

Post-implementation regulatory assessment: Temporary decreases in petrol excise duty, road user charges and half-fare public transport

Coversheet

Purpose of Document	
Decision:	<i>The decision to temporarily reduce petrol excise duty, road user charges and implement half fares on public transport</i>
Advising agencies:	<i>Ministry of Transport</i>
Proposing Ministers:	<i>Minister of Transport, Minister of Finance and Minister of Energy and Resources</i>
Date finalised:	<i>January 2023</i>
Problem Definition	
<p>The Government was concerned about the adverse effects of a significant and sudden increase in the price of petrol and diesel, including its impact on low-income households. The concern was exacerbated by other price increases across the economy, including concerns about the cost of living.</p>	
Executive Summary	
<p>This Post-Implementation Regulatory Assessment considers options to support households with a spike in the price of fuel (both petrol and diesel) in March 2022 following the invasion of Ukraine by Russia. The Government’s preferred option was to reduce petrol excise duty and road user charges, as it could be implemented relatively quickly and therefore provide timely relief.</p> <p>Officials had very limited time to consider all options, and the narrow scope of the original commissioning, and rapid implementation expectations, constrained the level of analysis able to be completed. The original commissioning focused on reducing petrol excise duty and road user charges. Officials considered a range of more targeted options, noting any assistance should be assessed against the criteria of timely, targeted and temporary.</p> <p>Low-income households are likely most adversely impacted by an increase in the price of fuel. Officials considered the option of expanding (potentially on a one-off basis) the Winter Energy Payment into a temporary ‘energy payment’ to low to middle-income households. This is presented in this post-implementation assessment as officials’ preferred option.</p> <p>Such an option would take time and engagement across Government to fully develop and implement, potentially requiring both the welfare and transfers systems (which exist outside the transport system). Such support could be temporary and targeted, but it may not be timely due to the work necessary for implementation.</p> <p>As reductions to petrol excise duty and road user charges could be implemented relatively rapidly, the government chose it. The Government, as a complementary measure, decided to implement half-fare public transport to support the uptake of public transport. As a result</p>	

of COVID-19, patronage of public transport was reduced. Half-fare public transport also aimed to prevent any potential shift from public transport to travel by private motor vehicle, resulting from the reduction to petrol excise duty and road user charges, such a shift could undercut the Government's mode shift objectives. Half-fare public transport did not require any regulatory change.

This post-implementation assessment provides information on the impact of the policy and whether it has achieved its objectives. Following the reduction in petrol excise duty, retail petrol prices reduced immediately, indicating that the reduction was likely passed on at the pump. The reduction came at a substantial cost to the Crown, which is backfilling lost revenue into the National Land Transport Fund.

Public transport ridership has increased; however, it is unclear whether or to what extent increased ridership is due to the implementation of half fares and whether half-fares have resulted in less travel by private motor vehicle.

Limitations and Constraints of the Analysis

The commissioning was narrow in scope, and advice needed to be provided quickly. The advice sought focused on lowering petrol excise (PED) and road user charges (RUC).

The original commissioning focused on the revenue impact of reducing PED and RUC rather than what could be done to address potential equity issues associated with high fuel prices.

Given the scope and urgency for advice, the Ministry of Transport (the Ministry) was constrained in its ability to consider a full range of options, including non-regulatory measures to address the problem. Officials did not have time to investigate the problem thoroughly. It is also possible that officials did not fully understand the extent of the problem to be addressed, including its scope and desired objectives.

More time could have allowed evidence and data to be obtained and analysed and for greater clarity to be gained about the problem and desired objectives.

The Ministry was commissioned with leading and providing the advice. The Ministry's overall remit relates to the transport system rather than the broader economy. The Ministry does not have a whole economy remit or specific macroeconomic expertise, which could have limited our analysis and advice.

The Ministry did not consult with the public or interested stakeholders due to the urgency of the advice. There is the potential that issues, risks, and unintended consequences were not fully identified.

Responsible Manager

Marian Willberg
Demand Management and Revenue
Ministry of Transport

Quality Assurance (completed by QA panel)

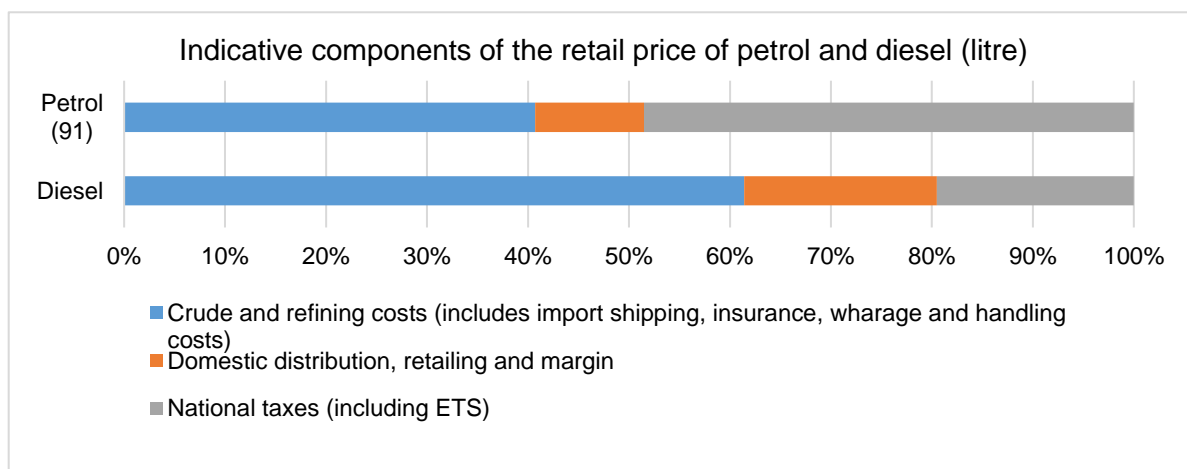
Reviewing Agency:	Ministry of Transport Regulatory Review Panel
Panel Assessment & Comment:	<p>A panel comprised of representatives from the Te Manatū Waka Ministry of Transport and the Civil Aviation Authority has reviewed this post-implementation regulatory assessment (PIRA) and considers that the information and analysis summarised in it meets the quality assurance criteria. The panel did have concerns that the options canvassed were limited, but that this was reasonable given the time constraints of the drafting process. Nonetheless, the panel had suggested some improvements to clarity and conciseness, and following a further review considers the PIRA to be complete and convincing.</p>

Section 1: Diagnosing the policy problem

What is the context behind the policy problem and how is the status quo expected to develop?

World events impact the price of fuel in New Zealand

1. Almost all petrol and diesel used on New Zealand roads is purchased offshore in the world market and imported into New Zealand. Overall, the price of fuel has three main components: the cost of (1) **crude and refining**, (2) **distribution and retailing**, and (3) any **tax**.¹ The cost of:
 - a. crude and refining are determined globally based on current and expected future demand and supply. World events can impact supply and demand. World events, uncertainty or instability, especially involving key oil-producing countries (for example, Russia), can impact market sentiment and the global price of fuel.
 - b. import, distribution and retailing costs have international and domestic components, such as the exchange rate and the cost of international shipping, which world events can also impact. Domestic components include the cost of fuel terminals, domestic distribution and retailing
 - c. taxes apply to fuel at the national, regional, and local levels. The most significant fuel tax that applies nationally in New Zealand is petrol excise duty (70 cents per litre), which applies on a per-litre basis. Unlike most other countries, New Zealand does not have a significant/national diesel tax. Diesel vehicles are subject to road user charges, which are charged on a per-kilometre basis for travel on public roads. Road user charges for a light vehicle are equivalent to the average amount of petrol excise duty paid per kilometre by a vehicle not subject to road user charges.
2. Changes in any of the above components can impact the price paid at the pump. The graph below shows the main components of a litre of petrol and diesel in New Zealand (data averaged between 2004 and February 2022).



¹ In addition, producers, wholesalers and retailers also make a profit so that their businesses can continue to operate. The level of competition in the marketplace likely influences the amount of profit they make.

