



**Preliminary Cost Benefit  
Analysis of Driver Licensing  
Reform:  
Driver Licence Classes and  
Endorsements**

**Report to Ministry of Transport and  
New Zealand Transport Agency**

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## Acronyms and Abbreviations

ANZSIC	Australian and New Zealand Standard Industrial Classification
CBA	Cost benefit analysis
EEM	Economic Evaluation Manual
GDLS	Graduated Driver Licensing System
ISSL	Immediate Skill Shortage List
MOT	Ministry of Transport
NZTA	New Zealand Transport Agency
OSH	Occupational health and safety
PV	Present value
RTF	Road Transport Forum
RTW	Rollers, tracks and wheels

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## Executive Summary

The Ministry of Transport (MOT) and the New Zealand Transport Agency (NZTA) are reviewing the driver licensing system in New Zealand. Part of this review examines where changes can be made to improve the regulatory settings for driver licensing. Castalia has been engaged to assess whether the changes to licence classes and endorsements being considered would deliver benefits that outweigh the costs of the changes.

We find that initiatives to remove the accelerated licensing programme and remove special-type endorsements are expected to produce net benefits. We draw different preliminary conclusions on two other initiatives in the review:

- Heavy vehicle licensing progression: There is currently insufficient information to determine whether changes in this area would provide net benefits. We do not have sufficient information on the potential safety impacts from removing the time requirements for those applicants currently facing them (10 percent to 18 percent of licence applications, depending on the licence class), which would increase the costs of possible changes. There is also insufficient information on how many trucks are currently ‘parked up’, which would increase the benefits of changing licensing requirements.
- Reducing the full licence requirement to gain passenger endorsement is not expected to deliver a net benefit.

Table ES.1 summarises the possible changes to licence classes and endorsements and our assessment of whether each change is likely to provide net benefits.

**Table ES.1: Summary of the Effects of Possible Changes**

Initiative	Effects of Possible Change	Net benefit over 20 years (PV\$)
Simplify and shorten progression to heavy vehicle licences	<ul style="list-style-type: none"> <li>▪ Avoid fees for approved courses</li> <li>▪ Potential to improve productivity from trucks currently ‘parked up’</li> <li>▪ Unknown safety outcomes (thought to be small given relatively low proportion of drivers affected by change)</li> </ul>	Base case: Unknown Plausible range: \$29 million to \$38 million (excludes any potential impacts on safety or truck asset utilisation)
Remove accelerated licence programme	Savings from removing a costly, rarely-used programme	Base case: \$76,000 Plausible range: \$34,000 to \$113,000
Reduce requirements to gain passenger endorsement	Reduce cost to entering the labour market for passenger vehicles (excluding overseas and young drivers)	No net benefit expected (not quantified)
Remove special-type endorsements	Forklift drivers avoid the cost of sitting two overlapping courses	Base case: \$2.3 million Plausible range: -\$21,000 to \$5.9 million

**Disclaimer**

The Driver Licensing Review Discussion Paper was drafted after this preliminary cost benefit analysis (CBA) was completed. While this helps to provide the discussion paper with additional direction on policy options, this also means that in some places the options evaluated in this report do not align exactly with options in the discussion paper. We also note that the analysis and findings presented in this report are preliminary.

The options and the analysis will be refined and updated in the final CBA based on responses and new information gathered during consultation.

# 1 Introduction

The Ministry of Transport (MOT) is working with the New Zealand Transport Agency (NZTA) to reform the rules that govern the driver licensing system in New Zealand. MOT and NZTA have engaged Castalia to assess the costs and benefits of the changes being considered by the reform team.

The reform team are considering changes to licence classes and endorsements, and licence application testing and renewal. This report investigates the benefits and costs associated with driver licence classes and endorsements. This report describes:

- The rationale for changing the current settings for licence classes and endorsements (Section 2)
- The costs and benefits of changes being considered, supported by quantitative estimates of the relevant effects where possible (Section 3).

The purpose of this report is to inform a discussion paper and consultation process on the driver licensing review. The analysis and findings are therefore preliminary, and will be updated based on responses and new information provided through consultation.

## 2 Rationale for Changing Licence Classes and Endorsements

The primary objective of licence classes and endorsements is to manage safety risks and minimise safety costs. This is achieved through a system that ensures that drivers have the skills and experience needed to safely operate the particular vehicles that they are licensed to drive.

This review investigates changes that could remove unnecessary costs that are imposed on licence applicants and transport industries, where these costs do not contribute to meeting the primary objective.

Table 2.1 describes the current framework of licence classes and endorsements and the rationale for the current design. The framework and rationale is also compared to the changes being considered as part of this review, and the reasoning behind these changes.

For each initiative (for example, heavy vehicle licence progression) there are a number of policy options being looked at as part of the review. In this CBA, we evaluate one 'base option' per initiative—and then consider how the size of the costs and benefits may differ for the different options being considered. This approach makes the analysis tractable, while still ensuring that the CBA assesses the relative merits of different options.

**Table 2.1: Comparison of the Status Quo and Possible Changes**

Status quo	Rationale for status quo	Problem with the status quo	Base option to resolve problem
<p>To gain heavy vehicle licence (assuming applicants hold a full car licence):</p> <ul style="list-style-type: none"> <li>▪ Older drivers (25 and over) can either: <ul style="list-style-type: none"> <li>– Follow time requirements at learner (3 months wait) and practical (6 months wait) levels for each class of licence</li> <li>– Take approved courses to avoid time requirements</li> </ul> </li> <li>▪ Young drivers (under 25) must meet additional time requirements (adding 12 months to the process)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Delay the entry of younger, more risky, drivers of heavy vehicles until they are more mature or have more driving experience</li> </ul>	<ul style="list-style-type: none"> <li>▪ Time and cost of licensing process may create barriers for new heavy vehicle drivers (especially young drivers) entering the labour market</li> <li>▪ Practical test is outdated (over 30 years old) and could better reflect current heavy vehicle testing needs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove the time requirements for heavy vehicle drivers who do not take the approved courses to advance to full licence (the approved course and practical test pathways will therefore take the same amount of time to complete)</li> <li>▪ Enhance the practical tests for Classes 2, 4 and 5</li> </ul>
<p>Accelerated licence programme allows drivers to get heavy vehicle licence faster, subject to achieving assessment requirements</p>	<ul style="list-style-type: none"> <li>▪ Provides a pathway for applicants to gain their full heavy vehicle licence faster, without compromising safety standards</li> </ul>	<ul style="list-style-type: none"> <li>▪ Programme is largely unused and more costly than alternatives</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove the accelerated licence programme</li> </ul>

Status quo	Rationale for status quo	Problem with the status quo	Base option to resolve problem
Class 1 full licence must be held for two years before gaining a passenger endorsement	<ul style="list-style-type: none"> <li>▪ Helps to ensure that drivers frequently carrying passengers are experienced drivers, and have had a clean criminal history record</li> <li>▪ Prevents young, inexperienced drivers from gaining endorsement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Creates barrier to labour market for passenger vehicle industries</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduce the requirement to 1 year for passenger vehicles</li> <li>▪ Keep current requirement for overseas and young drivers</li> </ul>
Specific endorsements needed to drive special-type vehicles (such as forklifts), but there is duplication with other courses	<ul style="list-style-type: none"> <li>▪ Training reduces safety risks if vehicles are ever driven on roads</li> </ul>	<ul style="list-style-type: none"> <li>▪ Few special-type vehicles (with the exception of wheels) are used on the road</li> <li>▪ For forklifts, workplace safety is already covered by OSH courses</li> <li>▪ Applicants face unnecessary compliance costs from sitting two similar courses (OSH and endorsement)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove endorsements for special-type vehicles</li> </ul>

The review also identified the possibility to simplify the 12 sub-requirements for special vehicles in Class 1 (six of which apply to tractors) that are based on the specific use (agricultural or non-agricultural), weight, and speed of the vehicle. The change that would address this issue is to rationalise requirements for agricultural vehicles. Given that this initiative is more of a clarification than a change to the licensing system, we do not analyse this issue in this CBA.

