

# Te huringa taraiwa: Te arotake I te pūnaha utu kaiwhakamahi rori | Driving Change: Reviewing the Road User Charges System

Considering climate change, simplifying compliance and making better use of technology as our transport system changes

January 2022

Consultation Document



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### List of abbreviations

ACC	Accident Compensation Corporation
ATV	All Terrain Vehicles
CAM	Cost Allocation Model
CNG	Compressed Natural Gas
DME	Dimethyl ether
eRUC	Electronic Road User Charge
ESA	Equivalent Standard Axle
ESPs	Electronic System Providers
ETS	Emissions Trading Scheme
EV	Electric Vehicle
FED	Fuel Excise Duty
GVM	Gross Vehicle Mass
GVW	Gross Vehicle Weight
HFCEV	Hydrogen fuel-cell electric vehicle
HV	Heavy Vehicle
LPG	Liquefied Petroleum Gas
NLTF	National Land Transport Fund
NLTP	National Land Transport Programme
PCE	Passenger Car Equivalents
PHEV	Plug-In Hybrid Electric Vehicles
PV	Powered Vehicle
RUC	Road User Charge
VKT	Vehicle Kilometres Travelled

## Preface by the Minister of Transport

**New Zealand has a road user charge (RUC) system that is truly one of a kind – it remains world-leading as a distance and weight-based charge for both diesel and heavy vehicles.**

It is a well-established system having been designed in the 1970s and undergoing a substantial reform in 2012 to modernise and simplify it. The 2012 changes also enabled the voluntary use of electronic devices (eRUC) to pay road user charges for heavy vehicles. However, since 2012 the transport industry has changed significantly with a substantial increase in the number of light diesel vehicles and as a result, an increase in those paying road user charges.

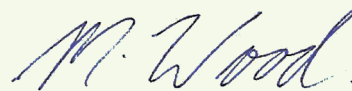
The New Zealand transport industry is also facing the confronting challenge of climate change and a pressing need to reduce our transport sector's climate change emissions. Climate change is an area this Government is very passionate about and we are working hard to find solutions that can work across the transport sector. Our uptake of electric vehicles has increased and continues to do so with the help of initiatives such as the current RUC exemption and the Clean Car Discount announced earlier this year. I am interested to see whether we can make better use of the RUC system to help promote the uptake and use of vehicles with low-carbon emissions to help us meet our climate goals.

Although we currently have an exemption from RUC for electric vehicles, once that exemption expires, their operators will be required to pay road user charges like other road users. This will mean that they will contribute to the functioning of our transport network that they are already using. RUC means that, unlike many countries, we already have a mechanism to recover these costs. This doesn't mean, though, that we shouldn't look at ways to make paying RUC simpler and easier.

I am committed to improving our road user charges system. This document outlines a range of options on how we can make our system of road user charges more effective to overcome the challenges and changes we will face in the future.

Many of the changes discussed here could be significant for the RUC system if they were implemented. This is why we are using this discussion document to get your views before we propose any legislative changes. The matters put forward in this document are for discussion only and are intended to seek feedback. All of the ideas would need refinement before they could proceed and some may not proceed at all, depending on your feedback.

We want to hear from vehicle owners, drivers, and industry experts to help us make well-considered decisions and help shape the future of our transport sector. The consultation will be open until Friday 22 April 2022. I encourage you to share your views through the online survey, written submission or by getting in touch with Te Manatū Waka Ministry of transport if you want to discuss any of the proposals.



**Hon Michael Wood**  
Minister of Transport



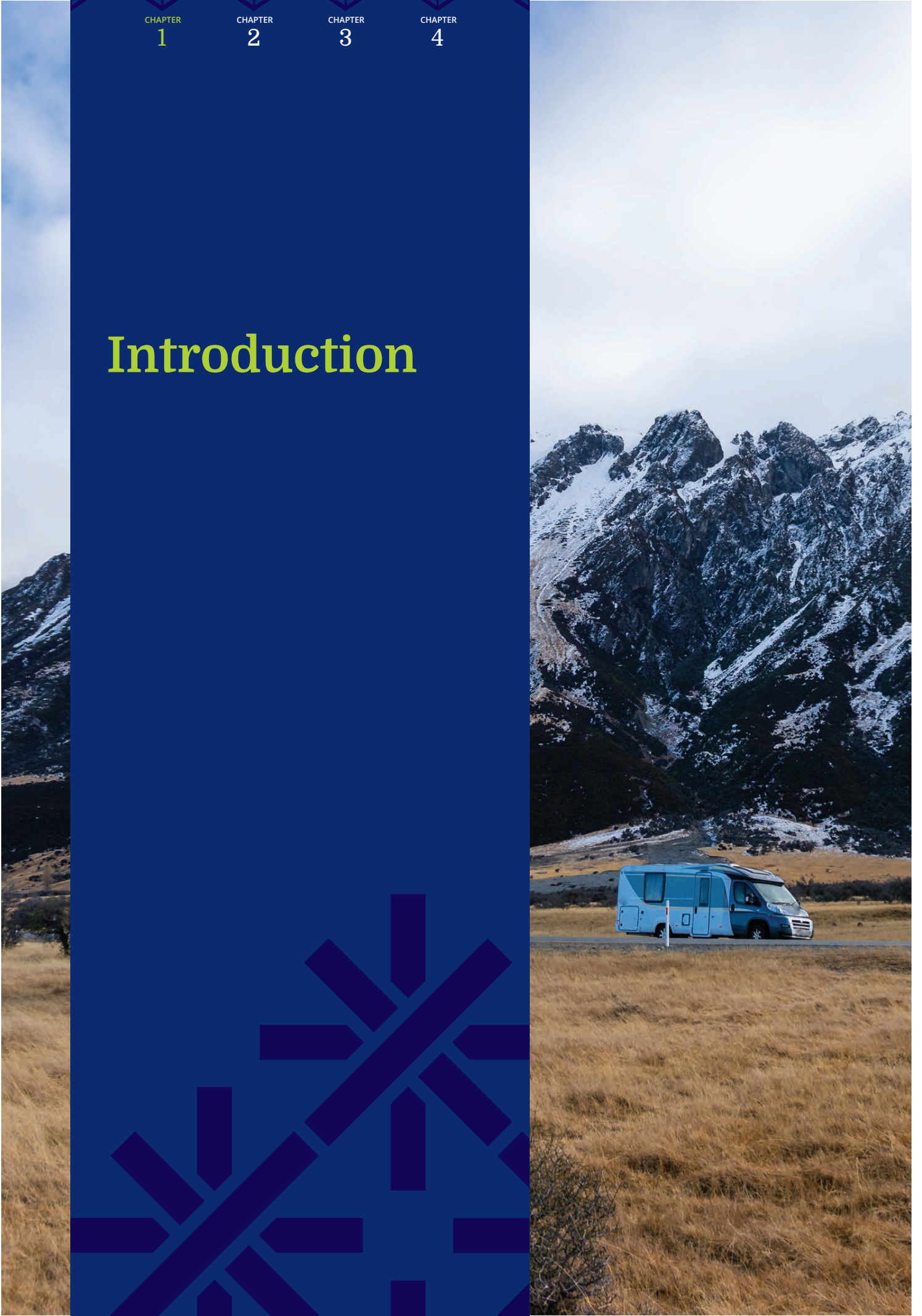
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# Introduction



## 1.1 Background to Road User Charges (RUC)

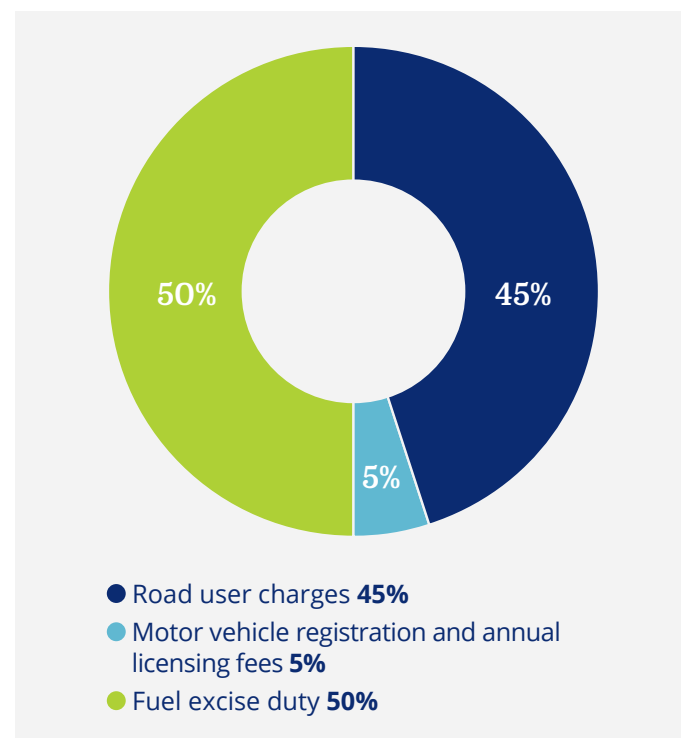
**New Zealand was a pioneer in implementing a national distance-based road user charge (RUC) system.**

RUC imposes charges on RUC vehicles for their use of the roads that are in proportion to the costs that the vehicles generate. Since its introduction in 1978, RUC has been updated and simplified a number of times to allow for technological advancements and to modernise the system. Today, our RUC system remains world-leading, but it needs to evolve. It needs to be able to adapt to changes in technology and changes in the transport sector, such as the increasing importance of light vehicles to RUC revenue and the increasing use of fuels other than petrol and diesel. We also want to consider whether RUC should be able to address wider Government priorities and not focus solely on recovering direct costs.

Under the Road User Charges Act 2012 (RUC Act), operators of all vehicles that do not use a fuel that is charged fuel excise duty (FED) (primarily diesel vehicles), or heavy vehicles with a gross vehicle mass (GVM) greater than 3.5 tonnes (primarily trucks, buses and some trailers), are subject to RUC. Currently, almost all RUC vehicles are diesel powered vehicles, but vehicles using other fuels such as electricity, hydrogen and biodiesel are also subject to RUC. Light Electric Vehicles (EV) (mainly cars) are currently exempt from paying RUC until 31 March 2024 and heavy EVs (trucks and buses) are exempt until the end of 2025 as part of existing measures to encourage people to buy and use them.

In the 2020/21 financial year RUC contributed nearly \$2 billion in revenue to the National Land Transport Fund (NLTF) out of a total of \$4.3 billion. Of this the operators of the 800,000 light RUC vehicles purchased approximately \$800 million in RUC licences, while the operators of the 190,000 heavy vehicles (including trailers towed by heavy vehicles) purchased \$1.1 billion. The owners of roughly 3 million light petrol vehicles contributed around \$2.1 billion in FED and another \$230 million was collected in registration and licence fees.

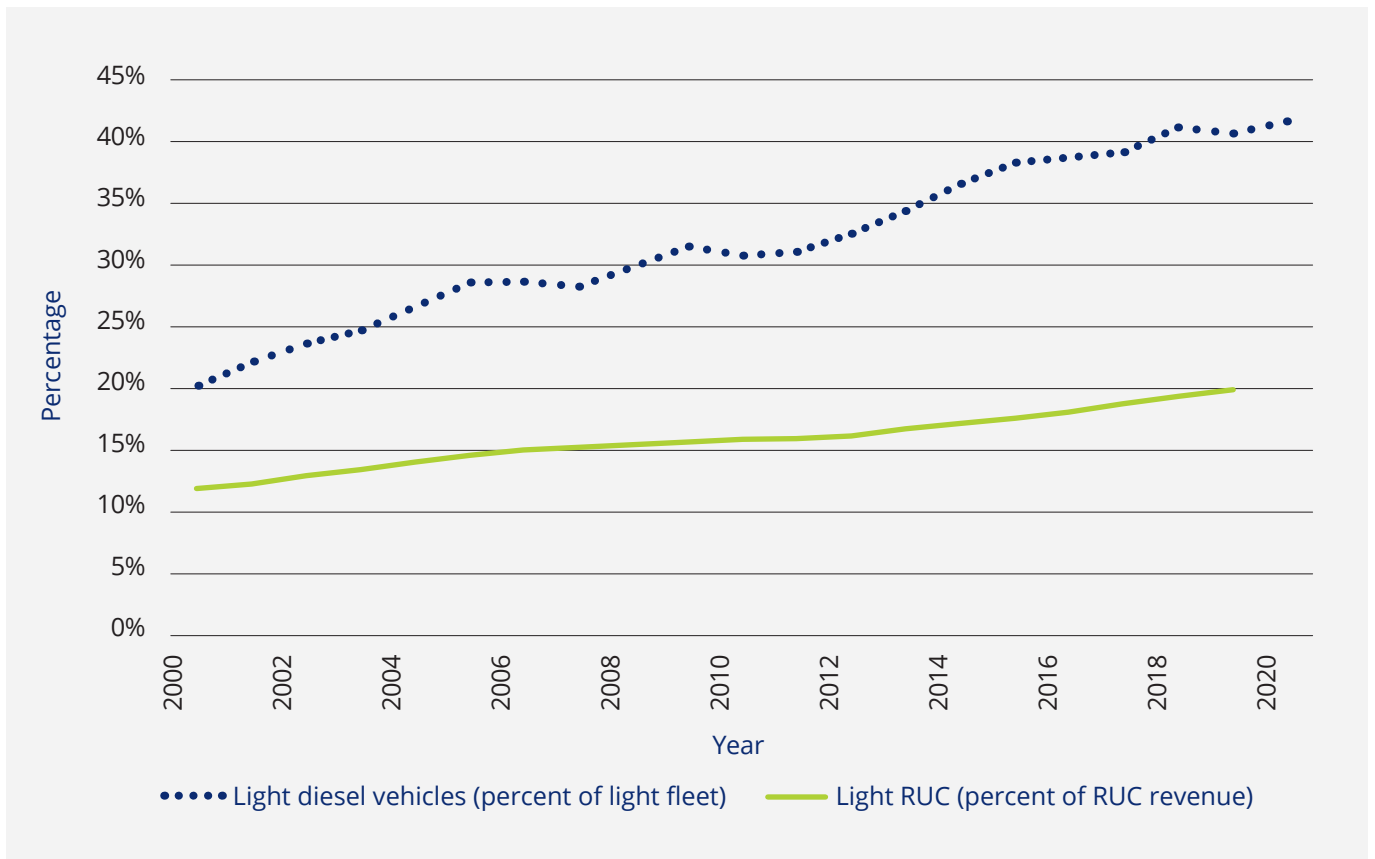
**Figure 1: Main sources of revenue for the National Land Transport Fund (NLTF) in 2020/2021**



**INTRODUCTION**

The last major suite of amendments to the RUC Act were made in 2012. In the intervening years the number of light diesel vehicles subject to RUC has increased significantly and these are often operated by private motorists, rather than companies. Heavy diesel vehicles, which are mainly operated by companies, remain the core of the scheme, but are now only responsible for around sixty percent of RUC revenue. Light diesel vehicles, which now make up 20 percent of the light vehicle fleet, contribute the other 40 percent of RUC revenue. Once the EV RUC exemption ends, owners of EVs will also pay RUC in ever increasing numbers.

Figure 2: Diesel vehicles within the light fleet and percentage of revenue from light RUC



## 1.2

## What changes are needed to make RUC work more effectively?

**The current RUC legislation is focussed on recovering the costs of damage to our road network, especially that caused by heavy vehicles, and ensuring that operators of vehicles that cause the damage pay the appropriate amount.**

This approach remains key, but the current system does not recognise other costs imposed by vehicle use, such as pollution or congestion. There is a growing interest in using the RUC system to also capture some of those other costs, or to offset the higher costs faced by some emerging technologies, ahead of their widespread adoption.

We want to look at whether changes to the legislation are needed to enable our RUC system to adapt to these changes in the types of vehicles and their operators, and whether we should amend it to accommodate future changes in how we seek to raise land transport revenue.

In addition to the potentially significant changes to the purpose of RUC, we are taking this opportunity to consult on a wide range of other possible amendments to RUC legislation that could improve its operation. Te Manatū Waka Ministry of Transport (Te Manatū Waka) and Waka Kotahi NZ Transport Agency (Waka Kotahi) have identified a large number of potential operational and legislative improvements to the RUC system and RUC Act. Currently it costs Waka Kotahi approximately \$20 million per year (around one percent of RUC revenue) to administer the RUC system and it costs operators an additional amount to manage their own compliance. Amending the RUC Act and its regulations is an opportunity to make changes that will reduce these costs and improve the value for money the sector gets.

## INTRODUCTION

## 1.3

## We'd like your feedback on how to make the RUC system better

**This paper is designed to get your feedback on a wide range of potential changes to the RUC system.**

If the changes are progressed, most would require amendments to the RUC Act to enable them. We will compile the responses we receive into advice for the Minister of Transport and his Cabinet colleagues about which changes might, or might not, proceed. Cabinet will then consider proposals and any potential legislative changes – weighing up the impact on the sector, the economy, and everyone who uses or is affected by the RUC system.

Should Ministers decide to make changes following this consultation, we expect there will be several packages of amendments to the RUC system (see Figure 3). The first package would include changes that can be made by amending regulations under our existing law. These changes can proceed relatively quickly after the consultation concludes. Other changes would require amendments to the RUC Act. The exact timing of when those changes could be made will depend on the timing of the parliamentary process. The timing of these processes will not be known until the final package of possible amendments is prepared. Once the amendments are in place there would then be another package of regulations to implement the remaining changes. These changes are likely to come into effect at the same time the new Amendment Act comes into force, or shortly after that. Finally, there could be some changes made to the RUC Act that would create the legal ability to do something, but which we won't want to implement immediately. These provisions might not be used until some years from now.

We recognise that some of the changes discussed are potentially large and complicated. We are allowing a relatively long time for the consultation so that we can engage with stakeholders to develop lasting solutions. This means that you will also have an opportunity to make further submissions before any changes to the legislation are made.

We have allowed two months for written submissions, with **written submissions due on Friday 22 April 2022**. However, written submissions will not be the only opportunity to have input. Stakeholder feedback is very important to us and we would like to engage with groups on specific topics, either virtually or in person (provided it is safe to do so under the COVID-19 Protection Framework). If you are interested in participating in a discussion on any of the proposals, please let us know by emailing [RUCConsultation22@transport.govt.nz](mailto:RUCConsultation22@transport.govt.nz)

### 1.3.1 Should there also be changes to Fuel Excise Duties (FED) settings?

At present, motorists using petrol pay for their use of the road network through the amount of FED that they pay as part of their petrol. If we are to consider wider changes to the purpose of RUC, then we may also need to consider if these concepts or policies could also be applied to vehicles using petrol. For example, if the goal was to reduce congestion it would not be sensible to only charge operators of RUC vehicles. If you have views on how the FED system could be modified to achieve the outcomes discussed in this document for RUC vehicles, then you are welcome to respond on these matters as well, when responding to the questions in this document.



