Lower North Island Freight

Working paper: a case for change
June 2025

Greater Wellington
Te Pane Matua Taiao

Freight

A case for change in the Lower North Island

Table of Contents

I. Introduction

This paper makes the case for a change in approach towards freight in regional land transport planning across the Lower North Island. It has been written following the release of the Ministry of Transport's National Freight and Supply Chain Strategy in 2023 and change in policies contained within the Government Policy Statement on land transport (GPS) 2024, which set an overarching priority of economic growth and productivity. It is intended to support further work in developing an inter-regional Lower North Island (Hawkes Bay, Horizons, Taranaki, Greater Wellington and Gisborne) strategic approach to freight, and to provide input into the 2027 Wellington Regional Land Transport Plan (RLTP).

II. Summary of Key Findings

1. Transport planning in the freight sector is currently constrained by limited data availability and the lack of a comprehensive system-wide view, which in turn has run-on effects for economic growth and productivity.
2. New Zealand's freight sector is hampered by poor strategic use of infrastructure and investment.
3. New Zealand has unique characteristics that challenge the resilience and efficiency of the freight sector, particularly geology and population size.
4. Current technologies mean that the freight sector is unlikely to meet the carbon zero goal by 2050.
5. There are opportunities in the regional system to work with national agencies to develop effective long-term approaches with the freight sector that would lead to a more productive sector with reduced negative impacts.

This summary and key supporting points are detailed in Annex A – Key Findings and supporting detail.

III. Background – the Genesis of the Problem

Government established five transport outcomes in 2018 (Ministry of Transport, 2018)[1]:

Figure 1 - Ministry of Transport Outcomes Framework. Source: Ministry of Transport (2025)

In general, the regional sector has used these outcomes on which to base their RLTPs, while referencing the GPS (with which Regional Transport Committees (RTCs) must ensure that RLTPs are consistent (s16(a)(2) LTMA 2004)).

The general trend since the release of the Transport Outcomes Framework has been to focus (certainly for GW) on the people aspects of transport. This has seen the Wellington Regional Transport Committee set strategic priorities around the movement of people with the prioritised programme of investments containing a 60 per cent weighting for Public Transport Capacity and Travel Choice (reduced to 50 per cent in the 2024 Review to support increased network resilience) (GWRC, 2024). While freight is discussed in the Wellington RLTP under the strategic access and resilience priorities, it is not a specific focus.

RTCs have the statutory responsibility of developing RLTPs that contain a strategic "front end," which sets the overall direction and policies for land transport in each region or unitary council and the investment intentions. As such, they have a key role in how a region's land transport system is developed.

Prior to the COVID-19 pandemic, the Ministry of Transport had conducted a national freight demand study in 2017/18, (which is the last comprehensive source of freight data for planning) and commenced work on a national freight and supply chain strategy. This work was suspended in order to ensure that New Zealand's international freight routes remained open during the pandemic.

Since the time of the national freight demand study, there have been a range of further studies and strategies which seek to fill specific gaps in regional or sector knowledge or understanding. These include the Hawkes Bay Regional Freight Distribution Strategy (Tupe Aumoana), KiwiRail's Value of

[1] Ministry of Transport (2018), Transport Outcomes Framework, accessed on 15 January 2025

Rail, the Palmerston North Integrated Transport Initiative (Te Utanganui) and the Multi-User Ferry Terminal in Wellington[2]. Yet each of these lack a strategic context or system view against which to judge their utility and the benefits of investment.

A national freight and supply chain strategy was eventually published in 2023. Yet as this paper will argue, it provided little real direction to guide investment or the actions of freight sector actors. The one real exception to this has been the Rail Network Investment Programme will help deliver the operation, renewals, maintenance and improvements required to meet the long-term challenges of the rail network, while contributing to economic growth and productivity of New Zealand. This is in contrast to the Australian strategy which has clear action areas, governance and reporting mechanisms.[3] A key missing component for New Zealand transport planners is contemporary, consolidated data on the freight task in the country. Given the significant changes in the freight sector generated by COVID-19, changing geopolitical environment, and impacts of climate change and technology, an updated study is required. Efforts to fund this nationally have so far been declined.

Within GW, initial attempts to understand the freight problem quickly identified that much of the freight flow through Wellington is inter-island, and any attempt to develop policy for the RLTP would fail if it did not consider the broader picture across the Lower North Island, and in many respects nationally.

In the absence of any overall guiding national direction, there have been three pan-regional initiatives to understand the nature of the freight "problem" and what a response might be. These have tended to group roughly into Upper North Island, Lower North Island and the South Island. The Upper North Island approaches most recently focused around the future of the Port of Auckland (Ministry of Transport, 2020[4]) and rail and road investments around the "Golden Triangle." In the South Island, the RTC chairs have now commissioned work[5] that will lead towards a regional strategy. Officers in the four Lower NI regional councils and Gisborne District Council have identified a need for a common approach including development of a freight strategy in their 2024 RLTPs. This has been discussed informally with elected officials but as of April 2025, no formal decisions had been made.

[2] Hawkes Bay Regional Recovery Office (2024), Tupe Aumoana Hawkes Bay Strategy; KiwiRail (2021) Value of Rail; and Central Economic Development Agency (2020) Te-Utanganui-Strategy.
[3] Transport and Infrastructure Council of Australia (2019), National Freight and Supply Chain Strategy.
[4] Ministry of Transport (2021), Saperes Report on the UNISCS Independent Working Group Findings.
[5] Environment Canterbury (2024), South Island Freight Study, presentation for South Island RTC Chairs.

IV. Methodology and Policy

Methodology

This paper is based primarily on a literature review of relevant material, Greater Wellington (GW) reporting of progress against the region's RLTP and informal discussions with key actors engaged in delivering transport in the Wellington region. Data was collated over the period January-April with some updates prior to publication in June 2025.

Insight tables of "What? So What? So What Now?" are included through the paper to draw out insights at relevant places. While some of the actions point towards national-level action, these insights are focused on what actions regional councils can take.

Policy Disclaimer

This paper is a working paper intended for the use of the officers in the regional and unitary councils and their respective territorial authorities. This paper does not represent agreed policy positions of any organisation nor the Wellington Regional Transport Committee.

Thanks

Greater Wellington staff would like to thank the officers and staff of KiwiRail, New Zealand Transport Agency (NZTA) Waka Kotahi, Gisborne District, Hawkes Bay, Taranaki, and Horizons Regional Councils and others for their input and support to this paper.

V. Definitions

Freight system

"The freight and supply chain system underpins New Zealand's economy." (Ministry of Transport 2023)[6]

"Every time you go to the shops, overtake a truck on the highway, have a parcel delivered, pass a construction site or see Australian produce overseas, you are seeing Australia's freight and supply chain networks in action." (Commonwealth of Australia, 2019[7])

The freight system is a network of people, businesses, services and infrastructure handling, transporting and storing goods. It is in other words the lifeblood of the economy. While this paper references the New Zealand and Australian freight and *supply chain* strategies, supply chains encompass the broader process involved in getting a finished product or service to customer. It is broader than the transport network that delivers goods along that supply chain. This paper focuses on the narrower freight network, comprising the infrastructure, operators, funders, policy makers and regulators.

For the purposes of this paper, New Zealand's freight network can be subdivided into three broad categories reflecting the reality of our network and geographic location:

a. international – international shipping and airline links that connect New Zealand to international markets
b. domestic national – predominantly heavy freight that:

    a. connects points of production supplying them with raw materials and delivering products to distribution hubs and ports, and
    b. delivers inter-city freight

    High-productivity motor vehicles[8] predominate in this sector supported by rail and coastal shipping. This grouping includes the Cook Strait ferry link.

[6] Ministry of Transport (2023), Aotearoa New Zealand Freight and Supply Chain Strategy, p 4.
[7] Commonwealth of Australia (2023), National Freight and Supply Chain Strategy, p 4.
[8] HPMV include 50MAX trucks that are able to operate above the previous 44 tonne weight along designated HPMV routes, High productivity motor vehicles and permits | NZ Transport Agency Waka Kotahi accessed on 22 January 2025.

c. domestic local – the so called "first-mile, last-mile" where goods are distributed locally to or gathered from end users. This covers a variety of delivery methods from foot, through cargo bikes and e-scooters up into light freight vehicles[9].

Modes

There are four main modes involved in the movement of freight within New Zealand. These are defined by the environment in which they operate:

a. air – use of aircraft to deliver freight. Used predominantly domestically to deliver high-value low-volume goods to international airports for export or in the freight-fowarding and courier business;
b. road – the state highway and local road networks;
c. rail – the rail network operated and maintained by KiwiRail; and
d. shipping – the use of shipping to deliver goods between ports.

Scope

This paper restricts itself to discussing the land transport network as defined in the Land Transport Management Act (LTMA) 2003 and Maritime Transport Act (MTA) 1994, and includes coastal shipping. International shipping and airlinks are discussed as feeders into the domestic networks or where they carry some of the domestic freight demand. This paper covers the four regional and one council in the Lower North Island, *viz*. Greater Wellington (GW), Horizons, Hawkes Bay and Taranaki regional, and Gisborne District Council.

While this paper will look at the sector as a whole, its recommendations for further action will be focused in those areas where regional councils can take action with their authorised organisation counterparts[10].

VI. What does our network look like?

New Zealand is a long, thin island nation located at the end of the international trade routes. It is relatively thinly populated with a small economy for its geographic size (see Table A below). The country's economy was built on, and still has heavy reliance on the primary sector which accounts for $54.3 billion in export revenue and 81.9 per cent of our external trade[11] with the majority of its international trade by volume arriving or departing by sea with a much smaller volume but higher value proportion traveling by air. These routes are vulnerable to disruption as seen during COVID-19 pandemic when the near collapse of international air passenger traffic by which air freight

[9] "A goods vehicle that has a gross vehicle mass not exceeding 3.5 tonnes." NZTA (2025), Vehicle classes | NZ Transport Agency Waka Kotahi accessed on 4 February 2025.
[10] As defined in the LTMA and mostly the members of Regional Transport Committees and NZTA.
[11] Ministry for Primary Industries (2023), Situation and Outlook for Primary Industries, p 3.

travels required Government intervention to support those networks. Sea transport was also heavily disrupted as capacity was diverted to shipping consumer goods predominantly from China to western countries.

	Population Estimate	Land Area (km^2)	Population Density (people/km^2)	GDP (US$) All figures for 2022
New Zealand	5,235,227	263,310	20	$247 bn
Japan	123,387,780	364,555	338	$4,231 bn
United Kingdom	69,397,937,	241,930	287	$3,070 bn

Table A. Comparison of New Zealand Population, Land area, Population Density and GDP [12]

The total annual value of New Zealand's freight sector in 2017/18[13] was $23 billon for air freight and $96 billion for sea freight.

The majority of New Zealand international trade is conducted through the three major ports of Auckland, Tauranga and Christchurch. The majority of domestic freight moves by land with relatively low volumes by sea. Of the land transport, the majority is moved by road with a small and declining portion moving by rail[14].

The map in Figure 2 below taken from the 2023 National Freight and Supply Chain Strategy illustrates the situation as it was in 2017/18.

[12] Data extracted from Worldometer - real time world statistics, accessed on 22 January 2025.
[13] Ministry of Transport (2023), op cit., p. 15.
[14] OECD (2025), Freight Transport Indictor, accessed on 31 January 2025.

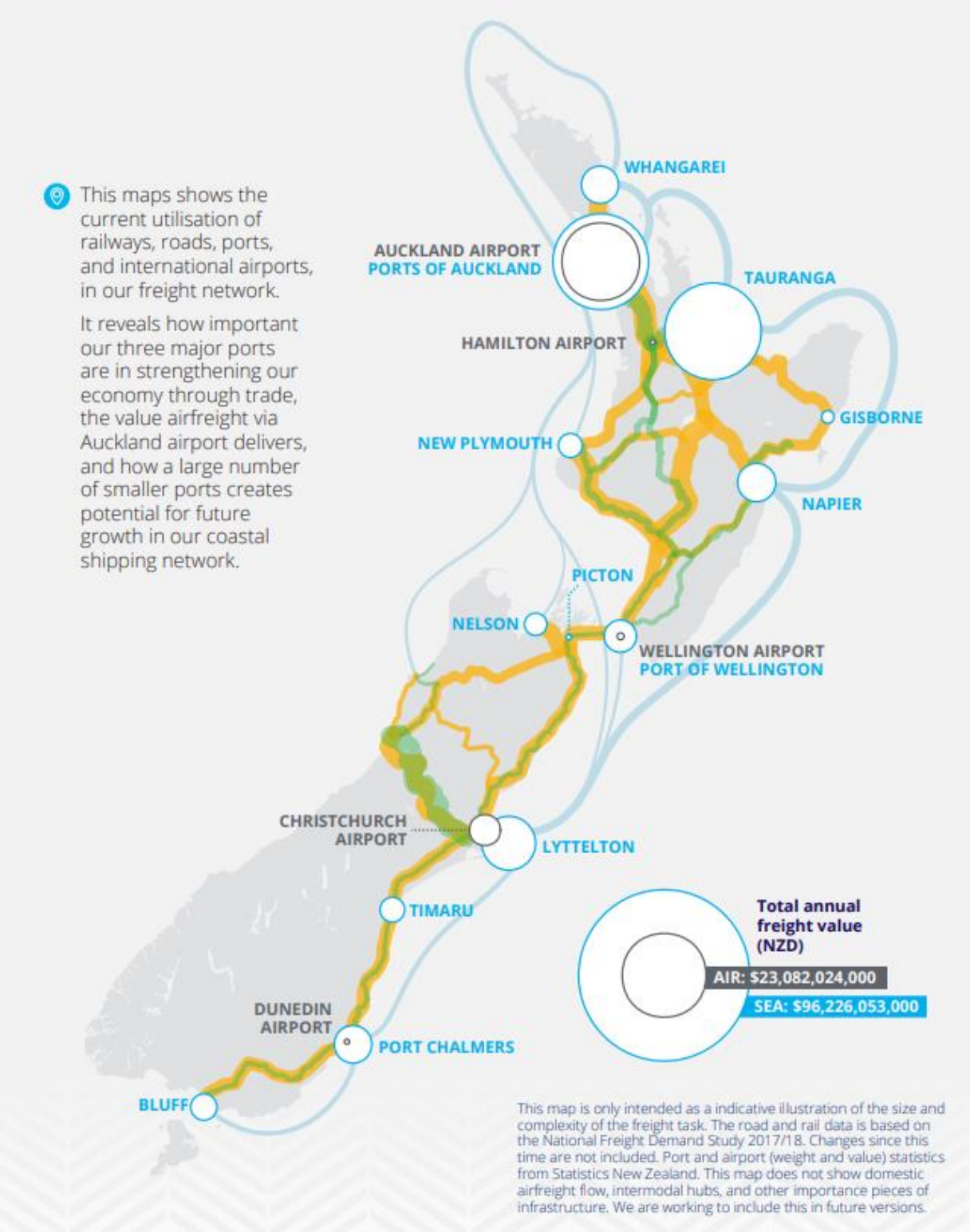

Figure 2 - New Zealand's Freight and Supply Chain in 2018/18. Source: Ministry of Transport (2023).[15]

[15] Ministry of Transport (2023), op.cit., p 13.

