

21 July 2021

OC210326

Hon Michael Wood
Minister of Transport

Action required by:
Monday, 2 August 2021

LAND TRANSPORT REVENUE, FUNDING SOURCES AND PRICING TOOLS – WORK PROGRAMME FOR DISCUSSION

Purpose

Provide our proposed work programme on land transport revenue, funding sources and pricing tools, for your feedback.

Key points

- The Ministry has shaped a revenue, funding and pricing work programme to be well placed to decarbonise the transport system and meet other expenditure pressures.
- We have **attached** an A3 outlining our proposed work programme, titled *Land transport revenue, funding and pricing – Outline of work programme for discussion*. We would like to discuss this with you at your earliest convenience.
- The transition to a lower emissions transport system, and the need to make major investments, are presenting challenges for the way we fund it. We can raise more revenue through existing funding tools, and we can apply new ones. But even new funding tools will not be sufficient to pay for investments that have long lead times, high costs and leave long legacies, as well as maintaining the current system.
- Demand for transport spending exceeds available revenue. This will continue and will require careful prioritisation. But we can better manage today's financial burden by optimising available funding tools and introducing measures that enable future beneficiaries to contribute to the assets they will benefit from. We can also reduce the financial burden by sending signals that make better use of our current transport network. These opportunities raise financial and design issues, as well as broader questions about how costs and benefits should be managed inter-generationally. We need to consider these in a systematic and principled way.
- Over the next 10 – 20 years, investments and other interventions (like pricing) are expected to generate significant mode shift that will occur unevenly across the country.
 - Mode shift may challenge the public mandate of the current transport revenue system, which at its most basic, charges businesses and households to drive a vehicle and subsidises those who use rail or public transport.

IN CONFIDENCE

- Much of the investment to reduce transport emissions will likely be in cities. This will progressively shift the Fuel Excise Duty (FED) and Road User Charges (RUC) burden – as they exist in their current form – to people living outside city centres. This may include households living in rural communities and those on lower incomes, who have poorer access to public transport and often need to travel longer distances by private vehicles to access jobs, shops, services, and amenities.
- Our best estimate is that a new revenue system will need to be implemented by the end of the decade. To achieve this timeframe, we expect we need to engage with the public on options for a new revenue system in 2023/24. Public acceptance will be critical for the success of a new revenue system. Public engagement could take some time if the options presented are markedly different from what we have today. It is likely that we are only just within time to do the work that is needed.
- The most pragmatic option is to deliver shorter-term improvements to the revenue system over 2021/22 – 2023/24 and leverage off this as we consider options for a new revenue system. The shorter-term deliverables we propose include:
 - Revenue: establishing the available revenue sources that can sit alongside existing mechanisms like FED and RUC and whether there are different ways of using these. This may include vehicle licensing and registration fees and reducing RUC revenue evasion. Waka Kotahi estimates that RUC non-compliance represents between \$85 million and \$255 million in unidentified and unpaid RUC per year.
 - Funding sources: GPS 2021 commits to a funding and financing toolkit that sets out the range of funding options for types of transport infrastructure and services.
 - Pricing tools: developing a public mandate for pricing tools that change travel behaviours, such as congestion pricing. The main purpose is to send price signals that influence behaviour and make better use of the network we currently have, not to raise revenue.
- Overarching these shorter-term deliverables, we plan to advise on the potential future scope of the revenue system. For example, we would consider whether a dedicated transport fund should necessarily be limited to land transport in the way that the National Land Transport Fund (NLTF) is. We also expect to consider whether a dedicated fund should prioritise broader outcomes such as regional transport connectivity in ways that differ to the current approach of funding particular mode-based expenditure categories. This work will be informed by the proposed new Strategic Planning Act.
- Currently, the core components of the NLTF – FED and RUC – offer revenue stability, ease of administration and are strongly correlated with economic activity. These features offer planning certainty to Government, business and households. Retaining these features as we change the revenue system will require more sophisticated and co-ordinated uses of revenue, funding sources and pricing tools. A replacement to the current NLTF system is unlikely to share all these features.
- We would like to discuss the prioritisation and timing of this work with you as part of a wider conversation about your priorities, and will maintain a continuous and open dialogue with you on the scope and timeframes of this work, which may change over time.

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Recommendations

We recommend you:

- | | | |
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| 1 | discuss our proposed work programme on land transport revenue, funding sources and pricing tools at your earliest convenience. | Yes/No |
|---|---|--------|

Marian Willberg
Manager, Demand Management and Revenue Policy

Hon Michael Wood
Minister of Transport

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- Minister's office to complete:**
- | | |
|--|---|
| <input type="checkbox"/> Approved | <input type="checkbox"/> Declined |
| <input type="checkbox"/> Seen by Minister | <input type="checkbox"/> Not seen by Minister |
| <input type="checkbox"/> Overtaken by events | |

Comments

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LAND TRANSPORT REVENUE, FUNDING SOURCES AND PRICING TOOLS – WORK PROGRAMME FOR DISCUSSION

- 1 This paper sets out the context, challenges and opportunities that underpin our proposed work programme on land transport revenue, funding sources and pricing tools outlined in the **attached** A3.
- 2 While we refer to 'land transport', all transport modes are covered by our proposed work programme to the extent they would be undersupplied if they did not receive support from the Government.

