, 2020), young drivers continue to be over-represented. This risk associated with young drivers is recognised by the heavy vehicle insurance industry with considerable financial penalties and restrictions (e.g., carrying of certain commodities) placed on drivers under 25 years. It is also reflected in legislative provisions which restrict a person from gaining a heavy vehicle licence until they have held a car licence for at least one year.

Industry is seeking to attract younger people to a career as a heavy vehicle operator and has been supported by government in this endeavour through initiatives such as cadetship and apprenticeship schemes. While these schemes focus broadly on the range of duties and responsibilities in the heavy vehicle industry, driving is a part of that overall landscape and some industry members are wanting to explore opportunities to introduce young drivers to heavy vehicle driving at an earlier age. These proposals typically include elements such as intensive training, mentoring and supervised driving, as well as restrictions such as types of vehicles that can be driven and limitation to driving with the nominated participating employer.

While there have been a number of small-scale trials overseas, there has been no comprehensively evaluated program that has assessed whether it is possible to mitigate the risk posed by younger drivers. Some jurisdictions have previously considered programs to enable younger people to commence driving heavy vehicles at an earlier age but these have not progressed.

While not under active consideration as part of the options proposed in this RIS, the formal development and evaluation of a younger drivers heavy vehicle pilot trial is proposed as part of the future work program in this space.

Source: Austroads

6.3.2 Exclusion of people who have had a licence ban or suspension in the previous two years from gaining a first MR or HR licence or upgrading a licence class

Safety modelling analysis undertaken by MUARC on Victorian and Queensland heavy vehicle licence holders found a higher crash risk for drivers with a recent history of licence bans or serious traffic offences. This sub-option, which has been developed based on these research findings, would involve the addition of new eligibility criteria related to an applicant's driving history, that is, excluding a person who has had a licence ban, suspension or disqualification in the previous two years from gaining or upgrading a licence.



7 Impact assessment

Key points

To inform the impact assessment of the different policy options (and sub-options) a quantitative cost–benefit analysis (CBA) has been prepared. This is also supported by qualitative assessment of the impact of the options on driver availability and productivity. Key findings of the impact analysis are as follows:

- *Option 1* is expected to generate road safety and productivity benefits. The reform elements in this option are also well supported by stakeholders. Based on the quantified road safety benefits alone the option does not appear to be of net benefit. However, we expect significant productivity benefits to arise from revisions to the progressive licensing requirements, which would enable drivers to operate larger more complex vehicle types more quickly. This is expected to enable increased utilisation of these more productive vehicles.
- *Options 2a and 2b* would deliver more substantial net benefits; however, stakeholders have raised some concerns with the potential impact on young drivers entering the industry and with criteria that may implicitly further punish individuals for past offences.

7.1 Overview of assessment approach

A Decision RIS should assess how each policy option will lead to incremental changes in the benefits and costs for industry, government and the community.

For this Decision RIS, a quantitative cost–benefit analysis (CBA) has been prepared to inform the impact assessment. This is also supported by qualitative assessment.

The main benefit categories considered in this analysis relate to anticipated reductions in heavy vehicle crashes and improvements in industry productivity. The key cost categories include additional training and assessment costs for prospective drivers, supervised driving costs for industry and implementation costs for governments.

7.1.1 Overview of cost–benefit analysis

CBA is an assessment tool which compares the costs associated with a potential intervention with the benefits from society's point of view. It is typically used to compare options to identify a preferred option.

The analysis is incremental meaning it looks to identify additional costs and benefits over and above a base case (the absence of an intervention).

The key steps for undertaking the CBA include:

- defining the base case and options (see Sections 4 and 5)
- identifying impacts



- seeking data to value impacts
- undertaking CBA
- distributional analysis
- qualitative assessment of impacts that cannot be valued.

Costs and benefits tend to be incurred over a number of years. Some costs may be incurred upfront while benefits often accrue over years. Therefore, to directly compare the costs and benefits of different options over time, these impacts must be profiled over time based on the best available information for the period over which they are expected to occur. To enable comparison of these costs and benefits over time they need to be converted into a present value. This involves discounting these future costs and benefits. The discount rate applied to do this reflects the time-value of money: society's preference for a dollar of benefit today rather than a dollar of benefit in a year's time. The Office of Impact Analysis recommend using a 7% per annum (real) discount rate.

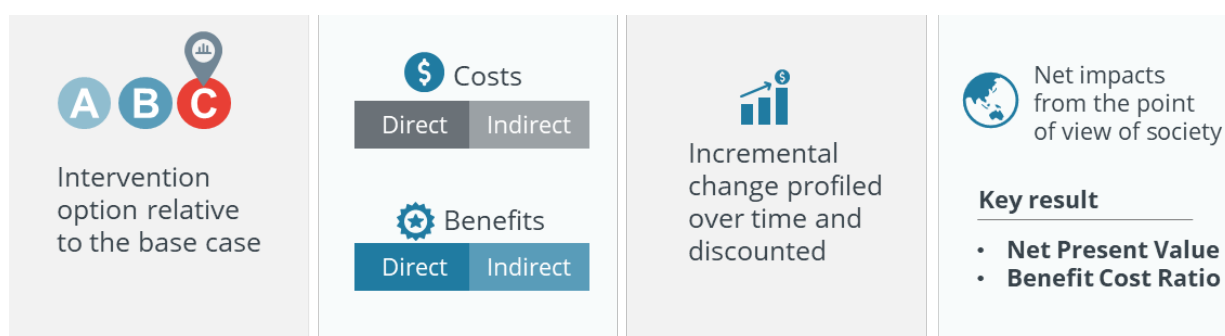
Once the costs and benefits have been profiled and discounted, the key results of the CBA emerge. The two key results are the benefit–cost ratio and the net present value.

- **Benefit–cost ratio** is the total present value of benefits divided by the total present value of costs.
- **Net present value** is the total present value of benefits minus the total present value of costs.

An option with a benefit–cost ratio of greater than one and a positive net present value is net beneficial to society, that is, the benefits of the option outweigh the costs. At this stage the option with the highest net present value should typically be the preferred option.

The broad CBA process is represented in **Figure 4**.

Figure 4: CBA overview



The CBA has been developed to be consistent with the Australian Government Guide to Regulatory Analysis⁴⁶ and the Office of Best Practice Regulation's cost–benefit analysis guidance note.⁴⁷

⁴⁶ Commonwealth of Australia (2020), *Australian Government Guide to Regulatory Analysis*.

⁴⁷ Office of Best Practice Regulation (2020), *Cost-Benefit Analysis: Guidance Note*.



The impacts included in the analysis are those outlined in Section 7.1.2.

This analysis draws on a broad range of data and makes a number of assumptions. For transparency, Appendix E provides details of all input and data assumptions used in the analysis. The costs included in the initial CBA were estimated on a bottom-up basis from these inputs. These assumptions were tested with stakeholders during the Consultation RIS process and any relevant feedback has been incorporated into the updated analysis.

7.1.2 Impacts considered

In order to undertake an impact assessment, it is first necessary to understand the impacts themselves. Considering impacts qualitatively can help ensure that outcomes are identified rather than intermediate implications. It can also avoid other issues such as double counting (where the same impact is captured in two different ways within the same analysis).

Under the base case (business as usual), costs are already incurred:

- Prospective drivers incur costs in seeking a licence.
- State and territory governments/licensing authorities incur costs in maintaining (and in some cases operating) heavy vehicle driver training and assessment arrangements.
- Outsourced training providers incur costs in providing heavy vehicle driver training and assessment.
- Society incurs costs associated with heavy vehicle crashes caused by driver competency issues.

The various features of the options being considered will change the nature and extent of these costs. In particular they may change:

- Government/authority implementation and ongoing administration costs – associated with developing and implementing legislation and policy, new training content and systems, or integrating revised licensing conditions into existing systems (e.g., IT system change).
- Driver and licence applicant's costs – associated with any additional time required to undertake the required training or assessment.
- Industry costs – associated with any additional supervised driving requirements and the hours associated with this.
- Trainer and assessor costs – associated with any additional time and effort required to provide the training or assessment.

Of course, the options being considered will also reduce some costs incurred or drive additional benefit relative to the base case. They may result in:

- Improved road safety outcomes or reduced costs for society as a result of a reduction in heavy vehicle crashes. This benefit would be the result of improving the competency of drivers either as a result of improvements in driver training (through improved, more targeted competencies and more behind-the-wheel time) and/or a reduction in the number of higher risk heavy vehicle drivers on the road due to eligibility criteria. Further details on our approach to valuing this benefit are described in Appendix F.
- Benefit for industry and society as a result of improvements in productivity. It is possible that, in the absence of the reforms, productivity benefits may be forgone if prospective drivers are delayed or discouraged from seeking a higher class heavy vehicle licence that would enable



them to drive larger, more productive vehicles. If the use of more productive vehicles is constrained by driver availability, then the reforms may potentially enable greater productivity in the industry.

It should be noted that the impact of the options on both heavy vehicle driver availability and ultimately heavy vehicle productivity are not directly captured quantitatively in the CBA. Instead we have considered these impacts qualitatively in relation to each option.

Box 7: Transfers and CBA

CBA is evaluated from the point of view of society. As such, any impact which makes one party better off but another party equally worse off is not a real impact from the point of view of society. Such impacts are called transfers and should not be included within a cost-benefit analysis. In the case of the NHVDCF, an example of a transfer would be if there were a change in assessment fees.

While transfers are excluded from CBA, the distributional analysis considers the instance of impacts across user groups and would pick up impacts such as user charges.

7.1.3 Key challenge for the assessment

A challenge for this assessment is that there is limited quantifiable evidence linking proposed policy changes with heavy vehicle crash risk-reduction benefits – the key benefit category.

While data is available on the costs imposed by road accidents (see Appendix F), there is much less certainty around the extent to which different licensing reforms might reduce the likelihood of an accident. This is simply because to estimate the impact of many elements of the reform, a similar intervention needs to have been implemented in a similar context and then the effect of this intervention needs to be identified and studied.

That said, we have drawn on available evidence to make reasonable assumptions around what reduction in crashes might be achieved by virtue of the intervention options described. We have attempted to determine this by focusing on key elements of the options and how they might impact on crash risk or road safety.

A risk with this approach is that the analysis may inadvertently overstate the road safety benefit as the individual elements may, in fact, influence safety outcomes for the same set of drivers such that the sum of the benefits assumed is overstated. This issue was raised by stakeholders.⁴⁸ We have tried to be mindful of this by assuming that the proposed reforms to the licensing framework will only result in crash risk reductions for newly licensed or upgrading drivers rather than the driver base more generally.

A further challenge, as highlighted by the Tasmanian Government in its submission, is that enhancements in heavy vehicle driver training cannot have an effect on the likelihood of all crashes given some crashes are related to the vehicle itself, the road environment or are the flow-on consequence of other driver behaviour. We are mindful of this but note that improvements in heavy vehicle driver competency, through introduction of hazard-perception training and an affective states program, would likely reduce the risk of crashes involving heavy

⁴⁸ Ron Finemore submission on the Consultation RIS



vehicles even where these are not the result of driver error. This reduction would flow from heavy vehicle drivers' increased awareness of potential road risks posed by other users and their own safe driving practices.

Given these challenges, we have attempted to clearly articulate in the sections that follow the assumptions we have made about the extent to which different elements of the reforms (and the package of reforms as a whole) might reasonably contribute to the reduced likelihood of an accident.

7.2 Impacts of Option 1 – Competency refresh

7.2.1 Introducing an enhanced competency framework with greater online delivery (Options 1.1 and 1.2)

Costs

While there has been general support (from industry, training providers and licensing authorities) for the strengthening of competencies to improve risk awareness, support job readiness and generally improve the standard of heavy vehicle novice drivers, there will be costs expected in implementing this reform.

Implementation costs for jurisdictional governments and agencies

These include implementation costs for jurisdictional governments and agencies associated with introducing the enhanced NHVDCF competencies and the common assessment standard. Specifically, there will be additional costs:

- associated with implementing the new training content (including online assessments). For jurisdictions with outsourced training industry this will include costs associated with engagement with these providers and for training these providers on the revised requirements. These are estimated to be \$5.1 million in net present value (NPV) terms across the eight jurisdictions.
- for licensing authorities associated with integrating and managing online training with supporting licensing infrastructure. While some jurisdictions have moved into digital delivery, including provision of quite sophisticated learning programs, not all are in the same situation. These costs are estimated to be \$4.8 million in NPV terms across the eight jurisdictions. This is based on the assumption that each jurisdiction will be required to spend \$0.2 million to integrate online training systems with existing licensing arrangements, as well as assumptions associated with the timing of this expenditure. There will be an ongoing cost of around \$50,000 per jurisdiction per year.
- for jurisdictions/licensing authorities to produce and distribute communication material that provides detail on the changes to stakeholders. These transitional costs are estimated to be \$0.4 million in NPV terms across the eight jurisdictions.

Most of these costs are associated with implementing these changes and so will be upfront rather than ongoing. Further details of the assumptions underpinning these costs is contained in Appendix E.



Online content development, implementation and ongoing costs for Austroads

There would also be overarching transition and implementation and ongoing cost for Austroads associated with:

- developing the online training content including the HPT
- updating the hosting environment to assist in the management of online content
- developing and implementing a national online learning and assessment tool.⁴⁹ This will include the functionality to establish identity and eligibility. For example, it will be necessary to ensure that the person who completes the online material is actually the licence applicant to ensure integrity (known as proctoring). Jurisdictions will be able to utilise this functionality in full or in part.
- ongoing costs associated with the management and operation of this tool.⁵⁰ This will relate to maintaining the learning management system, content management system and a help desk support function.
- the reform transition, for example, costs associated with coordinating the various workstreams and to ensure alignment between jurisdictions.

Together these are estimated to be \$11.2 million in NPV terms.

Additional training and assessment costs for applicants and training providers

However, the largest cost is expected to be the additional training and assessment costs associated with the increased training time required to meet the enhanced competencies. This includes additional costs:

- **for licence applicants** associated with any additional time required to undertake the training. For those applicants who are not computer literate or do not have internet access, this content will be delivered by training providers, either face to face or through provision of online learning facilities.
- **for the training industry** associated with any additional time required to provide the face-to-face training. Some upskilling of trainers and assessors will be required. These costs will, in many cases, be transferred to licence applicants through higher fees.

These training and assessment costs are somewhat moderated by the fact that the option seeks to move some elements of training and assessment online. This is expected to provide an efficient way in which to deliver training and assessment, albeit that it requires upfront investment by licensing authorities to support this arrangement.

The estimates of the additional ongoing training and assessment costs for licence applicants and trainers are based on a set of assumptions relating to the anticipated time required to deliver the enhanced competencies and typical training and assessment times. We have assumed:

- from 0–4.5 hours of additional hours of online training and assessment (varies by licence type)

⁴⁹ This has been estimated to require a one-off investment of \$1 million.

⁵⁰ This is expected to be delivered through a service-based model using an external provider. The payment incurred will be based on a per person payment. For the purposes of the CBA model the costs have been estimated to be \$750,000 pa.



- up to 1 hour of additional hours of face-to-face training and assessment (only for rigid licences)
- from 0–3 hours of additional hours of behind-the-wheel time (varies by licence type).

The combined cost for licence applicants and training providers is estimated to be \$295 million in NPV terms.

There is inherently some uncertainty around these estimates along with the benefits that may flow from the changes in outcomes they may bring about. However, these estimates were developed by:

- understanding the current length of training courses offered in the industry
- seeking the input of a number of experts (including researchers, driver trainers, transport industry players and training organisations) on their estimates of the time each individual competency element would take to develop base capability.

It is envisaged that these costs will all ultimately fall on applicants as it is assumed training providers will increase their course costs to cover any increase in training costs (see Section 7.6 for further details on the distribution of costs and benefits). Some stakeholders highlight that this may discourage applicants and act as a barrier to entry into the industry.⁵¹ This is certainly possible and so it could be argued that this may reduce heavy vehicle driver availability in the future. Essentially, if prospective drivers are sensitive to the higher cost associated with obtaining an HV licence this will likely disincentivise some applicants. The degree to which this plays out depends on the demand elasticity of applicants and the degree to which they actually face any rise in the price of training and assessment. Where state and territory government employment programs fund the cost of an applicant undertaking driver training, which already occurs in some but not all jurisdictions, there will be no cost of reduced driver supply.

⁵¹ Discussed in submissions by a driver trainer and Bus Victoria.

**Box 8:** Implementation challenges relating to enhancing the competencies

The heavy vehicle driver training industry is currently facing trainer shortages in a number of locations. In smaller jurisdictions, such as Tasmania and Northern Territory, there are a small number of providers, and licence applicants already need to travel some distance to access training and assessment. In most states and territories, licence applicants are experiencing longer delays accessing training and assessment programs than was the case several years ago.

In this environment, stakeholders are concerned⁵² that strengthening competency and assessment requirements and governance arrangements overall may result in some providers deciding to withdraw from service provision. While in some locations alternate providers will be available, this will not always be the case. Further, driver trainers need to be attracted to the industry. There is concern that qualification requirements, in particular those required by ASQA and other training regulators for courses offered by registered training organisations, are a barrier to entry.

There was general support for the inclusion of online training. However, a small number of stakeholders, including one driver trainer, felt this could not be effective in a hands-on industry. More specific concerns were raised by the Bus Industry Council and the Construction Material Processors Association, who noted it would be a challenge to implement online training in some rural areas where internet connectivity is poor, and that some consideration would need to be given about how applicants with language or device use limitation would be catered for.

Source: Austroads consultation

Benefits

Option 1 involves a number of changes to the specific NHVDCF competencies that are intended to enhance skill and knowledge development, and build attitudinal awareness and strategies for safe driving behaviour. The need to increase exposure to skill development has been a focus of coroner's findings and recommendations from the Senate Rural and Regional Affairs and Transport References Committee's *Aspects of Road Safety in Australia: Final Report*.

The value of more comprehensive training programs, including those with a strong focus on behind-the-wheel time with a supervising driver, have been demonstrated through research:

- People who undertook an 8-week training program were compared to those who had undertaken a course of 2–4 weeks (noting that this is substantially less than average Australian courses). Those who undertook the 8-week program had increased technical/driving skill and this improved level of skill was still present several months after completion of the training program.⁵³

⁵² This was highlighted in submissions on the Consultation RIS from the MTA and the Crane Industry Council

⁵³ Mitsopoulos-Rubens, E., Lenne, M.G. and Salmon, P.M. (2013) Effectiveness Of Simulator-Based Training For Heavy Vehicle Operators



- Longer exposure to driver training in a controlled and supervised setting had a beneficial effect on drivers' abilities.⁵⁴
- There are benefits from heavy vehicle training methods that are more long-term, structured, intensive, and are conducted in a formalised setting.⁵⁵

Therefore, it seems reasonable to assume the enhancements in the NHVDCF would reduce the heavy vehicle crash risk to some extent. However, we are unaware of any evidence that can be used to support the degree of this crash risk reduction and it will in part depend on the degree to which this training was already being conducted by industry post licensing.

For the purposes of this assessment, we have assumed the combined effect of the reform elements proposed in Option 1 – introducing the enhanced competency framework and moving to greater online delivery including hazard-perception training – would result in a **1.75% reduction** in the total number of heavy vehicle crashes. The rationale behind this assumption is further detailed in the sub-sections that follow; however, the reduction in the crash risk is made up of:

- 0.25% reduction from increasing the focus of training on drivers' attitudes and approaches to the task
- 1.25% reduction associated with the introduction of hazard-perception training
- 0.25% additional reduction from improvements in the quality of heavy vehicle driver training programs overall because of the enhanced competencies and/or as a result of the other supporting mechanisms described in Section 7.2.2.

Increasing the focus on a driver's attitude and approach

Speed and fatigue are the two prime causal factors identified by National Transport Insurance (NTI) as contributing to heavy vehicle insurance claims.⁵⁶ These factors are related to the 'attitudinal' dimensions of competence, which are largely untested in current licence assessments.

To address this, the enhanced competencies include elements focused on a driver's attitudes and approach to the driving task, which are intended to raise awareness of relevant road safety issues (e.g., fatigue, speeding), challenge a driver's key beliefs regarding unsafe behaviour and motivate drivers to avoid situations that may place themselves and others at risk.

Research supports the effectiveness of training programs which include behaviour-modification techniques that address the motivational and psychological aspects of driving performance (see **Box 9**).

⁵⁴ Morgan, J., Tidwell, S., Medina, A. & Blanco, M. (2011) 'On the training and testing of entry-level commercial motor vehicle drivers'. *Accident Analysis and Prevention*, 43(4):1400–407.

⁵⁵ Hanowski, R. & Morgan, J. (2015) 'Longitudinal effects of entry-level truck driver training methods'. Paper presented at the *International Conference on Computer Information Systems and Industrial Applications*.

⁵⁶ NTARC (2022) *Major Crash Investigation 2022 Report* (accessible here <https://www.nti.com.au/better-business-hub/ntarc/ntarc-2022-report>).



NTI data suggests speed and fatigue are responsible for 21% of heavy vehicle incidents.⁵⁷ Approximately 25% of major accidents involve heavy vehicle drivers with less than five years' experience. If we assumed that half of these crashes (i.e., 12.5% of total crashes) occur in the first one to two years after receiving a licence then the risk of a fatigue- or speed-related crashes in this cohort would be 2.5%. If, by including attitudinal training in the NHVDCF, the crash risk in this cohort can be reduced by 10% this would result in an approximately 0.25% reduction in the total number of heavy vehicle crashes going forward. While there is no directly applicable evidence that can be used to support this assumption, it is considered reasonable, and possibly conservative given:

- The available research suggests training programs that focus on making a driver more aware of unsafe behaviour and of the importance of their attitudes and approach to the task are effective in changing behaviour.
- Improvements in a driver's behaviour, attitude or approach could reasonably be expected to reduce crashes that are affected by a driver's attitude to the task (e.g., propensity to drive when fatigued or to speed). A crash-risk-reduction benefit has only been assumed for the subset of crashes related to fatigue and speeding.
- We have assumed this benefit only persists for a short time, that is, two years after the training. In other words, it is not presumed to endure for the working life of a driver, although it is possible it might do so.

