TE MANATŪ WAKA
MINISTRY OF TRANSPORT

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2 February 2022 OC220033

Hon Michael Wood **Action required by:**

Minister of Transport Click to enter a date or delete this + "Action required by:"

FREIGHT AND SUPPLY CHAIN STRATEGY – ISSUES PAPER

Purpose

To deliver a first draft of the issues paper as part of developing a New Zealand freight and supply chain strategy, and outline proposed next steps for the project. We are seeking your approval to progress the paper for consideration by Cabinet, subject to your feedback on the draft, and further work to refine the paper for public consumption.

Key points

- Since mid-2021, Te Manatū Waka, Ministry of Transport has been working on developing a New Zealand freight and supply chain strategy. As part of the strategy development process, we have engaged with over 140 stakeholders through a series of workshops, interviews, and meetings.
- From this engagement, we have produced a draft issues paper that sets the context and makes the case for a freight and supply chain strategy. There is more work to be done on refining the paper and making it more accessible to the general public, but we would like to seek your feedback on it early.
- The issues paper discusses the main drivers for change over the next thirty years and outlines key existing vulnerabilities as highlighted by COVID-19. The paper highlights that the freight and supply chain system will not return to its pre-COVID state, and the low freight rates New Zealand enjoyed and relied on for trade pre-COVID-19 are no longer a certainty. The paper proposes a more strategic and coordinated approach across government and industry to support the transformation that is needed to respond to climate change and other challenges.
- The issues paper proposes that the strategy focusses on achieving a low emissions, resilient, productive, and innovative freight and supply chain system while improving transport equity and safety, and suggests how we might achieve this transition.
- This is in line with the objectives earlier discussed with you, and includes looking at issues of decarbonisation, labour and skills, improving modal options like coastal shipping, and enhancing wellbeing. Other issues which have arisen from our engagement to date include improving freight data access and the evaluation of system performance.

- There has been widespread interest in this work to date and we want to maintain the momentum and relationships we have developed. We intend to run an 8-week public consultation process on the issues paper with targeted engagement with industry.
- This will help us build a common understanding and long-term view of New Zealand's freight and supply chains over the next 30 years, and determine key areas of focus for the strategy. The broad and complex nature of the freight and supply chain system means that the wide range of issues raised will require some prioritisation and sequencing.
- Going forward, we also intend to create a number of stakeholder reference and/or focus groups to further assist the strategy development process.
- One of the top priorities for 2022 is to work with iwi/Maori to understand how the freight and supply chain strategy can support their aspirations and promote wellbeing.
- We are seeking your feedback on the draft issues paper. Subject to your approval, we plan to lodge the paper with DEV for their meeting on 2 March 2022, and subsequently with Cabinet.

Recommendations

We recommend you:

1	**provide** feedback on the issues and outcomes discussed in the issues paper	Yes / No
2	**share** the final draft of the paper with supply chain ministers for their consideration	Yes / No
3	**approve** the submission of the issues paper to DEV for their meeting on 2 March 2022 and subsequently to Cabinet.	Yes / No

Harriet Shelton
Manager, Supply Chain
..... / ..... / .....

Hon Michael Wood
Minister of Transport
..... / ..... / .....

Minister's office to complete: ☐ Approved ☐ Declined

☐ Seen by Minister ☐ Not seen by Minister

☐ Overtaken by events

Comments

Contacts

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Shuqi Thng, Principal Adviser, Supply Chain	s 9(2)(a)	✓
Bryn Gandy, Deputy Chief Executive	s 9(2)(a)	

Background

1 We last wrote to you in May 2021 (OC210240 refers) outlining the process for delivering on a New Zealand freight and supply chain strategy. We noted that this would be the first of its kind – taking a 15-30 years or longer system-wide view of our supply chain and examining its long-term issues and opportunities.

2 A fundamental output of a supply chain strategy would be to establish how the government can support the freight and supply chain system in achieving desired outcomes for New Zealand. This would require the balancing of objectives such as economic growth, decarbonisation, supply chain resilience, productivity and innovation alongside wellbeing and equity.

3 It would also establish a longer-term relationship between government, iwi and private actors in the system, and set out how all parties will work together on an ongoing basis.

The issues paper

4 Since mid-August 2021, we have engaged with over 140 stakeholders in the freight and supply chain sector on the development of the strategy, 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, etc. There has been strong interest in this work and stakeholders have been keen to contribute.

5 This engagement has informed the development of the draft of the issues paper. There is more work to be done on refining the paper and making the language more accessible to the general public, but we would like to seek your feedback on it early.

6 The issues paper outlines some of the big changes facing the freight and supply chain system over the next 30 years, as well as existing vulnerabilities highlighted by the ongoing supply chain congestion.

7 To deal with these issues, the paper proposes adopting a more strategic and coordinated approach across government and industry. This legitimises and establishes the basis for a longer-term relationship between government, iwi and private actors in the system.

8 The issues paper also signals to the public, for the first time, that we want to transition to a low-emission, resilient, productive and innovative freight and supply chain system, and how a strategy might achieve this.

9 While close collaboration with stakeholders will be crucial for the design and implementation of the strategy, we see this as a Ministry of Transport strategy but with strong input from industry. The possibility of joint decision-making may be explored at a later stage as we develop more detailed action plans.

Summary of issues paper

We need to position the freight and supply chain system for the big changes it is facing, including decarbonisation

10 We consider that New Zealand's freight and supply chain system faces some big changes over the next 30 years, that pose significant challenges but also profound opportunities for the whole sector. The issues paper identifies the main changes as being the increasing need for climate change adaptation and mitigation, population change and intensifying urbanisation, technological development and digitalisation, and changes in international dynamics.

11 The paper also emphasises the additional importance and urgency for change given New Zealand's commitment to an ambitious emissions reduction target of becoming net zero by 2050, to mitigate the worst impacts of climate change. This requires a drastic transformation of New Zealand's entire economy, including how our supply chain operates.

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

12 The paper further outlines some vulnerabilities in the current system that the COVID-19 pandemic has highlighted. For example, the predominant operational model that prioritises just-in-time efficiency means that shocks and disruption have greater impacts and are more difficult to recover from.

13 Other vulnerabilities stakeholders have suggested include 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. Some parts of the system are fragmented while others are more regionally focussed, which reduces the sector's ability to create change that benefits the national interest.

14 The pandemic has also accelerated some of the big changes the system is facing, and the operating environment for New Zealand's freight and supply chains is unlikely to return to its pre-COVID-19 state.

15 While there is insufficient data to properly assess how the system as a whole is performing, there are some indications that it could be performing better. For example, Statistics New Zealand data show that productivity in the freight sector has been declining over the last two decades. Going forward, we need to find better ways to collect and share data and to measure and review the performance of the system.

Government and industry can adopt a more strategic and coordinated approach

16 The issues paper argues that the sheer magnitude of the changes, urgency of responses, and the complexity of the system require a more strategic and coordinated approach to the freight and supply chain system.

17 This is especially when 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,

which requires clear and long-term planning from all parts of the sector including government.

18 At the same time, tackling climate change and changing population dynamics will require near term decisions in an environment of change and unpredictability, where better coordination across government and industry could help provide more certainty.

19 The paper then proposes 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 that is carried out in a safe, equitable and inclusive way.

Our approach for engagement on the issues paper

We intend to run an 8-week public consultation process focussed on targeted engagement with industry

20 As the first milestone in the development of the strategy, the consultation provides stakeholders and the public an opportunity to give feedback and build a common understanding of the key issues and vulnerabilities facing the freight and supply chain system.

21 The consultation process will also seek feedback on the proposed outcomes and priority areas for action, which will inform the development of the strategy.

22 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.

23 We will invite all the stakeholders we have engaged with to date to submit comments on the paper. We 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.

24 Given the interest in the project to date, we anticipate there will be a high number of submissions.

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

25 We have invited iwi representatives to collaborate on the strategy by reaching out through the Iwi 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, Ngai Tahu and Tainui representatives have engaged on the strategy.

26 An early focus for 2022 is to have more conversations with iwi/Maori 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. The Ministry has several projects it wishes to discuss with iwi/Maori and we intend to hold hui at which the freight and supply chain strategy will be one of a range of topics considered. This 'bundled' approach is in line with advice from Te Arawhiti.

27 We also intend to stand up a Treaty Partner Reference Group this year to support our work with iwi/Maori.

Potential risks and mitigations

Ongoing supply chain and COVID-19 issues may impact stakeholder engagement

28 While there has been strong interest in this work so far, ongoing supply chain disruptions as well as the impacts of an Omicron outbreak on workforces may affect how engaged stakeholders can afford to be over the next few months. Stakeholders may also expect us to prioritise solving immediate supply chain problems.

29 We may have to exercise some flexibility in our timelines in order to ensure that adequate stakeholder engagement has been undertaken, while making sure we do not lose too much momentum as a result. Engagement with stakeholders will be designed to maximise good use of their time.

30 We will also have to clearly articulate the value of the strategy in positioning New Zealand well for future disruptions, even if it may not be able to resolve current ones. The identification of some “quick wins” in the p ocess may also help to demonstrate the value of the strategy development process. There are separate interagency workstreams focussed on the current supply chain disruptions and the COVID-19 response.

There may be questions over how the issues paper fits in with the Emissions Reduction Plan

31 The Emissions Reduction Plan (ERP) is due to be published before 31 May this year. The current draft, subject to Cabinet approval, includes steps to begin work now to progress the decarbonisation of heavy trucks, and a proposed freight-specific emission reduction target out to 2035. Consultation on our issues paper is planned for early April, which means it cannot include any final decisions on transport and freight related targets or policies. This may raise questions on how the issues paper and the strategy fit in with the work of the ERP.

32 We will explain that the issues paper helps set the context for the challenges and opportunities the freight sector will have in decarbonising in both the immediate and longer term. The issues paper is clear that the ERP will set the level of ambition for reducing emissions in the freight sector through a freight specific target out to 2035, and will include a set of initial actions to begin decarbonisation of the sector. The strategy will then look at what further actions are required to meet this target, as well as putting the sector on a path to the longer-term target of net zero carbon by 2050.

Next steps

33 Following your feedback on the issues paper, we will work to further refine it including making sure the paper is in plain, active language. This will result in changes to the text, but not the substance of the paper. Thereafter we propose to send the final draft of the paper to DEV and then to Cabinet in March this year for approval before public release. We consider it appropriate to do so given the number of portfolios this work crosses over with and the high level of interest from other government agencies.

34 We recommend that you share the final draft of the paper with your supply chain ministerial colleagues for their feedback, before submitting to DEV. This would give them additional time to consider the paper prior to Cabinet.

35 Once approved by Cabinet, we will run a process of public consultation as proposed in the previous section.

36 In setting this work up for its next phase, we will create a number of stakeholder reference and/or focus groups to dive into the proposed priority areas and assist the Ministry with developing actions and options to deliver on the desired outcomes.

37 We will report back to you with key feedback from the consultation process, and provide interim updates on the strategy development process.

TE RAUTAKI UEĀ ME TE RAUTAKI WHAKAWHIWHINGA O AOTEAROA

NEW ZEALAND FREIGHT & SUPPLY CHAIN ISSUES PAPER

PREPARING OUR SUPPLY CHAIN FOR THE FUTURE

FOR CONSULTATION

SUBMISSIONS CLOSE [DATE TBC]

[include an inviting message in Te Reo]

Possible whakataukī:

E kitea ai ngā taonga o te moana, me mākū koe.
If you seek the treasures of the ocean, you'd better get wet.

Te manu kai miro, nōna te ngahere; te manu kai mātauranga, nōna te ao.
The bird that eats the miro berries, theirs is the forest; the bird that consumes knowledge, the world is theirs.

Tama tū, tama ora; tama noho, tama mate.
He who stands, lives; he who sits, perishes.

He aha te kai a te rangatira? He kōrero, he kōrero, he kōrero.
What is the food of leaders? It is communication.

FOREWORD

[To be drafted]

CONTENTS

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 [1], 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. This transition has to be achieved in a way that is fair, equitable, and inclusive for all, and it needs to contribute 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, and to lay out a strategic approach for responding collectively to these issues and capitalising on opportunities. The issues paper captures and reflects on our recent engagement with a range of 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. Going forward, we want to agree on and deliver a freight and supply chain strategy centred around a strong partnership with all stakeholders, and establishing this partnership is a key focus this year.

DEVELOPING A FREIGHT AND SUPPLY CHAIN STRATEGY

We need to position the freight and supply chain system for the big changes it is facing, including decarbonisation

Our freight and supply chain system faces some big changes: 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, and changes in international dynamics.

These trends had been identified by the International Transport Forum (ITF) and other international commentators long before the COVID-19 pandemic hit. Many of these changes will put upward pressure on freight rates, and the low rates New Zealand has enjoyed and relied on for trade pre-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 COVID-19, the operating environment for New Zealand's freight and supply chains is unlikely to return to pre-pandemic settings. The operating models we have relied on for decades may no longer be fit for purpose.

There is additional importance and urgency for change given New Zealand's commitment to an ambitious target of becoming net zero by 2050, to mitigate the worst impacts of climate change. This requires a drastic transformation of New Zealand's entire 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, and will require significant investment, long-term planning, and shifts in operating practices.

All these changes pose significant challenges for the whole sector, but there are also profound opportunities for the system to adopt and embed better ways of doing things. The market and government are already responding to

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

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. Government is also developing and implementing various measures to reduce freight emissions, support businesses to build resilience, accelerate digitalisation and uptake of technologies, and ensure fair, inclusive, and equitable transitions.

We also need to address existing 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 vulnerabilities in the current system. For example, the predominant "just-in-time" operational model that prioritise lean inventories and commercial efficiency means that shocks and disruptions have greater impacts and are more difficult to recover from. Related to this is a lack of agility in shifting between freight options. There is a reliance on international shipping lines for domestic freight coastal movement, a lack of easily accessible freight data, and ongoing challenges in accessing labour. Some parts of the system are fragmented while others are localised, such as ports whose shareholders tend to be regionally focused; this reduces the sector's ability to create change that benefits the national interest.

One of the key issues in the current system is the lack of data. This makes it harder to plan and properly assess how the system 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 sector has been declining over the last two decades. Going forward, we need to find better ways to collect and share data and to measure and review the performance of the freight and supply chain system.

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

The sheer magnitude of the changes, urgency of responses, and the complexity of the system requires a more strategic and coordinated approach to the freight and supply chain system. 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, which requires clear and long-term planning from all parts of the sector including government. At the same time, tackling climate change and changing population dynamics will require near-term decisions in an environment of change and unpredictability, where 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.