### 3 Cost Benefit Analysis

Each of the changes being considered to the licensing regime for heavy vehicles generates costs and benefits. This section evaluates these effects, and quantifies the likely impacts where possible. The assumptions made to quantify costs and benefits are listed in Appendix A.

Table 3.1 summarises the costs and benefits of the possible changes, and whether, if implemented, the benefits generated are likely to outweigh the costs of making the changes.

This preliminary CBA does not include general costs associated with any policy changes, such as the costs from additional advertising or publicity campaigns, or from support services, such as additional call centre staff. These costs will be further investigated and incorporated into the CBA in the next stage of the process.

**Table 3.1: Summary of the Costs and Benefits Generated by Possible Changes**

Section	Base option	Costs	Benefits	Net Benefit Expected?
3.1	<ul style="list-style-type: none"> <li>▪ Drivers will no longer face the 6 month minimum wait periods before sitting the practical tests for Classes 2, 4 and 5</li> <li>▪ Practical tests for Classes 2, 4 and 5 are updated and enhanced</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased costs to strengthen practical tests</li> <li>▪ Increased practical test fees (as proxy for increased cost associated with a longer practical test)</li> <li>▪ Increased compliance costs associated with new practical test requirements</li> <li>▪ IT costs from system change (shared cost with removing special endorsements)</li> <li>▪ Ongoing IT/support costs</li> <li>▪ Potential increase in safety risk</li> </ul>	<ul style="list-style-type: none"> <li>▪ Avoided fees of approved courses for applicants who use practical test pathway</li> <li>▪ Reduced barriers to heavy vehicle labour market may lead to better use of existing truck fleet</li> </ul>	<p style="text-align: center;">?</p> <ul style="list-style-type: none"> <li>▪ Insufficient information on safety outcomes and lost productivity from shortage of heavy vehicle drivers</li> <li>▪ Safety impacts are thought to be small given relatively low proportion of drivers affected by change</li> <li>▪ Excluding impacts on safety or truck asset utilisation, net benefits range from \$24.3 million to \$44.3 million (present value over 20 years)</li> </ul>
3.2	Remove accelerated licence process	<ul style="list-style-type: none"> <li>▪ (Small) impact on the number of qualified heavy vehicle drivers</li> <li>▪ Time delay for participants to get higher income</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduced costs to participants</li> <li>▪ Reduced safety risk</li> </ul>	<p style="text-align: center;">✓</p> <p>Range from net benefit of \$34,000 to net benefit of \$113,000 (present value over 20 years)</p>
3.3	Reduce requirements for passenger endorsement (except for overseas and young drivers)	<ul style="list-style-type: none"> <li>▪ Possible risk of endorsing drivers with serious offences, which in turn causing safety and security risk to road users</li> </ul>	<ul style="list-style-type: none"> <li>▪ Additional year of income for drivers</li> </ul>	No economic benefit

Section	Base option	Costs	Benefits	Net Benefit Expected?
3.4	Remove special-type vehicle endorsements	IT costs from system change (shared cost changing classes)	Avoided compliance costs for licence applicants	<p style="text-align: center;">✓</p> Range from net cost of \$21,000 to net benefit of \$5.9 million (present value over 20 years)

### 3.1 Costs and Benefits of Simplifying and Shortening the Progression to Heavy Vehicle Licences

There are concerns that the heavy vehicle licensing system is unnecessarily complex and costly. To drive heavy combination trucks, a driver must have a Class 5 licence, which requires progressing through the graduated driver licensing system (GDLS) for Class 1 (car), Class 2 (medium rigid vehicle), and Class 4 (heavy rigid vehicle) licences. Each of these classes has a learner (must drive with a supervisor) and a (non-restricted) full stage. A Class 3 licence enables a holder to drive a medium combination vehicle. However, a driver is not required to hold a Class 3 licence in order to progress to Class 4 or 5. As such, the applicants and holders of Class 3 licences are not considered in the analysis below.

#### **Time delays are the main cost imposed by the existing system**

Minimum time delays are imposed on some applicants progressing through the heavy vehicle licensing system (moving from Class 2 to Class 5). Every applicant must wait 6 months between holding his or her Class 1 full licence and sitting the Class 2 theory test to get their Class 2 learner licence. The length of these delays beyond the Class 2 learner stage is determined by whether the applicant:

- Is under 25 years old<sup>1</sup>
- Chooses to wait for a period of time (3 months for those 25 and over, 6 months for those under 25) before being issued their learner licence<sup>2</sup> or takes an approved learner course for the Class (this option is only available to those 25 and over) with no additional time requirements upon completion of the course
- Chooses to sit practical tests to gain their full licence for each class, or take approved courses (which removes the time delay and means the applicant does not need to sit a practical test).

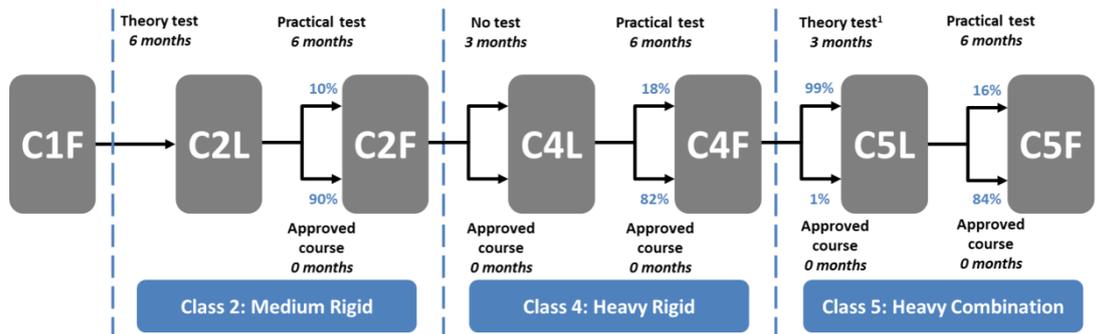
Figure 3.1 illustrates how a driver progresses from a full Class 1 licence to a full Class 5 licence. The figure includes, in italics, the minimum waiting period required at each stage, for a driver that is 25 or over. A driver under 25 would not have the option to take an approved course at a learner stage of a licence, and would instead have to wait for 6 months. Figure 3.1 also includes the percent of all applicants taking either the practical test or the approved course pathway at each level of the system. The Class 5 learner stage only includes these percentages for those aged 25 and over (those under 25 do not have the option of an approved course at this level). This comparison is not provided at the Class 4 learner stage due to a lack of data of the number of learner licence applications from applicants aged 25 and over.