⁵⁷ NTARC (2022) *Major Crash Investigation 2022 Report* (accessible here <https://www.nti.com.au/better-business-hub/ntarc/ntarc-2022-report>). It should be noted that this percentage does not directly equate to the proportion of crashes caused by fatigue and inappropriate speed as the number of incidents includes incidents related to theft or vehicle rolling while tipping. It also includes incidents related to driver error of which speed and fatigue may have been a contributing factor. In any case we have used this as a conservative estimate as the proportion of crashes caused by inappropriate speed or fatigue is likely to be higher.

**Box 9:** Effectiveness of training programs which address drivers' attitudes

The Austroads consortium reviewing the NHVDCF concluded that the NHVDCF should include a training component to address driver attitudes. This was on the basis of the existing evidence base that suggests training programs which target the attitudes and motivational states of driving (rather than just driving skill) can change driver behaviour.

Under the enhanced NHVDCF it is expected that driver trainees will be engaged in an online group discussion-based training session intended to make them more aware of behaviour-based risks and to develop strategies to address these risks. Where licence applicants do not have access to online capability these sessions could be delivered at a training provider's facilities. Available research suggests that even this type of one-off intervention can improve driver behaviour and safety outcomes. For example:

- A study undertaken in Finland by Salminen involved running group discussions that consisted of identifying traffic environment problems in work-related driving and discussing solutions to the identified problems. Group discussions were found to decrease traffic environment-related occupational crashes by 72%, while no change was identified in crashes unrelated to the road traffic environment.⁵⁸
- More recent research on the effectiveness of a program aimed at reducing aggressive driving (the RAD program) conducted by the Monash University Accident Research Centre and Queensland University of Technology also found that a one-off intervention that included a single online group discussion, feedback and goal setting session encouraged more positive responses to triggers for aggressive driving. The evaluation was preliminary in that it considered the change in self-reported levels of anger and aggressive driving tendencies for a small group of self-selecting participants (67) one month, and four months after the RAD. That said, the study suggests that levels of anger and the frequency of aggressive driving fell among participants, and that this change in behaviour was maintained four months after the session. The results do suggest that interventions that help participants develop realistic strategies to avoid aggressive driving are effective and lasting.⁵⁹

The wider evidence base relating to other behaviour-modification techniques, which commonly involved upfront awareness training but also the provision of ongoing feedback, suggests these approaches are particularly beneficial in changing driver behaviour. For example, Newnam and Watson (2009) evaluated the effectiveness of a participative education intervention on a group of work-related drivers in Australia.⁶⁰ This study found a safety awareness session followed by feedback to be an effective intervention in reducing self-reported speeding over a 6-month period. Specifically, the results indicated that the safety awareness intervention significantly reduced self-reported speeding in the experimental group, while participants in the control group reported a non-significant increase in speed across the three phases of the intervention.

⁵⁸ Salminen, S. (2008) 'Two interventions for the prevention of work-related road crashes', *Accident Analysis and Prevention* (46), 2008, pp.545–550.

⁵⁹ Stephens, A.N., Newnam, S. & Young, K.L. (2022) 'Preliminary evidence of the efficacy of the reducing aggressive driving (RAD) program', *Journal of Safety Research* 82 (2022), pp.438–449.



Hazard-perception training and testing

Option 1 also involves the introduction of hazard-perception training/testing (HPT) for heavy vehicle drivers under the refreshed NHVDCF and there is evidence that suggests this would reduce the risk of crashes. The rationale behind this is that drivers who are better able to anticipate dangerous situations are less likely to be involved in crashes.⁶¹ Academic literature suggests that hazard-perception ability is correlated with a driver's crash risk. For example, Horswill, Hill & Wetton (2015) found that drivers who failed a hazard-perception test had 25% more active crashes in the year following the test.⁶²

There is also evidence from evaluations conducted that hazard perception can be taught. Meaning that the introduction of the test can reduce crash risk for young drivers who train for, or undergo it when applying for, their light vehicle driver's licence (see **Box 10**). While we are unaware of any studies conducted on the impact of HPT on heavy vehicle drivers, it seems reasonable to assume that HPT focused on key heavy vehicle hazards would be beneficial to new heavy vehicle drivers.

Therefore, we have assumed the learnings from training and testing programs applied to light vehicle drivers are transferable to heavy vehicle drivers. Based on the UK evidence described in **Box 10** above it seems reasonable to suggest the introduction of heavy vehicle-specific HPT could result in a crash risk reduction of around 10% for newly licensed heavy vehicle drivers. While the other studies referenced in **Box 10** suggest a higher crash risk reduction, these either implicitly incorporate impacts of other licensing changes implemented at the same time as the HPT or only relate to a subgroup of drivers and so are likely to be overestimates for the purpose of this RIS.

Approximately 25% of major accidents involve heavy vehicle drivers with less than five years' experience.⁶³ If we assume that half of these crashes (i.e., 12.5% of total crashes) occur in the first one to two years after receiving a licence, and that the risk of these crashes can be reduced by 10%, then the introduction of HPT in the NHVDCF would result in a 1.25% reduction in the total number of heavy vehicle crashes.

⁶⁰ Newnam, S., & Watson, B. (2009) 'A participative education program to reduce speeding in a group of work-related drivers', in Australasian Road Safety Research, Policing and Education Conference: *Smarter, Safer Directions*. Sydney, Australia

⁶¹ Horswill, M.S. (2016) 'Hazard perception in driving', *Current Directions in Psychological Science* (25, 6), 2016, pp. 425–430.

⁶² Cited in Horswill, M.S. (2016) 'Hazard perception in driving', *Current Directions in Psychological Science* (25, 6), 2016, p426.

⁶³ Austroads (2022) *National Heavy Vehicle Licensing Framework: Theme 2A – Licence Class Progression* [working paper for project SRL6259 not publicly released].



Box 10: The benefit of hazard-perception training (HPT) for young learner drivers

Evidence available from evaluations indicates that there are crash-risk-reduction benefits for young drivers who have recently received their driver's licence. For example:

The inclusion of an HPT component in the UK light vehicle driver licensing process was estimated to reduce drivers' non-low speed public-road crash rates by 11.3% in the year following their test.⁶⁴ The size of the estimated reduction did vary by type of crash. But the impact was greatest for 'non-low speed' crashes which predominately drive benefits because these crashes are more likely to result in injuries or death when compared to low-speed crashes.

- The Victorian Department of Transport noted that the introduction of HPT into the Victorian light vehicle driver licensing process as part of the introduction of the Graduated Licensing System (GLS) may have contributed to a 20% reduction in the rate of fatal and serious crashes involving drivers aged 18 to 20 years – although it is difficult to separate the impact of the HPT from the broader changes associated with the GLS such as supervised driving.⁶⁵
- Similarly, a trial of the impact of 17 minutes of HPT on drivers who just passed their on-road driving test in California found that, in the year following the intervention, trained male drivers overall (though not female drivers) had a crash rate 23.7% lower than the untrained males.⁶⁶

A key area of uncertainty is the degree to which any crash risk reduction from HPT persists in the years following a heavy vehicle driver undergoing the hazard-perception training/test. It is possible that as time since involvement in the training program increases, the benefit diminishes, although this will be compensated by increased driver experience.

Summary of impacts

Table 14 below provides a summary of the impacts associated with introducing the enhanced competencies with greater online training.

⁶⁴ Wells, P., Tong, S., Sexton, B., Grayson, G. & Jones, E. (2008) 'Cohort II: A study of learner and new drivers', *Road Safety Research Report No. 81*, 2008, p.169. Report commissioned by the UK Department for Transport.

⁶⁵ Victorian Department of Transport, *Hazard perception test now available online* [media release] available here: <https://transport.vic.gov.au/about/transport-news/news-archive/hazard-perception-test-now-available-online>.

⁶⁶ Thomas, F. D., Blomberg, R. D., Peck, R. C. & Korbela, K. T. (2016) *Evaluation of The Safety Benefits of The Risk Awareness and Perception Training Program for Novice Teen Drivers*. Report commissioned by the National Highway Traffic Safety Administration.



Table 14: Breakdown of costs and benefits associated with the competency refresh and move to greater online delivery

Costs		\$millions
Jurisdictional agencies	Implementation of enhanced competencies and online training (including liaising with outsourced training industry and training of providers on the revised requirements)	\$5.1m
	Integrating online training with existing licensing systems	\$4.8m
	Other reform transition costs for jurisdictions (including production of communication material)	\$9m
Austroads	Costs associated with developing online content and with the implementation and ongoing management of online tools	\$10.4m
	Update to NEVDIS to assist in the management of the online content	\$0.4m
	Other reform transition costs	\$0.4m
Industry and applicants	Additional training and assessment costs for licence applicants and RTOs associated with increase in required training time	\$294.9m
Benefits		\$millions
Society	Heavy vehicle crash improvement (assume 1.75%)	\$261m

Source: Frontier Economics

7.2.2 Support mechanisms to improve the quality of training (Option 1.3)

Costs

The key categories of costs associated with the reform elements intended to support improvements in the quality of training are described below. These are intended to address the perceived large differences in the depth and breadth of heavy vehicle driver training offered by different training providers.

Developing guidance material (Austroads)

As discussed in Section 4.5, although there is existing regulatory oversight of training organisations, this oversight is not focused on the subject matter or the quality or suitability of the training itself. Nor is there approved training content for providers. It is reasonable to suggest that this lack of guidance may resulted in the differences in the quality of heavy vehicle driver training.



Option 1 includes reforms whereby Austroads would develop guidelines and supporting documents for licensing authorities and heavy vehicle training and assessment providers. This would include developing:

- a master training provider approval framework (key eligibility criteria)
- standards covering delivery, skills and qualifications for trainer/assessors; reporting and non-compliance for inclusion in contracts between licensing authorities and training providers
- auditing guidance for state jurisdictions.

Together these costs are estimated to be \$1.4 million in net present value (NPV) terms.

Training-governance arrangements (jurisdictions)

For jurisdictions these reforms would involve upfront costs associated with updating agreements with outsourced providers to cover issues considered in the Austroads' governance guidance. These costs are not significant and are estimated to be \$0.8 million in net present value (NPV) terms across the eight jurisdictions.

Jurisdictions might, in the future, consider whether there is need for increased auditing of providers. However, the ongoing costs associated with this have not been included as there are no specific reform elements that require this.

Minimum training times

Option 1 assumes that the revised *Licence to Drive*⁶⁷ units will have mandated minimum training times, including behind-the-wheel time, that will be required to obtain heavy vehicle licences.

This minimum training time is intended to increase regulator assurance around the quality of training and assessment undertaken by providers, and specifically target the unusually short courses on offer by some providers in the market.

The introduction of minimum times has been aligned with the revised competencies. The minimums have been calculated based on assessment of the base level learning requirement to meet all the newly defined competency elements. Therefore, these costs and benefits have already been accounted for under the revised competencies.

Auditors would be able to monitor compliance with the introduced minimum times.

It is worth noting that some stakeholders raised concerns about how the specification of a minimum may lead to some training providers moving towards the minimum. While this outcome is possible, there are already commercial pressures that drive providers to minimise the length of their courses. The introduction of minimum times is specifically targeted at providers who offer unusually short courses. It is expected that those providers who already offer extended programs which exceed these minimums will continue to do so.

Benefits

It is particularly difficult to determine whether the mechanisms intended to drive improvements in training governance would actually improve road safety outcomes. The degree to which good governance and compliance arrangements drive improvements in heavy vehicle driver training

⁶⁷ Not all jurisdictions currently utilise these units or require providers to be RTOs.



will depend on the degree to which poor heavy vehicle driver training providers exist. However, it is reasonable to assume that improvements in heavy vehicle driver training governance and the strengthening of the compliance regime will provide some improvement in driver training and therefore some improvement in road safety.

There have been instances of training providers offering licences where no, or limited, training and assessment have been undertaken. There are clear safety risks in these people being allowed to drive. These cases have resulted in enforcement action by jurisdictions as well as responses to deal with persons issued with licences via these providers. This has included the issuance of notifications to relevant licence holders to undertake training and/or assessment to demonstrate their competence. There is significant cost involved in managing the response to these situations. While it will not be possible to totally exclude future fraudulent practices, increased rigour in the approach to monitoring would be expected to have a deterrent effect.

Summary of impacts

Table 15 below provides a summary of the impacts associated with the support mechanism designed to improve driver training.

Table 15: Breakdown of costs and benefits associated with support mechanisms to improve quality of training

Costs		\$ millions
Austrroads	Developing training-governance guidance	\$1.1m
Jurisdictions	Implementing training-governance arrangement – including updating provider contracts	\$0.8m

Source: Frontier Economics

7.2.3 Amending progressive licensing requirements (reform Option 1.4)

Costs

The amendments that change progressive licensing requirements may impose additional costs on licensing authorities.

In particular, it is expected that system changes will be required. For example, a mechanism to provide evidence of logged work hours and completion of a supervision program will need to be developed.

It is assumed that Austrroads will lead the development of these policies and procedural requirements, resulting in some upfront implementation costs. Changes to the NEVDIS will also be required to enable these reforms. Together these implementation costs have been estimated to be \$0.9 million in net present value (NPV) terms.

At a jurisdictional level system change will be required to incorporate these changes into existing licensing infrastructure. There would also be additional costs for jurisdictions associated with introducing and running a strengthened compliance program to ensure drivers are complying



with the requirements of the new progression pathways. These costs are estimated to be \$8.6 million in net present value (NPV) terms across the eight jurisdictions.

For industry, it is expected that amendments to progressive licensing arrangements could impose costs in terms of offering the supervision program and in identifying, supporting and accrediting suitable supervising drivers. However, relative to the base case, it is reasonable to assume that this will only be undertaken where the employer determines that the benefits of supporting the supervision program outweigh the costs, given this change is optional and not mandated. For this reason these costs have not been expressly included as the benefits to industry of the alternative pathways should always exceed the costs relative to the base case.

Benefits

Quantifying the impact of the proposed changes to progressive licensing on the risk of heavy vehicle crashes is problematic. Not least because the uptake of the alternative pathways is unclear.

However, it is envisaged that a driver who chooses an alternative to the current tenure pathway is not likely to be higher risk.

All things being equal, the more experience a heavy vehicle driver has the less likely they are to crash (see Section 2.2). Therefore, while the driving experience pathway shortens the time involved in progressing to a higher class licence it also ensures applicants have real behind-the-wheel experience.

Over and above experience, there is likely to be additional value generated by an applicant being subjected to supervised driving, which is why this pathway offers the fastest progression route.

- The benefits of supervised driving for novice car drivers (in the form of decreased crashes and traffic offences) is well documented both overseas and in Australia.⁶⁸
- MUARC research conducted in Victoria and Queensland found that heavy vehicle drivers who had been exempted from supervised driving requirements (100–120 hours) when gaining a car licence were almost three times as likely to be involved in a casualty crash when driving an MR or HR vehicle.⁶⁹
- More generally, coaching interventions have been found to be effective at reducing driver errors such as harsh braking and harsh cornering. Camera monitoring has been found to be effective at reducing driver errors and driving violations (speeding and aggressive driving).⁷⁰

In contrast, tenure does not guarantee that a person has had substantive or directly relevant behind-the-wheel experience.

⁶⁸ Austroads (2022) *National Heavy Vehicle Licensing Framework: Theme 2A – Licence Class Progression* [working paper for project SRL6259 not publicly released].

⁶⁹ MUARC, Pre-heavy vehicle licensing factors predicting poor heavy vehicle driver safety outcomes, April 2022, MUARC, Draft report on Queensland heavy vehicle licensing & crash risk, January 2023, Draft V1

⁷⁰ Mase, J.M., Majid, S., Mesgarpour, M., Torres, M.T., Figueredo, G.P. & Chapman, P. (2020) 'Evaluating the impact of heavy goods vehicle driver monitoring and coaching to reduce risky behaviour', *Accident Analysis and Prevention*, 146. doi: 10.1016/j.aap.2020.105754



With these limitations in mind, the alternative progression pathways seem just as likely to ensure drivers have sufficient and useful behind-the-wheel experience, such that road safety is unlikely to be negatively affected by the reform option.

Most stakeholders agreed, with a number of submissions addressing the suitability of the existing tenure pathway. NatRoad and the Transport and Logistics Industry Reference Committee suggested the tenure option should be removed. Their view is that progression should be based on competency. The Crane Industry Council of Australia (CICA) also agreed that there was no relationship between time spent holding a licence and driver capability, suggesting that it is experience that counts.

NatRoad also raised the issue that the availability of supervisors may limit the extent to which there is uptake of the supervision pathway. This may be particularly true in rural areas. However, other progression pathways remain.

By providing alternative pathways to the time-based tenure system the reform option is considered likely to remove a barrier to driver employment. This is expected to result in greater heavy vehicle driver availability.

The additional heavy vehicle licensing pathways will mean all heavy vehicle drivers will be able to obtain an MC licence in the same or less time than is possible under the current pathways. This should improve the capacity of drivers to take on employment involving more complex heavy vehicles, which should alleviate issues around driver shortages at higher licensing classes without compromising road safety. On balance, Option 1 would increase driver availability if drivers are able to get licences for heavier and more complex vehicles more quickly.⁷¹ This will depend on the extent to which prospective drivers access the alternative pathways to progression. See **Box 11** for further discussion of this.

Following on from the impact above, if drivers are able to get licences for heavier and more complex vehicles more quickly, this should enable greater use of high productivity vehicles and increase productivity in the industry by enabling freight to be moved at lower cost.

A 2014 Austroads report estimated that high productivity vehicles could deliver \$12.6 billion in real benefits to Australia by 2030 through \$6.9 billion in discounted direct benefits and \$5.7 billion in indirect discounted flow-on economic benefits.⁷² If the reforms to the progression pathway enable even a tiny fraction of these benefits to be generated then this reform element will be of net benefit.

The benefits associated with improvements in heavy vehicle driver availability and increased productivity in the industry have not been valued; however, they are envisaged to be substantial.

Summary of impacts

Table 16 below provides a breakdown of the costs for Austroads and jurisdictions associated with implementing the reforms to progressive licensing arrangements. Together these total

⁷¹ Some stakeholders noted that the creation of an additional licence class would affect progression through licensing. For example, an individual would need to first hold an MC licence before being eligible to apply for an SC licence. However, this is considered less of a concern as it is anticipated that most heavy vehicle drivers would take one of the alternative progression pathways and so the time to obtain an SC licence would be reduced overall.

⁷² Austroads (2014) *Quantifying the Benefits of High Productivity Vehicles* (<https://austroads.com.au/publications/freight/ap-r465-14>)



around \$9.6 million. These costs are considered insignificant when compared to the potential benefits that may flow from increasing productivity in the industry if the reforms enable freight to be moved more efficiently.

Table 16: Breakdown of costs associated with amending progressive licensing requirements

Costs		\$ millions
Austrroads	Costs to implement revised progressive licensing arrangements	\$0.9
Jurisdictions	Costs to implement revised progressive licensing arrangements	\$8.6

Source: Frontier Economics

Box 11: Likely impact on heavy vehicle driver availability for MC class vehicles

Submissions to the Consultation RIS indicate that industry supports the introduction of a more rapid progression pathway through the heavy vehicle classes where this is based more directly on experience and competence.

There is concern that a supervision program will not be viable for smaller operators to offer, which may limit uptake of this pathway.

The driving experience pathway is expected to be particularly attractive to smaller operators and owner drivers as there is limited additional overhead in this option. There will need to be a mechanism for recording driving hours; however, this is not expected to be onerous for most drivers.

This makes it challenging to identify the extent of the impact on driver availability as it is not clear whether, and to what extent, licence applicants will have the option or interest in taking up the alternative expedited progression paths.

That said, it is clear the reform will produce some benefit in terms of driver availability. This is because the current time-based licensing system is likely to be delaying and deterring some future heavy vehicle drivers from pursuing careers in the sector. For example, the Grain Growers Association suggested that the current tenure system is contributing to the broader shortage of drivers in the agriculture industry. In particular, it noted that the existing tenure pathway that requires drivers to move through heavy rigid vehicles before progressing to heavy and multi-combination vehicles is problematic for most grain businesses. This is because most growers do not operate rigid vehicles which therefore inhibits the ability of farms to provide training and employment for new drivers under the current tenure-based licensing progression.

Source: Consultation RIS feedback.



7.2.4 Summary of Option 1 impacts

Table 17 below provides a summary of the costs and benefits associated with Option 1. At a high level, Option 1 largely imposes additional costs on industry and licence applicants to provide crash improvements which benefit society. Overall, based on the benefits that have been quantified, the option does not appear to be of net benefit. However, there is significant uncertainty around this for the following reasons.

