

Document 10

18 February 2022 OC211024

Hon Michael Wood Action required by:

Minister of Transport Friday, 25 February 2022

# ADDITIONAL TRANSPORT SECTOR ISSUES UNDER THE COVID-19 PROTECTION FRAMEWORK

# **Purpose**

Provide advice on issues relating to practical driver licence testing and small passenger services under the COVID-19 Protection Framework.

# Key points

- Under the COVID-19 Public Health Response (Protection Framework) Order 2021 (the Order), those sitting practical driving tests and those undergoing practical driver training must provide a COVID-19 Vaccination Certificate (CVC), as the business or service carrying out the driving test or training is a close-proximity business.
- Under Red and Orange settings in the COVID-19 Protection Framework, close-proximity businesses cannot open if they choose not to follow the relevant CVC requirements.
   Under Green, if a close-proximity business chooses not to follow CVC requirements, services will be restricted.
- The current CVC requirements mean that unvaccinated individuals cannot sit a driving test to obtain a driver licence, or undergo training provided by a business or service.
- An inability to obtain a driver licence potentially limits the ability of some unvaccinated individuals to access basic needs, including healthcare and food. This issue is particularly relevant in rural areas where people cannot easily access alternative means of transport such as taxis and public transport bus services.
- The Department of the Prime Minister and Cabinet (DPMC) is undertaking a review of CVCs, including any unintended consequences arising from their use.
- We recommend this issue be considered as part of the review. This will enable DPMC to consider it alongside wider issues arising from CVC use and take a holistic approach to decision making.
- If DPMC considers changes to the wider COVID-19 Protection Framework are necessary (rather than changes to CVCs themselves), these will be considered as part of a later review of the Framework settings in late March.

- We are aware a separate issue has been raised relating to small passenger services such as taxis. In the Order, these services are included in public transport and are designated premises. This means taxi drivers cannot ask to see a passenger's CVC or deny service to an unvaccinated individual.
- The New Zealand Taxi Federation has raised concerns about the health and safety of its
  drivers due to carrying unvaccinated and potentially infected passengers. It advises
  drivers would like to be able to ask for a passenger's CVC before accepting a fare.

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# Recommendations

We recommend you:

- note that access, equity and safety concerns have been raised relating to the COVID-19 Protection Framework settings for driver testing and training
- 2 note that concerns have been raised by the small passenger services industry regarding drivers' inability to ask for a COVID-19 Vaccination Certificate from passengers
- 3 note that the Department of the Prime Minister and Cabinet has indicated it will consider practical driver testing and driver training services as part of its review of the COVID-19 Vaccination Certificates
- 4 **forward** this briefing to the Minister for COVID-19 response

Yes / No

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Robert Anderson Manager, Mobility and Safety	Hon Michael Wood  Minister of Transport	
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Minister's office to complete:	☐ Approved	☐ Declined
	☐ Seen by Minister	☐ Not seen by Minister
	☐ Overtaken by events	
Comments		

# **Contacts**

Name OFFICIAL WITCH Telephone First contact Robert Anderson, Manager, Mobility & Safety

# ADDITIONAL TRANSPORT SECTOR ISSUES UNDER THE COVID-19 PROTECTION FRAMEWORK

The current settings mean unvaccinated individuals cannot obtain a driver licence or undertake driver training

- 1 Practical driver testing is carried out by Vehicle Testing New Zealand (VTNZ) on behalf of Waka Kotahi NZ Transport Agency (Waka Kotahi). Practical driver training and assessment services are carried out by businesses or services, some of which are approved to do so on behalf of Waka Kotahi.
- 2 Under the COVID-19 Public Health Response (Protection Framework) Order 2021 (the Order), practical driver testing and training are close-proximity businesses. A close-proximity business or service carries out activities that cannot be undertaken without close proximity between people or a worker being closer than one metre to the client.
- Practical driving tests or training, which take place within a vehicle, fall within this definition as the testing officer or instructor cannot be more than a metre from the person undertaking instruction or sitting a test.
- Under the COVID-19 Protection Framework (the Framework), at Orange and Red settings, close-proximity businesses and services can only open to the public if they require a COVID-19 Vaccination Certificate (CVC) from their customers. At Green, a close-proximity business or service can choose to operate without complying with CVC rules, however, services will be restricted
- We previously advised you (OC210986) that the current CVC requirement for driver training and testing is expected to exacerbate delays in individuals obtaining their driver licence or, in some cases, being unable to obtain their driver licence altogether. We advised you that we would monitor the impact of the current settings to understand the extent of the issue.

Some people who cannot obtain a driver licence face significant barriers to accessing life-preserving basic services and face other negative outcomes

- We have been advised by Waka Kotahi NZ Transport Agency (Waka Kotahi) that Vehicle Testing New Zealand (VTNZ) estimates around 400 people were unable to sit their practical driving test in January 2022 because they did not have a CVC.
- Based on December 2021 data, the Ministry of Social Development (MSD) estimates that about 25,000 of the beneficiaries who hold a learner or restricted licence and could seek a practical driver licence test in the next six months do not have a CVC.
- Slightly more than half of this group only have a learner licence and are therefore not able to legally drive unsupervised. MSD advises that in many cases this can have a detrimental impact on their access to services and employment. MSD also estimates that approximately 2,000 of the people that are anticipated to access MSD-funded driver licence support in the next six months may not have a CVC.
- 9 For many New Zealanders, obtaining a driver licence plays a crucial role in accessing essential services such as education, healthcare and food. Some groups already find

- it hard to access the driver licensing system. These include Māori, Pacific people, sole parents, and rural cohorts. Some of these groups have lower-than-average vaccination rates.
- Te Manatū Waka and Waka Kotahi are concerned about potential access and equity issues under the current settings. We are also concerned about potential negative impacts on road safety due to individuals driving unlicensed because they cannot obtain one under the Framework.
- In addition to creating a transport disadvantage, not holding a valid driver licence can contribute to a range of other negative outcomes for the individuals involved that have wider impacts for New Zealand society. For example, driver licence offending (e.g., driving without a licence or breaching licence conditions) can result in financial penalties and loss of licence, which in turn may hinder an individual's ability to access or retain employment.
- Driver licence-related offending can result in an individual's first interaction with the criminal justice system, for example, through referral of unpaid infringements to the court system. Police infringement data (2019 and 2020) shows that 74 percent of Graduated Driver Licence infringements are referred to court unpaid and 79 percent of unlicensed driver infringements are referred to court unpaid.

# The issue extends to driver training businesses and services

- Waka Kotahi advises that driver training (for example, driving schools, driving instructors, course providers, and community mentor programmes) forms a significant part of the driver licensing system alongside driver testing carried out by VTNZ.
- We recommend that driver training is included alongside driver testing when considering any changes, as the two activities contribute to an effective driver licensing system.
- Driver training is an important service for many people learning to drive, particularly those who do not have a family member or friend who can teach them. Without access to driver training many licence holders may struggle to pass the practical test. This will further impact the backlog of test wait times and barriers, such as cost due to rebooking.
- In the case of heavy vehicle drivers, such as bus and truck drivers, adequate training and assessment is an important step in obtaining the relevant class of licence. These licence holders are crucial to addressing public transport and supply chain workforce shortage issues.

# There are calls to allow a negative COVID-19 test in place of a CVC

- We have received correspondence from several individuals requesting that they be able to sit their driver licence test if they can produce a negative COVID-19 test in lieu of a CVC. We are aware your office and other Ministers have received queries about this. It has also been raised in the media.
- VTNZ advises it would support a negative test or CVC approach, noting the importance of staff health and safety.

However, while many perceive it to be the most desirable outcome, there is no existing mechanism within the Framework that allows a negative test in place of a CVC for a close-proximity service.

# We recommend this issue is considered as part of a review of COVID-19 Vaccination Certificates being undertaken by DPMC

- s 9(2)(f)(iv)
- We have provided DPMC with information about the impact of CVC use on driver testing and training and DPMC has indicated it will highlight the issue as part of the CVC review. This approach will enable it to be considered in the wider context of CVC use and will mean any changes to settings can be recommended in a more coordinated way across other portfolios.
- However, as introducing a negative test option would represent a significant change to the Framework, DPMC will likely recommend that such a change be considered as part of a wider review of the Framework as a whole, which is currently scheduled to be completed in late March.
- This will likely take into account requests for such an option from other sectors and the impact it would have on COVID-19 test availability, particularly in the context of the current Omicron situation.

# We considered the options available under the existing settings

We considered the following options but do not recommend them:

Table 1: Options under the current settings

Option	Details	Reasons for not recommending
Make driver testing and training a designated premises	Driver testing and training services would be unable to deny service based on an individual's vaccination status	VTNZ raised concerns about the safety of its staff and testing officers  There was concern this would lead to testing officers leaving the industry which would exacerbate existing testing officer shortages. There are already long wait times for sittings practical tests as VTNZ clears the backlog caused by previous lockdowns. A loss of testing capacity could create longer term access challenges.
Remove driver testing and training from	VTNZ and businesses or services providing driver training would be able to choose whether to require:	There is no guarantee this will result in the desired outcome. There is a possibility that VTNZ and/or all providers of driver

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close-proximity	training services choose to require
services	a CVC; or     a CVC, as they are currently
	required to do.
	a CVC or negative
	COVID-19 test result in It may also be difficult to justify
	lieu of a CVC; or lifting the close-proximity status for
	driver training, given there is little
	<ul> <li>neither a CVC nor a doubt that the vehicle occupants</li> </ul>
	negative COVID-19 test   are in close proximity. Doing so
	result could set a precedent for other
	close-proximity services.

# Small passenger services are unable to request a CVC

- Under the Order, small passenger services such as taxis are included in public transport as a designated premises. Designated premises are services that provide an essential or life-preserving service and are unable to deny service based on an individual's vaccination status.
- In December 2021, the Taxi Federation wrote to you expressing its concern at the inability of taxi drivers to ask for a passenger's CVC. The letter notes that while small passenger services form part of the public transport industry and provide an essential service, they receive no public funding and are mostly made up of small businesses.
- The Taxi Federation would like to see mandatory COVID-19 vaccination for both service providers and passengers. If that is not an option, the Taxi Federation requests that small passenger service be removed from the public transport category which will allow each operator to implement its own policy.

s 9(2)(f)(iv)

# **Key risks**

- There is a risk the review by DPMC does not result in changes to the settings for driver testing and training. This risks exacerbating existing issues around access to the driver licensing system. This is likely to disproportionally impact groups that already face access challenges, including Māori, Pacific people, sole parents, and rural cohorts. Some of these groups have lower-than-average vaccination rates.
- This could also result in further correspondence from affected individuals or potential interest from media or other stakeholders.
- If no changes are made to the setting for small passenger services, we expect some concerns will continue to be raised by the industry.

#### **Next steps**

32 s 9(2)(f)(iV)

The wider review of

the COVID-19 Protection Framework is expected to follow in late March.

We will continue to engage with DPMC throughout the process of the review and will keep you updated on any key issues or decisions.



Document 11

18 February 2022 OC220080

Hon Michael Wood Action required by:

Minister of Transport Wednesday, 23 February 2022

# DELIVERY OF THE NEW ZEALAND FREIGHT AND SUPPLY CHAIN STRATEGY ISSUES PAPER

# **Purpose**

To seek your approval of the revised issues paper as well as the accompanying Cabinet paper attached, in preparation for delivery to Cabinet on 21 March 2022.

# **Key points**

- We provided you with a draft version of the issues paper on 2 February 2022 (OC220033). We have since made amendments to the issues paper as attached, following your feedback received on 6 February 2022. We have also included a Ministerial foreword for consideration. These changes are highlighted in the body of the paper.
- We concluded formal departmental consultation on 17 February 2022. In summary, agencies are supportive of the direction of travel with the issues paper and the Strategy as a whole.
- Agencies' feedback has generally been minor, with suggestions to supplement points
  we have made or to recommend a stronger focus on particular aspects. We have
  incorporated these where appropriate.
- We have prepared an accompanying Cabinet paper to inform Cabinet about the strategy. It also seeks agreement to release the issues paper for public consultation, and to delegate authority to Ministers with a strong interest in supply chains to make joint interim decisions on minor issues in the strategy development process.
- Following your approval, we intend to follow the following timelines:

23 Feb	Ministerial consultation (two weeks)	
9 March	Lodge the issues paper and Cabinet paper	
	with the Cabinet Economic Development	
	Committee (DEV)	
16 March	Consideration by DEV	
21 March	Consideration by Cabinet	
4 April	Release for public consultation	

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 If more time is needed for approval and Ministerial consultation, we will adjust the above timeframe accordingly.

#### Recommendations

We recommend you:

- 1 approve the revised issues paper following feedback from you and departmental consultation, as well as the accompanying Cabinet paper
- 2 agree to lodge the issues paper and Cabinet paper for Cabinet Economic Development Committee by 9 March 2022

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Harriet Shelton Manager, Supply Chain Hon Michael Wood Minister of Transport

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Minister's office to complete:

□ Approved

□ Declined

☐ Seen by Minister

☐ Not seen by Minister

Overtaken by events

Comments

#### Contacts.

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Bryn Gandy, Deputy Chief Executive		

# TE RAUTAKI UEĀ ME TE RAUTAKI WHAKAWHIWHINGA O AOTEAROA NEW ZEALAND FREIGHT & SUPPLY CHAIN ISSUES PAPER

PREPARING OUR FREIGHT AND SUPPLY CHAIN SYSTEM FOR THE FUTURE



FOR CONSULTATION
SUBMISSIONS CLOSE [DATE TBC]

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#### MINISTERIAL FOREWORD

New Zealand's freight and supply chain system plays a vital role in enabling our economy and improving our standards of living by connecting us within New Zealand and with international markets.

During the COVID-19 pandemic, we have witnessed around the world, and experienced in New Zealand, the impacts of major disruption in the freight and supply chain system. These include congestion at ports, the loss in capacity and reliability of air and shipping services, difficulties securing shipping containers and so on – all contributing to a very difficult operating environment, delays in deliveries, and increased costs to businesses and consumers. The pandemic has also highlighted just how complex, extensive, and interdependent the whole system is – when something goes wrong in one part of the system, it has ripple effects on the rest of the system. The grounding of a containership in the Suez Canal in 2021, and the resulting delays it caused around the world, is one example of this.

While our freight and supply chain system is still grappling with these disruptions, it also faces some fundamental, longer-term shifts especially with climate change, demographic changes, technological advancement, and developments in the international context. These changes make it less likely that we will return to how things were like before the pandemic. There are tough challenges involved, but more importantly, there are timely opportunities to review and design the system in a way that would achieve the outcomes we want.

This issues paper is the first step in that direction. It identifies the key changes in the operating context of New Zealand's freight and supply chain system, and proposes an approach to developing a New Zealand freight and supply chain strategy for the next 30 years. Through the development of a strategy, we can build a long-term and holistic view of our system, agree on the outcomes that we want to achieve, and direct resources to priority actions to maximise impact.

Officials have engaged widely across supply chain stakeholders to inform the drafting of this issues paper. I thank those who have shared their time and insights with us during this very busy and challenging period for supply chains. I hope you will participate in this consultation profess and give your views. The output of the work can only be as good as the input we all provide from a diverse range of perspectives, experiences, and expertise.

COVID-19 has been hard for many of us involved in the freight and supply chain system, but it has helped us reflect on how the system is performing and vulnerabilities in the current system. To position our system well into the future, we want to take a more strategic systemic, and coordinated approach going forward.

This is the beginning of an exciting journey. Together as a team working across the freight and supply chain system, we can improve our system to perform better and respond effectively to key changes and future disruptions.

Hon Michael Wood

**Minister of Transport** 

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#### INTRODUCTION

Freight and supply chains are a complex system that directly affects all New Zealanders every day. The movement of goods is a fundamental activity that enables our society and economy to function and flourish, which in turn affects New Zealanders' quality of life. It enables New Zealand to prosper by engaging in international trade. Prices of goods are indirectly affected by various elements of the freight and supply chain system such as road quality, port efficiency, and rail capacity. For example, freight costs can comprise up to 12% of the total cost of supermarket goods<sup>1</sup>, or higher in times of supply chain disruption.

Over the next 30 years, New Zealand's freight and supply chain system will play a crucial role in the transport sector's transformation to a low carbon future. This new future will require the system to produce much lower emissions and adapt to climate change impacts, while at the same time managing the pressures of increasing consumer demand, geopolitical uncertainty, and increasing vulnerability to disruption. We must achieve this transition in a way that is fair, equitable, and inclusive for all, and that contributes to healthy and safe communities.

This issues paper aims to present a view of the big issues facing New Zealand's freight and supply chain system over the next 30 years. It will also lay out a strategic approach for responding collectively to these issues and taking advantage of opportunities. The paper reflects on our recent engagement with stakeholders who have different roles and relationships across the freight and supply chain. Between August and October 2021, we spoke with over 140 stakeholders in workshops, interviews and meetings. Their insights and suggestions have been invaluable in preparing this issues paper. We want to agree on and deliver a freight and supply chain strategy centred around a strong partnership with all stakeholders. Establishing this partnership is a key focus for us this year.

#### DEVELOPING A FREIGHT AND SUPPLY CHAIN STRATEGY

We need to prepare the freight and supply chain system of ace substantial changes, including decarbonisation

Our freight and supply chain system faces some big hanges, including:

- climate change and more frequent extreme weather events
- shifting patterns of production and consumption
- changing consumer demand and expectations
- population change and intensifying urbanisation
- technological development and digitalisation
- shifts in international geopolitics
- changes in international freight sectors

These trends had been identified by the International Transport Forum (ITF) and other international commentators long before the COVID-19 pandemic began. Many of these changes will put upward pressure on freight rates – the low rates New Zealand enjoyed and relied on for trade before the pandemic are no longer a certainty. New Zealand's unique geography and remote location will exacerbate the impacts of higher freight rates. This means that even after the pandemic, the operating environment for New Zealand's freight and supply chains is unlikely to return to ts previous "settings". The operating models we have relied on for decades may no longer be fit for purpose.