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<sup>1</sup> This age cut-off is consistent with the age used by most insurance companies when setting policies and premiums.

<sup>2</sup> Theory tests are conducted in Class 2, Class 3, and Class 5 (only if driver has not passed the Class 3 theory test) before a licence learner is issued to the driver.

**Figure 3.1: Current Pathways to Gain a Heavy Vehicle Licence (Drivers 25 and Over)**



<sup>1</sup> Theory test required at Class 5 learner stage if Class 3 theory test has not been passed (i.e. if driver has not held a Class 3 learner licence in the past). The 3 month wait is required regardless.

Source: NZTA, Factsheet 70: Heavy Vehicle Driver Licences, January 2015

Transport industry groups (such as the Road Transport Forum (RTF)) have raised concerns that the road freight workforce struggles to find skilled heavy vehicle drivers. The RTF has signalled that licensing may contribute to this problem, particularly in constraining the number of young drivers entering the labour market for driving heavy vehicles (due to the additional time delays they face).

To the extent that the current system contributes to a labour shortage, the capital invested in the truck fleet may be underutilised and less productive than would otherwise be the case.<sup>3</sup>

### 3.1.1 Range of possible options

A suite of changes to the heavy vehicle licensing system are being considered to simplify the classes and shorten time delays imposed on younger applicants. These include:

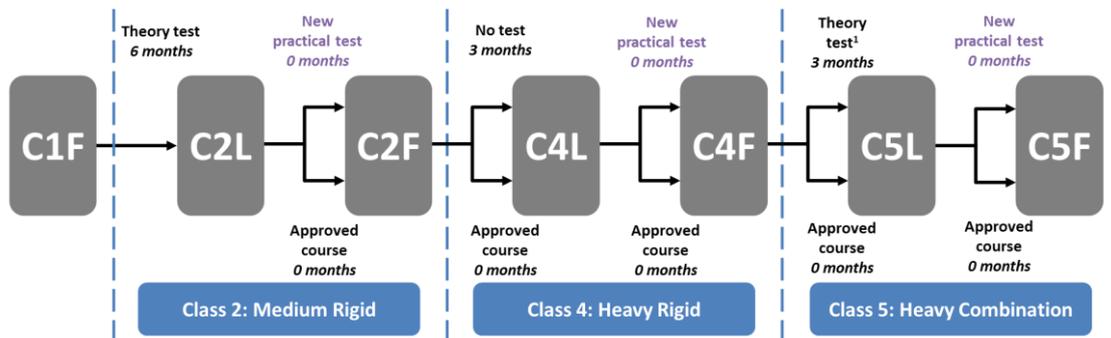
- **The enhanced practical test pathway (the base option):** Drivers do not face the 6-month minimum wait period before sitting the practical tests, and the practical tests for Classes 2, 4 and 5 are updated
- **Allowing drivers 21 and over to follow reduced time requirements:** Drivers aged 21 and over can use the shorter time periods (3 months) or take the approved courses at the learner stages for Class 2-5 licences. These options are currently only available to drivers who are 25 years old or more
- **Industry proposal:** Drivers progress from holding a Class 1 licence for 6 months to a Class 4 driver licence, to a heavy trailer endorsement. There is another pathway with a Class 2 and Class 4 for smaller vehicles (under 12,000kg) and then a heavy trailer endorsement
- **Direct progression from Class 2 to Class 5:** All drivers aged 25 and over would need to meet around 150 hours supervised driving and several weeks of training
- **Removing the learner stages for Class 4 and Class 5 licences:** Class 2 full licence holders can drive Class 4 vehicles under supervision, and Class 4 full licence holders can drive Class 5 vehicles under supervision. This option removes the time requirements and the application fees paid at these learner

<sup>3</sup> See <http://www.stuff.co.nz/timaru-herald/news/64821816/Truck-driver-shortage-getting-worse>.

stages, and shifts the Class 5 theory test to be held immediately before the Class 5 practical test.

This CBA treats the first option, the enhanced practical test pathway, as the base option. Figure 3.2 illustrates how the licensing system would look like under this option. The changes introduced by the base option (new practical tests and time requirements) are shown in purple. The changes would affect drivers under the age of 25, although these drivers would continue to have a 6 month waiting period at the learner stage of a licence.

**Figure 3.2: Possible Pathways to Gain a Heavy Vehicle Licence (Drivers 25 and Over)**



<sup>1</sup> Theory test required at Class 5 learner stage if Class 3 theory test has not been passed. The 3 months' wait is required regardless.

Source: Adapted from NZTA, Factsheet 70: Heavy Vehicle Driver Licences, January 2015

Sections 3.1.2 and 3.1.3 describe the costs and benefits associated with this base option. Section 3.1.4 describes how other options may increase or decrease the size of the costs and benefits below, or introduce new costs or benefits.

### 3.1.2 Costs of the enhanced practical test pathway

The enhanced practical test option will impose costs by updating the three practical tests for Classes 2, 4 and 5. An enhanced test will presumably also mean more difficult tests, with applicants facing higher fees and compliance costs in preparing for the tests.

#### Costs are imposed by bolstering the practical tests

The current practical tests for Classes 2, 4 and 5 are over 30 years old, and do not necessarily test for the key skills that heavy vehicle drivers need today. The test will need to be strengthened to accommodate these new skills and to test drivers that might be less experienced than previous applicants. Inexperienced full licence applicants might be more common, as they will not face a minimum time requirement on learner licence holders (which might be used for training) before they sit their practical test, and might overestimate their ability to meet the standard for a full licence.

We assume that the process of developing a new practical test would impose the same one-off cost as the recent strengthening of the restricted test for Class 1 licences (approximately \$320,000 per test).<sup>4</sup> In the case of heavy vehicle licences, three tests will need to be strengthened. The cost to implement this change is therefore assumed to be \$960,000.

<sup>4</sup> See <http://www.transport.govt.nz/assets/Import/Documents/Safer-Journeys-increasing-the-safety-of-young-drivers.pdf>.

## Tests that use more resources will have higher fees

We understand that the fees charged for taking a driver licence test are based on the time duration of the test (and exclude the costs of developing the test, estimated above).<sup>5</sup> This means that longer tests attract higher fees.<sup>6</sup>

While any increase in fees will depend on the exact design of the test, we expect an enhanced test to take more time than the current test. For this CBA, we assume that the increase will be \$27 per test applicant (the level of increase following recent changes to the Class 1 restricted licence practical test).

To determine the overall impact of increased fees, we require an estimated uptake of the practical test pathway. Following the introduction of the enhanced practical test pathway, applicants will fall into one of three groups:

- **Applicants who continue to take the approved course pathway:** Some applicants might continue to take approved courses, particularly if applicants are from companies that are accredited course providers themselves, or if approved courses are perceived as the best approach to train drivers. These drivers will not bear the costs of the increased fees
- **Applicants who continue to take the practical test pathway:** Between 10 to 18 percent of all applicants currently take the practical test pathway (depending on the licence class). Given that the practical test pathway would be more attractive under the policy change (less waiting time), we assume these applicants would continue to take the practical test pathway (that is, none would shift to taking the approved course pathway). These applicants would bear the costs of the increased practical test fees
- **Applicants who otherwise would take approved courses shift to the practical test pathway:** This group will consist of the applicants who currently take the approved courses to avoid the waiting period under the practical test pathway, and those applicants who are motivated to switch by the relatively low cost of the practical test pathway (see Section 3.1.3).