There are no price controls on the retail price of fuel in New Zealand

3. New Zealand does not directly regulate the retail price of fuel. The thrust of the regulatory framework aims to ensure a competitive market and to promote competition. The per-litre retail price of fuel is not set or constrained by prescriptive regulation. Consumer law applies to the retail of fuel.
4. The Government sets the rates of domestic taxes (such as petrol excise duty) but has limited control over how taxes are passed on to consumers at the pump (tax incidence). Petrol excise duty is collected at the border. The passing on of the cost of petrol excise to users is a matter for fuel companies/retailers.

The price of petrol and diesel impacts the cost of road transport, and thereby many households, particularly low-income households

5. Fossil fuels and travel by private vehicle are an integral part of life for most New Zealanders. Over 90 percent of travel in New Zealand is by private vehicle, and between 98 and 99 percent of vehicles are powered by petrol or diesel.² The cost of fuel impacts the cost to operate such vehicles and the cost of transport and overall household expenditure.

Direct impacts – the cost of transport

6. The cost of transport is a key household expense – the third main expense category – after housing and food. Around 90-95 percent of a household's transport budget is allocated to travel by private vehicle.³
7. Fuel price rises, particularly significant and sudden increases (spikes), can impact many households. In terms of annual transport expenditure, Statistics New Zealand suggests quintile 1 households (the poorest households) spend around **44 percent** of their transport budget on fuel. This contrasts with quintile 5 households (the wealthiest), which spend around **26 percent** of their transport budget on fuel. In general, as households become wealthier, the percent of income allocated to fuel decreases. In terms of annual expenditure by quintile:
 - a. quintile 1 households spend around \$800 to \$1,800 per year on fuel
 - b. quintile 5 households spend around \$4,100 to \$4,900 per year on fuel.
8. Significant price rises can necessitate difficult trade-offs for low-income households, which are likely hardest hit by significant fuel price rises. These households tend to have limited ability to make changes in response to rising costs, such as reducing or consolidating trips. Increases in the price of fuel can put pressure on other expenditure categories and cause hardship for low-income households.

Indirect impacts – the cost of goods and services

9. Fuel prices can also impact the cost of many goods and services. The cost of fuel is an input into the production process (which includes transport costs) of many goods

² Ministry of Transport, New Zealand Vehicle Fleet Statistics.

³ Statistics New Zealand Household expenditure data.

and services. A survey of road freight operators prepared for the Road Transport Forum (now known as la Ara Aotearoa - Transporting New Zealand) by the University of Waikato found that fuel and oil costs make up around 13 percent of overall truck operating costs. The study suggests fuel and oil costs (and transport taxes) were a greater cost component for the transport of low-value heavy items (such as logs). This indicates that the cost of fuel is only likely a small component of the final retail price of consumer goods.

10. Statistics New Zealand's Producers Price Index (which measures input and output prices for businesses) suggests that diesel makes up around 19.5 percent of all road transport inputs. The index also indicates that road transport makes up around 8.9 percent of all inputs to the supermarket, grocery and food retailing industries category.

Financial hardship concerns are primarily dealt with outside the transport system

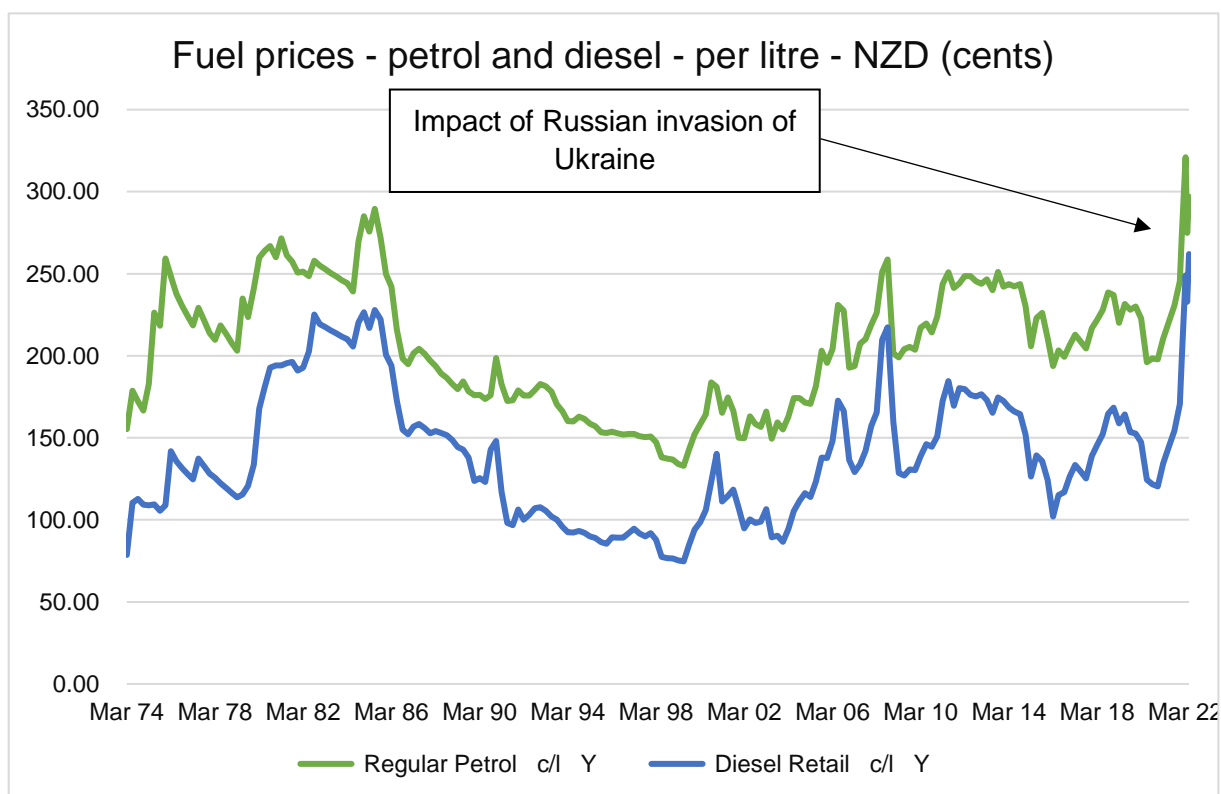
11. The rates of petrol excise duty and road user charges are set to achieve a revenue target (to fund planned transport expenditure levels).
12. Affordability concerns with the cost of transport are primarily dealt with outside the transport funding system. The minimum wage (and annual adjustments) is a market intervention to address the impact of cost changes on low-income working households. Further support may be provided through the welfare system for people out of work (due to unemployment, sickness).
13. New Zealand's welfare system is mainly targeted at those who do not or cannot work. Households with children may be eligible for transfers through the tax system, which can help with household expenses, including transport expenses. Some welfare payments are indexed to cost but generally annually, so they are not designed to provide immediate relief to short-term price spikes.

What is the policy problem or opportunity?

A sudden and significant increase in the cost of fuel can cause financial stress for households

14. In 2021, the price of petrol and diesel was increasing. The increase in price was largely due to greater fuel demand from the easing of travel restrictions and the reopening of economies following the pandemic. During the pandemic, fuel demand reduced in many countries, which kept prices relatively low in 2020.
15. As countries began to reopen, fuel demand was strong, but increases in supply were gradual. Demand and supply data from the United States Energy Information Agency shows that by early 2022, global demand for fuel exceeded fuel production.
16. In early March 2022, Russia invaded Ukraine. Russia is a key oil-producing nation. When Russia invaded Ukraine, the fuel price (particularly the cost of crude) increased substantially. Sanctions and boycotts on Russian oil resulted in supply disruptions, impacting market sentiment. Market sentiment meant prices increased globally following the sanctions and boycotts.
17. The Dubai spot crude price increased from around USD \$79 (in early January 2022) to USD \$118 (11 March 2022) per barrel. That is over a **40 percent increase** between January 2022 and March 2022. Over the same period (January 2022 to March 2022), the main port price of:

- a. diesel went from \$1.86 per litre to around \$2.49 (33 percent increase)
 - b. petrol (namely 91) went from \$2.61 to \$3.21 per litre (22 percent increase).
18. In March 2022 was the first time the per litre price of petrol (91) exceeded \$3 per litre in New Zealand. In some main cities of New Zealand the price of petrol exceeded \$3.50 per litre (almost a 35 percent increase).