Decarbonising transport changes the composition and size of the transport investment profile that best represents value for money

- 3 Over the coming decades, New Zealand will continue to need to invest in critical infrastructure networks to meet both condition and capacity challenges and to support the transition to a low carbon transport system.
- 4 Decarbonising transport will be a critical challenge and is expected to tilt the transport investment profile further towards public transport, rail, rapid transit, coastal shipping, active modes, urban intensification and away from roading expansion. Significant capital intensive investment in public transport infrastructure will be required, potentially at the scale of more than \$15 - \$30 billion over 10 years (OC210166 refers).¹
- 5 The Climate Change Commission (CCC) has recommended emissions budgets out to 2035, which the Government is considering. Emissions budgets set a cap on the number of domestic emissions from all parts of the economy, other than agriculture. Interim milestones are set to reach net zero carbon by 2050.
- 6 To achieve its first three recommended emission budgets, the CCC's demonstration path relies on transport emissions increasing by 1 percent by 2025, reducing by 13 percent by 2030, and reducing by 41 percent by 2035 (compared to 2019). This is expected to require a reduction in vehicle kilometres travelled (VKT). The energy efficiency of transport modes and vehicle technology will also need to improve, but alone is expected to be insufficient.
- 7 Figure 1 shows the CCC's economy-wide emissions budgets and the CCC's transport sector's estimated contribution.

¹ This is an untested indicative estimate in relation to achieving the degree of mode shift proposed by the Climate Change Commission (CCC) in its draft report. The CCC's final advice, released in May 2021, is more ambitious around shifting the way New Zealanders travel compared to its draft advice.

Figure 1: Annual average emissions (MtCO₂e/year) under the CCC's recommended emissions budgets



Changing the transport investment profile will require us to manage changes to revenue, funding sources and pricing tools in a coordinated way

- 8 The step-change that is needed over the next one to two decades cannot be funded solely through the dedicated National Land Transport Fund (NLTF), in its current form. Fuel Excise Duty (FED) and Road User Charges (RUC), which make up about 95 percent of the NLTF, are currently set to broadly recover “wear and tear” costs.
- 9 Crown and local government revenue streams are applied to transport funding, but in a relatively ad hoc way, alongside the NLTF. We are working with other agencies on how we deal with expected current day investments in transport infrastructure and services. But more systemic change is needed to respond to the emerging demands.
- 10 Eventually, the way we fund and manage the transport system could look very different from today. Transport may rely on a mix of project-specific funding sources, ongoing revenue streams, and differentiated prices to influence behaviour and to shape and reduce the investment profile.

Revenue, funding sources and pricing tools

- Revenue can come from funding sources and pricing tools. Funding sources and pricing tools generally serve different purposes, but they interact and overlap with each other.
 - **Revenue:** income streams that are available to fund general transport-related activities, but not tagged to specific projects. The NLTF, local government rates and general taxation are often used.
 - **Funding sources:** ways of generating discrete revenue streams to pay for specific assets over the course of their useful life or to meet a specific purpose. This can include value capture (targeted rates), development contributions, user charges, or other indirect charges placed on beneficiaries. FED and RUC are examples of funding sources that create a stable and predictable revenue stream. These sources are currently used to meet the basic needs of the land transport system.
 - **Pricing tools:** charges that seek to influence travel behaviour by altering relative prices within the transport system, including for time, mode or route. For example, a congestion charge. Different pricing tools may change behaviour (e.g. driving fewer kilometres) in a way that affects revenue projections.

- 11 Over time, we expect that substantial investment in transport infrastructure and the mode shift it facilitates – away from fossil-fuel powered private motor vehicles – will undermine the revenue sustainability and fairness of the FED and RUC road-based system in its current form. We will need to address distributional impacts, including avoiding shifting the burden for funding transport on to households and businesses who are least able to switch to low or no emission vehicles, or to shift transport modes.

Proposed revenue, funding and pricing work programme

- We are proposing a series of short- and longer-term deliverables that will help us manage changes to revenue, funding sources and pricing tools in a coordinated way (outlined in more detail from page 16 onwards). This includes:
 - **Funding sources and inter-generational funding options:** we are looking to a broader range of beneficiaries than today's road and rail users, to recover the costs of the system. We are working on a funding and financing toolkit that was committed to in GPS 2021 to incentivise decision makers to make use of the full range of funding tools in a systematic and principled way. A potential example of this is the work underway on the City Centre to Mangere Project, which could make use of value capture tools and financing to recognise the inter-generational benefits from the project to support the substantial transport investment needed to facilitate mode shift.
 - **Making better use of the infrastructure we have through pricing (and non-pricing) incentives:** We are considering pricing tools and other demand management strategies that can shape a range of outcomes including faster and more reliable travel, lower emissions and improved health. The fiscal value of these tools can be significant and help us get more out of the infrastructure we have. We are considering options to enable better use of existing infrastructure, such as reallocating street space (e.g. for bus lanes and bike/scooter lanes) through parking management, Intelligent Transport Systems, and congestion pricing. You have an opportunity to commit to demand management strategies in the Emissions Reduction Plan, which we will advise you on in coming weeks.
 - **Reconsidering the role and use of potential funding sources:** In 2023/24, we expect to be positioned to provide options for public and political engagement on a new transport revenue system. This is likely to involve engaging on the scope of a central dedicated transport fund, how a range of funding sources are applied and activities or behaviours that could be charged differently than currently.

- 12 Principles that are likely to be important in any transport revenue system and influence the funding sources relied on, include:
- 12.1 efficiency — maintaining strong links between the activities or behaviours we are charging for, and those who are benefitting from or exacerbating the need for infrastructure and services
 - 12.2 revenue sustainability and certainty – providing a sustainable and reliable source of revenue to fund the system and sufficient certainty of costs to enable households and businesses to plan
 - 12.3 accountability and transparency – enabling participants of the transport system to understand charges and hold decision makers accountable
 - 12.4 low collection costs - charges should have minimal set-up and ongoing transaction costs (to both the Crown and the public), relative to the proportion of total revenue collected
 - 12.5 equity – the burden of paying for the transport system should be fairly spread across different generations (intergenerational equity), different income groups

(ability to pay), different geographic regions, and those using and not using the transport system.