The need to change is increasingly urgent, given New Zealand's ambitious target of having net zero emissions by 2050 to mitigate the worst impacts of climate change. This requires a drastic transformation of New Zealand's entire

<sup>&</sup>lt;sup>1</sup> Kemp, A., O'Fallon, C., Counsell, K., & Chow, M. (2012). *Transport's proportion of total costs for New Zealand businesses* (Research Report No. 495). New Zealand Transport Agency.

https://www.nzta.govt.nz/assets/resources/research/reports/495/docs/495.pdf

economy, including how our supply chain operates. Freight has a crucial role to play with heavy trucks emitting around 25% of total transport emissions, even though they make up only 3% of our vehicle fleet. The reduction in emissions needed to meet a net-zero target will be sizeable, requiring significant investment, long-term planning, and shifts in operating practices.

All these changes pose challenges for the sector, but also opportunities for the system to adopt and embed better ways of doing things. The market and the government are already responding to these changes. International shipping and airfreight companies are investing in biofuels and other low emissions technologies. Some businesses are increasing their inventory to better absorb the impact of supply chain disruptions, while others are adapting their operating models to improve agility. The government is also developing and implementing measures to reduce freight emissions, support business resilience, accelerate digitalisation and uptake of technologies, and ensure fair, inclusive, and equitable transitions.

#### We also need to address vulnerabilities in the system to take on these challenges and maximise opportunities

While our freight and supply chain system has weathered the storm of COVID-19 relatively well, the pandemic has highlighted some of its vulnerabilities. For example, the predominant "just-in-time" operational model prioritises lean inventories and commercial efficiency. This means that shocks and disruptions have greater impacts and are more difficult to recover from. Effective responses to disruptions are also limited by a lack of agility in shifting between freight options. There is a reliance on international shipping lines for domestic freight coastal movement, and a lack of easily accessible freight data. Some parts of the system are fragmented while others are localised, such as ports whose shareholders tend to be regionally focused. This division reduces the sector's ability to create change that benefits the national interest. There have been chronic labour shortages in parts of the freight sector, which will require more collaborative and longer-term planning across government, industry, and unions to ensure the right conditions to build a sustainable pipeline of labour.

One of the system's main issues is the lack of data, which makes it harder to plan and assess how it is performing. Despite this we do have some indications that the system could be performing better. For example, Statistics New Zealand data show that productivity in the freight sec or has been declining over the last two decades. We need to find better ways to collect and share data and to measure and review the freight and supply chain system's performance.

#### Government and industry will have to adopt a more strategic and coordinated approach

A more strategic and coordinated approach to the freight and supply chain system is needed to deliver change of the magnitude and in the time required, and in a system where the government is only one of many agents. While the system is largely driven by private enterprises and will remain so, action and cooperation by participants across the supply chain will be hard for the market to achieve by itself. Investment in freight and supply chain infrastructure can have long lead times, high costs, and long-lasting legacies. This means that investment requires clear and long-term planning from all parts of the sector, including the government. Tackling climate change and changing population dynamics will require near-term decisions in an environment of change and unpredictability. Better coordination across government and industry could help provide more certainty.

We are proposing to develop a forward-looking strategy for the freight and supply chain centred around a close working partnership with stakeholders, to support a transition to a low emission, resilient, productive and innovative freight and supply chain system in New Zealand. Together we will ensure that this transition is carried out in an equitable and inclusive way that results in positive outcomes for all New Zealanders.

## The strategy will lay out:

- a set of outcomes to seek for the New Zealand freight transport and supply chain system
- the changes that need to occur to prepare the system for the future

- a set of pathways and priority actions to achieve intended outcomes
- a mechanism for stakeholders and government to work together on an ongoing basis

Through developing the strategy, we intend to:

- provide a long-term and system-wide view of New Zealand's freight and supply chain system
- · build a strategic direction to inform investment decisions by government, iwi, and the private sector
- align relevant government policies to maximise impact
- support coordination and information sharing among various agents in the system where appropriate.

#### The freight and supply chain system is already changing

In sum, changes are already happening. While adapting to changes can be hard, it can also be a catalyst to embed new and better ways of doing things. We have an opportunity to take a step back and consider the big picture. Developing a freight and supply chain strategy for New Zealand will enable us to adopt a more strategic and coordinated approach to effectively address the opportunities and challenges before us, and improve our ability to manage unexpected changes in the future.

While many studies have investigated aspects of freight transport over the years, New Zealand has never had a comprehensive freight and supply chain strategy. As we are doing this for the first time, we will need to take an iterative approach to the strategy: reviewing and adapting the work programme as we go along. This issues paper is the beginning of that process. Some elements of the work will progress more quickly than others, reflecting their different levels of urgency, complexity, and capacity available to tackle the various topics. For example, the urgency of climate change action means that we need to progress our work on freight decarbonisation quickly.

#### HOW DOES THE STRATEGY FIT WITH WIDER GOVERNMENT GOALS?

Supply chains are intricately connected with a wide range of sectors and activities: economic development, primary production, regional development, and urban planning, to name a few. Given the cross-cutting nature of supply chains, the freight and supply chain strategy will need to align with wider government goals, such as the goal of transitioning to a productive, sustainable, and inclusive economy. The freight network will also have to support changing industry needs driven by other government or industry-led economic strategies. These needs will include various sectors' ongoing industry transformation plans, or the development of a circular economy.<sup>2</sup> The strategy will also draw on broader concepts of wellbeing and what contributes to it, as outlined by Te Manatū Waka, Ministry of Transport's Transport Outcomes Framework.<sup>3</sup> and the Treasury's Living Standards Framework.<sup>4</sup>

The government's first Emissions Reduction Plan, to be released in May 2022, will outline the immediate steps needed to enable decarbonisation from 2022 to 2025, including in the freight sector. The freight and supply chain strategy will need to look further to meeting the goal of net zero by 2050. This will include meeting New Zealand's other climate change commitments, such as signing up to MARPOL Annex VI (on preventing air pollution from ships), and the international agreement that 100% of heavy vehicles entering New Zealand by 2040 will be zero emissions. The first National Adaptation Plan, to prepare New Zealand for climate change impacts, will also be published this year.

<sup>&</sup>lt;sup>2</sup> A circular economy is one that involves designing products for longevity, keeping products and materials in circulation as long as possible, including shared ownership or shared use, and recovering and regenerating materials at the end of a product's life.

<sup>&</sup>lt;sup>3</sup> Ministry of Transport. (n.d.). *Transport outcomes framework*. Ministry of

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

<sup>&</sup>lt;sup>4</sup> The Treasury. (n.d.). *Our living standards framework*. <a href="https://www.treasury.govt.nz/information-and-services/nzeconomy/higher-living-standards/our-living-standards-framework">https://www.treasury.govt.nz/information-and-services/nzeconomy/higher-living-standards/our-living-standards-framework</a>

In developing the freight and supply chain strategy, we will not be starting from scratch, and can build on previous or ongoing work. In turn, the strategy can also inform the development of other relevant policies. This includes, but is not limited to, work on developing or involving New Zealand's freight networks, such as the Government Policy Statement on Land Transport 2021, the Upper North Island Supply Chain Strategy (2018-2020 – see box below), the New Zealand Rail Plan (2021), the New Zealand Infrastructure Strategy (ongoing), as well as work on a new transport revenue system.

Te Manatū Waka, Ministry of Transport's Green Freight Project and the Hīkina te Kohupara discussion document have also set out opportunities and challenges in reducing heavy vehicle emissions. These documents also explain policy options for transitioning the freight sector to net zero in 2050. We can also draw on existing strategies to improve road safety, employment, and workplace health and safety.

## The Upper North Island Supply Chain Strategy (UNISCS)

The UNISCS began as a desire to develop a strategic approach to the supply chain system in the upper North Island, including its ports. This strategy was intended to identify ways to support a more efficient supply chain and advise on priorities for investment. The two primary studies on this issue include the reports from the UNISCS Independent Working Group in 2019 and Sapere in 2020.

Both studies focused heavily on the future of the Ports of Auckland and the issues surrounding when and to where it should move. Neither study, with their limited scopes, considered the wider supply chain or the flow-on national impacts of moving the port. A key takeaway of the UNISCS process was how difficult it is to deal with individual parts of the system, such as ports, in isolation of each other. Given the complex, interconnected nature of the freight and supply chain system, decisions of this magnitude will have to be considered within a broader set of decisions to make up an effective freight and supply chain network. This is where a national freight and supply chain strategy is useful as it gives us the opportunity to take a system-wide holistic view of our supply chain to understand the impacts of such decisions.

The government is committed to an evidence-based collaborative process with stakeholders to agree on the future of the Upper North Island ports. The broader strategic direction provided by this freight and supply chain strategy will inform how this work is progressed, which the government intends to do in its current term.

# HOW CAN YOU CONTRIBUTE?

Your feedback will shape how we develop and focus the freight and supply chain strategy. Anyone can make a submission, which could be a short note or a document responding to the consultation questions included in this issues paper. Submissions may be:

- lodged at the Te Manatū Waka, Ministry of Transport website [add url here]
- emailed to supply.chain@transport.govt.nz

Submissions close on [date TBC]. If you have questions about making a submission or would like to meet the strategy development team for a discussion, please contact us via <a href="mailto:supply.chain@transport.govt.nz">supply.chain@transport.govt.nz</a>

We have received several submissions relating to freight decarbonisation and developing a freight and supply chain strategy through the Emissions Reduction Plan submission process. We will also take these submissions into account as part of this issues paper consultation.

Please note that Te Manatū Waka, Ministry of Transport will proactively release all submissions on its website. We can only withhold material in confidence in special circumstances, such as it being commercially sensitive or containing personal information. Please contact us before submitting such material.

We thank you for your interest in the issues paper and look forward to receiving your comments.



## PART 1. UNDERSTANDING NEW ZEALAND'S FREIGHT AND SUPPLY CHAIN SYSTEM

#### WHAT IS THE FREIGHT AND SUPPLY CHAIN SYSTEM?

Supply chains are the networks of individuals, companies, resources, infrastructure, activities, and technologies involved in supplying things from those who produce or manufacture them to those who use them. Our freight sector and its infrastructure underpin the operation of supply chains by enabling the physical movement of primary, intermediate, and finished goods, both within New Zealand and to and from overseas markets.

Trucks, trains, ships, and planes move about 280 million tonnes of freight a year around New Zealand. Almost everything we have, or need to live our lives and operate our society and economy, is brought to us via this system. It is a complex and dynamic web of links and nodes involving multiple modes of transport, infrastructure networks, logistics nodes such as warehouses and cold stores, and agents including producers, freight forwarders, distributors, container yard operators, transport operators, and many more.

Supply chains involve far more than transport. Of the five key supply chain management aspects – the plan or strategy, the sourcing of raw materials or required services, manufacturing, delivery and logistics, and the return of defective or unwanted products – the delivery and logistics task is the key focus of this issues paper.

The trucking sector – 92.8% of freight volumes within New Zealand are transported by trucks. The road freight industry employs around 30,000 staff across about 4,700 firms. Over 60% of those firms have fewer than two employees.

The rail sector – 5.6% of freight volumes within New Zealand are transported by rail. There are around 4,000 rail employees.

The coastal shipping sector - 1.6% of freight volumes within New Zealand are transported by coastal shipping. There are around 13 vessels in New Zealand's domestic coastal shipping fleet, of which only 1 is a container ship.

The international shipping sector — sea freight carries 99% of the country's trade by volume and around 80% by value. New Zealand is serviced by international container shipping lines and other bulk ships.

The airfreight sector – air freight carries less than 1% of our trade volume, but about 16% of our exports and 22% of our imports by dollar value. It is heavily tied to passenger travel. Domestic air freight volumes are very small.

Roads – New Zealand has 94,000 KM of roads with over 4,200 bridges on the State Highway network. Railway lines – New Zealand has 3,700 KM of railway with more than 1300 bridges and almost 100 tunnels.

Coastal shipping –
Cargo moved by
coastal shipping
include bulk
commodities like
cement, grain,
fertiliser and
aggregate.
Containerised cargo
include domestic
goods, export and
import
transhipments, and
empty containers.

Ports -New Zealand has 15 ports. 9 of them are international container ports. The biggest container ports are Tauranga (39% of container volumes), Auckland (22%), and Lyttelton (14%). Tauranga is the largest bulk export port, while Northport (Whangarei) is the largest bulk import

port.

Airports – New Zealand has 3 international freight airports. Auckland handles 85% of air freight, Christchurch 14%, and Wellington 1%.

#### WHY IS THE FREIGHT AND SUPPLY CHAIN SYSTEM IMPORTANT?

New Zealand's economy relies on the efficient running of the freight and supply chain system. Exporters depend on a predictable, timely, affordable supply chain to get their goods to overseas markets. Importers (of both finished goods and raw materials for manufacture) need certainty that the supply chain will deliver what they need on time and at an affordable cost. The profitability of these businesses is essential to preserve and grow jobs in New Zealand.

In addition, the performance of the freight and supply chain system has a direct impact on New Zealanders' standard of living. Every day we depend on the freight and supply chain system for stocked shelves at the supermarket, retail stores, pharmacies, and the delivery and receipt of mail and purchases. We also depend on the system to import vehicles and to transport fuels around New Zealand.

#### Housing and wellbeing

About 90% of New Zealand's building materials and products are imported. The construction sector has recently experienced the impacts of supply chain disruption with delays and price increases for building materials and products.

The houses we live in are the foundation of our wellbeing and a focus on housing is a priority for the government. Optimising the operation of New Zealand's freight and supply chain system can improve New Zealanders' wellbeing.

The recent supply chain disruption and increased freight costs triggered by the COVID-19 pandemic have contributed to the inflationary pressures that are happening around the world including in New Zealand. This experience has shown that the performance of the freight and supply chain system not only affects our ability to export and import, but also has the potential to exacerbate existing socioeconomic issues such as housing affordability.

Ultimately, the performance of the freight and supply chain system directly impacts our ability to transition towards a more productive, sustainable and inclusive e onomy.

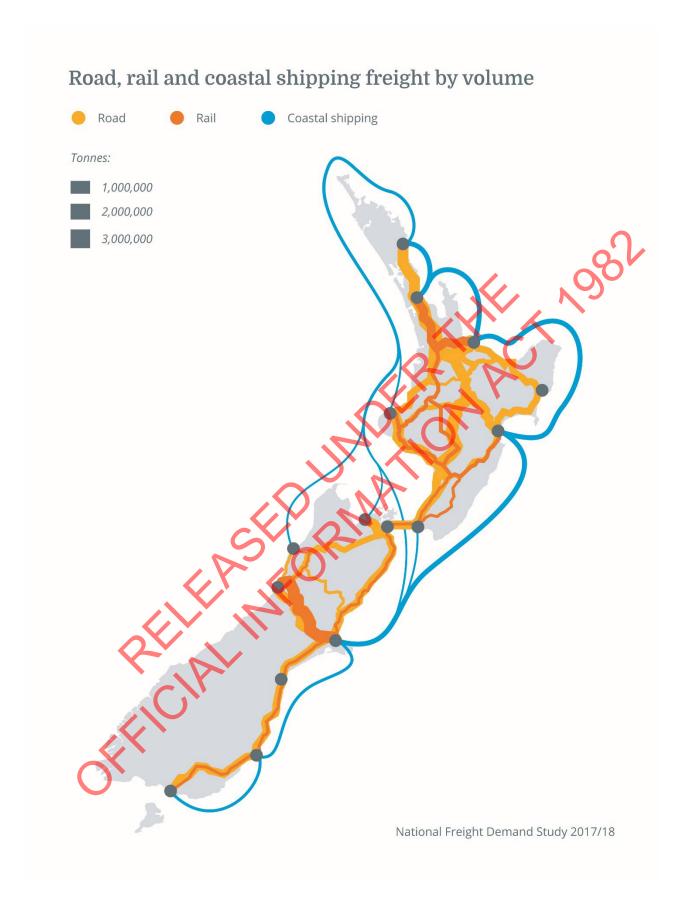
# HOW DOES FREIGHT MOVE DOMESTICALLY AND INTERNATIONALLY?

Within New Zealand, freight can travel by road, rail, coastal shipping, or air. Sometimes goods will travel by several different modes and be transferred from one mode to another at hubs before reaching their destination.

Our main domestic freight routes are dic ated by our unique geography, widely dispersed populations, regional production and manufacturing, and the location of ports for import and export. The diagram on the next page is illustrative of where and how much freight is moved around New Zealand via road, rail, and coastal shipping (by both domestic and international ships) in a year.

A considerable proportion of our economy is based on primary production. These products can be very heavy and high in volumes – creating a significant freight task in moving goods along the supply chain.<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> About 35% of freight (in tonnes) is comprised of primary products. Ministry of Transport. (2019). *National Freight Demand Study 2017/18*. <a href="https://www.transport.govt.nz/assets/Uploads/Report/NFDS3-Final-Report-Oct2019-Rev1.pdf">https://www.transport.govt.nz/assets/Uploads/Report/NFDS3-Final-Report-Oct2019-Rev1.pdf</a>



Internationally, 99% of New Zealand's imports and exports travel along global shipping routes to reach consumers. The remaining 1%, generally made up of high-value, time-sensitive, or critical goods, travels via air – most of which is carried in the belly hold of passenger airplanes.

The maps on the next page show the previous or next international port for the top 90% of containerised imports/exports where they are either offloaded, or put on to another ship (transhipped) to travel to New Zealand, or to their next destinations further afield e.g. Europe and the Middle East.

Disruption in any part of this global network has significant impacts on the New Zealand supply chain, because there is little spare capacity in the global freight network to absorb disruption. This is why disruption at ports in the US, China, Southeast Asia, or Australia, or in strategic routes like the Panama Canal and the Straits of Malacca can have such a large impact. The Suez Canal blockage caused by the Evergiven container vessel in March 2021, and the resulting delays to goods reaching New Zealand, is one such example of this 'contagion effect'.

In the global context, Australia/New Zealand and Oceania make up only about 4% of total global container shipping capacity. In addition, New Zealand is located far away from the main international shipping routes that flow from Asia in the east to Europe and the US in the west. Our small size and remote geographical location present a challenge in accessing reliable international transport services at competitive costs, especially when the international supply chain is experiencing disruption.