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, especially 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, for example ongoing industry transformation plans undertaken by various sectors, or the development of a circular economy.[2] 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[3] and the Treasury's Living Standards Framework.[4]

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

In developing the freight and supply chain strategy, we will not be starting from scratch, and can build on work that has gone before or is ongoing. 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), 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 Hīkina te Kohupara discussion document have also set out opportunities and challenges in reducing heavy vehicle emissions, and policy options for transitioning the freight sector to net zero in 2050. We can also tap on existing strategies to improve road safety, employment, and workplace health and safety.

[2] 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.
[3] https://www.transport.govt.nz/area-of-interest/strategy-and-direction/transport-outcomes-framework/
[4] https://www.treasury.govt.nz/information-and-services/nz-economy/higher-living-standards/our-living-standards-framework

HOW CAN YOU CONTRIBUTE?

We are seeking your feedback on this issues paper to help shape the approach to the development and focus of the freight and supply chain strategy. Anyone can make a submission, and it can range from a short note to a more substantial document responding to the consultation questions included in this issues paper covering many issues. 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 any questions about making a submission or would like to meet with the strategy development team for a discussion, please contact us via supply.chain@transport.govt.nz

We have received a number of submissions relating to freight decarbonisation and the development of 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 process.

Please note that Te Manatū Waka, Ministry of Transport seeks to have as much information as possible on the public record and intends to proactively release all submissions on the Ministry website after receipt. We can accept and withhold material in confidence only under special circumstances (e.g. commercially sensitive or 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 refined petroleum, 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 economy.

HOW DOES FREIGHT MOVE DOMESTICALLY AND INTERNATIONALLY?

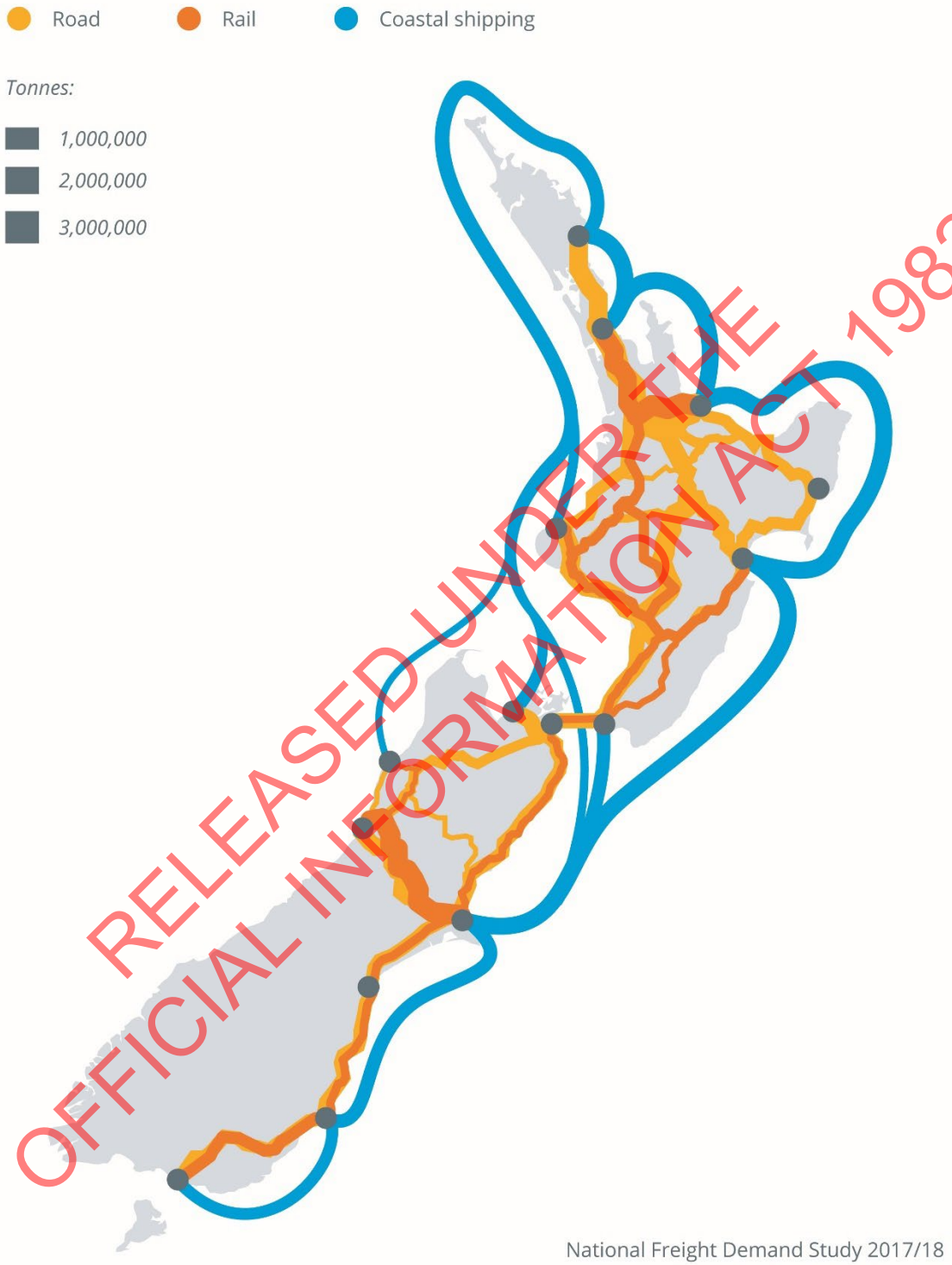
Within New Zealand, freight can travel by road, rail, coastal shipping, or air. Sometimes goods will travel by several different modes and be transferred from one mode to another at hubs before reaching their destination.

Our main domestic freight routes are dictated 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 shows where and how much freight is moved around New Zealand via road, rail, and coastal shipping (by both domestic and international ships).

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.[5]

[5] About 35% of freight (in tonnes) is comprised of primary products. National Freight Demand Study 2017/2018

Road, rail and coastal shipping freight by volume



National Freight Demand Study 2017/18

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.[6] In addition, New Zealand is located at the end of the international freight routes. 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 for additional freight 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

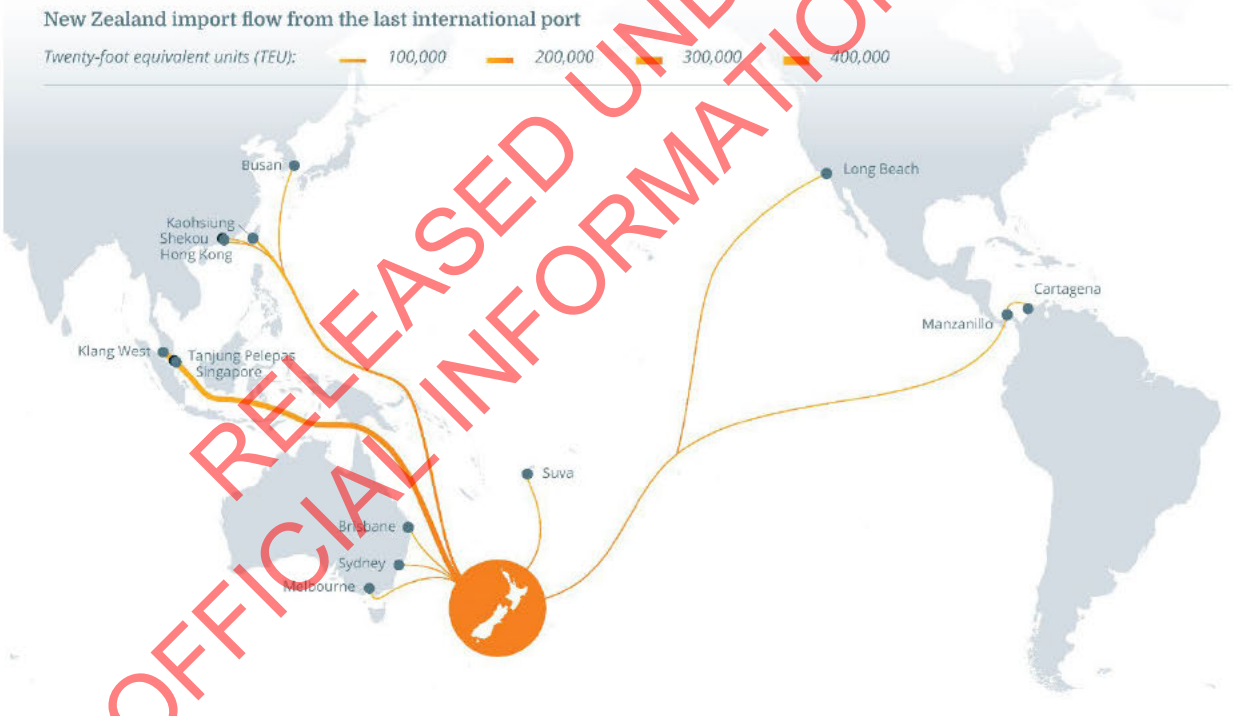
Containerised shipping only began in the 1950s but it quickly revolutionised the sector. It allowed large volumes of different types of goods to be packed and stacked neatly in standardised boxes, and taken on and off ships, trains and trucks in a seamless way with less labour. The increased efficiency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

[6] Alphaliner, The Worldwide Reference in Liner Shipping, Monthly Monitor, December 2021.



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.	13% of our containerised 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 wider national interests are served by the system** – The government works to ensure that positive outcomes in other dimensions of wellbeing are also achieved within the freight and supply chain system. These include 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.

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.

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.

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 looks at some of the key changes that are affecting the system now and in the future, and what opportunities and challenges these changes present for the system. To enable the system to continue delivering services and contributing to wider economic and social goals, we need to find ways to capitalise on the opportunities while meeting the challenges.

CLIMATE CHANGE

Climate change will impact on all aspects of our supply chain

Our climate is changing, and we have seen a rise in intensity and frequency of extreme weather events impacting all areas of the globe. This will impact on all aspects of our supply chain, especially:

- **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.[7] This will lead to changes in the most productive use of land in different regions – we may see significant shifts in what primary products are produced and where. There may also be a risk that investment in infrastructure in some areas does not deliver on expected benefits because of an unanticipated decline in production. Conversely, some regions may undergo quicker than expected transitions to new land use. Freight infrastructure and services will need to be invested in to unlock the potential of new producing regions or risk missing important opportunities for regional economic development.
- **It will increase the risk of damage to infrastructure and supply chain disruption, and mean re-location of at risk infrastructure and affect where we build new infrastructure** – Ports, transport corridors, airports, and associated infrastructure are at risk due to increased risk of extreme weather events, ongoing sea-level rise, landslides, and coastal erosion.[8] It will be necessary to identify infrastructure critical to our supply chain within our planning system, and ensure we are ready for potential future risk, which may involve relocating some of the infrastructure
- **It will increase the likelihood of supply chain disruptions globally –** As climate change affects other parts of the world in varying ways, 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 issues associated with managed retreat from at risk areas due to climate change over the coming decades and funding options.

To mitigate the worst impacts of 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 in an effort to keep global temperature warming to 1.5 degrees. As part of the global effort, New Zealand has committed to reduce our net emissions by 50% below our gross 2005 level by 2030, and to become net zero carbon by 2050.

Meeting these goals will require a drastic transformation of how our supply chain operates, including the decarbonisation of all freight modes and the operations of the infrastructure that supports them (e.g. ports and airports). If we do not reduce our emissions from our freight and supply chain, it will pose significant economic and consumer risks in the future. Exporters could face challenges with 'food miles' as consumer demand for lower

[7] National Climate Change Risk Assessment
[8] National Climate Change Risk Assessment - Main Report (environment.govt.New Zealand)

emissions goods increases, freight operators will see rising prices in fuel as the price of carbon increases, freight operators may also see rises in costs as international shipping is brought into other countries' carbon pricing schemes, and New Zealand may also become less desirable for international shipping companies who transition to low or zero emissions fuels and ships. These costs and impacts will all be passed onto the consumer.

Renewable electricity and zero or low emissions fuels (e.g. bioenergy and hydrogen) and improving energy efficiency is important to decarbonise the sector. This will require significant investment in upscaling renewable electricity generation and new infrastructure and technologies to support production and deployment of these low emissions fuel sources.

The Green Freight Project, published by Te Manatū Waka, Ministry of Transport in 2020, identified opportunities and challenges for reducing emissions from the heavy vehicle fleet. 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 and work out a way forward for the longer term decarbonisation of the sector.

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

Heavy vehicles make up only 3% of vehicle fleet in New Zealand, but deliver 93% of freight volume movements and contribute around 25% of our total transport emissions. Due to the significant nature of emissions in this sector, the Emissions Reduction Plan will set specific targets for the freight sector to reduce emissions by 2035, and put the sector on a path to meeting New Zealand's net zero target by 2050.

The Sustainable Biofuels Mandate, reducing the emissions intensity of fuels sold in New Zealand, will take effect from April 2, 2023 and will go some way towards reducing these emissions, but we also need to accelerate the uptake of low and zero emissions heavy vehicles in New Zealand. Technologies around 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 and we are now seeing vehicle manufacturers around the world committing to large scale commercialisation of zero emissions trucks in the 40-ton GVM class in the next few years[9].

At COP26 New Zealand signed up to an international agreement to increase the proportion of our market sales of heavy zero emissions vehicles entering New Zealand to 30% by 2030 and 100% by 2040. This is ambitious, and combined with our other targets, sends a signal to international 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 forward to meet these targets, including how we increase the fuel efficiency of vehicles entering our country. In order 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 how they are funded will need to be considered by both government and the private sector.

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

[9] https://www.volvotrucks.com/en-en/news-stories/press-releases/2021/apr/volvo-trucks-now-ready-to-electrify.html
https://www.scania.com/group/en/home/newsroom/news/2021/Scanias-commitment-to-battery-electric-vehicles.html

reduction, better utilising carrying capacity, adopting telemetrics to support route optimisation, collaborative utilisation, and multi-company hubs[10].

Coastal shipping and rail offer lower emission modes of transport, but will also need to decarbonise in the future

We will also have the opportunity to shift some products from road transport to lower emissions modes such as rail and coastal shipping[11]. This would provide multiple economic and social benefits, not only in decarbonising transport but also in reducing congestion, roading maintenance costs, air pollution and safety risks from land-based vehicles (especially trucks)[12].

