

# Draft South Island Freight Plan

JULY 2015





This draft plan has been developed collaboratively and sets out a common view of what we can do now and into the future to improve the way freight is moved across the South Island and beyond.

It sets out the major challenges and constraints within the freight sector and proposes actions to address them.

The draft plan is intended as a starting point for conversations about how all those with an interest in the freight network in the South Island can improve our competitiveness and efficiency.



# Contents

Foreword .....	2
Executive summary .....	3
<b>1. Introduction .....</b>	<b>5</b>
1.1 Purpose .....	6
1.2 Approach .....	6
1.3 Technical analysis undertaken .....	7
1.4 Structure .....	7
<b>2. The South Island freight story .....</b>	<b>8</b>
2.1 The current freight task .....	9
2.2 The demand for freight in the future .....	10
2.3 Key drivers of this demand .....	12
2.4 The South Island Transport Network .....	14
2.5 South Island summary .....	15
2.6 Tasman/Nelson/Marlborough .....	16
2.7 West Coast .....	19
2.8 Canterbury .....	21
2.9 Otago .....	24
2.10 Southland .....	26
<b>3. Key freight journeys .....</b>	<b>30</b>
3.1 State highway freight journeys .....	31
3.2 Local road freight journeys .....	33
3.3 Imports and exports from ports .....	33
<b>4. Priority areas and outcomes .....</b>	<b>37</b>
4.1 Key outcomes .....	39
<b>5. Action plan .....</b>	<b>41</b>
<b>6. Next steps .....</b>	<b>45</b>
<b>Appendix one – reference documents .....</b>	<b>46</b>
<b>Appendix two – group memberships .....</b>	<b>48</b>
<b>Appendix three – the regional freight context .....</b>	<b>49</b>
Canterbury .....	51
Nelson/Tasman .....	52
West Coast .....	52
Southland .....	53
Otago .....	53
Relevant district plan and policy reviews .....	54
KiwiRail turnaround plan .....	55



## Foreword

One of the Government's objectives is to lift transport sector productivity to enhance New Zealand's economic growth. As an export nation relying on trade with distant markets, to do this New Zealand needs to ensure that our freight sector remains competitive and that our freight supply chains are efficient. Considerable investment and cooperation from a wide range of partners has already been made to improve the productivity of the land transport network. For example approximately 2,680km (60%) of the strategic High Productivity Motor Vehicle (HPMV) network has been approved for 44 to 62 tonne HPMV use. This has required considerable investment (\$45million) and effort to strengthen bridges and structures across New Zealand. There has been uptake by the industry of HPMVs, reducing ordinary heavy vehicle trips and moving more freight with fewer truck trips. It is expected that the freight sector will reach a 25% uptake of HPMVs during 2015. The rail network also has an important role to play in supporting the freight supply chain from plant to Port. Rail plays a significant part in moving large volumes of export products for key commodities within the South Island.

Freight forecasts are predicting substantial growth in the volume of freight moved by 2042. This growth will place pressure across the freight system as more trips are needed to move more goods. More will need to be done to meet this growth and keep lifting productivity. The South Island freight sector has an important role to play in this. Both the public and private sector need to make investment decisions in the right place and at the right time. This will require leadership, integration, working together and looking to the future.

This draft plan has been developed collaboratively and sets out a common view of what we can do now and into the future to improve the way freight is moved across the South Island and beyond. It sets out the major challenges and constraints within the freight sector and proposes actions to address them. The draft plan is intended as a starting point for conversations about how all those with an interest in the freight network in the South Island can improve our competitiveness and efficiency.

We are committed to delivering the best possible freight transport solutions for the people and businesses of the South Island. This draft plan sets out some actions to achieve this and we want to hear your views on these before the Plan is finalised.

**Jim Harland**



**Governance Group Chair**

*On behalf of the Governance Group<sup>1</sup>*

<sup>1</sup>Appendix Two lists the membership of the Governance Group.





## Executive summary

To ensure New Zealand has a prosperous future we need to lift productivity, reduce transport costs, and increase our earnings from exports, tourism and other industries. New Zealand relies on trade with distant markets with the cost of freight transport added to the price of our exports and imports. To overcome our geographical disadvantage, and ensure our goods are competitive both within New Zealand and internationally, we need more efficient freight supply chains.

Today's freight supply chains are also changing, with private and public sector decision-makers looking for ways to better plan for the future and address the challenges ahead. This plan has been prepared to help decision-makers improve their coordination and dialogue across the South Island's freight system. Better coordination will ensure we can more effectively address the challenges and opportunities facing us in moving freight more efficiently for the benefit of South Island and all New Zealanders.

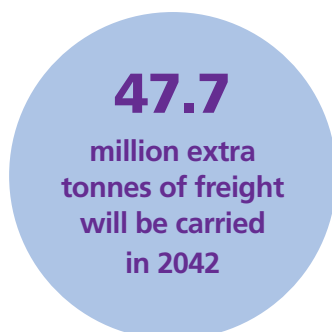
To enable the movement of freight the South Island transport network comprises of:

- A State Highway network with 4,921km of roads (making up 12% of the South Island network) and 35,456km of local roads (making up 88% of the South Island network).
- 1,661km of rail lines, consisting of two main lines, two secondary lines and a few branch lines.
- One long distance international airport at Christchurch, two short haul international airports at Dunedin and Queenstown and eight domestic airports.
- Two major container ports, one at Lyttelton in Christchurch and one at Port Chalmers in Dunedin plus six regional ports (Nelson, Picton, Westport, Greymouth, Timaru and Bluff)
- Direct connections to the North Island via Coastal Shipping and Road/Rail Ferries
- Connections to international markets through direct vessel calls to Australia, Asia, North America and Europe.

The strategic freight network is the parts of the transport network that support the movement of high volumes and values of freight, allows transfers to other modes and provides access to national and international markets. The strategic freight network extends over regional boundaries, in the South Island it includes freight supply connections to both Stewart Island and the Chatham Islands and can include infrastructure and services that are the responsibility of either the public or private sectors.

### In summary the freight being moved in the South Island is characterised by:

- A majority of freight (by weight) travelling within the South Island's regions rather than across them.
- Canterbury accounting for approximately half of the total freight moved, and this will continue into the future.
- The majority of freight in the South Island being moved by road, with a small percentage moved by rail, coastal shipping or air; with this forecast to continue.
- Substantial projected freight growth with an extra 47.7m tonnes of freight being carried in 2042 compared with 2012. This equates to an additional 1.7m truck trips in 2042 compared with 2012. This means an additional 4,667 truck trips (based on 44 tonne trucks) per day across the network.
- Freight demand in the South Island being driven by a mix of primary sector and export growth, and population growth and change.
- The greatest growth in freight demand is forecast for between 2012 and 2027, with the rate of growth then slowing.



The plan has identified four priority areas to focus on, what we want to achieve (success) and what is stopping us (constraints and challenges).

Priority area	Future state (What success looks like)	Constraints and challenges
<b>Leadership and partnerships</b>	The South Island has a strong and unified group representing all key freight stakeholders that can talk with one voice about the agreed freight needs for the South Island.	<ul style="list-style-type: none"> <li>■ Insufficient funding</li> <li>■ No industry forum to put issues forward and monitor developments</li> <li>■ Blockages in key decision making</li> </ul>
<b>Network</b>	The South Island freight transport network is efficient, safe, resilient, utilises the optimal mix of modes and supports South Island economic productivity.	<ul style="list-style-type: none"> <li>■ Resilience, including Alpine Passes</li> <li>■ Journey time unreliability</li> <li>■ Bottlenecks to/at freight hubs</li> <li>■ Inappropriate land use adjacent to key freight hubs and corridors</li> <li>■ Risks to network availability</li> <li>■ Increasing journey times</li> <li>■ Bridge capacity</li> <li>■ Communication of network unavailability during weather and other events.</li> </ul>
<b>Infrastructure investment</b>	Investment in the South Island freight transport network is the right investment in the right place at the right time.	<ul style="list-style-type: none"> <li>■ Increasing journey times</li> <li>■ Journey time unreliability</li> <li>■ HPMV improvements</li> </ul>
<b>Economic efficiency and effectiveness</b>	The South Island has efficient and effective freight supply chains that contribute to a thriving South Island and New Zealand economy.	<ul style="list-style-type: none"> <li>■ Limited uptake of technology</li> <li>■ Uncertain supply of skilled workforce</li> <li>■ Sub-optimal logistics practices</li> </ul>

To overcome these constraints and challenges and achieve success an action plan has been developed that includes South Island wide actions targeted at each of the four priority areas and region specific actions. Each of the actions proposed has been assessed against its ability to contribute to the outcomes necessary to achieve success in each of the priority areas. The Action Plan is included in Section 5 of the document.