# 1.4 Additional Sources of information

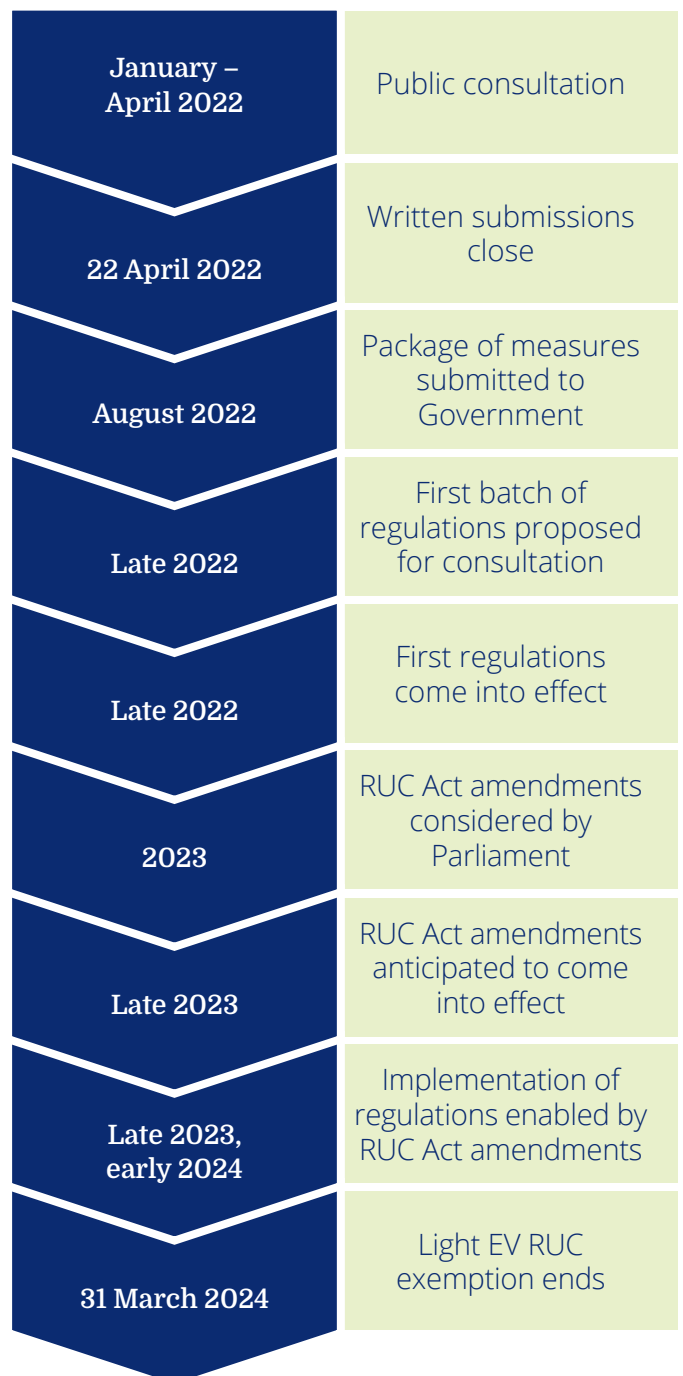
**Annex 1 discusses in detail how RUC rates are calculated at present.**

Further information about RUC is also available on Te Manatū Waka’s website here: <https://www.transport.govt.nz/area-of-interest/revenue/road-user-charges-system/> and Waka Kotahi’s website here: <https://www.nzta.govt.nz/vehicles/licensing-rego/road-user-charges/about-ruc/>

The RUC Handbook and Code of Practice for Electronic Road User Charges Management Systems also contains good background on the operation of the RUC system: <https://www.nzta.govt.nz/assets/resources/road-user-charges/docs/road-user-charges-handbook.pdf> <https://www.nzta.govt.nz/assets/resources/road-user-charges/eruc-guidelines/docs/ERUC-code-of-practice.pdf>



Figure 3: Indicative timing of proposed RUC legislation reforms



## INTRODUCTION

# 1.5 Making and sending a submission

**We welcome your submissions on changes that the Government is considering that relate to RUC set out in this document.**

Your feedback will help the Minister of Transport and his Cabinet colleagues to decide on what, if any, amendments are made to the RUC system. You can comment on as many or as few of the items raised in the document as you prefer. You do not need to respond to the questions directly if you do not want to. They are only intended as a guide. You can also suggest other matters that should be considered as part of this package of reforms to the RUC system.

Please include the following information in your submission:

- The subject of the proposed change
- Your name
- Your organisation's name if applicable
- Your email address (preferred) or postal address

You can send your submission via the online submission form or by email to [RUCConsultation22@transport.govt.nz](mailto:RUCConsultation22@transport.govt.nz). The online submission form is available at <https://www.transport.govt.nz/RUCconsultation22>.

If you prefer, you can also mail a copy of your submission to:

RUC Consultation 2022  
Te Manatū Waka Ministry of Transport  
PO Box 3175  
Wellington 6140

We are likely to publish a summary of submissions. As part of consultation we collect your name and any other identifying information you provide. If you do not want your name or identifying information to be included as part of the published public summary, please note this at the end of your submission and we will ensure identifying information is not included. This will also be taken into account when we respond to any Official Information Act requests that cover your submission.

You have the right to ask for a copy of any personal information we hold about you, and to ask for it to be corrected if you think it is wrong. If you'd like to ask for a copy of your personal information, or to have it corrected, please contact us at [info@transport.govt.nz](mailto:info@transport.govt.nz). If you are planning to make a submission via an online petition page or other automated platform, please contact us first to ensure your submission is accurately identified and collected.

Submissions can be made after the closing date, but we cannot guarantee that these will be able to be included in the formal submissions analysis.

## 1.6

## The structure of this discussion document

**We have set out this discussion document to guide you through the different levels of potential changes that could be made to the RUC Act.**

Chapter 2 discusses ideas relating to the purpose of RUC and the powers that are used to set RUC rates. We are thinking about the scope of costs we should seek to recover as part of RUC, what the future RUC system could look like and what powers the RUC Act needs if RUC was to be used support wider transport policies.

Chapter 3 presents a range of changes to improve the general functioning of the RUC system. The ideas and concepts proposed for your feedback focus on improving the collection and administration of RUC and the use of RUC to influence the national vehicle fleet. These changes could affect most RUC users.

Chapter 4 sets out a range of potential, mainly technical, amendments that are intended to address specific issues we have encountered through administration of the RUC Act. These are mostly minor amendments which only affect a small number of people or companies and focus on changes to specific parts of the current legislation.

# Using the RUC Act to do more than recover road costs



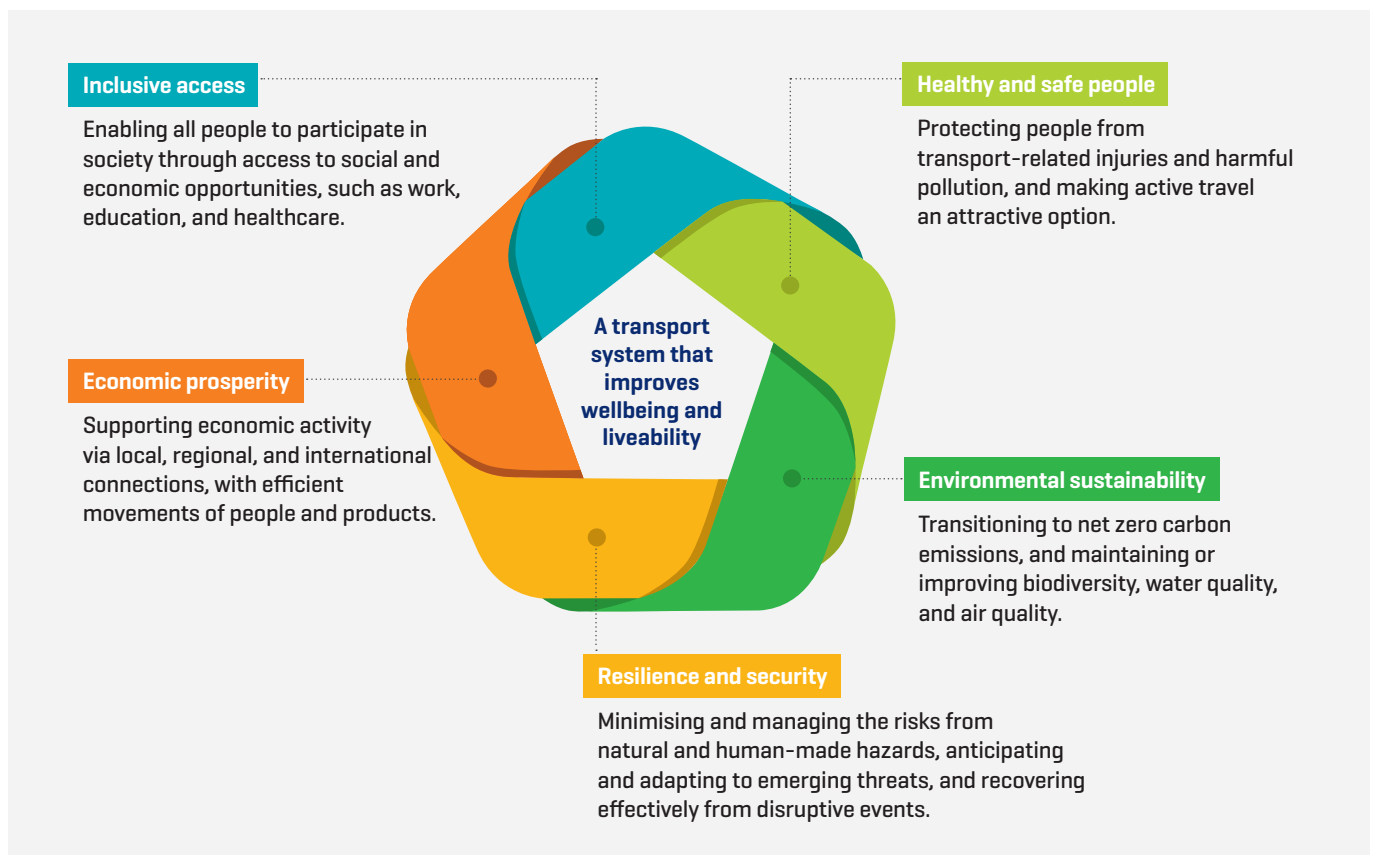
## The transport system creates significant social and economic benefits but also many costs.

For example: road transport is the fastest growing source of greenhouse gas emissions; by some estimates, congestion costs Auckland alone up to \$1.3 billion a year; and on average, someone dies on our roads every day. A 2012 report<sup>1</sup> found that air pollution from motor vehicles has a social cost of nearly \$1 billion. Being able to consider these

costs and impacts of road transport when we set the costs of using the road network could help the transport system become more effective; improving it as a system so that it enhances wellbeing and the liveability of our cities and towns.

Te Manatū Waka has identified five outcomes (Figure 4) that the transport system should be placing at its centre to create a system that improves wellbeing and liveability.<sup>2</sup> Each of these outcomes has a variety of indicators, many of which focus on the measurement of externalities.

Figure 4: Te Manatū Waka's five aspirational outcomes for the transport system



1 <https://environment.govt.nz/assets/Publications/Files/updated-health-and-air-pollution-new-zealand-study-summary-report.pdf>

2 <https://www.transport.govt.nz/area-of-interest/strategy-and-direction/transport-outcomes-framework/>

## USING THE RUC ACT TO DO MORE THAN RECOVER ROAD COSTS

The Government is progressing policies to support these outcomes by developing programmes that focus on road safety, vehicle emissions, regulatory development, and smart infrastructure investments. The RUC system could also potentially support these outcomes.

Currently the RUC legislation provides for the setting of RUC rates to be in proportion to the costs that the vehicles generate. These costs have historically been limited only to the direct costs of damage caused by the vehicles' use of the roads, along with the wider costs of building and maintaining the transport system. In response to the trends that we expect to impact the sector, we are seeking your feedback on whether it is appropriate to expand the costs that could be taken into account when setting RUC under the RUC Act.

The intent of broadening the purpose of RUC, as set out in the Act, would be to ensure that the Government can respond appropriately and efficiently to the changing environment the transport sector operates in.

Q1

What are the advantages and disadvantages of using RUC to recover more than the direct costs of building, operating, and maintaining the land transport system?

Q2

If RUC should not be used for recovering more than road costs, what alternative approach might be appropriate for recovering those other costs?

## 2.1 Including externalities in the costs considered in setting RUC rates

**Road transport causes a range of positive and negative impacts and these are referred to as externalities.**

These externalities can include environmental damage such as air or water pollution, noise pollution, road damage, accidents, or other harms such as congestion. Other than road damage, these externalities are not explicitly considered when setting RUC, or FED rates for petrol vehicles. We want to look at whether we should be able to consider some of these other costs when setting RUC; especially those associated with greenhouse gas emissions. At the same time, we need to ensure that we continue to raise sufficient revenue for the transport system to operate in a way that achieves our other transport outcomes.

The transport sector is responsible for over 21 percent of New Zealand's gross domestic greenhouse gas emissions and road transport is the fastest-growing domestic source of greenhouse gas emissions. Around two-thirds of our transport emissions come from cars, SUVs, utes and vans. Heavy road vehicles are responsible for around a quarter of transport greenhouse gas emissions, even though they are only responsible for six percent of the total annual vehicle kilometres travelled (VKT) on our roads.

The Government Policy Statement on land transport 2021 made climate change a 'strategic priority'. Decarbonising land transport is going to be challenging and a comprehensive set of measures will be needed to achieve the reductions recommended by the Climate Change Commission. We are going to need a wide range of incentives (and potentially disincentives) to move away from fossil fuels. The RUC system could provide the Government with greater flexibility to manage the economic and equity impacts of its greenhouse gas reduction commitments, while continuing to raise enough revenue to maintain the road transport network.

Pricing externalities can recover these other costs – fully or partially – by passing them on to those who created the costs. Managing externalities through pricing could be a fairer way to allocate costs and benefits of transport options and it could be used to influence travel or purchasing decisions. An example of using road pricing to affect externalities can be drawn from some European countries where discounts are offered on toll roads to users who purchase cleaner vehicles in advance of the legal requirement to do so.

New Zealand's main taxes are income tax and GST, both of which are designed for revenue generation. They are intended to be as neutral as possible and not change behaviour. In accordance with good taxation principles New Zealand favours taxation that is broad based, as it provides a sustainable revenue base and low administrative costs. This means that compared to most other countries, we make little use of taxes to deliver non-revenue objectives. Other than the Emissions Trading Scheme (ETS)<sup>3</sup>, only the problem gambling levy<sup>4</sup> and tobacco and alcohol excise taxes are designed to influence behaviour.

<sup>3</sup> <https://environment.govt.nz/what-government-is-doing/key-initiatives/ets/>

<sup>4</sup> <https://www.ird.govt.nz/duties/problem-gambling-levy>

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Using RUC to charge motorists for externalities other than road damage would be a significant shift in taxation policy generally and RUC policy specifically. A wide range of matters would need to be considered to determine if this was the best way to achieve policy goals. It would also raise questions about how to address equity between motorists paying RUC and those paying FED as it would not be as easy to apply similar distance-based charges to petrol vehicles. We would need to decide if any charges for externalities were in addition to the current charges, or if they were only used to create discounts (such as the current EV RUC exemptions). Alternatively, we would change the way we calculate RUC to include new elements, such as contribution to air pollution, in the calculations. This might shift costs between users but not change the total raised overall.

We would also need to consider if the revenue from a component of RUC associated with externalities would be 'land transport revenue'. Would it be part of the National Land Transport Fund (NLTF), spent on the transport system directly, or should it be allocated to a fund that addressed the externality? For example, a charge for noise pollution could be used to fund local councils to install sound insulation in affected houses near local roads.

- Q3** What advantages and disadvantages are there to considering externalities when setting RUC rates?
- Q4** If externalities were to be considered, what criteria could be used to determine what externalities should be taken into account in setting RUC rates?
- Q5** If externalities were to be considered, how should these costs be set?
- Q6** Would charges for externalities be in addition to the current form of RUC, and potentially used to address the externalities directly, or be a core part of total land transport revenue?
- Q7** How would vehicles not paying RUC be affected?





## 2.2

## Including impacts on greenhouse gas emissions when setting RUC rates

**One of the key recommendations from the Climate Change Commission was for Government to encourage the production and use of low greenhouse gas-emissions fuels.**

In addition to the existing temporary exemptions from RUC for EVs, the Government is already using a number of levers to assist the transport sector to decarbonise. Its primary tool to reduce greenhouse gas emissions is the ETS, which puts a price on emissions by charging certain sectors of the economy for the greenhouse gases they emit. This applies to transport fuels.<sup>5</sup> In addition, it is investing in low emission vehicles through government procurement of vehicles and the Low Emission Transport Fund<sup>6</sup>; and establishing the Clean Car Discount scheme and the Clean Car Standard.<sup>7</sup> The Government is also progressing a Biofuels mandate.<sup>8</sup>

One of the main reasons to allow climate policy or greenhouse gas emissions to be considered when setting RUC rates is that vehicles powered by low-carbon fuels are currently more expensive than their fossil fuel counterparts. They either require the use of fuels that are more expensive to purchase, such as biofuels, or require the purchase of new and more expensive vehicles, as in the case of EVs. In the case of hydrogen, both the vehicles and the fuel are significantly more expensive than diesel or electric alternatives. These costs are expected to reduce as global production increases and technology matures, but at this stage that timing is very uncertain.

Providing an exemption or reduced rate of RUC could help support and promote the uptake of new fuels. This assistance would be most relevant while the transition to low-carbon fuels, and to lower cost technologies, is occurring. This assistance would most likely be through exempting vehicles subject to RUC (as happens with EVs), or through charging a lower RUC rate than equivalent petrol or diesel vehicles, to offset higher operating costs. RUC exemptions or reduced rates would most likely need to be temporary, as with the current EV RUC exemption, in order to minimise any long-term risk to the funding of the land transport system at a time when there are significant demands for investment.

Because of their higher purchase and operating costs, there is increasing interest in broadening the use of RUC exemptions to other types of vehicles that use low-carbon fuels, such as hydrogen fuel-cell electric vehicles (HFCEVs).<sup>9</sup> This exemption is not possible without amending the RUC Act, as only EVs charged from an external source of electricity are covered by the wording of the existing exemption. Extending the exemption would not be consistent with the RUC Act's purpose or current powers. It would be possible to amend the RUC Act to add HFCEVs to the definition of exempt vehicles. However, if we were to exempt HFCEVs, it could be better to create a broader power to consider climate policy or greenhouse gas emissions when setting RUC rates. This would avoid having to amend legislation if other technologies or fuels became important.