We consider that the uptake of the enhanced practical test pathway (the combination of the second and third groups of applicants above) will be quite high (ranging from 50 to 75 percent of licence applicants). Even with the fee increase, the practical test pathway would be a cheaper alternative to the approved course pathway and would provide the same timeframe for obtaining a licence.

Based on current annual volume, this would lead to 3,800-5,700 practical test applicants at Class 2, 1,800-2,600 practical test applicants at Class 4, and 800-1,300 practical test applicants at Class 5. Applying the increased fee to each of these applicants would lead to an additional annual cost of \$170,000-\$256,000. We assume that this fee increase applies to actual tests sat, including drivers sitting additional tests after failed attempts. This is consistent with the approach to setting higher fees for recent changes to restricted licence tests, where repeated tests were factored in to set higher test fees.

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<sup>5</sup> See <http://www.transport.govt.nz/assets/Import/Documents/Safer-Journeys-increasing-the-safety-of-young-drivers.pdf>.

<sup>6</sup> This analysis assumes the current cost recovery regime means fees are sufficient to recover costs. However, transaction can vary in any given year violating this assumption. However, we expect NZTA would review fee levels to make sure the regime is not running deficits. If this is not the case, some adjustment to this estimate will be required to reflect the actual costs to NZTA.

### Applicants will have to train more to pass the enhanced test

We expect that an enhanced test will be more difficult, and will require more preparation from applicants to pass.

While the exact amount of additional training required is not known (we do not have data on the current time spent to prepare for the existing test), we assume that the enhanced test will require an additional 3 more hours of driving practice and preparation from each driver, on average. Since all learner drivers must be supervised by a full licence holder of the class, total additional training time is therefore 6 person hours per applicant.

If applicants use their personal time to prepare for the enhanced test, then the value of this time is best reflected using the base value of an hour of travel for a non-work purpose in the Economic Evaluation Manual (EEM) of \$9.80 per hour.<sup>7</sup> However, other applicants will be completing their course as part of their workplace training. For this group, the EEM's value of a medium/heavy vehicle driver's time (\$28.54 per hour) is applicable.<sup>8</sup>

We do not know what proportion of applicants will complete the courses during personal or work time. If 80 percent of applicants complete the course on their own time, the weighted average value of an applicant's time would be \$13.55 per hour. However, if 80 percent of applicants instead complete the course during work hours, the weighted average value of time would be \$24.79 per hour. We use this range (\$13.55-\$24.79 per hour) in this analysis to define a plausible range for the average value of applicants' time. We invite any information on the value of applicants' time and whether approved courses are most likely to be completed during personal or work time.

Applying this range leads to an additional cost of \$81.29 - \$148.80 per applicant. We then apply this cost to the number of applicants who would take this pathway at Classes 2, 4 and 5 (ranging from 50-75 percent of all applicants). Table 3.2 demonstrates the range in the value of annual compliance costs, by changing the value of time of applicants, and the uptake of the practical test pathway.

**Table 3.2: Range of Annual Compliance Costs**

		Practical test pathway uptake	
		50 percent	75 percent
Value of time of applicant/supervisor (per hour)	\$13.55	\$521,000	\$781,000
	\$24.79	\$953,000	\$1,429,000

Enhancing the Class 5 practical test might also result in more stringent test criteria for test routes (NZTA does not consider this to be applicable for the enhanced Class 2 and 4 tests). Some test sites might not be eligible to conduct practical tests and applicants will face higher costs from having to travel further to sit the practical tests. Given that the design of the test and the number of eligible test sites is unknown, we have not attempted to quantify this additional compliance cost in this preliminary CBA.

<sup>7</sup> MOT, Economic Evaluation Manual, p.5-204. Available at <http://www.nzta.govt.nz/resources/economic-evaluation-manual/economic-evaluation-manual/docs/eem-manual.pdf>, The EEM figure has been updated to 2014 dollars using NZTA's uplift factor.

<sup>8</sup> The value of an hour of a truck driver's time is based on the EEM's value of time for a medium/heavy commercial driver, updated to 2014 dollars using the uplift factor (1.42) for travel time cost savings. A medium/heavy commercial passenger (the supervisor in this case) has the same value of time per hour.

### **Changes to licence classes also creates new IT and support costs**

Changing heavy vehicle licence classes will require changes to the automated systems and processes for storing and processing licence information. The upfront costs of the changes will involve recoding the licence database, verifying that the changes have flowed through properly, and updating interfaces with other IT systems. There will also be costs associating with supporting this system, such as providing helpdesk services to assist drivers through the licensing process.

For the purposes of this CBA, we take a conservative approach to determining the merits of each initiative. For each initiative, we compare benefits against the full cost created by the change (using the upper bound for this measure). We also assume that the cost will not be shared across the benefits of initiative.

The IT costs associated with the system changes are estimated to be an approximate \$0.5 million to \$1.5 million upfront. This cost also includes the costs generated by the possible changes to forklift and special-type vehicle endorsements (Section 3.4). Based on NZTA estimates, we assume that the ongoing costs of supporting the new system will be one-fifth of the initial IT costs, as these costs provide some indication of the magnitude of the change. Support costs are assumed to be \$75,000 per year.

### **The safety outcomes from the policy option are unknown**

While the waiting period imposes costs on applicants, it also encourages applicants to train and gain expertise in this time. There is a possible risk that reducing the waiting periods for drivers will increase the risk of less experienced drivers operating heavy vehicles, which could negatively impact crash rates. However, only drivers who currently take the practical test pathway (10 to 18 percent of applicants depending on the licence class) would be affected by the reduction in the waiting period. Additionally, these drivers will still have to pass the newly bolstered practical test. It may be possible to develop an enhanced practical test that determines whether the candidate has sufficient experience and addresses any safety risk.

NZTA expects the approved course and practical test pathways to be equally effective as safeguards. If this were the case, no negative safety impact would be expected from drivers shifting from the approved course pathway to the enhanced test pathway.

The size of the safety impact under the base option is uncertain. This is due to the lack of information on the value of the waiting period in terms of affecting the safety risk posed by drivers using the practical test pathway. We do not quantify these safety impacts in this preliminary CBA. However, we welcome feedback on whether removing the time period is expected to result in a safety impact and whether an enhanced practical test is expected to fully or partially counter this impact.

The size of safety impacts also varies between the policy options, which is further examined in Section 3.1.4.

#### **3.1.3 Benefits of the enhanced practical test pathway**

Placing the approved course pathway and the practical test pathway on an equal footing will deliver considerable fee savings to applicants.

Additionally, reducing barriers in the licensing system could encourage more heavy vehicle drivers and enable better use of the truck fleet. This change, therefore, offers the potential to address any difficulties finding skilled heavy vehicle drivers that arise from the licensing system.

### **Avoided fees of sitting approved courses produce significant benefits**

A common complaint about the approved course pathway is the fees that applicants have to pay. Offering an equally attractive practical test pathway (in terms of waiting time) would offer a relatively cheaper option for applicants. For instance, taking the practical test pathway would cost Class 2, 4 or 5 applicants \$109.50 in application and test fees (this would increase to \$136.10 with the practical test fee increase) compared to approved course fees of around \$675 for Class 2, \$712 for Class 4, and \$931 for Class 5.<sup>9</sup>

To estimate the administrative cost saving from switching to the practical test pathway, we remove the \$109.50 from these approved course fees (the effect of the increase in fees has been excluded because it is calculated in Section 3.1.2) to find that an applicant would save \$566 per Class 2 course, \$602 per Class 4 course and \$821 per Class 5 course.