19. The graph above shows real fuel prices between 1974 and March 2022 and the impact of the Russian invasion of Ukraine on the price of fuel in New Zealand. The graph shows the increase in price in early 2022 was particularly large and sudden even when compared to other events that impacted the price of fuel, for example:
- a. 1978 – 1979, the Iranian revolution, which resulted in a price spike
 - b. 1990, Iraq invaded Kuwait, resulting in a moderate price increase
 - c. 2003-2008, a gradual price increase was driven by strong economic growth. However, during the global financial crisis, prices fell back substantially.

The problem to be addressed

20. The problem is that, typically, households plan their spending based on current prices. When a significant price increase occurs quickly, it can be difficult for low-income households to adjust, and hardship/equity concerns can arise.
21. Significant and sudden price increases can pose a greater burden on low-income households and potentially have broader adverse effects (on jobs, businesses and GDP). For households with tight budgets, fuel prices rising faster than income can cause financial stress. Higher-income households are generally less impacted in the short term and can manage or make adjustments (purchase a fuel-efficient vehicle or move closer to work).

22. Due to the increase in fuel prices in March 2022, there were media reports of people struggling and experiencing stress with the cost of fuel. The Salvation Army noted a rise in people making challenging trade-off decisions between food and fuel.

What objectives are sought in relation to the policy problem?

23. To be effective, any option should achieve the following primary objectives:
- a. relieve the cost pressure associated with higher fuel prices for households
 - b. provide relief to those most impacted (for example, experiencing hardship due to the increase in the price of fuel)
 - c. not undercut the Government's broader transport objectives (for example, mode shift and emissions).
24. Officials understood that providing relief to households was the primary objective of the policy, rather than providing relief to businesses. As the road freight sector is, on the whole, highly competitive, lower input costs (for road transport) could result in a lower price of other goods and services over time (for example, food costs). However, business concerns were not a primary objective. The main policy concern related to equity implications from such a significant and sudden price rise.

Section 2: Deciding upon an option to address the policy problem

What criteria will be used to compare options to the status quo?

25. Below are the criteria that will be used to assess each potential option to address the problem. The criteria below are designed to evaluate the effectiveness of each option to relieve the spike in fuel prices impacting households.
- a. **timely** – support should be available when it is needed and without undue delay
 - b. **targeted** – assistance should be proportional to the need, and relief should be focused on those most adversely impacted ('equity')
 - c. **temporary** – relief should end when it is no longer needed. Controls should be in place to end the support and prevent it from becoming permanent.
26. Each option will also be assessed against one secondary criterion of 'cost', primarily the fiscal cost to the Crown. As public funds are scarce, and any expenditure has an opportunity cost, low-cost options that effectively address the problem should be preferred to high-cost options in the absence of another justification.

What scope will options be considered within?

27. The original commissioning and timeframe limited the scope of options. The policy process was heavily accelerated, and the timeframe for advice meant the Ministry was constrained in its ability to consider a full range of options. Consideration was not given to non-regulatory alternatives (for example, education to optimise consumer fuel purchasing behaviour).

28. Other options were considered, initially and very briefly, such as:
- a. **encouraging active transport** (as a stand-alone measure). This was not advanced as evidence suggests a spatial mismatch between jobs available to low-income people (those most impacted by high prices) and household location. We did not consider this a viable option because many low-income households cannot reach jobs readily without a vehicle. Recent research focused on Auckland has found that key worker households, particularly those constrained by budget, had the longest commutes, and long commutes may not be readily substituted by walking or cycling.
 - b. **reducing the cost of public transport** (as a stand-alone measure) was not advanced as a stand-alone measure as it would not adequately address the problem for the following reasons:
 - i. In some urban areas and for some trips, public transport can be a viable alternative to transport by motor vehicle. But, for many people, and for many types of trips, public transport is not a direct substitute for travel by motor vehicle.
 - ii. Those who already travel on public transport (for example, commuting by train into a CBD for work) may have higher incomes and be better placed to withstand higher fuel prices than others. Household expenditure survey data from Statistics New Zealand suggests a:
 1. quintile one household (lowest income) spends between \$40-\$700 per year on public transport
 2. quintile five household (highest income) spends around \$400-\$1,800 per year on public transport.
 - iii. The data suggests that higher-income households are more likely to report public transport expenditure and spend a greater share of their total expenditure on public transport (and the lowest-income groups spend the lowest as a proportion of total expenditure).
 - iv. Furthermore, a cost or price incentive already exists to travel on public transport, and it was unclear whether further subsidising services would mean people (particularly low-income people) would substitute travel from motor vehicles to public transport.
29. Consideration was also given to potential steps to **increase fuel supply**. This option was dismissed very early as not viable, as it was unclear what practicably New Zealand could do to remedy a global shortfall in supply and improve overall market sentiment. New Zealand has extremely limited known reserves of crude oil. New Zealand crude could not substitute for Russian crude.
30. Officials did not consider **price controls on retail prices** due to their negative impacts. Price controls could diminish the incentive of companies to supply fuel to New Zealand (mainly if it could be sold outside New Zealand for a higher price).
31. Other demand-side measures were not explored. Other options (for example, vouchers) were briefly considered but were not progressed as not viable, being overly complex and unable to be delivered within the timeframe desired.

32. Other measures in the tax system (but outside the transfer system) were also not considered by officials, for example, an end-of-financial-year tax rebate/refund. Such measures would not provide immediate relief to households struggling with the price of fuel at the time. There would be a lag or delay in providing relief until the end of the financial year and after the completion of annual tax assessments. Also, such measures exist outside the transport system.

What options are being considered?

33. This section sets out the main options officials considered to address the problem.
34. The main options considered were **the status quo, reductions to petrol excise duty and road user charges** (Ministers' preference) and **support through the welfare or tax-transfer system** (Ministry preference).

Option One – *Counterfactual/status quo*

35. It was an option for the Government to do nothing. This would have meant households would need to accommodate increased prices in their household budgets. For some households, particularly those with low incomes, living week to week, this could cause financial stress.
36. Households could seek to limit fuel use, but there are limits to which this is practical in the short term. Our understanding of road transport demand in New Zealand is that it is relatively inelastic to price. A study by Booze-Allen (2007) suggests the short-run elasticity is 0.15 and the medium-run elasticity is 0.20 for road transport in New Zealand. This work indicated that a 10 percent real rise in petrol prices could decrease fuel consumption by 1.5 percent within a year. In terms of traffic demand:
- a. urban off-peak traffic could fall by 2.7 percent by a 10 percent price increase
 - b. urban peak traffic could fall by 0.9 percent by a 10 percent price increase
 - c. rural traffic could fall by 1.6 percent by a 10 percent price increase.
37. Household expenditure data suggests as the price of fuel increases, so does the amount of household expenditure on fuel, implying that households do not adjust their amount of travel based on changes in the price of fuel in the short term.
38. The increase in price (of the level that occurred in March 2022) could result in a slight reduction in demand for fuel in the long run. But the main consequence of high fuel prices is a reduction in other categories of household spending (food, electricity) categories. New Zealand experience suggests a modest shift to public transport may occur in urban areas with good public transport services, but it is unlikely the shift will be sustained. For example, the spike in the price of fuel in 2008 saw a short-term increase in public transport ridership in Wellington, but it was not sustained over time. This suggests it would be necessary to do something beyond public transport measures to respond to fuel price issues (as outlined above).
39. Revenue from GST may increase due to fuel price increases. The price increase was unlikely to cause any significant reduction in revenue for the Government (due to reduced fuel usage). Revenue would continue to be collected from road users. Revenue from GST may increase due to fuel price increases, as GST is a value added tax.

40. High prices could be sustained for some time. For households encountering hardship, if reduced fuel consumption is not possible, households may find ways to reduce their transport costs. For example, delay vehicle maintenance, which could have safety implications. Work in the United Kingdom looked at the response by road users to increased costs (or reduced income). The work suggests that it is likely that there could be a deferral of vehicle maintenance or cutting back on non-fuel-associated motor vehicle costs. In New Zealand, in response to the Global Financial Crisis the vehicle fleet was aged due to people deferring the cost of replacing their vehicles.
41. As it was unknown how long high fuel prices would persist, adopting a wait-and-see approach could have been considered. Previous sharp increases in fuel prices in 1979, 1999, 2006, 2008 and 2016 were soon followed by declines, revealing them to be fuel price spikes. If the 2022 price increases followed the previous pattern, with prices decreasing, the issue might have effectively resolved itself. Real wage growth may have also mitigated the impact of high prices over time.