Further study is required into the extent of possible mode shift we can achieve, since this will be limited by which products can viably be moved this way. Rail and coastal shipping are slower and need to aggregate greater volumes of cargo to maximise their utilisation on each journey, and schedules may not be timely enough to meet market expectations, especially for perishable goods. End-to-end freight journeys that utilise rail and/or coastal shipping will likely have to use road freight at the start and end as well, since very few locations, including in rural areas, have direct access to rail terminals or ports. This involves additional costs to transfer across modes. Rail and coastal shipping tend to compete for similar types of goods, so the extent of mode shift to each mode may be limited.

Time and substantial investment will also be required 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 resilience of New Zealand's rail network, a key component of which is a new long term planning and funding framework for the heavy rail track network. As a first step, investment priorities over the next decade are focussed on restoring a resilient and reliable rail network, and further investment will be required to support growth in rail freight, including from greater mode shifts. 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 deliver coastal shipping activities. These could include new or enhanced domestic services, reducing sector emissions, new or enhanced inter-modal links, and new or enhanced maritime infrastructure.

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 restoration of the rail network is achieved over the next ten years, there is potential to consider further electrifying our rail system in the future or using green hydrogen fuels and locomotives. This would require significant investment and careful consideration of the emissions reduction potential versus costs, including 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 below section) due to international carriers performing some of our domestic freight task, and the need to ensure we have the appropriate infrastructure to service both domestic and international carriers at our ports.

[10] https://www.sbc.org.nz/insights/2021/low-carbon-freight-pathway

[11] Road freight emits on average 136g of CO_2 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 45g by coastal shipping (12 to 33% of road, levels of emissions vary according to type of shipping). Ministry for the Environment. 2019. *Measuring Emissions: A Guide for Organisations. 2019 Detailed Guide*

[12] https://www.transport.govt.nz/assets/Uploads/Report/EY-Report-Externality-value-of-rail-2020.pdf; https://www.transport.govt.nz/assets/Uploads/Report/TheExternalityValueOfCoastalShipping.pdf

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 emissions. This percentage is expected to grow 23% by 2035 compared to 2015.[13] The International Maritime Organization's Initial Strategy to combat emissions targets a reduction of vessel carbon intensity by 40% by 2030 and 70% by 2050, and of total annual emissions by at least 50% by 2050, compared to 2008.

There have been corresponding efforts by shipping lines to explore alternative fuels, e.g. electric ships and alternative sources of propulsion, but there is not yet a universally available and accepted solution. To make alternative fuels attractive options for shipping, there have also been calls by some countries 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 decarbonise trade routes, New Zealand has signed the Clydebank Declaration which commits signatories to establish "green shipping corridors", i.e. zero-emission shipping routes between two or more ports. There are potentially opportunities for New Zealand, where successful establishments of green corridors could provide reputational benefits to our exports.

Measures to decarbonise the aviation sector are also underway. Carbon emissions from fuels consumed in domestic and international air transport accounted for around 2.5% of all energy-related emissions pre-pandemic.[14] While International Civil Aviation Organization member states are still contemplating an agreement on a long-term target for emissions reduction, some 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, Ministry of Business, Innovation and Employment and Air New Zealand have signed a Memorandum of Understanding to explore the feasibility of operating a SAF plant at a commercial scale in New Zealand.

OPPORTUNITIES AND CHALLENGES

Transitioning to a low emissions freight transport system presents some opportunities…

- As awareness around 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 biofuel opportunities. There are market advantages to being early adopters that the freight sector could support. A domestic market for biofuels will create new opportunities for production in New Zealand, but will also require us to ensure we have the freight infrastructure to support.
- **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 supporting more fuel-efficient vehicles coming into the country.
- Successful establishments of **green corridors from New Zealand could provide reputational benefits to New Zealand exports. It will require our ports to look into decarbonising their operations** e.g. through 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 invest in green ships and plan their networks around ports they can refuel at.

[13] decarbonising-maritime-transport.pdf (itf-oecd.org)
[14] decarbonising-air-transport-future.pdf (itf-oecd.org)

"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 commercial 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.

…and some challenges

- **Inherent uncertainty around how climate change will impact future production requires agility in our freight networks.** The impacts of climate change on production volumes, and significant shifts in what primary products are produced and where, will mean that the freight and supply chain system needs to be able to service with these unpredictable swings.
- The high costs and long-term nature of supply chain infrastructure means **longer term plann ng by operators, freight owners, and government will be needed** to adequately prepare for and respond to the risks climate change presents. 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 where there is only one route available.
- Freight operators will need to transition to low emissions vehicles or use low emissions fuels (biofuels/hydrogen). But, **supply constraints, high up-front costs, and uncertainty over fuel choice and technologies present challenges for operators**. There are risks and opportunities around early adoption and risking stranded assets or staying ahead of the curve. 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 existing and new infrastructure, certainty around government investment and the future of our port system, and certainty around future energy supplies**.
- We are also at the end of international trade routes, and there may be **risks to our international trade if countries start to limit trade with higher emissions economies to meet domestic and international decarbonisation targets**. New Zea and has attracted attention in the global debate about 'food miles'. The recent announcement of a Free Trade Agreement with the United Kingdom generated heated responses from UK farmers about the mpacts of importing food products from the other side of the world.

DEMOGRAPHICS

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.[15] 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.[16] This would see the majority of population growth concentrated in and around Auckland, Hamilton, Tauranga, Christchurch and Wellington. In particular, Auckland is projected to grow by around 648,000 people, accounting for almost half of all population growth.[17] This will place pressure on existing infrastructure, increase transport demand, and demand greater investment in our urban areas.

Housing shortages and efforts to respond to climate change are further driving 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

[15] Subnational population projections: 2018(base)–2048 | Stats New Zealand
[16] 211012-Draft-New-Zealand-Infrastructure-Strategy.pdf (tewaihanga.govt.New Zealand)
[17] Subnational population projections: 2018(base)–2048 | Stats New Zealand

Zealand's housing supply challenges. This could also reduce emissions as people live closer to where they work, with increased access to public and active modes of transport to reduce reliance on private 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.[18] This increase in freight volumes combined with population growth, will put pressure on existing infrastructure and transport corridors. Specifically, increasing population concentration in the Auckland – Waikato – Bay of Plenty 'golden triangle' will intensify the competition between passengers and freight for the use of the same road and rail networks. This will also pose challenges for moving freight through these cities, given that key national freight routes on main state highways pass through them. This will impact the ability of exports and imports 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 involve changes to the way urban areas and transport corridors are designed in the future. This will impact on how we move freight within these areas and change 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 productivity of the system and business competitiveness of cargo owners affected.

As cities densify around ports, this could reduce the availability of land and social license for port expansion. Most urban environments in New Zealand have developed around ports but as cities densify, the ability of ports to expand their operations has become limited. Greater interest in developing waterfront areas as public spaces has also generated friction between commercial and public drivers, calling into question the extent of public acceptance of ports' commercial activities in the heart of our cities.

Changes in zoning to allow for densification may also reduce the availability of land used for storing freight. This could affect efforts to consolidate and optimise freight and logistics networks through the use of 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, and require more industrial land for domestic manufacturing, or warehousing to hold higher volumes of inventory.

Ports of Auckland Limited (POAL)

POAL occupies 77 hectares of land in central Auckland. Interest in developing the waterfront has fuelled public opposition to further expansion of the port. The future of POAL is a highly contentious issue with many interested stakeholders. Previous processes examining possible future locations for POAL have not concluded on a single clear option.

Given the complex, interconnected nature of the freight and supply chain system, decisions such as port locations cannot be considered in isolation, but will have to be taken forward within a broader set of decisions to make up an effective freight and supply chain network.

OPPORTUNITIES AND CHALLENGES

Changing demographics presents some opportunities…

- Urban densification could provide **an opportunity to incentivise innovative, low-emissions solutions and new markets for first- and last-mile urban deliveries**, such as micro-freight, and cargo bike delivery or drones. [19]

[18] TransportOutlookFutureState.pdf
[19] The Promise of Low-Carbon Freight (squarespace.com)

- **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 Congestion Question project modelled that in Auckland by 2046 severe congestion on the freight network during both the morning peak and interpeak will increase by 50%.

Congestion pricing has been successful in other parts of the world in reducing traffic and congestion and enabling more efficient freight movements. Central government and Auckland Council officials are currently investigating whether or not to introduce congestion pricing on part or all of Auckland's road network.

…and some challenges

- We will need to give adequate consideration to freight needs (e.g. in moving goods, for storage, logistics centres, expansion of ports) in our land use planning, recognising the importance of freight to our economy and wellbeing. 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 shifts to occur where they are in the public interest.
- As population numbers shift towards urban centres, it will be important to ensure **reliable and adequate freight corridors to service regional communities**.

TECHNOLOGY AND DIGITITALISATION

Advancement in technology may change how we move goods

Advancing technology trends over the next few decades could transform how we move freight. There are several areas of technology development that have specific relevance for our freight and supply chains:

- Artificial intelligence (AI) will enable autonomous vehicles to become mainstream, with the freight sector likely to transition faster than personal transport, especially for 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. E.g. automation systems at ports allow for containers to be stacked higher and closer, making better use of space
- 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 entire products at localised sites, instead of moving a multitude of parts from various locations to assembly centres. For now, existing 3D printing technologies remain limited to the fabrication of parts which still require transport to assembly centres.[20]
- Globally, we have seen significant advances in the demonstration of low emissions vehicle technology, including in electric- or hydrogen-powered heavy trucks, and container ships powered by carbon-neutral

AI & autonomous vehicles

There have also been advances in autonomous drones for heavy cargo – this has the potential to disrupt the shipping industry and help mitigate supply chain disruption from extreme weather events at ports. Self-sailing cargo ships are also being trialled around the world, although these are still limited to small ships over short voyages.

[20] https://read.oecd-ilibrary.org/transport/itf-transport-outlook-2019_transp_outlook-en-2019-en#page176

methanol. We are starting to see more manufacturers putting in dates for the wide scale commercialisation of these vehicles.

Greater digitalisation of trade could significantly facilitate global supply chains

Digitalisation in the form of e-commerce, paperless trading and transactions, and electronic border procedures has reduced the cost of trading internationally and contributed to more cross-border flows of physical and digital goods and services. Digital technologies help integrate the operations of freight providers, and optimise movements, which improves visibility and efficiency of shipments.[21] For example, port-call optimisation helps to optimise vessel 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 amongst multiple parties. While there is still limited large-scale use of DLT in the transport sector, several major 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.

E-commerce is expected to grow almost 50% in the next five years.[22] 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.[23] E-commerce is likely to be further entrenched as work-from-home habits persist even after personal movement restrictions are lifted. The rise in e-commerce, with its dependence on road and air freight for fast, on-demand deliveries of small individualised parcels, highlights the need to decarbonise the freight and supply chain system, especially the last-mile of the system.

OPPORTUNITIES AND CHALLENGES

Advances in technology present some opportunities…

- 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
- New technologies and automation present opportunities for higher-quality **job creation across the supply chain** and could negate the need for some of the less-desirable jobs where we currently have labour shortages.
- Digitalisation could help **reduce trading costs and mitigate other upward pressures on freight costs,** increasing integration of New Zealand firms into global supply chains, which would facilitate transfer of knowledge and innovation
- There may be scope to better **integrate existing 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

…and some challenges

- **Long term infrastructure planning will have to take into account new vehicle technologies**: for example, New Zealand's ports would be required to have the right facilities and infrastructure to service greener or autonomous ships, which could involve for example shore power facilities, low carbon bunkering fuels, compatible IT systems.

[21] Digitalization in Maritime Transport: Ensuring Opportunities for Development (unctad.org)
[22] Global retail e-commerce market size 2014-2023 | Statista
[23] New Zealand Post, 2021, NZ Post The Full Download

- 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 can differ across the freight and supply chain system: for example, it could potentially increase the productivity gap between large firms and SMEs who may not be able to afford the investment; it could reduce the demand for workers in some parts of the system, or completely replace some jobs. We need to **ensure a fair, equitable and inclusive transition**.

INTERNATIONAL DEVELOPMENTS

The international trading system 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 amidst climate change-driven shortages. Geopolitical tensions could also disrupt the security of key trade routes, including maritime sea lanes through which 99% of New Zealand's trade is transported.

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 each year. In 2016, 18% of New Zealand trade passed through the SCS (CSIS, 2018). This percentage is likely to have grown since.

This region is at the heart of an international territorial dispute among China and several Southeast Asian countries. The US also has security interests in preventing Chinese control over the SCS. Should small-scale skirmishes escalate into armed conflict, commercial shipping could potentially be disrupted.

Intra-regional trade is expected to grow in importance 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 relati ely 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 further from Western markets to these new ones.[24] These changes in trading relationships will lead to corresponding changes in patterns and availability of freight services.

International shipping sector consolidation and the rise of megaships will impact our ports

Consolidation within the international container shipping sector has led to three global alliances of the 10 largest companies, which currently control over 80% of the market.[25] 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 become more active in other parts of the logistics chain, such as terminal operations, port services, and freight forwarding. The market share of carrier-controlled terminal operators has increased from 18% in 2001 to almost 38% in 2017.[26] More recently, some major shipping lines have purchased companies in warehousing, customs services, freight forwarding, trucking, and e-commerce logistics, or even established their own air freight divisions.

[24] New Zealand's top export partners in 2020 were China, Australia, the US, Japan and South Korea.
[25] 2021 Ports and Freight Yearbook (deloitte.com)
[26] *impact-alliances-container-shipping.pdf (itf-oecd.org)

Container ship sizes have also grown in size to take advantage of economies of scale, with the share of global containership capacity carried by ships larger than 10,000 twenty-foot equivalent (TEU) quadrupling from less than 10% in 2011 to nearly 40% in 2021.[27] Similarly, the maximum ship size calling in New Zealand has doubled from 5,000 TEU in 2016 to about 10,000 TEU in 2021.[28] However, it is unclear how long this trend of further horizontal market consolidation and increasing ship size will continue for, with the International Transport Forum suggesting that diminishing returns to scale may be setting in.[29] The shipping disruptions from COVID-19 have also increased regulatory scrutiny of shipping line consolidation, and highlighted the value of the flexibility medium-sized ships provide.