We assume that the uptake of the practical test pathway would be within the range of 50 to 75 percent. The rationale for this expected range in uptake is described in Section 3.1.2, as part of calculating the total costs of practical test fee increases.

Applying this level of uptake, we find that annual savings from taking the practical test pathway would range between \$3.9 million to \$5.9 million per year across all Class 2, 4 and 5 applicants.

### **Changes to licensing are unlikely to completely relieve constraints on labour**

The size of any increase in the supply of heavy vehicle drivers will depend on whether licensing processes are constraining supply, or whether other explanations for any labour shortage have a greater impact. For instance, the hours and wages of other occupations (including driving smaller commercial vehicles) may be more attractive than driving heavy vehicles. Changing the licensing system will not clearly overcome all of the factors that may be preventing drivers from obtaining heavy vehicle licences.

There is some evidence that issues outside of licensing are contributing to constraints on the heavy vehicle labour supply. For instance, in March 2014, truck drivers were removed from the national Immediate Skill Shortage List (ISSL).<sup>10</sup> The ISSL identifies occupations with an immediate shortage of skilled workers and allows migrants skilled in these areas to be granted visas if they meet requirements for qualifications and experience. The change to the ISSL was made despite heavy criticism from the industry that the skills shortage persists, with some companies reported having 15 percent of their workforce made up of overseas drivers.<sup>11</sup>

Furthermore, wages in the trucking industry have only increased at a slightly higher rate than other wages in the economy. The real average hourly earnings across all industry groups increased at a rate of 3 percent from 2009 to 2014. Over the same period, the real average hourly earnings of workers in the transport, postal, and warehousing sector (the Australian and New Zealand Standard Industrial Classification (ANZSIC) category that truck driving falls in), had a rate that was only 0.4 percent points higher, at 3.4 percent.<sup>12</sup> This suggests that the shortage might be less of a problem than has been suggested in the media. This also suggests that any labour shortage may instead be a symptom of paying unattractive wages relative to other occupations.

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<sup>9</sup> Fees are based on approved courses for full licences provided by AMS Group, and exclude GST. We welcome feedback from stakeholders on whether these fees are considered average for the industry.

<sup>10</sup> See <http://www.immigration.govt.nz/migrant/general/generalinformation/news/LTSSLmarch2014.htm>.

<sup>11</sup> See <http://tvnz.co.nz/national-news/immigration-changes-could-spark-shortage-truckies-5523178>.

<sup>12</sup> Castalia analysis of Statistics New Zealand data.

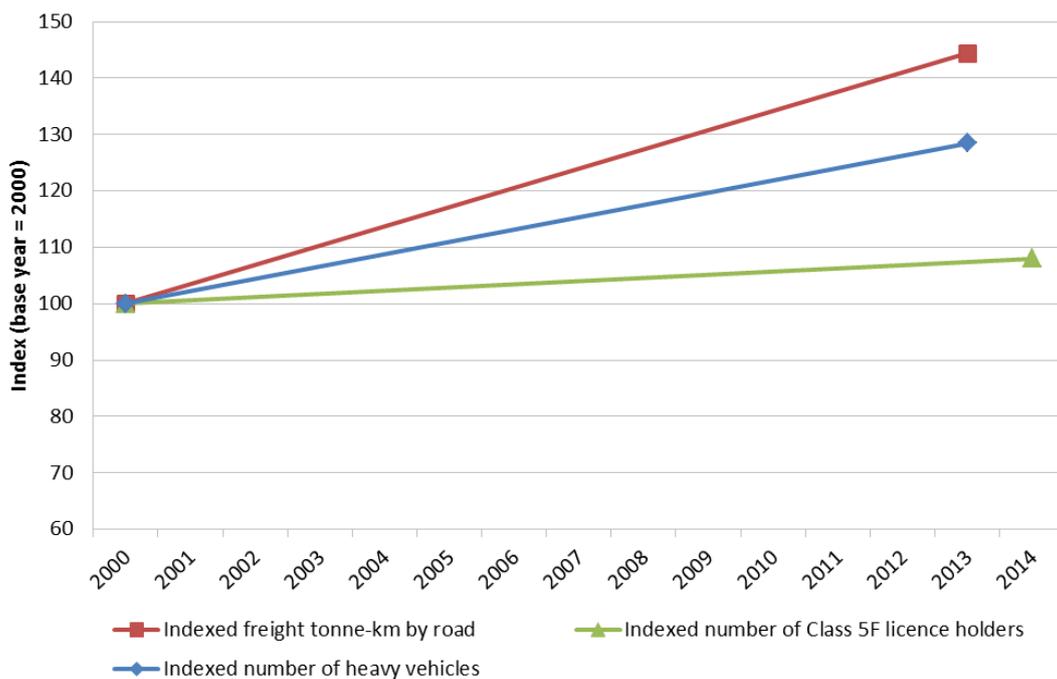
The combination of the recent constraints on migrant labour and the relatively low wages suggest reasons for the restricted supply of labour that are largely outside the influence of the licensing system. As such we do not anticipate that the labour supply in the heavy vehicle industry will be ‘unlocked’ as a result of this change.

### The change may have positive impacts on the use of the truck fleet

Additional drivers could improve the utilisation of the existing fleet. In carrying out this analysis, we have found little compelling evidence that trucks are actually underutilised (or ‘parked up’). In addition, other factors (such as a lack of underlying demand for particular freight vehicles) would likely provide a better explanation of any underutilisation of the truck fleet.

Although we did not find a strong case to show that heavy vehicle licensing constrains the productivity of the vehicle fleet, the possibility of trucks being parked up is plausible. New Zealand’s freight task (measured in freight tonne-kilometres) and heavy vehicle fleet have both grown at a faster rate than the number of Class 5 licence holders over the past 15 years.<sup>13</sup> This is shown in Figure 3.3, which indexes the freight tonne-kilometres by road (includes truck and trailers) and the number of heavy vehicles in New Zealand’s fleet in 2000 and 2013, and indexes the number of Class 5 full licence holders in 2000 and 2014.

**Figure 3.3: Comparison of the Growth in the Freight Task and Class 5 Licence Holders**



Source: Ministry of Transport and NZTA

Based on the uncertainty around whether trucks are parked up, we do not include this effect in the CBA. However, we still think it is useful to consider whether the policy proposal would be net beneficial, if only based on better use of the truck fleet, given the apparent shortage of drivers and claims of ‘parked up’ trucks. We use breakeven analysis (in comparison to the quantified costs of the policy option) to determine how many trucks

<sup>13</sup> Data was not available on Class 4 holders for this preliminary CBA

would need to be used as a result of licensing process changes to outweigh the costs of the changes (we exclude the benefits from avoided approved course fees).

We estimate that any trucks that are permanently ‘parked up’ would cost vehicle owners/operators the opportunity of earning revenue of around \$80,000 per year.<sup>14</sup> This is approximately \$780,000 in present value terms over 20 years.