Option Two – Temporary reduction to road tax (reductions to petrol excise duty and road user charges) and reduced public transport fares – Ministers’ preference

42. Road tax impacts the price of petrol (in the case of petrol excise duty) and the cost of road use (in the case of road user charges for diesel vehicles). Petrol excise duty increases the price of petrol at the pump, and reductions in the rate of petrol excise duty would be expected to result in a reduction in the retail price of petrol, if not offset by other factors (for example, increases in the cost of crude or refining). Reductions would, however, mean lower prices than would otherwise have been the case.
43. Road user charges impact a diesel vehicle’s overall operating cost rather than the price of diesel. Road user charges must be purchased in advance of travel in increments of 1,000 kilometres. Reducing road user charges would reduce the total operating cost of light diesel vehicles to the same extent as an equivalent reduction in the price of diesel at the pump, but only on average due to variations in fuel consumption.
44. Both petrol excise duty and road user charges raise revenue for planned transport expenditure. The Government sets the rates to achieve a revenue target (the amount planned to be spent on land transport). Reductions in the rates of petrol excise duty and road user charges would mean less money from road users to fund planned transport expenditure. Transport expenditure would need to be deferred, delayed or cancelled if replacement revenue could not be found.
45. Replacing the revenue through a Crown grant would mean less money for other and current government priorities. Replacing the revenue through a Crown loan would mean less money for future transport priorities.
46. Public transport fares are set by regional councils and are subsidised by ratepayers and road users (roughly 50 percent). Further subsidising fares could be possible via a Crown grant. However, this would also mean less revenue for other government priorities.
47. Rates of petrol excise duty and road user charges are set in regulations. Reducing the rates of petrol excise duty and road user charges would require regulatory change. Changing legislation quickly can result in issues (errors, unforeseen issues and unintended consequences), but there are examples where other transport regulations have been changed relatively quickly and successfully (for example,

during the COVID-19 response, the expiry of transport documents was extended for specified periods).

48. The reductions to petrol excise duty, road user charges, and half-fare public transport are temporary measures. It can be challenging to end or roll back temporary measures even when time limits are specified at the outset. Loss aversion can occur, making re-implementing the full rates challenging.

Option Three – Extra support through the welfare or transfers system (outside the transport portfolio) – Ministry preference

49. Providing increased support via a temporary periodic payment through the welfare or transfer system was considered. The welfare and transfer systems exist outside the transport portfolio but can assist individuals with transport costs.
50. The main option considered was the feasibility of turning the Winter Energy Grant into an Energy Grant (at an increased rate, perhaps on a one-off basis). The Winter Energy Grant is payable to people on low or fixed incomes, for example, those receiving welfare payments or NZ Superannuation. It, however, is not paid to low-income people in work. Widening the Winter Energy Grant into an Energy Grant at a higher rate and expanding it to low-income people in employment could assist those most impacted by the high cost of petrol and diesel.
51. The Winter Energy Grant is payable between May and October and is intended to help households with the cost of heating over winter. However, there is no requirement to spend the payment on heating costs.
52. As the Winter Energy Grant is part of the welfare system administered by the Ministry of Social Development, engagement would be needed across Government on its potential use and alteration. To include low-income people in work (not receiving the winter energy grant), the transfers system administered by Inland Revenue may need to be explored.
53. Other welfare-based options that could have been considered were a combination of temporary extensions to working for families, an increase to the minimum wage and other targeted welfare benefits, but engagement across government would be required.
54. Making temporary changes to the welfare or transfer delivery systems would have been more complex than making changes to road taxes. It would have required more time than was available to officials.

How do the options compare to the status quo/counterfactual?

	Option One – No change / the status quo / Counterfactual]	Option Two – Temporary reduction to road tax (petrol excise duty and road user	Option Three – Support through the welfare or transfers system (outside the transport portfolio) (Ministry preference)
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		charges ⁴) and reduced public transport fares (Ministers preference)	
Targeted	0	0 (not targeted to low-income households)	++ (potentially targeted to low-income households if welfare and transfer system used)
Timely	0	+ (rates can be changed relatively quickly)	- (time delay, time needed for system set up)
Temporary	0	+	+
Cost	0	-- (high potential cost, reduction in land transport revenue and cost to the Crown in backfilling lost revenue)	- (cost of the payments, but no revenue reduction)
Overall assessment	0	0	1

Assessment of option one - no change/status quo

Counterfactual – Option one

55. If high fuel prices continued, the status quo would not address the problem or achieve any policy objectives (as defined above).

56. **Targeted** – No additional support would be provided apart from that offered via the existing welfare or transfers system. Those experiencing hardship or needing extra help would potentially face increased financial stress if they could not offset the

Key - qualitative judgements:

- ++ much better than doing nothing/the status quo/counterfactual
- + better than doing nothing/the status quo/counterfactual
- 0 about the same as doing nothing/the status quo/counterfactual
- worse than doing nothing/the status quo/counterfactual
- much worse than doing nothing/the status quo/counterfactual

⁴ Petrol excise duty reductions options considered ranged from between 10.5 cents per litre and 25 cents per litre. Equivalent reductions would need to be made to road user charges. Government decided on 25 cent per litre reduction to petrol excise duty, and the equivalent reduction to road user charges was 36 per cent across all legislated rates.

increased cost of fuel (through extra income, travelling less, and reprioritising expenditure: potentially trading off food and fuel).

57. **Timely** – No additional assistance would be provided in the short or medium term, potentially because the increase in fuel prices would be temporary and resolve itself. If fuel prices did not decrease, there could be a period of financial stress or hardship for low-income people.
58. **Temporary** – Not applicable as no additional support would be provided.
59. **Cost** – There are no new costs apart from those associated with paying and administering existing welfare entitlements (should there be a greater uptake of entitlements as more people encounter financial stress). Revenue will continue to be received by the National Land Transport Fund, so transport expenditure would continue to be funded, so there would be no need for Crown support or replacement funding to be provided.

Reducing road tax (petrol excise duty and road user charges) and half-fare public transport – Option Two (Ministers' preference)

60. Reducing the rates of petrol excise duty and road user charges could satisfy the timely criteria but is unlikely to be targeted.
61. **Targeted** – Households experiencing financial hardship or stress associated with high fuel prices are likelier to be low-income households. Households not experiencing financial difficulty due to high fuel prices would also benefit from any reduction to petrol excise duty and road user charges. Rates of road user charges and petrol excise do not differentiate based on income or wealth, and reductions would provide broad base support. The reductions would not therefore be targeted at those most likely to be experiencing actual hardship or financial stress from the spike in fuel prices. Rates also do not differentiate between vehicles used or owned by households or businesses, so businesses would also benefit from the reductions. Some businesses may be able to pass on costs, and it is unclear whether the justification (equity) for assisting low-income households applies equally to businesses. Half-fare public transport would also not be targeted to those experiencing financial stress due to high fuel prices. Some evidence suggests that those who regularly travel on public transport generally have higher incomes (see above).
62. **Timely** – The rate of petrol excise duty is a single rate and can be changed readily. We understand that retail fuel practice is to price fuel (but not exclusively) based mainly on its replacement value, so changes in the rates of excise should be reflected in the pump price within a short time, benefitting a road user the next time they refuel. Changing road user charges requires more work due to the number of individual rates, but changes can also be made relatively quickly. Further subsidising public transport fares could be implemented in a relatively timely manner, subject to engagement with regional councils.
63. **Temporary** – Fuel prices are volatile and can change over time, and relief may only be required whilst prices are elevated. In the past, fuel prices have spiked and quickly returned to a long-run average. Until prices decrease, or people can accommodate the increased price (for example, real wage gains offset the price rise), the support

could be provided then end. The reductions can be made temporary by legislating an end date and publicly communicating it.

64. **Cost** – Reducing the rates of petrol excise duty and road user charges, depending on the rate of reduction, could have a high cost to the National Land Transport Fund. Reducing the rates would mean less revenue from road users to fund land transport priorities. If the Crown was to backfill lost revenue with a Grant, this costs the Crown and puts increased pressure on Crown accounts. If the Crown is to backfill for lost revenue with a loan, this has a cost to the future transport programme and puts increased pressure on the National Land Transport Fund. Either approach represents an opportunity cost as the revenue (to backfill the lost revenue) cannot be used for other government priorities (which could deliver better value for money).