Ports are the gateways through which most of our imports and exports flow. While in New Zealand, imports and exports travel on the same road, rail, and coastal shipping networks as domestic freight. The majority of imports arrive through the ports of Auckland and Tauranga and are bound for main centres in the upper North Island, while the Port of Tauranga is our largest export port. Compared to imports, our exports are relatively more evenly generated across the North and South Islands. These tend to leave through the nearest regional port, either directly on an international ship or to be transhipped at our major ports. In the case of container shipping, this geographical imbalance in imports and exports creates the need or additional reight movements of empty shipping containers from importers in the upper North Island, after they have removed their goods, to exporters around New Zealand. An illustrative example of the complexities involved in the journey of a shipping container within New Zealand is at Appendix 2.

#### **Containerised vs Bulk Shipping**

Containerised shipping only began in the 1950s but it quickly revolutionised the sector. It allowed large volumes of different types of goods to be packed and stacked neatly in standardised boxes, and taken on and off ships, trains and trucks in a seamless way with less labour. The increased efficiency helped lower transport costs and pave the way for global supply chains.

Bulk shipping, where the cargo is transported in big quantities and without specific packaging, is generally used for commodities like logs, grains, cement, or coal. (There are a variety of other ships that cater to specialised cargoes like cars and vehicles, fuel, and livestock.)

Given the standardised nature of container shipping, container ships tend to operate on a schedule, visiting multiple ports in each rotation. Bulk shipping operates more like a taxi service, where cargo generally travels directly from its origin to its destination.

In 2020, containerised exports made up 29% of New Zealand's sea export tonnage but 83% of the value (FIGS).

<sup>&</sup>lt;sup>6</sup> Alphaliner. (2021, December). *The Worldwide Reference in Liner Shipping (Monthly Monitor).* 



In 2019 (the last year pre-COVID-19), New Zealand exported 28% of all goods (by value) to China, 15% to Australia and 9% to the US. It imported 20% from China and 12% from Australia. In containerised trade, about 40% of our exports and 34% of imports are shipped through or to South East Asia. 18% of exports and 23% of imports go through or to the Port of Singapore.

exports are shipped directly to or through North and Central America, while this is the case for 6% of containerised imports.

The main container exports by quantity were dairy products, meat, and wood products.

#### WHAT IS THE ROLE OF GOVERNMENT IN THE FREIGHT AND SUPPLY CHAIN SYSTEM?

While the freight and supply chain system is largely operated by private entities and individuals, the government has a role to play in ensuring that the system functions well and serves the interests of New Zealand and its people. This includes:

- Supporting what is needed for commercial activities to occur The government sets the "rules" of the
  market through regulation, to ensure the system works well and is competitive, and that businesses and
  - consumers are able to participate in the market with the same understanding of how things work. The government also invests heavily in public infrastructure such as roads, bridges, tunnels, and railway tracks. The building, maintenance, and repair of these are fundamental to the movement of goods in freight and supply chains. The government provides services important to New Zealand which may otherwise struggle to be commercially viable, such as rail and postal services, through State-owned Enterprises.
- Ensuring broader public good outcomes and national interests are achieved The government works to ensure that broader public good outcomes are also achieved, which may not be prioritised by the commercial sector. These include outcomes such as environmental sustainability, health and safety of the workforce, fair and equitable distribution of economic growth and opportunities, etc.
- Facilitating New Zealand's participation in global value chains – This provides our businesses with access
  - to global networks, markets, capital, knowledge, and technology, which is valuable for a small country like New Zealand. The government supports this by building international relationships and agreements to ensure good connections, standards, trading conditions and opportunities, and effective management of trade routes.
- Facilitating collaboration and coordination across the sector There is a role for government to play in coordinating action across the sector, especially one as large and complex as the freight and supply chain system. This is also relevant in cases of emergency management and national resilience in response to major catastrophic events such as the COVID-19 pandemic, and other natural disasters.
- Providing a system-wide, longer term view Similarly, the government is in the position to take a system-wide view of the freight and supply chain system, to monitor performance across the freight sector, and provide longer term planning and investment in the system.

# The government has Treaty obligations to Māori to improve outcomes for Māori within the freight and supply chain system

The government has obligations under Te Tiriti o Waitangi to work in partnership with Māori, to deliver improved outcomes and enhanced wellbeing for Māori within the freight and supply chain system. Māori are key participants in the system, including through Māori businesses which rely on the freight system to get goods to market, and connectivity to regional economies where Māori representation is strong. Māori are also owners of freight infrastructure and have a responsibility of care over environments through which freight is moved. There is also significant Māori participation in some freight sector workforces. According to data from the Ministry of Business, Innovation and Employment, about 23,000 Māori are employed in the Transport, Warehousing, Information Management and Communications sector.

#### Port sector reform

In 1988 a new port regulatory framework was introduced to improve port productivity. This removed central government's role in port capital investment decision making, and local government's role in operating ports (via harbour boards). Instead ports had to operate as private companies which led to significant increases in productivity. Currently, all ports are owned by local councils to varying extents. The way supply chains work has changed since the reforms, with the rise of globalisation and "just-in-time" models, and it may be timely to consider how to further improve our port settings.

#### New Zealand also has obligations to our neighbours in the Pacific

New Zealand is a key hub for the transfer of people and freight by air and sea to our Pacific Island neighbours. This has increased in the context of COVID-19 where measures to minimise health risks in these countries have adversely affected their supply chains. New Zealand has obligations at the treaty level with the Pacific, with special constitutional responsibilities for the Cook Islands, Niue and Tokelau. The government will have to ensure that any adverse impacts on the Pacific's access to essential supplies, resulting from changes to New Zealand's supply chain and climate change policies, are avoided or mitigated.

#### Government can do more to add value to the freight and supply chain system going forward

There has been a relatively low level of government intervention in the operations of the freight and supply chain system. But there may be more that the government could do, in collaboration with the sector, to improve the system. This is because fundamental changes need to happen in the freight and supply chain system in order for New Zealand to achieve a low-emission, climate-resilient economy, in a fair, equitable, and inclusive way that works for all New Zealanders. This will in turn require action and cooperation of all participants across New Zealand's supply chains, which will be hard to achieve by the market on its own.

#### PART 2. THE STRATEGIC CONTEXT FOR CHANGE

The context in which our freight and supply chain system operates is changing. This part of the issues paper examines major changes affecting the system now and in the future, and what opportunities and challenges these changes present. To enable the system to continue delivering services and contributing to wider economic and social goals, we need to capitalise on the opportunities while meeting the challenges.

#### CLIMATE CHANGE WILL IMPACT ALL ASPECTS OF OUR SUPPLY CHAIN

Our climate is changing, and we have seen more intense and frequent extreme weather events impacting all countries. This will impact on all aspects of our supply chain:

- It will affect what we produce and where The National Climate Change Risk Assessment reported that climate change will reduce the quality and quantity of output across our horticulture, viticulture, agriculture and forestry sectors. This could lead to significant shifts in what primary products are produced and where. Investment in infrastructure in some areas may not deliver on expected benefits because of an unanticipated decline in production. Conversely, some regions may transition to new land use more quickly than expected. To avoid missing opportunities for regional economic development, freight infrastructure and services will need to be invested in to unlock the potential of new producing regions.
- It will increase the risk of damage to infrastructure and supply chain disruption We may need to relocate at-risk infrastructure and build new infrastructure. Ports, transport corridors, airports, and associated infrastructure are increasingly exposed to extreme weather events, sea-level rise, landslides, and coastal erosion. It will be necessary to identify infrastructure critical o our supply chain within our planning system, and ensure we are ready for potential risks, perhaps by relocating some infrastructure.
- It will increase the likelihood of global supply chain disruptions As climate change affects other parts of the world, we are likely to see more disruptions to the global supply chain. This will affect our ability to export and import goods.

In 2021, the first National Climate Change Risk Assessment was published, with the first National Adaptation Plan to follow this year. The government is also developing a Climate Adaptation Act to address funding options and issues associated with managed retreat from areas at risk from future climate change.

We have committed to ambitious goals to decarbonise our economy – this requires changing how we move goods

Countries all over the world have committed to decarbonising their economies to keep global warming to 1.5 degrees Celsius above pre-industrial levels. As part of the global effort, New Zealand has committed to reduce its net emissions of all greenhouse gases (except biogenic methane) to zero by 2050.

Meeting these goals will require a drastic transformation of how our supply chain operates. This transformation will include the decarbonisation of all freight modes and the operations of the infrastructure that supports them (such as ports and airports). If we do not reduce emissions from our freight and supply chain, it will pose significant economic risks with costs passed onto the consumer:

- Exporters could face challenges with demands to reduce 'food miles' as consumers seek lower emissions goods
- Freight operators will be affected by rising fuel prices as the price of carbon increases
- Freight operators may experience cost increased as international shipping is brought into other countries' carbon pricing schemes

Ministry for the Environment. (2020). National Climate Change Risk Assessment for New Zealand.
 <a href="https://environment.govt.nz/assets/Publications/Files/national-climate-change-risk-assessment-main-report.pdf">https://environment.govt.nz/assets/Publications/Files/national-climate-change-risk-assessment-main-report.pdf</a>
 Ibid.

 New Zealand may become less desirable for international shipping companies that transition to low or zero emissions fuels and ships.

Major ways to decarbonise the sector include using renewable electricity and zero or low emission fuels, such as bioenergy and hydrogen, and improving energy efficiency. This process will require significant investment in new infrastructure and technologies to support production and deployment.

The Green Freight Project, published by Te Manatū Waka, Ministry of Transport in 2020, identified opportunities and challenges for reducing the heavy vehicle fleet's emissions. In 2021, Hīkina te Kohupara set out a range of policy options for transitioning the transport sector to net zero by 2050. Our first emissions reduction plan, to be published in May this year, will outline steps to begin work now to decarbonise heavy transport and freight However, more needs to be done to analyse all the options for the longer term decarbonisation of the sector.

#### Decarbonising our road fleet presents the biggest opportunity for reducing emissions in the freight sector

Heavy vehicles present only 3% of New Zealand's vehicle fleet, but deliver 93% of freight volume movements and contribute around 25% of total transport emissions. The Emissions Reduction Plan will set targets for reducing freight sector emissions by 2035, and put the sector on a path to meeting New Zealand's net zero target by 2050.

The Sustainable Biofuels Mandate will take effect from April 2, 2023, reducing the emissions intensity of fuels sold in New Zealand. The mandate will help to reduce these emissions, but we also need to accelerate the uptake of low and zero emissions heavy vehicles in New Zealand. Battery electric and hydrogen heavy vehicles have advanced considerably in the last decade. We have already seen successful large-scale commercialisation and deployment of heavy electric buses. Vehicle manufacturers are committing to large scale commercialisation of zero emissions trucks in the 40-ton GVM class in the next few years.

At the 26<sup>th</sup> UN Climate Change Conference (COP26), New Zealand signed an international agreement to increase the proportion of zero emissions heavy vehicles entering the country. The government pledged that these vehicles would make up 30% of sales by 2030 and 100% by 2040. This target is ambitious, and combined with our other targets, tells manufacturers and suppliers that New Zealand is ready to take these vehicles. Through the COP26 commitment we are working with a forum of international governments and manufacturers to share information and learn from other fast-moving countries on the best way to meet these targets. To prepare for this, we need to understand what low emissions heavy vehicle infrastructure will be required, and build that into our long-term planning. These kinds of infrastructure have significant costs and the government and the private sector will need to consider how they will be funded

We will also need to reduce emissions from our current fleet. The Sustainable Business Council's Low Emissions Freight Pathway shows significant reductions can be achieved through vehicle efficiency measures, such as:

- Reducing weight of vehicles
- Making better use of carrying capacity
- Adopting telemetrics to optimise routes
- Collaboration to maximise utilisation of transportation assets

<sup>&</sup>lt;sup>9</sup> Volvo Trucks Global. (2021, April 19). *Volvo trucks ready to electrify a large part of goods transports*. https://www.volvotrucks.com/en-en/news-stories/press-releases/2021/apr/volvo-trucks-now-ready-to-electrify.html; Scania. (2021, January 19). *Scania's commitment to battery electric vehicles*. https://www.scania.com/group/en/home/newsroom/news/2021/Scanias-commitment-to-battery-electric-vehicles.html

making use of multi-company hubs<sup>10</sup>.

# Coastal shipping and rail offer lower emission modes of transport, but will require investment to increase its attractiveness to freight users

We will also have the opportunity to shift some products from road transport to lower emissions modes such as rail and coastal shipping<sup>11</sup>. This would provide multiple economic and social benefits beyond decarbonising transport, such as reducing congestion, roading maintenance costs, air pollution and safety risks from road vehicles (especially trucks). Desktop modelling by Ernst & Young<sup>12</sup> found coastal shipping provides an externality benefit of up to \$306.4 million per annum when compared to the roading alternative. A similar report<sup>13</sup> also found that rail could provide externality benefits of up to \$2.14 billion, although a large portion of these is attributed to the commuter rail networks in Auckland and Wellington reducing congestion.

The extent of mode shift we can achieve will be limited by which products can viably be moved this way, so further study will be needed. Rail and coastal shipping are modes that are more cost-competitive for bulk goods and for longer distances. They are slower modes of transport and need to aggregate greater volumes of ca go to maximise their utilisation on each journey. This leads to challenges in schedules being timely enough to meet market expectations. Rail and coastal shipping tend to compete for similar types of goods, so the extent of mode shift to each mode may be limited.

It will take time and substantial investment to improve New Zealand's rail and coastal shipping capacity, and enable these modes to compete more effectively with road. Rail infrastructure has deteriorated over past decades due to a lack of long-term sustainable investment. To address this, over \$6 billion has been committed to rail since 2017. The New Zealand Rail Plan (2021) outlines a 10-year vision to support increased investment in the rail network's resilience. A major component of this plan is a new long-term planning and funding framework for the heavy rail track network. As a first step, investment over the next decade is focussed on restoring a resilient and reliable rail network. Further investment will be required to support growth in rail freight.

The Government's investment directed through the New Zealand Rail Plan also includes replacement of KiwiRail's Cook Strait ferry assets and contributions towards the landside infrastructure. Connections across the Cook Strait are important for New Zealand's economy and transport system, and provide a vital link for people and freight between the North and South Island. These ferries use hybrid technology to run on both diesel (for main propulsion) and electrical power generated by batte ies and shore power (for entering into port, manoeuvring and when docked in port). It is expected that the two new ships will use 36% less fuel that the current fleet of three ships, leading to a 40% reduction in the interislander's carbon footprint compared to 2012 levels.

The Government has also allocated \$30-45 million in the National Land Transport Fund 2021-24 for coastal shipping. Waka Kotahi NZ Transport Agency will consider proposals from the sector to improve coastal shipping. These could

 $\underline{\text{https://www.transport.govt.nz/assets/Uploads/Report/EY-Report-Externality-value-of-rail-2020.pdf}$ 

<sup>&</sup>lt;sup>10</sup> Comedant, C, Taylor D., & Stevenson T. (2020). *Low Carbon Freight Pathway*. Sustainable Business Council. https://www.sbc.org.nz/media/sbc/our-word/low-carbon-freight-pathway-documents/Low-carbon-freight-pathway-report.pdf

<sup>&</sup>lt;sup>11</sup> Diesel road freight emits on average 135g of CO₂ equivalent (which includes carbon dioxide, methane and nitrous oxide) per tonne-kilometre. This is compared to 28g by rail (21% of road) and 16 to 46g by coastal shipping (12 to 34% of road, levels of emissions vary according to type of shipping). Ministry for the Environment. (2020). *Measuring Emissions: A Guide for Organisations: 2020 Detailed Guide*.

https://environment.govt.nz/assets/Publications/Files/Measuring-Emissions-Detailed-Guide-2020.pdf

<sup>&</sup>lt;sup>12</sup> Ernst & Young. (2020). *The externality value of coastal shipping*. Ministry of Transport.

https://www.transport.govt.nz/assets/Uploads/Report/TheExternalityValueOfCoastalShipping.pdf

<sup>&</sup>lt;sup>13</sup> Ernst & Young. (2021). *The Value of Rail in New Zealand*. Ministry of Transport.

include new or enhanced domestic services, reducing sector emissions, new or enhanced inter-modal links, and new or enhanced maritime infrastructure.

#### Coastal shipping and rail will also need to decarbonise in the long term

While these are lower emissions modes than road freight, rail still contributes 0.9% and coastal shipping 2.1% of our total transport emissions. Rail and coastal shipping are both included under the Sustainable Biofuels Mandate and we will see some emissions reductions happen this way. After the rail network is restored over the next ten years, we could consider further electrifying our rail system or using green hydrogen fuels. This process would involve significant investment and careful consideration of whether the emissions reductions would be cost effective. It will also be necessary to consider whether this investment could yield better reduction outcomes if spent on other decarbonisation measures.

Decarbonising our coastal shipping will be entwined with the global effort to decarbonise our shipping emissions (see next section). This is because international carriers perform some of our domestic freight tasks, and because we need to ensure we have the appropriate infrastructure to service domestic and international carriers at our ports.

#### We also need to decarbonise how we move goods to and from overseas markets

While international shipping is considered one of the most fuel-efficient means of global transportation due to the sheer volume it carries, it is still responsible for about 3% of the world's carbon emission and this is expected to grow<sup>14</sup>. The International Maritime Organization's initial strategy to combat emissions proposes targets for reducing the carbon intensity of vessels. Compared to 2008 levels, they recommend a 40% reduction of carbon intensity by 2030 and 70% by 2050. They also recommend reducing total annual emissions by at least 50% by 2050.

Shipping lines have made corresponding efforts to explore alternative fuels, such as electric ships and alternative sources of propulsion. However, there is not yet a universally available and accepted solution. To make alternative fuels attractive to shipping, some countries have called for a global carbon tax of US\$100 to \$300 per tonne on all greenhouse gas emissions from shipping. Other regions have also crafted their own shipping emission regulations, e.g. the EU's plans to extend its Emissions Trading Scheme to maritime shipping.

As part of international efforts to de arbonise trade routes, New Zealand has signed the Clydebank Declaration to establish "green shipping corridors" which are zero-emission shipping routes between two or more ports. Successful green corridors could provide reputational benefits to New Zealand exports.