- 13 Care will be needed when changing the way infrastructure and services are funded to avoid outcomes that may be highly regressive. Ideally, we would like changes in the transport system to enhance opportunities for people to actively participate in society and avoid negatively impacting the economy (e.g. by disrupting the efficient movement of goods, or by increasing freight costs, which can constrain GDP).

Current funding arrangements and the absence of pricing tools are insufficient

The NLTF is primarily a maintenance and gradual improvement fund, but there are increasing Government expectations for the NLTF to deliver larger transformational projects

- 14 The NLTF is a hypothecated (dedicated) fund for land transport that mostly operates on a pay-as-you-go (PAYGO) basis where revenue largely matches outgoings each year, with short-term borrowing that smooths cash-flows within the NLTF.
- 15 NLTF expenditure decisions are guided by Government priorities that are communicated through the Government Policy Statement on Land Transport (GPS), but are decided on and managed at arm's length from the direct political process, by Waka Kotahi.
- 16 The Government can add funding to the NLTF from any source.² But its base level of funding comes from motorists related to their road use. About 95 percent of the \$4 billion fund is made up of charges on:
 - 16.1 petrol purchases as a proxy for road use by petrol-powered vehicles (FED); and
 - 16.2 distance and weight travelled on the road by non-petrol powered light vehicles and all heavy vehicles over 3.5 tonnes (RUC).
- 17 The remaining 5 percent of the NLTF is made up of annual fixed Motor Vehicle licensing ('rego') (MVR) fees and other smaller revenue sources.
- 18 RUC, FED and MVR are formally taxes, though they have historically been viewed as customer payments for access to a system that has been built and maintained over a long period³
- 19 With the introduction of ongoing rail expenditure to NLTF outgoings, the NLTF will shortly include Track User Charges (TUC) faced by some users of the rail system. TUC will see freight rail users notionally contribute to ongoing rail expenses, because KiwiRail receives significant contributions from the Crown (via the NLTF).⁴

² Under Section 6 of the Land Transport Management Act, land transport revenue includes RUC and FED as well as all other public money that is required by any enactment to be treated as land transport revenue.

³ The purpose of the Road User Charges Act (2012) is to (among other things) impose charges on RUC vehicles for their use of the roads that are in proportion to the costs that the vehicles generate.

⁴ The NLTF is expected to fund about \$1.2 billion in ongoing rail maintenance over the next three years, which is nearly 25 times TUC contributions of about \$48m. The Crown will fund about 70 percent of ongoing rail maintenance, with the remaining 30 percent funded by motorists and TUC.

- 20 The PAYGO model and the FED and RUC funding sources are well suited to funding maintenance which cannot be delayed for long without leading to asset deterioration, with implications for journey times and costs, safety, resilience, and subsequent expensive remedial work. This funding model also accommodates smaller projects and enhancements, including safety enhancements and some public transport services.
- 21 The PAYGO model and current FED and RUC rates (without debt) are not well placed to fund the scope and scale of larger intergenerational investments with large initial outlays.
- 22 The NLTF has always been under some pressure, with spending expectations exceeding available revenue. More recently, we are seeing a greater tension between a constrained fund, the NLTF, and Government expectations for larger transformational projects that are not commensurate to the “wear and tear” and gradual improvement nature of FED and RUC revenues. Under the current GPS, FED and RUC rates have not kept pace with inflationary cost pressures. Maintenance costs are also demanding a greater proportion of the fund.⁵
- 22.1 Over 2021/22-2023/24, about 90 percent of forecast NLTF revenue is required to maintain levels of service across the system and fund pre-commitments (OC210079 refers). There is insufficient headroom to pay for the degree of desired transformational change to the land transport system (cumulatively, across priorities such as Road to Zero, rapid transit and climate change).⁶ This is despite the Waka Kotahi Board approving indicative expenditure allocations that trade-off service levels on the state highway and local road networks (OC210379 refers).
- 22.2 Based on Treasury’s March Baseline Update 2021, we advised you that forecast NLTF revenue over the 2021/22 – 2023/24 period is \$13.5 billion, which is \$400 million more than was forecast when GPS 2021 was agreed in August 2020 (OC210079 and OC210305 refers). Despite a more favourable revenue forecast, the total priorities in GPS 2021 are such that around \$1.7 billion in additional funding would be needed to deliver the GPS priorities and maintain the network at desired levels of service for the first three years of GPS 2021.

In the short-term, the NLTF has options to fund transformational and multi-outcome initiatives, and other funding options can be added

- 23 Any funding that is provided through the NLTF is used by Waka Kotahi to invest in land transport initiatives at arm’s length from the political process. Initiatives can also

⁵ We are moving towards recommended levels of renewals expenditure – about 8-9 percent of the network resurfaced every year and 1-2 percent of the network undergoing pavement rehabilitation — previously around 5 percent and 0.5 percent, respectively. In the past there was a higher percentage going towards roading improvements, including the Roads of National Significance (RONS) programme, which was entirely funded from the NLTF.

⁶ For example, planned expenditure (to be confirmed by the Waka Kotahi Board in August 2021) in the Road to Zero activity class is expected to be at the lower end of the GPS 2021 funding ranges, resulting in a \$600 million gap (over the NLTP 2021-24 period) between planned expenditure and the level of investment required to deliver the 40 percent death and serious injuries (DSI) reduction target (OC210379 refers).

be purchased directly, where Ministers or other agencies are better placed to specify the outcomes or manage the risks.