Support through the welfare or transfer system – Option three

65. This option fits most of the criteria and likely best addresses the problem. However, some individuals would likely receive support not impacted directly by high fuel prices (for example, do not have a vehicle and therefore purchase fuel). The eligibility requirements (to be determined) for support might limit the degree of impact. As explained below, the main trade-off with this option is that it would take time to set up the systems to administer such a payment, not meeting the timely criteria.
66. **Targeted** – The primary focus, at the time, was drawing on the Winter Energy Grant and expanding it and potentially increasing it to cushion the impact of increased fuel costs associated with road transport. People receiving welfare payments or New Zealand Superannuation are the primary recipients of the Winter Energy Grant. Consideration could be given to expanding the payment temporarily, for a period, to low-income people in work, who may be facing pressure from high fuel prices (for example, fuel costs associated with commuting to work). Therefore, the support would be targeted to low and some middle-income individuals but not exclusively those that use fuel on the road and those that are likely most impacted by high fuel prices. However, due to tax structuring, even if the relief is targeted at low-income people, grants may be provided to high-income individuals.
67. **Timely** – If the Winter Energy Grant eligibility criteria were used, increasing the rate or bringing forward the start date, assistance could be provided relatively rapidly. To include all low-income people, Winter Energy Grant eligibility criteria would need to be revised, and setting up new systems could take time and delay the receipt of assistance. Extending support to low-income people outside the welfare system is likely more complicated as the transfer system (administered by Inland Revenue) may need to be used. Setting up the systems would take time.
68. **Temporary** – Payment dates or the duration for any extra support could be legislated. This could provide a means to ensure the support was temporary and ended when it was no longer required.
69. **Cost** – The cost would depend on the extent of uptake, its duration and the payment rate. There is a high level of uncertainty about the costs. Transport officials were not well placed to cost the policy, and further costing work has not been undertaken on this option. Transport officials understand that the Winter Energy Grant costs around \$500 million annually.

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

Officials' preference

70. Officials consider, on balance, option three best addresses the problem, but note it is finely balanced. Low-income people tend to have less discretionary income, and a higher proportion of their income is spent on transport compared to middle or higher-income households. Option three has the potential to target support to those encountering financial stress or hardship associated with high fuel prices. System change work, which may cause delay and impact the timely receipt of assistance, is a real trade-off with option three. The time needed may mean the option is not viable.
71. Either option 2 (road tax changes) or option 3 (welfare/transfer system assistance) could be made temporary in legislation. In practice, temporary programmes can be challenging to roll back. It is possible that a broad-based relief scheme could be more challenging to roll back compared to a targeted assistance programme, which may reach fewer people. So, this criterion does not meaningfully distinguish between the options.
72. A distinction between options is the cost to the Crown. The cost of tax changes arises from (1) reduced revenue to fund transport priorities and (2) backfilling any reduced revenue. The reductions to road tax are likely to be more expensive than a targeted assistance payment to low-income people, but this would need to be confirmed.

Ministers' preference

73. Cabinet decided to reduce the rate of petrol excise duty and road user charges. A view could be taken that the reductions offer some degree of targeting as the relief is targeted to road transport (and the fuel used or distance travelled on the road).
74. Cabinet decided on a 25-cent per-litre reduction to petrol excise instead of 10.5 cents, 15 cents or 20 cents per litre reduction (options that were also canvassed). Ministers stated that a reduction at the lower end might not provide meaningful relief to households given the price rises and potential fluctuations in fuel prices. When the decision was made to reduce excise, the price of petrol (91) varied between \$3.00 per litre and \$3.50 per. It cost between \$120 to \$140 to fill up a 40-litre tank. On a 40-litre tank, a 25-cent per litre reduction saves motorists between \$10 and \$11.50 per tank (excise + GST). A 10.5 cent per litre reduction would save motorists approximately \$5 per tank (excise + GST). In the United Kingdom, a 5 pence sterling reduction (equates to around 10 cents NZD) was made to excise, and due to fluctuations (further increases) in the price of fuel, motorists complained that relief was not meaningful.
75. Officials considered the potential for unintended consequences, including the possibility that reducing the cost of road transport would increase fuel demand and result in higher prices, worsening constrained global fuel supply. We understand that demand for road transport is relatively inelastic, and it was unlikely that a significant travel increase would arise directly from the reductions. There is some seasonality in travel demand (for example, personal travel over the Christmas-New Year holiday period), but this would likely be unaffected by changes to excise duty and road user

charges. Despite the reductions, fuel prices remained elevated, potentially discouraging some additional or discretionary travel.

76. Given strategic mode shift and emissions objectives, the Government was concerned about reducing the cost of private road transport and whether it could result in a shift from public transport to private motor vehicles. There was also concern that public transport ridership remained impacted by COVID, and reducing the cost of travel by private motor vehicle could further impact public transport ridership and undercut the Government's mode shift outcomes. Due to this, the Government decided to implement half fares on public transport to encourage the uptake of public transport following COVID.
77. Half-fare public transport, as a complementary measure, could meet the policy objective that the relief option adopted (reduction to petrol excise duty and road user charges) did not undercut the Government's broader transport outcomes (for example, relating to mode shift and emissions).

Section 3: Delivering an option

How will the new arrangements be implemented?

78. The critical implementation agencies would be the New Zealand Customs Service (responsible for excise) and the NZ Transport Agency Waka Kotahi (the RUC collector).

Excise duty (and its refund)

79. The rate of petrol excise duty can be reduced, changed or suspended by Order in Council under the Customs and Excise Act. Transport officials must engage with Customs New Zealand to reduce the rate. Customs administers excise legislation and collects excise duty. Customs will need to notify excise payers (i.e. fuel companies) of the reduction of excise duty and its duration. This is because fuel companies pay excise at the border when fuel is imported.
80. Regulations relating to the refund of excise duty can also be amended via Order in Council. Specified users of fuel, largely commercial off-road users, are entitled to claim refunds for fuel used. The refund rate will need to be reduced to reflect the excise rate. Waka Kotahi the NZ Transport Agency, which handles duty refunds, will need to apply the reduced rate when administering refund claims.

Road user charges

81. The Ministry's overall starting point when designing the road user charges reduction scheme was to work within existing settings as much as possible, given the tight timeframes involved and the risks of unintended consequences with creating something entirely new and untested.
82. It became apparent that primary legislation would be needed to put in place a safeguard arrangement to deter and address any over-purchasing of road user charges whilst discounted. This was due to the risk that road users with vehicles subject to road user charges with means (so perhaps not experiencing actual hardship from high fuel prices) may take advantage by purchasing significant quantities of road user charges whilst reduced. Such purchasing would pose a revenue risk.
83. For heavy vehicles, the Bill would provide that any road user charges purchased whilst reduced would become invalid within a specified time after the reductions ended.
84. Legislation enables Waka Kotahi to issue assessments (or invoices) for any purchase of road user charges that is excessive, unreasonable or an abuse of the scheme. The purpose of the scheme is to provide similar relief to owners of diesel vehicles as provided to owners of petrol vehicles (provided through the reduction to petrol excise duty). As regulatory and enforcement decisions are an independent matter for Waka Kotahi it needs to determine what action to take should instances of over-purchasing be identified. Potential approaches could include:

- a. Waka Kotahi asks over-purchasers to cancel the excessive amounts purchased at or be issued with an invoice (at the full rate) for the amount deemed excessive
 - b. Waka Kotahi, at the time of warrant of fitness, issues invoices to road users continuing to operate on a licence purchased at the reduced rate once the reduction period has ended.
85. Funding for implementing and administering the discount scheme was sought by Waka Kotahi (for example, staffing arrangements and making necessary system changes).
86. Waka Kotahi will need to issue road user charges licences and exercise regulatory oversight over the purchases. Waka Kotahi may need to redeploy and bring in resources to administer the scheme. Administering the scheme could impact existing services (for example, should the Waka Kotahi call centre come under significant strain from an increase in demand).
87. Waka Kotahi received additional funding to hire temporary staff to undertake the increased work, including monitoring, preventing and addressing any over-purchasing of road user charges.
88. A communications plan would need to be developed and implemented by Waka Kotahi to encourage the use of automated online channels and to prevent over-purchasing.