Measures to decarbonise the aviation sector are also underway. Carbon emissions from domestic and international air transport accounted for around 2.5% of all energy-related emissions before the COVID-19 pandemic<sup>15</sup>. International Civil Aviation Organization member states are still contemplating an agreement on a long-term target for reducing emissions. Some members have agreed to measures such as more fuel-efficient aircraft technology and operations and sustainable aviation fuels (SAF) with lower carbon intensity. Airlines can also offset their emission increases by purchasing emission units under the Carbon Offsetting and Reduction Scheme for International Aviation. In New Zealand, MBIE and Air New Zealand have agreed to explore the feasibility of operating a SAF plant at a commercia scale.

<sup>14</sup> International Transport Forum. (2018). *Decarbonising Maritime Transport: Pathways to zero-carbon shipping by 2035.* Paris, France: OECD Publishing. <a href="https://www.itf-oecd.org/sites/default/files/docs/decarbonising-maritime-transport.pdf">https://www.itf-oecd.org/sites/default/files/docs/decarbonising-maritime-transport.pdf</a>

<sup>&</sup>lt;sup>15</sup> International Transport Forum. (2021) *Decarbonising Air Transport: Acting Now for the Future*. Paris, France: OECD Publishing. <a href="https://www.itf-oecd.org/sites/default/files/docs/decarbonising-air-transport-future.pdf">https://www.itf-oecd.org/sites/default/files/docs/decarbonising-air-transport-future.pdf</a>

#### OPPORTUNITIES AND CHALLENGES

#### The opportunities of transitioning to a low emissions freight transport system

As awareness of climate change grows, we are seeing increasing demand globally for low emissions products and freight services. New Zealand is in some ways well positioned to increase its use of low-emission energy due to its abundance of renewable electricity and domestic biofuel production opportunities. This could provide a market advantage to New Zealand's freight sector if they are early adopters of low emission technologies.

Reducing emissions will require optimising the freight network and increasing efficiency. Increased collaboration and consolidation could help optimise the supply chain and reduce costs to business. Government regulation could have a role in increasing the number of more fuel-efficient vehicles coming into the country.

Successfully establishing "green corridors" from New Zealand could provide reputational benefits to New Zealand exports. This will require our ports to investigate options for decarbonising their operations such as using alternative fuels for port equipment or providing shore power for idling ships. It may also require ports to provide alternative low carbon fuels to visiting ships, especially if shipping lines increasingly in est in green ships and plan their networks around ports they can refuel at.

#### "Green" ports

Several New Zealand ports have taken steps to decarbonise their operation. For example, the Ports of Auckland has committed to zero emissions by 2040, which includes a project for a commer jal hydrogen production and refuelling facility and a battery-powered tug. The Port of Tauranga is targeting net-zero emissions by 2050 and to reduce emissions from port activities by 5% per year relative to cargo volumes, including by transitioning to battery-hybrid straddle carriers and light vehicles.

# The challenges of transitioning to a low emissions freight transport system

Uncertainty around how climate change will impact future production requires agility in our freight networks. Climate change will impact on production volumes, and significantly shift which primary products are produced and where. The freight and supply chain system needs to be able to cope with these unpredictable swings.

The high costs and long-term nature of supply chain infrastructure will require **longer term planning by operators**, **freight owners**, **and gove nment** to prepare for and respond to climate change risks. This may mean changing the current 'just in time model to a more 'just in case' model to ensure we have enough critical goods to weather a supply chain disruption. This may also mean re-thinking our freight network in places where only one route is available.

Freight operators will need to transition to low emissions vehicles or use low emissions fuels such as biofuels and hydrogen. However, supply constraints, high up-front costs, and uncertainty over fuel choice and technologies present challenges for operators. While early adoption offers opportunities to stay ahead of the curve, it could also create stranded assets. This will be a particular challenge for smaller owner/operators in the trucking sector.

Ports, airports, and rail will need to decarbonise their operational emissions. This will require significant investment in current and new infrastructure, certainty around government investment and the future of our port system, and certainty around future energy supplies.

New Zealand is at the end of international trade routes. This means our international trade could be disrupted if countries start to limit trade with higher emissions economies to meet decarbonisation targets. For example, New Zealand has attracted attention in the global debate about 'food miles'. The recent announcement of a Free Trade Agreement with the UK generated heated responses from UK farmers about the impacts of importing food from the other side of the world.

#### WE MUST ADAPT TO NEW ZEALAND'S GROWING POPULATION AND INCREASING DENSIFICATION

#### Our population is expected to grow, especially in urban areas

New Zealand's population is expected to grow by 1.2 million people in the next three decades <sup>16</sup>. The Draft New Zealand Infrastructure Strategy reports two-thirds of population growth is likely to occur in less than 3% of New Zealand's land area. <sup>17</sup> This would see the majority of population growth concentrated in and around Auckland, Hamilton, Tauranga, Christchurch and Wellington. Auckland is projected to grow by around 648,000 people, accounting for almost half of all population growth. <sup>18</sup> This will place pressure on existing infrastructure, increase transport demand, and cause demand for greater investment in our urban areas.

#### Housing shortages and efforts to respond to climate change are increasing urban densification

Urban densification provides several opportunities for New Zealand to make more efficient use of land and infrastructure. Building more medium and higher-density mixed-use developments could help address New Zealand's housing supply challenges. This could also reduce emissions as people would live closer to where they work, with increased access to public and active modes of transport which would reduce reliance on cars.

# The corresponding increase and concentration of freight volumes will put pressure on our freight and supply chain system

Freight volumes are expected to increase 55% from 237 million tonnes in 2012/13 to 366 million tonnes in 2042/43. Dombined with population growth, this will put pressure on infrastructure and transport corridors. Increasing population concentration in the Auckland – Waikato – Bay of Plenty golden triangle' will intensify the competition between passengers and freight for the use of road and rail networks. This will also pose challenges for moving freight through these cities, given that national freight routes on main state highways pass through them. This will impact the ability of goods to move to and from the major international ports at Tauranga and Auckland. These ports will also need to handle higher freight volumes to service the demands of the growing population in this area.

Urban densification will also cause changes to the way urban areas and transport corridors are designed. This will impact on how we move freight within these areas and how and where we perform urban first- and last- mile deliveries, which are generally carried by trucks or vans. Denser populations would also increase traffic congestion and make it slower to move freight, impacting the system's productivity and cargo owners' competitiveness.

Most urban environments in New Zealand have developed around ports, but as cities densify, ports are less able to expand their operations. Greater interest in developing waterfront areas as public spaces has also generated friction between commercial and public users. It is unclear how much the public will tolerate ports' commercial activities in the heart of our cities.

Changes in zoning to allow for densification may also reduce the availability of land for storing freight. This could disrupt efforts to consolidate and optimise freight and logistics networks with distribution centres. Competition for land space may increase if businesses move away from a "just-in-time" logistics model to hedge against supply chain disruptions. In this case, they would require more industrial land for domestic manufacturing, or warehousing to hold higher volumes of inventory.

https://www.stats.govt.nz/information-releases/subnational-population-projections-2018base2048#grows

https://www.stats.govt.nz/information-releases/subnational-population-projections-2018base2048#grows

https://www.transport.govt.nz/assets/Uploads/Report/TransportOutlookFutureState.pdf

<sup>&</sup>lt;sup>16</sup> Stats New Zealand. (2021). Subnational population projections: 2018(base)–2048.

<sup>&</sup>lt;sup>17</sup> New Zealand Infrastructure Commission. (2021). Draft New Zealand Infrastructure

Strategy. https://www.tewaihanga.govt.nz/assets/Uploads/211012-Draft-New-Zealand-Infrastructure-Strategy.pdf

<sup>&</sup>lt;sup>18</sup> Stats New Zealand. (2021). Subnational population projections: 2018(base)–2048.

<sup>&</sup>lt;sup>19</sup> Ministry of Transport. (2017). *Transport Outlook: Future State*.

#### **OPPORTUNITIES AND CHALLENGES**

#### The opportunities of a growing population and increasing densification

Urban densification could provide an opportunity to incentivise low-emission options and new markets for first-and last-mile urban deliveries. These options could include micro-freight, cargo bike delivery, and drones. <sup>20</sup>

**Tackling congestion issues could provide efficiency gains for freight.** Measures to encourage mode-shift by commuters to active and public modes of transport could reduce traffic congestion and increase the efficiency of freight movements.

#### Congestion pricing could help enable freight movement

The <u>Congestion Question</u> project modelled that, by 2046, severe congestion on Auckland's freight network during the morning peak and interpeak periods will increase by 50%.

Congestion pricing has reduced traffic and congestion in other countries and enabled more efficient freight movements. Central government and Auckland Council officials are investigating whether to introduce congestion pricing on part or all of Auckland's road network.

# The challenges of a growing population and increasing densification

We will need to think carefully about freight needs in our land use planning (such as for moving goods, storage, logistics centres, and expanding ports). Urban land use planners will need to understand freight movement and its challenges, and strike an appropriate balance between the competing demands for land. Greater agility in land-use planning and resource consenting will be needed to enable changes in favour of the public interest.

As populations shift towards urban centres, it will be important to ensure reliable and adequate freight corridors to service regional communities.

# TECHNOLOGY AND DIGITALISATION MAY CHANGE HOW WE MOVE GOODS

# Advancing technology may change how freight is moved

Advancing technology trends over the next few decades could transform how we move freight. Several areas of technology development are relevance to our freight and supply chains:

- Artificial intelligence (AI) will enable autonomous vehicles to become mainstream. The freight sector is likely to transition faster than personal transport, especially on fixed routes along major highways.
- Advances in automation technologies could provide opportunities to improve efficiencies and create higher-quality jobs, especially in the face of labour shortages and land constraints. For example, automation systems at ports allow

#### AI & autonomous vehicles

Autonomous drones for heavy cargo have become more advanced in recent years. This has the potential to disrupt the shipping industry and mitigate supply chain disruption from extreme weather events at ports. Small selfsailing cargo ships are also being trialled around the world over short voyages.

<sup>&</sup>lt;sup>20</sup> Aldred, R., Collignon, N., Itova, I., & Verlinghieri, E. (2021). *The promise of Low-Carbon Freight: Benefits of cargo bikes in London*.

 $<sup>\</sup>frac{\text{https://static1.squarespace.com/static/5d30896202a18c0001b49180/t/61091edc3acfda2f4af7d97f/1627987694676}}{\text{The+Promise+of+Low-Carbon+Freight.pdf}}$ 

- containers to be stacked higher and closer together, making better use of space. Automation in warehouses can also reduce the amount of land required.
- 3D printing, if scaled up sufficiently in the next few decades, could disrupt production processes and freight
  transport. Freight transport could involve moving 3D printing materials to produce complete products at
  localised sites, instead of moving parts from various locations to assembly centres. For now, 3D printing
  technologies remain limited to making parts which still require transport to assembly centres.<sup>21</sup>
- Low emissions vehicle technology has been advancing across the globe, including electric- or hydrogenpowered heavy trucks, and container ships powered by carbon-neutral methanol. We are starting to see more manufacturers putting in dates for the commercialisation of these vehicles.

#### Increased digitalisation of trade could significantly facilitate global supply chains

E-commerce, paperless trading and transactions, and electronic border procedures have reduced the cost of trading internationally and increased cross-border flows of physical and digital goods and services. Digital technologie help integrate the operations of freight providers, and optimise movements, improving the visibility and efficiency of shipments. <sup>22</sup> For example, port-call optimisation helps to optimise vessels' speeds and coordinate movements so ships reduce waiting times and carbon emissions at ports.

Data can now be shared and stored securely with distributed ledger technology (DLT) or blockchain, which improves traceability and builds trust among multiple parties. Large-scale use of DLT in transportation is still limited, but shipping lines and port operators have launched DLT platforms such as TradeLens and Global Shipping Business Network to coordinate their logistic chains in recent years.

Global e-commerce is expected to grow almost 50% in the next five years. <sup>23</sup> The COVID-19 pandemic has accelerated this trend, with New Zealanders spending \$5.8 billion on online shopping in 2020, a 25% growth from the year before. <sup>24</sup> E-commerce is likely to be further entrenched as work-from-home habits persist after personal movement restrictions are lifted. E-commerce depends on road and air freight for fast, on-demand deliveries of small individualised parcels. This dependence highlights the need to decarbonise the freight and supply chain system, especially the last mile of the system.

#### OPPORTUNITIES AND CHALLENGES

#### The opportunities of advances in technology

Technology will **open new markets for low-emission products and support decarbonisation** of our freight and supply chain system. Early adoption by the freight sector of low-emission technology will enable some goods to get a foothold in these new markets and associated first mover advantages. Digitalisation could also create opportunities to better measure emissions throughout the supply chain, and allow customers to choose lower emission delivery methods. Digital solutions such as AI can also be used to improve truck utilisation and reduce kilometres travelled.

New technologies and automation present opportunities for higher-quality **job creation across the supply chain**. This could in turn negate the need for some of the "less-desirable" positions which are currently experiencing labour shortages.

<sup>&</sup>lt;sup>21</sup> International Transport Forum. (2019). *ITF Transport Outlook 2019*. Paris, France: OECD Publishing. <a href="https://doi.org/10.1787/transpoutlook-en-2019-en">https://doi.org/10.1787/transpoutlook-en-2019-en</a>.

<sup>&</sup>lt;sup>22</sup> United Nations Conference on Trade and Development. (2019) *Digitisation in Maritime Transport: Ensuring opportunities for Development* (Policy Brief No. 75). https://unctad.org/system/files/official-document/presspb2019d4\_en.pdf

<sup>&</sup>lt;sup>23</sup> Chevalier, S. (2022). *Retail e-commerce sales worldwide from 2014 to 2025*. Statistica. https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/

<sup>&</sup>lt;sup>24</sup> New Zealand Post. (2021). *The Full Download*. https://thefulldownload.co.nz/

Digitalisation could help **reduce trading costs and other upward pressures on freight costs.** This would increase the integration of New Zealand firms into global supply chains, facilitating transfer of knowledge and innovation.

There may be scope to better integrate data streams and improve data access across government and industry to increase efficiencies in freight movements and build resilience. Improved access to freight data could allow better monitoring and evaluation of how the freight and supply chain system is performing.

#### The challenges of advances in technology

Long-term infrastructure planning will have to take account of new vehicle technologies. For example, New Zealand's ports would need to have the facilities and infrastructure to service greener or autonomous ships, such as shore power facilities, low-carbon bunkering fuels, and compatible IT systems.

There will be concerns around safeguarding the privacy and ownership of data and the security of cross-border data flows from cyber attacks. Intergovernmental coordination is needed to set consistent rules around how data is handled.

The impact of the technological change could differ across the freight and supply chain system. This change could increase the productivity gap between large firms and SMEs who may not be able to afford the investment. It could also reduce the demand for workers in some parts of the system, or completely negate the need for some jobs. We need to ensure a fair, equitable and inclusive transition.

# INTERNATIONAL DEVELOPMENTS WILL INCREASE UNCERTAINTIES FACED

# International trading is likely to become more uncertain as geopolitics in the Asia-Pacific shifts and trading patterns change

Changing geopolitics in the Asia Pacific region could increase the risks of supply chain disruption. These could take the form of more frequent trade wars, an uncertain trajectory for globalisation, or rising competition for resources amid climate change-driven shortages. Geopolitical tensions could also disrupt the security of key trade routes, including the maritime sea lanes which carry 99% of New Zealand's trade.

Intra-regional trade is expected to grow as emerging and fast-growing economies gain larger shares in global trade and increasingly trade with each other. This shift is already underway with the Association of Southeast Asian Nations overtaking the US as China's second-largest trading partner in 2019. This may also be driven by countries turning to regional trade agreements because of relatively slow progress in multilateral trade liberalisation.

As emerging economies in Asia, South America, and Africa grow

and lift their standards of living, New Zealand export patterns may shift from Western markets to these new ones.<sup>25</sup> These changes in trading relationships will lead to corresponding changes in patterns and availability of freight services.

#### Geopolitics and vital shipping routes

The South China Sea (SCS) is a key shipping route with an estimated one-third of international shipping trade passing through it each year. In 2016, 18% of New Zealand trade passed through the SCS (CSIS, 2018). This percentage is likely to have grown since.

This waterway is at the heart of an international territorial dispute between several Asian countries. Many countries including New Zealand have direct interests in the region's peace and security and the maintenance of freedom of navigation and overflight. Commercial shipping could be disrupted in the event of conflict or restrictions in the SCS.

<sup>&</sup>lt;sup>25</sup> New Zealand's top export partners in 2020 were China, Australia, the US, Japan and South Korea.

#### Consolidation in the international shipping sector and the rise of megaships will impact our ports

After consolidation in the international container shipping sector, the 10 largest shipping companies have organised themselves into three global alliances, controlling over 80% of the market <sup>26</sup>. These alliances involve agreements between shipping lines to share vessels and sailing schedules to operate efficiently and cover a broader area. Through vertical integration, shipping lines have also moved into other parts of the logistics chain, such as terminal operations, port services, and freight forwarding. The market share of carrier-controlled terminal operators increased from 18% in 2001 to almost 38% in 2017<sup>27</sup>. More recently, some shipping lines have purchased companies in warehousing, customs services, freight forwarding, trucking, and e-commerce logistics, or even established air freight divisions.

Container ships have also grown in size to take advantage of economies of scale. The share of global container freight capacity carried by ships larger than 10,000 twenty-foot equivalent (TEU) quadrupled from less than 10% in 2011 to nearly 40% in 2021<sup>28</sup>. Similarly, the maximum ship size calling in New Zealand has doubled from 5,000 TEU in 2016 to about 10,000 TEU in 2021<sup>29</sup>. However, it is unclear how long this trend of further horizontal market consolidation and increasing ship size will continue for. The International Transport Forum suggests that diminishing returns on economies to scale may be setting in<sup>30</sup>. The shipping disruptions from COVID-19 have also prompted regulators to more closely scrutinise how shipping lines consolidate, and highlighted the value of medium-sized ships' flexibility.