These trends have increased the market power of shipping lines, putting pressure on ports to reduce rates and invest in infrastructure to retain or attract shipping lines. Larger ships bringing higher volumes with each visit also puts pressure on the port's capacity to process these ships. Importers/exporters potentially face less shipping reliability and choice since bigger ships could reduce the frequency of services and amplify the impacts of delays while vertical integration could reduce shippers' choice further up the logistics chain.

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

Pre-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 (which rose 53% from 2010 to 2019[30]), which allowed for more capacity to be allocated to air freight at lower rates. While there is a small number of regular dedicated freighter services, these tend to service Australian cities as well, which reduces the capacity available for New Zealand. The COVID-19 border closures and decline in passenger travel therefore led to a drastic fall in capacity for air freight. To maintain air connectivity, the Government provided funding support to airlines to manage the gap between operating costs and the revenue earned from carrying freight and low passenger numbers. 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 travel 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[31] despite some potential short term gains from pent-up travel demand, because of:

- remote working practices reducing the need for some business travel[32]
- delays in airlines bringing aircraft back into service after having grounded and retired a significant proportion of their fleet
- foreign airlines deploying aircraft away from New Zealand and to other routes where countries have already resumed passenger travel, decisions 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 demand for air freight globally, it is also less profitable for dedicated air freighters to service New Zealand given our long distances from major markets. Air freight rates are likely to remain at elevated levels of

[27] Review of Maritime Transport 2021 (unctad.org)
[28] FIGS
[29] *Future Maritime Trade Flows: Summary and Conclusions (itf-oecd.org)
[30] Ministry of Transport
[31] A McKinsey report suggests that air traffic will take four years to return to 2019 levels. https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/back-to-the-future-airline-sector-poised-for-change-post-covid-19
[32] McKinsey estimates that global business travel is only expected to return to 80% of pre-pandemic levels even after four years. https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/back-to-the-future-airline-sector-poised-for-change-post-covid-19

two to three times pre-pandemic 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" our tourism sector towards a high-value and sustainable model, but this may reduce passenger travel volumes and hence airfreight capacity. New aircraft models powered by low-emission fuels like electricity and hydrogen could also result in less space for air cargo, since they would require more space/weight allocation to carry these fuels. That said, these technologies are currently still limited to small aircraft over short distances.

OPPORTUNITIES AND CHALLENGES

Shifting international developments presents some opportunities…

- Potential changes in New Zealand's export destinations, especially with increased diversification, will create demand for more reliable **international air and sea connections to service these new routes and improve connectivity**.
- Not all of New Zealand's ports would have the ability to invest in the infrastructure needed to service larger international ships and the higher volumes they carry. There is an **opportunity for domestic coastal shipping** to connect regional ports to main "hub" ports that larger ships can call at. This further drives the importance of good connectivity between these "hub" ports and the main production and consumption centres of New Zealand.

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.

…and some challenges

- **New Zealand businesses will have to diversify and build in 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**. The heavy investment in port facilities needed to service larger international ships could lead to a risk of nationwide over-investment and stranded assets, and/or the decline of those ports unable to compete. This also has implications for investment in rail and roading infrastructure 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, and to maintain New Zealand's attractiveness to international lines, which strengthens the resilience of our international connections.
- **Due consideration has to be given to the needs of air freight in our economic strategies**. We need to explore ways to remain agile in responding to changes in the aviation sector and build resilience to support air freight capacity and economic goals. Parallel work to reconcile the needs of passenger travel and air freight may be required.

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.**

Q x. **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

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

A global oversupply of global 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.[33] Sea freight volumes increased steadily between 2010 and 2019, expanding by 41% (by weight) and 47% (by value).[34] A 2016 report on New Zealand's international air freight assessed available capacity to be typically larger than potential demand, although temporary shortages due to unpredictable spikes in production or market demand existed from time to time.[35] New Zealand's 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 to date also suggested that the system had a number of strengths, including relatively balanced import/export volumes (which made it more commercially attractive for international ships); a strong New Zealand brand overseas driving exports; and a sector that is resourceful in problem solving. There was some agreement that prior to COVID-19, air and sea freight rates were reasonable, the movement of goods around New Zealand's coast was cost-competitive and efficient, and we had good international connections to markets in Asia, Europe, US and South America.

…but the pandemic has highlighted some vulnerabilities, which have to be addressed to position the system well for the future

During the pandemic, personal movements have been restricted or reduced, contributing to a sustained surge in consumer demand for goods at a time when 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: for example, the loss in frequency, reliability and capacity of shipping services to New Zealand; escalating freight rates and surcharges (freight costs have increased to 6% of the value of imports in the first 9 months of 2021[36]); and empty container supplies being stuck in the wrong places. While New Zealand's trade volumes have 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), other impacts associated with forgone economic activity, falling or negative profit margins, loss of business confidence to invest or overseas market share, due to freight challenges have been harder to quantify.

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, not just in New Zealand, 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 shifting to more of a hybrid just-in-time/just-in-case model.
- **Lack of agility in shifting between freight options** – Some stakeholders felt that it was hard to shift between freight modes, e.g. because of insufficient capacity or reliability of alternative modes, or inefficient and expensive transfers across modes.

[33] Customs data. Customs does not collect equivalent data on New Zealand exports.
[34] Freight Information Gathering System, Te Manatū Waka, Ministry of Transport
[35] https://www.transport.govt.nz//assets/Uploads/Report/Airfreight-Research-Final-Report-23-March.pdf
[36] Based on Customs data.

- **Reliance on international shipping lines which may not prioritise New Zealand's freight needs** – New Zealand is geographically distant from major markets and not the most profitable trade lane. International lines also move about 75% of domestic coastal cargo,[37] meaning that domestic freight is also susceptible to the operating decisions of international lines, over which New Zealand has little influence.
- **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, achieving economies of scale and other efficiencies through better cooperation and specialisation, instead of duplication of infrastructure.
- **Lack of freight data available** – There is limited data on the freight sector, which hinders accurate and dynamic modelling, better decision-making, and the monitoring of sector performance against historical or international benchmarks. There is a general aversion to sharing and adopting common standards because of competition and fragmentation in the freight sector.
- **Challenges in accessing labour** – There is an aging workforce[38] in several freight sectors including in ports, trucking, and coastal shipping, while attracting new labour is difficult because of a negative industry image involving unsocial working hours and poor career prospects (due to expected automation). Some jobs have long training times and cannot be filled easily.
- **Clearer long-term planning required** – 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 private sector more confidence to make complementary decisions and investments. They also thought that the consenting process was too expensive and slow. This was felt to be due in part to the low profile and inadequate consideration of freight compared to other transport planning in urban areas.

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

There is also some evidence 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 has been decreasing since 2002. Although dated but still relevant, the 2012 Productivity Commission's inquiry into New Zealand's international freight transport also found scope for improvement in, among other areas, increasing the quality of infrastructure planning and coordination; improving the governance of ports and airports; and developing a richer information infrastructure.[39] According to the Transport Indicators data compiled by Te Manatū Waka, the Ministry of Transport, only 39% of our key social and economic corridors have viable alternative routes.[40] From a safety perspective, out of all the sectors in the New Zealand economy, 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, in the period from September 2020 to August 2021.[41] 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 for New Zealand freight and supply chains is unlikely to return, and we need to position the system for the future

As outlined in the previous section on the strategic context, we expect some key changes in the environment in which the freight and supply chain system operates, 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

[37] Freight Information Gathering System, Te Manatū Waka, Ministry of Transport
[38] For example, 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. (Transporting NZ)
[39] https://www.productivity.govt.nz/assets/Documents/f53fe759db/Final-report-v8.pdf
[40] https://www.transport.govt.nz/statistics-and-insights/transport-indicators/resilience-and-security/
[41] Worksafe stats, https://data.worksafe.govt.nz/graph/summary/fatalities

supply chain disruptions, etc. This means that even after COVID-19, the operating environment for New Zealand's freight and supply chains is unlikely to return to pre-pandemic settings, and the low rates New Zealand has enjoyed and relied on for trade pre-pandemic are no longer a certainty. New Zealand is likely to feel the impacts of higher freight rates much harder than other countries given our geographical distance from major markets.

A key action required is 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 in the current system.

For this, we will need to build a good understanding of how the freight and supply chain system is performing. A more comprehensive, evidence-based assessment on the performance of the system is currently difficult to make 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 especially for road freight data, as well as data collection, sharing and analysis, to present a more comprehensive and useful picture which accounts for the interdependencies and nuances involved in measuring performance across the system. This will help improve operations and aid policy and investment decisions.

New Zealand has an opportunity to take a more strategic and systemic approach to freight and supply chains, to improve our productivity and ability to respond to major changes happening in New Zealand and the world. Apart from highlighting vulnerabilities, the COVID-19 disruption 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 fostered close cooperation and relationships across government and industry. This presents a good starting point to progress work on improving the freight and supply chain system.

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

Q x. **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

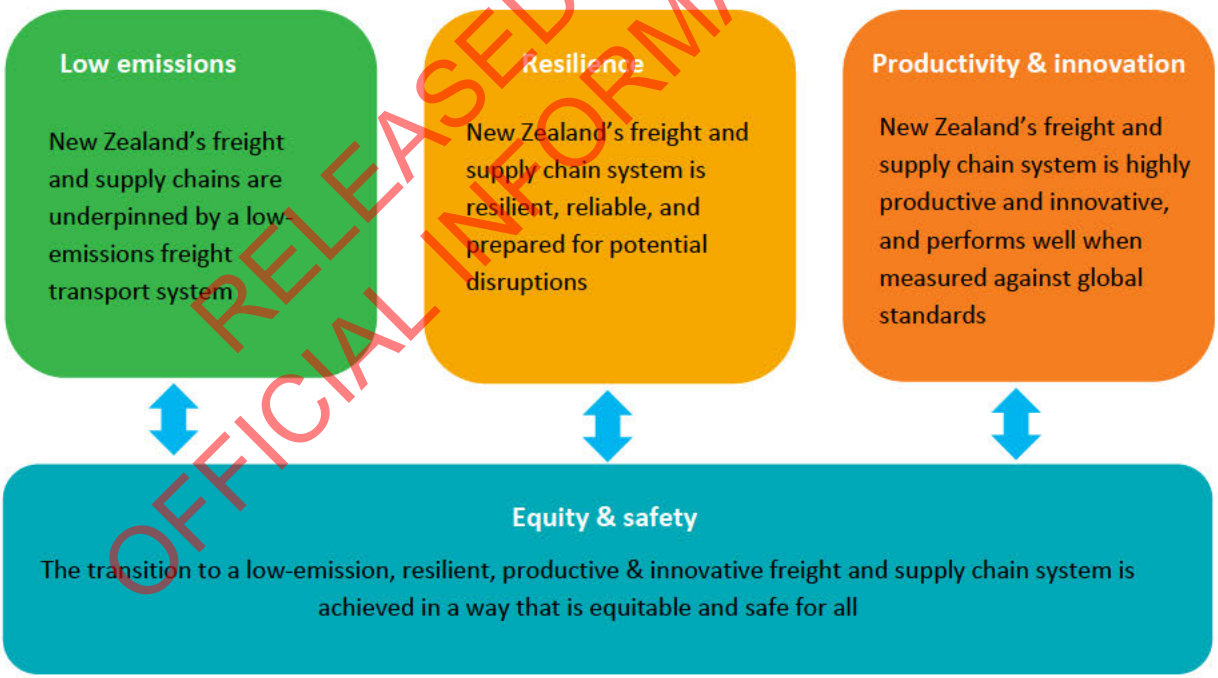
The previous sections demonstrated that some big changes are happening, which present profound opportunities and challenges for our freight and supply chain system, and necessitate addressing existing vulnerabilities. For example, increases in freight costs could be better managed if New Zealand is well-positioned to embrace new technologies and digitalisation, and respond to changing consumer preferences and new markets. Similarly, with an aging workforce and difficulties attracting new workers, the sector needs to rethink how it meets its labour needs in a more enduring manner. This could entail understanding what skills are needed in the future especially with technological change; designing higher quality, higher skilled, and safer jobs; and preparing workers to be resilient and adaptable through further education and training.

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 – what do we need to protect, what do we want to flourish, and how do we ensure our long-term resilience? – and present a pathway to get there.

PROPOSED OUTCOMES TO SEEK

We want a low emissions, resilient, productive, and innovative freight and supply chain system

We have considered the long-term trends and current vulnerabilities in our freight and supply chain system, and 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 focus on four key outcomes around decarbonisation, resilience, productivity & innovation, and equity & safety. These proposed outcomes align with the Transport Outcomes Framework developed by Te Manatū Waka, Ministry of Transport which 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 has committed to domestic and international targets to reduce our emissions to net zero by 2050 and 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 the disruptions arising from climate change, ensuring the connectivity and performance of

supply chains and supporting the wellbeing of New Zealanders. In addition, it could also provide opportunities arising from growing consumer preference for "green" goods and help us be in a good position for 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 in the first budget period, but this is just the beginning. 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.

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 capable of avoiding, absorbing, and recovering from disruptions, maintaining freight connections and keeping goods moving. Although we will grapple with uncertainty around the timing and nature of potential disruptions, we know there are some qualities we can embed in the system (e.g. agility and flexibility) that will help us adapt and respond effectively. 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.

PRODUCTIVITY & INNOVATION

There are opportunities to improve the productivity of our freight sector. Our freight sector is dynamic and competitive in many areas, but productivity has been declining over the last two decades.[42] Given the challenges discussed earlier, it will be increasingly difficult for the sector to deliver goods with the same speed, cost, and convenience as in the past. Improving the productivity of the sector, to produce more economic gains with what we have, will be important to maintain and improve on reliable and timely 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.

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

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 & 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 the impacts of emissions reduction policies on disproportionately affected 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; and ensuring regional economic development is maintained as our urban areas densify; and ensuring New Zealanders are healthy and safe in workplaces and on our roads.

[42] 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 for example infrastructure investment or regulatory changes.

Efforts by the market and government to address the opportunities and challenges are already underway. But, the magnitude of the changes and urgency of responses, as well as the complexity of the system suggests that we need a more strategic and coordinated approach.

To successfully achieve the proposed outcomes, cooperation and coordination will be needed, but this will be hard for the market to achieve by itself. The high costs and long-term nature of investment also require longer term planning from all parts of the sector including government in an environment of change and uncertainty.

Developing a freight and supply chain strategy for New Zealand for the next 30 years, in close collaboration with stakeholders, will enable us to build a strategic direction based on a long-term and system-wide view of New Zealand's freight and supply chain system (see Appendix 3). This will help us set the system for the future and respond effectively to the opportunities and challenges, while remaining agile and flexible to adapt to other 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, especially infrastructure like roads, railways, and bridges, last for generations. This means that today's investment decisions need to anticipate how future generations may want to live and move around and consider changes in the environment, technology, and society.