- 24 Large transport investments can be delivered by the Crown deciding to increase NLTF revenue or supplement the NLTF with general taxation. There are numerous examples of this occurring, including:
- 24.1 The Roads of National Significance programme, formed in 2009, was funded from the NLTF. This was supported by Government decisions to steadily increasing FED and RUC rates and Waka Kotahi decisions to delay smaller projects and maintenance, consistent with the Government's GPS priorities.
 - 24.2 The Tauranga Eastern Link and the Auckland Transport Package are examples of projects that were enabled by Crown borrowing backed by future NLTF revenue. Transmission Gully and Pūhoi to Warkworth are projects enabled by debt financing through long-term contractual collaboration with the private sector – known as public private partnerships.
 - 24.3 The Crown has used general taxation to purchase initiatives directly, where Ministers or other agencies are better placed to specify the outcomes or manage the risks. Examples include, Auckland City Rail Link (CRL) project, the Accelerated Regional State Highway Programme, the Urban Cycleway Programme, various rail improvements, regional transport projects through the Provincial Growth Fund, and the New Zealand Upgrade Programme (NZUP).
- 25 Crown contributions to land transport have increased in recent years, and future NZUP commitments suggest this trend is likely to continue. Between 2017/18 and 2019/20, the Crown contributed around 30 percent to land transport within Vote Transport (non-departmental), with the NLTF funding the remainder. In the four years prior (2013/14 – 2016/17), the Crown contributed under 20 percent to land transport within Vote Transport (non-departmental).
- 26 We expect that demand for transport spending will continue to exceed available revenue and that general taxation and charges on motorists will continue to play a significant role in funding transport spending priorities.
- 27 Our proposed work on revenue and funding tools, and on pricing, will have benefits beyond the NLTF. But to the extent that funding is made available to the NLTF, you will need to agree to principles and accountability mechanisms for:
- 27.1 using FED, RUC, TUC within the NLTF and the use of other funding sources – either as additional funding sources for the NLTF or alongside (e.g., value capture, congestion charging)
 - 27.2 the funding and financing of major intergenerational transport projects that have multiple objectives and create value to a range of beneficiaries over decades (this is being considered as part of the City Centre to Māngere project)
 - 27.3 the funding and financing of 'city deals' or 'packages' that have significant localised benefits, which will require consideration as part of the resource management reforms, under the proposed Strategic Planning Act.

Raising FED and RUC rates or general taxation can assist in the short-term, but may be increasingly ineffective at achieving the outcomes we want from our transport system

- 28 The FED and RUC system has evolved pragmatically over several decades, providing a relatively stable revenue stream to maintain the land transport system.
- 28.1 FED – taxes on fuel – is particularly cost effective, with administration costs at only about 0.04 percent of FED revenue collected and close to zero tax evasion.
- 28.2 New Zealand’s RUC system is considered world-leading by other countries who do not have a similar system and are now grappling with how to raise revenue from EVs or how to recover the greater costs imposed by heavy vehicles.
- 29 But the FED and RUC system is too inflexible on its own to fund and achieve the many objectives we want from the transport system: inclusive access, healthy and safe people, resilience and security, economic prosperity, and environmental sustainability. Specifically:
- 29.1 **FED and RUC do not send price signals** about many of the external costs that motorists impose on the system. This includes congestion and pollution, and vehicles’ use of scarce land that has an opportunity cost. These costs tend to be higher in urban centres. Charging for these external costs requires more sophisticated tools that disaggregate and vary charges based on time and location.
- 29.2 **Motorists pay varying amounts of FED and RUC**, not by design, but due to differences in fuel economy across the vehicle fleet. Owners of petrol-powered vehicles travelling 10,000 kilometres can face FED costs that range from about \$200 to over \$1,000 a year, depending on their vehicle’s fuel economy. While diesel vehicle owners travelling 10,000 kilometres a year will pay \$760, regardless of their vehicle’s fuel economy. Shifting all motorists to a standard per-kilometre rate would remove this anomaly, though doing so could dilute the incentive to purchase a relatively fuel-efficient vehicle at the margin.⁷
- 29.3 **FED and RUC may generate larger inequities with increasing mode shift that is uneven across the country**
- 29.3.1 In simple monetary terms, FED and RUC charge people to drive a car and are used to subsidise people using public transport. This may be fair in aggregate - as a group, motorists impose negative externalities that are not fully priced (ie, motorists are under-priced). Motorists also benefit from investment in public transport, walking and cycling and rail, as this reduces traffic on the road.

⁷ It is possible that negatively linking FED to fuel economy may incentivise people to purchase relatively fuel-efficient vehicles, at the margin. Though we do not know how important this is for vehicle purchasing or driving behaviour. Regardless of FED, there still remains a reasonably strong incentive to purchase a relatively fuel efficient vehicle because 60 – 70 percent of petrol costs are unrelated to FED. The Clean Car Discount and RUC concessions granted to EVs strengthen this incentive. If we were to consider setting charges that are negatively linked to fuel efficiency, we would likely apply this across all fuel sources (not just petrol) and in the context of an Emissions Trading Scheme – with rising carbon prices – operating alongside.

29.3.2 To the extent that FED and RUC are successfully used to get people out of vehicles, it will occur unevenly between cities and regions, with greater increases in public transport uptake expected in cities. For example, the CCC recommends that in Auckland there will need to be a near-tripling in the share of public transport travel by 2030, while in Wellington, the share of public transport travel will need to increase by around 60 percent. This compares to an increase in public transport travel of 20 percent across the rest of New Zealand. This is expected to occur unevenly

29.3.3 As a result of uneven mode shift, the current FED and RUC based revenue system will increasingly charge people who find it difficult to change their travel choices. This includes people living outside of major urban areas, who have more limited access to public transport networks and may have to travel longer distances by private vehicles to access jobs, shops, services, and amenities.

30 The Government is shifting its NLTF priorities away from roading. Figure 2 below shows the trends in historical NLTF expenditure, and projected NLTF expenditure over the next decade, based on GPS 2021 modelling.