These trends have increased the market power of shipping lines, pressuring ports to reduce rates and invest in infrastructure to retain or attract shipping lines. The increasing use of larger container ships also means ports have to invest in infrastructure to service them and the higher volumes carried each visit. Not all New Zealand ports could do this, which could require New Zealand to reconfigure its container shipping pattern in a "hub and spoke" model. In this model, smaller ships move cargo from regional "spoke" ports to main "hub" ports to connect with larger international ships. Importers/exporters also potentially face less shipping reliability and choice since using bigger ships could reduce the frequency of services and amplify the impacts of delays. Vertical integration could also reduce shippers' choice further up the logistics chain.

#### Border closures and the decline in tourism have created uncertainties for the future of air freight

Before the pandemic, 80% of New Zealand's air freight was carried in the cargo hold of passenger aircraft. This was driven by strong international passenger movements rising 53% from 2010 to 2019<sup>31</sup>, allowing more air freight to be carried at lower costs. While a small number of regular dedicated freight aircraft serve New Zealand, these tend to serve Australia as well, reducing the capacity available for New Zealand. Border closures and decline in passenger travel therefore led to a drastic fall in air freight capacity. To maintain air connectivity, the Government provided

https://www2.deloitte.com/content/dam/Deloitte/nz/Documents/icp/2021-ports-and-freight-yearbook.pdf

https://www.transport.govt.nz/statistics-and-insights/freight-and-logistics/

<sup>&</sup>lt;sup>26</sup> Deloitte. (2021), 2021 Ports and Freight Yearbook.

<sup>&</sup>lt;sup>27</sup> International Transport Forum. *The Impact of Alliances in Container Shipping*. Paris, France: OECD Publishing. https://www.itf-oecd.org/sites/default/files/docs/impact-alliances-container-shipping.pdf

<sup>&</sup>lt;sup>28</sup> United Nations Conference on Trade and Development. (2021). *Review of Maritime Transport 2021*. New York, NY: United Nations Publishing. https://unctad.org/system/files/official-document/rmt2021\_en\_0.pdf

<sup>&</sup>lt;sup>29</sup> Ministry of Transport. (n.d.). *Freight and logistics: Freight Information Gathering System*.

<sup>&</sup>lt;sup>30</sup> International Transport Forum. (2020). *Future Maritime Trade Flows: Summary and Conclusions* (ITF Roundtable Reports No. 178). Paris, France: OECD Publishing. https://www.itf-oecd.org/sites/default/files/docs/future-maritime-trade-flows.pdf

<sup>&</sup>lt;sup>31</sup> Ministry of Transport. (n.d.). *Air and sea transport: Air Passengers.* https://www.transport.govt.nz/statistics-and-insights/air-and-sea-transport/sheet/air-passengers

funding support to airlines to manage the gap between operating costs and the lower revenues earned. Under this scheme, airfreight capacity recovered to 90% of pre-pandemic levels.

In the immediate term, the recovery of air freight capacity without Government support is highly dependent on tourism resuming. But there is still uncertainty over the reopening of New Zealand borders due to public health concerns over COVID-19. Even after borders reopen, it may take time for passenger volumes to return<sup>32</sup> despite some potential short term gains from pent-up travel demand, because of:

- remote working practices reducing the need for some business travel<sup>33</sup>
- airlines being slow to bring aircraft back into service
- foreign airlines moving aircraft to other routes where countries have already resumed passenger travel, which could take years to reverse.

All of this suggests that airfreight capacity for New Zealand imports and exports will remain constrained in the near future. With the high global demand for air freight, it is also less profitable for dedicated air freighters to service New Zealand given our distance from major markets. Air freight rates are likely to remain at two to three times prepandemic levels. This is already impacting some of New Zealand's export industries, especially those with lower profit margins.

There are also some uncertainties around New Zealand's air freight capacity in the medium to longer-term. The pandemic has provided an opportunity for New Zealand to "reset" its tourism sector towards a high-value and sustainable model, but this may reduce passenger volumes and airfreight capacity. New aircraft models powered by low-emission energy sources like electricity and hydrogen could also reduce space for air cargo, as these sources require more space and weight allocation. That said, these technologies are currently still limited to small aircraft over short distances.

# OPPORTUNITIES AND CHALLENGES

# The opportunities of shifting international developments

Potential changes in New Zealand's export destinations, especially with increased diversification of overseas markets, will create demand for more reliable air and sea connections to service new routes and improve connectivity.

In a "hub and spoke" model **domestic coastal shipping** could connect regional ports to main "hub" ports that larger ships can call at. This highlights the importance of good connectivity between these "hub" ports and the production and consumption centres of New Zealand.

<sup>&</sup>lt;sup>32</sup> A McKinsey report suggests that air traffic will take four years to return to 2019 levels. Bouwer, J., Saxon, S., & Wittkamp N. (2021, April 2). *Back to the Future? Airline sector poised for changed post COIVD-19*. McKinsey & Company. <a href="https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/back-to-the-future-airline-sector-poised-for-change-post-covid-19">https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/back-to-the-future-airline-sector-poised-for-change-post-covid-19</a>

<sup>&</sup>lt;sup>33</sup> McKinsey estimates that global business travel is only expected to return to 80% of pre-pandemic levels even after four years. Ibid.

### Opportunities for Coastal Shipping

Beyond commercial drivers, there are also externality benefits to coastal shipping. Modelling by Ernst and Young suggests that coastal shipping yields an estimated \$306.4 million per annum of externality value (EY, 2020). As New Zealand moves to decarbonise the freight sector, there are opportunities to move more freight via coastal shipping, although this would depend on the characteristics and time-sensitivity of goods. Coastal shipping could also build resilience in supply chains by providing alternative transport during land-based disruptions.

### The challenges of shifting international developments

New Zealand businesses will have to diversify and build redundancy and flexibility into their supply chains to hedge against increasing geopolitical and economic changes.

Long-term investment at ports to accommodate larger ships will need to be coordinated. Too many ports attempting to service larger international ships could lead to nationwide over-investment and stranded assets, or the decline of those ports unable to compete. This also has implications for decisions on where to focus investment in rail and roading infrastructure to connect to ports. A more coordinated, long-term approach may be required.

Our freight system will have to be more productive and efficient to clear the higher volume peaks brought by larger ships. Improving the system in this way will also maintain New Zealand's attractiveness to international lines, which strengthens the resilience of our international connections.

Our economic strategies need to consider the needs of air freight. We need to explore how to respond to changes in the aviation sector with agility and build resilience to support air freight capacity. We may also need to reconcile the needs of passenger travel and air freight.

- Q x. Are there any trends missing that we should consider? If so, please explain what they are.
- Q x. Do you agree with the outlined strategic context and key opportunities and challenges? If not, please explain why.
- Which of the opportunities and challenges do you believe will be most important in shaping the future of the freight and supply chain system in New Zealand and why?

### PART 3. CURRENT VULNERABILITIES OF THE FREIGHT AND SUPPLY CHAIN SYSTEM

# Before the COVID-19 pandemic, New Zealand's freight and supply chain system had generally operated without severe disruptions

A global oversupply of shipping capacity after the 2008 Global Financial Crisis had kept sea freight rates to New Zealand low, with international freight costs making up about 4.2% of the value of imports in 2019.<sup>34</sup> Sea freight volumes increased steadily between 2010 and 2019, expanding by 41% (by weight) and 47% (by value). <sup>35</sup> A 2016 report on New Zealand's international air freight assessed available capacity to be typically larger than potential demand. However, New Zealand experienced occasional temporary shortages due to unpredictable spikes in production or market demand. <sup>36</sup> Our freight and supply chain system appears to have performed well in its role of connecting New Zealand domestically and internationally without severe disruptions.

Stakeholders we have engaged with so far suggested the system have several strengths, including:

- relatively balanced import/export volumes, making New Zealand commercially attractive for international ships
- a strong New Zealand brand overseas driving exports
- a sector that is resourceful in problem solving.

There was some agreement that prior to COVID-19, air and sea freight rates were reasonable and moving goods around New Zealand's coast was cost-competitive and efficient. We also enjoyed good international connections to markets in Asia, Europe, US and South America.

### The pandemic has highlighted some vulnerabilities to be addressed

During the pandemic, COVID-19 border closures and decline in passenger travel led to a drastic fall in capacity for air freight, highlighting the dependence of air freight capacity on international passenger movements. Personal movements were restricted or reduced, contributing to a sustained surge in consumer demand for goods. This surge occurred while the freight sector was struggling with labour constraints due to COVID-19 infections and health measures. Demand for sea freight has outpaced capacity around the world, leading to congestion at ports including in New Zealand.

Disruptions to global supply chains triggered by the pandemic have affected New Zealand's freight and supply chain system in various ways

- a reduction in frequency reliability and capacity of shipping services to New Zealand
- escalating freight rates and surcharges sea freight costs have increased to 6% of the value of imports in the first 9 months o 2021<sup>37</sup>
- empty container supplies being stuck in the wrong places.

New Zealand's trade volumes held up relatively well despite the disruptions – export and import values rose 5.5% and 7.2% in the first 11 months of 2021 compared to the same period in 2019. However, other impacts have been

<sup>&</sup>lt;sup>34</sup> Customs data. Customs does not collect equivalent data on New Zealand exports.

<sup>&</sup>lt;sup>35</sup> Ministry of Transport. (n.d.). *Freight and logistics: Freight Information Gathering System*. https://www.transport.govt.nz/statistics-and-insights/freight-and-logistics/

<sup>&</sup>lt;sup>36</sup> Murray King & Francis Small Consultancy Ltd, & Richard Paling Consulting Ltd. (2016). *New Zealand International Air Freight*. Ministry of Transport. https://www.transport.govt.nz//assets/Uploads/Report/Airfreight-Research-Final-Report-23-March.pdf

<sup>&</sup>lt;sup>37</sup> Based on Customs data.

harder to quantify, such as those associated with forgone economic activity, falling or negative profit margins, and loss of business confidence to invest or loss of overseas market share.

Small and medium enterprises (SMEs) have also borne a disproportionate impact of global supply chain disruption, with larger companies managing to secure much of the reduced sea and air freight capacity. SMEs account for 97% of New Zealand businesses, 29% of New Zealand employees, and generate 28% of New Zealand GDP. But they typically rely on third party logistics and have lower levels of supply chain understanding, maturity and capability, and often struggle to proactively manage their supply chains.

Stakeholders have suggested several key vulnerabilities and barriers in the system, including but not limited to:

- Just-in-time efficiency prioritised over spare capacity Many companies around the world adopt just-in-time logistics models with limited inventory to increase efficiency and reduce warehousing costs. It is also commercially difficult to justify the costs of spare capacity. However, this means there is little "fat" in the system to absorb disruptions. In response to the pandemic, some businesses have started sh fting to more of a hybrid just-in-time/just-in-case model.
- It can be hard to shift between freight options Some stakeholders felt that it was hard to shift between freight modes. This difficulty could be caused by insufficient capacity or reliability of alternative modes, or inefficient and expensive transfers across modes.
- Relying on international shipping lines may mean New Zealand's freight needs are not prioritised New
  Zealand is geographically distant from major markets and not the most profitable trade lane. New Zealand
  also relies on Singapore and Malaysia as transhipment hubs to connect to the main international shipping
  routes. International lines also move about 75% of domestic coal tal cargo<sup>38</sup>, meaning that domestic freight
  is susceptible to the operating decisions of international lines. New Zealand has little influence over these
  decisions.
- The competition settings of New Zealand ports may not be optimal Some stakeholders suggested that there may be opportunities for the port sector to be better coordinated. The sector could achieve economies of scale and other efficiencies through better cooperation and specialisation, instead of duplicating infrastructure.
- Limited data on the freight sector is available This lack of data hinders accurate and dynamic modelling, better decision-making, and the monitoring of sector performance against historical or international benchmarks. Most businesses in the sector are averse to sharing and adopting common standards because of the competition and fragmentation between them.
- Accessing labour can be challenging Several freight sectors have an aging workforce<sup>39</sup> such as ports, trucking, and coastal shipping. Attracting new labour is difficult because the industry is seen to involve unsocial working hours and poor career prospects due to expected automation. Some jobs have long training times and cannot be filled easily.
- Long-term planning needs to be clearer Stakeholders felt there is a need for a long-term plan for government investment and regulation, which is reliable, evidence-based, transparent, and non-politicised. This would give the private sector more confidence to make complementary decisions and investments. They also thought that the consenting process was too expensive and slow. They thought the low profile of freight contributed to this problem, alongside the inadequate consideration it receives compared to other transport planning in urban areas.

A full summary of stakeholders' feedback is at Appendix 4.

<sup>&</sup>lt;sup>38</sup> Ministry of Transport. (n.d.). *Freight and logistics: Freight Information Gathering System*. https://www.transport.govt.nz/statistics-and-insights/freight-and-logistics/

<sup>&</sup>lt;sup>39</sup> For example, according to road freight association Ia Ara Aotearoa Transporting New Zealand, the average age of a road freight worker is about 54 years old. In 2018, there was already an estimated shortage of 2,500 drivers.

### Some evidence shows that our freight and supply chain system could be performing better

According to Stats New Zealand data, labour productivity in the transport sector (combining transport, postal and warehousing), has been decreasing over the last five years, and capital productivity in the sector has been decreasing since 2002. While the Productivity Commission's 2012 inquiry<sup>40</sup> into New Zealand's international freight transport is dated, it still offers relevant insights. The inquiry found scope for improvement in:

- increasing the quality of infrastructure planning and coordination
- improving the governance of ports and airports
- developing a richer information infrastructure.

According to the Transport Indicators data compiled by Te Manatū Waka, the Ministry of Transport, we have viable alternatives for only 39% of our key social and economic corridors. <sup>41</sup> From a safety perspective, out of all the sectors in the New Zealand economy in the period from September 2020 to August 2021, the transport sector has the third highest rate of fatalities and sixth highest rate of injuries resulting in more than a week away from work <sup>42</sup> These metrics only provide a snapshot of specific aspects of the freight and supply chain sector, and not an assessment of how the system is performing as a whole.

### The pre-COVID-19 operating environment is unlikely to return, so we need to position the system for the future

As we outlined in Part 2, we expect some major changes in the freight and supply chain system's operating environment, some of which have been accelerated by the pandemic. These changes are likely to put upward pressure on freight rates, including through:

- the increased price of carbon leading to rising fuel prices
- the need for more investment to adapt to and insure against climate change impacts
- higher costs due to increased competition for land use
- the costs involved in responding to or hedging against more frequent supply chain disruptions.

This means that the low rates New Zealand enjoyed and relied on for trade before the pandemic are no longer a certainty. New Zealand is likely to feel the impacts of higher freight rates much more than other countries given its geographical distance from major markets. Increases in transport related costs are also likely to be passed onto the consumer. Combined with inflation and the rising cost of living generally, this could have a disproportionate effect on vulnerable and low socio-economic communities.

### The sector will have to rethink how it meets its labour needs in a more enduring manner

As highlighted above, one existing vulnerability is a labour shortage in several freight sectors which have been ongoing for many years, e.g. for truck drivers, port workers, and seafarers. The supply chain disruptions caused by the COVID-19 pandemic has further demonstrated the importance of having a resilient labour supply to keep the system running. The need for labour is likely to become more acute in the future as freight volumes increase. In addition, the big changes facing our freight and supply chain system, particularly new technologies and demographic changes, will reshape the future of work in New Zealand. There is a need for more collaborative and longer-term planning across government, industry, and unions to make sure the right conditions are in place to enable a sustainable pipeline of labour. This includes making sure the sector is able to attract workers that it needs now and in the future, but also the right skillsets it will need to meet longer-term challenges and opportunities, including

<sup>&</sup>lt;sup>40</sup> New Zealand Productivity Commission. (2012). *International Freight Transport Services Inquiry*. https://www.productivity.govt.nz/assets/Documents/f53fe759db/Final-report-v8.pdf

<sup>&</sup>lt;sup>41</sup> Ministry of Transport. (n.d.). *Transport Indicators: Resilience and Security*.

https://www.transport.govt.nz/statistics-and-insights/transport-indicators/resilience-and-security/

<sup>&</sup>lt;sup>42</sup> WorkSafe. (2021, 23 December). Fatalities. https://data.worksafe.govt.nz/graph/summary/fatalities

those arising from new technologies. This could entail creating higher quality, higher skilled, and safer jobs for New Zealanders, and ensuring an adaptable workforce through further education and training.

### It is vital to develop a systemic approach to freight data collection and performance evaluation

To support the system to meet these challenges and maximise the opportunities, we need to address the vulnerabilities and barriers it faces. For this, we will need to build a good understanding of how the freight and supply chain system is performing.

It is currently difficult to make a more comprehensive, evidence-based assessment on the performance of the system due to the limited availability of freight data. Te Manatū Waka, Ministry of Transport maintains a Freight Information Gathering System (FIGS), which provides an overview of rail and sea freight movements around New Zealand. However, there is room to improve on the suite of performance indicators featured in FIGS, especially for road freight data. Better data collection, sharing, and analysis across the sector can present a more comprehensive picture which accounts for the interdependencies and nuances in measuring the system's performance. This will help improve operations and aid policy and investment decisions.

### We are at a good starting point to improve the system

FFICIP

New Zealand has an opportunity to take a more strategic and systemic approach to freight and supply chains. It can improve its productivity and ability to respond to major changes happening here and abroad. Apart from highlighting vulnerabilities, the pandemic has raised the public profile of the freight and logistics sector, underlined the importance of supply chains, and demonstrated the value of having good freight data. It has also encouraged close cooperation and relationships across government and industry. This presents a good starting point to progress work on improving the system.

Q x. Do you agree with the outlined state of the current system? If not, please explain why.

Is there any key information missing in understanding the state of the current system?

### PART 4. OUR PROPOSAL FOR DEVELOPING A FREIGHT AND SUPPLY CHAIN STRATEGY

The previous sections analysed the changes taking place in the freight and supply chain system, which present profound opportunities and challenges, and necessitate addressing existing vulnerabilities. For example, New Zealand could better manage increasing freight costs if it is well-positioned to embrace new technologies and digitalisation, and respond to changing consumer preferences and new markets.