Unique Features

New Zealand's geography and low population density dictate the nature and flow of its freight task, thereby presenting some unique challenges for transport planners.

The key feature is the asymmetric nature of export and import flows, which is driven in part by "Just-in-Time" supply chain management and costs[16]. New Zealand's exports by and large flow to the nearest available port. These flows tend to be from the primary sector and the distances are relatively short by (less than 150 km), (particularly in comparison to Australia or the US). There are some exceptions whereby exporters will look to aggregate shipments to one port in order to obtain better international shipping rates with the three largest ports by volume (Auckland, Tauranga and Lyttleton) tending to be preferred.

By contrast, import supply chains in New Zealand are long as freight is moved from one of the three above ports along long routes which are subject to disruption with few viable available alternatives.

Shorter export routes are not necessarily reliable. Much freight movement is along rural roads with low levels of service before reaching state highways e.g. stock movements from farms, the Wairarapa logging traffic into the Waingawa hub, or the movement of export fruit in Hawkes Bay. The asymmetry between imports and exports also shows up in the containerised freight with the majority of imports coming in in "dry boxes," i.e. non-refrigerated containers, while exports require a higher percentage of "wet" or refrigerated containers.

The key impacts of this from a transport planning point of view cover:

a. the economies of scale that might be available for the movement of bulk goods over long distances by rail or coastal shipping are often not there;
b. high-value, low-volume goods are the ones moving longer distances and raising costs for transport operators and consumers; and
c. there are inefficiencies generated for operators and infrastructure owners as back-loading which makes more efficient use of vehicles is not always available.

Three Pan-Regional Groupings

Below the national level, freight studies to date have been geographically focused. The Upper North Island Strategic Alliance focused on development of an Upper North Island Freight Story[17] in

[16] "Just-in-Time" supply management was driven originally by the manufacturing industry as a way of lowering costs through reducing inventory holdings. The overall impact on the freight system has been to increase requirements for timeliness in delivery due to lower inventory holdings. Cost has been a primary driver for the consolidation of import and some export shipping as shipping lines are favouring fewer port calls in New Zealand.

[17] Upper North Island Strategic Alliance (2013), Reducing the cost of doing business in New Zealand through an upper North Island lens, Summary of Critical Issues, accessed on 8 April 2025.

the 2010s, followed by an Upper North Island Supply Chain Strategy in 2020[18], which considered the question of relocating the Ports of Auckland. This has been followed by the South Island Freight Study commissioned by the South Island Regional Transport Committee Chairs[19].

Each of these studies were successful in uncovering barriers to freight movement within the regions, notwithstanding the common issues between the regional groupings and the national nature of some. These studies identified large internal flows within each regional grouping which suggests that similar flows are likely to exist across the Lower North Island. It is, therefore, worth considering the Lower North Island as a single block for flows, notwithstanding significant intermodal flows through the area as well as originating or terminating in the area itself. Gisborne is included because of its links and shared issues with Hawkes Bay, including the SH2 corridor.

Lower North Island Flows

While the data about freight flows is now dated, analysis of the four relevant RLTPs, the Hawkes Bay Freight Strategy and Te Utanganui multi modal hub in Palmerston North reveal the following aspects about the Lower North Island freight and supply chain:

a. significant north-south flow of freight along SH1 crossing Cook Strait;
b. logging traffic and other primary produce tends to flow towards the nearest port, Gisborne, Taranaki, Napier or Wellington;
c. there is significant outward flow of processed goods from Taranaki predominantly by rai south along the SH3 corridor and thence north to Tauranga; and
d. Palmerston North is the effective crossroads for the Lower North Island's freight network.

Data about actual freight flows is dated and dates from the 2018 Freight Demand Study. However, a degree of the nature of the flow of both exports and imports through the four ports in the region relative to the national flow through ports can be shown in Table B below. Source data is taken from the 2018 National Freight Demand Survey.

[18] Sapaere (2020), Analysis of the Upper North Island Supply Chain Strategy Working Group Options for moving freight from the Ports of Auckland; and West Coast Regional Council (2024) Attachment 8 Minutes South Island RTC Chairs 29 November 2023, accessed on 17 April 2025.
[19] Environment Canterbury, Stantec (2025), South Island Freight Study.

	Bulk (Read 000t)		Containerised (Read 000t)		Total	
	Import	Export	Import	Export	Import	Export
Gisborne	0	2,991	0		0	
Napier	4,010	2,294	309	1,384	719	3,677
Taranaki	838	3,334	17	1	855	3,335
Wellington	1,104	1,645	338	300	1442	1,946
Total Lower North Island Ports	2,359	10,272	664	1,685	3,015	11,958
New Zealand Total	17,546	30,726	7098	11,793	24,644	42,519

Table B. Imports and Exports through four Lower North Island Ports (2018)

This data indicates that in 2018, the four ports handled 22 per cent of the overall tonnage passing through New Zealand's ports, but that there is an imbalance between imports and exports with exports significantly outweighing imports (11,957 kt vs 3,015 kt) and bulk exports significantly outweighing containerised exports (7,273kt vs 1,685 kt). The data also shows that Napier and Taranaki were the largest export ports in 2018 (noting that Wellington was likely constrained by the post-Kaikoura rebuild activity.) Wellington, however, dominated the import sector with 48 per cent of imports across the four ports. The graph in Figure 3 below shows by port the relative volumes of imports and exports broken down into containerised and bulk as well as aggregate figures.

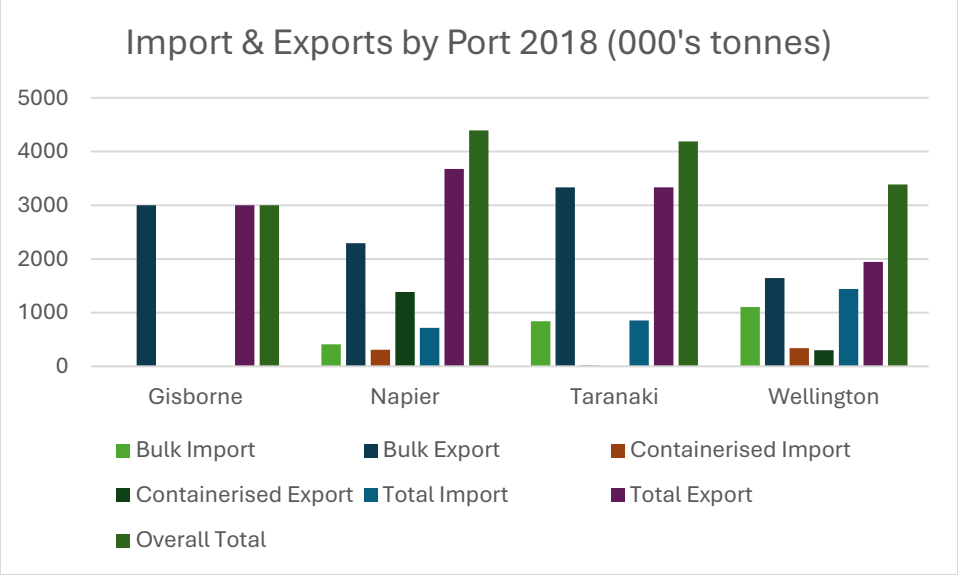

Figure 3 – Imports and Exports through the four Lower North Island Ports 2018

Using the ports as a proxy for overall freight demand in New Zealand, approximately 20 per cent of the country's economic trade by volume is passing through these ports. This rises to 28 per cent of national volumes for exports by sea. The map at Figure 2 on page 11 indicates that there is significant north-south primarily intermodal import freight although data is not readily available

across all modes. Also missing from the picture is how high-value freight moves to export, although the Te Utanganui Central North Island Freight Strategy notes that 83 per cent of the country's air exports go through Auckland with the remainder 17 per cent through Christchurch and none through the other 24/7 airport available for export, Palmerston North[20].

The significance of Palmerston North as the primary logistics centre for the Lower North Island is emphasised in the Sankey diagram shown in Figure 4 below showing 'fleet' road traffic flows into the Wellington Region from regions further north, as recorded in TomTom vehicle trip data. The flows from Manawatu/Whanganui, mostly from Palmerston North, are larger into every part of the Wellington Region than flows from either Taranaki or Hawkes Bay.

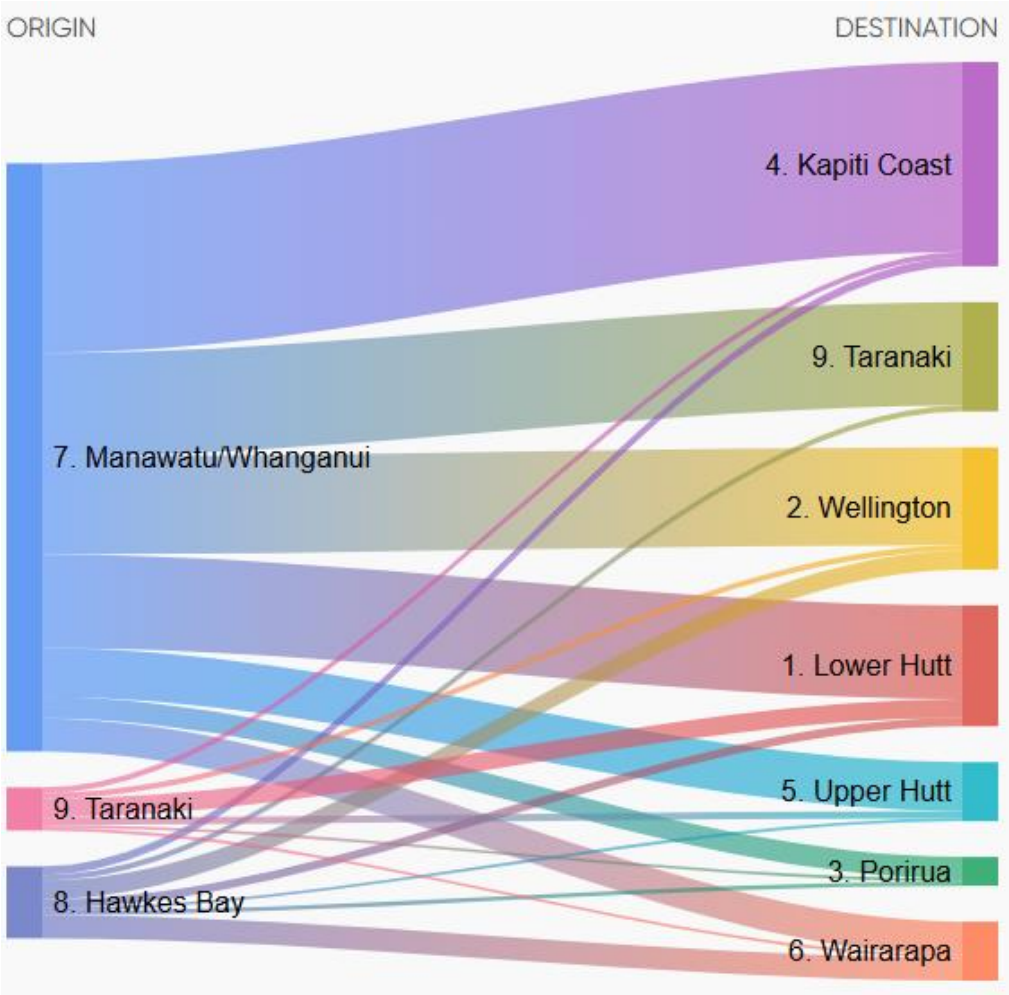

Figure 4 - TomTom 'fleet' vehicle flows from Manawatu/Whanganui, Taranaki, and Hawkes Bay into Wellington Region, March 2025. Source: TomTom Move (2025)[21]

[20] Central Economic Development Agency (2024), Te Utanganui Strategy Central New Zealand Distribution Hub, p 15.
[21] Tomtom Move O/D Analysis (2025), accessed through https://od.tomtom.com/dashboard.

Further analysis of TomTom data provides a more detailed picture of fleet vehicle movements and destinations in the Wellington region. Specifically, few vehicles entering the region from the north travel further south than the CBD or Terrace tunnel. Roughly 50 per cent of vehicles travelling south on SH1 continue down SH1 with the other half proceeding over SH58 for destinations in the Hutt Valley, predominantly in the Seaview area with similar patterns seen for vehicles entering from the north on SH2. These patterns suggest that the primary destinations for freight in the Wellington region are Seaview, Centreport and the urban centres of Wellington, Porirua, Paraparaumu, Hutt City and Upper Hutt. These patterns are further confirmed with the primary freight destination and point of origin for rail being the Wellington railyards and adjacent Centreport and the location of the port itself. Recent Ministry of Transport data indicates that the primary source and destination for rail freight to/from Wellington is the Manawatū-Whanganui region followed by Auckland, although rail's overall share has declined (its tonnage carried remaining static while road increased its freight[22].)

Two maps below illustrate graphically the road fleet vehicle movements.

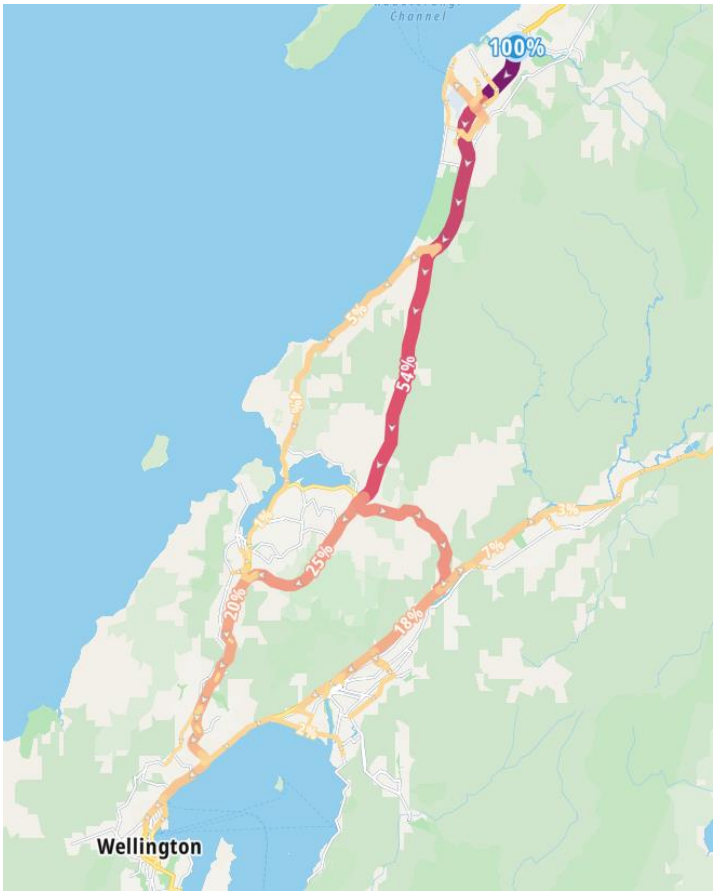

Figure 5 - Destination of 'fleet' vehicles southbound from Waikanae, March 2025. Source: TomTom Move (2025)

[22]Ministry of Transport (2025), FIGS Rail Data, accessed March 2025

Figure 6 - Destination of 'fleet' vehicles southbound on State Highway 2 from Remutaka Hill, March 2025. Source: TomTom Move (2025)

Further information on freight flows is available in the Wellington Transport Analytics Unit June report RLTP 2027 – State of Transport Network.