If the intent is to support technologies or fuels that are currently more expensive than existing fuels, but which assist with reducing greenhouse gas emissions, then we would need to consider whether RUC could be used to support the use of biofuels. Biofuels can be used in existing vehicles

5 <https://www.epa.govt.nz/industry-areas/emissions-trading-scheme/industries-in-the-emissions-trading-scheme/liquid-fossil-fuels/>

6 <https://genless.govt.nz/running-a-business/co-funding-and-support/low-emission-vehicles-contestable-fund/about-the-fund/>

7 <https://www.transport.govt.nz/area-of-interest/environment-and-climate-change/clean-cars/>

8 <https://www.transport.govt.nz/area-of-interest/environment-and-climate-change/biofuels/>

9 <https://www.hiringa.co.nz/post/what-the-ruc>

## USING THE RUC ACT TO DO MORE THAN RECOVER ROAD COSTS

and provide significant reductions in greenhouse gas emissions over the use of conventional fuels. While biodiesel and bioethanol (usually a petrol substitute) can be used in pure (100 percent) form they are more likely to be sold as a blend. Biodiesel is often sold with a relatively low level (five or seven percent) of biodiesel blended with mineral diesel. It is also likely that not all fuels sold around New Zealand would include biofuels or, if they did, that this would be at the same percentage in all retail outlets and all locations. Given the likely usage patterns of biofuels, it is not clear if RUC could be used to support these fuels. You are welcome to provide feedback on whether RUC could support the uptake of biofuels.

Looking ahead, there are also currently rare fuels that may become important and could be appropriate to consider providing reduced rates or exemptions under a new RUC policy. These include fuels such as dimethyl ether (DME)<sup>10</sup>, a possible alternative to petrol that, under our current legislation, would require the vehicle owner to pay RUC (as the fuel is not currently subject to FED). In another case, bioethanol is the only fuel in New Zealand that does not include FED in its price<sup>11</sup>, and where the vehicle owner does not have to pay RUC. Although ethanol is normally used as a replacement for petrol, ethanol has been used experimentally as a fuel in diesel engines.<sup>12</sup> If the ethanol was used in a heavy vehicle, the operator would be required to pay RUC.

As well as being used in fuel cells, hydrogen can also be used directly as a transport fuel as a gas in specially modified engines. This use may still cause air pollution through the combustion process, but can have very low carbon dioxide emissions.

Because other fuels and technologies may become important in the move to a low-carbon transport sector, a more general power to exempt, or otherwise support, low-carbon fuels through the RUC system may be a better approach than creating an additional exemption for HFCEVs, or any other specific fuel.

### 2.2.1 There are risks with changing the purpose of RUC

Providing reduced costs for operators of vehicles using low-carbon fuels may be supported, especially by those receiving the benefit. However, we do not have good information on how important the existing RUC exemptions have been in promoting EV uptake, or what effect exemptions or discounts would have for supporting the uptake of other low-carbon fuels. This would need to be better understood before further exemptions could be proposed and this is why we are seeking feedback on this issue. There may also be other opportunities where it would be more efficient or effective to spend NLTF revenue (that is, revenue from RUC and FED) directly to reduce carbon emissions rather than forego RUC revenue. Potentially a RUC exemption could also be treated as an expense under the NLTF and subject to the same processes for approval as other funding decisions, through the Government Policy Statement on land transport.<sup>13</sup> This would ensure that the impacts of any exemptions on transport revenue were fully considered.

RUC exemptions and reduced RUC rates risk undermining the key principle of the RUC system; that vehicle owners should pay for the use of roads including pavement damage. They would also reduce the incentive to choose vehicle combinations that minimise damage to the road network.

Broadly, road users have accepted regular increases to RUC (and fuel taxes) as well as the idea that heavier vehicles should pay more because they cause more damage to the roads. This consensus is in stark contrast to other jurisdictions where there can be significant protests and unrest when fuel taxes are raised, or where taxes have not been able to be raised, often for decades.

<sup>10</sup> <https://innovationorigins.com/en/dimethyl-ether-instead-of-diesel-how-trucks-can-become-cleaner/>

<sup>11</sup> Technically, ethanol is subject to FED, when used as a transport fuel, however the rate is set at zero cents. By setting the rate at zero it means that the fuel is not covered by the RUC Act. It was set at this level to promote its use as a biofuel.

<sup>12</sup> <https://www.scania.com/group/en/home/newsroom/news/2018/first-scania-bioethanol-truck-hits-the-road.html>

<sup>13</sup> <https://www.transport.govt.nz/area-of-interest/strategy-and-direction/government-policy-statement-on-land-transport/>

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Some in the transport sector may not support using RUC to provide discounts or exemptions because it would undermine the principles of the RUC system, that vehicle owners should pay for their use of the roads. Wider use of discounts or exemptions could also lead to a decline in funds available for building and maintaining transport infrastructure and the likelihood of additional increased costs for other road users to offset the expected revenue loss.

As well as offering a tool to support new technologies through RUC exemptions or discounted rates, there is a strong correlation between transport emissions and the distance or vehicle kilometres travelled (VKT), when vehicles are fuelled by fossil fuels. As a distance-based charge, RUC is a direct way to influence distance travelled and it would be possible to set RUC rates to also reflect greenhouse gas emissions of the fuels being used. However, these are already addressed through the ETS which is included in

the price of all transport fuels so accounting for them in RUC rates would duplicate costs.

While the ETS plays an important role in meeting the Government's climate objectives, it will not be enough to reach the net zero target. Meeting the Government's targets will require a wider range of responses because although the cost of the ETS on fossil fuel use for transport is ten times what it was five years ago, the impact on travel has been minimal.

The cost in foregone RUC revenue per tonne of carbon dioxide avoided varies by fuel type and vehicle weight. As shown in Table 1, the amount of revenue foregone per tonne of carbon avoided ranges from around \$260 per tonne of carbon for a small diesel vehicle to over \$430 per tonne of carbon for a very heavy diesel truck.<sup>14</sup> For comparison the price of carbon in the ETS is around \$50 per tonne at present and is expected to rise to around \$100 by 2030.

Table 1: Indicative costs per tonne of CO<sub>2</sub> emissions avoided through a RUC exemption

	Light petrol vehicle* (equivalent to RUC Type 1)	Small diesel two axle truck (GVM 9-12T, RUC Type 2)	Two axle diesel truck/passenger bus (GVM > 12T, RUC Type 2)	Very heavy diesel truck with two trailers (GVM 55T)
Average travel (km per annum)	11,000	20,000	50,000	150,000
Fuel use (l/100 km)	9.5	25	40	55
Fuel used (L per annum)	1,045	5,000	20,000	82,500
CO <sub>2</sub> emitted (T per annum)	2.6	13.4	53.5	220.7
Cost of RUC (per 1,000 km)	\$76.00	\$172.00	\$315.00	\$630.00
Total RUC revenue foregone (per annum)	\$836.00	\$3,440.00	\$15,750.00	\$94,500.00
<b>Cost per tonne of CO<sub>2</sub> avoided (in foregone RUC revenue)</b>	<b>\$326.53</b>	<b>\$257.20</b>	<b>\$294.39</b>	<b>\$428.21</b>

\*Light petrol vehicle is provided as a point of comparison, showing indicative costs if they paid RUC.

<sup>14</sup> <https://www.nzta.govt.nz/vehicles/licensing-rego/road-user-charges/ruc-rates-and-transaction-fees/>

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These costs are, to some extent offset by wider benefits to the New Zealand economy through increased quantities of fuels being produced in New Zealand, such as electricity, hydrogen and biofuels. The increased use of low-carbon fuels is also expected to contribute to other benefits such as reduced local air pollution and potentially reduced noise pollution with EVs and HFCEVs.

Using RUC to provide support separately from the ETS may also cause issues where vehicles can use more than one fuel, and these fuels would have different greenhouse gas emissions which may be subject to different incentives. For example, some hydrogen fuel cell electric vehicles can also recharge their batteries directly from an electrical source, which makes them an electric vehicle under our current law. Should these types of vehicles be considered hydrogen or electric vehicles?

RUC exemptions come at a cost in terms of reduced revenue for the NLTF. Any revenue not collected (foregone), that is not offset by increased costs imposed on other RUC vehicles, will increase the pressure on the NLTF. The foregone revenue will need to be balanced against the Government's existing GPS investment priorities that may need to be deferred or delayed as a result of the reduced revenue. We are interested in your views as to whether it would be more efficient or effective to spend NLTF revenue directly to reduce carbon emissions, rather than forego RUC revenue.

**Q8**

What are the advantages and disadvantages involved in changing the purpose of the RUC Act so that climate policy generally, or greenhouse gas emissions specifically, can be considered when setting RUC rates?

**Q9**

What advantages and disadvantages would there be if there was an explicit requirement to consider RUC exemptions as part of the development of the Government Policy Statement on land transport?

**Q10**

What are the advantages and disadvantages of enabling consideration of greenhouse gas emissions when setting RUC rates?

**Q11**

How should the RUC rates be set for vehicles that could use more than one fuel and these fuels had different greenhouse gas emissions?

**Q12**

What advantages and disadvantages are involved in using NLTF revenue to reduce carbon emissions rather than foregoing RUC revenue?

## 2.3

## Including fuel type, origin, and blend in RUC rates

**We expect the wider range of low-carbon fuels will not all be equal in their environmental and social impacts.**

For example, some sources of biodiesel can be a major driver of deforestation in ecologically-diverse regions, and so-called grey hydrogen, the most commonly produced and cheapest type of hydrogen, is made using fossil fuel gas and is little better for climate change than simply burning the fossil fuel directly.

If RUC is to be used as a tool to promote low-carbon fuels, then the Government will need assurances about the environmental and social performance of those fuels, especially if it is offering support. We want to be sure that any new fuel used in the vehicle fleet is an improvement on fossil fuels.

However, the administration of any scheme that seeks to account for fuel type, origin and blend could be onerous. We would like to understand: your views about establishing such a scheme; what you think the impact would be on you or your company; and the opportunities and challenges you think we should be aware of if the source of a low-carbon fuel needed to be considered when setting RUC rates or exempting the fuel entirely from RUC.

Q13

What are the advantages and disadvantages with the source of different fuel types being included in RUC calculations (separately from the direct climate impacts of the fuel used)?

Q14

What are the advantages and disadvantages with the environmental effects of different fuel types being considered in calculating RUC rates for vehicle types?

Q15

How would fuel supply chains be verified?

Q16

How could we ensure that, if different fuels are available (for example mineral and biodiesel, or hydrogen from different sources), only approved fuel types were used by the RUC vehicle?

## 2.4

# Any other feedback on this chapter?

Our proposals for changes to the purpose of RUC and what could be considered in the setting of RUC rates may be different from yours – use your response to this question to let us know if you have any thoughts on matters that we have overlooked or any other issues that you think should be considered when we are setting RUC rates.

Q17

How else would you change the setting of RUC to ensure it is adaptable to future challenges?

# Improving the RUC system for end users

The sections in this chapter set out a broad suite of potential improvements to the RUC system within the existing transport legislative framework. We are seeking your feedback on these potential changes.



## IMPROVING THE RUC SYSTEM FOR END USERS

## 3.1

## Reviewing the requirements for electronic RUC and mandating eRUC for all heavy vehicles

**The 2012 RUC Act sought to modernise and simplify the road user charges system.**

In particular, the reforms introduced a formal process for enabling electronic distance recorders to be used to collect and pay RUC through electronic RUC devices (eRUC). eRUC is targeted at the heavy vehicle sector and enables RUC to be paid electronically through in-vehicle devices. It enables the automation of off-road refund claims, which can be important for companies especially those in the agricultural or forestry sectors. eRUC also reduces the need to pre-purchase RUC in large amounts, helping operators with cash flow. The current system is generally working well, but with a decade's experience there are opportunities to improve it; if we were to design eRUC today, what could be done differently?

There are now four certified electronic system providers<sup>15</sup> and annually eRUC now accounts for over 50 percent of RUC collected from heavy vehicles. However, its use is skewed to vehicles doing the most travel, so the actual uptake is lower and eRUC is only used in around a quarter of all heavy vehicles and few light vehicles.

eRUC has several benefits for Government and for transport operators, including:

- lowering RUC compliance costs through automation and ease of use
- simplifying the administration of off-road trips and refunds
- reducing tax evasion
- minimising the administrative burden for the RUC collector and transport operators

eRUC data could also be used for a range of purposes. It would be valuable to improve road maintenance because, for example, knowing how many heavy vehicles had crossed a bridge would help with planning maintenance. The data could also be used to improve road safety.

Currently the RUC Act requires that electronic systems must have the following features:

- a system involving the use of electronic equipment and other technology situated in, or fitted to, a RUC vehicle and elsewhere that has the capacity to measure, monitor, collect, store, display, analyse, communicate, and report information relating to –
  - a) the identity, distance travelled by, and location of a RUC vehicle; and
  - b) the purchase and issue of an electronic licence for the RUC vehicle; and
  - c) the integrity, security, and normal operation of the system

More detailed requirements are set out in the eRUC Code of Practice.<sup>16</sup> One of the key constraints to a greater uptake of eRUC is its cost of operation. For vehicles that are not regularly used off road, and so get no advantage from automating refund claims, or those that do not travel long distances, the ongoing monthly costs mean that eRUC may not be cost effective. It is appropriate to look at whether other models of deployment could provide a reliable, but simpler and less costly system. The proposals in this document (see sections 3.11 and 4.8) to change the requirements around the display of RUC licences would also be expected to reduce costs of manufacturing stand-alone eRUC devices. We do not have any firm views on what a new model for eRUC should look like.

<sup>15</sup> Coretex Ltd ([www.coretex.com](http://www.coretex.com)); RUC Monkey ([www.rucmonkey.co.nz](http://www.rucmonkey.co.nz)); Navman Wireless NZ, trading as Teletrac Navman ([www.teletracnavman.co.nz](http://www.teletracnavman.co.nz)); and EROAD Ltd ([www.eroad.co.nz](http://www.eroad.co.nz))

<sup>16</sup> <https://www.nzta.govt.nz/assets/resources/road-user-charges/eruc-guidelines/docs/ERUC-code-of-practice.pdf>



One of the reasons that eRUC systems have monthly costs is that they require regular data transmission which, among other things, enables the automation of off-road RUC refund claims. Because eRUC services are usually bundled with other business services, it is not straightforward to give estimated costs for eRUC alone. The minimum monthly costs for an eRUC device are currently estimated to be around \$20. We would expect that a simpler, lower cost, eRUC system would need to have fewer functions, and this is likely to mean that a regular data transmission feature is not practical. For vehicles that travel mostly or entirely on public roads, including most vehicles operating in urban areas, the absence of this feature may not be a concern.

We also want your views on whether there is merit in mandating eRUC for all heavy vehicles. This would mean operators of heavy vehicles would no longer need to manually purchase individual RUC distance licences for their vehicles as this would happen automatically through an eRUC device. While eRUC could be made a requirement for all vehicles, it could also be phased in, so that all vehicles registered after a certain date must have it fitted. As most heavy vehicles entering our fleet already have in-vehicle navigation systems that can monitor time and location using satellite navigation systems, these may offer a way to reduce costs of installation if they can be shown to operate effectively. At this time, we are not proposing to mandate eRUC for light vehicles, or for vehicles using fuels that include FED (petrol vehicles), though it is likely the general advantages and disadvantages would be the same if that was to be considered.

We would need to recognise that some communities, especially in the rural sector, may not have access to reliable internet connections. On the other hand, users in rural communities are also most likely to benefit from the reduced compliance costs from automated off-road refunds that eRUC currently enables. There will also be vehicle operators who are not confident with digital technologies and vehicles where design or age would make it impractical for eRUC to be fitted. We would need to think how these users and vehicles could continue to comply with RUC legislation.

Q18

What are the advantages and disadvantages of mandating eRUC for heavy vehicles?

Q19

What vehicle types should or should not be required to use eRUC?

Q20

How would phasing-in of eRUC for the heavy vehicle fleet be best accomplished?

Q21

Are the existing requirements for eRUC devices reasonable if the technology was to be made compulsory?

Q22

What alternative technological models should we be exploring for eRUC?

Q23

How would making eRUC mandatory affect your business?

## 3.2

## Using eRUC devices to improve road safety

**It is likely that an eRUC device would have very similar requirements to the electronic logbooks used to automatically record driver working hours.**

If we were to require the use of eRUC on all heavy vehicles it would be appropriate to also consider how this technology could be used for other purposes. If properly specified, eRUC technology could have a much stronger role in supporting improved productivity, compliance and safety outcomes across the commercial transport sector. The opportunity to integrate technology solutions could offer a way not just to improve revenue compliance, but deliver improved safety outcomes. Mandatory use of telematics devices to record driver hours and in some cases, monitor speed as well, are relatively common overseas and have been mandatory in Europe for several decades. More recently, electronic work diaries were made compulsory in the United States.<sup>17</sup>

Telematics used to monitor fatigue and worktime requirements can also deliver significant safety and productivity benefits for drivers and transport operators. These manifest through more efficient compliance, and better information to proactively plan scheduling and manage safety risks before they occur.

There are a wide range of policy and legislative issues that would require further assessment before considering using eRUC devices, or any other systems, to monitor worktime compliance and fatigue management. These relate to the use of these systems for enforcement, including evidentiary quality, privacy, and data integrity and accuracy. Many overseas jurisdictions including Australia<sup>18</sup> have developed frameworks and guidance that have worked through approaches to managing these issues. It is likely that suitable policy could be developed for New Zealand, but further work is required to confirm this.

We are interested in your views on the potential benefits and impacts of mandating integrated telematics solutions that could support improved productivity and safety compliance. We are particularly interested in your views on the mandatory use of telematic solutions for fatigue management and worktime compliance. We are also interested to know how privacy concerns could be managed and what, if any, changes in costs additional requirements relating to electronic logbooks would place on road users, eRUC devices and eRUC providers.

Consultation on the use of electronic logbooks and their relationship to eRUC is also expected to take place under a separate Road to Zero<sup>19</sup> road safety work stream. It is planned to examine the future role of transport technology, particularly telematics (ie vehicle tracking and monitoring) and fatigue monitoring technology, to address safety risks in the course of driving for work. The responses to this section will be an important input into this work for Road to Zero.

<sup>17</sup> Federal Motor Carrier Safety Administration, 2015, Electronic Logging Devices and Hours of Service Supporting Documents – Final Rule, <https://www.gpo.gov/fdsys/pkg/FR-2015-12-16/pdf/2015-31336.pdf>

<sup>18</sup> <https://www.ntc.gov.au/sites/default/files/assets/files/Review%20of%20Regulatory%20Telematics%20-%20Report.pdf>

<sup>19</sup> <https://www.transport.govt.nz/area-of-interest/safety/road-to-zero/>

At present the RUC Act prevents the use of RUC data for use in enforcement of logbook offences.<sup>20</sup> However, we are interested in your views as to whether it is appropriate to consider changes to the RUC Act around access to eRUC data, including by safety enforcement organisations. This would be separate to the suggestion in section 3.1 above, that eRUC technology might be able to be used for new, legally prescribed, purposes. This is especially relevant if eRUC were to become mandatory, but electronic logbooks were not also made mandatory. One of the reasons access to eRUC data is limited by the law is so that access to data is not seen as a deterrent to uptake, when other road users do not have to collect or provide this data.