Figure 2: NLTF Expenditure – past and projected⁸



31 The expected increase in spend on non-roading priorities over 2021/22 – 2030/31 significantly understates the level of investment (and resulting mode shift) expected to be required to meet a 41 percent reduction in transport emissions by 2035 (signaled in the CCC’s final advice). This highlights the continuing pressure away from a fund that is spent on ‘motorists’ benefits’, which was an expectation under the NLTF predecessor – the ‘National Roads Fund’. The trend is towards a fund that contributes to broader outcomes we want to see as a society, like improved safety and public

⁸ Projected NLTF expenditure is based on GPS 2021 modelling. Actual year-on-year expenditure is yet to be determined. We have taken the total 10 year forecast expenditure and assumed this is spent evenly year-on-year.

health, more vibrant and liveable cities, better access to social and economic opportunities, and reduced environmental harm.

- 32 It is timely to consider how we make use of a range of funding sources that reflect the beneficiaries and exacerbators (those imposing costs), while maintaining a sustainable revenue stream over time. Even if a new system still relies on motorists to fund most of the system, we will need to do this in a more sophisticated way that sends better price signals and does not undermine fairness.

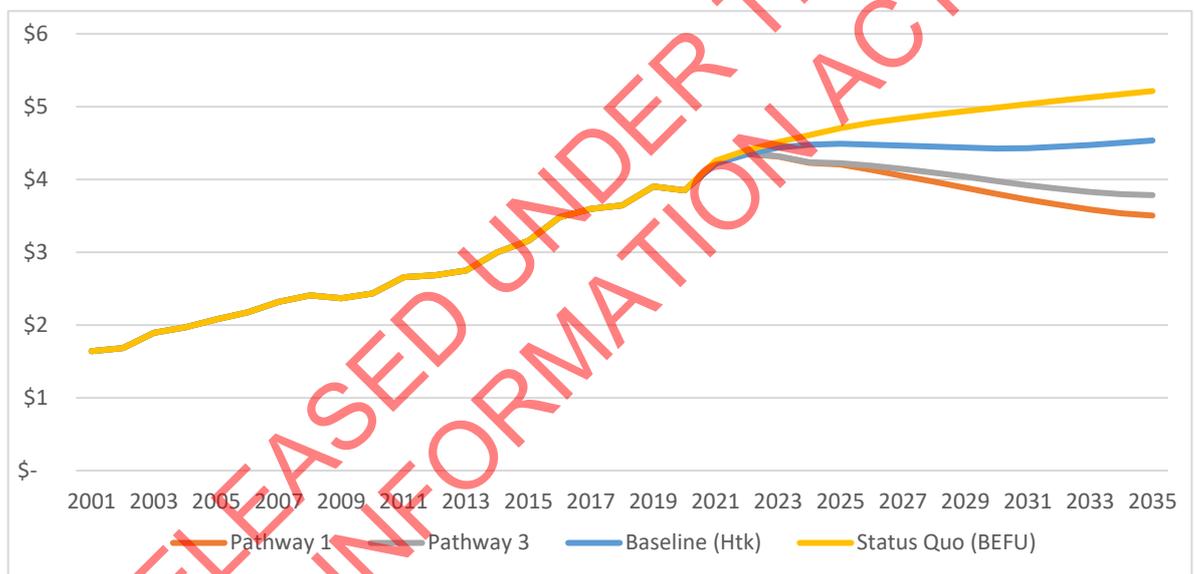
Demand management can forego the need for expensive infrastructure but is under-utilised

- 33 There will be real constraints on how much of the aforementioned \$15 – 30 billion capital investment can be delivered in the next decade. In addition to funding constraints, there will be limited supply of viable land, available labour and delivery capacity. We will need to make better use of the existing infrastructure and networks we have, and shape demand towards decarbonisation.
- 34 Traditionally, we have built more supply rather than use regulatory and demand-side tools. But overseas experience suggests that building more infrastructure is not always the best solution to mitigating congestion or achieving other outcomes, such as environmental sustainability and business productivity. Cities overseas have used congestion pricing to successfully reduce congestion, which better optimised their transport network. While congestion pricing is not primarily a revenue raising tool, the funds raised in overseas schemes have been used to improve their public transport systems. Singapore has seen private vehicle ownership falling in recent years, as more people use its public transport network, which it has improved with revenue from congestion charging. Singapore also use other regulatory tools to manage demand, including capping the number of car licenses and imposing registration fees of up to \$100,000 for a 10 year license.
- 35 The effects of emissions are starting to be incorporated in prices, following legislative reforms in 2020 which established an Emissions Trading Scheme (ETS) with a binding cap. Companies importing fuel to NZ must buy carbon units to cover their emissions. They pass this cost on to motorists at the pump – currently about 10 cents per litre. The price of carbon units (and therefore fuel) will rise, as fewer carbon units are made available under the declining emissions budgets (Figure 1 refers). We know fuel demand is relatively price insensitive, so rising carbon prices may not have a strong impact on demand initially. However, expectations of rising carbon prices may have a more immediate and significant impact on business incentives to invest in low-carbon solutions (e.g. biofuels), driving fuel substitution and mode shift.
- 36 There are major opportunities to adapt the existing transport system to reduce pressure on the network. This includes giving greater priority to people travelling by public transport, bike, and foot. For example, space on many urban streets could be reallocated to deliver more dedicated bus lanes, bike/scooter lanes, and walking improvements. This could be done relatively quickly, at relatively low cost, compared to building major new infrastructure.
- 37 By making best use of our existing infrastructure, we can ultimately forego, or significantly delay, the need for expensive roading expansion and resources that could be applied elsewhere in the system. There are other benefits – environmental and health – from encouraging reduced car use and increased walking and cycling.