For this lost opportunity to equal the costs of the policy proposal (which ranges from \$9.8 million to \$19.6 million in present value terms), the number of permanently ‘parked up’ trucks would have to reduce by between 13 to 25 trucks every year (0.01 to 0.02 percent of the truck fleet in 2013). In reality, many trucks will be only utilised during part of the year (either due to driver constraints or other market factors, such as seasonal freight transport demands). This breakeven estimate maybe better described as requiring an additional 156-300 truck-months utilisation of the existing fleet.

It is difficult to assess whether the number of trucks parked up would exceed this breakeven estimate. A RTF survey found that 112 companies had trucks parked up as a result of a driver shortage.<sup>15</sup> While each of these companies may have more than one truck parked up, the time period over which the truck is parked up may be less than a year.

### 3.1.4 Potential impacts of other options

The other options being considered to revise the heavy vehicle licensing system would have largely the same categories of costs and benefits as the base option. However, none of the other options would manage the risks of increased safety costs as well as the base option:

- **Allowing drivers 21 and over to follow reduced time requirements:** Crash statistics show that younger drivers have a higher crash rate than the general heavy vehicle driver population. An increase in the number of these drivers is therefore likely to result in additional fatalities and serious injuries in road crashes. We estimate the costs of these incidents to be around \$26.7 million in present value terms over 20 years. The approach to estimating this impact is described in Appendix B
- **Industry proposal:** This option eliminates between 6 to 18 months of the time requirements that are currently imposed on drivers 25 and over by the practical test pathway. This removes the incentive to continue driver training during this period, and might allow less experienced drivers on the road. If this proposal applied to drivers under 25, then it could result in a larger safety risk than the option to allow drivers 21 and over to follow reduced time requirements
- **Direct progression from Class 2 to Class 5:** This option has the same safety risk as the industry proposal. Under direct progression, these drivers would be required to meet 150 hours of supervised driving and complete additional training before gaining their full Class 5 licence
- **Removing the learner stages for Class 4 and Class 5 licences:** This option would allow drivers with a full licence in one licence class to drive, with a supervisor, vehicles belonging to the next class. The relative safety risk of this option depends on the extent of non-compliance with the supervisor condition.

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<sup>14</sup> Based on a heavy vehicle’s gross income per kilometre (approximately \$3.19 per kilometre in 2015 dollars), RTF (2006) in MOT (2010), ‘Understanding Transport Costs and Charges.’ p.11. Available at <http://www.transport.govt.nz/assets/Import/Documents/UTCC-Transport-and-freight-logistics-final-report-Aug-11.pdf>

<sup>15</sup> See <http://www.rtanx.co.nz/Resources/Documents/RTF%20Driver%20shortage%20survey%202014.pdf>.

Shifting the Class 5 theory test to directly before the practical test might also pose a safety risk, depending on the ability of the current test to prevent risky drivers from being able to drive on the road. It might be expected that removing a theory test seems less likely to put risky drivers on the road than the other options listed above. However, with a lack of information on whether this is an appropriate assumption, we are unable to judge whether or not this option is relatively more or less risky than the other alternative options.

In terms of benefits, the first three options listed above could have a greater impact on reducing any constraints that the licensing system places on labour supply than the base option. However, given that the licensing system is only one factor affecting the supply of heavy vehicle labour, we have not included these effects in our estimate of benefits.

The benefits from bringing higher levels of income forward would also be greater under all of the options listed above than the base option. The last three options would also deliver fee and compliance cost savings by removing existing stages in the process of obtaining heavy vehicle licences.

### **The base option would likely offer the highest net benefit**

While the benefits will be larger under these alternative options, introducing higher safety risks is likely to outweigh these additional benefits—so the net benefits of alternative options are likely to be lower than the net benefit of the base option. We understand that the intent of the Driver Licensing Review is to avoid options that increase safety risk, which means that even if the alternatives had a similar net benefit, the base option will still be the preferred option.

### **3.1.5 Overall impact of revising the heavy vehicle licensing system**

Table 3.3 summarises the costs and benefits of revising the heavy vehicle licensing system. Where costs and benefits vary based on the uptake of the enhanced practical test pathway, we provide an estimate based on a 50 percent and a 75 percent uptake. Given that both the safety impacts and the truck productivity impacts are unknown, we do not provide a net benefit.

**Table 3.3: Summary of Costs and Benefits of Revising Heavy Vehicle Licensing**

Category	Impact	Annual Value (\$000)		Present value over 20 years (PV\$m) <sup>1</sup>	
		Low uptake	High uptake	Low uptake	High uptake
Costs (Section 3.1.2)	Developing new practical tests	960		0.9	
	Increasing practical test fees	170	256	1.7	2.5
	Increasing compliance cost from new practical tests (varied by value of applicant's time)				
	Value of applicant's time (lower)	521	781	5.1	7.7
	Value of applicant's time (upper)	953	1,429	9.4	14.0
	System change costs	1,500 (first year only)		1.4	
	Ongoing IT/system costs	75		0.7	

Category	Impact	Annual Value (\$000)		Present value over 20 years (PV\$m) <sup>1</sup>	
		Low uptake	High uptake	Low uptake	High uptake
	Safety costs	(unknown - not quantified)		(unknown - not quantified)	
	<b>Total costs</b>			<b>9.8 - 14.1</b>	<b>13.2 - 19.6</b>
Benefits (Section 3.1.3)	Avoided approved course fees	3,900	5,900	38.4	57.5
	Regaining lost revenue from currently 'parked up' trucks	(unknown) <sup>2</sup>		(unknown) <sup>2</sup>	
<b>Plausible range of net impacts (excluding any impacts on safety or truck asset utilisation)</b>				<b>24.3-28.6</b>	<b>38.0-44.3</b>

Notes: <sup>1</sup> Discount rate is 8 percent

<sup>2</sup> Breakeven analysis conducted based on quantified costs in Section 3.1.3

## 3.2 Costs and Benefits of Removing the Accelerated Licensing Process

Current licensing processes enable drivers working for an approved employer to progress from a Class 2 licence to a Class 4 or Class 5 licence in a shorter amount of time by completing an accelerated licensing process. Over the course of the accelerated process, a driver must pass three assessments, and complete at least 60 hours of supervised driving and at least 200 hours of unsupervised driving, including 20 hours of night driving.

The evidence collected on the accelerated driving process suggests that it has not significantly increased the number of heavy vehicle drivers, and may have had a negative effect on safety outcomes. Removing the process, therefore, appears justified on the basis of this evidence. No other policy options are being assessed against the status quo.

### 3.2.1 Costs of the option

Removing the accelerated licensing programme reduces the potential number of drivers on a fast-track to obtaining a heavy vehicle licence. However, the number of drivers affected by removing the accelerated process will be small. The process has been used by an average of 23 applicants per year over the past 12 years, with only around six applicants in the past two years. If the accelerated process is removed, then these drivers will have to wait longer to gain their Class 5 licence. Even if the policy described in Section 3.1 is implemented, users of the accelerated process will have to organise and travel to more training sessions, which will consume more of participants' time. Given that this inconvenience is likely to be a small additional cost, we do not calculate this cost in this CBA.

Removing the accelerated programme also removes one channel for increasing the number of heavy vehicle drivers. Given the small numbers using the accelerated process, this change is unlikely to have significant effects on the trucking industry.