How eRUC might be deployed in heavy vehicles, how access to the data will be generated, the technology requirements, and the underlying changes to legislation needed (both for mandating eRUC or for any other purpose such as improving safety) are open for discussion. There is no single solution and we expect that we will need to include some flexibility in any potential regime to accommodate the differing needs of the heavy vehicle operators that pay RUC.

Q24

What are the advantages and disadvantages of mandating integrated telematics solutions that could support improved productivity and safety compliance, either as part of eRUC systems or as standalone devices?

Q25

How can privacy concerns be managed if we are going to make greater use of eRUC data?

Q26

What, if any, changes in costs would additional requirements to allow eRUC devices to be used to support improved productivity and safety compliance place on users, eRUC devices and eRUC providers?

Q27

What are the advantages and disadvantages of enforcement authorities having greater access to eRUC data for enforcement of logbook requirements or other on-road enforcement tasks?

<sup>20</sup> Section 65(3)(b) states: "Records required to be kept ... may not be used as evidence in a prosecution for a work time or logbook offence under the Land Transport Act 1998 ..."

## IMPROVING THE RUC SYSTEM FOR END USERS

## 3.3

## Enabling partial RUC rates for vehicles that also use a fuel subject to fuel excise duty

**An increasing number of vehicles in the fleet are powered by both petrol (and potentially other fuels subject to fuel excise duty (FED)), and also use a fuel where the vehicle is subject to RUC.**

The most common of these are plug-in hybrid electric vehicles (PHEVs), which operate on both petrol and batteries charged from an external source of electricity. PHEVs are currently exempt from RUC, as they are considered EVs, but the operator pays FED on the petrol they use. Around a quarter of the light EV fleet (8,248 out of 32,781 vehicles as at September 2021) are PHEVs.

If a vehicle uses a fuel subject to both FED and pays RUC, the owner is entitled to a refund for any FED paid. This can be administratively complex to claim. It would be simpler if owners of these dual-fuel vehicles could pay a lower rate of RUC that recognises the amount of FED also being paid. This would mean the owner would then not need to keep receipts and make a separate claim for a refund. Not having to process FED refund claims would also reduce the compliance costs for Waka Kotahi. However, the legislation does not enable the RUC rate to be set at a different (partial) rate, based only on the type of fuel used by the vehicle.

Partial RUC rates could also be relevant for dual-fuel petrol-CNG and petrol-LPG vehicles if these were brought into the RUC system (see discussion in section 3.13). There are also a small number of petrol vehicles that pay RUC because they have a GVM greater than 3.5 tonnes and where the operator is entitled to a refund for the FED for any petrol that they use. A partial RUC rate could also potentially be used to reduce compliance costs for operators of these types of vehicles.

As an example of how a partial rate might work, a RUC rate for a PHEV could be set at eighty percent of the standard rate to recognise that on average twenty percent<sup>21</sup> of travel was made using petrol. It is likely that some owners would travel more, or less, than this using petrol, depending on their driving behaviour and the vehicle technology. We would need to decide if a vehicle owner would still be able to claim for any additional amount over the partial rate and what level of proof would be required to demonstrate they used more fuel than the average. We would also need to decide whether there would be one broad discounted rate, or if discount rates would need to be developed for each dual-fuel model.

In this context any reduced RUC rate for PHEVs and similar dual-fuelled vehicles, would be set to be revenue neutral overall. It would only be intended to reduce compliance costs for Waka Kotahi and the operators of these types of vehicles.

Q28

What are the advantages and disadvantages of allowing the RUC Act to set partial RUC rates to recognise FED paid by dual-fuel vehicles?

Q29

According to what criteria should partial RUC rates be determined?

Q30

Should operators of dual-fuel vehicles with a reduced RUC rate still be able to claim a full FED refund if they used more fuel than the average?

<sup>21</sup> This is an indicative figure and not based on any specific research

## 3.4

## Enabling partial RUC rates for low emission vehicles after light EV RUC exemption ends

Section 2.2 discusses whether the RUC Act should be amended to allow greenhouse gas emissions to be considered in setting RUC rates.

Potentially this would allow owners of some types of vehicles to pay a reduced RUC rate, rather than receive a complete exemption, to provide support for the uptake of low-carbon fuels. As noted, this would be a fundamental change to how RUC rates are set. If it is decided not to amend the RUC Act to create a provision to explicitly consider greenhouse gas emissions or climate policy when setting RUC rates, then there is a separate and more limited case where partial RUC rates may be a useful tool. This is to help with the transition out of RUC exemptions and towards the full RUC rate. In this case, after the end of a RUC exemption, rather than being required to pay the full RUC rate for that type of vehicle in the first year, the fleet could be transitioned to the full rate through yearly increases, which would allow phase-in over several years.

We do not have good evidence for how important the existing RUC exemptions have been for uptake of EVs. However, we know that in other jurisdictions where subsidies to promote EVs have been removed, or new charges have been added as alternatives to fuel taxes, EV sales dropped afterwards. We do not want this to occur in New Zealand and the ability to phase in RUC may help avoid any slump in EV sales at the end of the current temporary exemption. The speed of transition would need to be determined at the time.

Q31

What are the advantages and disadvantages of enabling partial RUC rates to help transition exempted vehicles to full RUC rates?



## IMPROVING THE RUC SYSTEM FOR END USERS

## 3.5

## Exempting certain types of vehicles and vehicle combinations from RUC

**Exempting vehicles from paying RUC reduces their overall running costs and may prove to be a useful way of promoting the uptake of low-carbon fuels while the fuels or vehicles are more expensive than their fossil fuel alternatives.**

The following sections outline three proposals for further use of exemptions, in addition to the light EV RUC exemption, that could incentivise the uptake of low emission vehicles.

### 3.5.1 Extending the heavy EV RUC exemption to 31 March 2030 to support their uptake

In 2016 Cabinet decided that heavy EVs should remain exempted until they made up two percent of the heavy vehicle fleet. As at 1 October 2021 there were fewer than 240 heavy EVs operating in the fleet (out of about 170,000 powered heavy vehicles, or less than 0.1 percent). While the number of heavy EVs is growing, it is not growing significantly.

Because of the very low rates of heavy EV availability and uptake, both here and internationally, our projections for future uptake of heavy EVs remain highly uncertain. However, we expect there may be between 1,000 and 3,300 heavy EVs in the fleet by 2030, out of a total heavy vehicle fleet of approximately 215,000 powered vehicles by that time. This would be between 0.5 and 1.5 percent of the total heavy vehicle fleet.

Because RUC rates for heavy vehicles increase significantly with weight, the amount of RUC paid by an individual heavy vehicle can be substantial. The extra size and weight of the batteries in heavy EVs can increase RUC costs and reduce carrying capacity, compared to conventional vehicles. Not having to pay RUC can determine the viability of heavy EVs in some commercial uses. This is likely to occur if they are competing directly with fossil fuel powered alternatives for a commercial service. For example, electric buses are significantly heavier than their diesel counterparts, so face higher RUC costs for the same task. A two axle double decker electric bus should pay up to \$750/1,000 km in RUC, and most single deck electric buses would pay around \$500/1,000 km compared to \$320 per 1,000 km for a typical single deck diesel bus.

Table 2: Potential amount of revenue foregone from different options for RUC exemptions

Exemption ending	Exemption includes	Maximum difference from status quo (lower range)	Maximum difference from status quo (upper range)	Cumulative difference (lower range)	Cumulative difference (upper range)
2025	Electric (Status quo)	0	0	0	0
2025	Electric + Hydrogen	-\$2M	-\$5M	-\$2M	-\$5M
2025	Electric + Hydrogen + Trailers	-\$2M	-\$5M	-\$5M	-\$10M
<b>Five additional years of RUC exemptions</b>					
2030	Electric	-\$10M	-\$30M	-\$30M	-\$95M
2030	Electric + Hydrogen	-\$15M	-\$50M	-\$45M	-\$155M
2030	Electric + Hydrogen + Trailers	-\$15M	-\$55M	-\$55M	-\$185M
<b>Ten additional years of RUC exemptions</b>					
2035	Electric	-\$25M	-\$65M	-\$115M	-\$345M
2035	Electric + Hydrogen	-\$40M	-\$115M	-\$195M	-\$595M
2035	Electric + Hydrogen + Trailers	-\$50M	-\$135M	-\$225M	-\$700M

Section 37A of the RUC Act sets out the legislative framework for the heavy EV RUC exemption. Unlike with the light EV RUC exemption, the power to extend the end date for the heavy EV RUC exemption is constrained in the RUC Act. The Select Committee that considered the Bill in 2016 modified the provisions from those that apply to the light EV RUC exemption. These modifications mean that the end date for the heavy EV RUC exemption can only be extended by up to five years from the date the new regulation (Order in Council) is made. This has the effect that a regulation made in October 2021 would extend the exemption end date until October 2026. This is less than a year later than the current end date of 31 December 2025. Making an amendment to the heavy EV RUC exemption end date using the existing legislation closer to 2025 remains an option. However, this would not give any increased certainty to those purchasing heavy EVs now.

To change the process for setting the end date for the heavy EV RUC exemption we would need to change the enabling provision in the RUC Act. Following that, a separate regulation would be needed to set the new date that the exemption for heavy EV RUC would cease. We estimate that an extension to the RUC exemption to 2030 for heavy EVs would lead to between \$10 and \$30 million of NLTF revenue being foregone in the year 2030 (see Table 2). This equates to a cumulative total of foregone RUC of between \$30 million and \$95 million by 2030. These amounts are in addition to the anticipated revenue that will be foregone from the existing heavy EV exemption which ends in 2025. We estimate that amount will be between \$3.5 and \$8.4 million in 2025, depending on the number of heavy EVs in the fleet by 2025.

Q32

What are the advantages and disadvantages of the heavy EV exemption being extended for more than five years?

Q33

How would extending the end date be effective in encouraging the uptake of heavy EVs?

Q34

Should the current exemption be extended to 31 March 2030 to encourage the uptake of heavy electric vehicles? Would an alternative date be better and why?

### 3.5.2 Exemptions for vehicle combinations where the motive power is from a vehicle exempted from paying RUC

Heavy trailers (those with a GVM over 3.5 tonnes) that are towed by trucks are required to pay RUC separately from the truck<sup>22</sup> and there have been public calls for trailers being towed by RUC-exempt vehicles to also be exempt from RUC. This would have an additional benefit for users of these types of vehicles and could assist with making them economically viable. However, because of the way heavy vehicle combinations are configured, RUC costs, and therefore the costs and benefits of an exemption, are harder to assess than with exemptions for the vehicles alone.

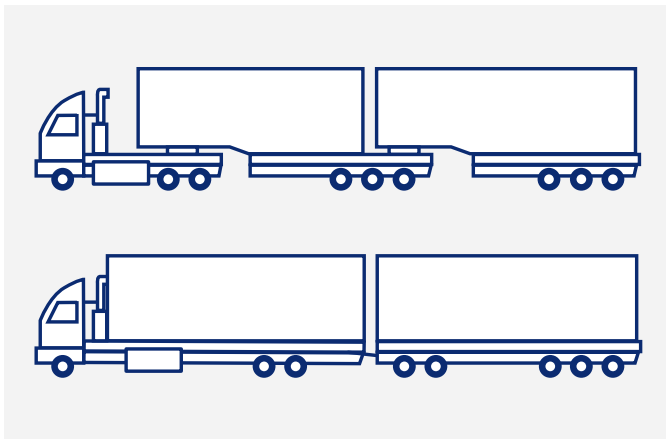
Without an exemption, a vehicle combination with two trailers, similar to that shown in the upper example in Figure 5 on the following page, could be liable to pay RUC of around \$430/1,000 km for the truck unit and a further amount of up to \$250/1,000 km for the two trailers (\$67/1,000 km + \$186/1,000 km). However, in the lower example

<sup>22</sup> Depending on the number of axles and GVM, heavy trailers of the type commonly used for carrying freight pay RUC in the range of \$70 – \$350/1,000 km

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in Figure 5, the rigid truck would also be liable for around \$430/1,000 km in RUC, while the trailer would be liable for a lower RUC rate of \$179/1,000 km.<sup>23</sup> This is due to the different axle configuration. This means the potential benefits to the operator from a RUC exemption for heavy trailers and the exemption’s cost for the NLTF more generally, would vary depending on the vehicles being used.

**Figure 5: Example of combinations of trucks towing heavy trailers**



As with other proposals to create RUC exemptions, exempting trailers would lead to reduced NLTF revenue. It would also reduce the incentive RUC provides to use combinations of trucks and trailers that minimise damage to the road network.

It is difficult to know what the pattern of uptake of alternative fuels will be, and even more difficult to estimate how much of the travel will be by vehicles using alternative fuels that are also towing trailers.

We have modelled the potential costs of this exemption and the data is set out in Table 2, but there is an even higher degree of uncertainty around this than for heavy EVs as it is not known what combination of cab and trailer(s) or number of axles these are expected to have. In preparing the modelling for Table 2 we assumed that HFCEVs were more likely to tow trailers. Heavy EVs have, at least until now, been relatively small and are not marketed as being used for towing, though at least one heavy EV in New Zealand is used to tow a trailer that is not also exempt.<sup>24</sup> HFCEVs are

generally proposed to be used, at least initially, in the largest vehicles that travel the greatest distances, so the costs of exempting trailers were included in the scenarios for HFCEV uptake.

From a policy perspective it would be difficult to justify providing an exemption in this scenario just for HFCEV truck and trailer combinations, so we are seeking your views on whether an exemption should be applied to all heavy trailers where the motive power is from a vehicle that is otherwise exempt from RUC.

A RUC exemption for unpowered trailers being towed by vehicles that were exempted from RUC would require a separate amendment to the RUC Act and its regulations. This exemption would be significantly more complex to administer than an exemption for the powered vehicle as, in normal operation, trailers are regularly switched between trucks.

If it is determined that the exemption is worthwhile, we will need to consider safeguards. These could include a requirement to digitally link the truck and the trailer units so that exemptions were only provided to HFCEVs (or other RUC exempt vehicles) that towed trailers fitted with approved eRUC devices. Administering such safeguards would be reasonably straightforward while there are only a few exempted vehicles in the fleet, but could become increasingly complicated and expensive to administer as the numbers of exempted vehicles increase. It would also move the RUC system further away from the principle of recovering the costs of damage caused by vehicles.

**Q35** How would exempting vehicle combinations where the motive power is from a vehicle exempted from paying RUC encourage the uptake of heavy electric vehicles?

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**Q36** What safeguards would we need to ensure that only trailers towed by exempted vehicles were able to be exempted?

<sup>23</sup> These figures are only intended to be illustrative examples of the possible amounts of RUC liable. The actual amounts of RUC paid depend on the configuration of the vehicle combination and number of axles. Some combinations may pay more or less than these examples.

<sup>24</sup> <https://genless.govt.nz/stories/big-trucks-go-electric/>



## 3.6

## Charging RUC for electric and diesel vehicles with a Gross Vehicle Mass of less than one tonne

The definition of light RUC vehicles<sup>25</sup> used in the RUC Act includes motorcycles and mopeds.

In principle motorcycles and mopeds that don't use petrol (for example, diesel or electric) should pay RUC. As there have been very few diesel motorbikes in the fleet, and electric vehicles are exempt from RUC, there has been no need to consider RUC for motorcycles until now. However, we expect electric motorcycles to become more common and potentially to replace petrol powered motorcycles. We need to decide how these very light vehicles should pay for their use of the roads when the light EV exemption expires.

As well as electric motorcycles and mopeds, very light four-wheel electric or diesel vehicles, such as golf carts or farm quad bikes and all terrain vehicles (ATVs), may be approved for road use. An example of this would be vehicles used for litter collection and similar tasks in urban areas or farm vehicles moving between paddocks along public roads. Internationally these very light four wheeled vehicles are classified as quadricycles (four wheeled mopeds) but are most often called ATVs in New Zealand.

Road-registered diesel-powered ATVs with a GVM less than one tonne are currently exempt from RUC<sup>26</sup> and users of petrol-powered ATVs may be able to claim back the FED for petrol used off roads when they are used as farm vehicles. ATVs also pay lower costs for registration and licensing, to recognise the limited amount of use they make of public roads.<sup>27</sup> It seems reasonable that these primarily off-road vehicles should continue to be



exempt from RUC, and we seek your views on this. This would require amending the definition of an ATV in RUC legislation to clarify that the exemption extended to electric powered ATVs and to those using other low-carbon fuels if appropriate.

There are around 210,000 mopeds, motorcycles, and ATVs registered in New Zealand. The vast majority of these are currently petrol powered so would be unaffected by any change in RUC.

Table 3: Motorcycles, mopeds and light four-wheeled vehicles (ATVs) in the NZ fleet (July 2021)

Fuel type	Vehicle type			Total
	ATV	Moped	Motorcycle	
Diesel	451	6	7	464
Electric	58	1,089	104	1,251
Petrol	7,645	30,478	168,264	206,387
<b>Total</b>	<b>8,154</b>	<b>31,573</b>	<b>168,375</b>	<b>208,102</b>

25 Light RUC vehicle – (a) means a motor vehicle with a gross vehicle mass of 3.5 tonnes or less and with motive power that is not wholly derived from petrol; and (b) includes a light electric RUC vehicle

26 Road User Charges (Classes of RUC Vehicles) Exemption Order 2012 (SR 2012/139) (as at 01 June 2013) – New Zealand Legislation

27 <https://nzta.govt.nz/vehicles/vehicle-types/quad-bikes-and-atvs/>

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Owners of motorcycles and mopeds benefit from the road network and currently contribute to the NLTF through the FED paid in the petrol they use. There is therefore an argument that owners of motorcycles and mopeds that are not powered by petrol should also contribute for their use of the road network. However, the process should not be overly cumbersome. It should recognise that lightweight vehicles cause less damage than other types of motor vehicles, though they still have the same general needs for things like road signs and other infrastructure that helps all road users.

We estimate that, collectively, motorcycles, mopeds and petrol ATVs use around 20 million litres of petrol annually and therefore contribute around \$14 million annually (not including GST) in FED or around 0.5 percent of income from FED. On average, motorcycles do not travel very far, with most travelling only 2,000 – 3,000 km per year. This would mean that an average motorcyclist contributes around \$75 per year in FED. If that was translated to a RUC rate that raised the same revenue, it would be around \$30 per 1,000 km.

Broadly, there are three potential approaches to charging non petrol powered motorcycles and mopeds.