How will the new arrangements be monitored, evaluated, and reviewed?

89. Waka Kotahi will regularly update the Minister of Transport on the operation of the road user charges reduction scheme. The Ministry of Transport will update the Ministers of Transport and Finance on the cost of the reductions and administer backfill funding, based on actual revenue lost. The Ministry of Business, Innovation and Employment is monitoring the pass-through of the reductions to petrol excise duty.
90. The Ministry of Transport is also regularly in contact with road transport stakeholders. This channel also may provide an avenue for any concerns to be communicated about the policy or its implementation.
91. The Ministry of Transport, as part of business as usual, monitors the performance of Waka Kotahi, which could provide insights into the on-going operation or administration of the reduction scheme.
92. In addition, the Ministry of Transport has a policy evaluation work programme, and consideration could be given to evaluating the impact of the policy in the future.

Consultation

93. As noted above, external or public consultation could not be completed during the policy development process due to the truncated timeframe and rapid implementation expectations.

94. Despite the compressed timeframes, targeted consultation did occur with relevant government agencies. For example, consultation occurred with:
- a. the NZ Customs Service – primarily on its ability to rapidly implement an excise rate change and any issues rapid implementation posed
 - b. the Treasury – to secure backfill funding to top-up the National Land Transport Fund for reduced revenue. Underspends were identified in other Votes that could be appropriated to backfill reduced revenue from excise duty and road user charges
 - c. the Ministry of Business, Innovation and Employment (Energy Markets) – to confirm our understanding of existing energy support arrangements and potential alternative options to address the problem. MBIE also undertook fuel company liaison
 - d. the Ministry of Foreign Affairs and Trade – any international obligations relating to fossil fuels
 - e. Waka Kotahi the NZ Transport Agency –funding requirements and implications for the road user charges system.
95. Feedback from agencies informed the Ministry of Transport’s advice to Ministers. Further consultation would need to occur with Ministry of Social Development and Inland Revenue on options which involved the welfare and transfer systems.

Treaty of Waitangi considerations

96. The Crown has obligations under the Treaty of Waitangi relating to partnership, protection and equal treatment. In regard to transport, we understand that
- a. low-income households spend a higher proportion of total income on transport, and Māori households tend to have lower incomes
 - b. the three lowest-income quintile groups had negative gross savings compared to gross disposable income and final consumption expenditure, and Māori are disproportionately represented in the three lowest quintile groups.
97. This suggests that fuel price increases could pose particular changes for some Māori households, particularly those already with constrained financial resources. This suggests government action to lessen fuel price increases (or the cost of transport) could be particularly important for Māori households.
98. Under the partnership principle, there could be a case to consider consulting with Māori. However, Māori were not consulted due to time constraints. Māori already encounter transport disadvantages suffering various forms of exclusion such as geographic, physical, and economic. One of the main reasons is that some Māori live and work in areas not well served by public transport. Car ownership and usage has benefits but can also contribute to social harms, including worsening financial hardship and debt.

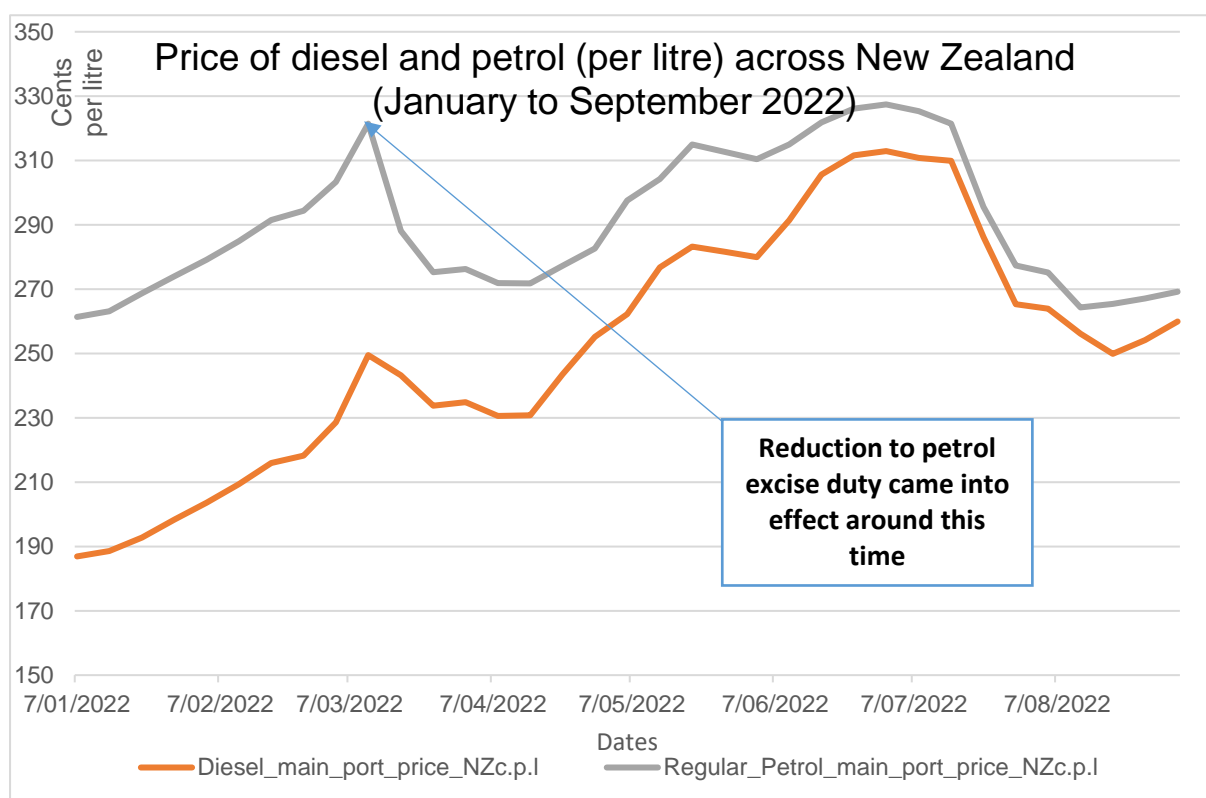
Section 4: Effectiveness of the policy

100. This section sets out some initial insights on the impact of the policy, including whether it has been effective and achieved its objectives. Information in this section is provided on:

- a. retail fuel prices
- b. the passing on of the reduction to excise duty
- c. the purchase of road user charges
- d. impact of the reductions on revenue
- e. impact of the reductions on travel by motor vehicle
- f. impact on public transport usage

101. At this time, no formal or comprehensive evaluation work has been completed by the Ministry of Transport on the policy. The insights below are tentative.

Changes in the price of fuel before and after the reductions took effect



102. The graph above shows the retail price of petrol and diesel between January and September 2022, including when the reduction to petrol excise occurred at midnight on 14 March 2022.

103. The graph shows a significant fall in the price of petrol (much greater than the price of diesel) following the reduction in petrol excise duty. Diesel is not subject to excise

duty, so subsequent movements in the price cannot be attributed to changes in taxation.

104. The graph shows, despite the reductions, fuel prices increased over time. Fuel prices, at times, was higher after the reductions than when the reduction to excise duty was first made. International refinery pressures and changes in the price of crude likely contributed to subsequent price increases.