To support this, Te Manatū Waka, Ministry of Transport is implementing a new approach to investment, called the 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 work together to identify and prioritise future choices at the earliest stage in the investment cycle. It will adopt some of the following principles and features:

- A long-term term-of reference for developing and evaluating options for investment alongside using other levers like pricing and regulat on.
- A greater emphasis on a robust and transparent evidence base including systems for collecting and modelling data.
- Collaborative approaches to idea generation and evaluation.
- The transparent and systematised tracking of ideas from conception to implementation (or rejection) – so that everyone knows where different projects stand in terms of feasibility, evidence base, and expected timeline.
- Enabling longer term plans, and for these to be managed adaptively, if things do not go as planned.

This Strategy will employ the GIA process to prioritise, evaluate and implement options for change. This should result in clear long-term planning with a transparent evidence base that increases the likelihood of investing 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 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

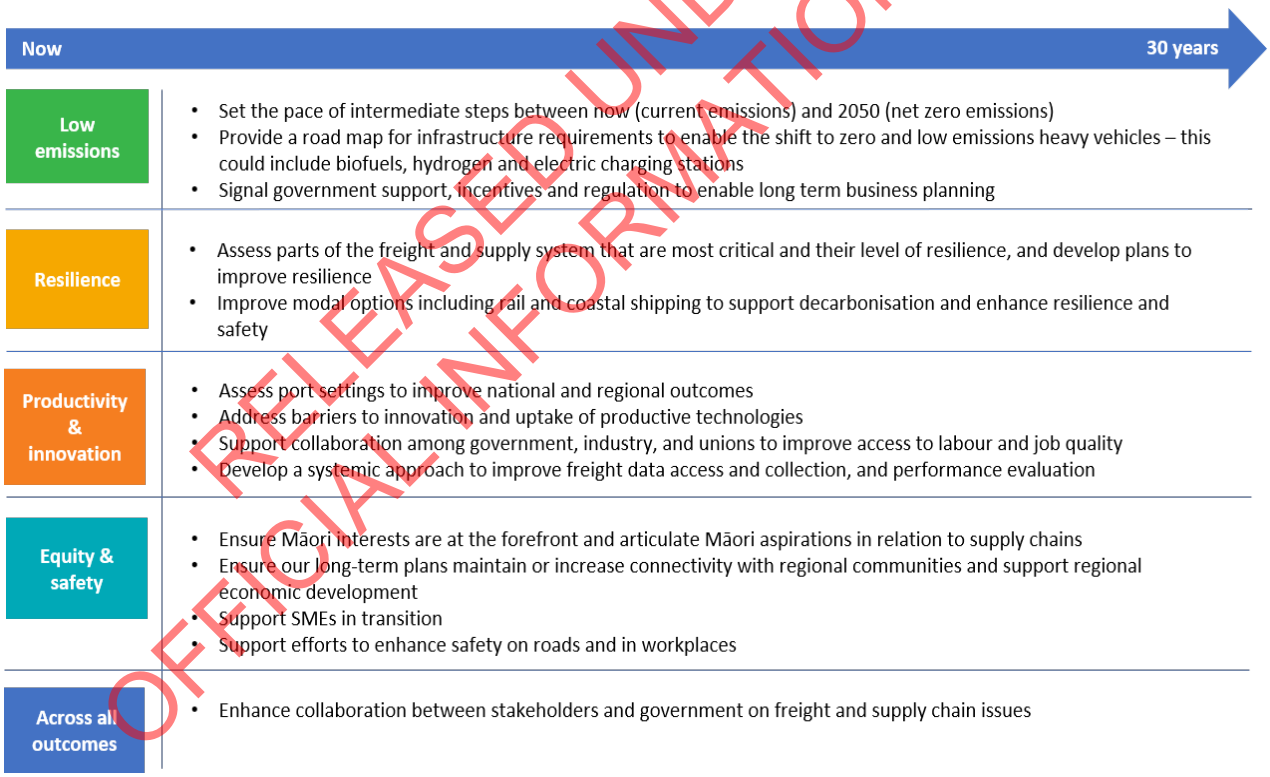
- a set of pathways and priority actions to achieve intended outcomes
- a mechanism for stakeholders and government to work together on an ongoing basis

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.

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 of the opportunities and challenges will be the most important in shaping the future of the freight and supply chain system in New Zealand and whether the proposed outcomes in the earlier section are the right ones to work towards.

At the same time, our engagement to date has informed some potential areas of focus for the strategy which we consider 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 non-exhaustive and only indicative at this stage, and 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 strategy development and implementation process

The process around the strategy development will be as important as the final strategy. We will be taking a collaborative approach, and leverage expertise and experience of stakeholders across the system to inform the

strategy development process. We would also like to work with our Treaty partners to articulate Māori aspirations in relation to the freight and supply chain system and explore ways 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, including central and local governments, Crown agencies, iwi, unions, and industry players across the supply chain, both 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. **Do you agree with the proposed outcomes? If not, please explain why.**

Q x. **Are there additional 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 might 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 are committed to take a collaborative approach to developing and implementing the strategy. We believe that working closely with stakeholders across the freight and supply chain system will help us better design a strategic direction in which all parts of the system can work towards, and better 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.

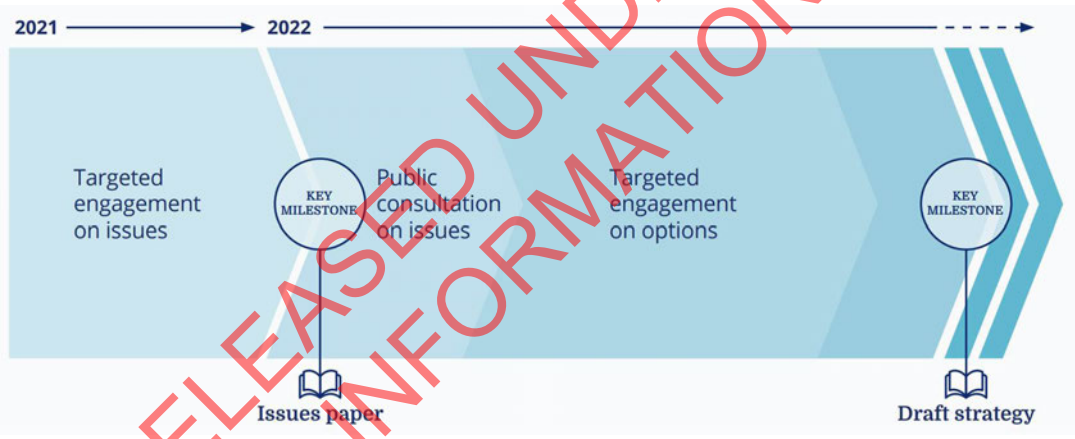
Partnering with iwi Māori will be an essential part of the strategy

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 are working to better understand the opportunities and challenges for Māori in freight and supply chain. We recognise more work is needed to build the relationships required to gain this understanding, and to work in partnership with Māori on freight and supply chain issues and opportunities. Our approach is to meet with iwi/Maori representatives from around New Zealand to listen to their views on how the freight and supply chain can support them, their businesses and help realise their aspirations over the long term. We also intend to bring together a Treaty Partner Reference group to support our work with iwi/Maori. Building an ongoing and enduring partnership will be a key focus of our work going forward.

TIMELINE

Our timelines are subject to change, but we expect the following:



- April 2022: The issues paper is released.
- April-May 2022: Engaging on the issues paper and scope of the strategy.
- April-September 2022: Engaging with stakeholders on the actions and priorities for the strategy
- September-October 2022: Confirming priority actions in the strategy with Cabinet.
- October-November 2022: Drafting the strategy.
- December 2022: Draft strategy goes 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 additional outcomes the strategy should focus on? If so, please explain.

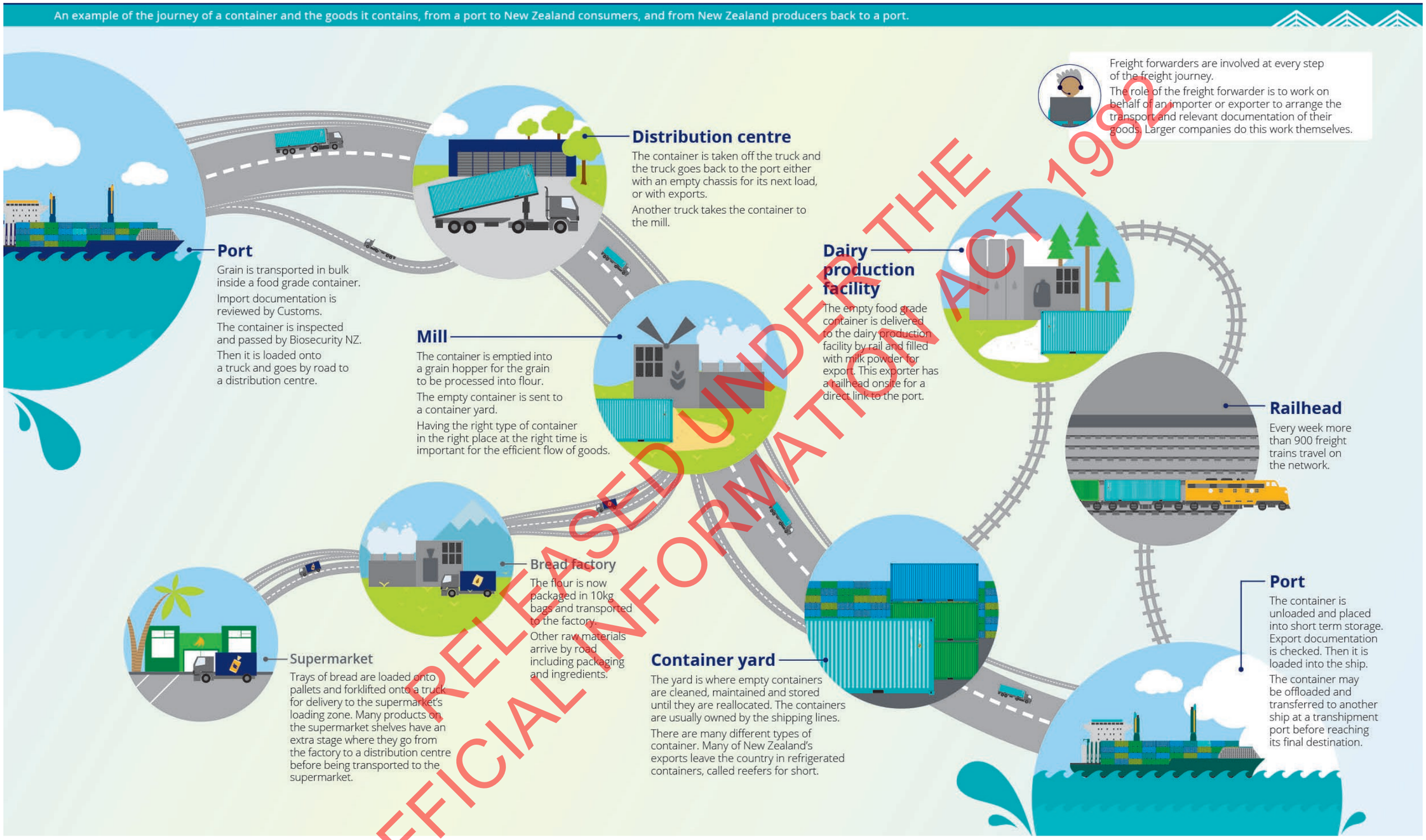
Q10. Do you agree with the suggestions on how the strategy could achieve the proposed outcomes? If not, please explain why.

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 might 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 on-going cooperation amongst stakeholders and government

Proposed intermediate outcomes

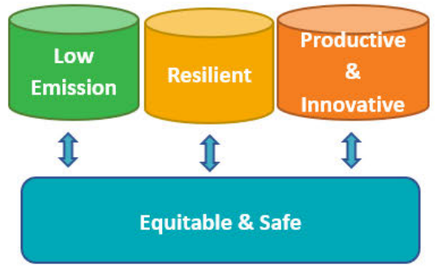
These outputs will lead to:

- 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:

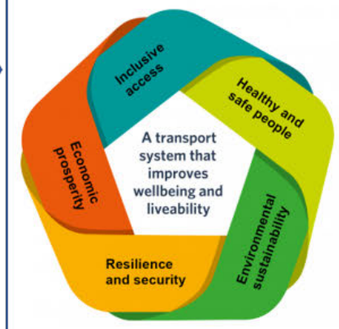


… with the transition achieved in a way that is equitable and safe for all.

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 the most important for the Freight and Supply Chain strategy to address. This information was collected 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, local government, etc. This table does not represent the government's views, but these stakeholder comments have been used to inform the development of the issues paper.

Decarbonisation

Awareness and leadership

- **Supporting small business**: For some SMEs there was uncertainty on how to prepare for the future, driven by a lack of skilled advice.
- **Visible leadership**: Some raised a need to see more leadership demonstrating commercially viable approaches for others to follow.
- **Business planning**: Lack of information about 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/quantifying the emissions of different freight options – to help them and their customers reduce emissions.

Infrastructure planning and investment

- **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**: Uncertainty about government's plans for future investment and regulation. They are waiting to see what this looks like before they invest.
- **Fragmentation of road freight:** Road freight sector is fragmented with 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.

Regulation and incentives

- **Existing capital**: 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**: In the most competitive parts of the freight sector (e.g. road freight) many companies could not afford to invest in low emissions technology.
- **Global competition**: Some advantage in being 'first-movers' in adopting low-emissions technology but would have to compete with global demand for these technologies.

Resilience

Business resilience

- **Cost of efficiency**: Many felt that because of the way they operate they cannot easily respond to disruption. This included limited inventory to reduce warehousing and improve their balance sheet. Even with careful planning you can still be let down by others in the supply chain.
- **SME strategy**: Some businesses do not have capacity or foresight to plan for resilience – and prioritise short-term profitability.
- **Freight agility**: It is hard to shift between freight options – often you are locked into a particular mode and route. Infrastructure like freight hubs and greater port capacity is needed to unlock multi-modal options. Some have raised that 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.
- **Dependence on international inputs**: There are no local alternatives to key inputs into some manufacturing/processing.