While navigating and adapting to changes is hard, it presents an opportunity to transform the system to achieve the outcomes we want over the next few decades. The strategy will need to decide what is important to New Zealand and present a pathway to get there. It will have to consider what we need to protect, what we want to flourish, and how we ensure our long-term resilience.

### OUTCOMES WE PROPOSE AIMING FOR

### The freight and supply chain system should be low-emission, resilient, productive, and innovative

We have considered the long-term trends and current vulnerabilities in our freight and supply chain system. We also engaged with some iwi, local government, and industry stakeholders to understand what the priorities for change should be. From this we propose that the strategy focusses on four outcomes – decarbonisation, resilience, productivity & innovation, and equity & safety. These proposed outcomes align with the Transport Outcomes Framework developed by Te Manatū Waka, Ministry of Transport, The framework guides the design of transport policies to improve the wellbeing of New Zealanders and the liveability of places (see Appendix 3).

### Low emissions

New Zealand's freight and supply chain system is underpinned by a lowemissions freight transport system

### Resilience

New Zealand's freight and supply chain system is resilient, reliable, and prepared for potential disruptions

### **Productivity & innovation**

New Zealand's freight and supply chain system is highly productive and innovative, and performs well when measured against global standards



# Equity & safety

We transition to a low-emission, resilient, productive & innovative freight and supply chain system in a way that is equitable and safe for all

### OUTCOME 1 LOW EMISSIONS

New Zealand has committed to domestic and international targets to reduce its emissions to net zero by 2050. This in turn will contribute to the global effort to limit global warming. Moving to a low-emissions freight transport system will help us avoid the worst impacts of climate change and preserve the environment for future generations. It will also contribute to limiting disruptions arising from climate change, ensuring the connectivity and performance of supply chains and supporting the wellbeing of New Zealanders. The growing consumer preference for "green" goods could provide opportunities for New Zealand producers. A low emission freight system could also put us in a good position to deal with potential global taxes on shipping emissions or emission regulations imposed by trading partners.

The Emissions Reduction Plan will outline the initial steps we need to take to enable decarbonisation in the freight sector from 2022 to 2025. However, the strategy will need to set a pathway to transition to a low-emission freight and supply chain system over the longer term. This will help inform future emissions reduction plans and give confidence to the pace, scale and direction of change required. It will also need to align with other government work on decarbonisation.

### **OUTCOME 2 - RESILIENCE**

The COVID-19 pandemic and the longer-term changes explored in previous sections demonstrate the need for a strong focus on long-term resilience in our supply chains. Resilient supply chains are more able to avoid, absorb, and recover from disruptions, maintaining freight connections and keeping goods moving. While we cannot predict potential disruptions, we can embed some qualities in the system such as agility and flexibility that will help us adapt. This includes understanding what our critical infrastructure and freight services are, identifying risks and minimising exposure (including climate change impacts), building surplus capacity, maintaining regulatory flexibility, and building an adaptable workforce, etc.

### **OUTCOME 3 – PRODUCTIVITY & INNOVATION**

Taking advantage of innovation and technological change will be key to lifting productivity and creating higher quality jobs.

We have opportunities to improve the productivity of our freight sector. The sector is dynamic and competitive in many areas, but productivity has been declining over the last two decades <sup>43</sup> Given the challenges discussed earlier, it will be increasingly difficult for the sector to deliver goods as quickly, cheaply and conveniently as in the past. Improving the sector's productivity will allow us to maintain and improve on reliable connections to goods and markets at reasonable rates. This can also help New Zealand reduce the impacts of being geographically distant from major markets and production centres.

### **OUTCOME 4 - EQUITY & SAFETY**

The government is committed to ensuring economic prosperity for all New Zealanders and contributing to healthy and safe communities. Part of this will be ensuring that the transition to low emission, resilient and productive and innovative supply chains is fair equitable, and inclusive. This means ensuring we are supporting Māori, regional economies, businesses, and workers to adapt to the changes we are expecting.

### This will include:

- managing how emissions reduction policies disproportionately impact some businesses and their workforce, especially small businesses;
- improving inclusive access to opportunities arising from change;
- mitigating the impacts of rising freight costs;
- developing vocational skills in emerging areas;
- ensuring regional economic development is maintained as our urban areas densify;
- ensuring New Zealanders are healthy and safe in workplaces and on our roads.

<sup>&</sup>lt;sup>43</sup> New Zealand Productivity Commission. (2021). *Productivity by the numbers*. https://www.productivity.govt.nz/assets/Documents/productivity-by-the-numbers/Productivity-by-the-numbers.pdf

### Adopting a strategic and coordinated approach will help us achieve the proposed outcomes

Much of the work will have to begin now. Climate change and changing population dynamics will play out over the long term but require near-term decisions. Other changes may involve solutions with long lead times such as infrastructure investment or regulatory changes.

Efforts by the market and government to address the opportunities and challenges are already underway. But to meet the magnitude of the changes in this complex system in the time required, we will need a more strategic and coordinated approach.

To achieve the proposed outcomes, the market will need to cooperate and coordinate, but this will be hard for the market to achieve by itself. The high costs and long timeframes of investment in an environment of uncertainty require longer-term planning from all players in the sector, including the government.

We aim to build a strategic direction based on a long-term and system-wide view of New Zealand's freight and supply chain system. We will achieve this by developing a freight and supply chain strategy for New Zealand for the next 30 years (see Appendix 3). This will help us set the system for the future and respond effectively to opportunities and challenges, while remaining agile and flexible to adapt to unforeseen developments. In doing so, we will adopt a cross-generational approach to infrastructure investment and planning (see box below).

### A Generational Investment Approach

Transport investments last for generations, especially infrastructure like roads, railways, and bridges. This means that today's investment decisions need to anticipate how future generations may want to live and move around. They will also need to consider changes in the environment, technology, and society.

To support this, Te Manatū Waka, Ministry of Transport is implementing a new Generational Investment Approach (GIA). This approach will take a 30-50-year view of investment choices. GIA enables organisations investing in the transport system to ollaborate to identify and prioritise future choices at the earliest stage in the investment cycle. It will adop some of the following principles and features:

- A long-term term-of reference for developing and evaluating options for investment alongside other levers like pricing and regulation.
- A greater emphasis on a robust and transparent evidence base including systems for collecting and modelling data.
- Collaborative approaches to generating and evaluating ideas.
- Tracking ideas in a transparent and systematic way from start to finish (or rejection) so everyone knows how feasible projects are, the evidence base that supports them, and their expected timeline.
- Enabling longer-term plans, and adapting them when needed.

This Strategy will employ the GIA process to prioritise, evaluate and implement options for change. This should result in clear long-term planning, based on transparent evidence that makes it more likely that organisations will invest in good ideas. This Strategy will be the first time this approach has been employed in transport policy.

In essence, the strategy will lay out:

- a set of outcomes for the New Zealand freight transport and supply chain system
- the changes that need to occur to prepare the system for the future
- a set of pathways and priority actions to achieve the outcomes

a mechanism for stakeholders and government to work together on an ongoing basis

Through developing the strategy, we intend to:

- provide a long-term and system-wide view of New Zealand's freight and supply chain system
- build a strategic direction to inform investment decisions by government, iwi, and the private sector
- align relevant government policies to maximise impact
- support coordination and information sharing among various agents in the system where appropriate.

We are keeping an open mind about what the strategy should do to achieve the proposed outcomes. In this issues paper, we seek your feedback on which opportunities and challenges will be most important in shaping the future of New Zealand's freight and supply chain system. We also want your feedback on whether the proposed outcomes in the earlier section are the right ones to work towards.

Our engagement to date has informed some potential areas of focus for the strategy. We consider these areas to be broadly in line with meeting the opportunities and challenges facing the freight and supply chain system (see picture below). These potential areas of focus are not exhaustive and only indicative at this stage. We will be engaging with iwi and stakeholders to identify priorities and options as part of the strategy development process this year.



### Collaboration will be at the heart of the process for developing and implementing the strategy

The process of developing the strategy will be as important as the final strategy itself. We will be taking a collaborative approach, and drawing on the expertise and experience of stakeholders across the system to inform the process. We would also like to work with our Treaty partners to articulate Māori aspirations relating to the freight and supply chain system and explore how to achieve them.

The task of future-proofing our freight and supply chain system will have to be shared across those who manage, operate, and use the system. These groups include central and local government, Crown agencies, iwi, unions, and industry players across the supply chain, within and outside of the transport sector. Through the strategy, we can together transform the freight and supply chain system to be sustainable, resilient, and productive.

Q x. Are there more outcomes the strategy should focus on? If so, please explain.

Q x. Do you agree with the potential areas of focus for the strategy? If not, please explain why.

Q x. Which of these areas would be most important to prioritise?

Q x. What would successful stakeholder engagement on the development of the strategy look like from your perspective?

Q x. How could we best engage with Māori on the strategy?

### THE PROCESS FROM HERE

This issues paper has discussed some of the big changes facing our freight and supply chain system, and how a long-term, coordinated approach can help us seize the opportunities and meet the challenges arising from them. As the issues identified are wide ranging and complex, your responses to the questions we have included in this issues paper (see Appendix 1 for the full list) will help guide the development and focus of the freight and supply chain strategy for New Zealand.

# COLLABORATION AND PARTNERSHIP

We believe that working closely with stakeholders across the freight and supply chain system will help us design a better strategic direction to achieve our desired outcomes. While consultation is on-going, we will be developing an engagement plan which will propose:

- further workshops, interviews, and meetings on specific topic areas to develop and test priorities and
  options that could be included in the strategy
- forming focus groups and reference groups to delve deeper into specific topics over a longer period
- approaches to collaborating with Treaty partners including through representation in the above groups.

As we develop the strategy, we will also be considering approaches to long term partnership with stakeholders that continue after the work on the strategy is concluded. This could be in the form of an enduring advisory group for freight policy, a government-industry accord, or some other approach.

Partnering with iwi Māori will be an essential part of the strategy

We recognise iwi Māori as tangata whenua of New Zealand hold unique and direct relationships with the Crown. The government has obligations under the Treaty of Waitangi to work in partnership with Māori.

We recognise more work is needed to build the relationships required to understand the issues and opportunities for Māori in the freight and supply chain system, and to work in partnership with them. We will meet with iwi and Maori representatives to listen to how the freight and supply chain can support them and their businesses, and help realise their long-term aspirations. We also intend to bring together a Treaty Partner Reference group to support our work with iwi and Maori. Building an ongoing and enduring partnership will be a key focus of our work going forward.

# Our timelines are subject to change, but we expect the following: 2021 Targeted engagement on issues Public consultation on issues Targetet engagement on on issues Targetet engagement on on options

**Draft strategy** 

- April 2022: Release issues paper.
- April-May 2022: Engage on the issues paper and scope of the strategy.

Issues paper

- April-September 2022: Engage with stakeholders on the actions and priorities for the strategy
- September-October 2022: Confirm priority actions in the strategy with Ministers.
- October-November 2022: Draft the strategy.
- December 2022: Send draft strategy to the Minister of Transport for consideration.

Following this, we may undertake further public consultation on a draft strategy.

### APPENDIX 1 - LIST OF QUESTIONS FOR CONSULTATION

### Part 1. Understanding the freight and supply chain system in New Zealand

- Q1. Do you agree with the outlined description of the freight and supply chain system?
- Q2. Do you have any views on the outlined role of government in the freight and supply chain system?

### Part 2. The strategic context for change

- Q3. Do you agree with the outlined strategic context and key opportunities and challenges? If not, please explain why.
- Q4. Are there any trends missing that we should consider? If so, please explain what they are.
- Q5. Which of the opportunities and challenges do you believe will be most important in shaping the future of the freight and supply chain system in New Zealand and why?

### Part 3. Current state of the freight and supply chain system

- Q6. Do you agree with the outlined state of the current system? If not, please explain why.
- Q7. Is there any key information missing in understanding the state of the current system?

### Part 4. Proposed approach to developing a freight and supply chain strategy

- Q8. Do you agree with the proposed outcomes? If not, please explain why.
- Q9. Are there more outcomes the strategy should focus on? If so, please explain.
- Q10. Do you agree with the suggestions on how the strategy could achieve the proposed outcomes? If not, please explain why.
- Q11. Which of these suggestions would be most important to prioritise?
- Q12. What would successful stakeholder engagement on the development of the strategy look like from your perspective?
- Q13. How could we best engage with Māori on the strategy?

### APPENDIX 2 – ILLUSTRATIVE JOURNEY OF A SHIPPING CONTAINER IN NEW ZEALAND



### APPENDIX 3 - NEW ZEALAND FREIGHT AND SUPPLY CHAIN STRATEGY - INTERVENTION LOGIC

# Freight & Supply Chain

The freight and supply chain system underpins our economy by connecting suppliers, producers, and consumers. It impacts the standard of living of all New Zealanders.

It enables New
Zealand to engage in
international trade
with foreign
economies.

It also enables New Zealand to participate in global value chains, with access to global networks, markets, capital, knowledge and technology.

Optimising the system not only serves commercial interests but is also in our national interest.

### **External context**

- Climate change will require action to adapt to impacts and reduce emissions
- Changing population demographics is increasing pressures on the freight system
- Technology and digitalisation provides opportunities to improve operating practices
- International geopolitics, economic shifts and sectoral developments increase uncertainty in who we trade with and how connected we are
- Big changes are happening with profound challenges and opportunities for the freight and supply chain system.
- · The market and government is responding.
- But the magnitude of the changes, urgency of responses, and complexity of the system require a more strategic and coordinated approach.

# Internal context

Pre-COVID-19, the system had performed relatively well without severe disruptions.

But the pandemic has exposed vulnerabilities:

- just-in-time efficiency prioritised over spare capacity
- lack of agility in shifting between freight modes
- reliance on international lines
- · port settings may not be the best given our small scale
- · lack of freight data
- · challenges accessing labour
- · need for longer-term planning, etc.

### Proposed response

A New Zealand Freight and Supply Chain Strategy for the next 30 years.

# Outputs

- Desired outcomes for the New Zealand freight and supply chain system
- Changes that need to occur
- Pathways and priority actions to achieve outcomes
- A mechanism for ongoing cooperation amongst stakeholders and government

# **Proposed intermediate outcomes**

# These outputs will lead to:

- A long-term and system-wide view of the freight and supply chain system
- A strategic direction to inform investment decisions by government, iwi, and private sector
- Aligned government policies to maximise impact
- Coordination and information sharing across the system where appropriate

Which would contribute to building...

# **Proposed outcomes**

... a freight and supply chain system that is:



... with the transition achieved in a way that is equitable and safe for all.

# **Anticipated impacts**

New Zealand has strong and high-performing connections within itself and with the rest of the world...

Improving liveability of New Zealand and the wellbeing of its people.



New Zealand transport outcomes framework

### APPENDIX 4 - SUMMARY OF STAKEHOLDERS' VIEWS TO DATE

This is a summary of the challenges and vulnerabilities which stakeholders viewed as priorities for the Freight and Supply Chain strategy to address. We collected this information through workshops, meetings and interviews held between August and November 2021. It represents the views of around 140 stakeholders including iwi, cargo owners, transport operators (air, road, rail, sea), freight forwarders, ports and airports, unions, consultants and local government. This table does not represent the government's views, but we have used these stakeholder comments to inform the development of the issues paper.

### Decarbonisation

### Stakeholders seek more awareness and leadership on decarbonisation

- · Supporting small business: Some SMEs were uncertain on how to prepare for the future, due to a lack of skilled advice.
- Visible leadership: Some raised a need to see more leadership, demonstrating commercially viable approaches for others to follow.
- Information for business planning: Businesses raised concerns about a lack of information on when new low emissions options would be available, to enable businesses to plan their capital replacement.
- Measuring emissions: Exporters and retailers especially were interested in measuring or quantifying the emissions of different freight options, to help them and their customers find greener options.

### Stakeholders need reassurance on infrastructure planning and investment

- . They want the confidence to invest: Some did not have confidence that New Zealand could produce the energy and fuels to decarbonise, or had the infrastructure to support it.
- Clearer planning: Some stakeholders expressed uncertainty about the government's plans for future investment and regulation. They are waiting to see what this looks like before they invest.
- The road freight sector is fragmented: Stakeholders thought the road freight sector has too many small operators, which leads to a lack of scale to invest in initiatives to increase productivity and reduce emissions. This also results in underutilisation of trucks, especially for return journeys.

### Stakeholders felt more incentives were needed

- Capital is tied up in assets: Some felt there were no real incentives to invest yet, especially if that meant replacing capital investment in vehicles and equipment that still had an economic life.
- . Affordability is an issue: In the most competitive parts of the freight sector such as road freight; many companies could not afford to invest in low emissions technology.
- New Zealand is facing global competition: While there is some advantage in being 'first-movers' in adopting low-emissions technology, New Zealand businesses would have to compete with global demand for these technologies.

### Resilience

# Business resilience is a multifaceted issue

- Cost of efficiency: Many felt that because of the way they operate they cannot easily respond to disruption. For example, they might only hold limited inventory to reduce warehousing costs and improve their balance sheets. Even with careful planning, they felt they could still be let down by others in the supply chain.
- Some businesses do not have capacity or foresight to plan for resilience: This means that they prioritise short-term profitability.
- Freight options are often not agile: It is hard to shift between freight options businesses are often locked into a particular mode and route. Infrastructure like freight hubs and greater port capacity is needed to unlock multi-modal options. Some stakeholders said they would use rail and coastal shipping more if these modes had more capacity and were more reliable. Some also thought that rail pricing was too high relative to more flexible road options. They expected an increase in demand for these modes as incentives to decarbonise increase.
- New Zealand depends on international inputs: There are no local alternatives to important inputs into some manufacturing or processing.