The governance group is undertaking a series of regional workshops around the South Island and inviting local government, ports and operators to attend and discuss this draft plan.

If you cannot make it to a regional workshop please direct your comments on this draft plan by Friday 28 August to:

**Email:** [southislandfreightplan@nzta.govt.nz](mailto:southislandfreightplan@nzta.govt.nz)

or

**Postal Address:** New Zealand Transport Agency  
 Attn: South Island Freight Plan  
 PO Box 1479  
 Russley  
 Christchurch 8140

After the regional workshops comments and feedback received will be collated, summarised and analysed. This will be used to develop the final South Island Freight Plan that will be endorsed by the governance group and made publically available.





## 1. Introduction

To ensure New Zealand has a prosperous future we need to lift productivity, reduce transport costs, and increase our earnings from exports, tourism and other industries. New Zealand relies on trade with distant markets with the cost of freight transport added to the price of our exports and imports. To overcome our geographical disadvantage, and ensure our goods are competitive both within New Zealand and internationally, we need more efficient freight supply chains.

Today's freight supply chains are also changing, with private and public sector decision-makers looking for ways to better plan for the future and address the challenges ahead. In the South Island these challenges include:

- Canterbury earthquake recovery impacts and recovery
- Projected 68% increase in freight volumes by 2042
- Uncertainty concerning fuel price volatility
- Changes to international shipping movements
- Increasing consumer demand for more sustainable, low CO2 supply chains
- Quickening the uptake of new beneficial technologies (new vehicles and intelligent transport systems)
- Work force scarcity and skill shortages

To meet the challenge ahead the Government has identified improving the efficiency of freight supply chains as a priority area of work. Key initiatives include refocusing land transport investment towards significant network improvements to lift freight efficiency, investing in KiwiRail's Turnaround Plan, reviewing the vehicle licensing system (including transport services licensing) and consideration of any actions required from the Productivity Commission's inquiry into International freight transport services. The Transport Agency has five priorities. Priority three is "moving more freight on fewer trucks". Moving more freight with fewer truck trips has economic, safety and environmental benefits.

The Productivity Commission's report noted that while New Zealand's freight transport sector performs well, there are still efficiency improvements that could be achieved. The Commission recommended that to better identify these opportunities there needed to be more coordination and discussion between the public and private sectors around investing and planning for improved freight efficiency. This includes improving communication and information sharing between public and private sector decision-makers. This improved dialogue would allow the development of a common view on future planning and investment priorities and other opportunities to realise efficiency improvements. The Commission recommended that this process of engagement should involve decision-makers from across the freight system, such as freight producers, transport operators, ports and network infrastructure providers. To achieve this, the public and private sector have come together to develop this coordinated Draft South Island Freight Plan as a basis for discussion.

## 1.1 Purpose

The purpose of this Draft South Island Freight Plan is to develop a common view of what everyone involved in the freight sector should be doing now and into the future to improve the way freight is moved across the South Island and beyond. This draft plan sets out the major freight questions in the South Island today and proposes some actions to address them. It invites consideration of the questions raised and discussion of them with the key players in the freight transport sector.

During the process to develop this draft plan, the various sector partners have borne in mind that both the public and private sectors will benefit from solid information and greater planning certainty, to enable better investment decisions. Through the development of a common view of the challenges and opportunities ahead, a South Island Freight Plan can improve the movement of freight throughout the South Island and potentially New Zealand as a whole.

From the outset the objectives of this draft plan have been to:

- Maximise the value of infrastructure investments (both public and private)
- Better integrate freight transport and land use planning
- Identify constraints and opportunities to improve network connections
- Prepare for the growing freight task and future trends
- Make better use of the existing freight network
- Ensure freight is not overlooked in wider transport planning

## 1.2 Approach

To meet the strategic freight challenges of the future we need to plan for them. As recommended by the Productivity Commission, to be effective this planning needs to take into account the views and needs of the key decision-makers working across the freight system. This includes those that own and produce the freight, those that move, store and distribute it, and the companies, agencies and public organisations that provide the infrastructure it travels on.

To address the challenge identified by the Productivity Commission, this Draft South Island Freight Plan has been developed using a coordinated public/private approach. The role of the Transport Agency in this process has been as a facilitator and co-ordinator. All of the partners involved have worked together and have a role to play in addressing the issues raised. The partners agreed to:

- Work as a partnership
- Take a South Island view
- Engage with a wide range of stakeholders
- Encourage and develop bold solutions

From October 2012 to March 2013 the Transport Agency hosted a series of regional workshops around the South Island to provide a forum for stakeholders to share and discuss their concerns and ideas. As a result of these workshops the Transport Agency and the South Island Strategic Alliance (SISA<sup>2</sup>) agreed to convene a representative Governance Group<sup>3</sup> to continue the development of this Draft South Island Freight Plan.

<sup>2</sup>The SISA is a grouping of the Mayors/Chairs, supported by the CEO's, of the combined Local Government NZ Zone 5 and 6 groups. The purpose of SISA is to provide for collaboration at a senior level responding to and managing a range of common and mutual interests to South Island local authority. Appendix Two lists the members of the SISA.

<sup>3</sup>The Governance Group included the SISA, the NZ Transport Agency and representatives of freight stakeholders in the South Island. The Governance Group's role was to take shared responsibility and oversee the development of this Draft South Island Freight Plan. The Governance Group was supported by a working group that advised and support. In turn the Governance Group provided guidance and direction to the working group and confirmed key milestones and deliverables. Appendix Two lists the membership of the Governance Group and the Working Group.



## 1.3 Technical analysis undertaken

In preparation of this draft plan technical analysis was considered or undertaken, a complete list of which is included in Appendix One.

The Transport Agency has also been working with industry partners, local government and other stakeholders in the upper North Island to prepare an Upper North Island Freight Story and Upper North Island Freight Accord, which focuses on reducing the freight transport costs through an Upper North Island lens<sup>4</sup>. Additionally, the Transport Agency is working with the freight sector in the central and lower North Island to prepare a Central New Zealand Freight Story.

This Draft South Island Freight Plan completes the picture for the whole of New Zealand. As one size does not fit all, this draft plan represents a South Island view and has been developed by partners from across the freight sector in the South Island. It is now available for comment and discussion to all those who have an interest in the movement of freight across and beyond the South Island.

## 1.4 Structure

**This draft plan comprises five parts:**

Part 1: Introduction

Part 2: The South Island freight story

Part 3: Key freight journeys

Part 4: Priority areas and outcomes

Part 5: Action plan

This document is a starting point for conversations by those with an interest in the freight network in the South Island. As such it does not provide all the answers and is likely to change.

<sup>4</sup>[www.nzta.govt.nz/planning/process/freight-north-island.html](http://www.nzta.govt.nz/planning/process/freight-north-island.html)



## 2. The South Island freight story

The movement of freight plays a vital role in a modern economy. The freight task in New Zealand is substantial, moving the equivalent of about 50 tonnes per year for each member of the population. Given the size of the freight task and its importance throughout the economy especially in supporting the movement of exports where the costs and quality of freight transport services may be particularly critical, effective planning is important to ensure that the freight sector is able to deliver effective support of the wide range of activities in the agricultural, industrial and commercial sectors. This planning needs to be supported by an understanding of the sector and of the different activities which it encompasses.

*Source: The National Freight Demand Study, MoT, 2014.*

The South Island is critical to New Zealand's economic success. In 2013 it accounted for nearly a quarter of New Zealand's GDP (23.3%). The South Island is a large producer of bulk and containerised products that make a significant contribution to New Zealand's economy. This economic activity is dominated by large volumes (and values) of dairy products, fruit and vegetables, logs, processed wood products, minerals, aggregates, seafood, livestock and meat, wine and general freight (including imports transported down through the North Island). The South Island provides goods for the North Island economy (for consumption, further processing and export). The South Island also contributes significantly to New Zealand's economy through tourism, which itself is a significant generator of freight and transport demand.

The South Island ports handle 30.2% of New Zealand's exports traded through ports by dollar value and 12.4% of New Zealand's imports traded through ports by dollar value. The freight task in the South Island is complicated due to its long thin geographic shape and low population densities, coupled with the largely lineal nature of the South Island's infrastructure.