Freight Sector Actors and Challenges

It is useful to understand who the main actors involved in the operation and use of the freight network are. Issues that may be blocking freight movement may not come from the set of actors normally considered, e.g. frequency of rest stops for an older workforce may affect recruitment and retention of staff. Across the lower North Island, actors can be categorised into six categories (see Table C below for details):

- infrastructure owners and operators,
- funders,
- regulators
- service operators
- customers, and
- labour.

Note that multiple functions can be undertaken by single entities e.g. territorial authorities are owners, operators and regulators of their local roads:

Category	Function	Example
Infrastructure Owners and Operators	Provide and operate the transport infrastructure	NZTA -State Highways KiwiRail – Rail Network Territorial Authorities – Local Roads Ports Inland ports and freight hubs
Funders	Fund the infrastructure	NZTA through National Land Transport Fund (fully funds State Highway Network and 51 per cent of local roading activities) and Rail Network Investment Plan Crown – direct Crown funding for specified projects Territorial Authorities – 49 per cent local share.
Regulators	Regulate the land transport network	Ministry of Transport NZTA Territorial Authorities
Service Operators	Freight operators	KiwiRail – freight operations and Cook Strait ferries Road transport entities Shipping companies
Customers	Those who ship freight	Fonterra
Labour	Individuals who work in and operate the freight network	Drivers, construction personnel

Table C. Major freight sector actors across Lower North Island

The roles and influence of these actors will be discussed through this paper.

Challenges of COVID-19 pandemic and recent developments

As has widely been commented, the COVID-19 pandemic significantly disrupted global shipping (maritime and air) routes. While air freight routes have returned to a degree of normalcy with the restoration of international passenger air travel, the disruption to maritime markets has been longer lasting and potentially more significant for the New Zealand freight industry and the ports in particular. Fears that New Zealand would somehow be left off the global shipping network or become a hub from Sydney do not appear to have been realised. However, the frequency and port calls of international shipping lines have altered. As an example, the pre-COVID-19 pandemic weekly port calls by a container line into Wellington have decreased to fortnightly meaning that CentrePort has to hold more freight between port calls while handling more freight during the visit.

Two other developments have also affected the industry, but the impacts are yet to be quantified.

a. **Freight hubs:** The number of proposals and construction of freight hubs and inland ports have continued to grow. Across the Lower North Island, there is an intermodal distribution hub under development in Palmerston North (Te Utanganui), KiwiRail is developing a new freight hub in Palmerston North, logging hubs are proposed or have been built in Marton,

Waverly and Waingawa and CentrePort is considering where and how to build a break bulk facility for unpacking containers away from the port itself.[23]

b. **E-Commerce:** On-line shopping is fundamentally reshaping the consumer market with individuals preferring to order and take delivery of goods at home rather than head to a physical shop. The result has been a significant uptick in local delivery traffic. Australia noted a 24 per cent increase by value and 20.2 per cent increase by volume in e-commerce between 2017 and 2018.[24] It is likely that these trends have continued and were accelerated by the COVID-19 pandemic.

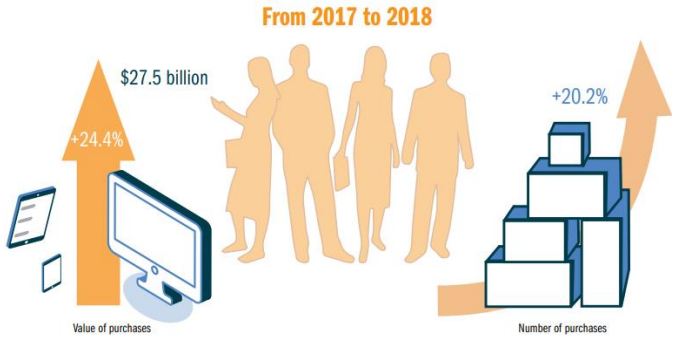

Figure 7 e-Commerce continues to grow due to changing consumer preferences. Source: Commonwealth of Australia (2019)[25]

	What	So What?	So What Now?
INSIGHTS	New Zealand has a long, thin geography with relatively low population density and small GDP relative to its physical size. Freight flows tend to be asymmetric in nature. The last consolidated view of the country's freight network dates from 2018.	Economies of scale in long-distance freight may not be there. The nature of the freight demand will have changed significantly since the demand study in 2017/18. Change in freight flows and volumes mean that transport planners no longer have reliable data for planning.	More information on the nature of freight in New Zealand is required for effective planning.

[23] Central Economic Development Agency (2024), Strategy, Central New Zealand Distribution Hub; KiwiRail (2023) Regional Freight Hub accessed on 4 February 2025; KiwiRail (2020), First log train runs on Wairoa line, accessed on 4 February 2025; Centreport (2024), and New operator at the helm for Waingawa log yard, accessed on 4 February 2025.

[24] Commonwealth of Australia (2023), 2023 Review of the National Freight and Supply Chain Strategy | National Freight and Supply Chain Strategy, p 4, accessed on 15 January 2025.

[25] Commonwealth of Australia (2019), National Freight and Supply Chain Strategy, p12.

VII. Current Situation

The literature review conducted has identified a range of issues and challenges facing the freight sector, including:

- Resilience
- Changing nature of shipping and port consolidation
- Predictability
- Investment returns and benefits realisation
- Funding versus cost
- Efficiency
- Infrastructure ownership
- Externalities
- Technology and data
- Workforce
- Government role in the sector
- Regulatory
- Perceptions of freight
- Safety

These issues and challenges are discussed under each heading below.

Resilience

The Ministry of Transport's Transport Outcomes Framework defines resilience and security as "a transport system that minimises and manages the risks from natural and human-made hazards; anticipates and adapts to emerging threats; and recovers effectively from disruptive events."[26] Within the Wellington region, we have seen both the impact of weather events in terms of length and duration of closures of state highway routes but also the increase in the network's ability to recover with a viable alternative in the form of Transmission Gully[27]. The Lower North Island network remains vulnerable, however, with single point vulnerabilities in all five regions. Table D below lists some of those vulnerabilities highlighted in the Regional Land Transport Plans and Reviews published in 2024:

[26] Ministry of Transport (2018), Transport Outcomes Framework.
[27] GW (2024) Wellington Regional Land Transport Plan Annual Monitoring Report 2023, p 17.

Region	Vulnerability	Alternatives	Actions to address
Taranaki	SH3 north and south	Long, narrow and winding SH43 from Stratford to Taumaranui (sealing through 12km Tāngarākau Gorge completed 2025)	Te Ara o Te Ata – Mt Messenger Bypass is a new 6km route being built to avoid a tortuous stretch of SH3 between New Plymouth and Hamilton, replacing it with a safer, more resilient and reliable roadway – supporting road freight on this key inter-regional corridor.
Hawkes Bay	SH2 and SH5 to the north	Long detours depending on nature of severance via Waikaremoana, SH35 or Napier-Taihape Road	Post Cyclone Gabrielle recovery programme but no future viable alternatives. Investment case for Hawkes Bay-Gisborne productivity
Horizons	SH3 Manawatu Gorge Severance	Ashurst Saddle or Pahiatua Track	Te Ahu a Turanga replacement due to open in mid-2025
Wellington	SH1 Ōhau River Crossing SH2 Remutaka Hill	Nil road. North Island Main Trunk (NIMT) rail link. Rail as far as Wairarapa	Ōtaki to Levin expressway due to open in late 2020s Completion of Remutaka Hill safety interventions.

Table D. Highlighted transport network issues in Lower North Island RLTPs. Sources: Hawkes Bay Regional Council et al (2024)[28]

Recent closure events such as those caused by Cyclone Gabrielle in 2023 and further afield such as the Kaikōura and Ashburton closures point to the significant increases in travel times imposed by these closures and economic costs reflected in increased travel times and the consequences for users no longer able to access markets[29]. Deferred maintenance also affects the reliability of networks. Examples include the significant closures of SH1 in the central North Island and of the Remutaka rail tunnel in early 2024 to catch up on deferred maintenance that led to a 40-minute increase in travel time on SH1, and the complete shift of logging traffic onto SH2 as the alternative rail route through the north Wairarapa was no longer a viable option due to deferred maintenance[30].

[28] Hawkes Bay Regional Council (2024), RLTP 2024; Horizons Regional Council (2024) RLTP 2024 Review; Taranaki Regional Council (2024), RLTP 2024; and GW (2024), RLTP 2024 Review.
[29] Page, C. (2023), Trucking firms seek post-cyclone support, Farmers Weekly, February 2023
[30] NZ Herald (2024), KiwiRail won't reopen Northern Diversion freight line between Masterton and Pahiatua.

Changing Nature of Shipping and Port Consolidation

There has been significant discussion over the years about both the changing nature of shipping and the need for port consolidation[31]. New Zealand is by global standards over-served by the number of ports. Even a comparison with the larger population of New South Wales shows this where there are three main freight ports centres, intermodal Sydney and the dedicated commodity ports of Newcastle and Wollongong compared with New Zealand's 13 international ports. Nevertheless, economies of scale in New Zealand have driven consolidation of much the country's international shipping into three major ports, but the traditional model of shipping freight from the hinterland to the nearest available port remains in part due to the high cost of moving freight domestically. As discussions around creation of a single port to serve the Upper North Island have shown, it would be costly and difficult to significantly alter this pattern with significant costs associated both with the construction of the port itself and land transport infrastructure to serve it.

Yet there are reasons to both consider change and remain with the current model.

On the one hand, there is the reality that larger ships are making fewer port calls in New Zealand (often only one) due to the economic benefits of aggregating shipments at one port. This also suits bulk shippers who are only supporting the one port call.

On the other hand, there are also economic reasons to not fully consolidate ports due to the relatively high cost of long land transport links to access the ports and resilience reasons e.g. coastal shipping replaced the severed SH2 route between Gisborne and Napier in the immediate aftermath of Cyclone Gabrielle.

But the future of regional ports is also governed by changing requirements. The increase in log exports from Gisborne has led the requirement for a second berth; and the future of methanol production will shape the future of Port Taranaki.

The way forward, however, is not clear but even a clear understanding about which ports to use when would help to plan the land transport infrastructure used to access them as well as deliver economic benefits.

Predictability

Freight is variably time sensitive depending on the nature and market: these vary from highly perishable seafoods at one end of the scale to bulk commodities such as coal and logs at the other.

Nevertheless, the freight sector relies on predictable transport and delivery times. Missed shipment times can incur demurrage charges at ports, spoiled goods leading to avoidable costs

[31] Ministry of Transport (2022), New Zealand Freight and Supply Chain Issues Paper, p 3; Port Strategy (2004), Port Interface the Concern For New Zealand | News | Port Strategy, accessed on 14 April 2025; and Castalia (2006), Competition Analysis for Merger of the Port of Tauranga and Ports of Auckland, New Zealand - Castalia, accessed 14 April 2025.

which are passed back to either the shipper or user, and if they are persistent, lost business. Uncertainty is priced into the cost of freight and ultimately passed on to the end user in the form of higher fees. There has been a significant trend since the 1970s towards just in time delivery to minimise inventory and warehouse costs. Users rely on their goods arriving when the freight agent says that they will.

Travel times across the Wellington region have (in keeping with the rest of the country) become more variable over time with travel times increasing and variability increasing (see Table E below for reporting from the Wellington region RLTP Annual Monitoring Report).

Indicator	Latest Result	Trend	Comment
Average travel speeds on selected strategic routes	37 kmph AM peak, and 45 kmph off-peak (three-year average to Feb 2023)	Decrease from 38 kmph AM peak and decrease from 47 kmph off-peak measured in Mar 2022	Decrease across all routes with the exception of Waikanae to Wellington Airport on SH1 (likely due to utilisation of Transmission Gully)
Average travel time variability on selected strategic routes	6.5 mins (three-year rolling ave)	Increase of 9% (from 6.0 mins) compared to last year	Influenced by increased congestion in FY 2022/23
Annual freight volumes moved by rail	1.34 million tonnes	One-year change is a 8% decrease from FY 2021/22; however, 5-year change shows upwards trend (10% increase)	Decrease over the past year in transport of domestic goods, influenced by economic conditions

Table E. Updated Indicators on economic prosperity. Source: (GW, 2024[32])

While these times apply to all traffic, they affect freight as well. The effect is compounded by the presence of heavy trucks which travel at slower speeds than general traffic due to reasons of regulation, fuel economy and safety.

The introduction of congestion charging and other traffic demand measures can decrease travel times. Even a small decrease in traffic can have a positively disproportionate effect on travel times as seen in the early results from the New York City congestion charging summarised in the Table F below from New York MTA data[33]:

[32] GW (2024), op. cit., p 15.
[33] New York Metropolitan Transportation Authority (2024), Congestion Relief Zone Tolling Week One Update.

Changes in travel times

The time it took to cross bridges and tunnels into Manhattan last week between 8 a.m. and 9 a.m. was shorter on average than in January 2024.

CROSSING	2024 AVERAGE (MINUTES)	JAN. 6 – 9 AVERAGE	CHANGE
Holland Tunnel	11:34	4:16	–63%
Lincoln Tunnel	6:44	3:40	–46%
Queensboro Bridge	6:51	3:54	–43%
Queens-Midtown Tunnel	6:31	4:14	–35%
Williamsburg Bridge	7:41	5:01	–35%
Brooklyn Bridge	5:13	4:06	–21%
Manhattan Bridge	3:39	3:14	–11%

Table F. Changes in travel time in Manhattan following implementation of New York City Congestion Charge. Source: New York MTA 2025)

Other solutions to improve reliability include freight specific or priority routes to separate freight from general traffic or the use of alternative modes such as rail or coastal shipping. The use of freight hubs is also part of the mix. Examples in the Lower North Island include the institution of log hubs to aggregate logs for shipping to ports, reconfiguration of the Centreport rail transhipment facilities.