### Infrastructure planning and investment

- New Zealand's supply chain infrastructure has a lack of redundancy: Stakeholders suggested that the supply chain has pinch-points that are a vulnerability because of a lack of spare capacity or alternatives, such as the Cook Strait ferries. However, trade-offs need to be made between productivity efficiency and resilience. It is not clear how much redundancy is needed and who should pay for it.
- Stakeholders suggested having transparent national resiliency plans: New Zealand has an opportunity to develop planning for specific emergencies. Some stakeholders wanted to align their own resiliency planning with a reliable national plan.
- · New Zealand needs to work on climate resilience: It needs to plan now for sea level rise and an increase in extreme weather events.
- New Zealand is facing increasing cyber-security threats: The growth in cyber attacks and our dependence on digital networks is creating significant risks

### New Zealand could improve its resilience in international connectivity

- New Zealand is far from many markets: Stakeholders saw dependence on international shipping lines as a vulnerability, because we were far from market and not on the most profitable route. They also saw a risk of shipping lines prioritising Australia and not New Zealand in times of disruption. Smaller companies are more at risk due to short term agreements larger companies and groups of companies are better able to negotiate with shipping lines. Our ports have to be highly productive to keep shipping lines coming here.
- Our coastal shipping sector has faced historic decline: This has led to greater reliance on international lines.
- . Airfreight: Some saw the dominance of Auckland in the airfreight market as a vulnerability. Exporters of high value airfreighted products are vulnerable to a reduction in passenger travel.
- Future geopolitical tensions may significantly undermine our access to market: These tensions could include trade conflict, war, and other issues.

### Maritime sector

- New Zealand has an opportunity to build up domestic participants in coastal shipping: This will reduce reliance on international lines and provide opportunities for domestic maritime labour.
- Future technology will require new skillsets: Autonomous shipping, new fuels (and associated risks), and other trends require new skillsets and regulatory approaches.
- Vessel equipment maintenance can be a major outlay: Many businesses in the sector lack the scale to invest in skills and facilities such as drydocks.

### Productivity and innovation

### There is scope to improve the port system

- New Zealand needs to take a national rather than regional approach to ports: There may be opportunities for the port sector to be better connected, achieving economies of scale and other efficiencies through better cooperation and specialisation. New Zealand needs to balance imports and exports to ensure an efficient flow of containers, which could be achieved through more collaboration between shippers, cargo owners and ports. It is not efficient for all ports to invest in the infrastructure needed to receive the increasingly popular larger vessels. They could consider using a hub and spoke model instead.
- Improving access to capital: Some of our ports may benefit from more capital investment.
- . Competition settings may not always be benefiting New Zealand consumers and exporters: We have opportunities to explore different approaches to competition for ports.

### Long-term access to labour is a concern for many stakeholders

- We have an aging workforce: A lack of new labour is restricting growth in some sectors including ports, trucking, coastal shipping.
- . The industry has a mixed image: Parts of the sector are seen by potential employees as difficult, with unsocial hours and poor career prospects due to issues such as expected automation.
- Some jobs have long training times: This means businesses can be slow to adapt to changes.

- New Zealand's supply chain does not run 24/7: Not all parts of the supply chain are able to operate 24/7, in part because of labour constraints. This limits our ability to move goods faster and resolve chokepoints when needed.
- · Some stakeholders thought that automation could solve some long-term problems: However, many lacked the scale and capital to invest in it.

### City and infrastructure design could better account for freight

- Port cities are seeing increasing competition for land use: As cities grew up around ports, freight access has been increasingly crowded out. More careful planning and investment at a city level will reflect the national benefit efficient freight corridors deliver.
- . The last mile poses challenges: Freight operators see the last mile deliveries of goods to retailers and homes as highly complex and increasingly challenging,
- Decision-making between central and local government is fragmented: RMA decisions are pushed to local government but not always well funded or resourced. Decisions can also focus on local interest rather than big picture.

### The sector could make better use of data

- **Limited data is available:** The data available on the freight sector is limited, making modelling difficult and less dynamic and accurate. Some stakeholders saw an opportunity to use data better in the system this could be through greater monitoring of freight, managing disruption, and giving transparency to freight customers. Data was also useful for monitoring the performance of the sector some stakeholders raised issues of performance with parts of the sector. However, there was often no way to verify this against historic or international benchmarks.
- New Zealand has opportunities to develop and adopt common standards: For example, we could adopt common standards for location data.
- Some stakeholders have an aversion to data sharing: They are reluctant to share data due to competition and the fragmented nature of their sectors. Different parts of the government have data but do not necessarily share it.
- Stakeholders want to know the emissions profiles of freight options: However, this information is not commonly available.

### New Zealand must overcome obstacles in infrastructure planning and investment

- We lack an overarching vision for the supply chain: Too many individual parts of the chain act in their own interests. We need for an intergenerational and national vision, but several factors are forcing stakeholders into more region-based thinking. The industry needs to agree on how to better integrate the system it is currently too fragmented and inefficient.
- . The nation needs to do more long-term future planning: Some said not enough consideration was being given to anticipating the future demands on the supply chain, such as changes to population density and goods moved.
- Some stakeholders wanted more evidence for government plans: Many said they believed investment decisions were politically driven and wanted more evidence for government plans. They also wanted a reliable long-term commitment to them across governments of the day.
- The consenting process is complex and time-consuming: Expanding capacity and making better use of existing assets is an expensive and slow process.
- Investing in upkeeping road infrastructure was a concern for some: Stakeholders wanted to see more roads suitable for heavy vehicles, including bridges. Not all of the road network is currently suitable for heavier High Productivity Motor Vehicles.
- Construction progress on infrastructure projects is seen as slow compared to other countries: This could be due to labour constraints, regulatory or RMA constraints and poor planning.

### **Equity and safety**

### We must aim for fair, inclusive, and equitable growth

- The freight and supply chain system must support Māori economic development: New Zealand must consider how the freight and supply chain system can support iwi and hapū and their economic development, and honour Te Tiriti. Iwi may potentially be interested in owning assets and investment opportunities.
- Many businesses will need support to transition to low emissions options: This transition will be unaffordable for many businesses, and they may have to close. SMEs are especially at risk because they have less ability to absorb temporary cost surges.
- The benefits of reform may impose a disproportionate cost on regional development: This would be to the benefit of major centres. We need to investigate approaches which support regional development outcomes.
- The cost of goods proportionate to the median wage will increase in the immediate term: This will be due to the transformation of supply chains. Those less able to bear these costs may need to be supported.

### We must ensure health and safety for everyone touched by our freight system

- We can aim for better health and safety outcomes: Health and safety is a critical part of our freight system. New Zealand can take a more systematic approach to safety, especially in ports and other areas involving moving equipment and goods. This will need to align with Worksafe's strategies.
- crategy. Road safety: Road safety needs special consideration and this strategy needs to align with the Road to Zero strategy.



Office of the Minister of Transport

Cabinet Economic Development Committee

# The development of a New Zealand freight and supply chain strategy and its issues paper for public consultation

# **Proposal**

This paper seeks to inform Cabinet of the development of a New Zealand freight and supply chain strategy, and seek agreement to release the attached issues paper for public consultation. It also seeks agreement to delegate authority to ministers with a strong interest in supply chains ("Supply Chain Ministers") to make joint interim decisions on minor issues in the strategy development process.

# Relation to government priorities

The New Zealand freight and supply chain strategy (the strategy) will contribute to the government's plan to build a productive, sustainable, inclusive and resilient economy, by supporting the transition to a low emission, resilient, productive, and innovative freight and supply chain system, in a way that is equitable and safe for all.



There are also intersections with government strategies to improve road safety, employment, Māori and regional development, and workplace health and safety.

### **Executive Summary**

- Te Manatu Waka, Ministry of Transport is developing a freight and supply chain strategy to provide a long-term strategic direction for New Zealand's freight and supply chain system.
- To progress the development of the strategy, officials have drafted an issues paper informed by engagement with key stakeholders. The issues paper is for wide consultation to ensure officials have accurately captured the current state and future challenges and opportunities for New Zealand's freight and supply chain system, as well as to obtain feedback on proposed outcomes and priority areas.
- I am seeking agreement for Te Manatū Waka, Ministry of Transport to release the issues paper for public consultation on 4 April 2022. I am also seeking agreement for Ministers with a strong interest in supply chain matters to have

delegated authority to make joint interim decisions on minor issues in the strategy development process.

# **Background**

- 8 Earlier work on the Upper North Island Supply Chain Strategy (UNISCS) began as a desire to develop a strategic approach to the supply chain in the upper North Island, including its ports. The two primary studies on this issue, by the UNISCS Independent Working Group in 2019 and Sapere in 2020, focussed on the future of the Ports of Auckland and questions about when and to where it should move.
- 9 Following the work through UNISCS, the government committed to progress work on the future location of the Ports of Auckland. However, the previous studies did not consider the wider supply chain or the flow-on national impacts of such a port move. Without this broader picture, it is possible to arrive at many different answers.
- Ministers agreed that this highlights the need for a better view and a clearer set of priorities for the freight and supply chain system. The work that is proposed will provide a system-wide view, so we can understand the impacts of decisions involving major infrastructure and investments. It will also enable us to consider other levers such as regulatory and economic levers, and the way international connections are shaped and managed.

# The New Zealand freight and supply chain strategy

- There is currently no strategy for the New Zealand freight and supply chain system, which has largely been driven by commercial entities. However, the system is facing substantial long term changes over the coming years, which pose significant challenges and opportunities. There is a role for the government to facilitate and lead this change, and to act where that is needed to ensure the benefits of a high-quality freight and supply chain system accrue to all New Zealanders.
- Key among these challenges is the need to manage the impacts of climate change, which will increase the risk of disruption and damage to our freight infrastructure, much of which is located in coastal areas, including our ports.
- There is additional importance and urgency for change given New Zealand's commitment to net zero emissions by 2050. It will be a challenge to decarbonise the freight sector while minimising the trade-offs with other outcomes. These include economic productivity, which is related to freight costs and the efficiency of the system. Regional development relies on a freight and supply chain system that provides reliable access to markets.
- At the same time, the sector must deal with the impacts of other substantial changes, including population change and intensifying urbanisation, technological development and digitalisation, and changes in international dynamics.

- The supply chain disruptions arising from COVID-19 have also exposed existing vulnerabilities in the system, including the predominance of a "just-in-time" operational model, a lack of agility in shifting between freight options, a reliance on international shipping lines for domestic freight coastal movement, a lack of easily accessible freight data, and ongoing challenges in accessing labour. These are in part a result of issues within the freight and supply chain sector not having been dealt with as part of the same system.
- The disruptions have also brought forward the impacts of some of the long-term changes, for example, rising air and sea freight costs. The operating environment for New Zealand's freight and supply chains is very unlikely to return to its pre-COVID-19 state.
- The scale of these changes means we will need to take a more strategic, long-term, and system-wide approach to manage these issues if we are to deliver change of the magnitude needed within the time required. However, coordination among participants across the freight and supply chain will be hard to achieve, and the government has not actively built a strong partnership with them prior to the COVID-19 pandemic.
- A strategy, developed in close collaboration between government and stakeholders, will provide a framework and direction to do this, and demonstrate that we are charting our way through the challenges of the next few decades, including and beyond those of the pandemic. It is also an opportunity to build consensus on a way through these challenges, and explore how government and others can work closely on responding to them.
- I recommend that the strategy focusses on achieving a low emissions, resilient, productive, and innovative freight and supply chain system while improving transport equity and safety. This will include looking at, for example, issues of decarbonisation, labour and skills, improving modal options like coastal shipping, improving freight data access, supporting regional economies, and enhancing wellbeing.
- The strategy will lay out the changes that will need to occur, and a set of priority actions to transform the system. Where there are initiatives that could take some time to deliver, for example, if significant data gathering and analysis policy review, or regulatory reform is required, the strategy will set the direction for additional pathways and work programmes.
- In doing so, the strategy could help guide government and stakeholder decisions. It could provide more certainty of what government will do with its levers, such as investment levers. For example, the New Zealand Rail Plan (2021), which introduced a long-term planning and funding framework for the heavy rail track network, is one such effort at signalling government investment priorities early on. The strategy can learn from and build on this.
- Stakeholder collaboration and buy-in will be crucial to the successful development and delivery of the strategy. As such, officials will also explore as part of the strategy setting up a mechanism for government and stakeholders to work together on an ongoing basis.

# The issues paper

- The issues paper is the first step in the development of the strategy and captures the discussion in the section above in more detail. It sets out the main drivers for change for the freight and supply chain system over the next 30 years, and outlines existing vulnerabilities highlighted by COVID-19. It then proposes a more strategic and coordinated approach across government and industry, the outcomes we should seek for the system, and how a strategy might achieve these.
- The issues paper has been informed by extensive engagement with stakeholders across the freight and supply chain system. Since mid-August 2021, Te Manatū Waka, Ministry of Transport officials have engaged with over 140 stakeholders through workshops, interviews and meetings.
- These included representatives from transport and logistics operators (road, rail, sea, air), ports and airports, cargo owners, unions, consultants, academics, iwi, central, and local government agencies. There has been strong interest in this work amongst stakeholders.
- This engagement also builds on the closer relationships that Te Manatū Waka, Ministry of Transport has formed with the freight and supply chain sector as part of our work on COVID-19 disruptions, as well as earlier work on the Green Freight Project which helped establish a mandate for biofuels.

# Officials' approach for engagement on the issues paper

- Te Manatū Waka, Ministry of Transport intends to run an 8-week public consultation process focussed on targeted engagement with industry. This process will seek feedback on how the current vulnerabilities of the freight and supply chain system and future challenges and opportunities have been captured, as well as the proposed outcomes and priority areas for the strategy.
- Submissions will be open to the public through the Ministry's website and will be promoted through sector media and the Ministry's social media channels.
- Given the interest in the project to date, officials anticipate there will be a high number of submissions. Officials intend to hold meetings and workshops to discuss the paper with key stakeholders as well as move forward with generating ideas for addressing the proposed priority areas.
- Working with iwi/Māori will be crucial to understanding the challenges and opportunities for iwi/Māori, and ensuring we are upholding our duty as treaty partners. Officials have invited iwi representatives to collaborate on the strategy by reaching out through the lwi Leaders Forum and the Federation of Maori Authorities as well as to direct contacts. Interest through these forums and other means of engagement has been limited. So far, Ngāi Tahu and Tainui representatives have engaged on the strategy.
- Officials will focus on having conversations with iwi/Māori from around the country to gain a better understanding of their interests and aspirations in the

freight and supply chain system, and how the system's performance impacts them.

# Taking work forward on the Ports of Auckland relocation question

- Following the final UNISCS report in 2019, the previous Cabinet noted that "the Ports of Auckland is not viable as the Upper North island's key import port in the long term" [CAB-19-MIN-0647]. However, no further action was taken as the government was focussed on the country's response to COVID-19.
- Recognising the importance of this issue and the long timeframes involved in any decision, I indicated in the middle of last year my intention to make progress on this issue within the current term of Government.
- The New Zealand freight and supply chain strategy is part of a holistic, system-wide approach to the issue. It will seek to provide more clarity around the patterns in New Zealand's freight flows, the outcomes our port system should achieve, and how various parts of the system should work together. This will provide a better basis for relevant parties to make decisions on the locations and functions of our ports, including the Ports of Auckland.



# Delegated authority

- The Supply Chain Ministers is an informal grouping of Ministers with a strong interest in supply chain matters. It was first convened to discuss ongoing supply chain disruption issues and includes the Minister of Finance, Minister for Building and Construction, Minister for Trade and Export Growth, Minister for Economic and Regional Development and Minister of Transport,
- While other Ministers may hold an interest in this work, the intention is to select a subset of Cabinet whose portfolios are most affected by supply chain issues.
- I am seeking your agreement to delegate authority to this group to make joint interim decisions on minor issues in developing the strategy. This will allow work to proceed more quickly as it would avoid the need to present less consequential decisions to Cabinet.

### Timeline for future work

- Once the issues paper is released, officials will engage further with stakeholders through workshops and reference groups throughout the rest of 2022.
- I expect to receive a draft strategy in December 2022. After I have provided feedback, I will present this back to Cabinet, for approval for public consultation on the full draft strategy in early 2023.

# **Financial Implications**

There are no financial implications for this paper.

# Legislative Implications

43 There are no legislative implications for this paper.

# **Impact Analysis**

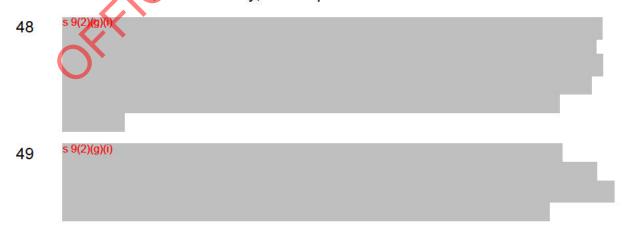
44 Impact analysis requirements do not apply to the proposals in this paper.

# **Human Rights**

45 There are no human rights implications for this paper

### Consultation

- The issues paper has been informed by engagement with 140 stakeholders across the freight and supply chain system, including transport operators and infrastructure providers, ports and airports, cargo owners, unions, consultants, academics, iwi, central, and local government agencies.
- Officials from Te Manatū Waka, Ministry of Transport have also consulted on this Cabinet paper and the issues paper with, and incorporated feedback from, Maritime New Zealand, Waka Kotahi, Ministry of Foreign Affairs and Trade, Ministry of Primary Industries, New Zealand Trade and Enterprise, Ministry of Business, Innovation and Employment, Ministry for the Environment, Energy Efficiency and Conservation Authority, Ministry of Housing and Orban Development, Te Waihanga New Zealand Infrastructure Commission, The Treasury, and Department of Prime Minister and Cabinet.



### Communications

The Ministry of Transport will release the issues paper for public consultation on their website on 4 April 2022. I plan to issue a press release in my capacity as Minister of Transport on the same date.

### **Proactive Release**

I recommend that this Cabinet paper be released alongside the issues paper on 4 April 2022.

### Recommendations

The Minister of Transport recommends that the Committee:

- 1. **note** that officials from Te Manatū Waka, Ministry of Transport are developing the New Zealand freight and supply chain strategy;
- 2. **note** that officials have engaged with stakeholders across New Zealand's freight and supply chain system to inform the issues paper;
- 3. **note** that officials intend to continue with their engagement with stakeholders to inform the development of New Zealand's freight and supply chain strategy this year;
- 4. **agree** to release the issues paper for public consultation on 4 April 2022;
- 5. **agree** to authorise the Minister of Finance, Minister for Building and Construction, Minister for Trade and Export Growth, Minister for Economic and Regional Development and Minister of Transport ("Supply Chain Ministers") to make joint interim decisions on minor matter in the process of developing New Zealand's freight and supply chain strategy.