Table 17: Breakdown of costs and benefits associated with Option 1

Category	Party	Impact
Costs by reform element		
Introduction of enhanced competencies AND online delivery of competencies and assessment	Jurisdictions/Austrroads	\$30.1m
	Industry and licence applicants	\$295m
Supporting mechanisms to improve the quality of training	Jurisdictions/Austrroads	\$1.9m
Amendments to progressive licensing requirements	Jurisdictions	\$9.6m
Total costs		\$336.5m
Total road safety benefits <i>(assumes 1.75% reduction in heavy vehicle crashes)</i>		\$261m
Net present value		-\$75m
Benefit-cost ratio		0.78
Expected impact on driver availability and productivity outcomes		+ Benefits resulting from drivers being more able to more quickly progress to higher class licences

Source: Frontier Economics

Firstly, we have not quantified the productivity benefits that might be driven by improved driver availability, particularly in relation to the larger more complex vehicle types. Given the potential benefits of high productivity vehicles in the future a reform that enables these vehicles to be adopted faster is likely to generate substantive benefits. It is reasonable to suggest these additional benefits would make Option 1 of net benefit overall.

Secondly, there is significant uncertainty around both the road safety benefits that may result from enhancing the NHVDCF and the costs associated with the additional time that may be



required to train in accord with the revised competency framework – as the primary categories of cost and benefit and the interplay between these impacts drive the results. See Section 7.5 for sensitivity analysis and further discussion of these uncertainties.

When considering the impacts by reform element it is our view that the revisions to the progressive licensing requirements are likely to be of net benefit. The costs of these reforms are relatively low and there is a strong likelihood of benefits in terms of improvements in the supply of heavy vehicle drivers and in productivity.

Based on the evidence available, the enhancements to the competency framework and the move to greater online delivery could deliver net benefits. It is these reform elements that drive the road safety benefits identified. When considered in isolation the benefit–cost ratio of these reform elements is 0.8. However, the sensitivity analysis suggests there are equally plausible states of the world where these reforms would be of value. Based on the costs assumed these reform elements would only need to generate a further 0.45% reduction in the crash risk to be of net benefit.

It is difficult to make any firm conclusions on the value of the training-governance supporting mechanisms. However, based on the costs assumed, these reform elements would only need to generate a very minimal reduction in the crash risk to be of net benefit.

7.3 Impacts of Option 2 – Introduction of eligibility criteria

7.3.1 Costs

Implementation costs for jurisdictional governments and agencies

Under Option 2 the introduction of new eligibility criteria would result in licensing authorities (and to a lesser extent Austroads) incurring costs of \$23.5 million in total. These are expected to comprise:

- set-up and transition costs – related to developing legislation, policy and systems to be able to assess eligibility criteria for licence applications. These are estimated to be in the tens of millions of dollars and the ongoing costs in hundreds of thousands of dollars range.
- ongoing costs associated with managing reviews and appeals of rejections against eligibility criteria.

These costs are expected to be the same regardless of which sub-option is progressed. There are also expected to be some minor NEVDIS system changes required in order to capture the information necessary to implement the eligibility criteria. By way of example, to implement Option 2b additional field/s would need to be added to NEVDIS to capture disqualifications or suspensions associated with a licence holder in the last two years.

Cost for licence applicants

There is a risk under this option that licence applicants may incur cost and time in undertaking training, but subsequently be denied a licence or licence upgrade based on their existing licence or recent offence history.

This should be able to be mitigated with clear upfront communication of eligibility criteria by training providers. As such, impacts of this nature have not been included in this analysis.



Impact on driver availability and productivity

Option 2a – open licence requirement

The additional requirement to hold an open/unconditional C class licence to obtain a rigid licence increases the earliest age at which an applicant would be permitted to apply for a heavy vehicle driver's licence. This would delay a young person's ability to become a heavy vehicle driver by a year in most jurisdictions⁷³ which may negatively impact driver availability if young people move into, and remain in, other industries.⁷⁴

Stakeholders highlighted this as a concern indicating that introducing a requirement for a driver to hold a full open licence before proceeding to a heavy vehicle licence would have a detrimental impact on driver availability. Requiring young drivers to wait this long would increase the risk that they seek alternative forms of employment.

Stakeholders also noted that the proposed requirement would exacerbate the existing difficulties they face in attracting young drivers to the industry. It was also argued that this requirement would go against the apprenticeship models that are being progressed.

Bus Victoria noted that, while few bus drivers were not in possession of a full open licence, mechanics, apprentices, bus washers, cleaners and fuellers are often younger and still in possession of a provisional licence upon commencing employment. Bus Victoria argued that preventing these people from being able to operate vehicles would have a significant impact on its members and the way in which they structure their operations, and could require large-scale operational changes, negatively affecting both the member business and the employment of younger staff members.

A number of stakeholders argued that if a person was competent, then they should be permitted to hold a heavy vehicle licence irrespective of age and any previous licence holdings.

It is recognised that the requirement for a driver to hold a full open licence before proceeding to a heavy vehicle licence may have a negative impact on young people entering the heavy vehicle industry.

However, this change is being proposed because of the evidence of the increased safety risk associated with these younger or less experienced drivers. While there are likely to be a range of factors that influence young people's views about the attractiveness of the heavy vehicle industry as a career, it is recognised that regulatory restrictions will be a contributing factor.

We cannot, with any certainty, assess the impact that the proposed requirement will have on driver availability going forward. Data from MUARC suggests the requirement to hold an open licence to obtain a heavy vehicle licence would have affected 6.4% of past applicants seeking to obtain or upgrade a heavy vehicle licence.⁷⁵ This should not be read as the impact on the pool of available drivers. Commonly, licence applicants represent around 2% of all licence holders. Also, under the reforms applicants would only be temporarily prevented from applying for, or upgrading, a heavy vehicle licence and so any impact may be short-lived. That said, some impact

⁷³ Periods on a P1 and P2 licence vary across states and territories.

⁷⁴ It is worth noting that if this criteria was implemented with Option 1 the impact of the improvements in driver availability expected from the introduction of accelerated progression pathways under Option 1 could outweigh the detrimental impact of this element.

⁷⁵ MUARC, Pre-heavy vehicle licensing factors predicting poor heavy vehicle driver safety outcomes, April 2022. MUARC, Draft report on Queensland heavy vehicle licensing & crash risk, January 2023, Draft V1.



on driver availability should be expected as even a temporary barrier may deter some young individuals from seeking employment as a heavy vehicle driver.

Analysis using jurisdictional data suggests that, as a proportion of annual licences issued, annual upgrades from provisional licences are highest in the MR licence category. This is unsurprising because the existing tenure-based approach to progressing through the licence categories would naturally limit the number of young people able to apply for a higher class heavy vehicle licence.

However, it may also indicate that MR vehicles are used for tasks where young workers are particularly critical. This may be in industries where being a heavy vehicle driver is ancillary to an employee's main job. For example, vehicles requiring an MR licence are likely to be used by furniture removalists and those within the construction industry for moving materials. In the construction sector it is likely that apprentices may be commonly relied upon to undertake deliveries. Similarly, a larger proportion of young people may be employed in the furniture removalist industry given the physical nature of the task and given this work can often be undertaken part-time around study commitments. Therefore, it is possible that the introduction of an additional requirement to hold an open/unconditional C class licence could negatively affect these industries.

Option 2b – Exclusion of drivers with a recent ban or licence suspension

Eligibility criteria that would prevent individuals from first obtaining or upgrading a heavy vehicle licence if they have recently had their licence banned or suspended can also be expected to impact on driver availability.

Data from MUARC suggests this criteria would affect 11% of past applicants⁷⁶ seeking to obtain or upgrade a heavy vehicle licence.⁷⁷ It is possible that young people on a restricted licence may be relatively more affected by this criteria even though they are not directly targeted. This is because it is likely to be relatively easier to get a licence ban or suspension while on a restricted licence.⁷⁸

It is worth highlighting that productivity is not necessarily affected as a result of any impact on applicants or indeed driver availability more generally. This is because reducing the potential labour supply pool does not necessarily reduce productivity at a societal level, particularly in the longer run.⁷⁹ Instead, productivity growth occurs when more output is generated per unit of input. Barriers or disincentives to labour supply can actually contribute to productivity growth if

⁷⁶ This should not be read as the impact on the pool of available drivers. Commonly, licence applicants represent around 2% of all licence holders. Also, under the reforms, applicants would only be temporarily prevented from applying for, or upgrading, a heavy vehicle licence and so any impact may be short-lived.

⁷⁷ MUARC, Pre-heavy vehicle licensing factors predicting poor heavy vehicle driver safety outcomes, April 2022. MUARC, Draft report on Queensland heavy vehicle licensing & crash risk, January 2023, Draft V1

⁷⁸ This may in part explain the larger road safety benefits of this sub-option. If this criteria also captures relatively inexperienced drivers it will be addressing two risk factors.

⁷⁹ The Productivity Commission has suggested there is some empirical evidence that suggests a trade-off between productivity growth and labour participation, but that this is short-lived and dissipates over time. In fact, some degree of scarcity of labour can promote productivity growth if it leads to businesses facing a greater incentive to find more efficient ways to use their workforce, including by investing in productivity-enhancing capital. (see Productivity Commission, (2022) *5-year Productivity Inquiry: A More Productive Labour Market, Interim Report No. 6*, Canberra, October 2022.



they lead to better jobs and skills matching.⁸⁰ In other words, prospective drivers affected by this selection criteria may simply be unsuited to the job and so preventing them from driving (even temporarily) may actually improve productivity in the industry and society more generally.

Summary of costs

Table 18 below provides a breakdown of the monetised costs associated with implementing the eligibility criteria. Together these total around \$23.5 million and are largely incurred by jurisdictions.

The eligibility criteria (under both options 2a and 2b) is expected to have a minor negative impact on driver availability. While this criteria creates a temporary barrier to a small number of licence applicants it is possible that this may be enough to deter some young individuals from seeking employment as a heavy vehicle driver. However, as described in the preceding section, long-run productivity is not necessarily affected by this option.

Table 18: Breakdown of costs associated with Option 2 – Eligibility criteria

Costs		\$millions (NPV)
Jurisdictions/Austrroads	Eligibility criteria set-up costs	\$21.5m
	Eligibility criteria ongoing costs	\$1.9m
TOTAL COSTS		\$23.5m
IMPACT ON DRIVER AVAILABILITY		Minor negative impact
<i>Proportion of past applicants impacted by criteria[^]</i>		
<i>Option 2a</i>		6.4% [^]
<i>Option 2b</i>		11% [^]

Source: Frontier Economics

[^] These figures should not be read as the impact on the pool of available drivers. Commonly, licence applicants represent around 2% of all licence holders. Also, under the reforms applicants would only be temporarily prevented from applying for, or upgrading, a heavy vehicle licence and so any impact may be short-lived.

7.3.2 Benefits

Improved road safety outcomes are expected relative to the base case because of the eligibility criteria (under both Options 2a and 2b) reducing the number of higher risk heavy vehicle drivers on the road.

⁸⁰ Productivity Commission (2022) *5-year Productivity Inquiry: A More Productive Labour Market, Interim Report No. 6*, Canberra, October 2022, p.1 (accessible at: <https://www.pc.gov.au/inquiries/current/productivity/interim6-labour/productivity-interim6-labour.pdf>)



Option 2a open C class licence requirement

MUARC research in both Queensland and Victoria has found that the heavy vehicle crash risk is greater for drivers endorsed for an MR or HR licence while still on a provisional/probationary car licence. MUARC data suggests that applicants with these licences, at the time they first obtained or upgraded their heavy vehicle licence, were more likely to crash in the following five years.⁸¹

This is unsurprising as drivers with a provisional/probationary car licence are likely to have relatively less behind-the-wheel driving experience.

Based on the data generated by MUARC, preventing these drivers from obtaining or upgrading their heavy vehicle licence could be expected to reduce:

- fatal and hospitalised injury crashes by 3.7% and
- non-hospitalised injury or property damage only crashes by 4.3%.⁸²

Option 2b Exclusion of drivers with a recent licence suspension or disqualification

Safety modelling analysis undertaken using data on Victorian and Queensland heavy vehicle licence holders found a higher heavy vehicle crash risk for drivers with a history of licence bans or disqualifications in the preceding two years.⁸³

This suggests that eligibility requirements which prevent these higher risk drivers from obtaining licences or upgrading their licence (even temporarily) will reduce the risk of crashes.

Based on the data generated by MUARC, preventing these drivers from obtaining or upgrading their heavy vehicle licence could be expected to reduce:

- fatal and hospitalised injury crashes by 8.2% and
- non-hospitalised injury or property damage only crashes by 6.5%.⁸⁴

7.3.3 Summary of Option 2 impacts

Table 19 below provides a summary of the costs and benefits associated with Options 2a and 2b. The costs of these reforms are relatively low and there is a strong likelihood of benefits in terms of crash risk reduction. Based on the benefits that have been quantified both sub-options are of net benefit.

Of these, Option 2b, which prevents drivers with a licence suspension or disqualification within the last two years, from gaining or upgrading a heavy vehicle licence, delivers the most substantive road safety benefits. This is because this eligibility criteria is better targeted at the most high-risk drivers making it more effective. However, it may also have a more substantive impact on driver availability when compared to Option 2a.

⁸¹ MUARC, Pre-heavy vehicle licensing factors predicting poor heavy vehicle driver safety outcomes, April 2022. MUARC, draft report on Queensland heavy vehicle licensing & crash risk, January 2023, Draft V1

⁸² This range is based on the Frontier Economics analysis of data generated by the MUARC study.

⁸³ MUARC, Pre-heavy vehicle licensing factors predicting poor heavy vehicle driver safety outcomes, April 2022. MUARC, draft report on Queensland heavy vehicle licensing & crash risk, January 2023, Draft V1

⁸⁴ This range is based on the Frontier Economics analysis of data generated by the MUARC study.



Jurisdictions expressed concerns with the legal and judicial implications of using an eligibility criterion that prevents individuals from being able to apply to drive a heavy vehicle as a result of past offences for which they have already been punished. These concerns are noted. However, this reform is not unique in this regard. In a transport context there are other areas where governments assess future risk with regard to an individual's past. For example, many jurisdictions in assessing an applicant seeking to be accredited as a commercial operator for various transport services, consider whether the applicant is a 'fit and proper person' to hold an accreditation. Similarly, there are already health-related eligibility requirements, for example, that require a person seeking an HV licence to have been free of epilepsy for 10 years.

Option 2a, which requires applicants to hold an open licence before they can apply for an MR or above licence, delivers reduced road safety benefit and as a result has a lower net benefit and lower BCR than option 2b. It is also likely to have an impact on driver availability and to some extent prevent younger people from entering the industry. This could impact on other ancillary industries in which driving a heavy vehicle (MR class or above⁸⁵) is required as a part of the job (for example by preventing apprentices moving building materials). The potential impact of this reform option on productivity in various industries has not been fully explored.

Table 19: Breakdown of costs and benefits associated with Option 2

Eligibility criteria	Option 2a – requiring an open licence	Option 2b – excluding drivers with a licence suspension or disqualification within the last 2 years from upgrading
Total costs (of implementing new criteria)	\$23.5m	\$23.5m
Total benefits (road safety)	\$185m <i>3.7–4.2% reduction in heavy vehicle crashes*</i>	\$357m <i>6.5–8.2% reduction in heavy vehicle crashes*</i>
Net present value	\$161m	\$334m
Benefit–cost ratio	7.9	15.2
Expected impact on driver availability	— (minor negative impact) 6.4% of applicants may be affected [^]	— (minor negative impact) 11% of applicants may be affected [^]
Expected impact on productivity	Neutral	Neutral

Source: Frontier Economics

*varies by crash type

[^] These figures should not be read as the impact on the pool of available drivers. Commonly, licence applicants represent

⁸⁵ People on a P2 licence would still be able to gain an LR licence.



around 2% of all licence holders. Also, under the reforms applicants would only be temporarily prevented from applying for, or upgrading, a heavy vehicle licence and so any impact may be short-lived.

7.4 Summary of core results

The results of the initial impact analysis are summarised in **Table 20**.

There is evidence to suggest that all options could be of net benefit. Although Option 2b would appear to deliver the most net benefits.

Table 20: Summary of impact analysis

	Option 1	Option 2a	Option 2b
Costs (NPV)	\$339.1m	\$23.5m	\$23.5
Benefits (NPV)	\$261m	\$185m	\$357
(assumed crash risk reduction)	(1.75%)	(3.7-4.3%)	(6.5-8.2%)
Net benefit (NPV)	-\$78m	\$161m	\$334m
BCR	0.77	7.9	15.2
Expected impact on driver availability	Positive	Negative	Negative
Expected impact on productivity outcomes	Positive	Neutral	Neutral
Impact on access to heavy vehicle licences for social and personal benefit	Neutral	Negative	Negative

Source: Frontier Economics

Both the eligibility criteria sub-options are expected to generate net benefit. In particular, Option 2b, which introduces criteria that prevents drivers with a licence suspension or disqualification within the last two years from gaining or upgrading a heavy vehicle licence, would appear to drive the most net benefits of all the options. This is because this eligibility criteria prevents relatively more risky drivers from applying for a heavy vehicle licence. And it does this at a low cost to government and with no training cost implications for other applicants or training providers.

That said, Option 2b will have an impact on the pool of individuals that can apply to be heavy vehicle drivers. By way of example, 11% of past applicants across the licence classes would be affected by this criteria. This figure should not be read as the impact on the pool of available drivers. Commonly, licence applicants represent around 2% of all licence holders. Also, under the reforms applicants would only be temporarily prevented from applying for, or upgrading, a heavy vehicle licence and so any impact may be short-lived. It should also be noted that jurisdictions have expressed concerns about preventing individuals from upgrading their licence because of past offences for which they have already been punished.



Option 2a, which would require applicants to hold an open licence before they can apply for an MR or above licence, is less beneficial than Option 2b and it risks preventing younger people from entering the industry.

The Option 2a eligibility criteria could also have an impact on other ancillary industries in which driving a heavy vehicle (MR class or above⁸⁶) is required as a part of the job (for example by preventing apprentices moving building materials). The potential impact of this reform option on productivity in various industries has not been fully explored.

7.5 Sensitivity analysis

While considerable effort has been taken to make the cost–benefit analysis as evidence based as possible, there is some uncertainty around certain parameters feeding into the analysis.

Sensitivity analysis has been undertaken to consider how changes to the following parameters impact the results from the cost–benefit analysis:

- discount rates
- costs
- additional training and assessment time (including behind-the-wheel time)
- road safety benefits.

The results of this analysis are presented in Appendix I.

The sensitivity analysis shows that both Options 2a and 2b are net beneficial across a broad range of sensitivity scenarios.

However the value proposition of Option 1 changes from a net cost to a net benefit under a number of plausible scenarios:

- First, when the additional training and assessment time (including behind-the-wheel time) is lower. The extent to which Option 1 changes the amount of training and assessment time required to get a licence from the base case is uncertain. This is because the amount of time being spent by applicants in training and assessment under current arrangements is uncertain. The sensitivity analysis tested plus and minus 50% of the central training and assessment time inputs. Option 1 is of net benefit when the additional time involved in undertaking the training and assessment under the revised NHVDCF is 50% lower than assumed.
- Second, when the assumed road safety benefits are higher. The road safety benefits used in the CBA are based on evidence but are also subject to some uncertainty. With 20% less road safety benefits the NPV and BCR worsen but with 20% higher crash benefits the BCR is almost one and the NPV at just –\$23m. That is, the road safety benefits of Option 1 would only need to be just over 20% higher for this option to be beneficial from the point of view of society. Based on the assumed costs the enhancements to the NHVDCF under Option 1 would only need to generate a further 0.5% reduction in the crash risk to be of net benefit.

The results under these sensitivities are presented in **Table 21** below.

⁸⁶ People on a P2 licence would still be able to gain an LR licence.



It should also be noted that all options are relatively insensitive, at least in NPV terms, to changes in Austroads and jurisdictional costs. This is because the ongoing road safety benefits and, in the case of Option 1, additional training, assessment and behind-the-wheel time costs, are the key impacts in the CBA.

Table 21: Summary of key sensitivities

	Option 1	Option 2a	Option 2b
Central case			
Net benefit (NPV)	-\$78m	\$161m	\$334m
BCR	0.77	7.9	15.2
+50% additional training, assessment and behind-the-wheel time			
Net benefit (NPV)	-\$222.5	\$161.2	333.7
BCR	0.5	7.9	15.2
-50% additional training, assessment and behind-the-wheel time			
Net benefit (NPV)	\$71.7	\$161.2	333.7
BCR	1.4	7.9	15.2
+20% road safety benefits			
Net benefit (NPV)	-\$23.2m	\$198.1m	\$405.1m
BCR	0.9	9.4	18.3
-20% road safety benefits			
Net benefit (NPV)	-\$127.6m	\$124.3m	\$262.2m
BCR	0.6	6.3	12.2

Source: Frontier Economics

7.6 Distributional analysis

CBA is evaluated from the point of view of society. This is useful for reaching an overarching view on the relative merits of an option but misses consideration of the stakeholder groups that incur costs and benefits.

The transition and implementation costs – which largely fall on jurisdictional licensing authorities – are non-trivial. However, these are mostly one-off costs and, given their relative size, the impact analysis and results are not overly sensitive to these estimates.



The key costs are those incurred by licence applicants and industry, and are associated with the introduction of the additional requirements that lengthen training courses and introduce additional behind-the-wheel driving. The scale of these costs is affected by underlying assumptions about the extent of training and behind-the-wheel driving hours that is occurring currently.

However, it is important to recognise that industry and licence applicants are also significant beneficiaries of the reforms. Essentially, the benefits of any reduction in heavy vehicle crashes resulting from these reforms accrue to both industry and society as a whole. Benefits to industry would include reduced delays, improved productivity and reduced insurance premiums. Society more generally would also benefit from fewer lives being lost, avoided injuries and reduced on-road delays as a result of fewer heavy vehicle crashes. These benefits to heavy vehicle drivers, their families, the industry and wider society are incorporated into the crash-related benefits and have been considered in estimating the reduction in heavy vehicle crashes required to make the reforms beneficial.