INSIGHTS	What	So What?	So What Now?
	Reliability and predictability are key cost drivers for freight, driving up costs for transport users and threatening the viability of the freight providers and end-users when on-time delivery cannot be guaranteed.	The provision of viable alternative routes and increasing resilience of key freight routes should provide greater certainty, as well as reducing emissions and potentially maintenance costs.	Understand the impact of unpredictable travel times on freight operations and costs. Develop greater understanding across the Lower North Island of bottlenecks on the network in order to better target investment.

Investment Returns and Benefits Realisation

Much has been written about New Zealand's "infrastructure deficit"[34] and the economic effect that years of under-investment are now having. Decisions by successive governments to use the

[34] New Zealand Infrastructure Commission (2021), New Zealand's Infrastructure Challenge Quantifying-the-Gap, p 1.

National Land Transport Fund (NLTF) for purposes other than the maintenance and operation of the existing infrastructure have led to a backlog of deferred maintenance on the nation's roads that the Government has addressed through the GPS Pothole Prevention Activity classes with a proposed investment of $5.51 billion over the next three years. The intended impact of this is to increase the efficient movement of goods to market by increasing the overall resiliency of the road network[35].

In many respects, this reflects the investment of $2.5 billion into rail over the period 2017-2023[36] in order to address long-standing deferred investment and bring the network up to a level to restore rail freight and provide a platform for future growth[37].

These investments, however, take time to flow into changes on the network and can be difficult to measure. When those benefits take time, the original benefit can be questioned, particularly if the economy slows. This was seen most recently in GPS 2024 which noted the decline in freight volumes carried by rail over the period 2012-2017 as the overall freight demand grew from 29.51 bn tonne kms to 32.62 bn tonne kilometres. The reality, however, is that many of these investments such as the Third Main between Westfield and Wiri, new locomotives and rolling stock are still in delivery and are yet to deliver the intended benefits. Furthermore policy changes to favour one mode over another prior to benefits realisation can lead to reduced benefit and/or stranded assets coupled with opportunity costs, particularly if externalities are excluded from consideration. This is particularly true if that policy change leads to reduced investment that would have taken advantage of the original investment.

Recent work by the Infrastructure Commission suggests that New Zealand's infrastructure investment is inefficient by global standards as shown in the Figure 8 below. By extension, one can infer that this applies in the transport sector with both significant investment leading at times to negligible return or under use of existing assets. A recent example is the reduction in rail traffic on the Napier-Palmerston line with trains falling from three per day to one with the closure of the two central North Island paper mills that generated two thirds of the traffic, prior to a new logging service being instituted in early 2025.

[35] Source: NZTA (2024), Combined total of state highway and local road prevention activity classes 2024–27 National Land Transport Programme, pp. 23-28.
[36] Ministry of Transport (2024), Government Policy Statement on Land Transport,. p 15.
[37] Ministry of Transport (2021), The New Zealand Rail Plan.

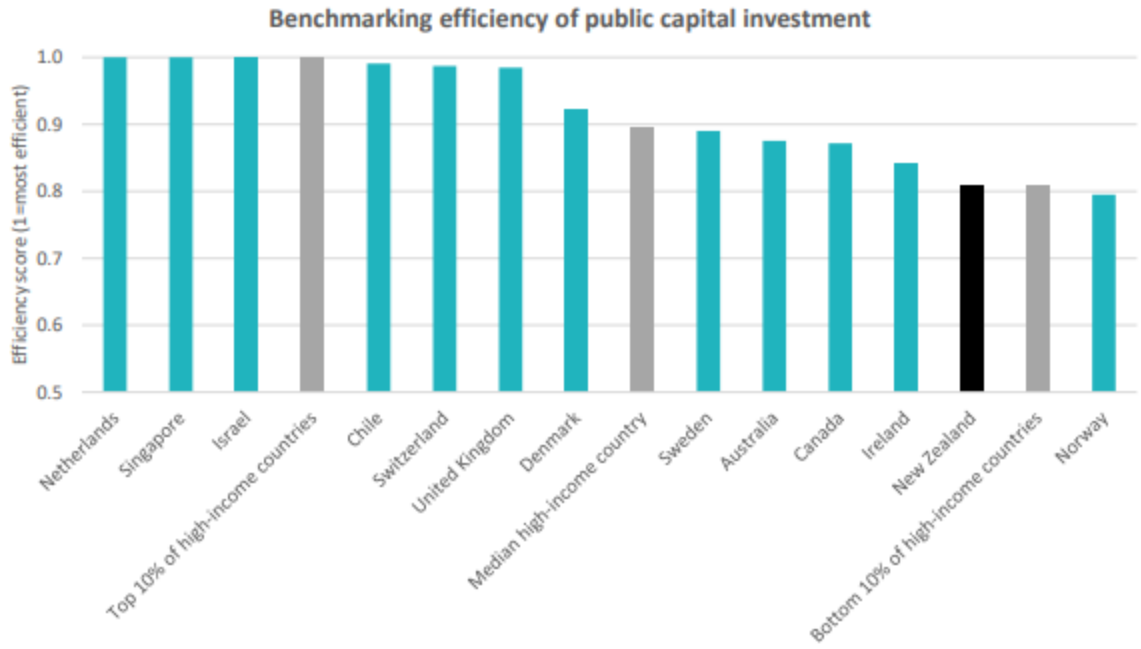

Figure 8 - Benchmarking efficiency of public capital investment. Source: Infrastructure Commission (2024)[38]

Another aspect is around the use of benefits realisation in order to yield the anticipated benefit. Benefits realisation is the concept through which active management of an investment will yield anticipated returns. New Zealand's investment management process is based on the State of Victoria's Investment Management Guide. However, as earlier investigation by GW Regional Transport revealed, New Zealand practice focuses on the Investment Logic Management component rather than the whole-of-life process[39]. It is not clear other than the statutory reporting requirements of RLTPs in the LTMA (s16(6)(e)(e)) to what extent transport investments are delivering their benefits, or actively managed to do so.

These observations suggest that New Zealand is not yet making the best use of its existing transport investments.

Funding versus Cost

A further issue is funding versus cost and who pays.

New Zealand's transport system is largely paid on a direct user "pay-as-you-go" system with users paying proportionately their use of the asset through Road User Charges and Fuel Excise Duties, with these two sources making up the bulk of the National Land Transport Fund. Table G shows the estimated revenue for the National Land Transport Fund (NLTF) in the current triennium (2024/25-2027/28.)

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[38]Infrastructure Commission (2024), Paying It forward-Understanding our long term infrastructure needs, p 19.

[39] GW (2023), Improving the RLTP Prioritisation Process.

NLTF Funding Source	Amount ($ billion)
FED/RUC/MVR	13.8
Crown grant – capital expenditure	3.1
Crown loan	3.1
Crown funding for rail	0.8
Crown grant held in tagged contingency for the NLTP	1.0
Crown grant held in tagged contingency for the RNIP	0.2
Total revenue	**22.0**

Table G. NLTF Funding. Source: NZTA (2024[40])

Historically, this fund was designed to pay for the operation and upkeep of the existing road network. However, successive Governments have used the NLTF for a variety of additional purposes including capital investment in Roads of National Significance, subsidising public transport and active modes, road safety promotion, street lighting, and investing in rail. This has led to significant deferred maintenance on the road network and reduced levels of service with impacts on the freight sector.

The latest GPS represents a reversal of these trends with significant reductions in the rail activity, public transport improvements and walking and cycling activity classes with funds transferred to support roading with direction to NZTA that the agency should look to alternative third-party sources for funding for new roads. The challenges of building new transport infrastructure can be seen in the Wellington RLTP where the funding available from local government and NLTF revenue will barely pay for current operations let along the anticipated level of investment (see text box[41]).

Approved figures for NLTP funding for the current RLTP period total $6.4 bn with the majority of funding going to continuous programmes (NZTA 2021, 2024) or an average of $1 bn per year. Set against these are the identified needs over a 30-year period for the rail programme estimated at $12 billion in 2022, and two Roads of National Significance estimated to cost in the range of $3.75-$6 bn. Source GWRC RLTP 2024 Review.

The question of cross-subsidisation between modes and who pays for transport networks and between modes (heavy versus light traffic on a road, road versus rail) has been a long and outstanding question and subject to much research, particularly the impact of trucking on pavements. NZTA addressed this question in its paper Lower Bound High Productivity Motor

[40] Ministry of Transport (2024), op. cit., p 25.
[41] GW (2021, 2022, 2024), RLTP 2021, Wellington Rail Programme Business Case, and RLPT 2024 Mid-term Review.

Vehicles (LBHPMV): Effects on Existing Pavements in New Zealand (2012[42]) and its decision to require a higher number of axles on New Zealand vehicles to lower the per axle on-road weight.

Concerns about the sustainability of the network when used for purposes it may not have been designed for are well reported and ongoing. There is an argument that where a public road has been damaged by industry for private gain, those users are not paying the full cost or restoring the asset after damage. The condition of state highway and local roads after they have been used to extract logs bears witness to this[43]. Supporters of rail will argue that this is in effect a subsidy for the road sector as rail freight has to pay the full cost of access to that network whereas heavy freight road users are variously cross-subsidised by light vehicle users, or don't have to meet the full capital cost of the network in the way that rail does.

Recent research indicates that even with the recent shifts in the GPS, the methodology used to attribute maintenance costs to heavy vehicles has not taken into account increased maintenance costs caused by heavier trucks, and that light vehicle users will be subsidising heavy vehicle users to the tune of $1.4 billion per year by 2027[44]. The introduction of tolling has led to some concern that trucks may seek to avoid paying toll costs by using alternative routes, something the Government is, however, alert to and has signalled an ongoing approach towards user pays with recent legislative proposals to ensure that the freight industry use the newly tolled Roads of National Significance[45].

These arguments while self-evident on direct cost grounds ignore largely the benefits of taking a broader economic approach towards transport and the reality that the country has a relatively poor understanding of the true costs of operating its multi-modal transport network hampered by a lack of reliable useful data. Heavy freight pays through the road user charges (RUC) scheme that is based on distance travelled and axle weight, which while a useful proxy for cost, dates from the 1970s. As such, it does not capture the true cost of using an asset given the variable quality of roads used and variable tonnages carried.

Journey data can now be assessed through E-Road data but this turn does not reflect to planners how the industry operates. More sophisticated use of telemetrics matched to the actual routes used would allow better targeting of the revenue collected. This will become more important assuming that time of use and congestion charging are introduced to ensure that there is a clear link between the revenue collected and where it is spent.

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[42] NZTA (2012) Lower Bound High Productivity Motor Vehicles (LBHPMV): Effects on Existing Pavements in New Zealand.
[43] Whanganui Herald (2024), Logging trucks damage rural Whanganui roads, debate over who pays; Gribble, M. (2011) Logging trucks on local roads – is forestry really having an unreasonable impact? RCA Forum.
[44] Gasson, B. (2024), Review of the draft 2024 Government Policy Statement on Land Transport; 2024-2034: Investigation into Heavy Vehicle Subsidies on New Zealand Roads.
[45] Brown, S., (2024) Government to enable tolling to accelerate investment in roads

The benefits of using these technologies and taking a fundamental look at the way in which revenue is raised and funding apportioned would allow infrastructure owners and operators to better cover their costs, target their investments, as well as provide confidence to users and wider stakeholders that users paying their fair share. It would also allow freight operators and users to make better informed decisions.

The above discussion is about cost rather than revenue. Most of the New Zealand conversation is focused on revenue successive national and local governments wrestle with where the money will come from rather than understanding the cost of operating the transport network. As discussed in this section and later sections will note, New Zealand currently lacks accurate costing of both direct and indirect costs of operating a network together with performance data of the network to understand the whole-of-life costs, the impact of transport on the economy and where investment is best targeted. The implications of this for freight are that the country is continuing to make investments which yield only partial benefits through to ensuring that the sector is making the best contribution to the national economy by ensuring it is operating as efficiently as possible because the finite amounts of funding are better targeted.

INSIGHTS	What	So What?	So What Now?
	Majority of funding for New Zealand's land transport comes from direct user charges. Most funding conversation focus on the source of revenue, not the cost of operating the system. There is little apparent use of benefits realisation in the transport sector. Current systems of understanding and allocating cost date from the 1970s and have significant gaps, leading to misallocation of costs.	If New Zealand is to better understand the true costs of operating and maintaining its freight networks, more sophisticated methods of understanding and attributing cost is required. Most transport projects fail to deliver on their intended benefits as benefits realisation is not actively managed, nor the reasons for transport behaviour understood and accounted for.	Develop a better understanding of the true cost of operating the network in order to apportion costs. Develop a better understanding of the externalities of transport investment decisions, including environmental, safety and economic factors. Adopt benefits realisation post project implementation including use of behaviour science as part of project planning.

Efficiency

Freight is an industry where size contributes to efficiency. The larger the volume of freight being moved in a single shipment, the lower the fuel consumed per tonne kilometre. The UK Department of Transport has noted that as the size of truck increases, the more efficient the freight movement

is in litres/tonne kilometre[46]. Similar considerations in New Zealand led to the increase in the maximum permissible weight for trucks from 43 tonnes to 50 tonnes gross vehicle weight in 2010. When other modes are considered, the efficiency increases further. Table H below taken from 2024 Ministry for the Environment guidance report illustrates the difference in fuel consumption by mode of litres consumed per kilometre[47]

	Unit	kg CO_2-e/unit
Long-haul heavy truck	tkm	0.105
Urban delivery heavy truck	tkm	0.390
Rail freight	tkm	0.028
Container Ship 8,000 TEU	tkm	0.013

Table H. Comparative evaluation of transport modes. Source: NZTA (2012)

The next aspect of efficiency is freight pairing and how the shippers view freight as opposed to transport planners who may be constrained by mode or jurisdictional views. As one commentator observed during the Ministry of Transport workshops held in 2022 as part of the process of developing the current strategy, they think about origin and destination pairs, and the cost and time of moving their products. They are less concerned initially about the mode or the jurisdiction involved. This raises interesting questions for how to move freight at least cost and how initially regional and pan-regional networks and in turn the national network are considered and designed. It is not clear at this point in time what the impact of the lack of an integrated national picture of the freight demand is having on national and regional network planning and the subsequent impact on the freight sector's operations, or incurred externalities.