- They could be exempted entirely from RUC. This is the simplest solution.
- The owner could be charged RUC. If the requirement to display a RUC distance licence is removed (see section 3.9) this would be no more difficult to comply with than for most other motorists, assuming the vehicle has an odometer. A RUC rate would need to be agreed.
- The owner could pay a lump sum as part of the vehicle's annual licence fees. This would also be simple, but would raise the annual costs of ownership and may not be fair to owners who either do not travel very far, or who travel very long distances.

Part of the consideration of whether to charge these vehicles will be how to address the issue that many of these vehicles, including ATVs and some types of motorcycles, will be used off-road for at least some of their use.

Q37

What are the advantages and disadvantages of subjecting road-registered very light vehicles that are not powered by petrol to RUC, or a higher annual licence fee, for travel on public roads?

Q38

Under what circumstances should ATVs and motorcycles primarily designed for use off road be required to pay RUC, or a higher licence fee?

Q39

What principles should we use to determine a RUC rate, or higher annual licence fee, for motorcycles and mopeds?

Q40

Is having a GVM of less than one tonne an appropriate cut-off point for treating ATVs separately? If not, what is an appropriate cut-off point or other way of defining these vehicles for RUC, and why?

## 3.7

## Exempting low emission vehicles from RUC based on distance travelled

Up until now, exemptions from paying RUC for EVs have been time-based, that is, they expire for everyone on the same date.

As RUC is based on distance travelled, not time, future exemptions, or partial rates, could be provided based on a unit of distance travelled, rather than expiring on a defined date for all users.

A distance-based exemption would be straightforward to implement. The vehicle owner would be issued with an initial RUC licence for the specified distance (for example, 10,000 km). A vehicle purchaser would then know in advance the exact value of the exemption and the amount of benefit received would not be affected by their own unique travel patterns. The owner would be responsible for purchasing a new licence before the exempted distance was exceeded, as occurs with RUC licences now. The law would still need to state the length of the exempted distance and when the ability to provide a distance-based exemption would end.

For the Government, the primary advantage of this approach is that it gives better estimates of foregone revenue. However, the total amount foregone would still depend on the number of vehicles granted the exemption, which may not be known in advance.

Q41

What are the advantages and disadvantages of a distance-based rather than time-based exemption to RUC for EVs?



## 3.8

## Adjusting the overweight permit regime

**The 2016 evaluation of the RUC Act<sup>28</sup> found that the most significant area of industry concern with the 2012 Act's implementation was with the permit regime for overweight heavy vehicles.**

Section 12 of the RUC Act requires that operators must process a change in RUC type and licence or purchase an additional RUC licence when travelling over their normal allowable mass or using a heavy vehicle permit. This regime enables heavy vehicles to carry greater weights than they are normally allowed and the evaluation found it was in need of review. The evaluation found:

- there was the risk of heavy vehicle operators paying less RUC for their vehicle weight than they were legally required due to difficulty of enforcement
- a lack of flexibility for heavy vehicle operators to change between vehicle types to match the weight permitted for particular journeys
- that weight bands for heavy RUC licences are too broad, resulting in operators paying more than they need to.

This is a complicated area that will require extensive consultation. We will work with the transport sector to develop solutions. At this stage we do not have a preferred option for addressing the concerns identified in the evaluation.

As well as receiving written responses to this document, we intend to hold discussions through the consultation period to understand this issue and develop possible solutions on how the concerns can best be remedied. If you would like to be part of this work then please contact us at [RUCConsultation22@transport.govt.nz](mailto:RUCConsultation22@transport.govt.nz)

Q42

What changes should be made to section 12 of the RUC Act to improve the overweight permit regime?

Q43

How would other potential changes in this discussion document, such as greater use of eRUC, assist in this overweight permitting process?



## 3.9

## Removing the requirement for light vehicle owners to display a RUC licence

**Although eRUC devices are now relatively common in heavy vehicles, these commercially-provided products are not usually cost-effective for light vehicles, particularly those owned by private individuals.**

This means that virtually all of the approximately 800,000 light diesel vehicle owners still manually purchase a paper RUC distance licence that must be posted to the owner (or printed at a local approved outlet if purchased in person) and then displayed on the vehicle's windscreen. Manually purchasing, producing and distributing physical licences imposes a cost for both Waka Kotahi and the vehicle owner.

We are seeking your views on removing the legislative requirement for light vehicles to display a physical or digital RUC licence on the vehicle. Not having to display a licence would make RUC simpler and more cost-effective. In particular, it would facilitate the purchase of a RUC licence using automated processes, such as through a smartphone app or in-vehicle device, but without the expense of a full eRUC device. Automating RUC purchases would remove one of the major inconveniences and sources of unintentional non-compliance with the current RUC system.

New Zealand Police has access to RUC records through Waka Kotahi's databases, for compliance purposes. Its officers already use the vehicle licence plate as a reference point to access information. There is no evidence that having to display a physical licence increases compliance. In other countries that have removed similar requirements to display labels, compliance has not reportedly been affected.

The proposal responds to feedback received during focus group sessions run by Waka Kotahi which highlighted that the requirement to display a current physical licence is an inconvenience for light vehicle owners, but also leads to non-intentional non-compliance through a delay in receiving their physical licence in the mail. The location of the label on the outside of the vehicle when the odometer is on the inside can also make compliance checks more difficult and easier to forget.

If the requirement for the label is removed, Waka Kotahi would work towards a wider compliance portal, where a road user could determine their compliance requirements, for example by checking their RUC licence against their physical vehicle odometer. There has also been discussion with the wider industry about whether a smartphone application to purchase RUC automatically could be a long-term solution for light vehicle owners.

This proposal to remove the label requirement only relates to light vehicles. As discussed separately (see section 4.8), we are consulting on minor changes to clarify and simplify requirements for heavy vehicle operators to display or carry licences.

RUC enforcement also occurs during the vehicle's Warrant of Fitness or Certificate of Fitness inspection when the vehicle's odometer reading is recorded and entered in Waka Kotahi's databases. It is at this point that Waka Kotahi will issue an invoice for any RUC debts outstanding through comparing the vehicle odometer reading received against the RUC licence.

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We expect that if a physical label was not required, the transaction fees of \$4.80 per licence could be reduced to reflect the reduced administrative costs of not having to print and then mail a physical label. This could be brought closer into line with the \$2.10 charged to eRUC providers to process an eRUC licence purchase. In conjunction with the proposal to allow purchasing of under 1,000 km licence lots (see section 3.10), this would reduce compliance costs for vehicle owners, but also better allow them to manage compliance around their lifestyle.

It is intended that physical labels could still be provided to those that require them and the use of electronic purchasing mechanisms would remain optional. This acknowledges that there are some people who may prefer the physical label or may not have internet access to purchase and confirm compliance through an online portal. The costs of manual transactions or those involving physical licences would not change as a result of this proposal.

**Q44**

What are the advantages and disadvantages of removing the requirement to display a physical RUC label?

**Q45**

What problems for non-compliance and enforcement might this cause?

**Q46**

How can Waka Kotahi assist drivers in ensuring they remain compliant with RUC if the label-display requirement is removed?

**Q47**

What are the advantages and disadvantages of retaining the option to request a physical licence?

## 3.10

## Allowing for the purchase of RUC licences in amounts less than 1,000 km

**Many heavy vehicles on New Zealand roads regularly travel over 1,000 km in a week and most RUC licences are purchased for distances of more than 1,000 km.**

However, travel patterns for light diesel vehicles (a motor vehicle with a gross vehicle mass of 3.5 tonnes or less) and older vehicles in the New Zealand fleet vary considerably. Data shows that it can take months for some light vehicles or older vehicles to travel 1,000 kilometres.

Waka Kotahi has recently surveyed RUC purchasers and the inability to purchase smaller increments has been a key discussion point. Feedback has been that enabling the purchase of shorter distances would allow some road users, especially those on lower incomes, to better manage their cash flow, while maintaining compliance.

The current wording in the Road User Charges Regulations 2012 states that RUC must be purchased in increments of 1,000 kilometres. The proposed change would enable RUC licences to be purchased in increments less than 1,000 kilometres. There is no intent that the RUC rates themselves would change. A purchaser would be able to nominate any distance of their choosing. The amount paid would be proportionate to the licence required. For example, for a light diesel vehicle under 3.5 tonnes, the rate for 1,000 kilometres would remain at \$76. However, 100 kilometres could be purchased for \$7.60 plus the relevant transaction fee.

The transaction fees per licence recognise that there are ongoing costs for Waka Kotahi to maintain the RUC licence system, especially while labels remain in use. Most RUC licences are purchased online and currently incur a transaction fee of \$4.80, or are bought in person at an agent, and incur a fee of \$7.80 per transaction. Transaction fees do not vary with distance purchased, so a licence for 10,000 km costs the same to issue as for 1,000 km.

The legislation would not change the current situation that enables heavy vehicle operators to maintain compliance by purchasing additional RUC licences in circumstances where a heavy vehicle may become temporarily 'overweight'. These additional licences are already sold with a minimum distance of 10 kilometres.

The proposal will require system change to enable the purchasing of RUC licences under 1,000 kilometres.

**Q48**

**What advantages and disadvantages are there in allowing RUC licences to be purchased in units of less than 1,000 km?**

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### 3.11 Removing the requirement to display other transport paper labels

Many of the same issues with displaying RUC licences also apply to other land transport documents.

We are taking the opportunity in this discussion document to also consult on the related issue of the requirement to display vehicle licensing labels. The Land Transport (Motor Vehicle Registration and Licensing) Regulations 2011 set out the requirements for display of vehicle licensing labels (known colloquially as ‘rego’). The annual vehicle licensing system collects revenue for the Accident Compensation Corporation (ACC) and the NLTF (to help fund the Motor Vehicle Register). The payment process also collects data that is used to update the Register, which is vital for road safety enforcement.

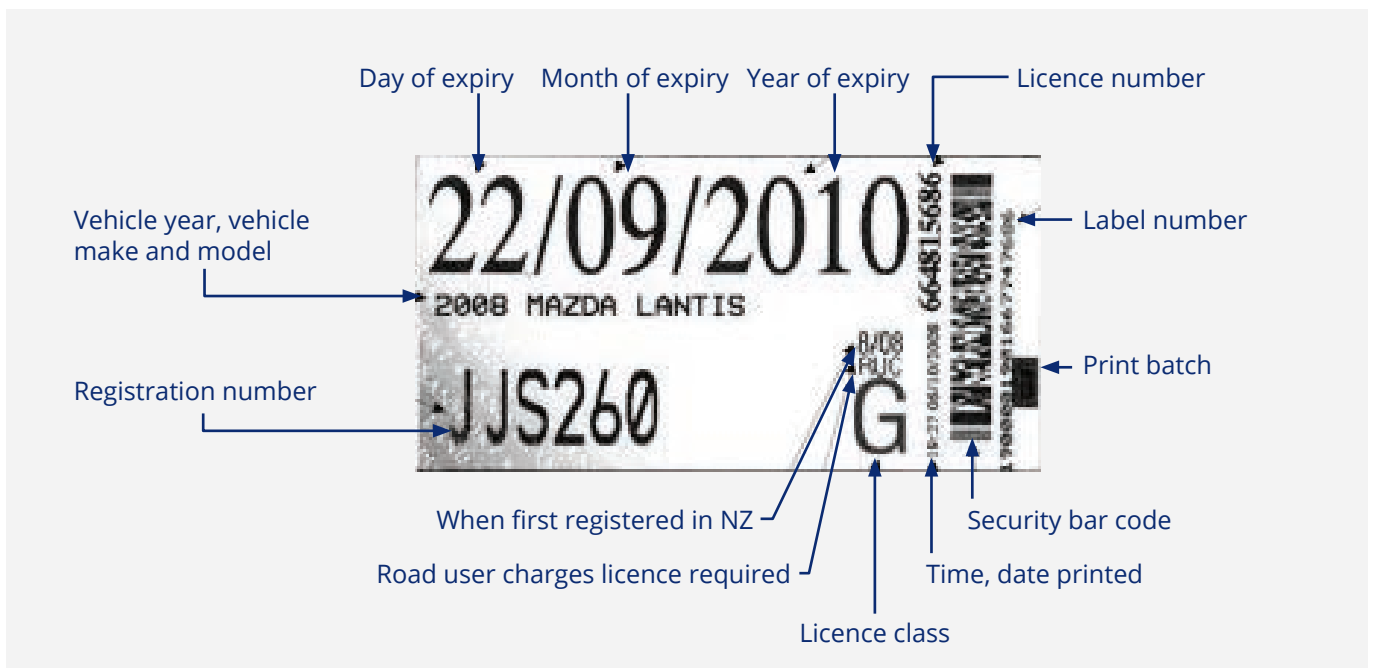
As with RUC licence labels, the intent of the licence label is to provide an easy visual reference point to ensure compliance with vehicle licensing requirements for both road users and enforcement

officers. It is an offence to not display a current and valid licence label under the Land Transport (Motor Vehicle Registration and Licensing) Regulations 2011. The label provides visual evidence that the vehicle licensing fees, levies and charges have been paid to Waka Kotahi.

In future-proofing the land transport system, and in line with the proposed changes to RUC label requirements, it is proposed to remove the requirement to display a physical motor vehicle licence label. We note that requirements to display equivalent physical labels have been removed gradually since 2011 in comparable countries, such as Australia and the United Kingdom, without any reported effects on compliance.

There are no safety implications for this proposal, as all vehicles will still require either a Warrant of Fitness or Certificate of Fitness label to be displayed. The proposal only removes the requirement to display a label that confirms that the correct fees have been paid. New Zealand Police and councils both have access to the Waka

Figure 6: Example of motor vehicle licence indicating the information fields





Kotahi databases for enforcement purposes, using the vehicle licence plate as a reference point.

Removing the licence label would put greater responsibility on the registered person and the use of licence reminder notices provided by Waka Kotahi as a primary means through which a registered person would be made aware of the impending expiry. Compliance is also reinforced through the Warrant or Certificate of Fitness inspection process as a vehicle must be licensed to be issued with a Warrant or Certificate of Fitness. As noted above in section 3.11, Waka Kotahi is scoping the option to develop an online tool to assist road users with their compliance in terms of both vehicle licensing and RUC.

There is a risk that some vehicles with conditions around distance or specific uses could be used outside these conditions. At present, the letter displayed on the licence label indicates this and this can only be determined through on-road enforcement (roadside checks). Removing the display requirement could provide an ability to incorrectly use these vehicles and so will need to be considered when we develop any recommendations.<sup>29</sup>

The proposal would shift enforcement of vehicle licence fee payment from roadside enforcement by councils and onto the Warrant or Certificate of Fitness inspection system. Many councils rely on fines as a source of revenue and this proposal may change their ability to issue these types of fines. For parking enforcement purposes, councils could continue to have access to Waka Kotahi's databases to determine compliance and issue fines for unlicensed vehicles if they choose to. In this context it would be preferable for councils to focus any enforcement efforts on vehicle safety issues through the Warrant or Certificate of Fitness label, which would remain.

At present, the cost to Waka Kotahi for printing and mailing a single motor vehicle licence is \$1.07, with 5.7 million licences posted each year costing \$6.2m. Waka Kotahi also has average annual costs of \$2.5m to resend licence labels that have been lost in the mailing system. Removing the label requirement would avoid the time between licensing online and receiving a physical label in the mail, given the vehicle record in the Register would be automatically updated.

Presently, around 60 percent of annual vehicle licensing transactions are completed online.<sup>30</sup> Removing the requirement to display a physical label would encourage greater uptake of the online transactions thereby reducing other costs associated with providing physical labels at agent counters. But it is acknowledged that for equity purposes, or personal preferences, Waka Kotahi and potentially existing counter agents would still need to have the ability to print and send physical labels to road users.

**Q49**

What are the advantages and disadvantages of removing the requirement to display physical vehicle licence ('rego') labels?

**Q50**

How can Waka Kotahi assist drivers in ensuring they remain compliant with their vehicle licensing obligations if the label-display requirement is removed?

**Q51**

What are the advantages and disadvantages of retaining the option to request a physical vehicle licence label?

<sup>29</sup> Conditions could include that the vehicle is subject to a Certificate of Fitness, certificate of loading or transport licence, or an exempt class which could include mobile machinery

<sup>30</sup> This data does not exclude that some transactions may be occurring at the counter agents due to the customer needing a label immediately in order to remain compliant

IMPROVING THE RUC SYSTEM FOR END USERS

3.12

## Allowing the use of historic RUC rates when carrying out an assessment

Under section 53(4) of the RUC Act, Waka Kotahi is required to use the current RUC rate when assessing any unpaid RUC.

Q52

What are the advantages and disadvantages of letting Waka Kotahi use historical RUC rates when carrying out an assessment?

That means that if Waka Kotahi, during an assessment, reviews records for a period of several years, over which RUC rates have increased, an operator is being required to pay extra on top of what they would have been required to pay if they were compliant at the time.

It is proposed that Waka Kotahi should be required to use the relevant historical RUC rates when carrying out an assessment.

Allowing the use of historical RUC rates will enable Waka Kotahi to consider the impact potential delays in preparing its assessments could have on the overall invoice.



## 3.13

## Transitioning CNG- and LPG-powered vehicles into the RUC system

**Currently FED is collected on the sale of all compressed natural gas (CNG) and liquefied petroleum gas (LPG) at the point of manufacture or import.**

The FED paid for CNG or LPG that is not used for road transport is then refunded to fuel importers/retailers. While this arrangement was appropriate when CNG and LPG were major transport fuels in the 1980s and 90s, there are now fewer than 2,000 active road vehicles using these fuels and these numbers are falling each year. This means that more than 98 percent of FED on LPG should be refunded as almost all LPG is now used for non-road transport uses.<sup>31</sup> We are not aware of any ongoing use of CNG for motor vehicles and 100 percent of the FED collected for CNG is refunded.

The current revenue collection system imposes disproportionate compliance costs (estimated to be several million dollars per year) for collecting and then refunding FED for both the CNG and LPG import and distribution sector and Waka Kotahi. Rather than continuing the current collection of FED from CNG and LPG we are considering removing FED from these fuels and instead charging RUC for the remaining users of LPG and CNG for road vehicles. This would significantly reduce compliance costs for Waka Kotahi and gas importers and retailers, but would be a direct cost increase to the remaining users of CNG and LPG powered vehicles.

Although CNG and LPG do include FED in the price, the rate has not been amended since the 1990s and it has been allowed to remain at a rate equivalent to 10 cents per litre. In contrast, RUC is set at a level for light vehicles that is equivalent to paying FED at 70 cents per litre of petrol in an average vehicle. Moving these remaining LPG vehicles and any CNG vehicles to RUC would mean a significant increase in the costs of operation for vehicle owners. There would also be a separate issue that most CNG and LPG vehicles are dual-fuel and so can run on petrol as well as gas. If the owner had to pay RUC, they would need to be able to claim a refund for the FED they paid. This is the same situation as for PHEVs discussed above in section 3.3. As with those vehicles the ability to pay a partial rate may alleviate a cumbersome refund system.