Infrastructure planning and investment

- **Lack of redundancy in New Zealand supply chain infrastructure** – There are pinch-points in the supply chain that are a vulnerability because of a lack of spare capacity or alternatives (e.g. Cook Strait ferries). But trade-offs need to be made between productivity efficiency and resilience. It is not clear how much redundancy is adequate and who should pay for it.
- **Transparent plans**: There is an opportunity to clarify planning for specific emergencies. Some wanted to align their own resiliency planning with a reliable national plan.
- **Climate resilience**: Sea level rise and an increase in extreme weather events is something that we need to plan for now.
- **Cyber-security**: Growth in cyber attacks and the dependence on digital networks is creating significant risks.

Resilience in international connectivity

- **Distance from market:** Dependence on international shipping and air lines was seen as a vulnerability for New Zealand – because we were far from market and not the most profitable route. Perceived risk of shipping lines prioritising Australia and not New Zealand in times of disruption. Smaller companies more at risk due to short term agreements – larger companies and groups of companies better able to negotiate with shipping lines. Our ports have to be highly productive to keep shipping lines coming here.
- **Coastal shipping**: The historic decline in our coastal shipping sector has led to greater reliance on international lines.
- **Airfreight**: Some saw the dominance of Auckland in the airfreight market as a vulnerability. High value airfreighted exports are vulnerable to a reduction in passenger travel
- **Global norms**: Future geopolitical tensions may significantly undermine our access to market – including trade conflict, war, and other issues.

Maritime sector

- **Coastal shipping**: Opportunity to build up domestic participants in this sector to reduce reliance on international lines, including maritime labour.
- **Future technology skillsets**: Autonomous shipping, new fuels (and associated risks), and other trends require new skillsets and regulatory approaches.
- **Vessel & equipment maintenance**: Lack the scale to invest in skills and facilities (e.g. drydocks).

Productivity and innovation

Port system

- **Coordination:** There is a need 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. Need to balance imports and exports to ensure efficient flow of containers – could be achieved through more collaboration between shippers/cargo owners/ports. Global trend to larger vessels – not efficient for all ports to invest in infrastructure to receive these. Consider a hub and spoke model instead.
- **Access to capital:** Some of our ports may benefit from more capital investment.
- **Competition models:** Competition settings may not always be benefiting New Zealand consumers and exporters – there are opportunities to explore different approaches to competition.

Long-term access to labour

- **Aging workforce:** Lack of new labour is restricting growth in some sectors including ports, trucking, coastal shipping, and others.
- **Industry image:** Parts of the sector seen by potential employees as difficult, with unsocial hours and poor career prospects (including because of expected automation).
- **Training lag time:** Some jobs had long training times and were slow to adapt to changes.
- **New Zealand supply chain is not 24/7:** Not all parts of the supply chain are able to operate 24/7 (in part because of labour constraints) which limits ability to move goods faster and resolve chokepoints when needed.
- **Long-term automation:** Some thought that automation could solve some problems – but lacked the scale and capital to invest.

City and infrastructure design

- **Port cities:** As cities grew up around ports freight access has been increasingly crowded out. There is also increasing competition for land use as cities grow bigger. There is a need for more careful planning and investment at a city level to reflect the national benefit efficient freight corridors deliver.
- **Last mile:** Freight operators see the last mile deliveries of goods to retailers and homes as highly complex and increasingly challenging.
- **Fragmented decision-making between central and local govt:** RMA decisions pushed to local government but not always well funded or resourced – decisions can focus on local interest rather than big picture.

Better use of data

- **Limited data available:** The data available on the freight sector is limited, making modelling difficult and less dynamic and accurate. Some saw an opportunity to use data better in the system including for greater monitoring of freight, managing disruption, and giving transparency to freight customers. Data was also useful for monitoring the performance of the sector – e.g. stakeholders raised issues of performance with parts of the sector but there was often no way to verify this against historic or international benchmarks.
- **Standardisation:** There are opportunities to develop and adopt common standards e.g. for location data.
- **Data sharing:** There is an aversion to sharing and adopting common standards driven by competition and fragmented sectors. Different parts of government have data but this is not necessarily shared.
- **Emissions profile:** Some expressed a wish to evaluate different freight options based on level of emissions, but this is not commonly available.

Infrastructure planning and investment

- **Lack of an overarching vision for the supply chain:** Too many individual parts acting in their own interests. There is a need for an intergenerational and national vision. Several factors at the moment forcing more region-based thinking. Industry needs to agree on how to better integrate the system – too fragmented and inefficient.
- **Not enough long-term future planning:** Some said not enough consideration was being given to anticipating the future demands on the supply chain – i.e. changes to population density, changes to goods moved.
- **Reliability and evidence base of government plans:** Many said they believed investment decisions were politically driven and wanted more evidence for government plans, and for a reliable long-term commitment to them across governments of the day.
- **Consenting:** Expanding capacity and making better use of existing assets is an expensive and slow process due to complex and long consenting process.
- **Road maintenance:** Many raised insufficient investment in upkeep of existing infrastructure. Wanted the whole road suitable for heavy vehicles (eg bridges). Not all of the road network is suitable for heavier high productivity motor vehicles.
- **Slow construction of infrastructure projects:** Some felt that construction of infrastructure in New Zealand was slow compared to overseas, which could be due to labour constraints, regulatory/RMA constraints, poor planning etc.

Equity and safety
Fair, inclusive, and equitable growth • **Māori economic development:** Iwi and hapū need special consideration to ensure the freight and supply chain system supports Māori communities and their economic development, and honours Te Tiriti. Iwi may potentially be interested in asset ownership / investment opportunities. • **Transition support:** Transitioning to low emissions options is unaffordable for many businesses, and may have to close. SMEs are especially at risk because they have less ability to absorb temporary cost surges. • **Regional economic development:** Benefits of reform may impose a disproportionate cost on regional development, to the benefit of major centres. We need to look at approaches which support regional development outcomes. • **Cost of goods to New Zealand consumers:** Cost of goods proportionate to median wage will increase in the immediate term as a result of transformation of supply chains. There may be a need to support those less able to bear these costs. **Ensure health and safety** • **Better health and safety outcomes:** Health and safety is a critical part of our freight system and there are opportunities to take a more systematic approach to safety, especially in ports and other areas involving moving equipment and goods. This will need to align with existing Worksafe strategies. • **Road safety:** Road safety needs special consideration and this strategy needs to align with the Road to Zero strategy.

TE MANATŪ WAKA
MINISTRY OF TRANSPORT

Document 4

4 February 2022

OC210997

Hon Michael Wood
Minister of Transport

Action required by:
Friday, 11 February 2022

NATIONAL ADAPTATION PLAN ACTIONS FOR CONSIDERATION

Purpose

Provides information on the proposed transport actions for the National Adaptation Plan (NAP) under the Climate Change Response Act 2022 (CCRA) and seeks your agreement to the inclusion of these actions in the draft NAP that will be consulted on in Q2 of 2022.

Key points

- Under the CCRA, Aotearoa must prepare a NAP to support how we will adapt to the effects of climate change, including the significant physical risks to our transport system. Plans are produced every six years.
- The NAP will respond to the first National Climate Change Risk Assessment published in August 2020 and the 43 risks that Cabinet agreed in-principle as being in-scope for the NAP, including key risks to the transport system.
- Te Manatū Waka the Ministry of Transport (the Ministry) and Waka Kotahi have identified five transport actions for inclusion in the NAP, which will help support our ability to adapt to these risks. s 18(d) [redacted]
- Each of the actions sit within existing work that the Ministry and Waka Kotahi have underway. s 18(d) [redacted]
- Coordination across critical infrastructure sectors is also a key challenge. Resource and capacity challenges have limited work being progressed in this area, but this is now a busy space with several strategic work programmes underway that will lead to work at the operational level.
- The Ministry, in consultation with the National Emergency Management Agency, the Ministry for Business, Innovation and Employment, the Ministry for the Environment and others, are exploring how policy options to enhance transport (and other) infrastructure resilience can be progressed through existing work programmes, including the NAP.

Recommendations

We recommend you:

1	**agree** the five proposed transport actions for inclusion in the NAP	Yes / No
2	**note** public consultation on the draft NAP is planned for Q2 of 2022, subject to Cabinet approval in March 2022.	

Ewan Delany
Manager, Environment, Emissions & Adaptation
1 / 2 / 22

Hon Michael Wood
Minister of Transport
..... / ..... / .....

Minister's office to complete: ☐ Approved ☐ Declined

☐ Seen by Minister ☐ Not seen by Minister

☐ Overtaken by events

Comments

Contacts

Name	Telephone	First contact
Ewan Delany, Manager, Environment, Emissions & Adaptation	s 9(2)(a)	✓
Joanna Pohatu, Principal Advisor, Environment, Emissions & Adaptation		
Michelle Palmer, Graduate Advisor, Environment, Emissions & Adaptation		

NATIONAL ADAPTATION PLAN ACTIONS FOR CONSIDERATION

Climate change poses risks to the transport system

1 In August 2020, the Government released the first National Climate Change Risk Assessment (NCCRA). The NCCRA highlighted risks covering all aspects of life from our ecosystems and communities to buildings and the financial system.

2 The NCCRA highlighted that climate change will pose significant physical risk to our transport system including to our ports, linear transport networks, airports, and associated infrastructure due to extreme weather events, ongoing sea-level rise, landslides, and coastal erosion. Annex 1 highlights the key priority risks for transport.

The National Adaptation Plan (NAP) will support our ability to adapt to these risks[1]

3 The Government is developing its response to the risks identified in the NCCRA (including the transport risks), through the preparation of the NAP. The NAP will support Aotearoa to adapt to the effects of climate change and includes actions for the next six years.

4 Aotearoa will repeat this cycle of publishing risk assessments and NAPs every six years. The Climate Change Commission (the Commission) will report on the implementation of the NAP and its effectiveness every two years, following its publication.

An effective adaptation response requires a coordinated effort

5 The actions required to address our climate risks span all portfolios and parts of society. As such, the NAP has been developed as an all-of-government plan. The Ministry for the Environment (MfE) are leading the overall NAP work programme. Lead agencies are overseeing the development of outcome-based action plans.

6 The NAP has been developed through engagement with iwi/Māori as well as local government and other key stakeholders. Public consultation on the draft NAP is planned for Q2 of 2022, subject to Cabinet approval in March 2022.

Cabinet has taken in-principle decisions on the strategic direction for the NAP

7 s 18(d)

8

[redacted]

[1] Under the Climate Change Response Act (CCRA) 2002 Aotearoa must produce both emissions reduction plans and a National Adaptation Plan (NAP) to address climate change impacts. These requirements were legislated in late 2019.

9 s 18(d) [redacted]

The Ministry and Waka Kotahi have identified five transport actions for inclusion in the NAP

10 The transport actions for the NAP link into Te Manatū Waka the Ministry of Transport's (the Ministry) and Waka Kotahi NZ Transport Agency's (Waka Kotahi) existing work programmes, such as the proposed emissions reduction plan. A short description of each action area is provided. Since these are existing work areas, no decisions are required on them.

11 Each of these actions will build on the direction of the current Government Policy Statement on land transport (GPS).

s 18(d) [redacted]

s 18(d)

The Ministry is also tasked with exploring options to improve transport (and other) infrastructure resilience

26 In March 2021, the Department of Prime Minister and Cabinet directed the Ministry to lead the development of New Zealand's first National Risk Profile for transport infrastructure resilience. This National Risk Profile was developed with engagement from the transport sector and identified sector risks and vulnerabilities. In November 2021, the Ministry reported to the Hazard Risk Board[2] (HRB) on a series of mitigation measures to address these risks, targeted at increasing resilience, accessibility, and connectivity of transport in Aotearoa.

27 s 9(2)(ba)(i)

28

Next steps for the NAP

29 In early 2022, Ministers will consider the strategic narrative for the NAP, and sequenced actions.

30 We seek your confirmation that you agree with the actions identified in your portfolio so we can finalise the draft sequencing of actions for the draft outline NAP prior to that discussion.

31 Public consultation on the draft NAP is planned for Q2 of 2022, subject to Cabinet approval in March 2022. It is a statutory requirement to deliver the NAP by August 2022.

[2] The HRB is lead through the Officials' Committee for Domestic and External Security Coordination.

ANNEX 1 – KEY PRIORTY TRANSPORT RISKS IDENTIFIED IN THE NATIONAL CLIMATE CHANGE RISK ASSESSMENT (NCCRA)

Built Environment Priority Risks	**Urgency***	**Consequence****
B5 Risks to ports and associated infrastructure, due to extreme weather events and ongoing sea-level rise	70	Major
B6 Risks to linear transport networks, due to changes in temperature, extreme weather events and ongoing sea-level rise	60	Extreme
B7 Risks to airports, due to changes in temperature, wind, extreme weather events and ongoing sea-level rise	55	Extreme
Economy Priority Risks	**Urgency***	**Consequence****
E7 Risks to businesses and public organisations from supply chain and distribution network disruptions, due to extreme weather events and ongoing, gradual changes	68	Major

**Urgency ratings*

The NCCRA assessed the urgency of taking action to address each risk (the 'adaptation urgency'), to determine the degree to which further action is recommended in the next six years. The urgency ratings in this NCCRA range from 44 to 94 and are based on several factors, particularly whether an adequate response is underway or planned.

***Consequence ratings*

Priority risks have extreme or major consequence ratings in at least one of three assessment timeframes (now, by 2050, by 2100). Consequence ratings reflect the degree to which the assets and values in each domain are exposed and vulnerable to climate hazards. The consequence ratings are insignificant, minor, moderate, major, or extreme.

s 18(d)

[redacted]

Office of the Minister of Transport

Cabinet Economic Development Committee

Maintaining International Air Connectivity (MIAC) Exit Strategy

Proposal

1 The purpose of this paper is to seek agreement on the exit strategy for the Maintaining International Air Connectivity (MIAC) Scheme.

Relation to government priorities

2 This proposal supports the Government's economic response to COVID-19 through its efforts to cushion the financial blow to whānau and families, workers, businesses, and communities from the impacts of COVID-19, position New Zealand for recovery, and reset and rebuild our economy.

Executive Summary

3 Air connectivity is vital for trade and economic growth. The Government, through the MIAC scheme and the previous IAFC scheme, has successfully ensured that a minimum level of air connectivity has remained in place for New Zealand throughout the disruption caused by COVID-19. The MIAC has been an important and necessary intervention to enable imports and exports and general air connectivity to continue.