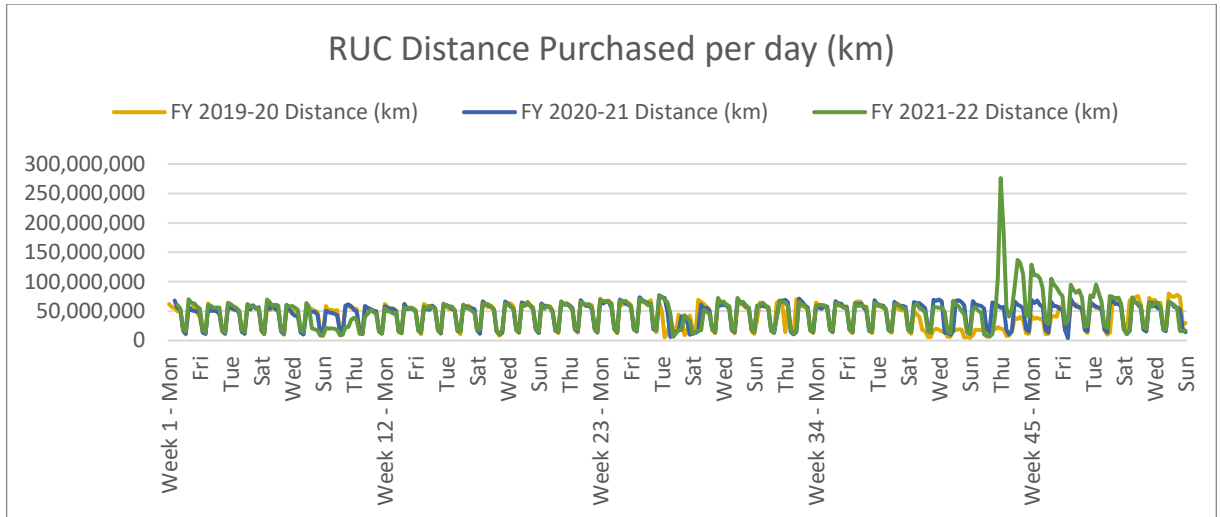
The reduction to petrol excise duty has largely been passed on at the pump and resulted in lower petrol prices

105. The Ministry of Business, Innovation and Employment monitors the price of petrol and diesel, including whether excise duty reduction has been passed on at the pump. Monitoring work has shown that the reduction to petrol excise duty was largely passed on, and the price of petrol would have been higher but for the reduction to excise.
106. In the week before the cut to excise duty, the petrol price averaged around \$3.21 per litre (week ending 11 March 2022). For the week ending 10 June, petrol was above \$3.14 per litre on average (with the reduced excise duty). Had petrol excise not been cut, the price of petrol could have been around \$3.39 per litre on average (assuming the full pass-on of excise).
107. The passing on of excise at the pump is consistent with work, mainly in the United States, showing the pass-through of excise to retail prices. Work has also found that retail prices respond/change in response to tax increases or decreases.⁵ Overall, the reduction in petrol excise duty resulted in lower petrol prices on average. However, the average price, despite the reductions, by July was similar to when the reduction was made in mid-March.
108. As road user charges are purchased directly by road users, no similar incidence issues arise for road user charges.

Purchase of discounted road user charges

109. The graph below shows the total number of road user charges kilometres purchased for light and heavy vehicles. The graph shows that when road user charges were reduced, there was an increase in the total number of kilometres purchased for a short period of time.
110. Discounted road user charges were able to be purchased from 21 April 2022. Waka Kotahi reports that for a light vehicle, before the discount scheme started, the average number of kilometres purchased per transaction was around 5,000. Following the reduction, this rose to approximately 8,000 kms. The increase in kilometres purchased was, on the whole, short-lived, returning to the long-run average within a few weeks of the start of discounts.

⁵ See Alm, Sennoga Skidmore, 2009, 'Perfect competition, urbanisation and tax incidence' Economic Inquiry.



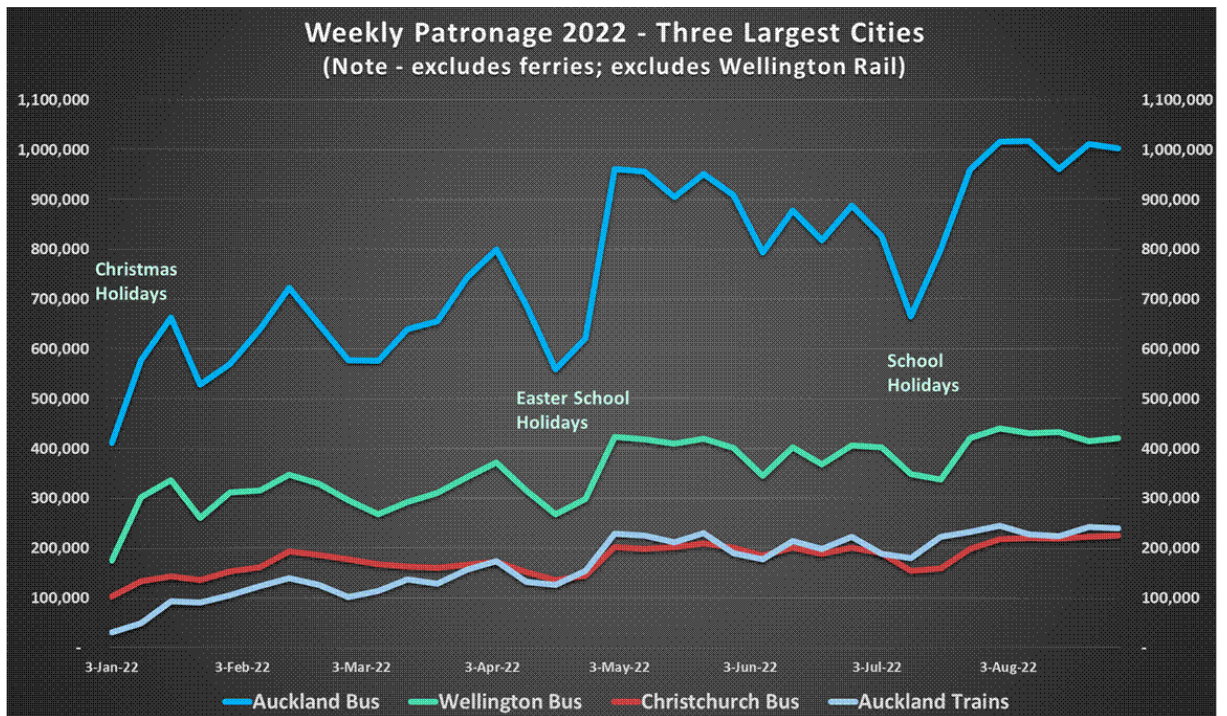
111. Safeguards have been put in place to prevent and address abuse. Road users may be assessed and issued invoices for any excessive, unreasonable purchase or abuse of the road user charges reduction scheme. The road user charges reduction scheme aims to provide the owner or operator of a RUC vehicle relief approximately equivalent to the discount on excise duty (provided to owners of petrol vehicles). Road users are directed to guidance issued by Waka Kotahi before purchasing discounted road user charges and are required to make certification about the amount being purchased, a measure to prevent over purchasing.

Impact on land transport revenue

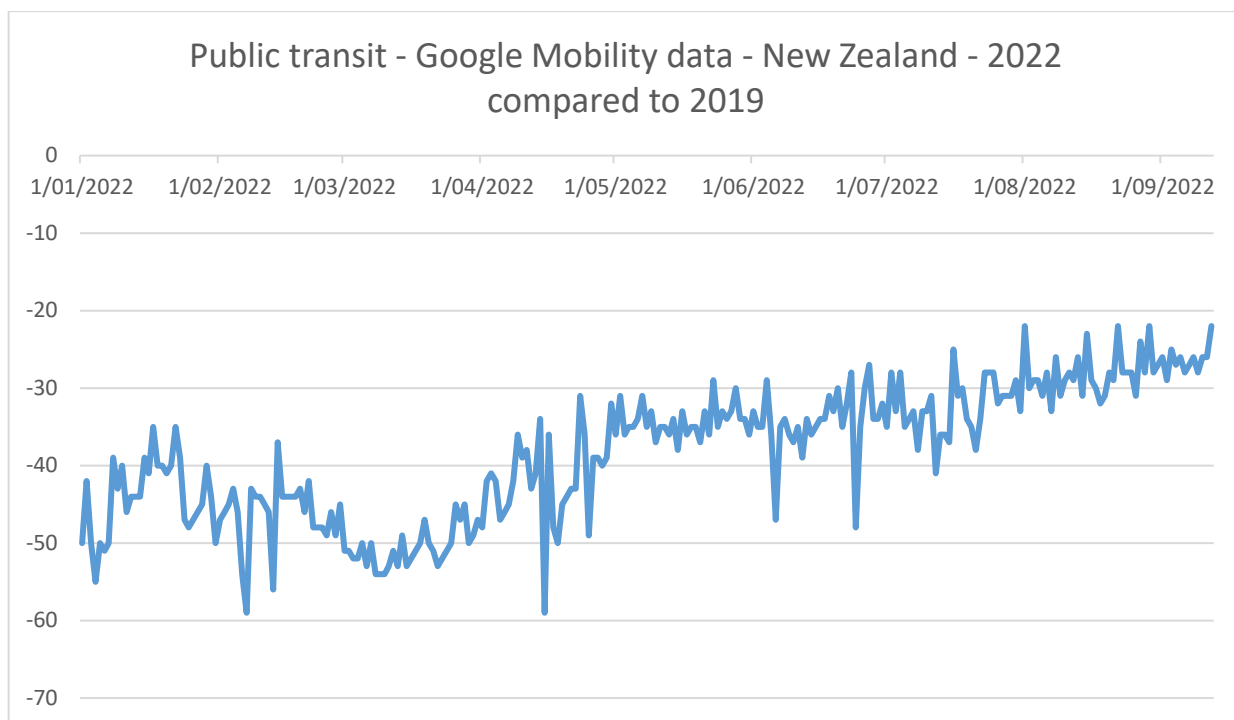
112. A main consequence of the reductions in the rates of petrol excise duty and road user charges was less revenue into the National Land Transport Fund from road users. Revenue from petrol excise duty and road user charges is hypothecated (dedicated) to the National Land Transport Fund for transport expenditure. Revenue from road user charges and petrol excise duty has historically and largely avoided the need to fund land transport from general taxation. Due to the reductions, the Crown, from general taxation, is backfilling the lost revenue, which means greater pressure on the Crown accounts and potentially less available revenue for other government priorities.
113. Our estimate is that the scheme, in total, when it ends on 31 January 2022, will cost the Crown around \$1.3 billion. However, the final cost is uncertain and depends on several factors.