Q53

What are the advantages and disadvantages of removing FED from sales of LPG and CNG and having all road vehicles using these fuels move to paying RUC?

Q54

If LPG and CNG powered vehicles are included in the RUC system, what reasons would justify their operators paying a different rate than other light vehicles?

Q55

If a partial rate is possible for dual-fuel LPG or CNG vehicles, what principles should be considered in setting the rate?

<sup>31</sup> In practice, the amount refunded is less than 98 percent as not all refunds are claimed

IMPROVING THE RUC SYSTEM FOR END USERS

### 3.14

## Assisting new RUC payers to commence paying RUC

When the light EV exemption ends on 31 March 2024 the RUC system will have an influx of tens of thousands of new users, many of whom will potentially be unfamiliar with RUC.

We are interested to know whether any changes or special processes will be needed to manage the transition to paying RUC for these vehicles which are already in our fleet.

In particular, Waka Kotahi will need to know the odometer reading of the EV on (or before) the day the exemption ends so it can be sure that EV owners purchase RUC from the recorded distance. Other than exempt vehicles, a vehicle is normally liable for RUC from the time it is registered and its initial odometer reading is recorded by a Waka Kotahi agent as part of the process of registering the vehicle. However, for EVs, we will not know the initial distance for the purchase of the RUC licence as they are already in use.

We are interested in your views for how Waka Kotahi can collect an accurate initial odometer reading and bring these existing vehicles into the RUC system from the date the exemption ends.



**Q56** Are there any new issues that might need to be considered, including those that might justify changes to RUC legislation, to address an influx of new RUC system users when the light EV exemption ends?

**Q57** How should the RUC system help new users purchase RUC from the exemption end date and from the correct initial odometer reading, after the exemption ends?

## 3.15 RUC offences and penalties

### A uniform compliance framework is essential for a fair RUC system.

Non-payment of RUC is a form of tax evasion and it means that those operating vehicles legally are disadvantaged compared to those operating vehicles illegally.

When considering the future of the RUC system we need to think about how we can ensure compliance, especially as the number of light vehicles subject to RUC is going to increase significantly. We want to look at how the legislation can best support the policy intent of the RUC Act.

Currently, the RUC Act includes a mixture of criminal fines and penalty infringements for non-compliance. Infringements are typically used for lower-level offending and for first offences and don't carry a criminal record for the misconduct. Criminal fines apply when the offence is assessed to have occurred without reasonable excuse, knowingly, or with intent to deceive.

Both infringements and criminal penalties are commenced by the Police, with some administrative and information functions provided by Waka Kotahi. Criminal penalties are brought by enforcement agencies for consideration by the court, where the maximum fine that can be imposed is set out in the RUC Act.

Infringement offences incur set infringement fees as stipulated in the Road User Charges (Infringement Offences) Regulations 2012. Infringement fees can also become fines if, for example, an offender fails to pay a fee by its due date, an enforcement agency decides to prosecute due to repeated offending, or an offender disputes an infringement and seeks a court hearing. Consequently, where infringement penalties for offences exist, they must also be accompanied by associated fines in case the offence is dealt with in court.

In administering the system, Waka Kotahi has identified a number of friction points with the compliance regime which, accompanied by the changing customer base we expect, has prompted us to consider potential changes to the compliance framework. Our aim is that there are appropriate and proportionate incentives in the RUC Act to ensure greater levels of compliance.

### 3.15.1 Increasing maximum infringements and infringement/fine ratios

Many offences under the RUC Act can attract an infringement fee, rather than requiring the vehicle operator to go to court and have a penalty set through the court system. The concept of an infringement fee is underpinned by proportionality in the sanction benefiting the prosecuting agency, the defendant, and the justice system.

The maximum infringement fees that section 89(q) allows regulations to impose is \$1,000 (individual) \$2,000 (body corporate), except in offences against section 10(2) where the maximum is \$3,000. These maximums are consistent with the Legislation Design and Advisory Committee and Ministry of Justice guidance. However, the Ministry of Justice guidance also acknowledges "*Higher maximum infringement fees are often necessary to deter offending where a significant economic benefit can result for the offender. Examples of offending with significant economic benefit include the avoidance or evasion of Road User Charges*".

The current norm is that an infringement fee should be no greater than the fine that would be imposed on a first-time offender pleading guilty at the earliest opportunity if the defendant was formally charged with the offence (as opposed to receiving an infringement notice). This tends to range between 1:3 to 1:5. Currently in the RUC Act we have fee/fine ratios (penalty ratios between infringement fees and their associated fines) ranging widely between 1:3 and 1:50.

## IMPROVING THE RUC SYSTEM FOR END USERS

If the ratio between infringement fee and maximum fine is too high, defendants may be deterred from challenging infringement notices when they have good grounds to do so, due to the comparatively high penalty from a finding of guilt. Conversely, if the ratio is too low, there may be a perverse incentive to challenge infringement fees, resulting in inefficient use of costly and scarce court resources.

We consider that, for consistency and to appropriately reflect the nature of the transport penalty framework (with its high number of infringement fee offences, particularly in relation to traffic offences), the appropriate fee/fine ratio is 1:5. Should the high number of transport infringement fee-based offences be readily challenged (not because people do not accept guilt, but because they consider there is a chance of a reduced fine), there may be significant pressure on the courts.

We would also like your feedback on whether the financial penalties should be higher for participants in the transport system that have professional responsibilities. Should we have higher expectations that they will meet transport system requirements than for 'regular' individuals? Consequently, should these types of professional participants be treated as 'special regulated individuals' in terms of applicability for penalty levels?

Q58

Should the maximum infringements set out in section 89(q) of the RUC Act be amended? If so, how?

The specific infringement penalties for a range of offences are set out in the Road User Charges (Infringement Offences) Regulations 2012 (see Table 4). Maximum fines relating to these infringement offences are stipulated in the corresponding section of the RUC Act. The current minimum infringement set out in regulations is \$200 and maximum is \$800 – significantly lower than the maximums provided for in the RUC Act. The infringement levels were originally set to recognise the seriousness of the offence.

These offences currently have offender type ratios (ie penalty ratios between individuals/natural persons and body corporates) of 1:2 for infringements or 1:5 for fines. Does this ratio fairly reflect the level of expectations of how body corporates will meet transport system requirements compared to individuals? Work by Te Manatū Waka has found that an appropriate offender type ratio would be 1:10 and that this should be applied consistently between financial penalties for individuals and body corporates for all transport-related offences. The fee/fine ratio in Table 4 is 1:7.5 for individuals and 1:18.75, for body corporates.

Table 4: The maximum fees set out in the infringement offences regulations

Offence	Provision of the Act	Infringement fee (\$)		Maximum fine (\$)	
		Individual	Body corporate	Individual	Body corporate
Operating a RUC vehicle where the vehicle is not fitted with a properly working distance recorder	8(5)(a)	400	800	3,000	15,000
Operating a RUC vehicle where the electronic distance recorder or hubodometer fitted to the vehicle has not been provided by an electronic system provider or approved by the RUC collector (as the case may be)	8(5)(b)	400	800	3,000	15,000
Operating a RUC vehicle where the electronic distance recorder or hubodometer fitted to the vehicle is not fitted in accordance with regulations <sup>32</sup>	8(5)(c)	400	800	3,000	15,000
Operating a RUC vehicle where the distance recorder fitted to the vehicle is not accurately recording the distance travelled by the vehicle	8(5)(d)	400	800	3,000	15,000

## IMPROVING THE RUC SYSTEM FOR END USERS

Offence	Provision of the Act	Infringement fee (\$)		Maximum fine (\$)	
		Individual	Body corporate	Individual	Body corporate
Operating a RUC vehicle on a road where the vehicle does not have a distance licence that complies with section 9(2) of the Act <sup>33</sup>	9(4)(a)	400	800	3,000	15,000
Operating a heavy RUC vehicle on a road where the distance licence for the vehicle has expired	9(4)(b)	400	800	3,000	15,000
Operating a RUC vehicle on a road without displaying a RUC licence in accordance with regulations <sup>34</sup>	19(2)	200	800	1,000	5,000
Failing to produce a RUC licence on demand by an enforcement officer	21(2)	400	800	3,000	15,000
Displaying or causing to be displayed on a RUC vehicle anything (not being a RUC licence) that is likely to be mistaken for a RUC licence without reasonable excuse	24(1)	400	800	3,000	15,000
Operating a RUC vehicle on a road with a RUC licence that is obscured or not easily distinguishable	25(1)	200	800	1,000	5,000
Operating or permitting a light RUC vehicle to be operated in breach of condition of exemption granted under section 40 of the Act	40(7)	200	800	1,000	5,000
Operating a RUC vehicle on a road where the hubodometer fitted to the vehicle does not have a serial number, has an obscured serial number, or has a serial number that is identical to that of another hubodometer of the same make	52(1)(a)	200	800	3,000	15,000
Operating a RUC vehicle on a road where the distance reading of the hubodometer fitted to the vehicle is obscured	52(1)(b)	200	800	3,000	15,000

Q59

Are the existing infringements set at appropriate levels for the offence?

Q60

Should the offender type ratios differ between individuals and body corporates? If so, how?

Q61

Would you also change the fee/fine ratio? If so, how?

<sup>33</sup> The distance licence must specify: (a) the minimum and maximum distances covered by the licence; and (b) the number or any other distinguishing mark shown on the registration plates of the RUC vehicle; and (c) the serial number (if any) of the distance recorder fitted to the RUC vehicle; and (d) the RUC vehicle type of the RUC vehicle; and (e) any other information that is required to be specified on the licence by regulations made under section 89

<sup>34</sup> Sections 12-15 Road User Charges Regulations 2012 (SR 2012/143) (as at 01 July 2020) Contents – New Zealand Legislation

**IMPROVING THE RUC SYSTEM FOR END USERS**

### 3.15.2 Amending the non-payment penalty regime

RUC must be purchased on a continuous-distance basis, that is, when the end point of the purchased distance is reached a new licence is required. However, occasionally vehicle operators let their distance licences lapse and have to purchase RUC to make up the shortfall.

Section 28 of the RUC Act sets out the legislative regime for how the non-payment of RUC is treated by Waka Kotahi. The current settings impose a maximum penalty of 10 percent in addition to the RUC due if payment is late, and the vehicle operator has three months (90 days) after the due date to pay the balance. After this date Waka Kotahi can recover any penalties and outstanding RUC through the courts.

In recent years, the quantity of money recovered from non-payment of RUC has increased significantly. Non-payment of RUC means the RUC collected is spent on administration and debt recovery, instead of contributing to the NLTF.

We are looking at ways to make the non-payment regime more effective and we are seeking your feedback on potential amendments to the RUC Act that recognise that non-payment of RUC can vary in severity and timeframe.

**Q62**

On what basis should the penalty for non-payment of RUC be calculated?

**Q63**

What should be the maximum penalty for non-payment of RUC?

**Q64**

Should the non-payment penalty regime recognise the time the RUC payment has been outstanding? If so, how?



3.16

## Any other feedback on possible changes to the RUC system?

The ideas outlined in this chapter are not an exhaustive list of all the possible changes to the RUC system.

There will also be potential changes or improvements that we're unaware of – use this question to let us know what else could be improved and why.

**Q65**

What other improvements do you think are needed in the RUC system?

# Technical amendments to the RUC Act

The following sections set out a range of minor and technical amendments that we think will improve the administration of the RUC system by Waka Kotahi as the RUC collector. While some of these potential changes are minor, some could pose costs for transport operators or others who may potentially be affected. Further analysis and consultation is needed on these proposals before final recommendations are made for legislative changes.



## 4.1

## Clarifying what ‘partly’ means in the definition of an electrically powered vehicle

In section 5 of the RUC Act, heavy and light electric vehicles are defined as having “*motive power wholly or partly derived from an external source of electricity*”.

Q 66

What criteria should be used to define, or replace, the word ‘partly’ in the definition of electric vehicles and why?

There is no definition of what ‘partly’ means in this context. There is a risk that any exemption provided to EVs could be exploited by making relatively simple modifications to enable a vehicle to travel short distances on electric power and therefore claim the exemption. The longer a RUC exemption is in place, the greater the value to a vehicle owner who seeks to take advantage of an exemption for EVs. There has not been an example of this type of modification occurring to date but, it seems prudent to consider clarifying this term to remove this risk to revenue.

This potential type of modification is most likely to be made as an aftermarket conversion and so it may be appropriate to establish a test to determine whether an individual vehicle is an EV for the purposes of calculating RUC. There are a range of options for defining ‘partly’ that could warrant consideration. These include a requirement of being able to drive a minimum distance on a public road on electric power alone, or having a minimum kWh contribution to motive power from the battery. We don’t have a preferred option currently, so we are seeking your feedback. If it is agreed that it is appropriate, and we can establish a workable definition of ‘partly’, we will propose an amendment to the definition.

## 4.2 Redefining RUC vehicles types for eight axle combinations

**We want to address the implications of an increase in the maximum mass allowable for standard ('general access') vehicles that arose from a separate change to a different Land Transport Rule in 2016.**

This change may have led to a potential, and unintentional, overcharging for a small group of vehicles. This is largely a technical matter affecting only a small number of very heavy trucks.

The RUC Act requires that all vehicles operating under heavy permits carry specific RUC licences. These may be either 'additional licences' for occasional single trip overweight loads, or 'vehicle type H' licences, for vehicles consistently used to carry heavier loads than they ordinarily would.

The Type H vehicle licence structure covers all truck and trailer combinations commonly used for over-mass permits, with different charges prescribed for identical combinations operating in different weight bands. The breadth of weight bands varies. Charges for six and seven axle combinations cover either two or three tonnes, while those for combinations with more axles generally cover a range of either four or five tonnes.

When the existing weight bands for over-mass eight axle combinations were set in 2012, the standard mass limit for such vehicles was 44 tonnes. Accordingly, the first Type H weight band for eight axle combinations was set to cover vehicles operating under permits for up to 48 tonnes, with two other weight bands covering permit weights up to 53 and 58 tonnes respectively.

Changes to the *Land Transport Rule: Vehicle Dimensions and Mass 2016* mean that eight axle vehicles can now operate at up to 46 tonnes before a permit is required. This results in an additional charge payable for a RUC licence for a 48-tonne combination.

Three options currently exist for eight axle combinations when purchasing RUC:

- Licence as type 308 (restricted to eight axle)
- Licence as type 408 (restricted to eight axle)
- Licence towing vehicle as type 6 or 14 (three or four axle) and purchase extra RUC as required for other combinations

The truck and trailer combinations listed in Figure 7 comprise all prescribed Type H combinations. H types prescribed for use by single vehicles aren't included, nor are types defined by Waka Kotahi using its power as RUC Collector under the RUC Act.

Types 308 and 408 (the 'concession types') were created in 2012 to ensure that eight axle combinations remained competitive with seven axle combinations, which at that time had the same 44 tonne maximum load capacity. These were intended as a transitional measure to reduce the impacts on operators following the revised charging structure under the RUC Act that was introduced in 2012. Use of these concession types restricts flexibility in the use of vehicle combinations and compliance can only be verified through on-road enforcement checks (usually done by police officers).

Since 2012, there have been substantial changes in the heavy vehicle fleet (such as the increased use of nine axle vehicle combinations). Therefore, there's no longer a need to incentivise the use of eight axle combinations.

Charges for Type H permitted vehicles are calculated to ensure vehicles having greater impacts on the road infrastructure pay higher charges. Any change to the RUC type structure (such as changes to weight bands) needs to preserve the appropriate relativities.

The difference in RUC rates for type 308 and type six has reduced over time to be just \$3.00 per 1,000 km (a difference of less than one percent). In comparison, type 408 continues to offer a worthwhile saving relative to type 14 of \$34 per 1,000 km, and accounts for almost 20 percent of all distance travelled by four axle powered vehicles.

#### 4.2.1 Approach to clarifying vehicle types

A potential approach to changing the classification of H type vehicles, which we hope would simplify industry compliance, is set out in the process below. The first three steps would be done in conjunction with each other, while step four is separate.

##### Restructuring H types for eight axle combinations

1. Increasing the maximum permit mass covered by the first weight band for eight axle over-weight (type H) combinations from 48 to 50 tonnes; and
2. Increasing the maximum permit mass covered by the second weight band for eight axle over-weight (type H) combinations from 53 to 54 tonnes; and
3. Reviewing the charges for the changed weight bands to ensure that relativities with other H types remain appropriate.

##### Removing RUC 'concession types' for eight axle combinations

4. Removing RUC types 308 and 408 so that towing vehicles with these types would revert to types 6 and 14 respectively.

















#### 4.2.2 Changes to RUC rates for H types for eight axle combinations

Any change to H type weight bands would need to involve adjustments to charges. In particular, an increase in the maximum weights for type H81 and H84 from 48 to 50 tonnes should be accompanied by increases in charges to ensure appropriate relativities with charges for existing seven- and nine axle H types with a 50 tonne maximum weight.

A final proposal for changes to simplified RUC rates would be submitted to Cabinet following consultation (using Te Manatū Waka's cost allocation model (CAM)) if the Minister of Transport wants to progress the changes. As part of preparing the proposal, Waka Kotahi and Te Manatū Waka will meet with stakeholders to understand how to best encourage compliance.

## TECHNICAL AMENDMENTS TO THE RUC ACT

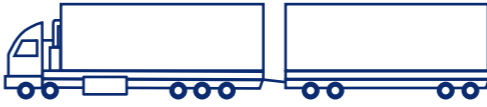





















Figure 7: H Type Vehicle Configurations

RUC type	Typical configuration	Maximum weight Tonnes	Charges (\$ incl GST)		
			Prime mover	Trailer(s)	Total
<b>Six axle combinations</b>					
H61		42	663	186	849
H62		44	801	186	987
<b>Seven axle combinations</b>					
H71		48	658	238	896
H73		50	711	238	949
H74		53	937	238	1,175
H77		48	711	186	897
H72		48	659	240	899
H78		50	712	240	952
H79		52	938	240	1,178
<b>Eight axle combinations</b>					
H81		48	455	238	693
H82		53	657	238	895
H83		58	942	238	1,180
H84		48	472	206	678
H85		53	662	206	868
H75		48	500	179	679
H76		53	691	179	870

Q67

What are the advantages and disadvantages of our proposed approach to classifying vehicles with eight axle combinations?