Mode shift presents downside revenue risk to FED and RUC revenue, but this is unlikely to become significant until the end of the decade

- 38 The scale and timing of mode shift – away from private motorised vehicle travel and towards public transport, active modes, rail and coastal shipping – is difficult to predict. But mode shift may significantly affect FED and RUC revenue, which is mostly a function of kilometres travelled (or by proxy, petrol consumption for FED).
- 39 Pricing tools are likely to be necessary to generate significant mode shift, generating other revenue streams. These need to be designed.
- 40 Figure 3 below illustrates the potential impacts that increased mode shift and low emissions vehicles (biofuels and banning ICE vehicles) may have on NLTF revenue out to 2035 using varying assumptions about future Government policies and behaviour change.

Figure 3 Net NLTF revenue (\$ Billions) – assuming no FED and RUC rate increases



- 41 Figure 3 shows that historically, there has been no trend of declining petrol consumption and declining VKT. While fuel efficiency has marginally improved (around 0.5 percent per year since 2012), we are driving more kilometres in total as the population has grown. Total VKT increased per year from around 37 billion kilometres in 2013 to 45 billion kilometres in 2019.
- 42 In Figure 3, 'Status Quo (BEFU)' represents the most recent NLTF forecast we provided you in March 2021, based on macro-economic variables (OC210079 and OC210305 refers). Under 'Status Quo (BEFU)', the historical relationship between VKT and economic activity is expected to continue, resulting in forecast NLTF revenue growth of about 1-2 percent per year for the foreseeable future. In practice, revenue growth will also depend on FED and RUC rate increases, which have averaged at around 5 percent per year over the past 10 to 15 years.

- 43 The 'Baseline' forecast uses 'bottom up' assumptions about future fleet composition and travel behaviour, based on current government policy.⁹ It projects NLTF revenue growth will remain flat over the next decade due to slower RUC revenue growth and a decline in petrol use. These trends are driven by expectations of rising carbon prices, the impacts of the clean car standard and discount policies, and increased uptake of EVs driving shorter and fewer trips.

Introducing pricing tools to accelerate mode shift will accelerate the decline of FED and RUC revenue, but will also likely create new revenue sources

- 44 The remaining two forecasts in Figure 3 – 'Pathway 1' and 'Pathway 3' – represent an update of two of the scenarios modelled in Hīkina te Kohupara. They estimate the impacts of *potential* government policies on travel behaviour and ultimately transport emission reductions. They are heavily reliant on pricing policies to generate mode shift.

- 45 Under Pathway 1 and Pathway 3, the historical relationship between kilometres travelled and economic activity will start to decouple, at varying paces. It is expected that declining FED and RUC revenue at the rates shown in these pathways would be more than offset by revenue collected from emissions pricing strategies, though this revenue would not necessarily be ring-fenced to land transport. We will continue to monitor potential downside risks to future NLTF revenue and advise you on relevant choices and trade-offs when making specific policy decisions that have implications for land transport revenue.¹⁰

- 46 Relative to the 'Baseline', Pathway 1 and Pathway 3 project small annual declines in NLTF revenue growth, leading to a respective 12 and 7 percent revenue reduction in 2030/31 compared to 2021/22.

46.1 Pathway 1 and Pathway 3 both project sharp reductions in FED revenue, declining by over 48 percent in 2035, relative to actual 2019 FED revenue. As this occurs, petrol vehicle owners switch to vehicles using other fuels (eg EVs) that attract RUC, somewhat offsetting the reduction in FED revenue. If the Government adopts a biofuels standard and decides that the biofuel (ethanol) component of petrol should not attract FED, a portion of FED each year is foregone (around \$40 - \$50 million in 2035).

46.2 Pathway 1 and Pathway 3 both project small annual increases in RUC driven by population growth, but at a declining growth rate out to the end of the decade. Growth in RUC revenue under pathway 1 is flatter due to bolder assumptions about reductions in VKT. Beyond 2035, the annual RUC growth rate is expected to increase under both pathways with increased EV battery capacity.

46.3 Pathway 1 projects a steady decline in Motor Vehicle Registration and licensing revenue, driven by declining vehicle ownership. MVR is currently a small portion

⁹ The 'Baseline' forecast applies our Vehicle Fleet Emissions Model which was applied in Hīkina te Kohupara. This differs to the NLTF revenue forecasts we provide you on a frequent basis, based on macro-economic variables.

¹⁰ The Ministry is improving its modelling capability, by developing of an agent-based behavioural model of New Zealanders and the transport system, which will enable better understanding of the complex trade-offs and inter-relationships that exist when multiple policy and investment interventions are proposed.

of overall NLTF revenue. A decline in car ownership has an insignificant impact on the overall NLTF growth rate.

- 47 Pathways 1 and 3 are illustrative only. Relevant assumptions about how we achieve transport emissions will depend on future government policies. Nonetheless, if pricing policies are not implemented, other levers will be needed to reach the Government's transport emission reduction targets. Alternatively, emissions in other sectors of the economy will need to reduce at a faster rate to achieve the Government's target of net zero emissions across the economy by 2050.

Proposed revenue, funding, and pricing work programme – shorter-term focus (6-12 months)

- 48 We have proposed work with a shorter-term focus (next 6 – 12 months) that we expect will lay the foundations for more fundamental change to the revenue system, which may take several years to implement.

Funding and financing toolkit (Early 2022)

- GPS 2021 commits us to delivering a transport system funding and financing toolkit that will help local and central government explore a wider set of funding options for a range of infrastructure and services. It is likely to be an interactive series of web-pages that shares guidance and good practice.
- Our development of the toolkit will consider how to ensure Waka Kotahi and local councils are adequately incentivised to use the full range of relevant funding sources in a principled and coherent way. For example, through expectations or targets set in the next GPS.
- We intend to develop the toolkit collaboratively with Waka Kotahi and other agencies.