### 3.2.2 Benefits of the option

Removing the accelerated licensing process will remove the costs of taking the more expensive licensing pathway and could also improve safety.

### **The current costs imposed by the accelerated licensing programme will be removed**

Removing the accelerated licensing programme will eliminate costs currently imposed on NZTA to approve drivers and employers to participate in the accelerated programme and monitor the programme.

Drivers, or the employers paying on their behalf, will also avoid paying the difference in cost between the standard and accelerated programme. The cost of a driver taking the accelerated licensing programme is approximately \$3,300. This is \$300 more per driver than progressing through the licence system using the approved courses. Applying this benefit to 23 participants per year, this creates an annual benefit of \$7,700, which is \$76,000 in present value terms over 20 years.

Applicants would not get a benefit from avoiding the effort of the accelerated licensing process if they instead use the approved course pathway. This is because the effort applicants put into the accelerated licensing process, such as through hours of driving practice, would be the same as that required to pass the approved courses.

### **Removing the scheme could also reduce the safety risk posed by participants**

One in five drivers that used the accelerated licensing process had their licence disqualified or partially disqualified. Given that disqualification results from serious driving offences, this suggests that the drivers trained under the accelerated licensing process may pose greater safety risks than other heavy vehicle drivers. Removing the accelerated licensing process will reduce this risk. Some of the offences that lead to disqualification could be avoided by the accelerated process participants now progressing under approved courses or an enhanced practical test. Reducing the number of offences would avoid the costs of managing these offences, such as police time and prosecution costs.

We do not quantify this safety risk as the sample group of applicants is too small to be representative. However, we note that this impact could increase the benefits of the change.

### **3.2.3 Net benefit of removing the accelerated licensing process**

Table 3.4 summarises the costs and benefits of revising the heavy vehicle licensing system. Our analysis finds a net benefit of around \$76,000 using the assumptions described in our analysis. Changing these assumptions within the plausible ranges outlined in Appendix A, we find that this net benefit could range from \$34,000 to \$113,000.

**Table 3.4: Summary of Costs and Benefits of Removing the Accelerated Licensing Process**

<b>Category</b>	<b>Impact</b>	<b>Annual Value (\$000)</b>	<b>Present value over 20 years (PV\$000)<sup>1</sup></b>
Costs (Section 3.2.1)	Inconvenience to applicants by removing the ‘one stop shop’ for training	Not quantified (expected to be small)	Not quantified (expected to be small)
Benefits (Section 3.2.2)	Avoid costs of more expensive accelerated process	7.7	76
	Avoid safety risk from inexperienced drivers	Not quantified	Not quantified
<b>Net benefit (base case)</b>			<b>76</b>

Category	Impact	Annual Value (\$000)	Present value over 20 years (PV\$000) <sup>1</sup>
<b>Plausible range of net impacts</b>			<b>34 - 113</b>

<sup>1</sup> Discount rate is 8 percent

### **3.3 Costs and Benefits of Reducing Licence Requirements for Passenger Endorsements**

To gain a passenger endorsement that allows a driver to transport fare-paying passengers, a driver must have held a full Class 1 licence for at least 2 years. This can be a barrier to labour participation in the passenger vehicle industry.

#### **3.3.1 Range of possible options**

The review has identified one option to overcome the barrier from having to hold a full Class 1 licence for at least 2 years. This option is to reduce the requirement to 1 year with a full Class 1 licence, while still requiring overseas drivers and young drivers (under 20 years old) to hold a Class 1 full licence for 2 years before applying for the passenger endorsement.

#### **3.3.2 Costs of reducing the requirement to hold Class 1 to 1 year (except for overseas and young drivers)**

The main reason for the current requirement to hold a full Class 1 licence for 2 years is to manage the risks posed by drivers that earn a living on the road by ensuring they have a minimum level of experience. Any reduction in this time requirement will increase the risk that unsafe drivers receive a passenger endorsement.

There is also a specific concern that reducing the wait time from 2 years may allow drivers with a recent record of driving in an unsafe way to receive a passenger endorsement. The length of time for serious offences to proceed through the court process and show up on a driver's record can be up to 2 years. Allowing passenger endorsements for drivers holding full licences for less than this length of time could enable drivers with serious offences to become passenger vehicle drivers.

However, the likelihood of this outcome occurring is limited. Most offences in the system will be known at the time that a passenger endorsement applicant is subject to a fit and proper person check. This is because the Land Transport Act 1998 allows the check to include consideration of a charge for any offence that, if convicted, would mean the driver is not considered to be fit and proper.

#### **3.3.3 Benefits of reducing the requirement to hold Class 1 to 1 year (except for overseas and young drivers)**

Reducing the 2 year requirement to 1 year would allow motivated drivers using this opportunity to earn a bus or taxi driver's income 1 year earlier. This could apply to up to 2,500 passenger endorsement applicants per year after removing the pool of overseas

drivers<sup>16</sup> and young drivers<sup>17</sup> (together assumed to be approximately 10 percent of licence applicants).

However, there is no wage impact from simply relaxing entry to the labour market for passenger vehicle drivers. An additional 2,500 bus or taxi drivers would not drive up the demand for bus or taxi driver services, but would instead increase competition in the market. With no increase in demand for passenger services, allowing passenger endorsements earlier would not enable drivers to access higher incomes.

This conclusion appears to contrast with Section 3.1.3, which estimated the benefit of bringing forward higher income for truck drivers. However, in the case of heavy vehicles there are claims of a labour shortage and of trucks being ‘parked up’—a constraint on the demand for trucking services. Reducing these constraints will drive up demand for trucking services, and so truck drivers would be expected to be able to get a higher income. This would not be the case for passenger vehicles.

#### **3.3.4 Net benefit of reducing licence requirements for passenger endorsements**

We expect that this option will have a net economic benefit of zero. This is because the costs (safety risk) and the benefits (earlier income for applicants that are not overseas or young drivers) are expected to be minimal.

### **3.4 Costs and Benefits of Removing Endorsements for Special-Type Vehicles**

Currently, a driver must have specific forklift, roller, track, or wheels endorsements to drive these particular vehicles on the road. As of December 2014, there were around 195,000 forklift endorsement holders, and 340,000 roller, track or wheels (RTW) holders.

These special vehicles are largely used for commercial purposes. Employers have workplace safety obligations and require employees using forklifts to sit occupational safety and health (OSH) courses.

However, NZTA also requires users of these special-type vehicles to sit courses related to the specific endorsement. For forklift endorsements, the NZTA course largely consists of health and safety advice, with some minor road safety guidance. This creates unnecessary duplication for forklift drivers.

The NZTA courses relating to rollers and tracks may also be partially or wholly unnecessary, as these vehicles are rarely used on the road. Health and safety training for these vehicles would be covered by the OSH course.

#### **System changes would create some once-off IT costs for NZTA**

The IT costs associated with the system change are estimated to be approximately \$0.5 million to \$1.5 million. If this cost is incurred by changing the system for heavy vehicle licences (estimated in Section 3.1.2), then this change will impose little additional cost.

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<sup>16</sup> The Office of the Auditor-General reports that “1,094 people qualified for licence conversion and gained their passenger endorsement between 2002 and 2004”. While we do not have data for 2002, applications for passenger endorsements were around 3,600 in 2003 and 2004, and we have assumed a similar figure for 2002. This gives a rate of around 10 percent of licence conversions for the number of passenger endorsements. See <http://www.oag.govt.nz/2005/taxis/part3.htm#cater>.