The introduction of new licensing progression options provides expedited pathways that may increase driver availability for industry and bring forward job opportunities for prospective licence applicants.



8 Preferred option

Key findings

Based on the impact assessment above, and stakeholder feedback received, the preferred option is to proceed with the key reform elements proposed in Option 1 and Option 2b:

- The introduction of enhanced and expanded competencies under the NHVDCF.
- Moving to online delivery of training and assessment for knowledge-based learning elements.
- Introducing supporting mechanisms to improve the quality of training including minimum training times.
- Amending progressive licensing requirements to introduce two new pathways (based on experience and participation in a supervision program) to enable movement to higher tier licences more quickly.
- Introducing eligibility criteria that excludes drivers with a licence suspension or disqualification within the last two years from gaining or upgrading a heavy vehicle licence.

A Decision RIS draws on the evidence that has been gathered, the consultation outcomes, and stakeholder feedback received to identify the preferred policy options or elements of these options.

The options tested in this RIS have been assessed using a cost–benefit analysis framework that compares outcomes under the options to a business-as-usual base case. They have also been qualitatively compared to the objectives of the reform in **Table 22** below.

From a road safety perspective there is evidence to suggest that all options would deliver benefits by virtue of better focusing the licensing regime on key road safety risks. Based on the outcomes of the cost–benefit analysis both Options 2a and 2b would be expected to deliver road safety benefits that exceed the costs of the reform with Option 2b delivering the most substantive net benefits.

However Option 1, while potentially delivering lower road safety benefits,⁸⁷ also avoids creating barriers that could potentially constrain the availability of heavy vehicle drivers. In fact Option 1, by virtue of amending the progressive licensing requirements, is likely to improve driver availability, particularly in relation to the larger, more complex vehicle types. Given the potential benefits of high productivity vehicles in the future, a reform that enables these vehicles to be adopted faster is likely to generate substantive additional benefits which have not been

⁸⁷ There is significant uncertainty around both the road safety benefits that may result from Option 1 and the costs associated with the additional time that may be required in order to train in accord with the revised competency framework – as the primary categories of cost and benefit and the interplay between these impacts drive the results. See Section 7.5 for sensitivity analysis and further discussion of these uncertainties.



quantified. Therefore, it is reasonable to suggest these additional productivity benefits would make Option 1 of net benefit overall.

Importantly, Option 1 and Options 2a and 2b are complementary in the sense that they can all be adopted without significantly undermining each other.

Table 22: How the options compare to the objectives of the reforms

Objective		Option 1	Option 2a	Option 2b
Improved road safety outcomes [^]	by better focusing licensing on key risks	✓	✓✓	✓✓✓
	by improving governance arrangements for heavy vehicle training and assessment	✓		
Avoiding creation of unnecessary barriers	that constrain the availability of heavy vehicle drivers	✓		
	that constrain the use of high productivity vehicles	✓		
Enable access to heavy vehicle licences for social and personal benefit.		✓	✓	✓

Source: Frontier Economics

[^] Note Problem 3 (Driver licensing is inconsistently applied across jurisdictions) has not been listed as an influencer of improved road safety outcomes as it is expected that this problem would be addressed by addressing Problems 1 and 2.

Therefore, based on the impact analysis in the preceding section and a comparison to the objectives of the reform there would appear to be value in progressing key reform elements proposed in Option 1:

- The introduction of enhanced and expanded competencies under the NHVDCF.
- Moving to online delivery of training and assessment for knowledge-based learning elements.
- Introducing supporting mechanisms to improve the quality of training.
- Amending progressive licensing requirements to introduce two new pathways (based on experience and participation in a supervision program) to enable movement to higher tier licences more quickly.

The details of these reform elements will continue to be progressed in order to move to implementation. It is possible that reform elements may be introduced in discrete packages over time.

In addition, the impact analysis in Section 7 would suggest that Option 2b, which introduces criteria that prevents drivers with a licence suspension or disqualification within the last two years from gaining or upgrading a heavy vehicle licence, will deliver the greatest net benefits.



Jurisdictions have expressed concerns with the legal and judicial implications of using an eligibility criterion that prevents individuals from being able to apply to drive a heavy vehicle or upgrade their licence as a result of past offences for which they have already been punished. While these concerns are noted, there is sufficient evidence on the road safety benefits to suggest this reform (Option 2b) should be progressed. Further, there is precedent within both the transport sector and broader society, that decisions about access/employment/suitability for a role take into account past behaviour or events where there is evidence this is a predictor of future risk.

Finally, further investigations will be undertaken into the best alternative to implementing enhanced training and assessment for drivers of the very large MC class vehicles (e.g. triple road trains and those with four or more trailers). Reasonable concerns around the heavy vehicle training industry's ability to comprehensively and cost effectively support delivery of training and assessment programs for larger vehicles covered by an MC class licence were raised in the course of the development of this RIS. Further work is required to explore the different options for implementing this reform element. For example, this could be delivered through employer-based training and assessment programs that recognise employees who have the credential to drive these vehicle types rather than through the introduction of a formal new licence class. An employer-based approach may be best delivered through the Heavy Vehicle National Law.



9 Implementation and evaluation strategy

Key findings

The details of the preferred reform elements will continue to be progressed to move towards their implementation.

In addition, some reform elements may be better addressed through alternative regulatory mechanisms. Notably, increased competency development for people driving very large heavy vehicles might be better achieved through reforms to the Heavy Vehicle National Law rather than through the licensing framework.

9.1 Approach to implementation of preferred package of reforms

This Decision RIS was developed for ministerial consideration, which is expected in June 2023. After ministerial sign off, implementation timings and programs will be further developed with an update provided to ministers on progress later in 2023.

9.1.1 Implementation planning

Key implementation planning work to be undertaken in 2023 will include:

- Development of national policy and guidelines to underpin the reforms. This work will be led by Austroads in conjunction with jurisdictions and will consider areas such as:
 - Progression pathways – mechanisms for collecting and validating completion of driving hours and a supervision program. Development of tools and templates to support the delivery of the supervision program.
 - Eligibility based on recent driving history – refining the approach to assessing driving history including exchange of information between jurisdictions.
 - Competency enhancements and minimum times – development of education and engagement material for use in the rollout of the updated competency material to outsourced training and assessment providers. Models for ownership and management of competency material and its use will also be developed.
- Progression of the online training delivery approach through detailed architecture design and costing including integration of nationally managed capability with jurisdictional systems.
- More detailed scoping and definition of online content including hazard-perception testing with further engagement with expert providers of such content.



- In part informed by the Austroads led work program, jurisdictional-specific implementation planning will be required. This will include consideration of resourcing including system and service provision changes. Jurisdictional-specific implementation timeframes and plans will be developed and impacts for national roll out assessed.

While Austroads will facilitate and support the implementation of the agreed reforms, the majority of the work covering legislative change, system upgrades, procedure development and stakeholder engagement will occur at a jurisdictional level.

Key implementation risks include:

- Loss of momentum after ministerial sign off, with competing jurisdictional priorities taking precedence
- Some or all elements of the reform package not being introduced in all jurisdictions
- Funding availability to progress planning, policy and system work
- Lack of support from the outsourced training sector for the reforms with consequential impacts on the availability of trainers and assessors
- Lack of support from the heavy vehicle sector for the revised progression options or reluctance to implement the procedural changes required to underpin their implementation.

9.1.2 Transitional arrangements

It is possible that reform elements may be introduced in discrete packages over time with some variation in jurisdictional implementation timings.

As part of implementation planning, consideration will be given to aligning broad jurisdictional work programs to the extent possible. This should minimise, as far as is practical, heavy vehicle drivers moving between jurisdictions to avoid what are viewed as disadvantageous arrangements, or conversely to take advantage of more advantageous arrangements.

Some of the reforms will be most appropriately implemented on a single date in a jurisdiction, for example, introduction of eligibility requirement changes. Other reforms, such as revisions to the competency training program, may be staged by bringing providers and trainer/assessors on progressively.

9.1.3 Evaluation

The evaluation framework is still under development however three broad forms of evaluation are being actively considered:

- Process Evaluation – this would evaluate which elements of the reform have been implemented as intended, as well as assess any practical issues that have been encountered in implementation (measured through independent review as well as participant and training provider input)
- Impact Evaluation – this would assess the change impact of the reform and would cover elements such as:
 - Improvement in knowledge and attitudes of licence applicants (measured through online participant surveys)



- Number of drivers taking new progression pathways and impacts on accelerated movement to more productive vehicles (measured through analysis of licensing pathway data)
- Outcomes Evaluation – this would be a longer term evaluation assessing the impact of the reform on safety outcomes measured through crash and infringement rates. This evaluation would be expected to involve engagement of a recognised road safety research entity.

9.2 Future work

Specific questions and options have been identified in the course of developing the Decision RIS which, because of timing, have not been either fully developed or fully considered at the time of drafting. These are further discussed below.

For those elements that relate to the licensing framework, and that remain under consideration, Austroads (in conjunction with licensing authorities) will undertake a more detailed assessment of costs, benefits and implementation issues. Austroads may undertake further targeted consultation with key stakeholders on these elements if necessary.

For reforms that are better addressed through alternative regulatory mechanisms Austroads will direct these matters to the responsible authority.

9.2.1 Further development of some Option 1 reform elements

Online learning

It is recognised that online learning will not suit all people. For those unable to undertake online training, for example because of limited internet access or due to literacy challenges, trainer-facilitated options will be developed. These may include the use of the online content by the trainer, supplemented with in-person support. Another alternative is online delivery using mechanisms that require minimal internet bandwidth.

As part of implementation planning, face-to-face and alternate approaches for delivery of the content will need to be further explored.

Finalising the specifics of proposed reforms to training and governance

Option 1 contains reforms to address Problem 2 (the quality of driver training and assessment). These include the development of driver training and assessment material and tools to support a more consistent, higher quality national approach to management of outsourced training provision. It also includes a proposal to introduce minimum training hours for courses including behind-the-wheel time.

The specifics of how jurisdictions will audit or check for compliance against these proposed reforms requires further development.

Young driver trial

Option 1 does not include any reform elements that directly target young drivers; instead it focuses on building experience. Consultation following the Consultation RIS has suggested support for the formal development and evaluation of a young driver heavy vehicle pilot trial.

The aim would be to explore whether providing young prospective heavy vehicle drivers with more substantive training and mentoring, more in line with international programs, would deliver



road safety benefits. By way of example, some overseas heavy vehicle training programs considered to be good practice include:

- European Union – 280 hours
- United States – 160 hours
- Saskatchewan – 120 hours
- Ontario – 130 hours.

Should a trial be progressed, it would be the subject of detailed planning that would involve industry and licensing authorities. Development of a rigorous evaluation program would be a key component of any trial and would be expected to monitor the program itself, as well as the safety outcomes over a number of years. If this pilot proves effective, a young driver program could be implemented in concert with eligibility criteria requiring applicants to hold an open licence (Option 2a). This would have the effect of enabling young people/inexperienced drivers to enter the industry on condition that they complete increased training.

It should be noted that, given the longitudinal nature of any such pilot and the need to monitor driver safety over a number of years, findings from the evaluation and any potential implications for broader changes to licensing policy may not be identified for a decade.

9.2.2 Reforms that could be addressed through other regulatory mechanisms

Requiring licensing authorities to share driving history with employers

If Option 2b is not progressed (including in combination with Option 1) an alternative may be to assist heavy vehicle operators get information on the driving history of their drivers. Some jurisdictions already have systems that provide information on traffic offences to employers. However these arrangements are not universal. In the absence of such a scheme, operators do not receive notification from licensing authorities about driving offences committed by their drivers unless they are the registered operator of the vehicle such that the infringement notice is sent to the address of the vehicle's registered operator.

One option raised by stakeholders for addressing this could be to impose obligations on licensing authorities to notify transport operators about any fines or enforcement actions taken against drivers, or in relation to registered vehicles being used by these operators under hire and reward arrangements.

This option could be further explored as an alternative to Option 2.

Requiring operators of complex vehicles to further train drivers under the Heavy Vehicle National Law

As discussed in Section 5.4.3, Austroads considered splitting out the existing MC licence class to better enable the licensing framework to capture the different skills, knowledge, experience and attributes needed to drive more complex vehicles. These vehicles only operate in a relatively small number of geographic regions and are utilised by a small number of employers. As discussed in Section 5.4.3 the heavy vehicle training industry's ability to comprehensively and cost effectively support delivery of training and assessment programs specifically for these very large heavy vehicles is also questionable.



This suggests different options for implementing this reform element may be beneficial and should be explored further. For example, the intent of these reforms could instead be delivered through employer-based training and assessment programs that recognise employees who have the credential to drive these vehicle types rather than through the introduction of a new licence class.

It is considered that the same outcomes (increased competency development for people driving very large heavy vehicles) might be better achieved through employer obligations under the Heavy Vehicle National Law rather than through the licensing framework.



A Jurisdictional training and assessment requirements

Jurisdictional training requirements

Table 23 outlines our understanding of the current jurisdictional position with respect to training as a path to obtaining a heavy vehicle licence, as well as the required training course.

Table 23: Driver training courses and assessment/testing options adopted by jurisdictions

	Light rigid	Medium rigid	Heavy rigid	Heavy combination	Multi-combination
ACT	<i>Drive Heavy Vehicle Unit</i>	<i>Drive Heavy Vehicle Unit</i>	<i>Drive Heavy Vehicle Unit</i>	<i>Drive Heavy Vehicle Unit</i>	<i>Licence to Drive Unit</i>
NSW	<i>Licence to Drive Unit and internal departmentally delivered assessment</i>	<i>Licence to Drive Unit and Internal departmentally delivered assessment</i>	<i>Licence to Drive Unit and Internal departmentally delivered assessment</i>	<i>Licence to Drive Unit and Internal departmentally delivered assessment</i>	<i>Licence to Drive Unit</i>
NT	<i>Licence to Drive Unit or outsourced CT</i>	<i>Licence to Drive Unit or outsourced CT</i>	<i>Licence to Drive Unit or outsourced CT</i>	<i>Licence to Drive Unit</i>	<i>Licence to Drive Unit</i>
Qld	Internal departmentally delivered assessment	Internal departmentally delivered assessment	Internal departmentally delivered assessment	Internal departmentally delivered assessment	<i>Drive Heavy Vehicle Unit</i>
SA	Outsourced assessment (VORT) or competency-based training and assessment	Outsourced assessment (VORT) or competency-based training and assessment	Outsourced assessment (VORT) or competency-based training and assessment	Outsourced competency-based training and assessment (Pilot fast track scheme also offered) Training in lieu of experience available (car to HC)	Competency-based training and assessment (Pilot fast track scheme also offered)
Tas	<i>Licence to Drive Unit or outsourced CT</i>	<i>Licence to Drive Unit or outsourced CT</i>	<i>Licence to Drive Unit or outsourced CT</i>	<i>Licence to Drive Unit</i>	<i>Licence to Drive Unit</i>
Vic	<i>Licence to Drive Unit</i>	<i>Licence to Drive Unit</i>	<i>Licence to Drive Unit</i>	<i>Licence to Drive Unit</i>	<i>Licence to Drive Unit</i>
WA	Internal departmentally delivered assessment	Internal departmentally delivered assessment	<i>Drive a Heavy Vehicle Unit</i>	<i>Drive a Heavy Vehicle Unit</i>	<i>Drive a Heavy Vehicle Unit</i>

	Mandated as only option
	One option available
	Training not linked to competency assessment

Source: Austroads



Jurisdictional assessment requirements

Table 24 and **Table 25** summarise how heavy vehicle driver competency assessments for rigid, HC and MC licence classes vary across jurisdictions.

Table 24: Competency assessment options for light rigid to heavy combination vehicle classes

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA			
Theoretical tests											
Departmental knowledge test	Available	Available	Available with restriction or condition	Available	Available with restriction or condition	Available	Available	Available with restriction or condition			
Competency/Practical Assessment											
Heavy Vehicle Driver Competency Framework											
Training course			Available			Available	Available				
Progressive/final competency assessment		Available	Available			Available	Available				
Competency test		LR – HR	Available with restriction or condition			Available with restriction or condition	Available with restriction or condition				
Non- HVDCF											
Approved training course and related assessment	Available				Available	Available with restriction or condition		Available with restriction or condition			
Practical test with departmental staff		LR – HR		Available	Available with restriction or condition	Available with restriction or condition		Available with restriction or condition			
Practical test with approved provider	Available				Available			Available with restriction or condition			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #c6e0b4;">Available (in the case of theoretical test – is required)</td> </tr> <tr> <td style="background-color: #fff2cc;">Available with restriction or condition (in the case of a theoretical test – is sometimes required)</td> </tr> <tr> <td>Not Available</td> </tr> </table>									Available (in the case of theoretical test – is required)	Available with restriction or condition (in the case of a theoretical test – is sometimes required)	Not Available
Available (in the case of theoretical test – is required)											
Available with restriction or condition (in the case of a theoretical test – is sometimes required)											
Not Available											

Source: Austroads, *Review of the National Heavy Vehicle Driver Competency Framework*, 2018, p.6.

**Table 25:** Competency assessment options for multiple combination vehicle class

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
Theoretical tests								
Departmental knowledge test								
Service provider knowledge test								
Heavy vehicle driver competency framework								
Competency/Practical assessment								
Progressive/Final competency assessment		PCA only						
Non-HVDCF								
Completion of supervised log book hours only (no test)				HC licence holders only				
Approved training course and related assessment								
Practical test with approved provider								

Available (in the case of theoretical test – is required)
Available with restriction or condition (in the case of a theoretical test – is sometimes required)
Not Available

Note: Where there are multiple options shown for a jurisdiction this indicates that the licence applicant can choose one of several alternate paths

Source: Austroads, Review of the National Heavy Vehicle Driver Competency Framework, 2018, p.6. Note: PCA means final competency assessment.

Jurisdictional requirements for approving assessors

Table 26 outlines how requirements for approving assessors varies across jurisdictions.

All trainers and assessors delivering nationally recognised training must hold appropriate training and assessment qualifications. Jurisdictions currently require assessors to have some or all of the following:

- TAE40116 Certificate IV in Training and Assessment or specified units of this course – in a number of cases only two or three units of this certificate level course are mandated
- TLI41316 Certificate IV in Transport and Logistics (Road Transport – Heavy Vehicle Driving Instruction).

For those jurisdictions that have adopted the framework, there is a consistent move to licensing regulator development of specific training material for instructor/assessors in the competency assessment guideline. This training material, while still under development in some cases, is quite extensive and for durations up to five days. This focus on ensuring assessors are skilled is supported by the research undertaken for this project. However, this material is specifically



focused on the heavy vehicle assessment guidelines and process. They are in addition to the mandated certificate qualifications outlined above, which provide foundation capabilities not related to the content of specific heavy vehicle assessment activities.

Table 26: Information sought in determining assessor suitability

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
Personal characteristics and evidences								
Engagement by RTO								
Licence class equal to that of testing and minimum tenure								
Heavy vehicle experience								
Police check								
Traffic offence history								
Medical fitness								
Fit and proper person								
Approval as a driving instructor								
Names of past students								
Training and assessment requirements								
Dept code of conduct training								
Dept determined training course in heavy vehicle competency assessment								
Service provider training course as approved by the dept								
Driving Instructor Skills Set TLISS00162								
Certificate IV – Heavy Vehicle Driver Instruction – TLI41321								
Certificate IV in Training and Assessment – TAE40116					Some units only			Some units only
First aid certificate								
Dept road rules test								
Theory test on the dept heavy vehicle assessment manual								
On-road vehicle test								
HVCBA as student and then assess under supervision								
Mandatory								
Applicable in some circumstances								



Some but not all jurisdictions have requirements to maintain capability of approved assessors as outlined in the table below.

Table 27: Requirements for assessors to maintain capability

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
<i>Undertaken by service provider</i>								
Refresher training								
Full course as per when first approved								
Practical competency test								
Theory test								
Undertake current version of Cert IV Heavy Vehicle Driver Instruction on upgrade to a higher class of heavy vehicle licence assessor approval								
Minimum number of assessments per month								
Mandatory								
Applicable in some circumstances								



B Proposed NHVDCF competencies

The table below outlines the proposed elements and indicates:

- which element is applicable to each licence class
- the method of delivery.