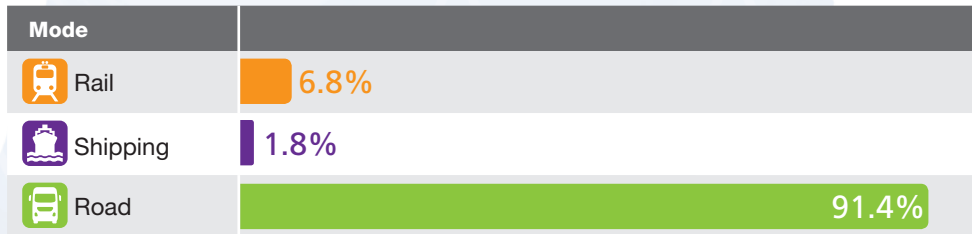
Over the next thirty years the South Island's freight transport demand is expected to grow by approximately 68%. The challenge for the sector is to identify whereabouts within the transport network this demand will most likely occur and to identify the challenges this will present to the network.



## 2.1 The current freight task

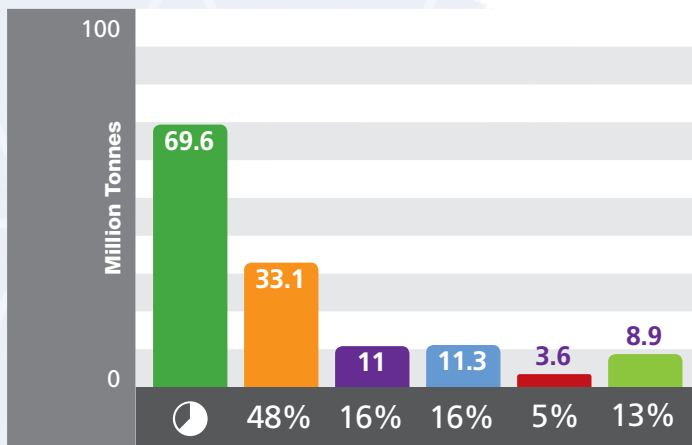
In 2012 the freight task for the South Island was 69.6m tonnes, with the majority of this moving by road and most of it travelling within regions. Only a small percentage of South Island freight moves by rail and coastal shipping and an even smaller percentage is transported by air, however this approximately 120,000 tonnes of air freight per annum is mostly high value and time sensitive goods.

### 2012 modal shares

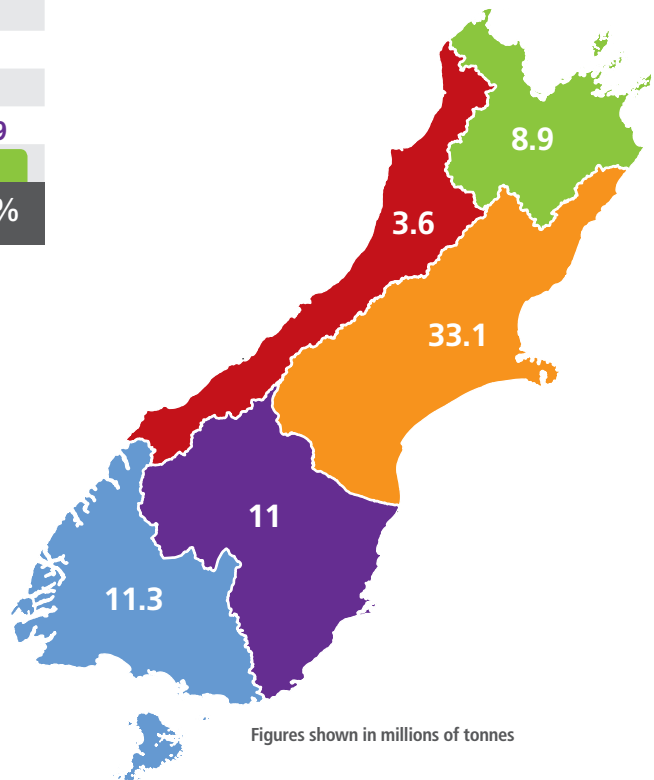


Canterbury has the largest population centre in the South Island, an international airport and a container port. It represents a significant part of the South Island's freight task, accounting for 48% of the total freight move around the South Island. Current freight flows across the South Island are dominated by shorter distance movements within regions. There are substantial flows into Canterbury from the West Coast, reflecting the movement of coal and smaller movements from other regions highlighting the role of Canterbury as a distribution centre and significant market. There are also large flows outbound from Canterbury, demonstrating its role as a distribution hub for the entire South Island.

### 2012 freight task by region



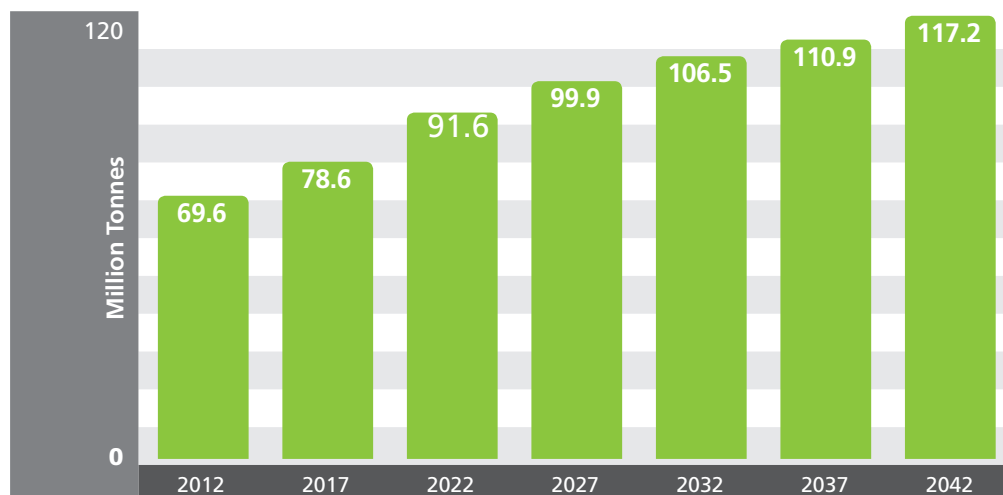
- South Island
- Canterbury
- Otago
- Southland
- West Coast
- Nelson/Marlborough



## 2.2 The demand for freight in the future

Based on forecasts outlined in The National Freight Demand Study, the South Island's freight task between 2012 and 2042 is predicted to increase by 68%, by 47.7m tonnes to a total of 117.3m tonnes. The greatest growth period is predicted to be between 2012 and 2027 with the growth rate slowing in the years after that.

### South Island freight task (MT) 2012 to 2042



The modal share is forecast to change slightly in the future to 92% of freight moved by road, 6% by rail 1.6% by coastal shipping and a very small amount (by weight) by air freight. Generally the freight modes that perform the task today are forecast to largely perform similar roles into the future, albeit carrying higher total volumes of freight.

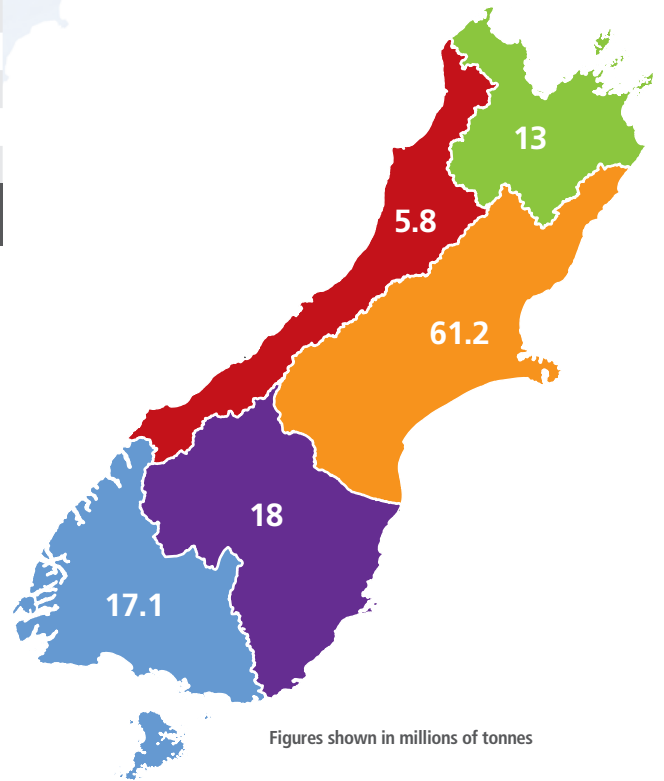
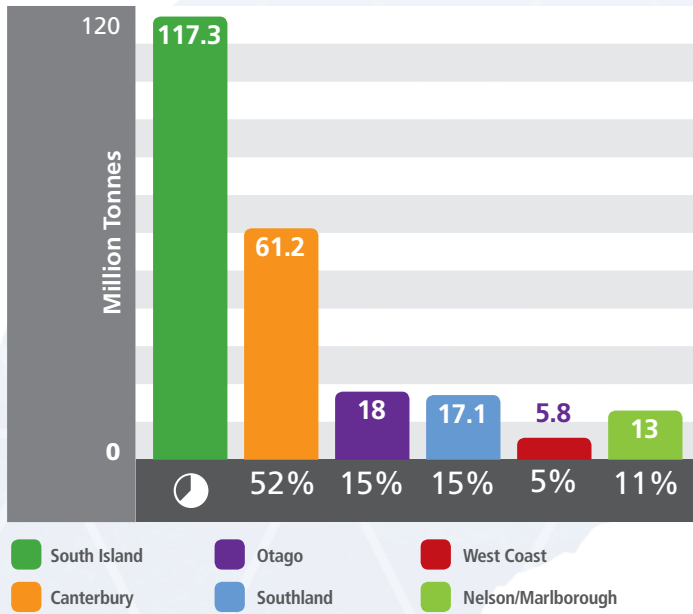
### 2042 modal shares