Impact on public transport

114. Initial work suggested half-price fares increased ridership (particularly in the three largest cities). Waka Kotahi stated that ridership after the start of half-priced fares was 65 per cent of what it was in 2019. Before half-price fares, ridership was 44 percent of what it was in 2019 (March). The following graph shows weekly patronage in Auckland, Christchurch and Wellington for selected public transport modes.



115. The graph suggests, however, there was no real change in the trend following the introduction of half-fares.
116. Further work was done by Waka Kotahi ([Research Note 009 Impact of half price public transport fares – a research note](#)) on the impact of half-fare public transport. The work suggests that half-fare public transport contributed to:
 - a. 3 percent shift from cars/taxis to public transport
 - b. 3 percent shift from active modes (walking, cycling) to public transport.
117. Google mobility data shows an upturn in activity around public transport stops consistent with the seasonal uplift in patronage in March as tertiary students returned to study. However, patronage remained significantly reduced across New Zealand compared to pre-COVID-19 levels.



118. Overseas work examining the impact of reduced or free fares on public transport suggests that lower fares can increase ridership. The most important factor in encouraging people to switch from travel by private motor vehicle to public transport is the reliability and quality (and notably, the speed) of public transport.

Impact on the broader economy

119. Fuel is a critical economic input. There is a strong correlation between fuel consumption and economic activity. The increase in the price of such a critical economic input could impact the economy, and the reduction of petrol excise duty could lessen any impact of a price increase.
120. Statistics New Zealand reported the reduction in excise duty likely had a modest impact on the statistical measurement of inflation (CPI). Any inflation impact is likely only related to headline inflation and could be largely an artefact of how we measure inflation. Work in the United States indicates that a 4.3 cents per gallon reduction in excise duty on gasoline and diesel would result in higher output by the productive sectors and potentially an expansion in the consumption of goods and services, but that the Government would realise a decrease in revenue.⁶
121. It is possible the reduction in excise duty impacted inflation expectations. However, while petrol prices were lower than they otherwise would have been due to the reduction, fuel prices continued to rise (despite the reductions being passed on). Price increases likely masked the role of the reductions in decreasing prices, so the impact on inflation expectations is unclear.

⁶ See Noel D Uri, 1997, The Effects of Reducing the Motor Fuels Excise Tax on Agriculture, in the United States Energy and Environment Journal.

Costs and benefits

122. We have undertaken a qualitative cost-benefit analysis. A quantitative cost-benefit analysis has not been undertaken due to the difficulties in estimating the main outcome of this policy, which is to reduce the fuel cost pressure on households and the associated pressure to make trade-off decisions in expenditure.
123. While the reduction in what road users would pay in petrol excise or road user charges could be estimated, this is a transfer rather than an economic benefit as it affects tax revenue. We also do not know what road users have done with savings on transport, so we cannot attribute a value to it.
124. To a limited extent, we have quantified some potential externality costs from this reduction. If we assume that in the absence of the reductions, people may have reduced some of their discretionary travel to maintain expenditure on other goods and services, the externalities associated with road travel would have decreased.
125. Analysis of past fuel price spikes and periods of weak household and business confidence suggest households and firms cut their expenditure on vehicle maintenance and renewals. This has implications for long-run fleet emissions and safety. Data on vehicle effects is not yet available. Therefore, the following costs and benefits do not account for long-run fleet effects.
126. Road travel is measured in terms of vehicle kilometres travelled (VKT). Actual estimates for VKT typically lag several quarters meaning we do not know the impact the reductions have had on travel. We know how much has been imported in terms of fuel and how many road user charge licences are purchased, but these purchases are not directly linked to road use (as they are made in advance of travel).
127. Instead of directly estimating the additional amount of travel, we have estimated the effect the reduction has on travel costs and applied a price elasticity to this. The current estimated elasticity⁷ is -0.15 (with a range of -0.21 to -0.09), so a 1 percent change in costs results in a 0.15% change to VKT, which suggests travel demand is relatively inelastic. The total increase in travel is estimated to be about 1% for light vehicles and 2% for heavy vehicles.
128. The quantitative and qualitative costs and benefits are summarised in the table below.

Affected groups <i>(identify)</i>	Comment <i>nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.</i>	Impact <i>\$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.</i>	Evidence Certainty <i>High, medium, or low, and explain reasoning in comment column.</i>
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⁷ A price elasticity measures how much the demand for a good changes in response to a change in its price.

Additional <u>costs</u> of the preferred option compared to taking no action			
Crown	Ongoing fiscal cost, backfilling lost revenue due to reduced revenue from road users. This is based on prior years' revenue.	\$115 million per month estimated	Low certainty, do not know purchasing behaviour of road user charges
Waka Kotahi (the RUC collector)	The potential for increased road user charges contacts negatively impacts the ability to deliver other services to road users. One-off set-up activities for Waka Kotahi. Ongoing funding for Waka Kotahi to administer and monitor compliance.	\$0.5 million per month	Medium about funding, but broader impacts low
MBIE	Increased monitoring of fuel prices, including monitoring the pass-through of excise duty.	\$25,000 per month	Medium
Increase in greenhouse gas emissions	Greenhouse gas emissions will be higher as a result of induced travel demand. The estimated increase is about 3,500 tonnes of CO ₂ e per month, but this depends on the level of travel and the fuel efficiency of vehicles. The estimated cost also varies depending on the shadow price used.	\$283,500 per month	Low – based on rough average emissions per km
Increase in air pollution	Vehicles generate harmful emissions from exhausts, tyres, and brakes. Increased travel demand increases the quantity of these pollutants, which has adverse impacts on human health, including reduced life and life quality, illnesses, hospitalisations and restricted activities	\$8 million per month	Low – impact is partly based on concentration and exposure, which is specific to different locations
Increase in safety risk	Induced travel demand means people are more exposed to the risk of being in an on-road crash. This will depend on the nature and place of the crash, the modes involved, the type of	\$5 million per month	Low – methodology uses rough assumptions

	vehicles and their safety features		
Additional <u>benefits</u> of the preferred option compared to taking no action			
Reduced trade-offs for households	Reducing travel costs for households means there is more money in their pockets during a time when the prices for other goods and services are also high. This eases the burden on households by reducing the trade-offs they must make. This benefit is not quantified as it is unknown what households would do with this additional money in terms of the goods and services they purchase.	N/A	N/A
Reduced deadweight costs	Excise and other taxes introduce a distortionary effect on markets and can cause related markets to operate at less efficient levels. The loss of value from this is known as a deadweight cost. As this policy reduces the taxes applied to a good (petrol), it must reduce the distortionary effect of that tax. This is not quantified as we do not have enough information about the fuel market to quantify the gain in value.	N/A	N/A