Legend

O Online only	OPC All – Online/practical/classroom	OC Online and classroom
C Classroom only	PC Practical/classroom	None

Table 28: Proposed NHVDCF Competencies

Ref	Element		LR	MR	HR	HC	MC
1.1.1	Tyres	Check tyres have a tread depth of at least 1.5mm.	OPC	OPC	OPC	PC	OPC
1.1.2	Tyres	Check for severely under-inflated tyres	OPC	OPC	OPC	PC	OPC
1.1.3	Tyres	Check rear dual tyres are not touching on truck or trailers	OPC	OPC	OPC	PC	OPC
1.2.1	Lights	Check headlights and tail-lights and reflectors work	OPC	OPC	OPC	PC	OPC
1.2.2	Lights	Check that headlights and tail-lights are clean and that beam can be seen	OPC	OPC	OPC	PC	OPC
1.3	Drive belt check	(See maintenance overview Ref 12.1)	na	na	na	na	na
1.4.1	Bodywork	Check that there are no protrusions from the truck (or trailer) bodies	OPC	OPC	OPC	PC	OPC
1.4.2	Bodywork	Check that doors on truck (and rear door on trailer) open and close	OPC	OPC	OPC	PC	OPC
1.5.1	Air tank	Check that air tank is drained and does not contain water or oil fluids	OPC	OPC	OPC	PC	OPC
1.6.1	Wheels	Check wheels have full set of wheel nuts	OPC	OPC	OPC	PC	OPC
1.6.2	Wheels	Check wheels do not have cracked rims or hubs	OPC	OPC	OPC	PC	OPC
1.7.1	Mudflaps	Check there are no missing mud flaps on rear axle groups	OPC	OPC	OPC	PC	OPC
1.8.1	Leaks	Check that there are no fluid leaks from: water, fuel, cooling or lubricating systems etc.	OPC	OPC	OPC	PC	OPC



Ref	Element		LR	MR	HR	HC	MC
1.9.1	Registrations	Confirm that the training vehicle (and/or trailer) carries current registration	O	O	O		O
1.10.1	Signage	Truck has correct signage, e.g., dangerous goods diamonds, over dimensional, long load etc.	O	O	O		O
1.11.1 1.11.2	Trailers/ (dollies)	Couple trailer(s) (and/or dollies) procedure: checking leads are connected				OPC	OPC
1.12.1	Wheels chocks	Check that your truck carries as set of wheel chocks (if mandated)	O	O	O		O
1.13.1	Safety equipment	Check that your truck carries reflector triangle, extinguisher and/or witches hats	O	O	O		O
1.14.1	Tilt	Note that there is no rigid truck or trailer tilt due to poor loading or load positioning	OPC	OPC	OPC	PC	OPC
2.1	Enter cab	Wear appropriate shoes, pull yourself into cab facing forward (3 points of contact entry)	OPC	OPC	OPC	PC	OPC
2.2	Seats	Adjust driver seat so that feet can touch the floor and pedals, also adjust seat lumbar support	OPC	OPC	OPC	PC	OPC
2.3	Steering column	Adjust the steering column for height and angle to suit the driver	OPC	OPC	OPC	PC	OPC
2.4	Seatbelts	Check that seatbelts work, driver fastens and adjusts.	OPC	OPC	OPC	PC	OPC
2.5	Mirrors	Check that mirrors are not cracked or broken and adjust for driver vision	OPC	OPC	OPC	PC	OPC
2.6	Wipers	Check that both windscreen wipers work at the various settings	OPC	OPC	OPC	PC	OPC
2.7	Gauges and switches	Check that the panel lights and gauges are active. Check switches work	OPC	OPC	OPC	PC	OPC
2.8	Indicators	Check that the left/right indicators are working as well as hazard lights	OPC	OPC	OPC	PC	OPC
2.9	Brake controls	Locate and be familiar with the engine and trailer brake activation switches/levels	OPC	OPC	OPC	PC	OPC
2.10	Sun visors	Check that both visors work in the down and lift back positions	OPC	OPC	OPC	PC	OPC
2.11	Brakes	Check handbrake (and trailer brake) is on	OPC	OPC	OPC	PC	OPC
2.12	Gear	Check the truck is in gear (not in neutral gear)	OPC	OPC	OPC	PC	OPC
3.1	Route	Driver has in advance selected the appropriate driving route	OC	OC	OC	C	OC



Ref	Element		LR	MR	HR	HC	MC
3.2	Start	Turn on the engine (let run for 5 minutes if truck uses airbrakes to build the air bank)	OPC	OPC	OPC	PC	OPC
3.3	Observe	Check that all gauges on the dashboard are working	OPC	OPC	OPC	PC	OPC
3.4	Turn on lights	Turn on truck lights (if night-time) or parking lights if it is trainer/company procedure	OPC	OPC	OPC	PC	OPC
3.5	Gears and unlock brakes	Put truck into gear, manual or AMT (not for automatic) and take-off park brake (and trailer brake)	OPC	OPC	OPC	PC	OPC
3.6	Brake active	Squeeze airbrake to confirm it is active	OPC	OPC	OPC	PC	OPC
3.7	Drive	Engage clutch (if applicable) and move to yard or road entrance from training area (if in yard)	OPC	OPC	OPC	PC	OPC
3.8	Stop	Move to road entrance and brake to stop	OPC	OPC	OPC	PC	OPC
3.9	Observe	Look across 180 degrees left to right for oncoming directional traffic flows and check when the road is clear	OPC	OPC	OPC	PC	OPC
3.10	Indicate	Use left or right indicator to show the direction of entry to roadway	OPC	OPC	OPC	PC	OPC
3.11	Enter road	Accelerate smoothly onto road surface	OPC	OPC	OPC	PC	OPC
3.12	Hill start	As above: engage clutch, (press hill start button) (release trailer brake) indicate and move off	OPC	OPC	OPC	PC	OPC
4.1	Initial entry	Enter nearest road lane and turn off indicator	OPC	OPC	OPC	PC	OPC
4.2.1	Straight driving	Gear change up synchromesh and accelerate or accelerate to flow speed (auto), observe gauges	OPC	OPC	OPC	PC	OPC
4.2.2	Straight driving	Check mirrors and adopt a correct road position	OPC	OPC	OPC	PC	OPC
4.2.3	Straight driving	Adopt a safe following distance	OPC	OPC	OPC	PC	OPC
4.2.4	Straight driving	Steer with two hands	OPC	OPC	OPC	PC	OPC
4.3.1	Lane positioning	Lane position selection unlaned (narrow road)	OPC	OPC	OPC	PC	OPC
4.3.2	Lane positioning	Lane position selection unlaned (wide road)	OPC	OPC	OPC	PC	OPC
4.3.3	Lane positioning	Lane selection – 2 lane with centre white line	OPC	OPC	OPC	PC	OPC



Ref	Element		LR	MR	HR	HC	MC
4.3.4	Lane positioning	Lane selection – 2 or more lanes with centre reservation (speed limit below 80 km/h)	OPC	OPC	OPC	PC	OPC
4.3.5	Lane positioning	Lane selection – 2 or more lanes with centre reservation (speed limit above 80 km/h)	OPC	OPC	OPC	PC	OPC
4.4.1	Speed	Speed selection – zone identification	OPC	OPC	OPC	PC	OPC
4.4.2	Speed	Speed selection hazard density	OPC	OPC	OPC	PC	OPC
4.5	Distance spacing	Safety gap spacing (forward 4–7 sec min)	OPC	OPC	OPC	PC	OPC
4.5.1	Distance spacing	Safety gap spacing on left side	OPC	OPC	OPC	PC	OPC
4.5.2	Distance spacing	Safety gap spacing on right side	OPC	OPC	OPC	PC	OPC
4.5.3	Distance spacing	Safety gap spacing after overtaking a vehicle	OPC	OPC	OPC	PC	OPC
4.6	Left turns Right turns	At a traffic signalled intersection, use full visual range to turn into single or double lane. Use suitable hand positioning	OPC	OPC	OPC	PC	OPC
4.7	Left turns Right turns	At a non-traffic signalled intersection, use full visual range to turn into single or double lane. Use suitable hand positioning	OPC	OPC	OPC	PC	OPC
4.8	Slip lane Left Turn	Turn left into slip lanes (slip road in USA)	OPC	OPC	OPC	PC	OPC
4.9	Check blind spots	Know vehicle's blind spot and be familiar with how to compensate	OPC	OPC	OPC	PC	OPC
4.10	Blind spot hint	Move forwards in the seat and comprehensively scan with own vision overcoming pillar block out, as well as full use of sidemirrors	OPC	OPC	OPC	PC	OPC
4.11.1	Merging	Entering major arterial or freeways. Select appropriate speed, signal, check mirror and blind spots, judge an appropriate safety gap and merge	OPC	OPC	OPC	PC	OPC
4.11.2	Merging	When on desired major road, indicate and position in lane with appropriate safety gap.)	OPC	OPC	OPC	PC	OPC
4.11.3	Merging	When exiting a major arterial of freeway check mirror, indicate, select speed and gear, and enter exit ramp with appropriate safety gap	OPC	OPC	OPC	PC	OPC
4.12.1	Overtaking	Select safety gap, consider all traffic positioning, legal speed limits, unbroken road	OPC	OPC	OPC	PC	OPC



Ref	Element		LR	MR	HR	HC	MC
		lines and speed limits. Select gear appropriate for acceleration, indicate and undertake the overtaking manoeuvre. Horn can be used to alert overtaking vehicle if needed					
4.12.2	Overtaking	Completing overtaking – indicate and move back into lane ahead of overtaken vehicle Ensure a safety gap when moving ahead of the overtaken vehicle lane.	OPC	OPC	OPC	PC	OPC
4.13.1	Kerbs	Stopping along a kerb. Choose an appropriate safe location with appropriate space. Choose slow safe speed, indicate, check in mirrors for surrounding traffic, gear down and move towards selected site.	OPC	OPC	OPC	PC	OPC
4.13.2	Kerbs	Check for obstructions near kerb parking site: low hanging building eaves, trees and branches, kerbside signs, other hardstand objects. Activate hazard lights if required.	OPC	OPC	OPC	PC	OPC
4.14.1	Roundabouts	Roundabout straight ahead single lane and dual lanes	OPC	OPC	OPC	PC	OPC
4.14.2	Roundabouts	Roundabouts left and right-hand turns single lane	OPC	OPC	OPC	PC	OPC
4.14.3	Roundabouts	Roundabouts left and right-hand turns dual or more lanes	OPC	OPC	OPC	PC	OPC
4.14.4	Roundabouts	Demonstrate lane splitting (60–40 in two lanes to enable asset clearance and to block cars from creeping up on the inside of a turning vehicle). PCAS (Preserve crash avoidance space). Full use of mirrors and full visual scan noting truck blind spots	OPC	OPC	OPC	PC	OPC
4.15.1	Inclines/rise	Gear change down moderate rise using synchromesh gear box or double clutch for non-synchromesh	OPC	OPC	OPC	PC	OPC
4.15.2	Inclines/rise	Use of 'diff lock', AWD for traction control and preventing wheel slippage.	OPC	OPC	OPC	PC	OPC
4.15.3	Inclines/rise	Steep rise – gear change down undertaking a missed gear recovery					
4.16.1	Declines/ downhill	Gear change down on a mild decline with synchromesh gearbox or double clutch for non-synchromesh gearbox	OPC	OPC	OPC	PC	OPC
4.16.2	Declines / downhill	Steep downhill. Take note of 'steep' road signage. Use a chosen full gear before	OPC	OPC	OPC	PC	OPC



Ref	Element		LR	MR	HR	HC	MC
		entering descent. Heighten your awareness when driving. In emergencies use engine brake, and observe emergency off ramps or retarding pits					
4.17.1	High-speed exits/bends	High-speed cornering bend – select speed and gear for the exit approach. Choose an approach exit line observing the bend angle and the road surface camber	OPC	OPC	OPC	PC	OPC
4.17.2	High-speed bends	High-speed cornering bend – select an effective hand positioning technique on the steering wheel	OPC	OPC	OPC	PC	OPC
4.18.1	Gravel roads	Adjust to an appropriate speed and select a road position to view oncoming vehicles	OPC	OPC	OPC	PC	OPC
4.18.2	Gravel roads	Allow an appropriate safety gap so that dust, dirt, gravel are avoided from vehicles you are following.	OPC	OPC	OPC	PC	OPC
4.18.3	Gravel roads	Speed reduction and position selection to avoid oncoming vehicle accident on narrow roads	OPC	OPC	OPC	PC	OPC
4.18.4	Gravel roads	When cornering slow noting the new gravel surface, camber and road shoulder width. Use suitable steering wheel hand positioning	OPC	OPC	OPC	PC	OPC
4.19.1	Special approaches	Approach crest of hills	OPC	OPC	OPC	PC	OPC
4.19.2	Special approaches	Approach to single lane bridges	OPC	OPC	OPC	PC	OPC
4.19.3	Special approaches	Approach to narrow bridges with signalled entry	OPC	OPC	OPC	PC	OPC
4.19.4	Special approaches	Hazard height identification (trees, low bridges etc.)	OPC	OPC	OPC	PC	OPC
4.19.5	Special approaches	Tram crossing, stop sign, construction zones, pedestrian crossings, school and railway crossings	OPC	OPC	OPC	PC	OPC
4.20	Dashboard instruments	Check while travelling that the truck instruments, gauges and warning lights are in working order.	OPC	OPC	OPC	PC	OPC
4.21.1	Road surfaces	Exposure to different road surfaces e.g., gravel, partially sealed, different cambers, wet, iced etc. and tight turns	OPC	OPC	OPC	PC	OPC



Ref	Element		LR	MR	HR	HC	MC
4.21.2	Road surfaces	Use of 'diff lock', AWD for traction control and prevent wheel slippage. mud, ice, oil, heavy rain	OPC	OPC	OPC	PC	OPC
4.22	Affective state	Drivers are informed of mental state impacts on their judgement and risk	OPC	OPC	OPC	PC	OPC
5.1	Reversing manoeuvres	Checks with mirrors that the area being reversed into is clear	OPC	OPC	OPC	PC	OPC
5.2	Reversing manoeuvres	Places into reverse gear and adjusts steering to move into the selected area	OPC	OPC	OPC	PC	OPC
5.3	Reversing manoeuvres	Reversing – straight line	OPC	OPC	OPC	PC	OPC
5.4	Reversing manoeuvres	Reversing offset to the left	OPC	OPC	OPC	PC	OPC
5.5	Reversing manoeuvres	Reversing offset to the right	OPC	OPC	OPC	PC	OPC
5.6	Reversing manoeuvres	Reverse into a driveway to the right and then a reverse to the left	OPC	OPC	OPC	OPC	OPC
5.7	Reversing manoeuvres	Reversing around corners (left corner)	OPC	OPC	OPC	OPC	OPC
5.8	Reversing manoeuvres	Reverse into a loading dock	OPC	OPC	OPC	OPC	OPC
6.1	Select lane	Manoeuvre into the appropriate lane to undertake the change of straight direction	OPC	OPC	OPC	OPC	OPC
6.2	Indicate	Indicate the turn to park kerbside or into directed premises or yard	OPC	OPC	OPC	OPC	OPC
6.3	Observe	Slow to appropriate gear and observe surrounding traffic for any hinderance to parking	OPC	OPC	OPC	OPC	OPC
6.4	Begin to park	Manoeuvre vehicle (and trailers) into position using forward vision and mirrors	OPC	OPC	OPC	OPC	OPC
6.5	Apply brakes	Apply park and trailer brakes	OPC	OPC	OPC	OPC	OPC
6.6	Logbook	Fill out appropriate details in logbook or enter times into the electronic work diary at trip's end	OC	OC	OC	OC	OC
6.7	Turn off engine	Idle down before turning off the engine	OPC	OPC	OPC	OPC	OPC
6.8	Exit vehicle	Exit cabin using steps and grips	OPC	OPC	OPC	OPC	OPC



Ref	Element		LR	MR	HR	HC	MC
6.9	Inspect	Check for load shift, tilt for rigid truck, or displaced load for trailers	OPC	OPC	OPC	OPC	OPC
6.10	Other measures	If required place wheel chocks vehicle prime mover or trailer or dollies. May need to click off isolation switch	PC	PC	PC		
6.11	Hill park	Manoeuvre vehicle slowly to park location, gear down and stop. Activate trailer brake, turn off engine					
6.12/6.13	Trailers	Uncouple trailers and/or the dolly from the prime mover				PC	PC
7.1	Lights and windscreen	Have a clean windscreen as well as clean headlights, indicator and trailer lights	O	O	O	O	
7.2	Lights	Turn on headlights (trailer lights come on automatically)	O	O	O	O	
7.3	Cabin	Dim cabin/dashboard lights, allows greater vision	O	O	O	O	
7.4	Speed selection	Select speed to suit the level of illumination driver is comfortable with	O	O	O	O	
7.5	Beam length	Drive at a speed where you can stop within your truck's beam length	O	O	O	O	
7.6	High beam	Alternate your high beam between oncoming vehicles and lower when approaching hill crests	O	O	O	O	
7.7	Facing high beam	When facing high beam from oncoming traffic avert your gaze slightly to the left	O	O	O	O	
7.8	Level crossings	Slow and/or stop to assess activity at a non-illuminated or non-gate controlled rail crossing	PC	PC	PC	PC	PC
7.9	Reversing	Turn on hazard lights when reversing, especially on multi-trailer combination at night	PC	PC	PC	PC	PC
7.10	Vulnerable entities	Be more vigilant to the presence of motorcycles, urban cyclists and pedestrians at night	PC	PC	PC	PC	PC
7.11	Reflections	Slow, and possibly take evasive action if animal eye reflection is seen before animal is in focus	PC	PC	PC	PC	PC



Ref	Element		LR	MR	HR	HC	MC
7.12	Night breakdown	Move to side of road, turn on hazard lights, place reflector triangles behind truck (or trailers)	PC	PC	PC	PC	PC
8.1	Identification	Recognise the hazard: physical, caused by other road user or vehicle, or road surface related	OPC	OPC	OPC	PC	OPC
8.2	Evaluation	Determine what hazard procedure should be adopted (12 second forward planning)	OPC	OPC	OPC	PC	OPC
8.3	Truck placement	Ensure truck is in correct lane or road space travelling at an appropriate speed, allowing for evasive action when approaching the hazard. Anticipate readiness to brake.	OPC	OPC	OPC	PC	OPC
8.4	Truck path	Driver will choose an appropriate/priority path for hazard avoidance	OPC	OPC	OPC	PC	OPC
8.5	Other vehicles	Driver will use mirrors and visuals to determine his/her proximity to other road users	OPC	OPC	OPC	PC	OPC
8.6	Preparation	Driver will choose an appropriate speed and gear with which to negotiate the hazard	OPC	OPC	OPC	PC	OPC
8.7	Alternatives	Driver will determine alternative bypass strategy if circumstance change when approaching or passing the hazard	OPC	OPC	OPC	PC	OPC
8.8	Exiting	Driver accelerates to an appropriate speed when the hazard has been passed	OPC	OPC	OPC	PC	OPC
9.1	Emergency occurrence	Emergency braking – using the threshold technique	OPC	OPC	OPC	PC	OPC
9.2	Emergency occurrence	Low air – stopping safely (airbrakes)	OPC	OPC	OPC	PC	OPC
9.3	Emergency occurrence	50% brake rule – proactive, not reactive, braking when approaching a hazard	OPC	OPC	OPC	PC	OPC
9.4	Emergency occurrence	Use of engine retarders – Jake brakes, gear or exhaust retarders	OPC	OPC	OPC	PC	OPC
9.5	Emergency occurrence	Leaving and re-entering the shoulder of the road (bitumen to gravel)	OPC	OPC	OPC	PC	OPC
9.6	Emergency occurrence	First responder actions	O	O	O	O	O
9.7	Extreme Conditions'	Adjust driving techniques for exceptionally poor weather and surface conditions	OPC	OPC	OPC	PC	OPC



Ref	Element		LR	MR	HR	HC	MC
10.1.1	Advanced non-automatic	Demonstrates a recovery into a gear after missing a gear on a flat road surface	OPC	OPC	OPC	PC	OPC
10.1.2	Advanced non-auto	Demonstrates recovery into a gear after missing a gear when driving on a steepening road surface	OPC	OPC	OPC	PC	OPC
10.1.3	Advanced non-auto	Demonstrates recovery into a gear after missing a gear when driving on a downhill sloping road service	OPC	OPC	OPC	PC	OPC
10.2.1	Advanced	Driving in heavy rain, snow, ice, fog, sandstorms, mud, etc. taking greater notice of the truck's limitations	OPC	OPC	OPC	PC	OPC
10.3.1	Advanced non-auto	Skipping to higher gear technique for synchromesh and non-synchromesh gearbox	OPC	OPC	OPC	PC	OPC
10.3.2	Advanced non-auto	Skipping to a lower gear for a synchromesh and non-synchromesh gearbox	OPC	OPC	OPC	PC	OPC
10.4	Advanced non-auto	Basic rollover knowledge: causes and avoidance	O	O	O		O
10.5	Steer tyre blowout	Do not brake, steer straight (can be difficult) slow down and slowly move to a flat off-road surface	O	O	O		O
10.6	Temperament	Exhibit stable behaviour and courtesy to other vehicles and road users	OPC	OPC	OPC	PC	OPC
11.1	Driving hours	The legal driving hours under HVNL or other relevant state-based legislation i.e, standard hours, BFM and AFM. What causes fatigue, how to alleviate it	O	O	O		O
11.2	Axle weights	What weight can an axle group carry? What is standard mass, CML and HML?	O	O	O		O
11.3	Loading and restraint	Legal requirements, centre of gravity appreciation, restraint types and information sources	O	O	O		O
11.4	Manual handling	Awareness of safe loading and unloading techniques	O	O	O		O
11.5	Road rules	Knowledge of road rules and what is an infringement notice and when do you get one	O	O	O		O
11.6	Chain of responsibility	What is CoR, how do you as a licensee fit? What can't you be directed to do?	O	O	O		O



Ref	Element		LR	MR	HR	HC	MC
11.7	Truck safety	Overview of truck safety in the industry: fatal, serious and major crashes	O	O	O		O
12.1	Pre- and post- trip checks	Pre- and post-trip check elements touch on maintenance, tyres, leaks, broken/defective lights, drive belt, etc.	OC	OC	OC	OC	OC
12.2	Basic maintenance	Changing tyres, greasing turntables, checking fluids, air tanks and, changing bulbs.	OC	OC	OC	OC	OC
12.3	Servicing	What are A, B and C maintenance services and why a driver needs to know	OC	OC	OC	OC	OC
12.4	Technology updates	Driver to keep up to date with vehicle technologies (not necessarily in the Licence to Drive unit)	OC	OC	OC	OC	OC

Source: Austroads

Notes:

In developing these revised draft competency elements consideration was given to:

- Overseas training programs including Washington state; Vancouver; Mandatory Entry Level Training (MELT)
- Australian heavy vehicle driver training programs including the Army
- Industry drivers and employers who have a particular interest in training.