As noted elsewhere, the freight industry in New Zealand is seen as highly competitive[48]. This is certainly true when it comes to operators of freight services. Deregulation of most of the operations aspects of the industry have achieved this. But if a wider view of the cost of capital and its infrastructure utilisation is taken, the freight sector may not be as efficient as it might seem. The Infrastructure Commission has found that New Zealand's utilisation of capital is poor by OECD standards as seen in Figure 9 below. The planning processes add significant cost and delay to infrastructure improvements that increase the efficiency and effectiveness of the freight network.

[46] UK Department of Transport (2023), Greenhouse transport emissions by transport mode: United Kingdom, 1990 to 2022.
[47] Ministry for the Environment (2024), Measuring emissions: A guide for organisations, pp 19-20.
[48] Ministry of Transport (2023) op, cit., p 6.

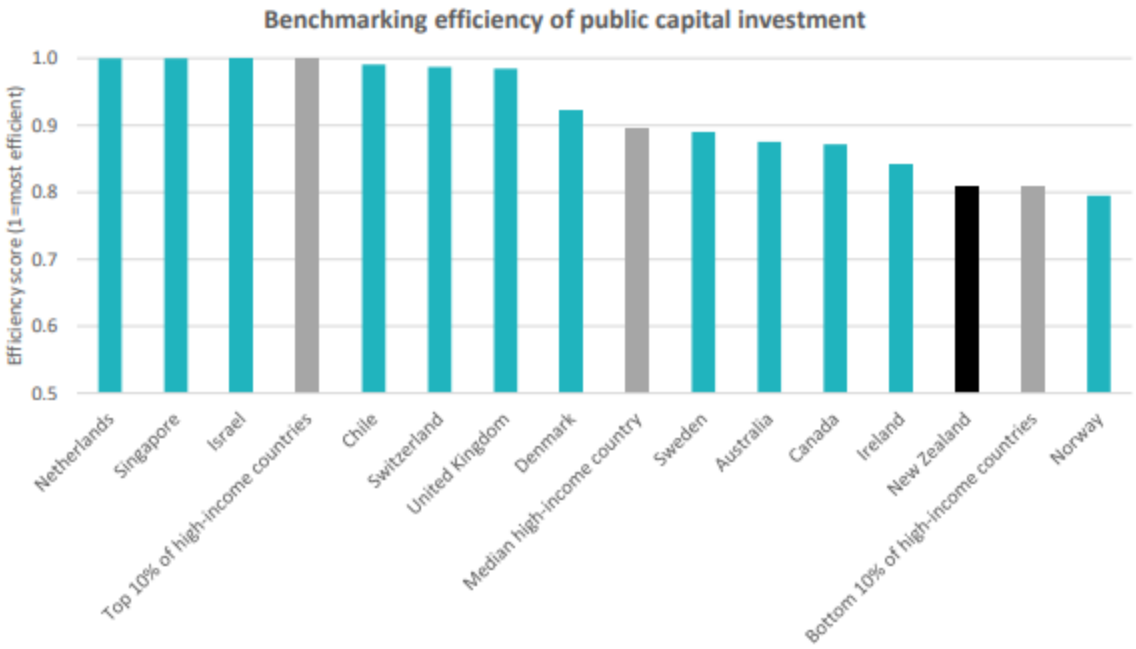

Figure 9. Benchmarking efficiency of public capital investment. Source: New Zealand Infrastructure Commission (2024)[49]

Infrastructure Ownership

New Zealand's transport infrastructure is held between the government and private sector ranging from full direct control and operation (local roads), control and operation through crown entities and council-controlled organisations (the state highway network, many ports) and full private sector ownership (some with government shareholdings) airports, and private freight hubs.

A key driver behind the economic reforms of the 1980s that saw formerly government-owned infrastructure and services corporatised and eventually moved into private ownership was that governments are generally inefficient owners and operators leading to lower rates of investment, innovation and returns to shareholders (public or private). These concerns have continued with the Infrastructure Commission work illustrating that those infrastructures that had either been corporatised or privatised generally were more efficient users of capital than sectors that had remained in public ownership. (See Figure 10)

[49] Infrastructure Commission (2024, op. cit., p 5.

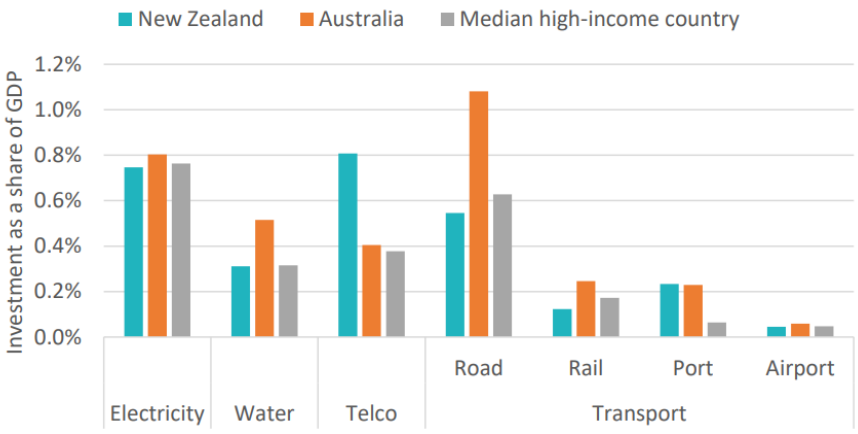

Figure 10 – Comparing investment in different infrastructure networks, 2007-2020[50]

Overseas experience has shown that private ownership models for long-distance transport links can lead to higher levels of service (Melbourne's CityLink and EastLink networks are one example). The extent to which this is true and delivers public outcomes is, however, open to debate. One example is the influence of Wall Street on four of the five major US Class 1 railroads that have focused on operating ratios at the expense of market growth that have allowed or forced long distance road freight to grow when that industry itself faces significant labour shortages. In contrast, the one class-1 railroad that is fully privately owned has grown its market share significantly since 2019[51].

Within New Zealand and more broadly Australia, there have been a variety of initiatives around private sector involvement ranging from full sale or operating leases of key pieces of infrastructure such as ports through variations of private-public partnerships (PPP) to reduce the call on public funds and drive efficiencies when constructing new infrastructure, and more recently the use of "alliances" to either deliver or operate infrastructure. The success of these is subject to much debate with successive governments favouring public or private ownership with arguments for and against these models. Of particular concern, is the relatively poor return (and levels of innovation) of publicly held assets. A recent Forsyth Barr report commented on this with respect to the ports[52]. Closer to home, the "cost blowouts" associated with the construction of Transmission Gully have been widely commented on[53], which have raised broader questions about the effectiveness of the

[50] Infrastructure Commission (2020), Investment gap or efficiency gap? Benchmarking New Zealand's investment in infrastructure, p 5.
[51] Freightwaves (2019), Commentary: The good and bad of precision scheduled railroading, accessed on 23 January 2019.
[52] NZ Herald (2025), Port pricing the remedy for 'alarming' decline in sector's returns on capital: Forsyth Barr, accessed on 22 January 2025.
[53] The overall cost increase was reporting as a change from an initial cost of $850 m to $1.25 billion. New Zealand Herald (2022), Analysis: Taxpayers in the dark over final cost of Transmission Gully.

PPP model itself with some evidence suggesting that the gains of a PPP over traditional contracting models may be marginal[54].

Done well, private ownership and/or operation leads to higher return on capital, in part due to the ability to amortise and recover costs over the life of an asset and introduce innovation. Done poorly, ownership costs can rise with no discernible benefit to the user and can sometimes drive up operational costs through decreased levels of service and loss of competitive edge. Political changes of direction can also have a significant impact effectively stranding investments before they have the opportunity to deliver a meaningful return, leading to sunk costs and significant delays in service improvements.

The evidence for private sector ownership models in the Wellington region is mixed. On the positive side of the ledger, successful examples include the construction of Transmission Gully (PPP) that has led to increased resilience for Lower North Island freight and the Lower North Island Transport Alliance where levels of service have increased on the state highway network under the alliance model, but there are questions over their ultimate cost. On the negative side, the cancellation of the iRex ferry project has delayed the much needed replacement of KiwRail's interisland ferries. Deferred maintenance meant temporary closure of rail access to the Waitoa dairy factory and the inability to use the northern Wairarapa rail line to reroute logging traffic during the 2024-25 summer closure of the Remutaka tunnel, which saw traffic move to the state highway network. And finally, both GW and Hutt City withdrew from the Riverlink Alliance citing concerns around cost increases[55].

A final aspect of infrastructure ownership in the transport sector is how well does it work for a network. Corporate or private ownership of facilities such as airports and ports appears to work relatively well. The issue becomes more problematic with networks and what commercial return might be generated from that network versus the concept of public good. A good example is the rail network. Its owner and operator, KiwiRail, is required as a State-Owned Enterprise to generate a profit. However, it is also a network provider to Metlink and AT and therefore more akin to a Crown entity such as NZTA and the State Highway Network, which is not required to deliver a commercial return. Similar issues surround port ownership and operation.

[54] World Bank (2024), Government Objectives: Benefits and Risks of PPPs Public Private Partnership, accessed on 23 January 2025.
[55] GW (2024), Greater Wellington to deliver affordable Lower Hutt flood defences; and Hutt City (2024) Hutt City Council adopts new approach to deliver key infrastructure projects both accessed on 31 January 2025.

	What	So What?	So What Now?
INSIGHTS	Larger vehicles offer greater fuel efficiency on a tonne-kilometre basis but may not be the most cost effective option for an operator. Freight operators and government operators think about efficiency differently. New Zealand has a poor investment efficiency in its transport infrastructure. Investments are not considered on a regional or national basis. Government has a poor capital utilisation record. Benefits from the use of PPP, Alliance and private ownership of transport networks are not clear.	Benefits from investment in the freight rail network are not being realised. The freight network is being planned without fully understanding the requirements of the operators or users. New Zealand's freight sector could be more effective and potentially more cost effective if the efficiency was increased and anticipated benefits realised. Corporate or private ownership structures are likely to improve capital utilisation. Infrastructure renewals are lagging behind demand. Economic benefits from use of private sector models may not be there.	Transport policy should support consolidation of freight onto larger vehicles, particularly where options such as underutilised modes such as rail exist. Infrastructure should consider the needs of the users while integrating into the broader Transport Outcomes Framework. Adoption of a pan-regional approach to freight working with the freight sector through a pan-regional process. Policy makers should carefully weigh the best ownership and operator models for delivering public good. Further work is required to understand the best model.

Externalities

Externalities occur in an economy when the production of a specific good or service impacts a third party that is not directly related to the production or consumption of that good or service (Investopedia, 2025[56]) As the successive Wellington Regional Land Transport Plans, GPSs and international literature have indicated, transport generates significant externalities. The prime benefit is that goods or people get to where they want to or are needed. Disbenefits include the well traversed fields of harmful emissions, noise pollution, environmental degradation, negative health benefits on population health and competition with other users for road and land space. Freight moves not only through rural areas but also urban spaces that are designed for occupation and use by people. This is compounded by the increase in local delivery driven by population increase and the rise of e-commerce. Failure to accommodate the needs and impact of freight in urban areas detracts from the benefits of urbanisation [57].

[56] Investopedia (2025), Externality: What It Means in Economics, With Positive and Negative Examples accessed on 17 January 2025.
[57] OECD (2024), The Freight Space Race: Curbing the Impact of Freight Deliveries in Cities, p 9.

Disruptions caused by prolonged construction projects or planning delay investments also carry significant opportunity costs either in the local economy they were supposed to support or elsewhere in the economy. Two recent New Zealand examples include the Let's Get Wellington Moving Programme where the final reported spend in December 2023 was $165.7 million against released funding of $492.0 million[58] and the Auckland City Rail Link project. Uncertainty over the pace of project delivery has affected business confidence in both cities with significant business closures in the affected areas[59]. These costs of these projects carry significant opportunity costs when money is spent with no immediate benefit as the money could have been used elsewhere. New Zealand can, however, build at comparably more efficient rates. The Kaikoura Earthquakes and SH25 rebuilds are examples where projects can be delivered at pace and within budget.

Taking a broader approach to externalities and the wider cost of heavy trucking will have significant broader economic and other benefits to New Zealand. Glasson's analysis has indicated that not only is the heavy truck industry heavily subsidised by other road users to the tune of $1.4 billion annually, a cost which is borne by other road users, there is a wider c. $8.4 billion in social costs due to accidents and emissions. The analysis suggest that each billion tonne-kilometre of freight diverted from heavy vehicles to rail and sea will save land transport users an estimated $43 million in avoided direct subsidies and $230 million in social and environmental costs per year by 2027. In addition to the $43 million figure, Glasson's analysis suggest that this will also save local councils $20 million per year[60]. The infrastructure in the form of a national rail network and ports already exists and is arguably underutilised. Making use of this infrastructure rather than cross-subsidisation of heavy freight users by other road users would reduce the direct economic costs as well as generate the wider benefits. The role of government in shaping the market is discussed in a later section.

The NZTA business casing process considers externalities in the development of business cases. As noted, however, in GW's 2023 paper[61] on improving the RLTP prioritisation process, this process is limited by its point in time nature and would benefit from taking into the broader effects of investments through the use of techniques such as strategic foresighting and systems thinking, as well as taking a broader inter-regional network approach. The introduction of regional spatial planning through resource management reforms will better align land use and transport planning. An immediate area where a change in approach would benefit freight is moving thinking beyond immediate regional boundaries to take a system view of freight.

[58] LGWM (2023) Programme Financial Report.
[59] NZ Herald (2024) Bordeaux Bakery closing all three of its Wellington cafes after 30 years, 40 staff to lose jobs; and Radio New Zealand (2021), City Rail Link impact on businesses: hardship fund to provide payments
[60] Glasson, M. (2024), op. cit.
[61] GW (2023), Improving the RLTP Prioritisation Process.

The two maps in Figure 11 below (taken from NZTA's Arataki[62] and the 2021 Wellington RLTP[63]) demonstrating how the regional strategic networks fit into a larger national picture with regional view showing the location of airports and freight hubs and that freight can only be considered and planned for in a broader strategic context.