The regional share of the freight task in 2042 is forecast to be more or less the same as the current freight task but Canterbury's share of total freight movements increases slightly from 48% to 52% over the period 2012 to 2042.



### 2042 Freight task by region



The freight task will increase in terms of tonnage carried in all the regions over the period 2012 to 2042. There will also be an increase in the distances travelled from supplier, to production facility to market as patterns of farming change and increased farmland is under irrigation. Canterbury will continue to play a central role. Freight growth in Canterbury will account for around 60% of all the growth forecast to occur in the South Island over this period. To put this growth into perspective, an additional 47.7m tonnes of freight means the need for around 1.7m additional truck trips made in the South Island in 2042 compared with 2012. This equates to an additional 4,667 truck trips per day across the South Island network.

## 2.3 Key drivers of this demand

### Overview

Freight growth in the South Island is driven by export demand and area specific population growth. Twelve commodities will account for approximately 90% of the forecast demand, with liquid milk, manufactured dairy, general freight, aggregate limestone/fertilizer/cement and concrete the commodities forecast to consistently account for the greatest growth in freight demand across all of the regions. Of the top two commodities, only liquid milk, manufactured dairy and coal are driven by export demand while the others are tied to those regions with population growth.

### Forecast freight growth for the South Island by commodity (million tonnes)

Commodity	2012	2017	2022	2027	2032	2037	2042	30 Year Growth (MT)	% of Total Growth
Liquid Milk	7.97	9.98	12.7	13.59	14.48	15.43	16.45	8.48	17.8%
Aggregate	6.84	8.06	9.21	10.38	11.51	12.66	13.79	6.95	14.6%
General Freight	14.6	15.78	17.03	18.17	19.28	20.34	21.38	6.78	14.2%
Limestone, Cement, Fertiliser	4.33	5.5	6.61	7.84	8.6	9.37	10.11	5.78	12.1%
Concrete	1.86	2.45	3.02	3.57	4.11	4.66	5.15	3.29	6.9%
Manufactured Dairy	2.21	2.79	3.62	3.87	4.19	4.46	4.77	2.56	5.4%
Logs to Sawmills	2.01	2.29	2.61	2.94	3.26	3.58	3.89	1.88	3.9%
Coal	3.16	3.45	3.61	3.76	4	4.34	4.67	1.51	3.2%
Livestock	3	3.3	3.75	3.93	4.1	4.32	4.5	1.5	3.1%
Other Retail	1.3	1.4	1.8	2	2.2	2.61	2.8	1.5	3.1%
Inputs to panel making	1.4	1.58	1.8	2.02	2.23	2.44	2.65	1.25	2.6%
Waste	1.73	1.95	2.12	2.33	2.51	2.7	2.87	1.14	2.4%
Horticulture	1.67	1.66	2.07	2.41	2.57	2.64	2.71	1.04	2.2%
Sawn timber	1.11	1.26	1.43	1.59	1.8	1.97	2.14	1.03	2.2%
Grain	0.85	1	1.13	1.27	1.42	1.57	1.72	0.87	1.8%
Supermarkets & Food Goods	2	2.2	2.2	2.3	2.4	2.69	2.8	0.8	1.7%
Panels	0.69	0.79	0.9	1.01	1.14	1.23	1.35	0.66	1.4%
Other Agriculture	0.58	0.69	0.84	0.88	0.93	0.98	1.06	0.48	1.0%
Petroleum	1.68	1.73	1.78	1.81	1.86	1.92	1.97	0.29	0.6%
Other Minerals	0.21	0.25	0.29	0.3	0.37	0.4	0.43	0.22	0.5%
Fish	0.63	0.65	0.69	0.7	0.72	0.74	0.77	0.14	0.3%
Couriers and Post	0.106	0.106	0.125	0.141	0.157	0.175	0.195	0.089	0.2%
Pulp and paper	0.17	0.17	0.17	0.18	0.18	0.19	0.21	0.04	0.1%
Steel and Aluminium	1.3	1.32	1.32	1.33	1.32	1.32	1.31	0.01	0.0%
Imported Vehicles	0.032	0.032	0.033	0.034	0.035	0.035	0.036	0.004	0.0%
Manufactured Goods	4.2	4.2	4.6	4.6	4.8	4.2	4.2	0	0.0%
Wool	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0	0.0%
Meat and Meat Byproducts	0.45	0.39	0.37	0.39	0.4	0.41	0.42	-0.03	-0.1%
Export Logs	2.84	2.75	5.18	5.64	5.09	2.43	1.68	-1.16	-2.4%
<b>Total</b>	<b>69.6</b>	<b>78.6</b>	<b>91.6</b>	<b>99.9</b>	<b>106.9</b>	<b>110.9</b>	<b>117.3</b>	<b>47.7</b>	<b>100.0%</b>

The long term outlook for New Zealand's dairy sector is positive, with steady growth in domestic production and firm demand from emerging markets. The Ministry for Primary Industries (MPI) expects production to increase by 3% per year from 2015 to 2017 as cow numbers and milk solids per cow increase gradually. The OECD-FAO expects New Zealand milk production to average 2.3% annual growth between 2011 and 2020, while Fonterra estimates New Zealand milk production will be able to grow at around 3% per annum, through growth in herd size and productivity gains. Fonterra expects that global milk production can grow at around 2% per annum (slightly slower than New Zealand's production) until 2020, not sufficient to keep up with growing global demand of around 3%. This is mainly driven by China's 7% annual demand growth outstripping its 4% supply growth.

Wood availability forecasts from MPI suggest there is potential for New Zealand to increase harvesting in the longer term. In 2015 around 24 million cubic metres (m<sup>3</sup>) of radiata pine will be harvested. These volumes are predicted to increase by 10 million m<sup>3</sup> between 2015 and 2025. Forestry prices are also predicted to remain high owing to China's forestry deficit impacting the world market. The MPI forecasts log prices to increase from their 2013 level of \$119 per m<sup>3</sup> to \$140 in 2017, an approximately 18% increase, while other processed wood products are expected to have similar increases over the forecast period.

## Domestic freight

Rock used for roading makes up the bulk of aggregate use in New Zealand. The forecast increase in demand for aggregate is tied to the growth in construction activity in the South Island.

As a grouping of industries, limestone, cement and fertiliser are extremely varied. Limestone is used in the production of lime which makes its way into agricultural uses, cement and construction. Fertiliser is used in agricultural production while cement is used in the production of concrete. As a result the forecast growth is based on a weighted average of the growth forecasts for dairy (60%) and concrete (40%).

The forecast growth for concrete has been developed in a very similar manner to that for aggregate for roading use. The historical relationship between the use of concrete and GDP growth was analysed based on data from 1992 to 2012. This analysis indicates that historically a 1% increase in GDP has been associated with a 2.2% increase in the use of concrete.

The forecast growth for the general freight commodities is based on a weighted average forecast of the growth rates of manufactured goods, supermarket and food goods and other retail goods. These industries were selected because general freight movements are most likely to be relatively short-distance intra-regional movements and most likely consists of manufactured or retail goods.

The other driver of freight demand in the South Island is tourism. International and domestic visitor numbers are expected to increase strongly. Places and routes in the South Island that will see large increases in visitors are most likely to be those already orientated towards international visitors, such as Queenstown and its surrounds, including the journey to Te Anau and Milford Sound. Tourism growth increases freight transport demand via the increase in the movement of goods to service visitor destinations and activities.