<sup>17</sup> 71 drivers were granted their passenger endorsement between the ages of 16 and 19, compared to around 34,000 passenger endorsement holders across all age brackets. This proportion (0.21 percent) is close to zero, so we assume the combined proportion of overseas and young drivers applying for the passenger endorsements is 10 percent.

Taking a conservative approach, we judge the benefits of the changes to special-vehicle licence against the upper bound of this range and exclude the possibility of sharing the costs with other initiatives.

### Benefits of removing the special-type vehicle endorsements

The main impact of this change would be the reduced costs to participants in receiving the endorsement at \$370,000 per year. This is around \$3.6 million in present value terms over 20 years.

#### 3.4.1 Net benefit of removing endorsements for special-type vehicles

Table 3.5 summarises the costs and benefits of removing special-type vehicle endorsements. The net benefit under this option would be \$2.3 million.

Adjusting the assumptions within the plausible ranges outlined in Appendix A, we find that this net benefit could range from \$21,000 to \$5.9 million.

**Table 3.5: Summary of Costs and Benefits of Removing Special-Vehicle Endorsements**

Category	Impact	Annual Value (\$000)	Present value over 20 years (PV\$m) <sup>1</sup>
Costs	System change costs	1,500 (first year only)	1.4
	Implementation costs	-	-
Benefits	Avoided endorsement course costs	371	3.7
<b>Net benefit (base case)</b>			<b>2.3</b>
<b>Plausible range of net impacts</b>			<b>-\$21,000 to \$5.9 million</b>

<sup>1</sup> Discount rate is 8 percent

## Appendix A Assumptions in Cost Benefit Analysis

Table A.1 lists the assumptions we have used in the cost benefit analysis, and provides plausible ranges for the values used. Table A.1 also identifies the value that would significantly affects the overall finding of the analysis (i.e. changes the result to a net cost), and whether this value is in the plausible range.

For Sections 3.1.2 and 3.1.3, the approximate value that results in net benefit of 0 is calculated by excluding the policy's impacts on safety outcomes and truck asset productivity.

**Table A.1: Assumptions Used in Cost Benefit Analysis**

Section	Assumption	Value	Plausible range	Approximate value(s) that results in net benefit = 0	Value(s) in plausible range?
3.1.2	Cost of enhancing new practical test	\$320,000 (per test)	\$100,000 - \$1,000,000	\$21 million	✗
	Increased test fee per applicant	\$26.60	\$10-\$50	\$482	✗
	Additional hours of driving required to pass new practical tests	Per applicant: 3 hours Adding the supervisor condition: 6 hours	4 - 10 total hours	22 hours (valued at \$24.79 per hour) to 40 hours (valued at \$13.55 per hour), both at 50% uptake	✗
	Value of time spent practising for practical test	Lower: \$13.55 Upper: \$24.79	\$9.80 - \$28.54	\$90 per hour (at 50% uptake) to \$92 per hour (at 75% uptake)	✗
	IT costs	\$1.5 million	\$0.5 - \$1.5 million	\$63 million	✗
	Support costs	\$75,000 per year	\$10,000 - \$300,000	\$5.95 million	✗
3.1.3	Fees avoided per approved course for full licence	Class 2: \$675 Class 4: \$712 Class 5: \$931	Class 2: \$500 - 900 Class 4: \$500 - \$1000 Class 5: \$700 - \$1300	Class 2: Negative Class 4: Negative Class 5: Negative	✗
	Uptake of practical test pathway	50% - 75%	40% - 90%	4.5% (valuing applicants' time at \$24.79) to 4.7 % (valuing applicants' time at \$13.55)	✗

Section	Assumption	Value	Plausible range	Approximate value(s) that results in net benefit = 0	Value(s) in plausible range?
3.2.2	Difference in cost between accelerated process and approved courses	\$336.70	\$150 - \$500	\$0	x
3.4	IT costs	\$1.5 million	\$0.5 - \$1.5 million	\$4 million	x
3.4	Avoided cost of forklift endorsement	\$40 per course	\$15 - \$70 per course	\$15	✓

## Appendix B Estimating the Safety Risk from Lowering Barriers to Younger Heavy Vehicle Drivers

An alternative option for revising the heavy vehicle licensing system is to reduce the age for setting time requirements. This appendix estimates the safety risks of this option.

Currently age barriers are used to manage risk at the learner licence stage only. The rationale to decrease the age requirement for the approved course pathway to 21 is that the difference in the risk between drivers in their late or early twenties is not as stark as the increased risk from teenage heavy vehicle drivers (which can be four to six times higher).

In the year ended 31 December 2013, there were 12 heavy vehicle drivers (aged between 25 and 39) in fatal crashes, and 134 in crashes resulting in serious or minor injuries.<sup>18</sup> This is 0.23 fatal crashes per 1,000 full heavy vehicle licence holders and 2.57 injury crashes per 1,000 heavy vehicle licence holders.<sup>19</sup> Heavy vehicle drivers (assumed to be learner and full Class 4 and Class 5 drivers) between the age of 20 and 24 were involved in 2 fatal crashes and 31 injury crashes during December 2013. This is 0.22 fatal crashes and 3.44 injury crashes per 1,000 heavy vehicle licence holders.

We apply the differences in the rates for drivers between 25-39 and drivers between 20-24 to the number of Class 4 and 5 licence applicants aged between 20-24 per year—the applicants who, under this proposal, could get their heavy vehicle licence earlier. Some of the younger applicants using this opportunity (who would have otherwise waited until they were 25) could gain their licence years earlier. However, others might have gone through the longer process anyway, and only remove six months from the current delay facing a 21-24 year old. Due to an absence of information on the distribution of these applicants, we assume that each applicant would be able to get their licence one year earlier. Combining the number of Class 4 and 5 applicants at the learner and full stage per year this is around 2,000 applicants per year.

Given that the rate of fatal crashes per year is higher for those aged 25 and 39 than for drivers between 20 and 24, we do not expect additional fatal crashes. However, the increased rate of injury crashes is expected to result in an additional 1.79 injury crashes per year. Table 3.3 estimates the cost per year created by these additional crashes. Given that we do not know whether the injury crashes are serious or minor, we take the conservative approach and assume all are serious injury crashes. This safety risk is \$26.7 million in present value terms over 20 years.

**Table B.1: Annual Costs of Increased Fatal and Serious Injury Crashes**

Additional crashes	Estimate (per year)	Social cost per crash	Annual cost (\$m)
Fatal	0	\$4,582,600	\$0
Serious	7.07	\$857,000	\$2.7
<b>Total</b>			<b>\$2.7</b>

Source: MOT, The Social Cost of Road Crashes and Injuries 2014

<sup>18</sup> Both serious and minor injury crashes are grouped under one category; injury crashes. See <http://www.transport.govt.nz/assets/Uploads/Research/Documents/Motor-Vehicle-Crashes-2013/Motor-vehicle-crashes-2013-Drivers-involved-in-reported-injury-crashes.pdf>.

<sup>19</sup> Full licence holders are equal to the sum of learner and full licence holders at Class 4 (excluding holders of Class 3) and Class 5 licences as of December 2014 for those aged between 25 and 39 (52,137).



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