Consideration was also given to coroners' findings in relation to driving skills on steep declines, including with trailers. Specifically the following have been included:

- Online familiarisation with steep declines
- Classroom reinforcement of online learning
- Graduated behind-the-wheel training on declines
- Correct coupling of trailers to minimise the risk of separation when driving.



C Learning framework underpinning competency and assessment approach

Table 29: Learning framework underpinning competency and assessment approach

Classification	Category	Learning constructs
Knowledge and knowledge acquisition	Verbal knowledge	Declarative knowledge: Storage of facts and information of task-relevant knowledge. Measurement focuses on assessing the amount of knowledge, accuracy of recall and accessibility of knowledge.
	Knowledge organisations	Mental models: Organisation of individual units of knowledge. Measurement focuses on assessing the similarity of answers to an 'exemplar' model of practice.
	Cognitive strategies	Metacognitive skills: Knowledge and regulation of mental activities. Measurement focuses on ability to plan, monitor and revise behaviour through self-regulation.
Skill development	Compilation	<p>Proceduralisation: Building of small, discrete, controlled behaviours. Measurement focuses on the observation of discrete behaviours on knowledge-based (i.e., learned) tasks.</p> <p>Composition: Grouping of several discrete, controlled behaviours into a single fluid production. Measurement focuses on generalising new skills beyond the trained situation and when presented within a new environment.</p>
	Automaticity	Automatic processing: Automatic processing of information which requires no conscious monitoring of information. Measurement focuses on assessing the level of cognitive effort required to complete a primary task (i.e., identifying hazards) while simultaneously completing a secondary task (i.e., driving a vehicle).
Affective state	Attitudinal-Motivational	Safety awareness and motivational state: Internal states that influences actions. Measurement focuses on the direction and strength of feeling towards the action, as well as the development of motivational states.

Source: Austroads



D Sample sheet – supervision program

The following is a recording tool which is used by an existing industry player as part of their driver assessment and induction program. It covers a range of areas which extend beyond what would be expected from a licensing perspective. It is presented as an indicative tool.

Skills		Observation & Assessment Criteria	Competency	Assessor Comments and Future Learning Goals
C = competent, NC = Not Competent, TR = Training required, NYC= Not Yet Competent (Needs Assessment)				
Driver Ability	Trailer Uncoupling/ Coupling	Can Uncouple/Couple as per procedure, Visual inspection of Jaws-PIN, T/Trailer Height control, Airbag control, movement speed, No harsh impact.		
	RoadCraft	Smooth Operation, Plans ahead, Traveling distance, Blends in with Traffic, Lane Position, Anticipates emerging difficulties, Adjusts speed and position.		
	Speed Control	Down hill speed control, Speed advisory signs, right speed for the Situation, No Over speed, Adjusts speed before turns. Drive to the road conditions		
	Reversing/Dock Procedures	Ensures Tailgate is down and correct position, Aligned with dock, Gentle		
	Low Speed Manoeuvring	Identifies risks to vehicle/Property, Uses Mirrors, Avoids unsighted contact		
Attitude & Behaviour	Culture- Professionalism	Repeated Behaviours, High personal Standards, Positive reinforcement		
	Phone Use	No Headphones (One BT only), No on the phone whilst unloading.		
	Camera/Equipment Tampering	No unauthorised adjustments to Cameras or equipment.		
	On Road Behaviour	Interaction with other road users, Anger Management, negotiates for space.		
	NCR's	Understands Fatigue Mangement and the criteria for breaches		
	Incidents	Minimum: Blame worthy incidents, Damage to property, Confrontations		
Paperwork	Represents the Company	Positive representation, Ideal Company Ambassador, No hyper critical complaining		
	Day-Sheet Completion	Dates, Mass Man, Times, Pre-trip, Clock times, Rest Breaks, Clear writing		
	Connote Completion	Completed correctly, Dates, Accurate pallet counts, Sign-offs		
	Work Diary	All legal sections to be completed, home base, Neat, Hands sheets in every day		
Presentation	Request For Repair	Accurate Identification/Discription of Fault, equipment, circumstances		
	Personel	Uniform Cleanliness, Body Odour, No offensive messages on Caps etc.		
	The Five E's	Do not wear the five E's Beernies, trackys, bluey, Flannys and boardys		
COR	Equipment	Inside Cab Cleaniness, Truck Cleanliness, Trailer cleaned for FOOD Transport		
	Fatigue	Driver self Management of legally required breaks, communication to Supervisors		
	Mass	Vehicle complies with axel, GVM, GCM legal limits, use weighbridge or scales		
	Restraint	Proper legal use of Pogo sticks, gates, straps, chains to secure load movement		
	Speed	Vehicle control and compliance to road law speed limits		
	Mechanical	Vehicle standards and Safety		
Driver Awareness	Dimension	Length, Height, Width, Over Dimension routes.		
	Pre-Trip Inspection	Check of Basic Roadworthy Items as listed on Day-sheet		
	Mechanical Smarts	Stop to investigate unusual equipment Visuals, Sounds or Smells. Basic understanding of Vehicle/trailer operations: Mechanical, Electrical, Pneumatic		
	Route Planning	Navigate to stores, DC via Mud maps, Google Maps, GPS. Problem solve detours		
	Hazard Perception	Over head obstacles, Road Obstacles/Changes, Other driver Behaviour		
Situational Observation	Constant vehicle adjustment to mitigate changing traffic circumstances			



Skills		Observation & Assessment Criteria	Competency	Assessor Comments and Future Learning Goals
C = competent, NC = Not Competent, TR = Training required, NYC= Not Yet Competent (Needs Assessment)				
Customer Service	Customer Interaction	Speak to the customers in a friendly, professional and respectful manner.		
	Customer Paperwork	Ensure paperwork is correct, returns, con-notes etc		
	Customer Returns	Picks up all store chep/loscam pallets with out fuss or excuses.		
Communication	Essential communication	Understands and uses the Essential communication process effectivley		
	Mobile app	Uses Mobile app during delivery process		
	Incident Reports	Takes down all essential details (Date, Time, Rego, vehicle details, Photos location, witnesses, contact details, map, can fill out insurance form etc.)		
	ToolBox Meetings	Attends Toolbox meetings, make positive contributions to the meeting.		
Safety & Take 5	Take 5, the 5 steps.	1. Stop and think about the potential dangers associated with the job.		
		2. Think about the hazards.		
		3. Identify the risk. Consider any possible threats of damage or injury.		
		4. Make the change. Implement suitable control measures to reduce risk.		
		5. Proceed safely and complete the task. – Safely		
	Safety procedures	Has a safety mindset in all activities, recognises unsafe behaviour of others		
	Inductions	Completes all inductions		
Manual Handling	Practice safe manual handling			



E Input assumptions for the cost–benefit analysis

The initial draft cost–benefit analysis has been developed to be consistent with the Australian Government Guide to Regulatory Analysis⁸⁸ and the Office of Best Practice Regulation’s cost–benefit analysis guidance note.⁸⁹ Key assumptions and parameters are provided in **Table 30** while a detailed breakdown of the draft figures that informed the initial cost–benefit analysis are provided in **Table 31**.

Table 30: CBA key assumptions and parameters

			Modelled
General inputs			
	Discount rate	%	7%
Timing assumptions			
	Start date for transition	Year	2024
	Transition period	Years	3
	Policy changes implemented	Year	2027
	Appraisal period	Years	20
Overarching inputs			
	Number of states and territories transitioning	#	8
	Benchmark cost for jurisdiction and Austroads resource	\$/FTE	122,000
	Hourly driver wage	\$/Hour	\$45
Inputs on heavy vehicle task			
	Forecast annual growth rate in heavy vehicle kilometres	%	1.38%
Inputs on number of heavy vehicle crashes			
	Deaths per fatal crash	#	1.12
	Fatal crash per million VKM	# per mVKM	0.0091
	Hospitalised injury crash per million VKM	# per mVKM	0.0878
	Non-hospitalised injury crash per million VKM	# per mVKM	0.1209

⁸⁸ Commonwealth of Australia (2020), *Australian Government Guide to Regulatory Analysis*

⁸⁹ Office of Best Practice Regulation (2020), *Cost–benefit analysis: guidance note*



	Property damage only crash per million VKM	<i># per mVKM</i>	0.7055
	Average serious casualty crash rate for newly licensed drivers	%	0.7%
	Average casualty crash rate for newly licensed drivers	%	1.5%
	Crash benefits ramp up	<i>% per annum</i>	20%
	Option 1 change in fatal crashes	%	1.75%
	Option 1 change in non-fatal crashes	%	1.75%
	Option 2a change in fatal and hospitalised injury crashes	%	3.70%
	Option 2a non-hospitalised injury or property damage change in non-fatal crashes	%	4.26%
	Option 2b change in fatal and hospitalised injury crashes	%	8.19%
	Option 2b non-hospitalised injury or property damage change in non-fatal crashes	%	6.49%
	Inputs on crash costs		
	Statistical value of life	\$	5,194,850
	Other fatal crash costs	<i>\$/crash</i>	387,005
	Hospitalised injury crash cost	<i>\$/crash</i>	420,975
	Non-hospitalised injury crash cost	<i>\$/crash</i>	21,243
	Property damage only crash cost	<i>\$/crash</i>	14,352
	Inputs on total licences by vehicle class		
	– LR	<i># licences</i>	327,691
	– MR	<i># licences</i>	524,592
	– HR	<i># licences</i>	1,204,674
	– Total rigid	<i># licences</i>	2,056,957
	– HC	<i># licences</i>	531,704
	– MC	<i># licences</i>	216,901
	Inputs on annual number seeking a licence by vehicle class		
	– HR	<i># licences per annum</i>	24,093
	– Total rigid	<i># licences per annum</i>	41,139
	– HC	<i># licences per annum</i>	10,634
	– MC	<i># licences per annum</i>	4,338
	Annual growth rate in number seeking licences		
	Annual growth rate in number seeking licences	<i>% per annum</i>	1%



Overarching reform transition costs for Austroads and jurisdictions⁹⁰			
	State and territory transition resource requirement	<i>FTE</i>	2.67
	Communication material production	\$	333,333
	Austroads transition resource requirement	<i>FTE</i>	1.3
Enhanced competencies in NHVDCF			
	Jurisdiction transition engagement with outsourced training industry and training of providers on the revised requirements	<i>FTE</i>	2.0
Developing online training content			
	Austroads costs to develop online content for HPT module	\$	1,500,000
	Austroads costs to develop other elements of online content	\$	2,800,000
	Update to NEVDIS to assist in the management of the online content	\$	500,000
Online training implementation costs			
	Austroads upfront online training implementation costs	\$	1,000,000
	Austroads ongoing online training implementation costs	\$	700,000
Integrating online training with existing systems			
	Jurisdictional system costs to support online training	\$	200,000
	Ongoing jurisdictional costs of online training	\$	50,000
Training governance			
	Austroads ongoing management of the framework	<i>FTE</i>	0.25
	Periodic update of online materials	<i>\$ per annum</i>	50,000
	Periodic update of face-to-face training materials	<i>\$ per annum</i>	50,000
	Ongoing increased jurisdictional auditing of providers per jurisdiction	<i>FTE</i>	0
	Ongoing auditing of progressive licensing pathways per jurisdiction	<i>FTE</i>	0.25
	Development of master outsourced provider governance materials	\$	350,000
	Jurisdictional update of outsourced provider agreements	<i>Resource, one year</i>	1.00
Additional training and assessment requirement			

⁹⁰ All jurisdictional costs are estimates per jurisdiction



	Number of states and territories setting up additional online training and assessment	#	8
	Estimate of number of trainers	#	1,000
	Estimate of number of providers	#	90
	Training per individual trainer in the new requirements and material	Hours	16
	Time for each training provider in setting up new practices and processes	Hours	40
	Additional hours of online training and assessment		
	– Rigid	Hours	4.50
	– HC	Hours	0.00
	– MC	Hours	2.50
	Additional hours of face-to-face training and assessment		
	– Rigid	Hours	1.0
	– HC	Hours	0.0
	– MC	Hours	0.0
	Additional hours of supervised driving		
	– Rigid	Hours	3.0
	– HC	Hours	0.0
	– MC	Hours	2.0
	Cost of an assessor	\$/hour	45
	Weighted cost of assessor plus vehicle for portion of face-to-face training and assessment	\$/hour	65
Amending progressive licensing requirements			
	Policy and procedural changes and staff training	Resource, one year	1
	System changes	\$	1,000,000
	NEVDIS changes	\$	150,000
Eligibility criteria set-up costs			
	Policy and procedural changes and staff training	Resource, 1.5 years	3
	Jurisdictional system changes	\$	1,000,000
	NEVDIS changes	\$	250,000
Eligibility criteria ongoing costs			
	Resource for reviews and appeals	FTE	1.5

**Table 31:** Initial draft CBA detailed inputs

			Modelled
General inputs			
	Discount rate	%	7%
Timing assumptions			
	Start date for transition	Year	2024
	Transition period	Years	3
	Policy changes implemented	Year	2027
	Appraisal period	Years	20
Overarching inputs			
	Number of states and territories transitioning	#	8
	Benchmark cost for jurisdiction and Austroads resource	\$/FTE	122,000
	Hourly driver wage	\$/Hour	\$45
Inputs on heavy vehicle task			
	Forecast annual growth rate in heavy vehicle kilometres	%	1.38%
	Forecast annual growth rate in number of heavy vehicles	%	1.38%
Inputs on number of heavy vehicle crashes			
	Deaths per fatal crash	#	1.14
	Fatal crash per million VKM	# per mVKM	0.0091
	Hospitalised injury crash per million VKM	# per mVKM	0.0878
	Non-hospitalised injury crash per million VKM	# per mVKM	0.1209
	Property damage only crash per million VKM	# per mVKM	0.7055
	Proportion of VKM that receive safety benefits	%	100%
	Crash benefits ramp up	% per annum	20%
	Option 1 change in fatal crashes	%	0%
	Option 1 change in non-fatal crashes	%	0%
	Option 2 change in fatal crashes	%	0.7%
	Option 2 change in non-fatal crashes	%	0.4%
	Option 3 change in fatal crashes	%	11.7%
	Option 3 change in fatal non-crashes	%	11.4%



Inputs on crash costs			
	Statistical value of life	\$	5,152,530
	Other fatal crash costs	\$/crash	378,884
	Hospitalised injury crash cost	\$/crash	408,537
	Non-hospitalised injury crash cost	\$/crash	20,798
	Property damage only crash cost	\$/crash	14,039
Inputs on total licences by vehicle class			
	– LR	# licences	327,691
	– MR	# licences	524,592
	– HR	# licences	1,204,674
	– Total rigid	# licences	2,056,957
	– HC	# licences	531,704
	– MC	# licences	216,901
Inputs on annual number seeking a licence by vehicle class			
	– HR	# licences per annum	24,093
	– Total rigid	# licences per annum	41,139
	– HC	# licences per annum	10,634
	– MC	# licences per annum	4,338
Annual growth rate in number seeking licences			
	Annual growth rate in number seeking licences	% per annum	1%
Overarching reform transition costs for Austroads and jurisdictions⁹¹			
	State and territory transition resource requirement	FTE	4.0
	Communication material production	\$	500,000
	Austroads transition resource requirement	FTE	2.0
Enhanced competencies in NHVDCF			
	Jurisdiction transition engagement with outsourced training industry and training of providers on the revised requirements	FTE	2.0
Developing online training content			

⁹¹ All jurisdictional costs are estimates per jurisdiction



	Austrroads costs to develop online content for HPT module	\$	1,500,000
	Austrroads costs to develop other elements of online content	\$	2,800,000
	Update to NEVDIS to assist in the management of the online content	\$	500,000
Integrating online training with existing systems			
	Jurisdictional system costs to support online training	\$	1,000,000
Training governance			
	Austrroads ongoing management of the framework	<i>FTE</i>	0.25
	Periodic update of online materials	<i>\$ per annum</i>	50,000
	Periodic update of face-to-face training materials	<i>\$ per annum</i>	50,000
	Development of master outsourced provider governance materials	\$	350,000
	Jurisdictional update of outsourced provider agreements	<i>Resource, one year</i>	1.00
Additional training and assessment requirement			
	Number of states and territories setting up additional online training and assessment	#	8
	Additional hours of online training and assessment		
	– Rigid	<i>Hours</i>	3.20
	– HC	<i>Hours</i>	3.68
	– MC	<i>Hours</i>	3.55
	Additional hours of face-to-face training and assessment		
	– Rigid	<i>Hours</i>	2.8
	– HC	<i>Hours</i>	5.4
	– MC	<i>Hours</i>	6.8
	Additional hours of supervised driving		
	– Rigid	<i>Hours</i>	1.0
	– HC	<i>Hours</i>	1.0
	– MC	<i>Hours</i>	1.0
	Cost of an assessor	<i>\$/hour</i>	33
Amending progressive licensing requirements			
	Policy and procedural changes and staff training	<i>Resource, one year</i>	1
	System changes	\$	1,000,000
	NEVDIS changes	\$	150,000
Introduce new sub-class of MC licence			
	Policy and procedural changes and staff training	<i>Resource, one year</i>	2
	NEVDIS system changes	\$	500,000



	Management of transition with existing MC licence holders	<i>Resource, one year</i>	2
	Management of transition with existing MC licence holders - communications costs	\$	30,000
	NEVDIS update	\$	500,000
	Jurisdictional system upgrades	\$	1,000,000
	Eligibility criteria set-up costs		
	Policy and procedural changes and staff training	<i>Resource, 1.5 years</i>	3
	Jurisdictional system changes	\$	1,000,000
	NEVDIS changes	\$	250,000
	Eligibility criteria ongoing costs		
	Resource for reviews and appeals	<i>FTE</i>	0.25
	Supervised driving costs		
	Policy and procedural changes and staff training	<i>Resource, one year</i>	1.5
	Jurisdictional system changes	<i>Resource, one year</i>	2.00
	Development of supporting governance for training and supporting supervisors	<i>Resource, two years</i>	1.0
	Development of online training for supervisors	\$	100,000
	Jurisdictional system changes	\$	500,000
	NEVDIS changes	\$	250,000
	Option 3 – supervised driver hours		
	– HR	<i>Hours</i>	8
	– HC	<i>Hours</i>	10
	– MC	<i>Hours</i>	12
	Proportion of supervised driving which would occur in the base case	%	25%
	Cost of a driver supervisor through commercial training organisations		
	– HR	<i>\$/hour</i>	74.34
	– HC	<i>\$/hour</i>	96.25
	– MC	<i>\$/hour</i>	139.57



F Crash costs

The key mechanism through which these reforms are expected to benefit society is by reducing the risk of heavy vehicle crashes.

This appendix outlines the approach taken to estimating the value of a reduction in crash risk. It also discusses evidence associated with the benefit society gains from a reduction in crash risk as a consequence of proposed reforms to the National Heavy Vehicle Driver Competency Framework (NHVDCF).

To assess this impact, we estimated the avoided cost to society from a reduction in heavy vehicle crashes that may arise from the reform. As shown in **Figure 5**, the benefit of a reduction in crash risk is equal to the percentage reduction in crash incidence multiplied by the cost borne by society from crashes involving heavy vehicles.

Figure 5: Social benefit from reduced crash risk



Source: Frontier Economics

Number of heavy vehicle crashes under the base case

In order to estimate the number of crashes prevented under a reform option it is first necessary to estimate the number of crashes that can be expected under the base case going forward.

To do this we used estimates of heavy vehicle kilometres (VKM) in 2018 from the *2020 ABS Survey of Motor Vehicle Use* and BITRE data on the number of fatal crashes in 2018⁹² to create a base case average estimate of the number of fatal crashes per VKM. A similar process was applied in order to generate estimates of casualty/injury crashes per VKM however, this was based on the 2018 average of New South Wales, Queensland and Victorian data on these crash types.

We applied a forecast of the number of heavy vehicles kilometres travelled to these average crash estimates per VKM to develop a forecast of the number of crashes involving heavy vehicles (by crash type).

The forecast of the number of heavy VKM travelled was based on data from the *2020 ABS Survey of Motor Vehicle Use*. Most notably we used the compounding annual growth rate of heavy vehicle kilometres from 2014 to 2020 (1.38%) from the ABS data to create this forecast.

Costs associated with heavy vehicle crashes

Estimating the cost of crashes involving heavy vehicles requires estimating the value of human consequences of a crash (including any lives lost) as well as the other economic consequences.

⁹² Accessible at <https://www.bitre.gov.au/publications/ongoing/road-trauma-involving-heavy-vehicles>



BITRE⁹³ has the most current and comprehensive assessment of these costs for crashes involving all types of vehicles (not just heavy vehicles).

The cost of an individual crash will primarily depend on its severity. Therefore, consistent with BITRE's approach, our analysis separately considers avoided costs for four types of crashes

- fatal crashes (value of life lost and other costs)
- hospitalised injury crashes
- non-hospitalised injury crashes
- property damage only crashes.

For each crash type, we estimated the number of crashes per million vehicle kilometres travelled (VKT) by heavy vehicles, based on historical VKT data from the Australian Bureau of Statistics (ABS) and historical crash data from select jurisdictions.⁹⁴ We also estimated the number of deaths per fatal crash, based on Australia-wide data published by the Bureau of Infrastructure and Transport Research Economics (BITRE).