## TECHNICAL AMENDMENTS TO THE RUC ACT

RUC type	Typical configuration	Maximum weight Tonnes	Charges (\$ incl GST)		
			Prime mover	Trailer(s)	Total
<b>Nine axle combinations</b>					
H91		50	389	238	627
H92		54	470	238	708
H93		58	632	238	870
H94		50	435	179	614
H95		54	525	179	704
H96		58	688	179	867
H63		62	842	179	1,021
H97		50	346	253	599
H98		54	453	253	706
H99		58	614	253	867
H30		50	287	287	574
H31		54	424	287	711
H32		58	587	287	874
H33		50	359	206	565
H34		54	497	206	703
H35		58	658	206	864
<b>Ten axle combinations</b>					
H11		55	356	253	609
H12		60	525	253	778
H13		63	650	253	903
H14	Similar to H97-99, with an additional axle	55	198	424	622
H15	in middle trailer	60	369	424	793
H36		55	430	179	609
H37		60	599	179	778
H38		63	724	179	903
<b>Eleven axle combinations</b>					
H17	Similar to H11-13, with an additional axle	55	117	424	541
H18	in middle trailer	60	234	424	

## 4.3

## Changing the Warrant and Certificate of Fitness requirements so the assessor must report evidence of odometer tampering

**The RUC system was originally developed to focus on heavy vehicles and most enforcement remains focussed on them, ensuring that they pay the correct amounts of RUC for their much heavier weights.**

However, over the past 20 years there has been a marked shift to light diesel vehicles (they have gone from a little over 10 percent of the light vehicle fleet in 2000 to almost 20 percent in 2021). We expect that light RUC vehicles will become even more common as EV uptake increases. This means we need to look more carefully at enforcement of RUC in light vehicles because, compared to FED paid by petrol vehicles, RUC evasion is a greater risk.

As a distance-based charge, RUC for light vehicles requires an accurate and effective distance recorder. This is usually a built-in odometer for a light vehicle.

Tampering with a distance recording device (odometer) is an offence under both the RUC Act (section 8(5)(d)) and the Land Transport Act. NZ Police has issued 12 offences for odometer tampering since 2016, but this will be a significant underestimate of the scale of the problem.

Tampering can include simply undoing the cable from the back of an older mechanical odometer through to the fitting of mechanical or digital switches to temporarily disable the recording of distances or using devices to modify the signals to measure less distance. It is also possible to reprogramme the odometer display on some modern digital dashboards, using a computer or scan tool. This has the effect of showing a lower reading, even though the other sensors on the vehicle would still record the actual distance travelled. Those sensors could be checked with a scan tool.

Given the increasing importance of RUC from light vehicles it is appropriate to consider whether there should be a greater focus on enforcement of odometer accuracy for these vehicles. The most obvious opportunity for this is as part of the Warrant or Certificate of Fitness inspection process that most road vehicles must undergo.

Currently there is no obligation for an assessor to report evidence of odometer tampering discovered at the time of a Warrant of Fitness or Certificate of Fitness inspection. Inspectors are only required to report the vehicle's odometer reading to Waka Kotahi. This information is used to assess unpaid RUC but cannot be used to determine if there is deliberate under-payment.

Checking for odometer tampering can be done by checking the service records, identifying physical damage or abnormal wear and using computer scan tools. Each of these methods has relative strengths and weaknesses, and evidence of odometer tampering could be present in vehicles even where the odometer's integrity is intact. The method of determining compliance is important because any penalty or sanction imposed needs to consider the quality of evidence used to satisfy evidential burdens.

Implementing such a check could be a shift in focus for the Warrant of Fitness or Certificate of Fitness inspection, as it would not be directly safety related. It may also incur new costs to the inspection organisations, especially if digital devices had to be used to carry out the inspection. We would also need to determine what type of inspection was required and its degree of intrusiveness. This inspection could range from a simple glance at the odometer housing to look for visual signs of damage, to a detailed physical inspection, potentially including inspection behind the odometer housing, or the use of an electronic scan tool. We would also need to consider whether there would be a legal penalty if odometer tampering was detected. With other safety inspection faults the vehicle usually only must be repaired if a fault is detected.

One option could be to enable an inspector to send the vehicle to a specialist for checking if they found some evidence of a problem. This is used for other faults, such as exhaust noise testing. However, this may impose higher costs on those in communities without access to these specialist services.

Therefore, we are seeking your feedback on whether odometer tampering should be included in the Warrant or Certificate of Fitness inspection, the degree of invasiveness of the test and the penalty for failing such a test. We envisage we would need to amend the Warrant or Certificate of Fitness rules in the RUC system so that this is mandated in the assessors' checklist.

Q68

What are the advantages and disadvantages of requiring inspection of the odometer on RUC vehicles at the time of Warrant or Certificate of Fitness inspection?

Q69

What form would this inspection take and what would the costs of the inspection be?

Q70

What should happen if a Warrant or Certificate of Fitness inspector thought an odometer had been tampered with?





## 4.4

## Clarifying the definition of accurate for a distance recorder in a light vehicle

**As well as considering the option of inspection for active modification of distance recorders, there is a separate question of how accurate a distance recorder (usually the vehicle's odometer in a light vehicle) should be for RUC purposes.**

The RUC Act states, "A light RUC vehicle may be fitted with any kind of distance recorder that accurately records the distance travelled by the RUC vehicle at all times." There is a body of case law and technical standards associated with heavy vehicle distance recorders (hubodometers) and it is generally accepted that these should be accurate within plus or minus two percent. However, there has been relatively little attention given to light vehicles. We do not have any data on how accurate vehicle odometers are, but if the number of light RUC vehicles in our fleet is going to increase, then it is, again, appropriate to look at whether we should define 'accuracy' more clearly in the legislation.

Unlike for the accuracy of the speedometers, there are no commonly used international standards that govern the accuracy of distance recorders. This means it would be difficult to impose a requirement on vehicles entering the fleet to meet an existing standard and manufacturers are not likely to be willing to comply with a standard if it was unique to New Zealand.

Once in service, it is most likely that the only way an issue with odometer accuracy would be identified (not related to deliberate modification) is if a vehicle owner compared the distance recording with another source, most likely a cell phone or standalone GPS system. We assume that this would only be a concern for the owner if it meant that they were overpaying RUC.

Q71

Is it necessary to define 'accurate' in the RUC legislation, or can we rely on existing case law and practices?

Q72

How could 'accurate' be defined in RUC legislation for the distance recorder fitted to a light RUC vehicle?

Q73

What should happen if a vehicle owner finds that their distance recorder is not accurate and does not correct it?

## 4.5

## Clarifying the requirements that certain persons must make and retain certain records

**Section 65 of the RUC Act requires that a person holding a transport service licence must keep records in relation to any RUC vehicle they own or operate.**

Transport service licences are required under the Land Transport Act 1998 for anyone who is operating a business that offers services (for example, bus operators) or the carriage of goods (for example, logging trucks) for reward.

The current wording of section 65 requires that an operator must make and retain records but does not clarify what type of records must be kept for RUC vehicles.

In carrying out regulatory functions, such as fleet assessments for unpaid RUC, Waka Kotahi is experiencing instances where operators are creating records that are volume, not weight based. This means that assessments are unable to be carried out to investigate if there are any unpaid RUC.

The main premise of the RUC Act is to ensure that everyone is paying their fair share for the damage made to the road network. Using this principle, ambiguity in the record keeping requirements has allowed a perverse outcome to be realised.

It is acknowledged that for some operators, there are barriers to the ability to maintain weight-based records due to the nature of the goods they carry. This is particularly the case for general freight, the agricultural sector and for public transport operators.

Given this, it is proposed to amend section 65 to require that weight-based records, where available, must be made and retained by the operator.

We are seeking your views on whether there are any potential issues with how affected operators can comply with such a requirement.

Q74

What are the advantages and disadvantages of requiring vehicle operators to retain weight-based records?

Q75

How long should any weight-based records be retained for?

Q76

What could Waka Kotahi do to make this requirement more feasible for companies that create weight-based records?

## TECHNICAL AMENDMENTS TO THE RUC ACT

## 4.6

## Clarifying the provisions relating to access to records held by third parties

**Section 67 of the RUC Act enables Waka Kotahi to access certain records held by third parties that have serviced, maintained, supplied or contracted for the use of the vehicle.**

In practice, this allows Waka Kotahi to access records held by vehicle inspectors and companies that may contract out the carriage of their goods to operators. This is a narrow application of the power to access information when considering all of the other interactions a vehicle may have with organisations that might keep records for that vehicle. This restricts the ability of Waka Kotahi to ensure RUC is collected at the correct amount for the applicable weight of the vehicle.

We have been advised heavy vehicles leaving ports can potentially be overloaded for their applicable RUC licence. If volume-based records are being kept, Waka Kotahi could then use third party records to more accurately recover unpaid RUC and potentially to improve safety outcomes associated with overloaded vehicles.

It is proposed to clarify the ability for Waka Kotahi to access third party records to ensure operator compliance with the RUC Act. The intent is that this could be modelled on powers of other comparable regulators, such as the Financial Markets Authority under sections 25 and 58-61 of the Financial Markets Authority Act 2011 or the Commerce Commission under sections 98 and 103 of the Commerce Act 1986. For both examples, there are offences relating to the failure to provide documents when requested.

If the proposal were to progress, this would then allow Waka Kotahi to access weighbridge records held by third parties.

Q77

What are the advantages and disadvantages of allowing Waka Kotahi to access third party records to ensure operator compliance with the RUC Act?

Q78

What evidence threshold or circumstances would be appropriate for Waka Kotahi to trigger the power to access third-party records?

## 4.7

## Creating a requirement for RUC Electronic System Providers (ESPs) to notify Waka Kotahi of the status of RUC payments

**We are seeking your views on extending the reporting requirements that apply to RUC Electronic System Providers (ESPs) to require all ESPs to notify Waka Kotahi of any changes to the status of RUC payments.**

**Q79**

What are the advantages and disadvantages with RUC legislation requiring ESPs to notify Waka Kotahi of changes to the status of RUC payments?

Currently, approximately 8,000 operators are using ESPs to purchase RUC licences. In using ESPs, operators can set up automatic payments to streamline payment and their compliance obligations. Waka Kotahi is aware that in some circumstances customers of ESPs may seek to manipulate the automatic payment function to delay these occurring. This could be for a variety of reasons but can be due to cash flow issues. Waka Kotahi is concerned that by manipulating RUC payments in this way, operators can get into a RUC debt which may not be possible for them to financially recover from. It has also been raised by ESPs that there is a concern that when non-compliant customers have contracts cancelled, they are unlikely to back-pay RUC and maintain compliance.

There are existing obligations on ESPs to report matters such as suspected tampering of a device through to Waka Kotahi. Broadening the reporting requirements for ESPs to provide information on the change in status of RUC payments would better enable Waka Kotahi to intervene in instances of non-compliance. It would help ensure that, if it is appropriate, action can occur when any level of under-payment of RUC is low. As the necessary data is held and recorded digitally, this additional reporting requirement for ESPs should not place a significant additional burden.

## TECHNICAL AMENDMENTS TO THE RUC ACT

## 4.8

## Clarifying the requirements around the display of heavy vehicle eRUC licences

**It is proposed to clarify the display requirements for heavy vehicles using an electronic distance measuring device (commonly known as an Electronic Distance Recorder (EDR)) and those for displaying an electronic RUC licence.**

Regulation 16(b) of the Road User Charges Regulations 2012 currently requires an electronic distance recorder to have *1 or more display panels that show the distance licence for the vehicle and the amount of distance travelled by the RUC vehicle*. At the time the RUC regulations were prepared, eRUC devices provided both data collection and display functions, so this requirement made sense.

However, there is no longer an explicit requirement for the RUC licence label to be displayed on a heavy vehicle. For heavy vehicles, RUC labels are still required but the regulations allow these to be carried anywhere inside the vehicle, rather than displayed on a windscreen. The definition of carried includes being carried in a digital form on a mobile phone, or in hard copy in a folder or wallet. In addition, in section 3.9 we propose to remove the requirement for light vehicles to display a RUC licence.

We propose to remove the requirement in 16(b) for the distance licence to be displayed on the electronic distance recorder (the Electronic Distance Recorder (EDR)). The removal of the requirement for a relatively large display screen on the distance recorder should reduce the cost of building and installing eRUC devices. Where they are still legally required, the RUC licence can then be displayed on a screen separately from the Electronic Distance Recorder (EDR), or otherwise

be carried by the driver. Roadside enforcement is now easily achieved by using Waka Kotahi's databases and so the presence of the label as proof of correct RUC payment is no longer critical.

NZ Police has also raised concerns with Waka Kotahi that when undertaking roadside enforcement, staff are needing to access the undercarriage of trailers to check devices, which is a significant health and safety concern. By reducing the size of the devices, the proposed change would ensure that eRUC devices are more easily able to be placed in a safe and accessible location.

After removing the requirement for the licence display, the Electronic Distance Recorder (EDR) would still be required to display the distance, in a similar manner to a mechanical hubo. We propose that the format for the distance display on an Electronic Distance Recorder (EDR) would be set out in the eRUC Code of Practice, and not in regulations. This provides the ability to better adapt to industry innovation in this space.

Q80

What are the advantages and disadvantages of removing the requirement for an electronic distance recorder (EDR) to also display the RUC licence?

Q81

What requirements should the RUC legislation have around the display of distance on an electronic distance recorder (EDR)?

Q82

What are the advantages and disadvantages of completely removing the requirement for carrying or displaying a RUC licence for heavy vehicles?

## 4.9

## Exempting vehicles that are only travelling on a road for Certificate of Fitness purposes from paying RUC

**We are seeking your views on whether Waka Kotahi should have a power to completely exempt vehicles from RUC that are only being driven on the road for Certificate of Fitness inspection or maintenance purposes.**

There is a small group of vehicles that are primarily used off road but are required to pay RUC for use of the public road when travelling for inspection or repair. The owners must purchase RUC continuously for all travel recorded on the odometer or hubodometer and then claim back the RUC for the distance not travelled on the public road, which may be the bulk of the travel. This places an administrative burden on these operators.

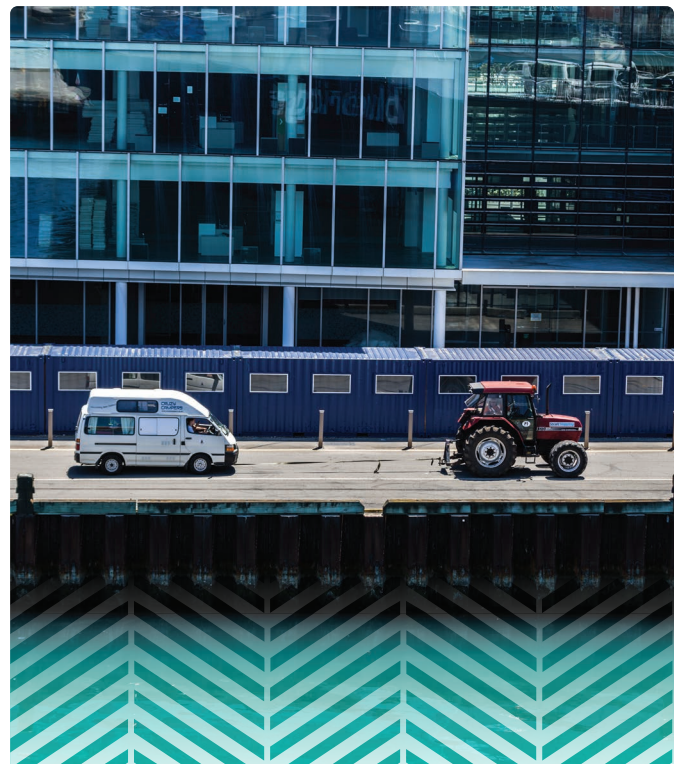
The proposal acknowledges that the only times these vehicles are used on the road are to maintain other compliance requirements or to have maintenance carried out to ensure the vehicles continue to operate at the required standard. An example of this could be vehicles that are only used within a facility such as a landfill or a port location, specialist agricultural vehicles, or specialist heavy vehicles used in the building of infrastructure such as the Transmission Gully motorway.

Some large operators may be able to have Certificate of Fitness inspectors visit their work site in order to inspect vehicles. However, there is currently a shortage of heavy vehicle inspectors across New Zealand and this is not always practical and can also be highly cost prohibitive.

We propose that the power to assess an individual vehicle as being suitable for an exemption be delegated to the Director of Land Transport and that these vehicles should only be exempt from RUC for travel on public roads for maintenance and Certificate of Fitness purposes. Vehicles would need to be unladen when being used on public roads.

**Q83**

What are the advantages and disadvantages of exempting off road vehicles from paying RUC if they are only travelling on a public road for the purposes of undertaking a safety inspection or maintenance?



## 4.10

## Extending an operator's time to request an independent review of a RUC assessment

Under section 53(5)(b) of the RUC Act, operators have the ability to make an application for an independent review of a RUC assessment within 20 working days.

We are seeking your views on whether the current limit of 20 days for requesting an independent assessment should be able to be extended in specific circumstances.

RUC assessments are intended to provide a process through which Waka Kotahi reviews an operator's records to ensure that the correct amount of RUC has been paid. Waka Kotahi compares the records of an operator against invoices issued to ensure that the vehicles have been operating with the correct distance licence. Assessments are often triggered by Waka Kotahi being notified of RUC evasion through interactions at Commercial Vehicle Safety inspections (carried out by Police), or when a vehicle is presented for a Certificate of Fitness inspection.

The purpose of the independent review is to allow the calculations carried out by Waka Kotahi staff to be reviewed by an independent party to ensure that the assessment is correct.

It is proposed to allow Waka Kotahi to exercise discretion in extending the 20-working day period to better allow for the circumstances of the owner or operator. This would ensure that if there was a genuine reason that this was not requested earlier (for example, the owner/operator being in hospital and not being able to answer correspondence) Waka Kotahi could take this into consideration and allow adequate time for a request.

Q84

What are the advantages and disadvantages to giving Waka Kotahi discretionary power to extend the time for independent reviews?

Q85

In what instances should an extension be granted, and in what instances shouldn't an extension be granted?

## 4.11

## Changes to how mobile cranes are defined for RUC

**A number of different vehicle types are exempt from paying RUC under the RUC Act's regulations.<sup>35</sup>**

Generally, they are types that do not use the road network often, such as forklifts or industrial and agricultural equipment. However, in some cases, classes of vehicles have been exempted where it was considered that the design of the vehicle did not enable a hubodometer to be fitted. On this basis, mobile cranes are exempt from RUC, but only where the crane is not one "to which a distance recorder is, or could readily be, fitted".

The wording relating to the exemption is found in the definition section of the Regulation, rather than the Schedule which lists exempted vehicles. This has caused some confusion, as the exemption currently only applies in a few specific circumstances. Most mobile cranes can, and do, pay RUC already.

With the ready availability of eRUC, effectively all vehicles can now be fitted with a distance recorder and the situation of not being able to fit a distance recorder for the purposes of RUC collection is no longer relevant. We propose to remove mobile cranes from the list of exempt vehicles. This will clarify that all mobile cranes should pay RUC on the same basis as other road users.

It is also proposed to update the definition of 'All Terrain Crane' in the interpretation section of the Road User Charges Regulations 2012.<sup>36</sup> This would replace the current wording of 'a tyre contact area of more than 1,500 cm<sup>2</sup> per tyre' with 'single large or single mega tyred axles'. This will simplify the classification of all terrain cranes as a definition based on contact area is difficult to measure in practice.