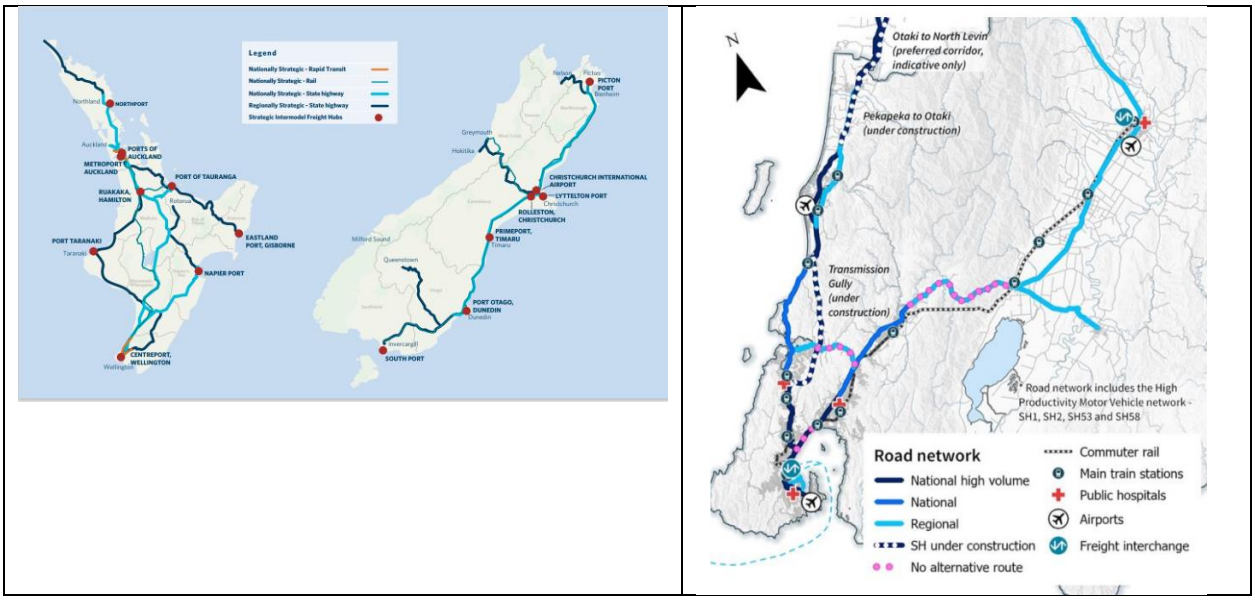

Figure 11 – Strategic Networks. Sources : NZTA Arataki and Wellington 2021 RLTP

	What	So What?	So What Now?
INSIGHTS	Transport infrastructure imposes externalities beyond immediate investments. Current investment decision making does not fully consider broader benefits and is undertaken on a region-by-region basis	The current planning system and approach imposes significant opportunity cost on the sector reducing available funds for investment.	Conduct freight strategy and planning on a pan- or national-regional basis. Ensure that regional planning is connected to NZTA's Arataki and system planning view. Link transport planning and land use through better spatial planning. Adopt a systems view for network planning.

Technology and Data

[62] NZTA (2023), Arataki Transport modes and strategic networks, accessed on 10 April 2025.
[63] GW (2021), op. cit, p 152.

Reliable data enables the sector to understand what is occurring, predict future trends and invest appropriately. New Zealand's Freight and Supply Chain Strategy echoes similar calls from overseas jurisdictions and the OECD to make better use of technology in order to improve the effectiveness of daily operations, identify where action is required to maintain and improve freight outcomes and evaluate the effectiveness of investments made[64]. New Zealand currently lags well behind other jurisdictions in the quality and availability of data to enable effective transport planning. The last comprehensive dataset available is the 2017-18 National Freight Demand Study[65]. While data from KiwiRail and the ports is readily available through the Ministry of Transport's Freight Information Gathering System, data from the rest of the sector is harder to access due to its proprietary nature. Furthermore, much of the data that is available through other sources such as e-Road or from hubometer readings is either fragmented, in that it only reflects when a truck is active rather than point of origin-destination data, or does not collect data about loads and tonnage.

Specific gaps include:

- Limited origin-destination and route-level data, especially for road freight.
- Proprietary commercial data that is not easily shared across agencies.
- Incomplete visibility of freight movements across modes and "first mile/last mile" delivery networks.
- Reliance on proxies like hubometers, road user charges (RUC)s, and E-Road, which do not comprehensively capture freight journeys, load, and mode transitions.

Opportunities to improve the evidence base include:

- Supporting a new national freight demand study, preferable with the establishment of an "evergreen," near real-time evidence base for planners to use.
- Partnering with freight operators to harness GPS-based tracking of freight movements.
- Advocating for anonymised access to commercial logistics data to inform regional planning.
- Integrating data across road, rail, coastal shipping, and air to build a clearer multimodal picture.

Improving freight data would support the region's broader goals for resilience, emissions reduction, and efficient use of transport infrastructure.

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[64] Commonwealth of Australia (2019), op. cit., p 23; and UK Department of Transport (2022), Future of Freight, p 10.
[65] Ministry of Transport (2019,) op. cit.

Literature reviewed for this paper pointed towards the gains to be made from technology enabling supply chains to be more efficient, reliable, resilient and sustainable (UK Department of Transport 2022[66]). These included use of predictive, geospatial and AI technologies that could improve the reliability of supply chain forecasting enabling more efficient operations and longer term planning. As an example, Radio-Frequency Identification (RFID) technologies are now routinely used to track food exports from New Zealand from point of supply to the end user (Soon 2010[67]). Increased automation is also seen as a way to increase efficiency and to address workforce shortages, but the local experience has been mixed (the failure of the Ports of Auckland automation project[68]) and views on how and where it would be applied are still developing[69].

	What	So What?	So What Now?
INSIGHTS	New Zealand's knowledge of the freight sector and movements is fragmented, and in many cases dated. Technology offers significant productivity gains through automation and smarter logistics but understanding of what and how to apply it is variable.	Ability to plan an effective network and target investments to support freight are compromised without a national "ever-green" picture.	Support MoT, NZTA in bids for comprehensive national-level data. Interrogate existing data to answer specific questions. Advocate for the adoption of more advanced data collection and analytic technologies such as telemetrics[70] and AI.

Workforce

Internationally, the freight sector has identified workforce issues as a significant concern for them with both an aging workforce and diminishing labour pool[71]. The New Zealand sector reflected this in its submissions during the development of the National Freight and Supply Chain sector with concern that current policy settings are not generating sufficient staff with right skills. Opinions were mixed on how to close this gap with options including renewed focus in New Zealand's vocational training sector, immigration and automation.

[66] UK Department of Transport (2022), op. cit., p 96.
[67] Soon Chin Fhong (2010), RFID Technology Adoption in New Zealand's Supply Chains: A Case Study Approach published in Pacifica Asia Journal of the Association of Information Systems.
[68] Ports of Auckland (2022), Ports of Auckland Ends Automation Project | Port of Auckland, accessed on 17 April 2025.
[69] Ministry of Transport (2022), New Zealand Freight and Supply Chain Issues Paper Te Rautaki Ueā me te Rautaki Whakawhiwhinga o Aotearoa Summary of Public Submissions, p 8.
[70] Telemetrics in this case includes the automated collection of point of origin-destination, and load data for freight vehicles as well as specific loads such as individual containers.
[71] Ministry of Transport (2023), op cit., p 17, Ministry of Transport (2022), .

INSIGHTS	What	So What?	So What Now?
	New Zealand's freight and supply chain sector is experiencing significant skills shortages.	The sector and economy will be hampered in its ability to operate and evolve.	Regional councils consider advocacy for national policy for a long-term supply of vocational skills and to support rapid uptake of technology is required as was done to address the bus driver shortage or in the context of regional economic development.

Government role in the sector

The New Zealand Freight and Supply Chain study indicated support from the sector for Government's roles as investor, system steward and regulator[72]. These views reflect the reality that the physical transport network is predominantly in Government hands (local or central) with mixed ownership models for freight hubs, ports and airports. The Government also shapes the market through its policy and regulation settings including foreign investment settings for attracting capital, import regulations that affect the type of vehicles, funding decisions about the type of transport infrastructure through the LTMA and its instruments, and economic policy.

The transport sector underwent the same economic liberalisation as most of the economy under the market-led reforms of the Lange-Douglas era including the progressive removal of protections for rail freight and removal of cabotage in 1983 and 1994 respectively. The result is a highly competitive sector among the freight operators[73] but one which has been subject to significant funding swings over the last decade between Roads of National Significance and investment in rail. As the 2024 GPS pointed out, the investment in rail did not lead to an increase in market share for rail: heavy road freight movements increased while the level of service on the road network fell[74]. It can be argued that changes in Government policy are leading to sub-optimal results for the freight sector with users choosing the cheapest and often only viable option which may be available, as policy uncertainty makes investment in, or use of other modes economically unattractive. The result is an environment that favours road over other modes even if those other modes have other long-term advantages.

Local government also has a role to play in setting expectations for the networks in their areas through setting the long-term strategies in their RLTPs and the prioritised investment bids into the NLTP. At times central and local government goals will not always align. Nevertheless, there is a

[72] Ministry of Transport (2022), ibid.
[73] MWR Research (2025), New Zealand Freight and Logistics Market Analysis, accessed in March 2025.
[74] Ministry of Transport (2024), Government Policy Statement on Land Transport 2024.

need for clear consistent long-term policy at central and local government levels to determine the shape and nature of the transport network and provide certainty for investment.

This long-term uncertainty has led to a rise in heavy road freight traffic as the level of service across the network has degraded.

Regulatory

Regulatory settings and their impact on the economy attract frequent comment. Unduly complex settings under the Resource Management Act (RMA) have been criticised for inducing significant delay in the construction of much needed infrastructure [75]; and the failure of the heavy vehicle inspection regime undermined confidence in the freight sector and its regulators[76].

Yet regulation has its place. In a theoretical sense, regulations are used to address specific instances of market failure or to deliver policy outcomes. Yet the overall effect of a series of regulations can add up to significant disbenefit and added cost that outweighs the intended benefits. A good example is the temporary road safety regulations updated in 2019[77] following the deaths of construction workers in the Bay of Plenty leading to the so-called "road cone problem" which can comprise up to the 50 per cent of the total construction cost – a significant opportunity cost. Government has identified the impact of excessive regulation in the transport sector and more broadly the impact on its economy. The 2024 GPS has identified the need to reduce expenditure on temporary traffic management as part of an overall focus on "value for money"[78], while the Government more broadly is introducing its Regulatory Standards Bill (CAB-24-SUB-0437[79]) that seeks to establish regulatory principles including examination of the costs of proposed regulation balanced against the benefit.

Separate regulatory choice by the Government can also have the effect of favouring one mode over another. The cross-subsidisation of heavy road freight by other users has been discussed earlier in this paper. The shift of NLTF funding towards paying for the upkeep of the national road system continues to place rail and coastal shipping at a competitive disadvantage while increasing the numbers of trucks beyond the point where the roads can be maintained to support them[80]. From a regional land transport planning perspective, where maintaining existing roads is increasingly challenging as road freight volumes grow, not using already existing viable alternatives which would offer economies of scale, better use of capital through using alternative modes, and reduce harmful externalities makes little sense. Regional transport planners will not be able to use these

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[75] Bishop, C. (2024), Replacement for the Resource Management Act takes shape , published on www.beehive.govt.nz.
[76] Martin Jenkins (2019), Review of NZTA Regulatory Capability and Performance.
[77] NZTA (2018), Code of practice for temporary traffic management (CoPTTM) 4th ed, amendment 3 2018 : Sections A to H combined SUPERSEDED.
[78] Ministry of Transport (2024) Government-Policy-Statement-on-land-transport-2024-FINAL, p 17
[79] Office of the Minister for Regulation (2024), Cabinet Paper Approval to consult on a proposed approach to the Regulatory Standards Bill COMBINED.
[80] Glasson, M. (2024), op. cit.

assets, however, if Government policy and regulation favour one mode over another through cross-subsidisation.

INSIGHTS	What	So What?	So What Now?
	Government plays a significant role in the sector as regulator, owner operator and through policy settings. Current regulatory settings favour road transport over other modes.	Done well, government's role (central and local) provide the settings for an efficient and effective freight network with the broader public good benefits of better safety, minimised environmental impacts. Done poorly, deadweight effects increase costs on the industry and reduce public good.	Advocate for an effective national freight chain strategy and action plan laying out clearly Government expectations and its role is required. Advocate for long-term policy and regulatory certainty that supports selection of the most appropriate mode for specific freight types. At local government level, better planning and coordination between the RCAs, KiwiRail, the ports and the sector will contribute to public good outcomes and support the sector.

Environmental

The level of impact that transport has on the broader environment can be seen in the considerable effort to manage those effects in the environmental focuses in the four regional RLTPs, and significant policy commentary about the need to better integrate land-use and transport planning[81]. The negative impacts of freight that various planning and guidance documents seek to mitigate include noise pollution, emissions, vibration (causing pavement degradation), and congestion[82]. Transport is a significant contributor to New Zealand's overall greenhouse gas emissions (17 per cent of the total)[83] and has been targeted as a sector capable of making early and significant reductions. While viable solutions exist for passenger traffic including hybrid and electric vehicles, enhanced PT, and urban intensification, the issue is more problematic for the freight sector. While overall per capita CO_2 emissions in the Wellington region have remained relatively static over the

[81] GW (2021) op. cit., p 14; and NZTA (2025) Integrated planning and design, accessed on 23 January 2025.
[82] OECD (2022), The Freight Space Race: Curbing the Impact of Freight Deliveries in Cities.
[83] Ministry for the Environment (2022), Aotearoa New Zealand's first emissions reduction plan: Chapter 10: Transport.

last ten years (see Table I below from GW RLTP Annual Monitoring Report), overall emissions are growing, driven primarily by an increase in freight traffic.

Indicator	Latest Result	Trend	Comment
Transport CO_2 emissions	2.16 tonnes of CO_2 per capita	5-year change indicates an 8% decrease, and one-year change indicates a 4% increase	Increase in emissions in the past year likely reflects the increase in traffic volumes post-COVID-19
Ambient air quality (nitrogen dioxide and black carbon matter)	Nitrogen dioxide is 17.1 µg/m³ (5-year average to Dec 2022)	Nitrogen dioxide has decreased by 18% over the last five years	
Percentage of the private car fleet that are EV and hybrid vehicles	56% of new registrations are hybrid or electric	Five-year change indicates a 44% increase, and one-year change indicates an 18% increase	Indicator includes light private vehicles only
Percentage of the bus fleet that are EV and hybrid vehicles	23% of the bus fleet are EVs (as at June 2023)	Up from 18% in FY 2021/22	Five-year absolute change is 21%

Table I. Updated Indicator on environmental sustainability. Source: GWRC (2024)[84]

While solutions exist to lower emissions in the local distribution market, they remain more elusive for the heavy freight sector. California has recently scrapped a rule that required the use of zero-emission diesel locomotives and trucks in the state by 2030[85] in part due to the non-availability of technical solutions. Nevertheless, progress is being made in New Zealand to reduce overall freight emissions through the use of dual-fuel technology truck trials by Richardson's in the South Island 2025[86] and the introduction of KiwiRail's new DM locomotives that will reduce emissions by 20-25 per cent over the existing fleet [87].