- 49 Currently, owners of different funding and financing tools – the Crown, Waka Kotahi, and local councils – do not systematically consider whether and how to fund (or co-fund) long-term transport investments using the full range of funding sources. Co-funding decisions tends to occur on an ad-hoc basis and not necessarily in a timely or systematic way.
- 50 Many funding sources that are under-utilised are likely to return revenue to local councils. Local authorities have a wide range of funding and financing options to choose from, yet use of them varies widely and many are not always being used or being considered.¹¹
- 51 We expect the toolkit to establish principles that can be applied to the funding of new public transport services and projects, such as the proposed City Centre to Mangere (CC2M) transport corridor. We have done work on value capture as a funding tool, and practical application through a big project like CC2M would be a big step forward in the use of such a tool.

¹¹ New Zealand Productivity Commission. (2019). Local government funding and financing: Final report. Retrieved from productivity.govt.nz.

- 52 Over time, we expect the toolkit to help facilitate systematic and integrated consideration of a broader range of funding sources that are well matched to the expenditure they are funding. This is consistent with the approach envisaged under the proposed Strategic Planning Act, which is expected to facilitate more integrated transport and urban planning between central and local government and other infrastructure providers over a longer time horizon (30+ years). The proposed Strategic Planning Act could also lead to better integrated funding decisions across agencies, but any expectations on funding arrangements under the proposed Act are yet to be determined.

Transport Revenue Strategy (Mid 2022)

- Over the next year, we propose to consider potential new sources of transport revenue that could sit within or alongside the current NLTF.
- New revenue sources could include greater Crown funding, parking charges, road tolling, road enforcement charges, greater vehicle licensing, and registration fees. This includes looking at whether some revenue sources could be used differently during a period of change (e.g. support financing).
- Treasury and Ministry for the Environment (MfE) officials are considering options for using ETS revenue. Options include returning the revenue to households as a dividend and ring-fencing the revenue to fund climate-related initiatives that meets prescriptive criteria. Both options could assist in reducing transport emissions in an equitable way – ETS revenue could fund transport emission reduction activities or provide financial assistance to households, including those on lower incomes heavily reliant on private car travel.

- 53 We expect that FED and RUC will continue to be key sources of revenue for the transport system for at least the next decade. But FED and RUC alone are not well aligned with equitably paying for large transformational investments that benefit multiple generations. We will consider how we may start to rely on new funding mechanisms in the short to- medium- term. In parallel, we will consider a new revenue system that integrates these new funding sources alongside FED and RUC – and whether there are different ways of using these.
- 54 Our review of new funding sources and how they may be used to fund the transport system is connected to the work led by Treasury and MfE on funding and financing a just transition to a low emissions and resilient economy.
- 55 We expect to work with other transport agencies, MfE, Treasury, MHUD and DIA as we develop potential new sources of transport revenue.

Pricing tools and other demand management strategies (ongoing)

- We are supporting the Transport and Infrastructure Select Committee inquiry into congestion pricing for Auckland, which is expected to report back to Parliament in August 2021.

- Congestion pricing could improve traffic flow and save money that is better used elsewhere in the system. It would require enabling legislation and a major implementation programme.
- Congestion charging is also likely to reduce carbon and harmful emissions by encouraging greater public transport use, less travel, and faster traffic flow (ie less stop-start traffic).
- You have an opportunity to commit to progressing enabling legislation for congestion charging in the upcoming Emissions Reduction Plan.
- In coming weeks, we will be providing you with the draft transport chapter of the Emissions Reduction Plan discussion document for public consultation. This will include actions that we think you should consult on for inclusion on the final Emissions Reduction Plan.
- Demand management tools that we are already progressing, or that we could progress over the next emissions budget period include:
 - Better network optimisation through incentives, rather than capital expenditure by Waka Kotahi and local councils (eg road reallocation rather than new infrastructure investment). We are currently working to incentivise, enable and require local government to accelerate street changes to support public transport, active travel, and placemaking.
 - Investigating ways to price the full social and environmental costs of vehicle use where it is currently under priced. This includes influencing local councils to better manage scarce parking space through parking policies. Historical parking policies have cultivated expectations of abundant and cheap parking. The opportunity cost of under priced parking includes fewer bus lanes and cycleways and more expensive urban development.
 - Removing regulatory and/or market barriers to car sharing.

56 We are in the early stages of developing and using demand management tools, which can contribute to several transport outcomes and forego the need for expensive infrastructure. Demand management is an under-utilised approach in New Zealand and will involve a step-change in the way central government influences the transport system.

57 The Government must publish the Emissions Reduction Plan by 31 December 2021. The transport section of that plan should include actions relating to demand management and transport pricing. The pathways modelled in Hīkina te Kohupara rely on pricing mechanisms to reduce transport emissions. If we do not apply pricing tools, other options to reduce transport emissions will likely need to be explored.

58 Any direct use-based charging (including the current revenue system) can be regressive and needs to be designed carefully. As part of an initial response to the Emissions Reduction Plan on pricing strategies, we will include an initial view on how we may mitigate equity concerns. It is possible to provide income relief using tools outside the transport system, including the broader tax and welfare system. More thinking is needed to know how the broader tax and welfare system could successfully interact with pricing tools within the transport system to mitigate equity concerns.

- 59 We are currently considering a range of ways of identifying and mitigating equity concerns in the context of congestion charging. Options we are exploring include: different ways to exempt certain vulnerable groups from charges and offering targeted discounts or capping daily charges to ensure access to the transport system is not undermined. We are also considering mitigating equity concerns by either returning revenue to affected people as a 'dividend' or improving public transport services, walking and cycling facilities, where any scheme is rolled out. This thinking sets us up well for considering equitable implementation of other pricing tools.