## International freight

Currently there are a number of business developments taking place which are going to shape the way freight will be traded with overseas markets. Fonterra and other major exporters are pushing for bigger container ships to call at a number of primary ports with regional ports acting as feeders. The first business agreement in place is the 10 year deal between Maersk, Kotahi and Ports of Tauranga to invest in infrastructure to handle container ships up to 6,500 TEU within the next few years. In this deal Maersk has committed a weekly service into Timaru port and Kotahi has committed significant export cargo through Timaru for the next 10 years commencing 1 August 2014.

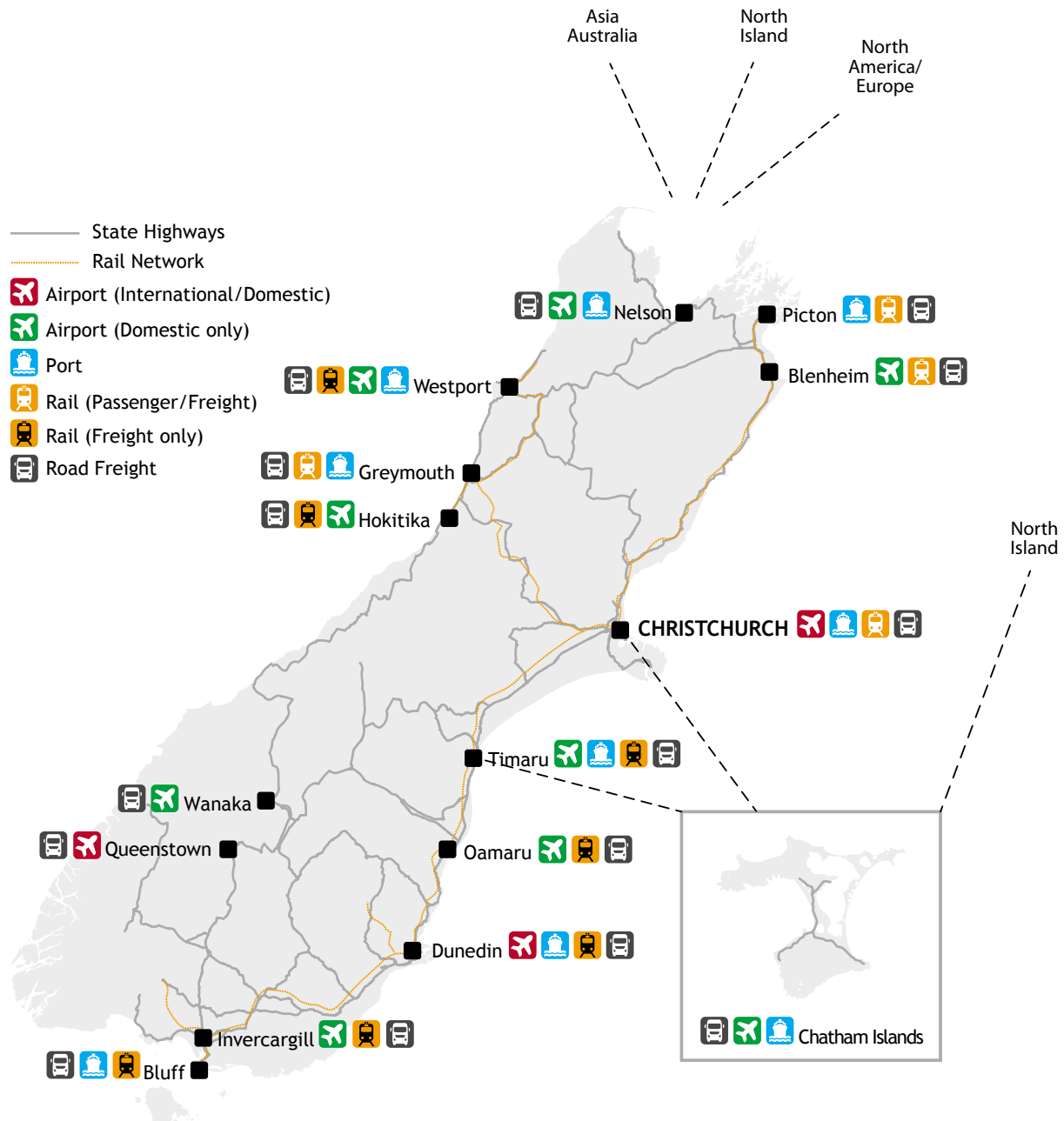
There are a number of external influences that determine the routing of international container cargo within the South Island. History has shown that shipping lines from time to time alter their vessel schedules to either exclude or include ports. These decisions are driven by global companies and trends and at relatively short notice can place additional pressure on the local logistics network as international trade volumes shift to different areas and modes. This means that infrastructure can go through periods of both high and low utilisation as these volumes come and go.

Only a small percentage of freight, by weight, is transported by air. However, given the type of goods transported and the time constraints attached to these movements, the role air transport plays can be important to the South Island economy. The majority of this airfreight is carried in the holds of domestic and international passenger air services. Christchurch International Airport provides import and export services for high value and time sensitive freight and also operates as an airbase for New Zealand and international governments to supply food and materials for Antarctic scientific research. The airport operates 24 hours a day, seven days per week with no current restrictions for aircraft take-off and landing.

Recently there has been a growing trend for trans-Tasman air services to be provided using narrow body aircraft. The reduction in the number of wide body aircraft has a significant effect on the volume of freight that can be exported directly by air.



## 2.4 The South Island transport network (as at August 2014)



The South Island transport network comprises of:

- A State Highway network with 4,921km of roads (making up 12% of the South Island network) and 35,456km of local roads (making up 88% of the South Island network).
- 1,661km of rail lines, consisting of two main lines, two secondary lines and a few branch lines.
- One long distance international airport at Christchurch, two short haul international airports at Dunedin and Queenstown and eight domestic airports.
- Two major container ports, one at Lyttelton in Christchurch and one at Port Chalmers in Dunedin plus six regional ports (Nelson, Picton, Westport, Greymouth, Timaru and Bluff)
- Direct connections to the North Island via coastal shipping and road/rail ferries
- Connections to international markets through direct vessel calls to Australia, Asia, North America and Europe.

The strategic freight network is the parts of the transport network that support the movement of high volumes (and/or values) of freight, allow transfer to other modes and provide access to national and international markets. The strategic freight network extends over regional boundaries, includes connections to both Stewart Island and the Chatham Islands and can include infrastructure and services that are the responsibility of either the public or private sectors. A key step in the development of this draft plan was the identification of the strategic freight network and ways to improve its function.

## 2.5 South Island summary

- While the majority of freight (by weight) travels within the South Island's regions rather than across them, freight movement across the regions is critical to the South Island's economy.
- Canterbury has a significant portion of the South Island freight task; accounting for approximately half of the total freight moved and this will continue into the future. It is predicted that just over half of the freight growth in the South Island to 2042 will take place in Canterbury.
- The majority of freight in the South Island is moved by road, and only a small percentage moves by rail, coastal shipping or air. The freight modes that perform the task today are forecast to largely perform similar roles into the future.
- The projected freight growth in the South Island is substantial, with an extra 47.7m tonnes of freight being carried in 2042 compared with 2012. This increase equates to an additional 1.7m truck trips made in 2042 compared with 2012. This means an additional 4,667 truck trips (based on 44 tonne trucks) per day across the network.
- Freight demand in the South Island is driven by a mix of primary sector and export growth, and population growth and change.
- Demand is dominated by 12 commodities which account for 90% of the forecast freight demand. Of these commodities, only liquid milk, manufactured dairy and coal will be driven by export demand while the others are driven by population growth and demographic change.
- Other business developments are shaping international freight in the South Island, such as the move to bigger ships, changing commercial arrangements between ports and shipping lines, and changes to the availability of long haul aircraft.
- The greatest growth in freight demand is forecast to occur between 2012 and 2027, with the rate of growth slowing beyond then.
- Growth in the freight task needs skilled drivers (of which there is a current shortage) and skilled employees throughout the logistics supply change.