Authorised for lodgement

Hon Michael Wood

Minister of Transport



Document 15

25 February 2022 OC210989

Hon Michael Wood Action required by:

Minister of Transport Friday, 11 March 2022

Hon Grant Robertson

**Minister of Finance** 

Hon Stuart Nash

Minister for Economic and Regional Development

# REGIONAL TRANSPORT INVESTMENTS - QUARTERLY UPDATE

# **Purpose**

Provide key project updates on regional transport investments based on reporting up to 31 December 2021. Inform you of an upcoming exercise of the delegation to the Secretary for Transport to transfer up to \$1 million into a project. This briefing is for noting only and constitutes our quarterly update to you

# **Key points**

- The total sum approved for the Provincial Growth Fund (PGF) Vote Transport programme is \$647.9 million. An additional \$73.6 million was spent on PGF projects since our 25 June 2021 briefing to you (OC210452 refers), bringing the total spend to \$471.2 million, or 73 percent of approved programme funding. One project was completed over this time, bringing the total number of completed projects to 33 out of 61.
- The total sum approved for the Regional Investment Opportunities (RIO) programme is \$88.3 million. An additional \$16.8 million was spent on RIO projects from our 25 June 2021 briefing to you (OC210452 refers), bringing the total spend to \$45.3 million, or 51 percent of approved programme funding. Three projects were completed over this time, bringing the total number of completed projects to 5 out 13.

•	s	9	(2)	)(	f	)(	(iv

This transfer would be made under the delegation you made to the Secretary for Transport in December 2020 to allocate up to \$1 million into a project, within appropriation (OC200898 refers).

 The Ministry is working with Waka Kotahi to amend its funding agreement to extend the end dates of some PGF and RIO projects. End dates will be extended to

December 2025 from December 2024. This will ensure that projects continue to receive funding until their forecasted completion dates.

# Recommendations

We recommend you note the content of the briefing.

MDours		4,081
Fleur D'Souza Manager, Programme Assurance a Commercial 25 / 02 /2022		Hon Michael Wood Minister of Transport
Hon Grant Robertson Minister of Finance / /	An O.	on Stuart Nash Minister of Economic and Regional Development / /
Minister's office to complete:	☐ Approved ☐ Seen by Minister ☐ Overtaken by eve	
Comments		

### Contacts

Name	Telephone	First contact
Fleur D'Souza, Manager, Programme Assurance and Commercial	s 9(2)(a)	
Tony Frost, Principal Advisor, Programme Assurance and Commercial	s 9(2)(a)	✓



### REGIONAL TRANSPORT INVESTMENTS - UPDATE

### Context

- The Government funds 74 transport projects through the Provincial Growth Fund (PGF) and Regional Investment Opportunities (RIO), the regional component of the New Zealand Upgrade Programme (NZUP). The projects are delivered through partner agencies KiwiRail and Waka Kotahi. The Ministry of Transport (the Ministry) oversees transport projects across these two funds and collects information from delivery agencies and Kānoa.
- The Ministry maintains oversight across projects funded through Vote Transport (i.e. state highways and rail) and provides regular reporting to you. Local road projects funded through Vote Transport are managed by Kānoa.
- Most projects with a red/amber deliverable or budget status will be dealt with through scheduling or funding adjustments under the delegation of the Secretary for Transport to transfer up to \$1 million between projects (OC200898 refers) and funding agreement variations.

# Key ongoing project risks the Ministry is monitoring

### COVID-19

- In our October 2021 briefing to you (OC210729 refers) we noted that COVID-19 had some impact on the programme, and while it was too early to quantify the full impact on the programme, it was unlikely to be material.
- The impacts to the projects have been in the form of increased costs, delays to schedules and supply chain disruptions. With the removal of internal borders and easing of COVID-19 Alert Level restrictions, the scale of the impacts on projects from COVID-19 has stabilised. However, the spread of the Omicron variant introduces a high level of uncertainty. We will continue to update you as the projects progress.
- The schedule delays to projects across the programme will be managed through variations to applicable funding agreements to extend their deliverable dates as required. Further detail is provided below at paragraph 27.

### Rail Projects

### North Auckland Line (PGF)

- To date 13 kilometres of rail have been laid in this \$178.5 million project to upgrade the North Auckland Line. KiwiRail has reported a 3-month delay to 18 tonne capacity from January to April 2022. KiwiRail will not begin scheduling 18-tonne capacity services until the programme is completed, and as such the delay does not directly impact customers.
- 8 KiwiRail is considering the implications on the project of the funding provided through the NZUP to improve the line from Whangarei to Otiria to 18-tonne capacity, and build/improve freight hubs at Otiria and Whangarei. The PGF project had intended to

	build a container terminal hub at Otiria and bring the line into operation at 16 tonne capacity.
9	KiwiRail has indicated that due to the NZUP funded improvements, s 9(2)(f)(iv)
Marso	den Point Line (MPL) Land Purchase (PGF)
10	s 9(2)(j)
4.4	
11	s 9(2)(j)
12	The Treasury administers the funding agreement between the Crown (signed by shareholding Ministers) and KiwiRail. Treasury officials will keep shareholding Ministers apprised of any developments under the no surprises' policy.
13	s 9(2)(j)
PGF .	Rail project updates
14	The \$40 million Central North Island Regional Economic Growth Hub project is using PGF funds to purchase strategic land for a freight hub near Bunnythorpe, just north of Palmerston North. KiwiRail has submitted documentation to the Notice of Requirement evaluation panel, and a decision on the designation is expected early this year. The funding agreement for this project is between the Treasury and KiwiRail
Road	<u>Projects</u>
Impro	vements to SH43: Forgotten World Highway Improvements (RIO)
15	In October 2021 (OC210729 refers) you agreed to retain \$600,000 of RIO funding within this project to relieve a forecast shortfall in funding. The shortfall is due to forecasts for the Kahouri bridge exceeding the budget because of higher construction costs required to deliver the scope than originally forecasted.
16	s 9(2)(f)(iv)
	provide advice on other options to manage the cost pressure.
17	s 9(2)(f)(iv)

### s 9(2)(f)(iv)

# SH43: Sealing the Gorge (PGF)

- As advised in previous briefings (OC210729 and OC210452 refer) this \$12.2 million project in Taranaki is experiencing a schedule delay and emerging cost pressure. This is due to the limited construction seasons in the gorge, a constrained local supplier market, and a range of issues which were discovered during site investigations to inform design and consenting work.
- As advised in October 2021 (OC210729 refers) Waka Kotahi will have greater certainty about the extent of the cost pressure once Stage 1, sealing the first 2 kilometres, is complete. The Stage 1 works are expected to be completed in April 2022. The project is forecasted to be completed in June 2024

### SH1 North of Kakanui River/South of Oamaru (RIO)

- This \$2 million Otago project is forecasting a delay in completion until March 2023 (originally December 2021). This is caused by a delay in approval of the resource consent, meaning it is now unlikely that work can commence until the next construction season, delaying the completion date.
- 21 s 9(2)(f)(iv)

# SH35 & SH2 Passing Opportunities (PGF)

- This \$30 million Tairawhiti project is forecasting a four-month delay in completion. In the June 2021 Regional Transport Investments Update (OC210452 refers) we reported that two of the eight accelerated passing opportunities were completed, and the project was on schedule.
- Five of the eight passing opportunities were completed in December 2021. Two of the remaining three accelerated sites will be under construction in April 2022 with the remaining site delayed due to a redesign to accommodate a property issue.

### SH6/8B Cromwell (RIO)

- In October 2020 you approved a scope change to the RIO funded project *SH6/8B Cromwell* (OC210729 refers).
- The contract for the *SH6/8B Cromwell* project has now been awarded, and main construction begins in early 2022. The project is currently forecasting a nine-month delay as the scope change has pushed construction into another season.

### PGF local road project updates

As part of the Tairawhiti Roading Package, the Gisborne District Council (GDC) Local Roads projects include 21 projects at a total cost of \$64,093,000 which are progressing well toward completion. With physical works contracts tendered in January there will be significant progress for the months April to June 2022. 17

- projects are now in 'close out' phase, and Kānoa is working with GDC on postoutcome reporting on the programme of works, for which GDC has engaged Business and Economic Research Ltd.
- 27 A project in the Kaipara Kickstart package, *Pouto Road Phase 1 Seal extension*, due to be completed by end of December 2021 has been extended to March 2022 due to Covid-19 impacts. The final detailed design for *Pouto Road Phase 2 Physical works* is now complete, which provides cost estimates with greater confidence and identifies higher risk areas.

# Key project updates

Varying the funding agreements between the Ministry and Waka Kotahi

- 28 The Ministry administers Crown funding to Waka Kotahi for the PGF and RIO funded state highway projects through two funding agreements.
- The funding agreement "State Highway Projects Funded by the Provincial Growth Fund and Regional Investment Opportunities", (the Consolidated Funding Agreement) is dated 15 July 2021 and currently due to end on 31 December 2024.
- The funding agreement, "Resource Support for the Provincial Growth Fund" (the Resource Support Agreement) provides funding to support Waka Kotahi to deliver the projects. The Resource Support Agreement is dated 1 July 2018 and was due to expire on 30 June 2021.
- The Ministry and Waka Kotahi are in the process of varying the Consolidated Funding Agreement to extend the estimated deliverable dates for certain projects and the overall end date to 31 December 2025. This variation is required to ensure that the projects are funded through to their end dates.
- The Resource Support Agreement will correspondingly be extended to 31 December 2025 to ensure that Waka Kotahi have the resourcing to support delivery of the projects through to their end dates.
- The monthly reporting for each project will be provided against the updated completion dates in the Consolidated Funding Agreement.
- The changes to the estimated deliverable dates along with the reason for the changes are set out in the table below, listed by project. The updates to project completion dates are based on the November monthly report. The Ministry considers that the extensions to the dates are reasonable.

Project		Updated completion date	Rationale for date extension
SH43 Sealing the gorge	31- Mar-22	30-Jun-24	Delayed due to the limited construction seasons in the gorge, a constrained local supplier market, and a range of issues which

			were discovered during site investigations to inform design and consenting work.
SH 35 Resilience	30-Jun-22	31-Oct-22	Sites being more geotechnically challenging than had been initially identified. COVID-19 lockdown delayed revegetation work and geotechnical investigations Restricted access to consultants to resource the work due to COVID-19.
SH2/SH35 Passing Opportunities	30-Dec-22	30-Apr-23	Delayed due to issues obtaining approval from the landowner for access.
State Highway 5: Tarukenga To Ngongotahā Improvements	30-Dec-21	28-Feb-22	Caused by higher number of rain days than would normally be anticipated in the construction season delaying sealing activities.
State Highway 67 Granity Seawall Protection	30-Jun-21	31-May-22	Delays in consent approval.  Exploring a promising value proposition for a significantly cheaper rock source that ultimately d d not come to fruition.
State Highway 2 College Road to Silverstream	31-Dec-21	30-June-22	Delays in consent approval for stormwater. Concerns about capability of contractor required finding a new contractor for the final portion of the work.
SH1 North of Kakanui River	31-Dec-21	31-Mar-23	Requirements to provide additional info mation for a resource consent application, discovery of a historic culvert under SH1 that needs to be protected.
SH6-SH8B Cromwell intersection	31-Dec-21	31 Oct-22	Time taken to gain approval of scope change has pushed the construction into a second season.
West Coast one lane bridge safety upgrades	31-Dec-21	30-Jun-22	More earthworks required than anticipated triggered the need for a resource consent. Requirements for additional detailed designs to meet safety requirements. COVID-19 has delayed delivery of materials and delayed travel for on-site team.
SH8, SH79, SH80 MacKenzie Basin pull-off areas	30-Jun-21	30-Jun-22	Property acquisition at one site faced considerable delays due to an uncooperative property owner which has resulted in the decision to abandon that site and deliver improvements at alternative sites within the scope of the agreement.

# Upcoming and recently completed projects

The PGF Programme is now 54 percent complete (in terms of projects completed). Three projects below are completed and due for close-out in the upcoming one-to-two months.

Project	Funding	Recent progress
KiwiRail -Slope Stability - Omoto Slip	\$13M	This project reached completion at the end of October 2021. Over 65,000 tonnes of rock and over 45,000 tonnes of gravel have been delivered and installed to date. This project provided 44,780 hours of employment and delivered a more resilient and reliable connection to carry freight and tourists to the West Coast. Notwithstanding COVID-19 lockdowns and a challenging construction market the project was completed on time and within budget.
KiwiRail- Deferred regional maintenance	\$26M	This project has reached completion at the end of October 2021. 138 culverts were replaced, 2,000 culverts cleared and cleaned, 1,400km of drainage maintenance completed and 1,100km of vegetation carried out. The project provided 167,000 hours of employment and trained 72 new workers to work in the rail network and construction industry. The project was completed on time and within budget.
Waka Kotahi - SH 5 Ngongotahā RIO	\$14M	This project is forecast to be completed by 28 February 2022. The roundabout at SH5/SH36 was completed in December 2021. The improved roundabout will reduce congestion and encourage economic development and growth.

# Appendix 1

- 36 There are currently 61 PGF projects (of which 33 are complete) and 13 RIO projects (of which 5 are complete).
- The below Dashboard contains information on total funding approved and spend by region and mode, full time job equivalent totals, and a project summary breakdown.

# Appendix 1: Regional Transport Investments - Up to December 2021

This report includes Provincial Growth Fund (PGF) and Regional Investment Opportunities (RIO).

This report does not include projects funded through other Votes (Vote Business, Science and Innovation, and Vote Conservation).

OC210989

December 2021

State highway and rail information as at 30 November 2021 Local road information as at 30 September 2021

### Key programme updates PGF Region Region Full Time Equivalents\* reported this month Tai Tokerau 266.28 189.32 Taranaki 13.45 4.50 65.39 Tai Tokerau 18.18 PGF projects 411 Tairāwhiti An additional \$73.6 million was spent overall since the June 2021 report, bringing the total spend Hawke's Bay 22.65 10.25 Bay of Plenty 14.00 7.50 **RIO** projects 81 to \$464.12 million, or approximately 72% of approved funding. Whanganui 40.00 31.38 Hawke's Bay 14.20 8.20 CIP project 50 Taranaki 12.60 1.90 Otago 10.00 1.00 TOTAL 542 27.50 11.66 5.00 2.70 •Note one PT job is treated as 0.5 FTE for this West Coast Canterbury 0.22 caculation TOTAL\* 45.31 Multi-region 163.58 161.06 88.25 TOTAL\* 647.88 471.17 RIO An additional \$2.5 million was spent overall since the November 2021 report, bringing the total spend to \$44.41 million, or approximately 50% of approved funding. Mode (% complete) No. of projects Complete projects ess Cases (BC) and feasibility studi The Consolidated Funding Agreement and the Resource Support Funding Agreement end dates Local Road (57%) Local roads (53%) 78.49 estigation and pre-implementation will be changed to December 2025 from December 2024. This will ensure that projects continue State Highway (67% State Highway (27%) 83.98 31.65 to receive funding until completion if further delays occur. Rail (38%) Rail (68%) 439.00 361.04 TOTAL\* (54%) TOTAL\* (61%) 647.88 471.17 Construction / Physical Works (PW) impleted projects, contingencies, and agency resourcing Media opportunity or key milestone completion Mode (% Complete) complete proje State Highway (45%) Total\* 11 **Project summary** Region **Active Projects PGF Rail** North Auckland Line \$178,500,000 Swanson/Whangarei track works complete Complete Dec 2022 ⇒ Tai Tokerau NAL Marsden spur land purchase \$40,000,000 Complete Dec 2023 ⇒ Palmerston North Regional Economic Rail Hub \$40,000,000 lete June 2022 🎮 Complete Dec 2022 ⇒ West Coast South Island Tourism Rail \$24,000,000 Engineering design for carriages continuing PGF Local roads (contracts held by PDU) Pouto Road Phase 1 \$5,050,000 Construction Complete March 2022 Waipoua River Road (PW) \$1,575,000 Construction Complete March 2022 Tai Tokerau **Priority 1 Routes** \$14,200,000 oad works paused for archaelogical digging. Ruapekapeka Roads \$6,500,000 Complete April 2022 Complete Dec 2022 50MAX HPMV Network Capability \$960,000 Bridges are under construction or have had works fin Still active \$2,200,000 **Emergency Repairs** Tairāwhiti Route Security Structural \$2,140,000 Complete July 2022 Phased construction and procurement one \$10,000,000 Complete July 2022 East Cape - Rock works Geotechnical and topographical surveys progress Complete June 2022 Route 52: Waipukurau to Porangahau (PW) \$19,750,000 Hawke's Bay Wairoa HPMV upgrades \$2,200,000 Complete June 2022 Complete June 2022 SH35 Route Security \$13,500,000 Design/works for sites complete March. SH35 - SH2 Passing Opportunities Tairāwhiti \$30,050,000 Complete Apr 2023 SH2 Waikare Gorge \$5,000,000 Complete June 2022 Taranaki SH43 - Sealing the Gorge \$12,200,000 Complete March 202 **RIO State Highways** Taranaki Improvements to SH43 \$13,450,000 Installation of signage at Moki Tunnel is expected early 2022 Complete Dec 2023 ⇒ Safety improvements e \$14,000,000 Bay of Plenty SH5 Tarukenga to Ngongotahā Contractor established on site and physical works have commenced. Hawke's Bay SH2 College Road to Silverstream \$12,000,000 Complete Dec 2022 SH1 North of Kakanui River/South of Oamaru \$2,000,000 Complete Mar 2023 Otago SH6, 8b Cromwell Intersection \$8,000,000 Work commenced on site in December 2021 Complete Oct 2022 Complete Jun 2022 Canterbury SH 8, 79 and 80 MacKenzie Basin \$5,000,000 Construction programme for final two sites to commence early February 2022 West Coast State Highway Bridges \$5,000,000 Issue of tenders for the Moeraki and Whakapohai bridges programmed for Jan 2022 Complete Jun 2022 West Coast SH67 Granity Seawall \$3,600,000 Physical works contract has been awarded Complete May 2022