Q86

What are the advantages and disadvantages of removing mobile cranes from the list of vehicle types that are exempted from RUC on the basis that all vehicles can now fit eRUC devices?

Q87

What are the advantages and disadvantages of amending the definition of 'All Terrain Crane' in the RUC regulations to allow for the use of single large or single mega tyred axles rather than tyre contact area?

Q88

What other issues might there be with the way RUC rates are calculated for mobile cranes?

<sup>35</sup> Road User Charges (Classes of RUC Vehicles) Exemption Order 2012 (SR 2012/139) (as at 01 June 2013) – New Zealand Legislation

<sup>36</sup> Road User Charges Regulations 2012 (SR 2012/143) (as at 01 July 2020) 3 Interpretation – New Zealand Legislation



**TECHNICAL AMENDMENTS TO THE RUC ACT**

4.12

## Any other feedback on this chapter?

It's likely there are other technical amendments that could be included in the legislative amendments associated with this consultation.

Q89

What other technical amendments should be made to the RUC Act, its regulations, or the rules and manuals that make up the RUC system?

Use this question to let us know what other technical amendments could be made and why.

# Annex 1

Explanation for how road user charges rates are determined through Te Manatū Waka Ministry of Transport's Cost Allocation Model



## ANNEX 1

## RUC is long-established, stable, and remains world-leading

New Zealand's road user charges (RUC) regime was first set in place in 1977. There have been multiple substantive reviews and analysis of the system since its introduction. However, throughout the time it has been in place its core concept, that charges are derived based on a vehicle's distance travelled and contribution to road wear, remains unchanged.

A comprehensive review of the entire RUC system was carried out by an independent review group in 2008/09. This ultimately led to replacement of the 1977 legislation with the Road User Charges Act 2012 and associated regulations.<sup>37</sup> The main reform under this legislation was to change the way that vehicle weights are defined for RUC purposes from operator nominated laden weight to a fixed "RUC weight" based on the vehicle's maximum legal on-road weight.

Since the 2012 reforms, the Government has continued to review and assess the RUC scheme. While individual vehicle owners may have concerns over specific elements of the RUC system<sup>38</sup>, an independent evaluation of the 2012 Act<sup>39</sup> that concluded in 2016 found no serious concerns with RUC from either a policy perspective or a user perspective. One area where there may be opportunity for future reform is that RUC still largely requires manual transactions and paper labels. This was reasonable in 1977 but seems dated now.

Despite its age, New Zealand's RUC system is considered world leading. Many jurisdictions around the world are now looking to move away from fuel taxes to distance-based charges as a way to ensure their future revenue streams. Te Manatū Waka is regularly asked to speak to international delegations and conferences about our system.

## The RUC system is intended to recover charges from vehicles in proportion to the costs they generate

Fuel excise duty (FED) and RUC are the two major sources of revenue for the Government's National Land Transport Fund (NLTF). FED and RUC provide the NLTF with revenue to deliver the Government's land transport priorities. The prescribed RUC rates are set to recover charges from vehicle operators in proportion to the costs that their vehicles generate. The rates also provide the share of revenue from RUC vehicles that is needed to meet the Government's overall transport priorities.

Depending on their axle configuration and weight, different types of vehicle contribute differently to each of the costs of the transport system. For this reason, vehicles are grouped into RUC vehicle types, with each vehicle type charged a different rate based on key attributes.

Light RUC vehicles are the most numerous RUC vehicle type. There were approximately 800,000 light RUC vehicles in the New Zealand vehicle fleet at the end of 2019. These vehicles do not use petrol as their primary fuel and have a gross vehicle mass (GVM) up to 3.5 tonnes. Light RUC vehicles are almost all diesel-powered commercial vehicles, such as vans and utes, along with SUVs. Unlike Europe, New Zealand has, as a proportion, fewer diesel-powered passenger cars, which may be an effect of having to pay RUC.

Vehicles weighing less than around 6 tonnes do almost no damage to roads and so they impose very similar costs on the road network. For this reason, all light RUC vehicles pay the same RUC rate – \$76 per 1,000 km (from 1 July 2020).

Since 2012, the amount of RUC paid by light vehicles has been set to be equivalent to that paid in FED by a petrol vehicle consuming 9.5l/100 km (the average consumption across the fleet). Petrol vehicles with a fuel consumption greater than 9.5l/100 km will pay more excise duty to use the road network than vehicles that pay RUC, and those that use less fuel than the average will pay less.

<sup>37</sup> [www.transport.govt.nz/land/road-user-charges-ruc-and-petrol-excise-duty-ped/roaduserchargeslegislationchanges/](http://www.transport.govt.nz/land/road-user-charges-ruc-and-petrol-excise-duty-ped/roaduserchargeslegislationchanges/)

<sup>38</sup> For example owners of fuel efficient diesel vehicles may be concerned they are paying more tax than equivalent petrol vehicles, and owners of mobile homes also feel that they are overcharged due to their different usage patterns from commercial vehicles

<sup>39</sup> [www.transport.govt.nz/assets/Uploads/News/Documents/d72418c14d/RUC-Evaluation-Cycle-3.pdf](http://www.transport.govt.nz/assets/Uploads/News/Documents/d72418c14d/RUC-Evaluation-Cycle-3.pdf)

Heavy vehicles, of which there are approximately 190,000, including heavy trailers, vary much more in weight and axle configuration than light vehicles. The wide range of RUC vehicle types means that a wide range of RUC rates apply. However, most heavy vehicles, fall into one of four standard powered vehicle types and five trailer types.

There are a small number of petrol-powered vehicles that have a GVM greater than 3.5 tonnes and are therefore also required to pay RUC. Their owners are entitled to a refund of the FED that they pay as part of the price of the petrol they use.

As well as recovering the 'common costs' faced by all road users, a number of additional factors are used to determine the RUC rate for heavy vehicles, including:

- the damage and wear a vehicle causes to the road surface
- the stress that vehicle weight places on bridges and other structures
- the space a vehicle takes up on the road
- the costs of enforcing heavy vehicle rules and regulations.

Each vehicle contributes differently to each of these costs, depending on its axle configuration and weight. Vehicles are grouped into RUC vehicle types, some of which are in turn divided into weight bands (for example there are four weight bands within vehicle type 2, which includes most two axle trucks). Each vehicle type and weight band is charged at a different rate.

## RUC rates are based on Cost Allocation Model calculations

To calculate the appropriate RUC rate for each RUC vehicle type (and weight band where applicable) Te Manatū Waka uses a spreadsheet-based cost allocation model (CAM). The CAM is a cost recovery model based on a set of physical engineering principles and engineering expert-based judgements. The model is also broadly consistent with cost accounting and economic principles.

While some elements of the CAM have been questioned (especially the fourth power rule discussed further below), all assessments have accepted its general fitness for use. A 2008 report by Infometrics that summarised previous reviews of the CAM concluded:

"The CAM has served its purpose rather well. Structurally it represents a sound approach to dealing with recovering the costs of road use and presenting users with prices that are a reasonable representation of long run marginal costs."<sup>40</sup>

To determine the appropriate allocation of costs, the CAM assigns a share of the expenditure from the National Land Transport Programme (NLTP)<sup>41</sup> to each kilometre travelled by each vehicle.<sup>42</sup> These assumptions and engineering principles are explained below.

The CAM's RUC calculation is driven by three key inputs:

- Expenditure by activity class and work category. Since 2019, the CAM has used forecast expenditure as set out in the NLTP. This ensures that vehicle charges reflect the expected costs that occur in the year in which the RUC is paid.<sup>43</sup>
- Forecast vehicle kilometres travelled (VKT) by each RUC vehicle type for the year for which the rates are being set.
- Revenue from other sources. The most significant other source is FED. Others are motor vehicle registration and licensing fees along with other minor fees and charges and fuel excise duty on CNG and LPG.

Base rates are calculated by the CAM to allocate costs fairly and equitably, consistent with the five cost categories discussed below, across all vehicle types.

Engineering principles are used to classify planned expenditure set out in the NLTP into five categories of costs. These categories are then allocated by the CAM to the individual RUC vehicle types. Figure 8 on the following page shows how the NLTP expenditure is allocated to RUC.<sup>44</sup>

40 Economic Assessment of the Cost Allocation Model, Infometrics 2008

41 [www.nzta.govt.nz/planning-and-investment/national-land-transport-programme/2018-21-nltp/](http://www.nzta.govt.nz/planning-and-investment/national-land-transport-programme/2018-21-nltp/)

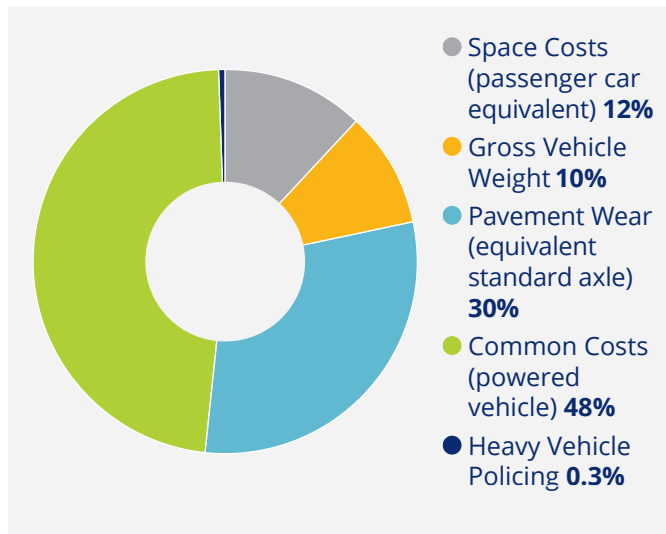
42 This includes assigning a share of NLTP expenditure to petrol (FED) vehicles. It is forecast for 2019/20 that FED will fund 37 percent of the NLTP and RUC 31 percent. The rest of the NLTP expenditure is offset by rate payer funding, motor vehicle licensing and other Crown revenue

43 Distortions can emerge if the actual expenditure varies significantly from that forecast

44 The classification does not include externalities such as congestion, noise, and emissions. These costs are not directly part of the roading system

## ANNEX 1

Figure 8: 2019/20 NLTP expenditure by cost category as percentage of total RUC revenue



The five cost categories and method of allocation are described below<sup>45</sup>:

- Pavement wear costs (referred to in the model as “equivalent standard axle” (ESA) costs)** are allocated using a formula that calculates a wear index for a vehicle based on its average laden weight, and tyre and axle layout. Essentially this is an assessment of the damage that the vehicle does to the road surface. For 2020/21 about \$512 million of pavement wear costs were allocated to heavy RUC vehicles, 93 percent of total pavement wear costs (\$552 million). The category of pavement wear costs includes pavement maintenance, resurfacing and rehabilitation. It also includes the estimated costs of adding wear resistance to pavements intended to carry heavy traffic.
- Space related costs (referred to in the model as “passenger car equivalents” (PCE))** are allocated according to a vehicle’s classification in terms of “passenger car equivalents”. For example, a rigid truck is considered to be equal to two passenger vehicle equivalents. A truck towing a heavy trailer is equal to three passenger vehicle equivalents. For 2020/21 \$76 million of space related costs were allocated to heavy RUC vehicles, 15 percent of total space related costs (\$518 million). Most of these costs are for State highway construction, property purchases and local road construction.

- Vehicle weight related costs (referred to in the model as “Gross Vehicle Weight” (GVW) costs)** are allocated according to the gross vehicle weight of vehicles in each RUC vehicle class. Gross vehicle weight (also known as gross vehicle mass (GVM)) is the maximum allowable weight for a vehicle when in use and is usually much higher than the average laden weight used in the ESA calculation. Gross vehicle weight costs are related to the required structural strength of bridges and other structures and are assumed to vary according to kilometres travelled by the vehicle type, multiplied by the total gross vehicle weight.

For 2020/21 \$115 million of gross weight related costs were allocated to heavy RUC vehicles, 40 percent of the total of such costs (\$287 million). This includes significant shares of sealed road resurfacing and new roads, especially bridges.

- Heavy vehicle policing costs (referred to in the model as “Heavy Vehicle Policing” (HV) costs)** are attributed equally to all vehicles over six tonne GVM. For 2020/21 there are \$28 million of heavy vehicle costs allocated to heavy RUC vehicles. Most of these costs relate to enforcement of regulations specific to heavy vehicles by the New Zealand Police’s Commercial Vehicle Safety Team.
- Common costs (referred to in the model as “Powered Vehicle” (PV) costs)** are shared equally between all on-road powered vehicles. Powered vehicles include both petrol and non-petrol vehicles, but not pedal cycles, for example. Costs are allocated to all RUC vehicle types at the same rate per kilometre travelled. Common costs are costs that are not related to road wear, vehicle weight, or vehicle size. They include public transport subsidies<sup>46</sup>, general road policing (not the specific heavy vehicle enforcement (HV) costs) noted above), road signs and marking, emergency works, and most routine road maintenance. They also include 45 percent of the costs of building new State highways and 68 percent of the costs of new local roads.
- For 2020/21 common costs are forecast to be \$4.49 billion, less fixed revenue of \$1.55 billion made up of ratepayer funding, motor vehicle registration and licensing fees and other Crown revenue, which leaves almost \$3 billion of

<sup>45</sup> Cost allocations are based on international engineering best practice and evidence, and have been adapted for a New Zealand context. Te Manatū Waka last had this methodology independently reviewed in November 2010 (*Advice on the Allocation of National Land Transport Programme Costs* (GHD, ARRB Group, 2010)), and Te Manatū Waka believes that it remains sound

<sup>46</sup> Public transport benefits road users by reducing congestion

common costs to be recovered from RUC and FED. RUC is allocated \$941 million of these costs, of which \$207 million relates to heavy vehicles.<sup>47</sup>

Figure 9 below shows the resulting output of the CAM for the costs for several common combinations of RUC vehicles. This shows that for a heavy vehicle over 20 tonnes, road wear costs (ESA) are significantly greater and contribute to a larger percentage of the overall base rate than for light RUC vehicles. They also show the effect that spreading weight over a greater number of axles has on RUC costs, with the H91 type vehicle paying less RUC than the similar size “408” type vehicle.

By separating the costs by RUC vehicle type and the features of these vehicles, the CAM calculates RUC base rates in a way that ensures that heavy vehicle operators pay fairly for the additional road maintenance and construction costs that they generate.

### The pavement wear assumption may not be valid for all roads in New Zealand

Increased weight leading to increased damage to the road pavement is the principal driver of increased RUC costs for heavy vehicles. This can be seen clearly in Figure 9 below. It is well accepted that increased axle weight affects pavements exponentially ie, a doubling of axle weight does much more than double the damage.

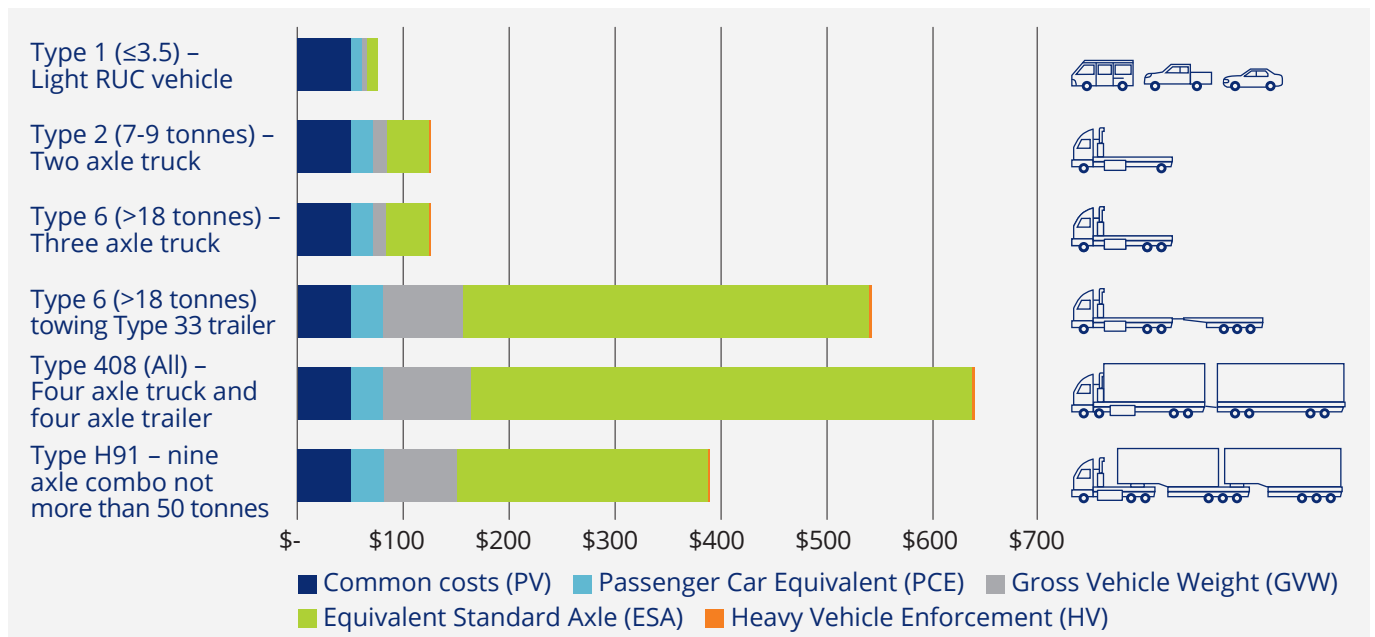
The assumption of increased weight leading to significantly greater road wear is the most important concept in the CAM.

The weight related damage costs are allocated according to the so called fourth power rule. This is written as  $ESA = (\text{laden weight}/\text{axle factor})^4 \times \text{load factor} \times \text{number of axles}$ . The fourth power rule is based on historical research from the USA, South Africa and New Zealand, and is widely accepted as a rule of thumb for road design. The CAM uses a single pavement damage calculation for all roads.

For vehicles with a gross vehicle mass up to six tonnes, the CAM’s assessment of their contribution to pavement wear is probably correct, as they do little damage regardless of the nature of the road. This is reflected in the very low RUC component for road wear (see Figure 9).

Given the variability of pavement strengths, especially outside urban areas, that the concept is generally accepted by the heavy vehicle sector and that past reviews have found that it to be a valid measure, the fourth power rule remains the most appropriate assumption for road wear across the whole road network. If a future revenue collection system captured vehicle location, then it may become possible to calculate the road wear factor for each section of road with similar properties, rather than all roads being averaged to the fourth power rule as they are now. The implications of this for RUC paid by heavy vehicle operators in different locations could, however, be very significant.

Figure 9: Allocation of costs making up RUC rates for six common vehicle types



<sup>47</sup> The percentage of common (powered vehicle) costs allocated to heavy vehicles relates directly to their share of powered vehicle kilometres travelled (about 7 percent)

## Directory

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ISBN 978-0-473-61683-0



**Te Kāwanatanga o Aotearoa**  
New Zealand Government