The remainder of this part of the report, provides more detail about the transport network, the current freight task and the predicted task in the future for each of the regions:

- Tasman/Nelson/Marlborough
- West Coast
- Canterbury
- Otago
- Southland

## 2.6 Tasman/Nelson/Marlborough

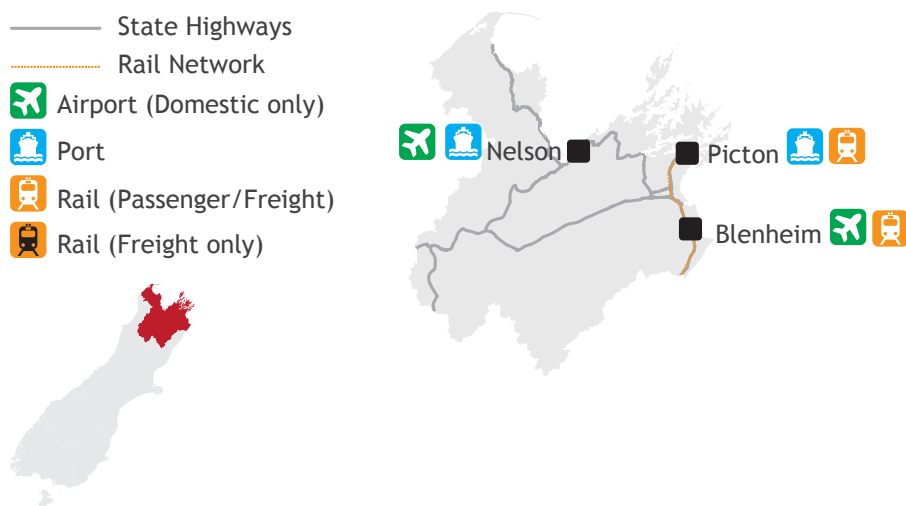
The population of Tasman/Nelson/Marlborough is 140,700, which is 3.2% of the total population of New Zealand. This is forecast to grow by 1.5% per annum between 2012 and 2031. Marlborough on its own makes up just over 1% of the New Zealand economy (measured by GDP). It is a highly export focussed producer of primary products. A fifth of Marlborough's workforce is employed in the primary sector. Over the last decade the region has successfully converted most of the land formerly dedicated to cropping and stone fruit orchards to viticulture so that Marlborough is now New Zealand's largest wine-growing region. It has also diversified into manufacturing and services businesses that leverage off primary sector activities. There has been an increase in technology-based and consultancy businesses providing services to farming and forestry processing. Aquaculture, aviation and tourism are also important sectors in Marlborough.

Nelson/Tasman makes up almost 2% of the New Zealand economy. Nelson is predominantly urban while Tasman is predominantly rural. Tasman is highly export focussed and relies on the factories, manufacturing and ports in both Nelson and Tasman for export. Over half of Tasman's primary sector employment is in horticulture and fruit growing, with forestry and fishing also being important. The Nelson region is the smallest of New Zealand's regions (by population and land area). It is really a city with Tasman and Marlborough regions providing its hinterland. Although it is small, Nelson has developed economic activity in diverse sectors as well as some specialisations. It has particular strengths in marine construction and aircraft interiors manufacturing and is home to almost one-third of New Zealand's fishing and aquaculture.

To service this region, Tasman/Nelson/Marlborough has 1,290km of State Highways and 2,063km of local roads. Marlborough has approximately 115km of rail network and the region is home to Nelson and Marlborough airports. It has two ports, Port Nelson is a major port for log exports from Nelson/Marlborough forests and Port Marlborough at Picton is the main link between the South and North Islands, with scheduled ferry services across Cook Strait carrying both passengers and freight and also has a dedicated deep water berth for log exports.

### Tasman/Nelson/Marlborough Freight Infrastructure

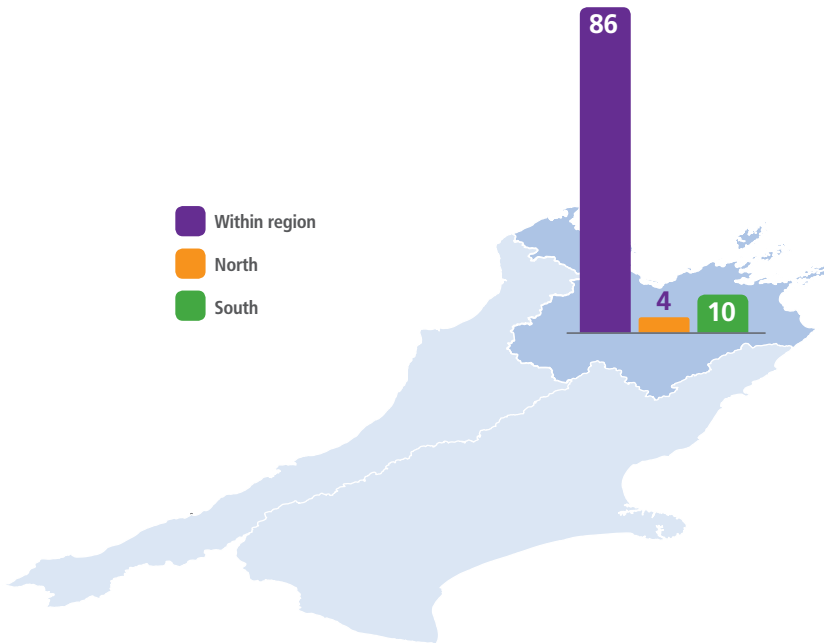
Key Infrastructure	TNM	NZ
Road density (length per 1000km <sup>2</sup> area, 2010)	181	215
Heavy Vehicle km travelled per km of network (2011)	131 329	97 686
International Connections		
Cargo traded through regional ports (\$m) – Exports	929	48 076
Cargo traded through regional ports (\$m) – Imports	286	47 037



The bulk of the freight originating from the region moves within the region. Of the 9.3 million tonnes moved in 2012, 86% moved intra-regionally, 4% moved north and 10% moved south. This reflects Tasman/Nelson/Marlborough's critical role as a through point for freight moving across the Cook Strait and travelling south. There are also strong volumes moving to and through the region, increasing the total freight moved to 14.6 million tonnes.

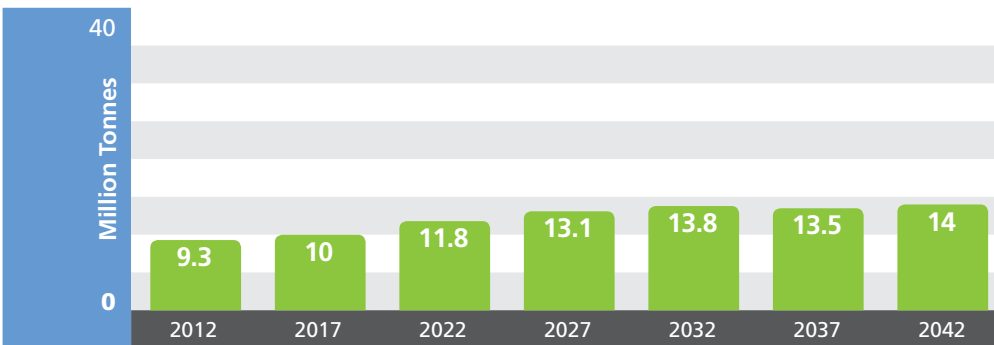


## Tasman/Nelson/Marlborough's freight movements for 2012

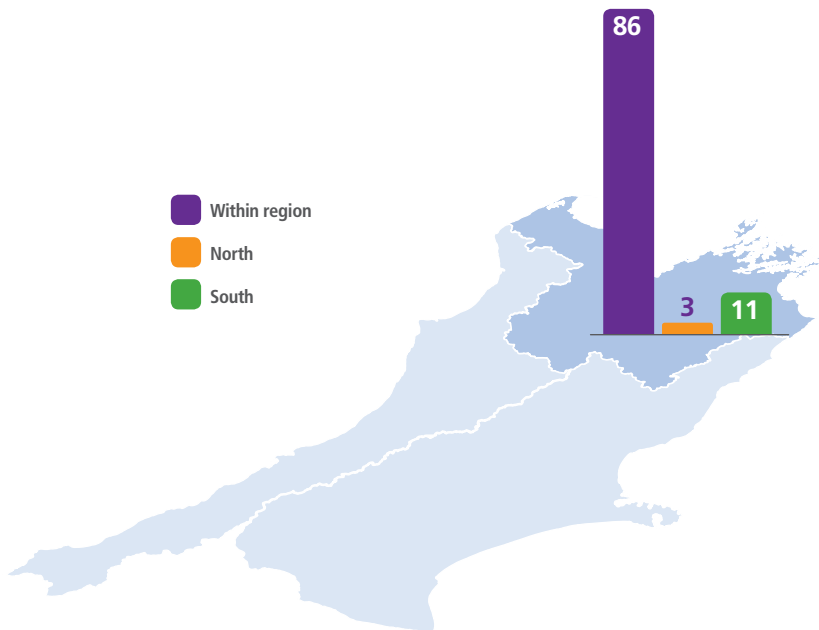


Over the thirty years between 2012 and 2042 the freight task for Tasman/Nelson/Marlborough is forecast to grow by 4.7 million tonnes. The bulk of this demand is expected to be driven by the following commodities; aggregate, general freight, logs to sawmills and port for export, concrete and increased volumes of general freight moving south over the Cook Strait. The largest amount of cargo moving long distances is the general freight component moving between Auckland and Canterbury and this is likely to increase by 2042.