4 As we move towards the reopening of our border, Cabinet asked me to prepare an exit strategy for the MIAC to align to the passenger traveller scenarios prepared for the Border Executive Board (BEB) and the Reconnecting New Zealanders strategy [DEV-21-MIN-0186 refers]

5 For air connectivity to return on a solely market-provided basis, we need airlines operating to New Zealand and sufficient passenger travel demand. This demand is made possible by border openings and then driven by passenger willingness to travel to New Zealand. As passengers return, the need for the MIAC is expected to progressively reduce

6 The Reconnecting New Zealanders strategy has set out a timeframe for re-opening the border, but uncertainty about passenger demand remains due to self-isolation requirements. Overseas examples show these requirements can dampen travel demand by up to 95% while in place. Even once self-isolation has been removed, tourist recovery will take some time as tourists typically book 9 – 12 months ahead of travel. Additionally, passenger travel recovery is expected to differ significantly between key markets, based on passenger demand profiles and border decisions in other jurisdictions [redacted] s 6(a)

7 The MIAC needs an exit strategy that secures the minimum level of air connectivity as passenger demand develops and changes in the coming months. A minimum level of connectivity is critical to ensures New Zealand businesses can get their goods to market, and the importing of medicines / health supplies and critical business parts can continue.

8 I recommend a conditions-based approach as the best way for exiting the MIAC scheme. This approach will enable MIAC support to be progressively withdrawn from airlines as passengers return under the Reconnecting New Zealanders strategy. It minimises the risk of airfreight capacity shortages, while being able to exit MIAC support early as passenger travel conditions improve.

9 This paper also provides an alternative option that withdraws support on a predetermined basis when current forecasts of passenger numbers indicate that it should be possible to do so. While this option has less fiscal risk and has less risk relating to market distortions and s 6(a) it creates a significant risk of airfreight capacity shortages.

Background

The MIAC is a key response to airfreight capacity shortages caused by COVID-19

10 In March 2021, Cabinet agreed to establish the Maintaining International Air Connectivity (MIAC) [DEV-21-MIN-0028 refers]. This scheme replaced the International Airfreight Capacity (IAFC) scheme established in March 2020 [CAB-20-MIN-0131 refers].

11 The key objectives of the MIAC scheme are, in order of priority:

11.1 Retain air connectivity with New Zealand's principal trading partners to ensure that we can access the imports we need, and that our exports can access overseas markets;

11.2 Enable continued essential passenger movements;

11.3 Retain important air connections to the Pacific;

11.4 Retain air connections to key routes and hubs important for tourism recovery; and

11.5 Maintain core capability, capacity and competitiveness within the New Zealand aviation sector to provide a platform for an efficient and competitive market when international air travel recovers.

12 Initial MIAC contracts with carriers started on 1 May 2021 following an open-market, competitive procurement process. In October 2021, these contracts were extended to 31 March 2022 [DEV-21-MIN-0186 refers]. At present, nine carriers are supported under MIAC flying to 23 international destinations. This equates to about 50% of New Zealand's international services.

13 The total cost of providing MIAC support was $198m to 27 December 2021, with an estimated additional $90m spent through to 31 March 2022 when the current MIAC contracts expire.

14 The MIAC scheme has delivered significant benefits for New Zealanders during its operation, including:

14.1 Support for ~3,500 total flights to and from key markets, carrying 84,000 tonnes of freight, worth an estimated total value of $6.7b[1][2]. Importing critical supplies for the New Zealand economy and health response, such as vaccines and more recently Rapid Antigen Tests.

14.2 ~105,000 people returned to New Zealand on IAFC / MIAC supported flights. This equates to about 48% of the total number of people to pass through MIQ.

14.3 The Ministry of Foreign Affairs and Trade (MFAT) notes there has been significant benefit received by our Pacific partners from the support of flights into Pacific destinations, including the ability to maintain key supply chain links and connection with New Zealand.

The MIAC scheme has successfully contributed to a minimum level of connectivity, which is considered an appropriate level to maintain throughout an exit process

15 Ministry of Transport (the Ministry) analysis shows that the current level of international flight services available for New Zealand is around 10-20% of pre-COVID-19 levels. This includes both flights supported by the MIAC scheme, which are approximately half of all international flight capacity, as well as commercial flights operated outside the scheme[3].

16 New Zealand industries have been effective at adapting to the new air connectivity levels supported by MIAC. While operating with just 10-20% of pre-COVID flight volumes, New Zealand has still been able to achieve ~90% of pre-COVID airfreight volumes[4] (albeit at significantly higher prices). This is largely attributed to significantly more effective use of space on aircraft, as well as the flights focusing on freight demand rather than passenger demand.

17 While the MIAC scheme has ensured a good minimum level of connectivity, this level is still significantly below the desired level of connectivity from a range of New Zealand sectors (including importers, exporters, and tourism).

18 I recommend that the current total level of capacity provided by the market and under the MIAC scheme (i.e. 10-20% of pre-COVID flight volumes) is used as the minimum level of connectivity for considering exit decisions. This level has enabled key imports to keep arriving, and has kept many of our exporters in business. Any reduction below this current level would result in further losses of air services and connectivity, threatening our export and import sectors significantly.

[1] Including the IAFC as well, support has enabled ~11,500 flights, carrying 221,000 tonnes of goods worth $17.7b

[2] New Zealand exported 93,300 tonnes of airfreight in calendar year 2021 worth NZ$4.972 billion. The primary sector accounts for 80% of the trade by volume and 40% by value. Airfreight export volumes were on par or higher than 2020 and pre-COVID levels – in part supported by MIAC.

[3] It is difficult to gauge how much capacity outside the MIAC scheme is being provided on a commercial basis and how much is being supported by connectivity or other airline support schemes operating in other jurisdictions.

[4] s 6(a) [redacted]

Connectivity is critically important for New Zealand, but must be balanced against other obligations

19 Providing a minimum level of connectivity is important for New Zealanders for a wide range of reasons, including:

19.1 Reduction in freight capacity shortages – this has a critical impact on many different parts of the New Zealand economy (and especially Māori business due to high investment in primary sector operations reliant on airfreight).

19.2 Positive impact on freight rates – without a sustainable minimum level of capacity the market would likely see a surge in freight rates.

19.3 Maintaining links for aviation and tourism sectors to recover – having maintained air connectivity, airlines are better positioned to quickly restart services as passenger travel recovers[5].

19.4 Supporting New Zealand's interests and obligations in the Pacific by ensuring connectivity with our neighbours.

19.5 Supporting New Zealander's expectations that reasonably priced air travel is available for family reunifications and critical business purposes, as well as readily available later for the return of movement for wellbeing.

20 However, providing this minimum capacity through MIAC must be balanced against public sector obligations, including:

20.1 Fiscal cost and risk – there is a direct material financial cost to operating the MIAC scheme, which must be weighed against other public sector priorities.

20.2 s 6(a) [redacted]

20.3 Market adaptation delays – by providing MIAC support and continuing with the minimum level of air connectivity, there is a risk of delaying New Zealand businesses' adjustment to what could be long-term or permanent change for some markets.

21 s 6(a), s 9(2)(h) [redacted]

[5] Tourism New Zealand notes that carriers lost from the New Zealand market can take at least five years to return, lowering the potential recovery speed significantly.

22 In September 2021, Cabinet requested the development of an exit strategy. Cabinet [DEV-21-MIN-0186 refers]:

22.1 **Noted** that the Border Executive Board has endorsed using the traveller scenarios for planning and funding purposes, and that these scenarios will be updated every six months, with the next update due before the end of 2021;

22.2 **Noted** that the Department of Prime Minister and Cabinet (DPMC) and the Treasury have begun work to outline a central projection and scenarios for the COVID-19 response and reconnection over the forecast period, in order to feed into relevant work across agencies related to traveller movements across New Zealand's border; and

22.3 **Invited** the Minister of Transport to report back to Cabinet in February 2022 with a strategy for exiting the MIAC scheme, incorporating the Reconnecting New Zealanders approach and forecast traveller scenarios (outlined above).

Key considerations

The airfreight market for New Zealand is at risk

23 It is unlikely the New Zealand airfreight market can sustain itself at a level that meets New Zealand's minimum air connectivity needs without government support.

24 The airfreight market is particularly challenging for New Zealand. There is a high demand for aircrafts to fly to other countries with opened borders, as well as a lack of staff due to self-isolation requirements.

25 United Airlines, American Airways, and Air Canada have exited New Zealand routes entirely, with Cathay Pacific recently suspending New Zealand operations for three months, and Emirates operating reduced services. s 9(2)(b)(ii) [redacted]

26 While the Reconnecting New Zealanders strategy provides clarity around the reopening of the border, the international flight service market in New Zealand remains at risk. Airlines have noted difficulty undertaking long term planning, particularly when self-isolation requirements for arriving passengers are in place.

Passenger recovery is critical for maintaining and improving airfreight connectivity

27 The exit strategy for MIAC needs to take into account the recovery of passenger travel to New Zealand. There are a very low number of non-passenger freighters used to carry airfreight commercially to the New Zealand market. These types of aircrafts are in short supply globally and are costly to convert. Most routes would not be able to sustainably operate on a freight-only basis and some passenger revenue is required.

Scenarios for passenger recovery are being prepared but there are none reflecting the most recent Reconnecting New Zealanders announcements

28 Cabinet directed the MIAC exit strategy to align with the passenger traveller scenarios prepared for the BEB. The intent of these scenarios is to provide a cross-government agreed set of scenarios for use in planning by agencies.

29 The current scenarios were approved by the BEB in December 2021, which was prior to the delay in step 1 and 2 of the Reconnecting New Zealanders strategy due to the impacts of the Omicron variant. A new set of scenarios is being prepared to take into account the new reopening dates announced on 3 February 2022. This new set of scenarios is expected to be completed in mid-March 2022, and could not be considered when developing the MIAC exit strategy at this point in time.

30 Estimating passenger numbers is further hampered by uncertainty resulting from the unknown impact that ongoing self-isolation requirements will have on passenger demand. Some airlines estimate self-isolation requirements could cut demand by as much as 90-95%. The initial view from the scenario development team is that the new scenarios are expected to have passenger travel returning significantly later than the current scenarios suggest.

Passenger recovery will differ across markets

31 An additional complexity is that passenger recovery will differ significantly across markets, based on a range of factors:

31.1 Passenger reasons for travel / domestic isolation requirements – both Tourism New Zealand and airlines have indicated the requirement to self-isolate on arrival in New Zealand will be a significant determinant on overseas consumers' decisions to travel to New Zealand. This will differ by markets.

31.2 Foreign and domestic border settings – while forecast scenarios can account for the New Zealand domestic border setting options, foreign governments may change their own settings independently to New Zealand. This can be seen in the different approaches taken by countries such as Australia, Japan, and China to reopening their borders.

31.3 Seasonality – passenger travel from some markets to New Zealand often has a seasonal lull through the New Zealand winter (particularly Asian and European markets), though seasonality is not as strong in other markets such as Australia and the Pacific.

31.4 Public health response – there may need to be changes in border settings and / or stricter requirements on travellers from time to time as part of the response to Omicron or new variants.

32 As a result of the likely market-by-market differences in passenger recovery, decision-making regarding the MIAC is best done at the individual market level – rather than making a single decision about all markets.

MIAC arrangements already have exit controls in place

33 s 9(2)(b)(ii) [redacted]

33.1 s 9(2)(b)(ii) [redacted]

33.2 s 9(2)(b)(ii) [redacted]

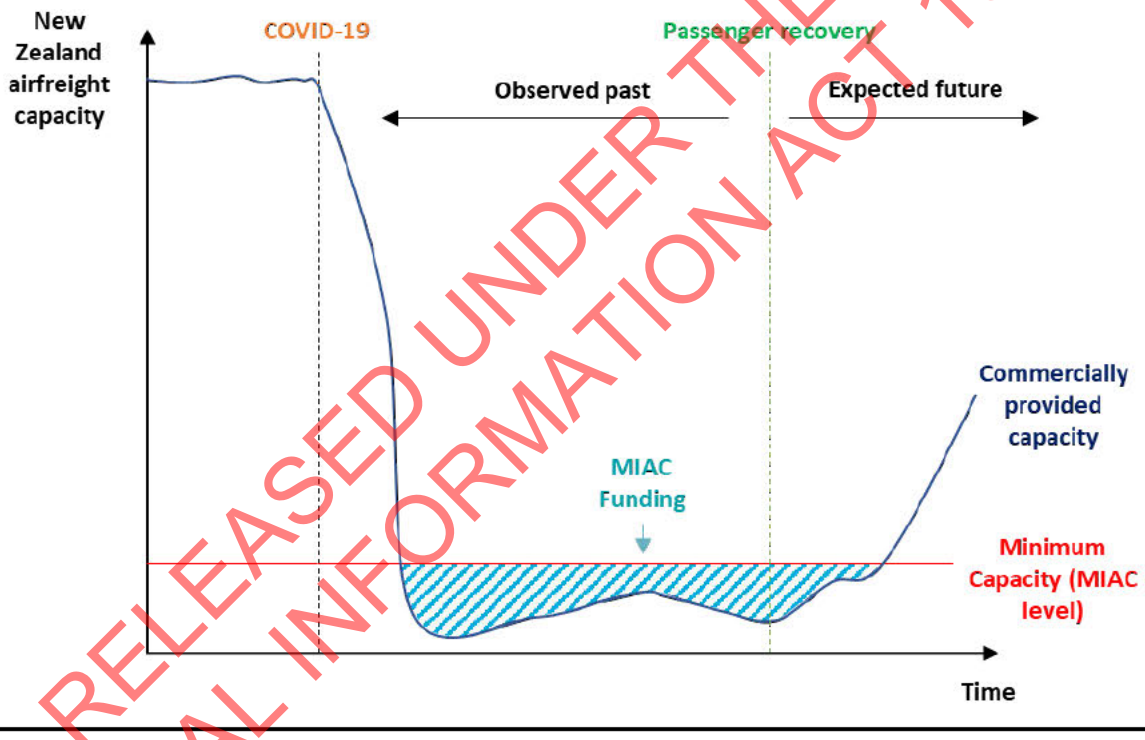
s 9(2)(b)(ii) [redacted]

34 s 9(2)(b)(ii) [redacted]

Fundamentally, the MIAC provides protection against the negative impacts of a lack in air connectivity

35 The below diagram[6] illustrates at a conceptual level how the MIAC functions within the New Zealand airfreight market.