Proposed revenue, funding, and pricing work programme – longer-term focus (2021/22 – 2023/24)

Modernising the RUC system

- In late 2021, we intend to consult on legislative and operational changes to the RUC system to enable environmental costs, including emissions and noise pollution, to be reflected in distance-based charges. The consultation also includes other operational changes to reduce compliance costs.
- Over 2022/23 – 2023/24, we will be in a position to progress any legislative and operational changes to RUC. This will help ensure the RUC system can meet the expectations of a diverse range of users. Changes will enable innovation in transport pricing.

- 60 There are opportunities to modernise the RUC system, which caters well to companies and commercial transport operators but will increasingly need to serve a diverse range of customers as EV uptake increases. Legislative and operational changes are needed to deliver benefits in the RUC system. We will need to work with Waka Kotahi, who are responsible for the RUC system's operation.
- 61 There are opportunities to reduce compliance costs, simplify the RUC system, and facilitate innovation and improve service offerings. For example, enabling post-payments of fewer kilometres (rather than the current requirement to pre-purchase a minimum of 1,000 kilometres) and app-based purchases could have a range of benefits. These include reducing cash-flow constraints, encouraging higher compliance, and sending a price signal of the marginal cost of an additional trip, which may influence behaviour change.
- 62 There may also be commercial opportunities for third parties to manage the customer interface for RUC, similar to retailing of electricity and telecommunication utility services. Competitive tension in the system could reduce administration costs and encourage technological innovation. For example, opportunities to bundle the purchasing of RUC with other transport services or non-transport utilities within an app-based platform, such as car-sharing, electricity and telecommunication services.

New Transport Revenue System

- In 2023/24, we expect to be positioned to provide options for public and political engagement on a new transport revenue system. This is likely to involve engaging on

the scope of a central dedicated transport fund, how a range of funding sources are applied and activities or behaviours that could be charged differently than currently.

- 63 Our best estimate is that a new revenue system will need to be implemented by the end of the decade. To achieve this timeframe, we expect we need to engage with the public on options for a new system in 2023/24. Public acceptance will be critical for the success of a new system. Public engagement could take some time if the options presented are markedly different from what we have today. It is likely that we are only just within time to do the work that is needed.
- 64 FED and RUC are likely to continue to have a role, but as part of a revenue system that could look quite different from the one we have today (eg, be a mix of project specific approaches, ongoing revenue streams, and pricing tools to influence behaviour and optimise network use).
- 65 The current revenue system heavily relies on FED and RUC, which places the burden on private vehicle users to fund transport investments. Increasing mode shift, that is uneven across the country, may raise inequities with this approach.
- 66 Mitigating uneven impacts will require changes to how FED and RUC are set (and what they fund) and will require implementing new pricing tools that price negative externalities and price users that have access to alternative transport modes.
- 67 Alongside our consideration of revenue, funding and pricing tools, we will consider associated questions like:
- 67.1 the scope and purpose of a central dedicated transport fund, such as whether it is only for land transport or for broader objectives
 - 67.2 whether a dedicated (hypothecated) fund, funded by private motorists, is appropriate to deliver the wide range of outcomes we want from our transport system
 - 67.3 whether we fund outcomes (e.g., connectivity within and between regions) rather than funding types of expenditure (e.g, the mode-based activity classes currently in GPS 2021)
 - 67.4 how to effectively incentivise those responsible for managing assets to understand their underlying costs, sufficiently into the future
 - 67.5 how to facilitate a close relationship between underlying costs, strategic policy direction and the revenue system.
- 68 We will engage with you on these questions over the current political term, and are working through how we carry out some managed engagement with other agencies to enable the work to be done.
- 69 The current revenue system is relatively efficient, simple to understand, cost effective to enforce and relatively difficult to evade – a one cent increase in FED per litre of petrol (and equivalent increase in RUC) can raise around \$50-\$60 million of revenue per year. We may not be able to perfectly replicate all these features in a new revenue system, but getting close will be important.

- 70 We will also consider implementation and are aware that some options could be challenging to put in place. We looked at a GPS-based distance charging system for road users last year (OC200285 refers). We found that implementing such an approach could be one of the most costly government IT project ever undertaken and may raise less revenue than the current system. It is too early to say which technologies will be most cost effective at raising revenue and sending effective price signals, which may reduce future expenses rather than directly raise revenue.
- 71 We expect our shorter-term work outlined above to lay the foundations for applying complementary uses of revenue, funding and pricing tools.

Connection to work on financing

- 72 Our work considering new revenue streams and funding tools is linked to work underway on enabling long-term financing in the NLTF.
- 73 Funding and financing are fundamentally different, albeit related concepts. Financing refers to an arrangement to meet existing cash-flow requirements, which is then repaid through future cash flows. Funding provides the cash flows to repay financing. Therefore, the serviceability of any financing arrangements would depend on the availability of future revenue streams to generate sufficient cashflow to meet repayment requirements.
- 74 We have previously signaled the opportunity to enable increased borrowing within the NLTF to support the delivery of the NLTP (OC210079 refers), and have proposed a set of draft principles to guide the use of debt within the land transport system (OC210241 refers). The draft principles note that the use of debt should be financially sustainable for the NLTF and therefore it is important to ensure any future land transport revenue system is able to support the use of long-term financing. We are also remaining connected with Treasury and MfE's work on financing a just transition to a low emissions and resilient economy.
- 75 We are currently working with Waka Kotahi to develop options around the use of long-term financing in the NLTF, including the use of financing to support the Government's climate-related objectives for the transport sector. We expect to provide you with further advice in late 2021.

Next steps

- 76 This briefing provides timeframes for key deliverables in the work programme, for discussion with you in the context of your wider priorities. This work is being carried out in a changing transport environment, which may present other needs and opportunities over time. It will also require collaborative work and /or close engagement with a number of other agencies. We will engage with you on the scope and timeframes of the work as it is being done.