## Freight growth in Tasman/Nelson/Marlborough



## Tasman/Nelson/Marlborough's freight movements for 2042



Based on forecasts Tasman/Nelson/Marlborough's freight demand picture in 2042 is predicted to be 14 million tonnes with 86% being moved intra-regionally, 3% moving north and 11% heading south. This increase in demand is equivalent to an additional 157,000 (44 tonne) truck trips per year across Tasman/Nelson/Marlborough by 2042. Over the same time rail freight is forecast to increase by 0.21 million tonnes, which equates to an extra 2,000 wagon movements per year placing an extra 0.28 million tonnes of demand on Tasman/Nelson/Marlborough's rail infrastructure.

## 2.7 West Coast

The population of the West Coast is 33,000, which is 0.7% of the total population of New Zealand. This is forecast to grow by 0.1% per annum between 2012 and 2031. The region spans the greatest length of any region in New Zealand, equivalent to the distance from Auckland to Wellington. Of its land area 85% is part of the National Conservation Estate and not available generally for primary production.

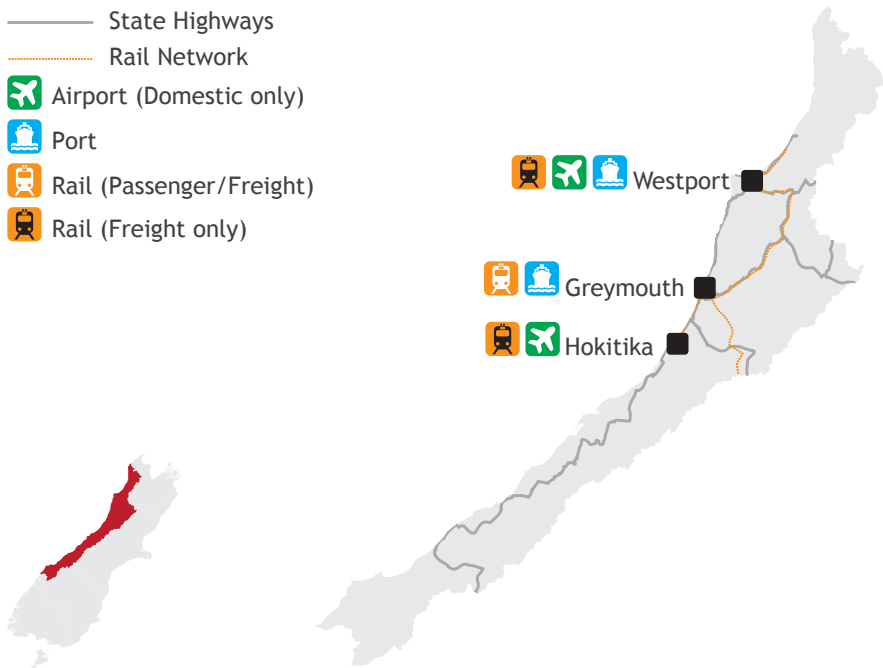
Over the last decade, average household incomes on the West Coast have grown so that they are now among the highest in New Zealand. The region has experienced significantly higher than average growth in jobs but this growth has declined in recent years. The West Coast's GDP was \$1,535m in 2013, a decline of roughly 6% over the 2012-13 year. The region's economy is dominated by agriculture and mining and is highly export oriented. Mining directly employs about 10% of the region's workforce and dairying about six%, but together, these high-value, capital-intensive activities generate over half of the region's income. These businesses make the West Coast highly export orientated.

Coal is the primary mineral extracted and relies on local roads and state highways within the region for transport of material to rail heads, and the rail network for export to markets through Lyttelton. Agriculture is dominated by dairying. It has a heavy reliance on the roading network for the transport of milk product from farms and factories spread throughout the region. Westland has one dairy plant at Hokitika, processing around 500 million litres of milk annually. The industry has experienced rapid growth over the past 10 years. Finished product is railed out of the region to be exported from Lyttelton. Forestry has declined in recent years but still remains an important industry on the West Coast. Local roads and state highways provide important linkages between forests, mills, and to market (or rail heads) throughout the region.

To service this region, the West Coast has 871km of State Highway and 1,640km of local roads. It also has 370km rail network which includes the Midland Line from Arthur's Pass to Stillwater, the Stillwater Ngakawau line, the Rapahoe line from Greymouth to Rapahoe and the Hokitika line from Greymouth to Hokitika. There are also regional ports at Westport and Greymouth and a regional airport at Hokitika.

## West Coast's freight infrastructure

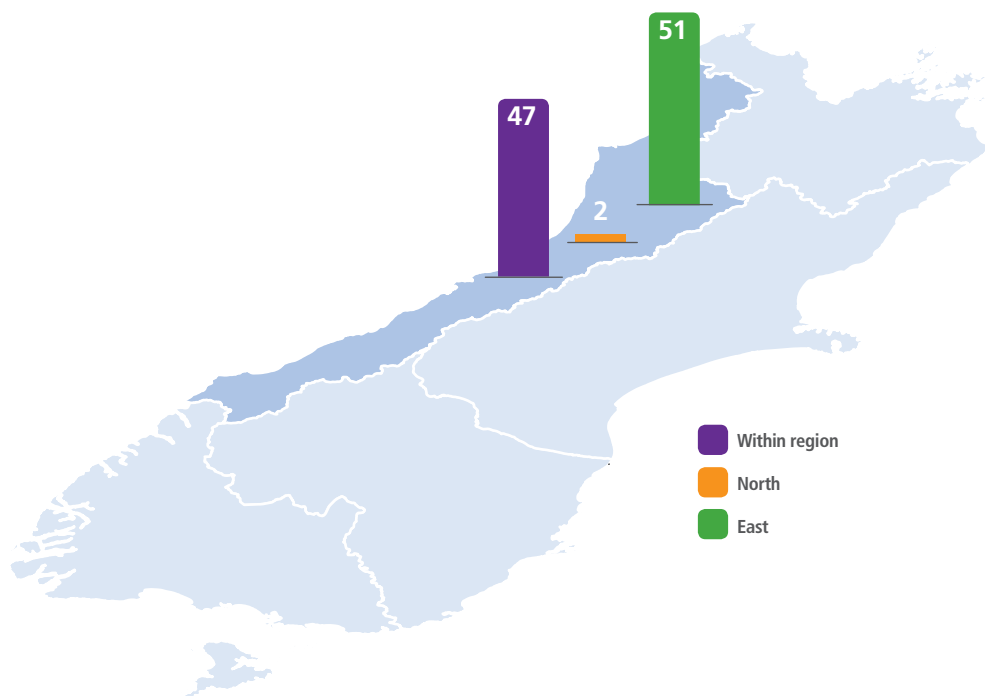
Key Infrastructure	West Coast	NZ
Road density (length per 1000km <sup>2</sup> area, 2010)	104	215
Heavy Vehicle km travelled per km of network (2011)	131 329	97 686
International Connections		
Cargo traded through regional ports (\$m) – Exports	0	48 076
Cargo traded through regional ports (\$m) – Imports	0	47 037



The bulk of the West Coast's freight moves east to Canterbury. Of the 5.54m tonnes moved in 2012, 47% moved intra-regionally, 2% moved north and 51% moved east.