We applied these benchmarks to a forecast of VKT by heavy vehicles to obtain forecasts of the number of crashes by severity and the number of fatalities caused by heavy vehicles. To convert the crash numbers into costs, we have applied the cost estimates in **Table 32**.

Table 32: Estimates of cost per crash, 2022

Type of cost	Unit of measure	Value of cost
Value of life	\$/life	5,194,850
Other fatal crash costs	\$/crash	387,005
Hospitalised injury crash cost	\$/crash	420,975
Non-hospitalised injury crash cost	\$/crash	21,243
Property damage only crash cost	\$/crash	14,352

Source: (a) Department of Prime Minister and Cabinet, *Best Practice Regulation Guidance Note: Value of statistical life, August 2019*; (b) BITRE, *Cost of road crashes in Australia 2006, December 2009*. Note: All costs escalated to March 2022.

Estimating the cost of crashes involving heavy vehicles requires estimating the value of human consequences of a crash (including any lives lost) as well as the other economic consequences. BITRE has the most current and comprehensive data to base to underpin this calculation.⁹⁵ Using

⁹³ Bureau of Infrastructure, Transport and Regional Economics [BITRE] (2009) *Road crash costs in Australia 2006*, Report 118, Canberra, November.

⁹⁴ We analysed crash data from Qld, NSW, Vic and Tas. Crash data for SA and ACT are publicly available; however they do not sufficiently distinguish between the severity of the crash to be used in this analysis.

⁹⁵ BITRE (2009), *Road crash costs in Australia 2006*, Report 118, Canberra, November.



data from BITRE, together with OBPR data on the value of a statistical life and ABS price indices, we have estimated the cost of crashes involving heavy vehicles.⁹⁶

The estimated average cost of a fatal road crash is based on multiplying the average number of deaths per fatal crash (estimated as 1.12 based on average of Australia crash data from 2014 to 2019) with the costs per fatality, and adding the estimates of the other costs associated with a fatal crash. This results in an **average cost per fatal crash of \$6,252,768.**

⁹⁶ Rather than use the BITRE estimate (based on a hybrid human capital approach to economic valuation of life), the OBPR prefers the willingness-to-pay approach (using the value of a statistical life) for measuring the benefits of regulations designed to reduce the risk of physical harm. Therefore, we have used this figure in preference to the BITRE figure for the value of a life lost (or saved), but use the BITRE estimates of the other costs of a fatal accident, and of the costs related to non-fatal accidents. The cost estimates from BITRE and OBPR are reported in the current dollars of the study year, being 2006 and 2008 respectively. These estimates have been escalated to current dollars using the CPI and WPI (ABS 6401.0).



G MUARC study methodology

The Monash University Accident Research Centre (MUARC) examined a range of licensing related factors (other than training) which can be used to indicate whether a driver should be granted an initial heavy vehicle licence, or alternatively, to progress to a higher endorsement level if they already hold a heavy vehicle licence.

Variables considered

MUARC considered the following factors as predictors of crash involvement (which were measured at the time at which drivers obtained a heavy vehicle licence endorsement):

- **Non-exposure factors** – These are factors that are not related to previous driving experience: sex, age at endorsement, urbanisation of residence, endorsement upgrade gained and level of proficiency at upgrade
- **Exposure factors** – Factors that provide information on prior driving experience. These factors directly relate to previous experience a driver has gained (i.e., licence class pathways and time-based rate of progression, transferral of licence or endorsement from interstate or overseas, meeting required hours as a learner, exemptions from graduated driver licensing systems and motorcycle licences)
- **Licence conditions** – Conditions required to be met by the licensee when driving a vehicle (e.g., spectacle use, automatic transmission vehicle, zero BAC requirements or requiring an alcohol interlock)
- **Past high-risk behaviour** – These are primarily factors that relate to violating traffic rules, but also extend to involvement in crashes (i.e., number of demerit points accumulated, periods where they have experienced bans, offences heard in court, bonds with associated licence conditions, vehicle type driven when an offence is committed, casualty crashes).

MUARC considered three different outcome variables:

- Being involved in a **casualty crash** while driving a heavy vehicle within a 5-year period after receiving the licence endorsement
- Being involved in a **serious casualty crash** while driving a heavy vehicle within a 5-year period after receiving the licence endorsement (a serious casualty crash referred to a crash where someone received an injury that required hospitalisation or resulted in death)
- **Committing a high-risk offence** within a 5-year period after receiving the licence endorsement (a high-risk offence referred to a) careless or dangerous driving offences; b) drug and alcohol driving offences; c) intersection and traffic signal offences; d) high range speeding offences; e) hooning and vehicle impounding offences.

Study design

MUARC considered two different licensing progressions, for which it undertook separate analyses:

- **Cohort A** – drivers who were gaining a medium rigid or heavy rigid endorsement for the first time and currently only held a car licence or light rigid endorsement



- **Cohort B** – drivers who were advancing from a medium rigid or heavy rigid endorsement to a heavy combination endorsement.

It used an unmatched case-control study design to estimate the relationship between driver licensing factors prior to heavy vehicle endorsement and the risk of crash involvement driving a heavy vehicle in the five years after endorsement. This design compares exposure to risk factors for heavy vehicle drivers who have the outcome of interest (crash involvement or penalised for a serious offence) to those who do not to infer the association between exposure and risk. Definitions of cases and controls for the study were:

- **Case** – heavy vehicle driver who is holder of target heavy vehicle type licence who was involved in a crash within 5 years of licence progression driving the target heavy vehicle type
 - Medium or heavy rigid (in Cohort A)
 - Heavy articulated (in Cohort B)
- **Control** – heavy vehicle driver who is holder of target heavy vehicle type licence who has not been involved in a crash within 5 years of licence progression in the target heavy vehicle type

Outcomes used for the analysis were those occurring in the most recent five years.

Limitations

MUARC's research has a number of limitations:

- Crash data does not distinguish who was at fault.
- There was no data on how many kilometres specific drivers had driven while on each licence endorsement class or by vehicle type driven. Instead BITRE data, which provides average kilometres for particular vehicle types by locale of travel (e.g., urban versus rural) was utilised. Therefore, while overall exposure by broad vehicle class was taken into account, it was averaged across all licensed drivers rather than being driver specific.
- The study looked at Victorian and Queensland registered drivers only and whether or not they crashed in Victoria or Queensland. It did not include drivers licensed interstate who crashed in Victoria or Queensland or Victorian or Queensland licensed drivers who crashed interstate.
- There may be other factors impacting risk which were not represented in the available data such as specific driver skills and competency and specific type of heavy vehicle driven within a heavy vehicle class. The case-control study design used will account for these factors to some degree but may not completely eliminate bias.



H Survey responses on Consultation RIS

Stakeholders and all members of the public were able to submit on the Consultation RIS through a formal submission and/or by completing a survey on key policy proposals via the Austroads' website. The latter was targeted at individuals and small businesses who wanted to provide input on only some key aspects.

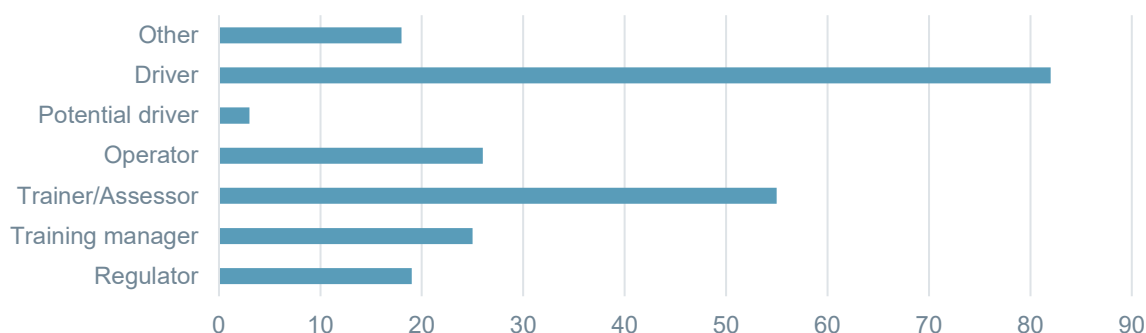
There were 228 survey responses completed. This appendix summarises the responses received.

Overview of respondents

The survey included a set of questions to identify the nature of the respondent.

Figure 6 illustrates the number of responses received by different respondent types. Most survey respondents were heavy vehicle drivers, heavy vehicle driver trainers or assessors, managers or administrators of organisations that operate heavy vehicles, or managers or administrators of heavy vehicle driver training or assessment organisations. The remainder work in a regulatory or government agency or are considering becoming heavy vehicle drivers.

Figure 6: Overview of respondents



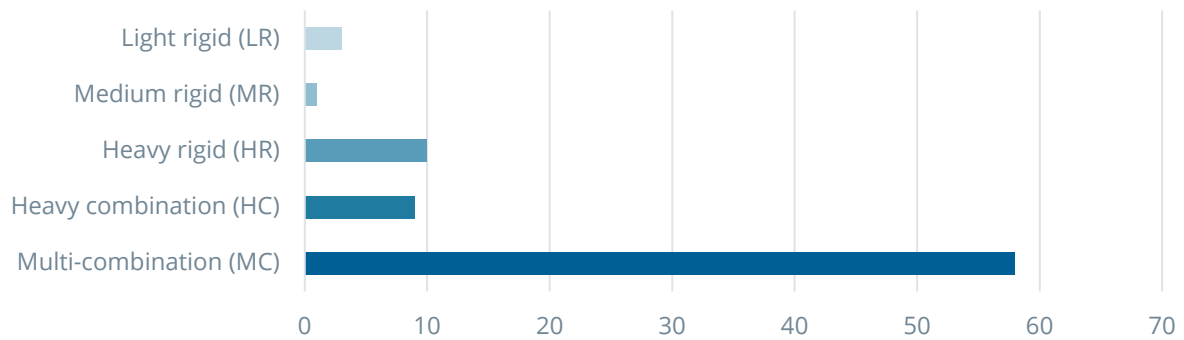
Source: Frontier Economics analysis of informal responses to Consultation RIS

Follow-up questions expand on the nature of the respondents.

Figure 7 illustrates that number of responses received by heavy vehicle drivers based on their licence class. The vast majority of respondents (71.6%) had a multi-combination licence. The next highest classes were heavy combination (11.1%) and heavy rigid (12.3%).



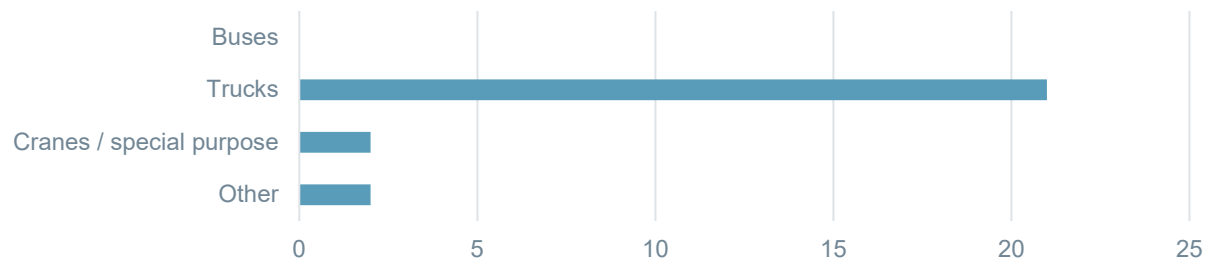
Figure 7: Heavy vehicle driver respondents



Source: Frontier Economics analysis of informal responses to Consultation RIS

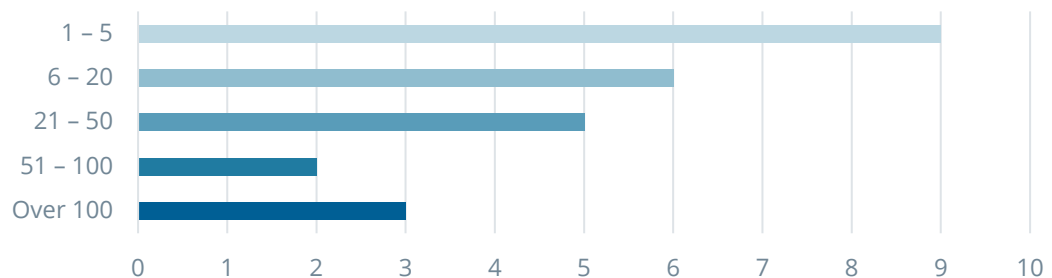
Figure 8, Figure 9 and **Figure 10** describe the nature of the heavy vehicles operated by heavy vehicle operators who responded to the survey. The majority of heavy vehicle operators who responded to the survey were relatively small truck operators who focus on providing freight services (hire and reward).

Figure 8: Type of vehicles operated by heavy vehicle operators



Source: Frontier Economics analysis of informal responses to Consultation RIS

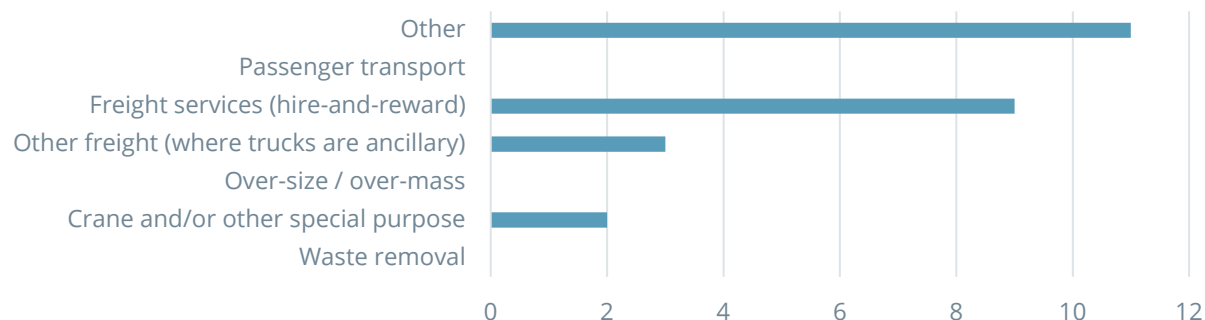
Figure 9: Number of vehicles operated by heavy vehicle operators



Source: Frontier Economics analysis of informal responses to Consultation RIS



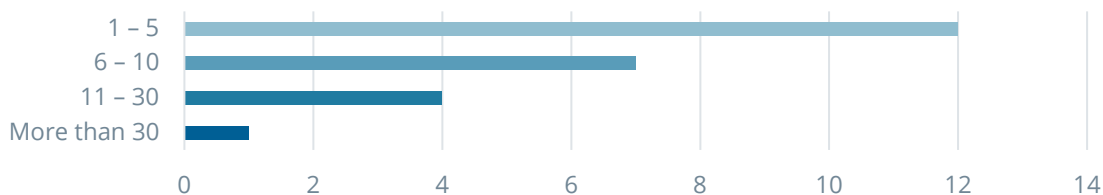
Figure 10: Business focus by heavy vehicle operators



Source: Frontier Economics analysis of informal responses to Consultation RIS

Figure 11 illustrates the number of responses by heavy vehicle driver trainer and assessor organisations based on their size. The majority of trainer and assessor organisations managed a small number of employees (i.e., less than 10).

Figure 11: Size of heavy vehicle driver trainer and assessor organisations



Source: Frontier Economics analysis of informal responses to Consultation RIS

Response to proposals

The informal survey included a question for each of the seven proposals. Respondents were asked the extent that they supported each proposal, with response options including 'I fully support this proposal', 'I support it in principle', 'I have some concerns with this proposal', 'I do not support this proposal' and 'this proposal is not relevant to me'. Respondents were also provided the opportunity to submit a written response to each proposal.

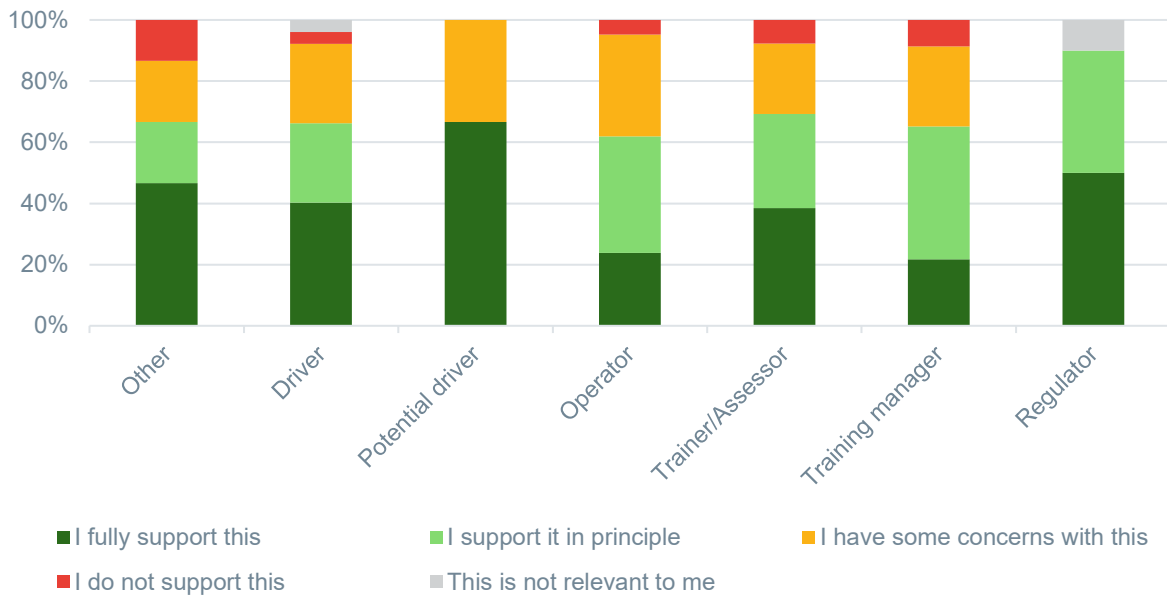
A summary of the responses provided is as follows, with each proposal described as in the Consultation RIS:

Proposal 1 – There is a proposal to allow only people with a low-risk recent driving history to gain or upgrade a heavy vehicle licence. This would mean high-risk drivers (those who in the last two years have had a licence suspension, or serious driving offence such as drink/drug driving) would be excluded from gaining a heavy vehicle licence or upgrading to a higher licence class.

Respondents were broadly supportive of Proposal 1, with the majority of respondents either fully supportive of the proposal or supportive in principle.



Figure 12: Support for Proposal 1 by respondent type

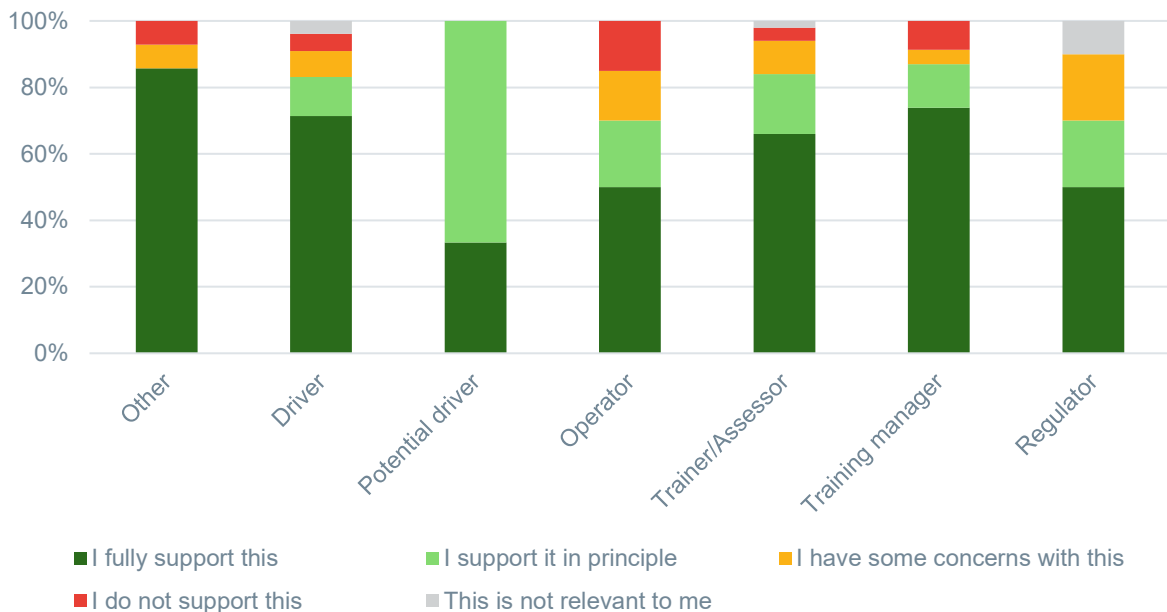


Source: Frontier Economics analysis of informal responses to Consultation RIS

Proposal 2 – There is a proposal to require a person to have first held a heavy combination (HC) licence before gaining a multi-combination (MC) licence.

Respondents were highly supportive of Proposal 2, with over 70% of respondents either fully supportive of the proposal or supportive in principle.