A separate issue for New Zealand in converting the freight network to lower or zero emissions targets relates to energy supply and reticulation. New Zealand consumed 599 petajoules (PJ) of energy in 2020 from a total energy supply of 901 PJ. Although New Zealand has the third highest proportion of energy supply globally from renewables (with on some days the country's entire electricity generation coming from renewables), this leaves roughly 60 per cent of that energy coming from oil, gas and coal[88]. The first challenge is whether the country can generate sufficient electricity to decarbonise its energy needs [89]. The second is a distribution challenge both getting the electricity from the generators to the retail market and then local distribution. Battery-powered

[84] GWRC (2024), op. cit
[85] Stephens, B. (2025), California gives up on zero-emissions locomotive regulation. Trains.com accessed on 16 January 2025; and Mitchell, R. (2025), Biden EPA didn't give California green light to adopt zero-emission truck rules, Los Angeles Times, accessed on 16 January 2025.
[86] HWR (2025), Driving Change, Driving Hydrogen, accessed on 16 January 2025.
[87] KiwiRail (2024), New locomotives for the South Island unveiled , accessed on 16 January 2025.
[88] Energy Resources Aotearoa (2025) Our Consumption - Energy Mix, derived from MBIE data, accessed on 14 April 2025.
[89] Brent, A. (2024), NZ energy crisis: electricity demand will jump as NZ decarbonises – can renewable generation keep up, The Conversation, accessed on 14 April 2025

freight vehicles have significant charging demands that the experience of PT operators suggest that the local lines networks are not well set up to meet.

INSIGHTS	What	So What?	So What Now?
	Zero-carbon emission technologies for heavy freight do not yet exist on a meaningful scale – but more efficient including hybrid technologies do. Zero-carbon options exist for local distribution networks. The country does not have sufficient renewable electricity generation or reticulation networks to support a full transition of freight to renewable energy sources.	Significant steps towards a lower carbon emission freight network are possible. Freight can be moved more efficiently when it is aggregated into large shipments.	Regional transport policy should encourage a move to lower-emission technologies with lower CO_2 emitted per tonne-kilometre as a first step towards decarbonisation. Lobby for national levers to support use of lower emission technologies and modes. Spatial planning should look to optimise freight network efficiencies as a way of reducing emissions and other environmental harms.

Perceptions of Freight

The opening statement in the Australian National Freight and Supply Chain Strategy "Every time you go to the shops, overtake a truck on the highway, have a parcel delivered, pass a construction site or see Australian produce overseas, you are seeing Australia's freight and supply chain networks in action"[90] is reflected in New Zealand's own government and by the public[91]. A poor perception of the sector affects its long-term ability to function effectively and efficiently. As the New Zealand Strategy notes, poor perception can affect its attractiveness as an employer, policies that would support better freight movement can be opposed and there can be opposition to its use of land and location of facilities.

INSIGHTS	What	So What?	So What Now?
	Freight is seen by some users as an encumbrance or nuisance.	Poor perceptions may hamper the sector's ability to make useful improvements or operate safely and effectively.	The freight story needs to be better told and represented through the RLTP processes.

[90] Ministry of Transport (2024), National Freight and Supply Chain Strategy p 4.
[91] Ministry of Transport (2024), op. cit., p 47.

Safety

The road freight industry has made significant safety gains over the last 30 years. The number of deaths involving crashes has fallen from a high of 121 deaths in 1994 to 57 in 2023 [92], and data from 2004 showed a significant reduction in rollover accidents involving logging trucks falling from 44.4 rollovers/100 million km travelled in 1999 to 2004 following the establishment of the Log Transport Safety Council[93]. However, the truck associated deaths still represented 17 per cent of all road deaths in 2023, down from 20 per cent in 1994. The cost to the economy, let alone the personal cost of road trauma, is still high as KiwiRail's Value of Rail report indicate.

In the latest update from August 2024, the avoided economic harm of using rail over road transport was estimated at $161 million[94]. As noted in KiwiRail's reporting the proportion of deaths or serious injuries is "far greater" than for trucks than light vehicles[95]. The numbers of avoided deaths through the use of rail freight in 2023 were 14, serious injuries 53 and minor injuries 210[96].

As the KiwiRail reports note, the causes of these deaths are not explored. However, the poor understanding of the physical properties of freight operations particularly when they interact with light vehicles will generate adverse safety outcomes. Freight vehicles take longer to stop, and when they are involved in crashes the energy involved can lead to significantly greater physical damage and personal trauma.

Rail also suffers in this respect. KiwiRail's sponsorship of TrackSafe and Rail Safety Week echo the long-standing North American Operation Lifesaver which aims to keep people safe around trains. Even emergency services themselves do not always understand the risks as evidenced when a fire truck was hit by a Brightline train in Florida which passed lowered crossing barriers and was hit by the oncoming train[97].

INSIGHTS	What	So What?	So What Now?
	Deaths and serious injuries are declining but when crashes do occur, they are likely to cause significantly great trauma and higher costs compared to crashes involving light vehicles.	The physical attributes of freight transport are generally poorly understood.	Through the RLTP processes, continue to advocate for road safety outcomes, including planning to separate key freight routes where possible.

[92] Ministry of Transport (2025), Safety — Annual statistics | Ministry of Transport, accessed on 22 April 2025.
[93] Pont, J., Baas, P., and Wilshier W., (2006), Safety Gains in Log Transport in New Zealand.
[94] Australasian Railway Association (2024), ARA_Benefit_of_Rail_New_Zealand_Report_August_2024.
[95] Kiwirail (2016), The-Value-of-the-Rail-in-New-Zealand, p.23.
[96] Kiwirail (2021), The Value of Rail in New Zealand.
[97] ABC News (2025), 15 injured after Brightline train collides with fire truck in Florida , accessed on 17 January 2025.

National Problems, Fragmentation and the Case for Inter-regional cooperation

A stated goal of Government is to grow the economy. This has been reflected over time through the Ministry of Transport's Outcomes Framework Outcome 5 "Economic Prosperity," and in the Wellington Region's RLTP thirty-year vision and strategic objectives seen its strategic framework, integrated with objectives to create a safe, accessible, well-connected region.

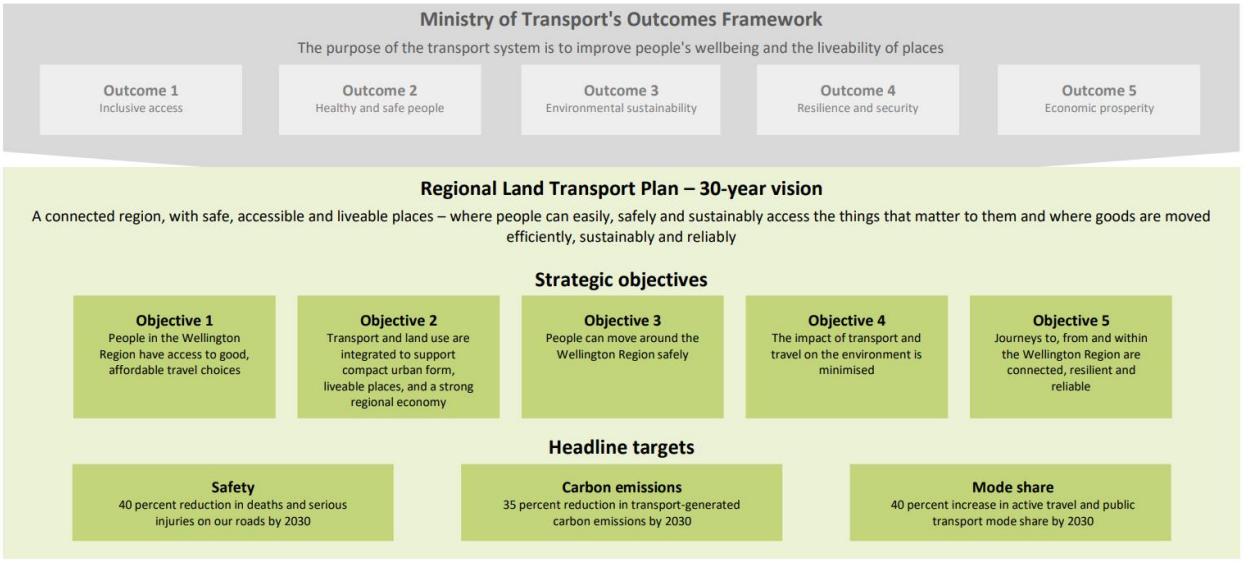

Figure 12 – RLTP 2021 Strategic Framework[98]

The initial driver behind this paper was to establish if there was a case for change in the approach towards freight for the RLTP 2027 and if so, what would that be? This curiosity was driven by the increasing level of emissions from freight transport as the principal contributor to the increase in transport-related CO_2 emissions. Participation by GW staff in the Ministry of Transport-led workshops held as part of developing the National Freight and Supply Chain Strategy also confirmed that the freight sector's needs and wants of the sector were not well represented in regional land transport planning. In considering the nature of freight in the Wellington region, it became evident that a significant amount of freight traffic in the region was being generated outside the region and that to understand that traffic and plan for it required a broader pan-regional approach similar to that adopted for the Upper North Island[99] and more recently the South Island[100].

Further analysis indicated the variations in the nature of the freight flows between the four ports across the Lower North Island handling international shipping and their connectivity to the national land transport network. Only two of them handle containers and one of them only exports bulk commodities and handles no imports. Three of the ports are connected by both the national rail

[98] GW (2021), op. cit., p14.
[99] Sapaere (2020), op. cit.; and West Coast Regional Council (2024) op. cit.
[100] Environment Canterbury, Stantec (2025), Op cit.

and state highway networks (the rail network to Gisborne has been closed since storm damage in 2012 except for a brief reopening of the Napier-Wairoa section). Additionally, significant freight hubs and supporting infrastructure has been proposed, planned or under construction across the four regions.

Initial discussion at the officer level between councils indicated mutual concerns about the ability of the state highway network to handle existing levels of heavy freight while the rail network which has seen significant reinvestment remains underutilised. Anecdotal evidence also suggests that the freight sector's needs are not well considered in the design of the transport network. An example is inter-island live-stock transport where the last opportunity to discharge effluent prior to ferry embarkation is at Waikanae, about 60 minutes north of the Wellington ferry terminals generating tight transport times for stock trucks to embark on ferries for the Cook Strait crossing. Given the issues discussed earlier in this section, the question arose as what opportunities exist to create a more efficient and effective freight system across the Lower North Island if the efforts of the five regions were coordinated. The five Lower North Island regions accounted for approximately 28 per cent of New Zealand's sea exports by volume in 2018 which by itself suggests there is a significant freight system in the Lower North Island. The picture is, however, more complicated with significant southbound flows of intermodal traffic flowing south from the ports of Auckland and Tauranga and significant outbound flows of export (particularly dairy traffic from Taranaki and some logging traffic) headed for export. There is, therefore, a case for greater coordination, and a change away from the current fragmented approach to a network approach.

Some of the areas which would benefit the Lower North Island freight network cover but not exclusively:

a. Acknowledging and making use of the fact that not all port have the same facilities e.g., there is only one inter-island port, and only two ports have container terminals Dependencies between the five regions with certain facilities;
b. Better coordination between the inland freight hubs and export ports to reduce haulage costs to ports and airports;
c. Inefficiencies generated if common issues are not addressed at scale and represented into national network plans such as the State Highway or Rail Investment Plans; and
d. Duplicated capacity between modes such as road and rail.

There are also wider issues which sit outside the immediate area that Regional Land Transport Plans address but which affect the operation of the transport network. These include regulatory issues handled at a national level such as safety and emissions standards and labour issues such as the ageing workforce. A combined pan-regional voice would add weight to advocacy on issues

which sit outside the respective councils' ability to directly affect, particularly if combined with a national approach coordinated through Te Ura Kahika and its Transport Special Interest Group[101].

The conclusion of this section is that there is fragmentation in our knowledge and understanding of the freight system in the Lower North Island. A more coordinated approach across the regions is likely to lead to better investment and a more effective freight sector, particularly given that freight movement occurs across, not within regional boundaries. A Lower North Island coordinated approach would enable effective discussion and interaction with the two other geographic areas that have already undertaken or are working on a coordinated approach.

INSIGHTS	What	So What?	So What Now?
	Transport planning is fragmented and lacks a system view.	There may be over investment in duplicated infrastructure or under-investment in needed infrastructure. Common issues may not be identified or acted on. Common dependencies are not recognised Better coordination would drive efficiencies and increase productivity.	Adopt a network approach for considering freight movements and issues across the Lower North Island. Develop a coordinated policy approach. Obtain network data for intra- and inter-regional freight across the Lower North Island

[101] Te Ura Kahika is a network of regional and unitary councils that assists in coordinated delivery across the regional sector.

VIII. Potential for Change

The Government has set an overarching strategic priority of economic growth and productivity for the transport system. Freight is in essence the lifeblood of the economy moving goods to export and distributing goods and supplies throughout New Zealand. There is strong interest in developing an effective national approach towards freight, mirrored in international strategies. In the absence of strong national plan, the regional sector is considering what an effective approach might be.

This section discusses the opportunity and reasons for change, identifies potential focus areas for regional government working in partnership with central government and the private sector, and considers options and the levers for changes available.

Opportunity

While this issues paper is not intended as a critique of the National Freight and Supply Chain Strategy, the fact that the five Lower North Island and South Island regional councils are looking to develop pan-regional approaches suggests that the national strategy is missing something. A quick comparison with the Australian strategy reveals a more action-oriented document with a clear vision, four well defined action areas, an action plan and implementation reporting and oversight that has translated into investment and action. This suggests that the current New Zealand approach and strategy is not meeting the objectives of the Government in delivering a freight system optimised to support economic growth, the freight operators themselves, or the interests of the regions.

Across the Lower North Island, the four regional councils have identified in their RLTPs the importance of freight. The four regions contain significant primary producing areas, the second largest urban area by population, and three export ports all connected by the rail and state highway network, with a fourth connected by state highway.

The opportunity exists therefore for a more coordinated approach to freight that would support the freight industry become more productive, support economic growth and deliver on broader agreed outcomes including safety, and environmental.

A final opportunity for change is the proposed revised approach that GW is proposing to take towards developing RLTP 2027. GW has identified the need for an overarching vision and strategy for the region's transport network against which investment decisions can be made. GW's current intention is that the next RLTP will be based on this vision and strategy which will be evidence and policy based. The approach starts from understanding how, why and where people and freight travels, where it is likely to travel, the agreed future shape of the region and designing a network to reflect those needs and desires. The future network can be planned with these needs at its heart but also by understanding the externalities, how to best plan for these, and other policy objectives that may be sought. A Lower North Island strategic approach to freight would be a key input to this process.