Passenger recovery concept



36 The MIAC supports a critical minimum capacity for the airfreight market, in the absence of commercially provided capacity available. As commercial capacity is provided, the amount of support required under the MIAC is decreased. At a certain point in time, the commercial capacity will be sufficient to provide the minimum level of connectivity, at which point the MIAC support is reduced to zero and no longer required.

37 The key consideration for the exit strategy of the MIAC is the uncertainty as to exactly when commercially provided capacity will exceed the minimum capacity on each route. Withdrawing support prior to that point risks a capacity shortfall for that route, however the on-going provision of support must be balanced against the downsides of the MIAC as noted in paragraph 20.

[6] The diagram outlined uses a conceptual trend line rather than actual passenger numbers or forecasts.

A conditions-focussed exit will best support the rebuild of air connectivity

38 I am proposing a conditions-focussed exit from the MIAC scheme. This is the best way to support the rebuild of air connectivity until sufficient passengers return and airlines can operate on a purely commercial basis.

39 The combination of using the scheme's existing mechanisms and putting in place a 'back-stop' date will mean MIAC support is not ended until sufficient flights are operating on a commercial basis. This will ensure there is no risk of an airfreight capacity gap arising prior to the 'back-stop' date.

Mechanisms in the scheme can be used to reduce or remove support on a route-by-route basis

40 This approach involves using the current mechanisms in the MIAC contracts to reduce support and then exit on a route-by-route basis when the growth in passenger numbers on a route means support is no longer needed to maintain airfreight capacity.

41 These mechanisms are:

41.1 s 9(2)(b)(ii)

41.2 s 9(2)(b)(ii)

41.3 s 9(2)(b)(ii)

41.4 s 9(2)(b)(ii)

42 An example of how these contractual mechanisms could be used to manage the exit of the MIAC scheme is the likely response to trans-Tasman re-connectivity under step 1 of Reconnecting New Zealanders:

42.1 s 9(2)(b)(ii) Existing contractual mechanisms means no support will be provided for those flights.

7 s 9(2)(b)(ii)

42.2 If reasonable passenger numbers are sustained, the Ministry will consider activating its rights to suspend or terminate these contracts.

A 'back-stop' date will ensure support is not extended indefinitely

43 I recognise that support for the MIAC can not be extended indefinitely while passenger travel conditions recover. Therefore, a 'back-stop' date is required. I propose 12 months from the expiry of the current MIAC contracts – i.e. 31 March 2023.

44 The Ministry has calculated end dates for each market based on passenger volumes reaching 20% of pre-COVID-19 levels. In general, each market reaches a 12-month cap before the 20% level in the pessimistic scenario.

45 There is some residual risk passenger recovery has not been sufficient at the contractual end date, resulting in a capacity gap. However, under the pessimistic scenario, markets that have been constrained by the 'back-stop' dates are each expected to be above 10% of pre-COVID passenger levels at March 2023.

46 The combination of using the existing mechanisms and a 'back-stop' date will mean MIAC support is not ended until sufficient flights are operating on a commercial basis or, in the case the 'back-stop' date is reached, clear structural factors remain which mean on-going support for that market is no longer warranted. This will ensure there is limited risk of an airfreight capacity gap arising prior to the 'back-stop' date.

The benefit of a conditions-focussed approach is improved security of airfreight connections over the next year

47 A conditions-focussed exit:

47.1 Presents a stronger link to the return of passenger numbers, by waiting to remove support until such time as the market delivers passenger movements that enable sector participants to consistently break-even.

47.2 Mitigates the risk of capacity shortfalls or further shocks that might occur under the alternative option if the moderate scenario does not occur and comes at the potential cost of up to an additional $165.4m over the alternative option.

48 However, a conditions-focussed approach does increase the risk of market distortions. This is because market participants may not adapt business models (e.g. by adjusting freight rates) to reflect the revised economic conditions (the "new normal"), knowing that support is in the background. It could also adversely affect confidence of market participants, as it may indicate a lack of confidence in New Zealand's border opening approach. s 9(2)(g)(i) [redacted]

49 s 6(a) [redacted]

50 The Ministry for Primary Industries (MPI), Ministry for Business, Innovation and Employment Tourism branch (MBIE), and New Zealand Trade and Enterprise (NZTE) support a conditions-focussed exit.

51 s 9(2)(g)(i) [redacted]

A date-based exit is not recommended

52 I also considered an alternative approach of a date-based exit that involves pre-determined exit dates for each route based on the moderate scenario prepared for the BEB in December 2021. Under this approach, each market has their MIAC contract extended until the date that market is expected to reach approximately 20% of the pre-COVID baseline of passenger numbers according to the moderate passenger travel scenario.

A date-based exit relies heavily on the accuracy of scenarios

53 s 9(2)(g)(i) [redacted]

54 The Ministry has calculated end dates for each market based on passenger volumes reaching 20% of pre-COVID-19 levels. These dates are provided in **Appendix 1**.

55 There is a high risk to connectivity as this approach relies on the scenarios being accurate across each individual market. This risk is increased by reliance on the mid-December scenario, because the revised scenario is expected to indicate slower passenger return. It is possible, but complex, to build this scenario off the future, updated forecast instead. Where the scenarios are not accurate and passenger returns are below expectations, there would be expected to be a capacity gap at the end date if the shortfall is below the minimum necessary range of 10 - 20% of pre-COVID passenger numbers.

56 The extent of a potential capacity gap could be quite significant. For example, if the actual passenger returns follow the pessimistic track as opposed to the moderate, there is an expected shortage of ~12% of pre-COVID baseline (i.e. passenger numbers are at 8% of baseline instead of 20%, which equates to over 50% less than expected) at the end date for the trans-Tasman routes. For other markets, the capacity gap is even greater – at the exit date, the pessimistic scenario predicts only around 6% of pre-COVID levels.

57 s 6(a) [redacted]

58 The Treasury considers that the date-based option provides a reasonable balance by mitigating the risk of capacity shortfalls while New Zealand progressively opens up its borders, while at the same time reinforcing the Reconnecting New Zealanders approach. Subject to certainty around future self-isolation requirements, this option

would also support greater confidence for market participants to plan longer-term. This mitigates the risk of entrenching market distortions by providing a clear exit strategy and reduces fiscal risk to the Crown.

59 However, the Treasury acknowledges this option carries a risk of capacity shortfalls if the moderate passenger scenario does not play out. This risk is somewhat mitigated as the date-based exit is based on anticipated 20 per cent of baseline passengers, and minimum viable capacity has been articulated as around 10 to 20 per cent, suggesting there is some room for capacity movements even under this option. Finally, the Treasury is unclear that the marginal benefit of extending the MIAC to March 2023 outweighs the potential marginal cost over this option of up to $165.4m.

s 6(a), s 9(2)(g)(i)

64 s 9(2)(b)(ii)

Immediate exit

65 I also considered an immediate exit to the MIAC scheme, but ruled it out as a viable option as the impacts on airfreight connectivity would be too severe to justify the fiscal savings.

66 No agency supported an immediate exit.

Financial Implications

67 Additional funding is required to be approved by Cabinet to give effect to the implementation of the conditions-focussed exit.

68 The expected spend under the conditions-focussed exit is $83.8m. A key factor is the progressive drop-off in support payable as passenger travel returns and has been calculated by reference to the moderate scenario prepared for the BEB in December 2021. The actual cost of support may be higher or lower if passenger travel returns faster or slower than contemplated in the scenario; the timing of removal of self-isolation will have a significant influence.

69 s 9(2)(b)(ii) [redacted]

70 The funding requirement (non-departmental) is as follows:

70.1 FY21/22: $95.6m

70.2 FY22/23: $287.9m Refer to note in recommendation 13.1

70.3 Total: $383.5m

Legislative Implications

71 There are no legislative implications.

Regulatory Impact Statement

72 No Regulatory Impact Statement is required as this proposal does not introduce or change any legislation.

Climate Implications of Policy Assessment

73 A Climate Implications of Policy Assessment (CIPA) has not been prepared for this paper. The proposal recommends providing financial support for fossil fuel intensive international air transport, which creates greenhouse gas emissions. Even with this support it should be recognised that the total number of flights per week operating to and from New Zealand would still be less than a quarter of the number of flights operating prior to COVID-19. This represents a sizable reduction in the emissions attributable to New Zealand's international air services.

74 It is also worth noting that air freight is being carried significantly more efficiently now than it was pre-COVID. Around 90% of pre-COVID export volumes are being carried on around 25% of the flights. Flights supported by government charge freight rates which are higher than pre-COVID rates, which will encourage those traders who are able to do so consider other, less emission-intensive models for transporting their products to market. Additionally, over the last 18 months, airlines have largely retired their older, less efficient aircraft meaning that emissions from flights to and from New Zealand should be, on average, lower than pre-COVID.

Population Implications

75 Changes to New Zealand's international air connectivity could affect Māori, and rural and coastal communities in particular. 80% of New Zealand's air freight exports (by volume) are primary sector products. A number of iwi have their largest investments in primary industries and tourism, so have been particularly exposed to the collapse in air services caused by COVID-19. The purpose driven business model of many Māori enterprises that includes financial performance and whanau wellbeing means that air service disruption could have wide ranging knock-on effects for the Māori community.

76 Rural and coastal communities, and some regions, could be affected because the local economies in those areas are concentrated on the production of goods and services for export by air e.g. fishing communities, or horticulture in the Auckland region, and international tourism in parts of Otago and the West Coast. Constraints

on the ability to export products in the immediate-term, or for recovery in the medium-term could reduce incomes and lead to job losses in those areas.

Human Rights

77 There are no implications for human rights.

Consultation

78 The following agencies were consulted in the process leading up to the development of this paper: Treasury, Ministry of Foreign Affairs and Trade, Ministry for Primary Industries, Ministry for Business, Innovation and Employment, New Zealand Trade and Enterprise. Department of Prime Minister and Cabinet was consulted.

Communications

79 I will make a public announcement on the exit strategy of the MIAC scheme following Cabinet's decision. I recommend this announcement be made as soon as possible following Cabinet's decision.

80 The Ministry will communicate the details of implementation to the affected airlines, and work with other agencies including MFAT, MPI and NZTE to ensure that affected industry groups are aware that support for air services will continue to be available. I recommend the Ministry can communicate these details to airlines immediately following Cabinet's decision (subject to any airline announcements being embargoed until a formal announcement is made).

Proactive Release

81 Not proposed due to the discussion of matters which are commercially sensitive, and sensitive to New Zealand's international relations.

Recommendations

The Minister of Transport recommends that the Committee:

1 **Note** that the MIAC scheme has been in operation since 1 May 2021, and is set to expire on 31 March 2022 and has contributed to a minimum level of air connectivity for New Zealand, which is around 10-20% of pre-COVID flight volumes;

2 **Note** that the recovery of airfreight connectivity for New Zealand is reliant on the return of passenger travel, and the Border Executive Board scenarios from December 2021 outline a return to 20% of pre-COVID flight volumes around June 2022 under a moderate scenario and around January 2023 under a pessimistic scenario;

3 **Note** that the approved passenger traveller scenarios are set to be updated in mid-March 2022 to reflect latest developments in the implementation of the Reconnecting New Zealanders strategy;

4 **Note** that a key assumption affecting the return of passengers is the timing of removal of the self-isolation requirements;

5 s 6(a), s 9(2)(h) [redacted]

[redacted]

6 **Note** the Treasury view that my preferred approach of extending the existing MIAC contracts to March 2023 removes support when passenger numbers return to a point where airlines break even, but risks embedding market distortions by providing a safety net against future shocks (and potentially shocks that are not COVID-related), and could cost up to $177 million more than a date-based option that aligns with the existing moderate scenario for passenger returns;

7 **Note** that my preferred approach of the conditions-based exit significantly reduces the risk of damaging capacity shortfalls in air capacity by providing a strong link to the return of passenger numbers. Where conditions improve this option carries the same total fiscal cost as the alternative suggested.

8 **Agree** to **EITHER**:

8.1 my preferred approach of a conditions-focussed exit as the approach to the exit of the MIAC scheme, extending current MIAC contracts for all markets to 31 March 2023 but with contracts being actively managed to end support as passengers return. **(Recommended)**

OR

8.2 the alternative option of a date-based exit as the approach to the exit of the MIAC scheme, extending current MAC contracts to the dates set out in Appendix 1 when the current passenger forecasts indicate that passenger numbers will be sufficient. **(Not recommended)**

9 s 9(2)(g)(i) [redacted]

10 **Authorise** the Ministry of Transport to enter into contracts with airline providers to reflect the new contract end dates considered in recommendation 8 above.

11 **Agree** that the Minister of Transport will work with the Minister for Trade and Export Growth to agree the terms of public announcements of any extension so as to seek to minimise as far as possible the s 6(a) [redacted]

12 **Agree** to extend the Maintaining International Air Services MYA from 30 June 2022 to 30 June 2023 to support the decision in recommendation 7 above.

13 **Approve EITHER**

13.1 if you agree to recommendation 8.1 above (conditions-focussed exit – recommended) the following changes to appropriations to provide for the decision in recommendation 8 above, with corresponding impacts on the operating balance:

	$m – increase/(decrease)				
Vote Transport Minister of Transport	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**2025/26**
Non-departmental Other Expenses: Maintaining international air services MYA	95.600	287.900	-	-	-
Departmental Output Expense: Transport – Policy advice, ministerial servicing, governance, and other functions (funded by revenue Crown)	0.250	0.850	-	-	-

The funding allocation was subsequently varied at Cabinet on 7 March 2022 to $250m.

OR

13.2 if you agree to recommendation 8.2 above (date-based exit – not recommended) the following changes to appropriations to provide for the decision in recommendation 8 above, with corresponding impacts on the operating balance:

s 9(2)(b)(ii)

14 **Agree** that the expenses incurred under recommendations 8 above be charged as a pre-commitment against the Budget 2022 operating allowance;

15 **Agree** that the proposed changes to appropriations for 2021/22 above be included in the 2021/22 Supplementary Estimates and that, in the interim, the increase be met from Imprest Supply;

16 **Note** that the appropriation changes above are associated with a Budget 2022 bid, which will be withdrawn if the recommendations above are agreed.

Authorised for lodgement

Hon Michael Wood

Minister of Transport

Appendix 1

Date-based exit – contract extensions by market:

- Trans-Tasman: 31 August 2022
- North America: 31 August 2022
- Asia: 30 November 2022
- Middle East: 30 September 2022
- Pacific: 31 March 2023