Figure 13: Support for Proposal 2 by respondent type



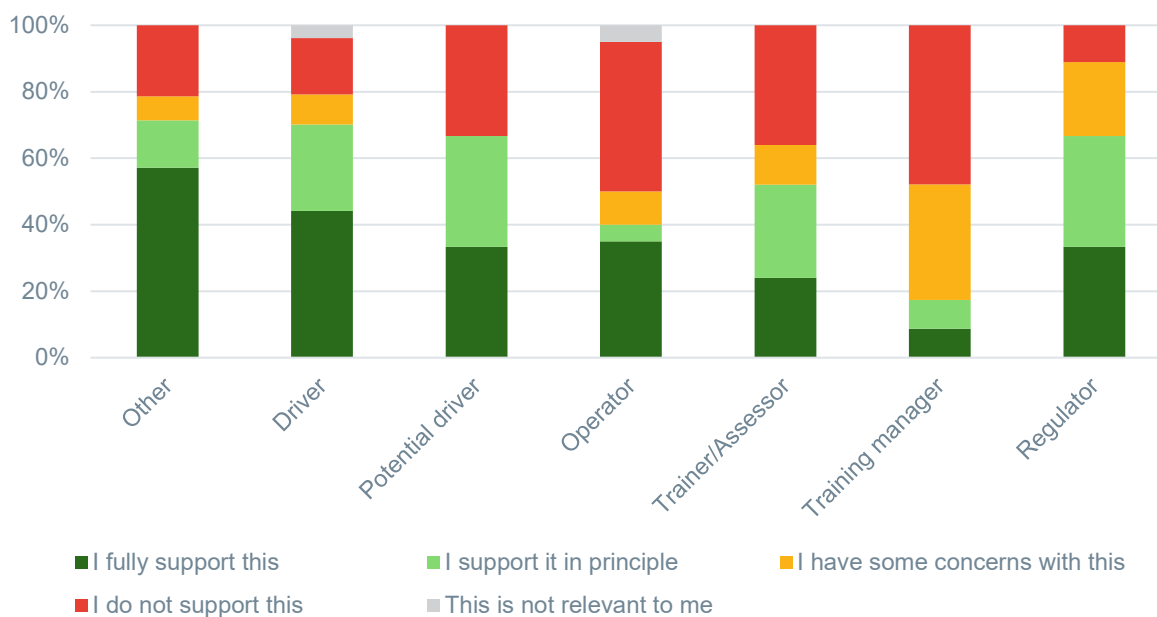
Source: Frontier Economics analysis of informal responses to Consultation RIS



Proposal 3 – There is a proposal to require a person to have completed their Ps, therefore to be on a full car licence, before they can gain a medium rigid (MR) or heavy rigid (HR) licence. It would still be possible to get a light rigid (LR) licence while on a P2 car licence.

Respondents were less supportive of Proposal 3, with responses from heavy vehicle operators, trainers or assessors, and trainer or assessor managers particularly negative.

Figure 14: Support for Proposal 3 by respondent type



Source: Frontier Economics analysis of informal responses to Consultation RIS

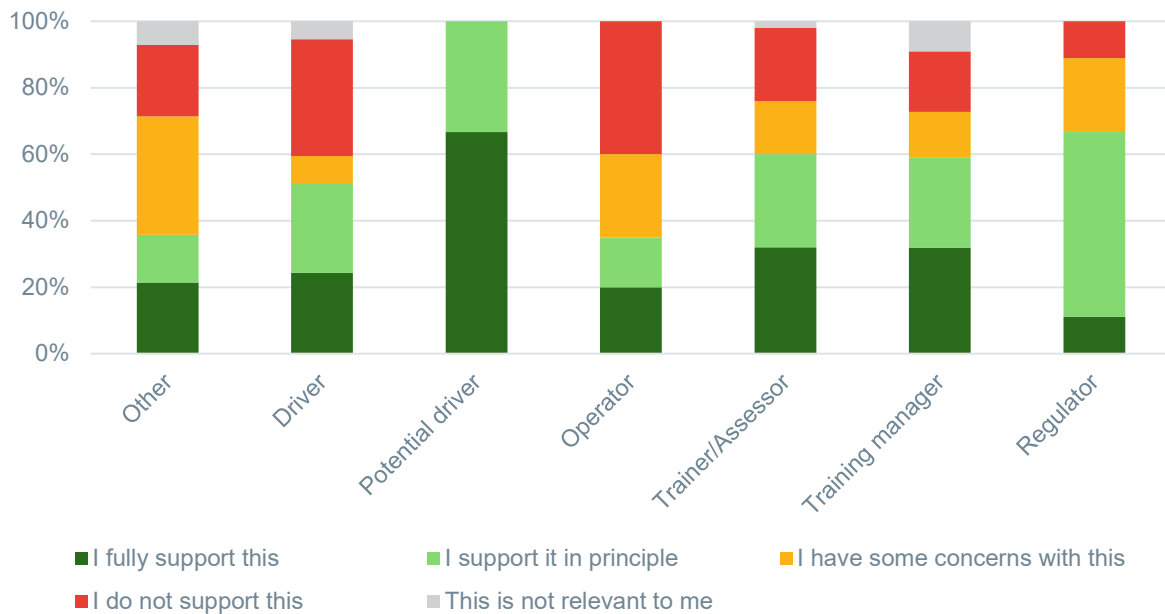
Proposal 4 – There is a proposal to split the current multi-combination (MC) licence class into three classes:

- MC1 – B doubles or B-triples with B couplings only (configurations with no dollies)
- MC2 – Double and triple road train type 1 and 2 (configurations with one or two dollies)
- MC3 – Configurations with four or more trailers.

Support for Proposal 4 was mixed, with heavy vehicle drivers and operators mostly unsupportive of it, while trainers or assessors, and trainer or assessor managers were all mostly positive.



Figure 15: Support for Proposal 4 by respondent type



Source: Frontier Economics analysis of informal responses to Consultation RIS

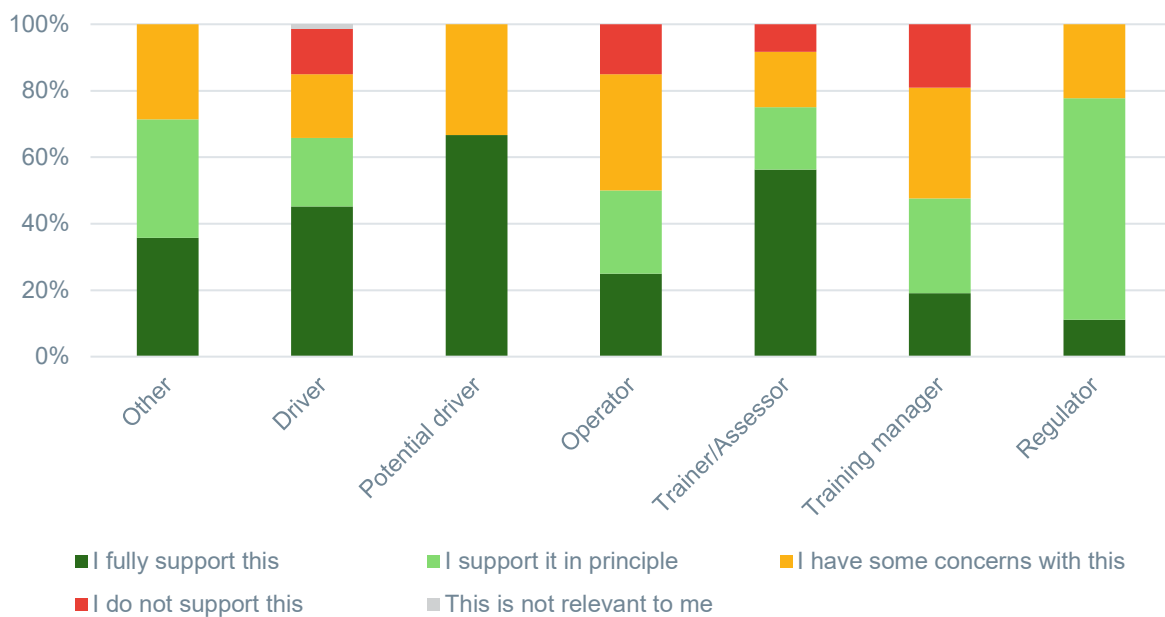
Proposal 5 – There is a proposal to strengthen driver training including requiring minimum training times and behind-the-wheel (driving) time.

- Rigid
 - 16–24 hours minimum training time
 - 6–8 hours minimum time behind-the-wheel driving as part of training
- Combination
 - 20–28 hours minimum training time
 - 8–10 hours minimum time behind-the-wheel driving as part of training.

Respondents were broadly supportive of Proposal 5, with the majority of respondents either fully supportive of the proposal or supportive in principle. While a number of respondents noted that they have some concerns with this proposal, few responded that they did not support it.



Figure 16: Support for Proposal 5 by respondent type



Source: Frontier Economics analysis of informal responses to Consultation RIS

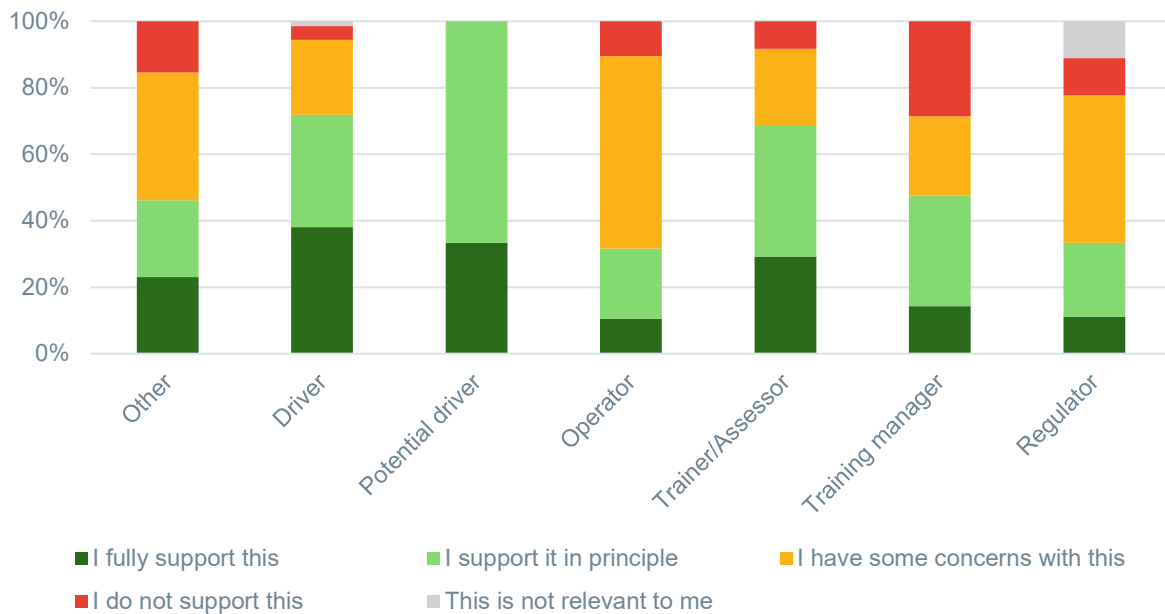
Proposal 6 – There is a proposal to provide three possible pathways (a person can pick which one of the three they wish to use) before being eligible to upgrade to the next class of heavy vehicle licence:

- Tenure: hold the current heavy vehicle licence for 12 months (this is the current approach and will continue), or
- Supervised driving: undertake a mentoring program with an experienced driver over a 3–4 month period with at least 12–16 hours of accompanied driving, or
- Driving experience: show evidence of 600–700 hours of solo driving over at least 6 months.

Support for Proposal 6 was mixed, with heavy vehicle drivers and trainers and assessors broadly supportive, while heavy vehicle operators and trainer and assessor managers were less supportive. A significant portion of heavy vehicle operators expressed some concern with this proposal.



Figure 17: Support for Proposal 6 by respondent type



Source: Frontier Economics analysis of informal responses to Consultation RIS

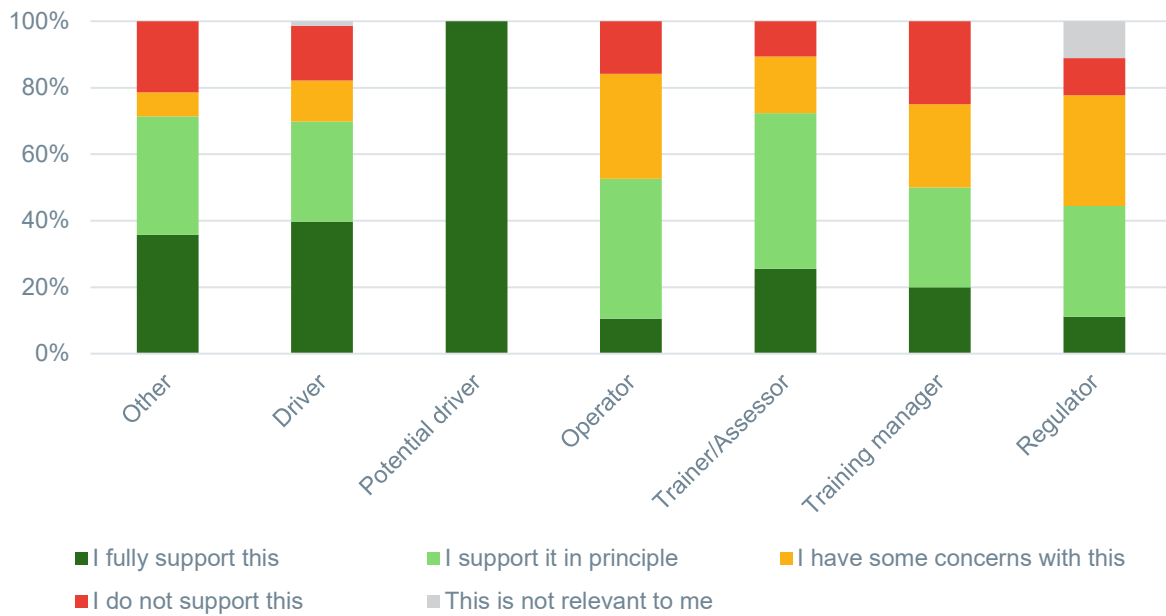
Proposal 7 – There is a proposal to require a person to have a period of supervision/ accompanied driving with coaching within three months of gaining or upgrading their heavy vehicle licence.

- Light rigid (LR) – Nil
- Medium rigid (MR) and heavy rigid (HR) – 4 hours
- Heavy combination (HC) – 6 hours
- Multi-combination (MC) – 8 hours

Respondents were broadly supportive of Proposal 7, with the majority of respondents either fully supportive of the proposal or supportive in principle. Trainer and assessor managers appeared relatively concerned around this proposal.



Figure 18: Support for Proposal 7 by respondent type



Source: Frontier Economics analysis of informal responses to Consultation RIS



I Sensitivity analysis

While considerable effort has been taken to make the cost–benefit analysis (CBA) as evidence based as possible, there is some uncertainty around certain parameters feeding into the analysis. Sensitivity analysis has been undertaken to consider how changes to the following parameters impact the results from the cost–benefit analysis:

- discount rates
- costs
- additional training, assessment and behind-the-wheel time
- road safety benefits.

Discount rate

This sensitivity considers the impact of altering the central case discount rate of 7% to see how different results would be at discount rates of 4% and 10%. Results of these sensitivities are presented in the table below.

As is common with CBA, Options 2a and 2b have higher NPVs and BCRs at a lower discount rate and lower NPVs and BCRs at a higher discount rate. This is because the key costs for the options are early in the appraisal period with benefits spread over time. A lower discount rate makes these benefits in the future relatively more valuable and thus improves the economic results. The opposite is true at a higher discount rate.

Option 1 is different. It has a slightly lower NPV and BCR at a lower discount rate and a slightly higher NPV and BCR at a higher discount rate. The reason for this is that the ongoing costs of additional training and assessment are actually higher than the road safety benefits over time. That is, there is a net ongoing cost after initial set-up costs have been incurred. Given this, a lower cost makes this net cost over time more valuable and therefore worsens the economic results. Again, the opposite is true for a lower discount rate.

**Table 33:** Discount rate sensitivities

	Option 1	Option 2a	Option 2b
4% discount rate			
Costs (NPV)	\$433.0m	\$25.7m	\$25.7m
Benefits (NPV)	\$346.6m	\$239.0m	\$462.3m
Net benefit (NPV)	-\$86.5m	\$213.4m	\$436.6m
BCR	0.8	9.3	18.0
10% discount rate			
Costs (NPV)	\$236.5m	\$21.6m	\$21.6m
Benefits (NPV)	\$202.3m	\$147.2m	\$284.7m
Net benefit (NPV)	-\$34.2m	\$125.6m	\$263.1m
BCR	0.9	6.8	13.2

Cost sensitivities

While considerable effort has been taken to build up robust and reliable costs for the options (including seeking data from the stakeholders through Consultation RIS submissions), it is prudent to test the sensitivity of the CBA to different cost scenarios. The scenarios tested comprise:

- +50% jurisdiction and Austroads costs
- +50% jurisdiction costs
- -50% jurisdictions and Austroads costs

Clearly the NPV and BCRs are worse in the higher cost sensitivities and better in the low cost sensitivity. Option 1 is pretty insensitive to these cost sensitivities, certainly in BCR terms, as the ongoing costs of additional training and assessment is the key cost for this option. Options 2a and 2b are much more sensitive in BCR terms although benefits still clearly outweigh costs in all cost sensitivity scenarios.

**Table 34:** Cost sensitivities

	Option 1	Option 2a	Option 2b
+50% jurisdiction and Austroads costs			
Costs (NPV)	\$357.3m	\$34.2m	\$34.2m
Benefits (NPV)	\$261.1m	\$184.7m	\$357.2m
Net benefit (NPV)	-\$96.2m	\$150.4m	\$322.9m
BCR	0.7	5.4	10.4
+50% jurisdiction costs			
Costs (NPV)	\$327.8m	\$33.1m	\$33.1m
Benefits (NPV)	\$261.1m	\$184.7m	\$357.2m
Net benefit (NPV)	-\$66.7m	\$151.6m	\$324.1m
BCR	0.8	5.6	10.8
-50% jurisdictions and Austroads costs			
Costs (NPV)	\$315.7m	\$12.7m	\$12.7m
Benefits (NPV)	\$261.1m	\$184.7m	\$357.2m
Net benefit (NPV)	-\$54.6m	\$172.0m	\$344.5m
BCR	0.8	14.5	28.1

Additional training, assessment and behind-the-wheel time

Similar to costs, considerable efforts have been made to establish the additional training, assessment and behind-the-wheel time. This comprised bottom-up estimates provided by training experts. The key uncertainty is the change from the base case, given there is not a comprehensive survey of current training, assessment and behind-the-wheel time by jurisdiction. Given this, it is useful to understand how sensitive the CBA results are to these inputs. The sensitivity analysis tests plus and minus 50% of the central inputs around training, assessment and behind-the-wheel time.

This sensitivity only impacts Option 1. Option 1 is very sensitive to the additional training, assessment and behind-the-wheel time input. Clearly, higher training, assessment and behind-the-wheel time costs make the NPV and BCR for Option 1 worse. More notable is that Option 1 actually makes economic sense with 50% lower training, assessment and behind-the-wheel time costs. This makes sense given it is the key cost component of this option. It is important to note that this assumes that the same level of road safety benefit could be realised with lower training, assessment and behind-the-wheel time costs. This may not be realistic.

**Table 35:** Additional training, assessment and behind-the-wheel time sensitivities

	Option 1	Option 2a	Option 2b
+50% additional training, assessment and behind-the-wheel time			
Costs (NPV)	\$483.6	\$23.5	23.5
Benefits (NPV)	\$261.1	\$184.7	357.2
Net benefit (NPV)	-\$222.5	\$161.2	333.7
BCR	0.5	7.9	15.2
-50% additional training, assessment and behind-the-wheel time			
Costs (NPV)	\$189.4	\$23.5	23.5
Benefits (NPV)	\$261.1	\$184.7	357.2
Net benefit (NPV)	\$71.7	\$161.2	333.7
BCR	1.4	7.9	15.2

Road safety benefits

The road safety benefits used the CBA are based on evidence but also subject to some uncertainty. The sensitivity analysis tests plus and minus 20% of the central inputs around road safety benefits.

Given that the entirety of the benefits comprise road safety benefits, these sensitivity scenarios serve to change the benefits by plus or minus 20%. For Options 2a and 2b this does change the NPVs and BCRs but benefits still clearly outweigh costs in all scenarios. For Option 1, the change is more interesting. With 20% less road safety benefits the NPV and BCR worse but with 20% higher crash benefits the BCR is close to one and the NPV at just -\$23m. That is, the option is getting really quite close to stacking up from the point of view of society.

**Table 36:** Road safety benefits sensitivities

	Option 1	Option 2a	Option 2b
+20% road safety benefits			
Costs (NPV)	\$336.5m	\$23.5m	\$23.5m
Benefits (NPV)	\$313.3m	\$221.6m	\$428.6m
Net benefit (NPV)	-\$23.2m	\$198.1m	\$405.1m
BCR	0.9	9.4	18.3
-20% road safety benefits			
Costs (NPV)	\$336.5m	\$23.5m	\$23.5m
Benefits (NPV)	\$208.9m	\$147.7m	\$285.7m
Net benefit (NPV)	-\$127.6m	\$124.3m	\$262.2m
BCR	0.6	6.3	12.2

Sensitivity analysis conclusions

The key conclusions are that Options 2a and 2b are clearly net beneficial across a broad range of sensitivity scenarios. The value proposition of Option 1 moves from a net cost to a net benefit for low additional training, assessment and behind-the-wheel time, and gets close to being net beneficial for a high road safety benefits scenario.

More generally, all options are relatively less sensitive, at least in NPV terms, to changes in Austroads and jurisdictions costs. This is because the ongoing road safety benefits and, in the case of Option 1, additional training, assessment and behind-the-wheel time costs over time, are key benefits and costs in the CBA.

Frontier Economics

Brisbane | Melbourne | Singapore | Sydney

Frontier Economics Pty Ltd
395 Collins Street Melbourne Victoria 3000

Tel: +61 3 9620 4488

<https://www.frontier-economics.com.au>

ACN: 087 553 124 ABN: 13 087 553 124