Reason for Change

There are five reasons for change: economic reasons, resilience, environmental reasons, integration and changing nature of freight. These reasons for change are summarised in Table J below.

Reason	Rationale
Economic	New Zealand is a small trading nation with limited financial resources. The current "piecemeal" approach to infrastructure has led to a low capital efficiency. While the operators themselves are by and large competitive, the provision of the infrastructure on and through which they operate is not. This represents at best poor use of taxpayer and ratepayer funds and in turn can lead to lower productivity and effectiveness in the sector with a knock-on effect of increase transport charges for end users
Resilience	New Zealand's supply chain network is vulnerable to disruption often with sudden and significant economic costs. While significant steps continue to be taken to address these, the lack of a coordinated approach including maximising use of existing connections and alternatives reduce the overall effectiveness of the land transport network.
Environmental	New Zealand has committed to "zero carbon" as part of the Paris Climate Accords. While the technologies exist for the local distribution market, they are someway off for the heavy freight sector. Solutions are available for the industry that will lower emissions on tonne-kilometre basis as an intermediate. Additionally, the movement of freight itself particularly in urban areas has significant localised impacts that if addressed more wholistically can lead to improved efficiency for the sector as well as improved urban habitability
Integration	The transport network within the Wellington region and more broadly is multi-modal by nature. Within the Wellington region, the focus of planning has been predominantly on the movement of people rather than freight. The strategic network within the region sees most movement moving along two corridors combining at the bottom of the Ngāuranga Gorge. Unless freight is incorporated into transport planning the resultant networks will fail to optimise the movement of freight and people leading to competition for a finite resource. Additionally, there is significant benefit to be gained by approaching freight from an inter-regional perspective given it nature.
Changing nature of freight	The nature of the freight market has changed markedly since the last national freight demand study conducted in 2017/18. The rise of e-commerce has significantly shifted the nature of demand, while internationally, the geopolitical challenges to New Zealand's long supply chains have affected how the local sector operates with changes to shipping schedules affecting local networks and storage requirements.

Table J. Reasons for Change

Areas of Focus

The current New Zealand approach to freight lacks specific tangible actions. The overall description of the future system, strategic goals for it and focus areas provide a direction of travel when coupled with the current GPS. However, it lacks the focus and specificity of the Australian approach.

The question for the regional sector is where should it focus its attention? The research in this paper suggests five main areas: resilience, capital utilisation and targeted investment, data and technology, economic growth and prosperity, and externalities. These potential focus areas are discussed in Table K below.

Potential Focus Area	Rationale
Resilience	New Zealand is a long thin, geologically unstable island. Its transport routes are long, vulnerable to disruption. When disruptions occur, they incurs significant immediate economic cost as transit times and lengths increase as well as downstream opportunity cost as infrastructure is rebuilt. Improving resilience reduces long-term cost and fosters confidence in economic growth as users know that transport routes will remain open or reopen quickly.
Capital utilisation and targeted investment	Parts of the infrastructure sector are demonstrating poor returns on capital including land transport and ports. Additionally, significant investment in transport infrastructure has yet to yield significant returns on their investment. Improving capital utilisation will ensure that a better overall return is delivered from capital investment as well as providing a platform for growth in the sector and more efficient operations. Ensuring that investment is also smartly targeted to the areas not just with the most need but the most potential to deliver benefits ensures we make the best use of a finite resource.
Data and Technology	In an information age, the freight sector and government lacks the data and information to make timely decisions at speed. New Zealand's freight and supply chain data is variously fragmented and uses now dated technologies. Access to updated reliable information allows more timely and effective decision making including where to invest in transport infrastructure. Greater use of technologies such as automation could also address labour shortages, and increase safety and productivity
Economic Growth and Prosperity	Transport at its heart is an induced demand. Transport occurs because people and freight need to move somewhere. The freight networks and supply chain have underpinned New Zealand's economic growth from the time of first settlement. As a trading nation, we rely on effective networks. If transport networks are compromised, our growth and prosperity are affected as it takes longer and costs more to deliver goods. Effective and efficient transport network enables growth – the opposite impairs growth and prosperity.

Potential Focus Area	Rationale
Externalities	Movement of freight and people affects the environment taking land that could be used for other purposes, generating emissions, noise and vibrational pollution, or generating congestion. Movement of freight and people in the same place are often in conflict with each other and as the nature of freight changes particularly the impact of e-commerce on local delivery, this conflict is increasing. Understanding the impact of transport, and planning to minimise those impacts if done well benefits both freight and the environments in which they operate.

Table K. Potential Focus Areas

These focus areas compare well with the Australia Freight and Supply Chain Strategy of 2019 and its revised focus areas:

Australian Focus Areas 2019	Proposed regional focus areas	Proposed regional focus areas
Smarter and targeted infrastructure	Decarbonisation	Resilience
Enable improved supply chain efficiency	Productivity	Capital Utilisation and targeted investment
Better planning coordination and regulation	Resilience	Data and Technology
Better freight location and performance data	Data	Economic Growth and Prosperity

Table L. Comparison between Australian Freight and Supply Chain Strategy 2019 and 2023 Revision and proposed regional focuses

Comparison of the five potential focus areas with those in the Australian and New Zealand national freight and supply chain strategies suggests that the proposed focus areas for a regional approach are likely to make a material difference and should form the basis of a regional approach.

Potential Outcomes of a strategic approach

Table M summarises the attributes of, and benefits that a more strategic approach to freight in regional land transport planning could achieve.

Attribute	Benefit	Opportunities
More efficient use of capital	Released capital can be invested elsewhere in transport or broader infrastructure	Use of fast-track legislation. Refined business casing processes. Using evidence-based strategies for investment.
Smarter and targeted infrastructure	Infrastructure supports growing freight needs, ensuring freight is moved in the most efficient and effective manner	Spatial planning RMA reforms Better use of existing infrastructure across all modes.
Integrated transport and land use planning	Integrated transport and land use planning recognises freight's importance is and balances it with other needs in transport and land use planning across all levels of government.	Develop agreed regional or inter-regional freight strategy.
Accounting for externalities	Planning supports freight interests while meeting community expectations for safety, security and environmental outcomes.	Better use of spatial planning.

Table M. Attributes, benefits and opportunities of a more strategic approach

Levers for Change

When considering change, governments can:

a. Direct or implement change itself e.g. through building infrastructure, setting policy and making regulations;
b. Advocate for change to those who can make change e.g. regions bidding for funding through the RLTP process or lobbying for policy or regulation; or
c. Accept that desired change may well be out of the hands of government to influence and that in many instances, New Zealand is a net taker of change e.g. technology.

A more efficient and effective freight system will require action at national and local government levels working in partnership with the infrastructure and service providers and operators and customers. Regional and unitary councils have specific role in setting the strategic direction for their regional system within the national context through the regional land transport planning process. In the absence of a nationally coordinated approach, change must be led at the regional level while recognising the limitations in being able to effect change, without more central Government leadership. As noted earlier in this paper, benefit can be gained by working together

across the Lower North Island addressing common issues, avoiding duplication of effort and taking a network approach. Assuming no change to the current legislative framework, the current levers are available to the five regional councils.

Lever	Benefit	Who
Coordinate development with NZTA Arataki refresh and System Design	The regional sector's and NZTA's strategic documents used for investment planning are aligned leading to increased confidence by investors	Regional Councils NZTA
Integrate transport planning with land use using spatial planning, including proposed spatial plans, FDS and District Plans to develop an agreed inter-regional freight network	The region's transport network will support regional ambitions allowing smarter targeting of infrastructure	Regional Councils Territorial Authorities Regional Economic Development Agencies
Establish a coordinating mechanism to oversee implementation of the agreed plan.	Transport investment is coordinated leading to better return on investment	Regional Councils NZTA KiwiRail Freight Industry
Partnership with key freight industry players in development of strategic freight approach	Higher likelihood of acceptance and success	Regional Councils Freight Industry
Collectively work with NZTA and MoT for the establishment of a comprehensive view of freight and national strategy	The pan-regional network is operating as part of a national network contributing to overall efficiencies, growth and outcomes	Regional Council NZTA MoT
Sector advocacy	A united voice on clearly defined goals is more likely to lead to change	Regional Council, TSIG and Te Ura Kahika

Table N: Levers for change

Options for Change

There are five options for action discussed below:

a. Do nothing;
b. Coordinate inter-regionally;
c. Develop an agreed strategic approach between the councils;
d. Develop a pan-regional strategy; and
e. Lobby for new freight demand study and (re)development of a national strategy and action plan.

These are discussed briefly in the table below with advantages and disadvantages of both:

Option	Advantage	Disadvantage
Do nothing continue with informal discussion between the regions and identify the requirement for a pan-regional or national approach	Requires little further investment other than light-touch coordination.	Does not address the issues identified including economic, resilience and environmental.
Coordinate inter-regionally Develop an agreed understanding of the problem and opportunity, agreed policy position and agreed action plan	Recognises the interconnected nature of the freight networks across the regions and nationally. Allows a coordinated approach to be taken by the regions permitting more effective use of the existing network. Would permit better targeting of capital investment.	Does not contain any real levers for ensuring change.
Develop a pan-regional strategy Develop a Lower North Island Freight and supply chain strategy with NZTA and key stakeholders with an agreed implementation plan and governance.	Would provide a common knowledge base. Would provide an agreed action plan and governance plan. Would permit better targeting of capital investment.	Requires as yet unidentified funding. Would be better supported with a rerun Transport Demand Study
Lobby for new freight demand study and (re)development of a national strategy and action plan	The demand study would provide the common evidence at a national level on which to make informed decisions regarding policy and investment. A renewed strategy with a focused action plan would provide the investment	No funding currently unavailable. Regions do not have sufficient resource.

Table O. Options for Lower North Island Regional Councils

IX. Next Steps

This paper has provided a brief overview of the freight network across the Lower North Island, identified reasons for change and potential benefits, areas for focus and options to achieve that change. This paper is, however, primarily a literature review. There are gaps within GW's and the other councils' knowledge that should be filled. These are both quantitative in nature due to the fragmented nature of data in the sector and qualitative as information has been gleaned through limited informal discussions with some freight sector actors and the published material from the Ministry of Transport used in development of the 2023 National Freight and Supply Chain Strategy. A list of knowledge gaps is attached at Annex A.

Beyond closing these knowledge gaps, there will be limits to what each regional council and the four Lower North Island councils collectively can achieve. Ultimately, an updated national freight and supply chain strategy with an agreed action plan with assigned responsibilities offers the best route for meaningful and long-term change.

Short of this, a number of options exist:

a. Collaborative working with NZTA Waka Kotahi on the development of their State Highway Strategic Plan scheduled for later in 2025, and updating the freight and strategic networks components of *Arataki*, which is being developed as a shared sector view of the land transport system during the next 30 years;
b. Engagement with KiwiRail, the ports, the road freight industry and freight user organisations to obtain their viewpoints and agree the problem and a joint way forward;
c. Development of an agreed policy position and actions between the four regional councils for incorporation into their 2027 RLTPs and coordinated lobbying;
d. Development of agreed national TSIG policy position incorporation into their 2027 RLTPs and coordinated lobbying, including coordination with the South Island Freight initiative; and
e. Development of and commitment to an agreed inter-regional Lower North Island freight strategy provided funding can be obtained for its development.

The following next steps for action over the first half of 2025 are proposed:

a. agreement at officer-level between the four regional councils on the way ahead;
b. Development and implementation of a plan to close the identified knowledge gaps;
c. Engagement with freight sector operators;
d. formal agreement between the four respective RTCs on the way ahead; and
e. agreement with NZTA to review and co-develop the relevant sections of *Arataki*.

Annex A – Key Findings and Supporting Detail

Transport planning in the freight sector is currently constrained by limited data availability and the lack of a comprehensive system-wide view, which in turn has run-on effects for economic growth and productivity.

1. Freight is the lifeblood of the economy carrying over 80 per cent of the country's export earnings to market.
2. Freight patterns are likely to have changed significantly since the last national Freight Demand Study in 2017 including the local distribution market.
3. However, New Zealand's transport planners lack a comprehensive view of the movement of freight across the country's land transport networks making informed decision making difficult.
4. A lack of benefits realisation and monitoring is compounding the impact of fragmented planning.
5. Fragmentation in planning is contributing to poor return on investment, including poor use of existing infrastructure which detracts from the Government's priority of economic growth and productivity.

New Zealand's freight sector is hampered by poor strategic goal use of infrastructure and investment.

6. While New Zealand's freight sector operators are highly competitive, poor use of infrastructure and capital reduces the effectiveness of the sector.
7. There is evidence of ongoing cross-subsidisation between modes which reduces the effectiveness of investment and operating expenses.
8. The ongoing transport sector focus on revenue rather than cost continues to hamper effective investment.

New Zealand has unique characteristics that challenge the resilience and efficiency of the freight sector, particularly geology and population size.

9. New Zealand's freight sector is asymmetric with very different flows between export and import markets.
10. New Zealand's long, thin unstable geology coupled with a small GDP relative to other similarly sized countries makes it challenging to fund and build a resilient transport network.

Current technologies mean that the freight sector is unlikely to meet the carbon zero goal by 2050.

11. Technologies for freight to transition to carbon zero by 2050 are not yet available.
12. Options exist to move to more efficient modes of transportation.
13. Current regulatory settings do not support this shift.

There are opportunities in the regional system to work with national agencies to develop effective long-term approaches with the freight sector that would lead to a more productive sector with reduced negative impacts.

14. In the absence of an effective national strategy, pan-regional approaches offer the best avenue for effective action to deliver on shared policy objectives.

Annex B – Knowledge Gaps

This annex summarises known knowledge gaps that if addressed would improve the evidence base for a pan-regional approach for freight in the RLTP process.

Specific Data Questions:

a. What has been the change in local freight movements as a result of e-commerce, and household trip generation since the freight demand study of 2017 and how can this be correlated?

b. What is the current picture of freight flows across the Lower North Island, and can this be modelled for the future?

c. What are the flows along the SH1, SH2 and SH3 corridors by mode?

d. What are the import and export flows from the three ports (Wellington, Napier and New Plymouth?

e. What would the demand for alternative energy sources be if the heavy and light freight ICE fleets were replaced with alternative sources such as electricity?

f. Do we have supply and reticulation to meet this anticipated demand?

Source Questions:

a. How do we close the gap on a lack of comprehensive data on the movement of freight in New Zealand post the 2017 Freight Demand Study?

b. Can we access heavy and light freight vehicle leases and sales data across the region and how does this compare against economic activity. Can this be broken down by sector e.g. primary, freight distribution?

Qualitative Questions

a. How do the current users perceive the freight system?

b. What improvements would they like to see made to it?

c. What are the obstacles you see to improving your business (for operators and users?)

d. How could the system cater for future demand?