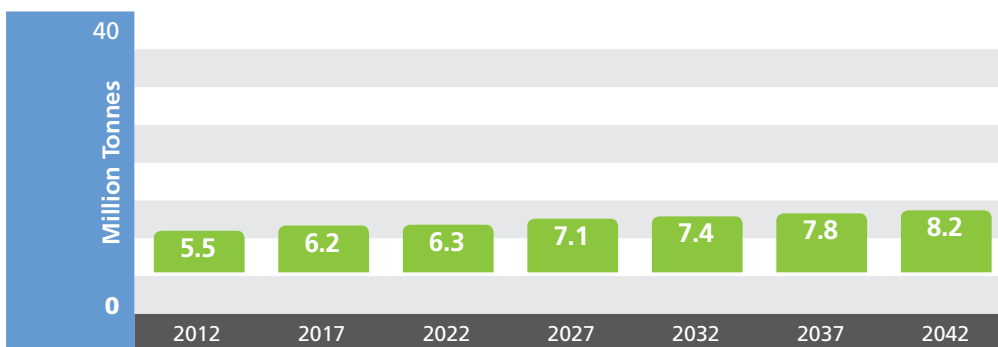


### West Coast's freight movements for 2012

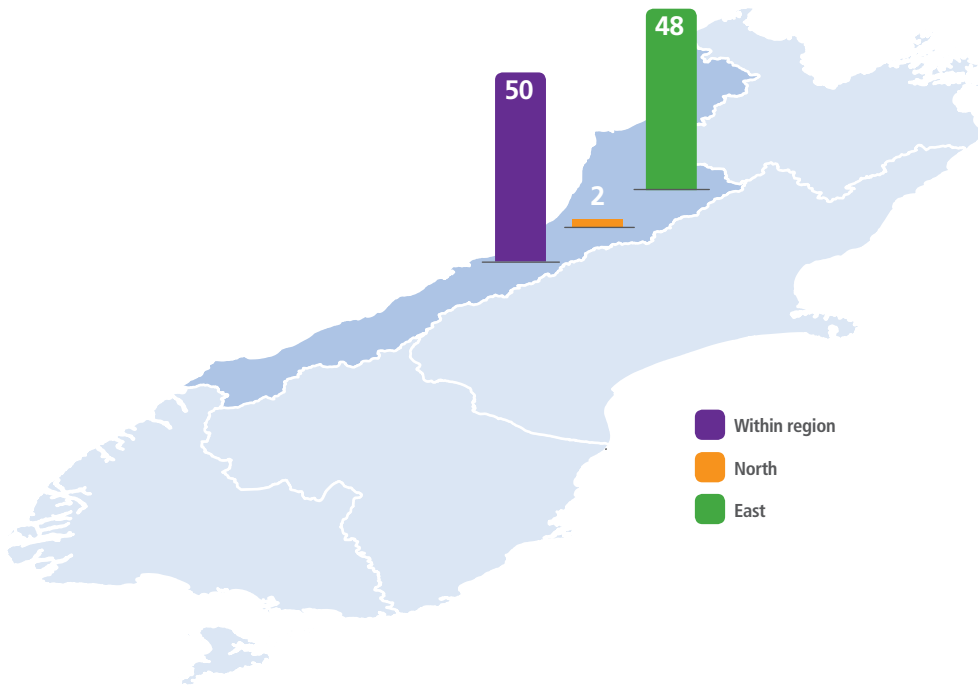


Between 2012 and 2042 the freight task for the West Coast is forecast to grow by 2.7m tonnes. The bulk of this demand is expected to be driven by three commodities; liquid milk, aggregate and limestone/cement/fertiliser. However the movement of coal will depend on the international demand and price for the type of coal that the West Coast produces.

### Freight growth in West Coast



## West Coast's freight movements for 2042



Based on forecasts the West Coast's freight demand picture in 2042 is predicted to be 8.19m tonnes with 50% being moved intra-regionally, 2% moving north and 48% moving east. This increase in demand is equivalent to an additional 89,000 (44 tonne) truck trips per year across the West Coast by 2042. Over the same time rail freight is forecast to have a minimal increase of 0.11m tonnes, which will not impact on the West Coast's rail infrastructure.

## 2.8 Canterbury

The population of Canterbury is 558,000, which is 12.6% of New Zealand's population. This is forecast to increase by 0.8% per annum between 2012 and 2031. Canterbury is New Zealand's largest region by area. Christchurch is home to nearly three quarters of the region's people and a transport hub for the whole of the South Island. The Christchurch earthquakes rebuild, which is estimated to cost \$30bn, has stimulated economic activity and transport demand both regionally and nationally. Canterbury is New Zealand's second biggest economy at 13.2% of GDP with economic activity evenly distributed between the agriculture, manufacturing and services sectors. There has been a rapid conversion of land to dairy farming in the region over the last decade and Canterbury now has the highest average dairy herd size in New Zealand and correspondingly high productivity levels.

To service the region Canterbury has 1,330km of State Highways, 14,220km of local roads and approximately 650km of rail network. The region has a deep water port at Lyttelton and another port at Timaru. Lyttelton currently handles approximately 50% of the South Island's container cargo. Canterbury is also the home of the South Island's only long haul international airport at Christchurch which also operates as the base for the supply of food, materials and personnel to Antarctica.

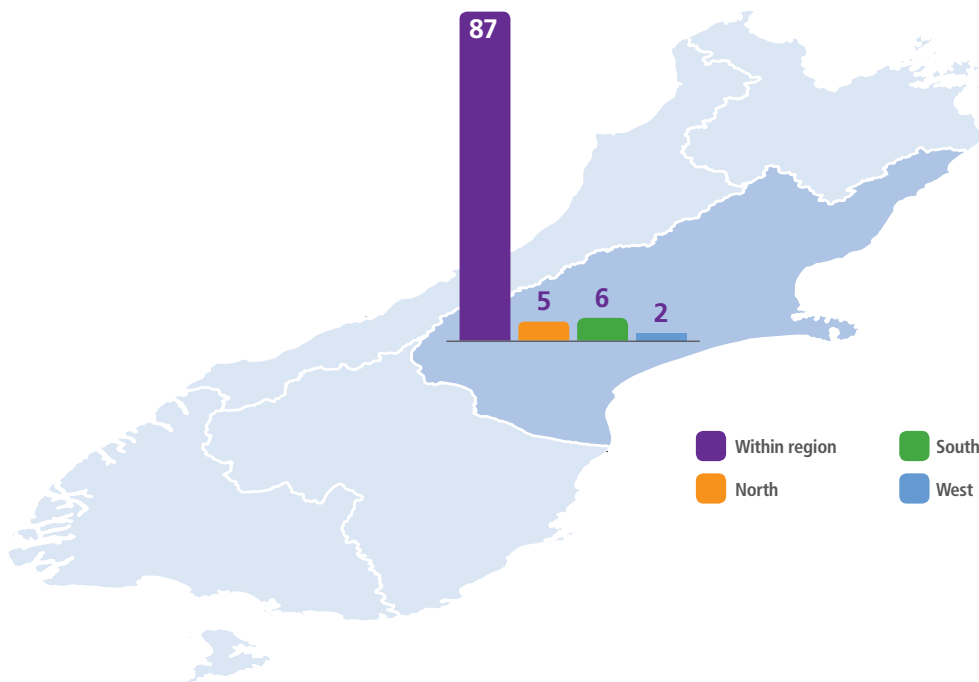
### Canterbury's freight infrastructure

Key infrastructure	Canterbury	NZ
Road density (length per 1000km <sup>2</sup> area, 2010)	338	215
Heavy Vehicle km travelled per km of network (2011)	177 300	97 686
International connections		
Cargo traded through regional ports (\$m) – Exports	8 727	48 076
Cargo traded through regional ports (\$m) – Imports	4 383	47 037



The bulk of freight in Canterbury moves within the region. Of the 33 million tonnes moved in 2012, 87% moved intra-regionally. Of the 13% of line haul freight, 5% move north, 6% moved south and 2% moved west.

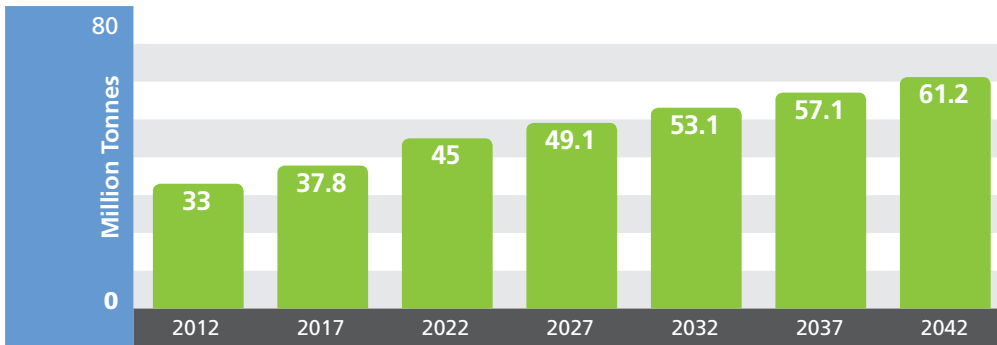
### Canterbury's freight movements for 2012



Over the thirty years between 2012 and 2042 the freight task for Canterbury is forecast to grow by approximately 28.2 million tonnes to 61.2 million tonnes. The bulk of this demand is expected to be driven by six commodities; liquid milk, manufactured dairy, general freight, aggregate limestone/cement/fertiliser and concrete.

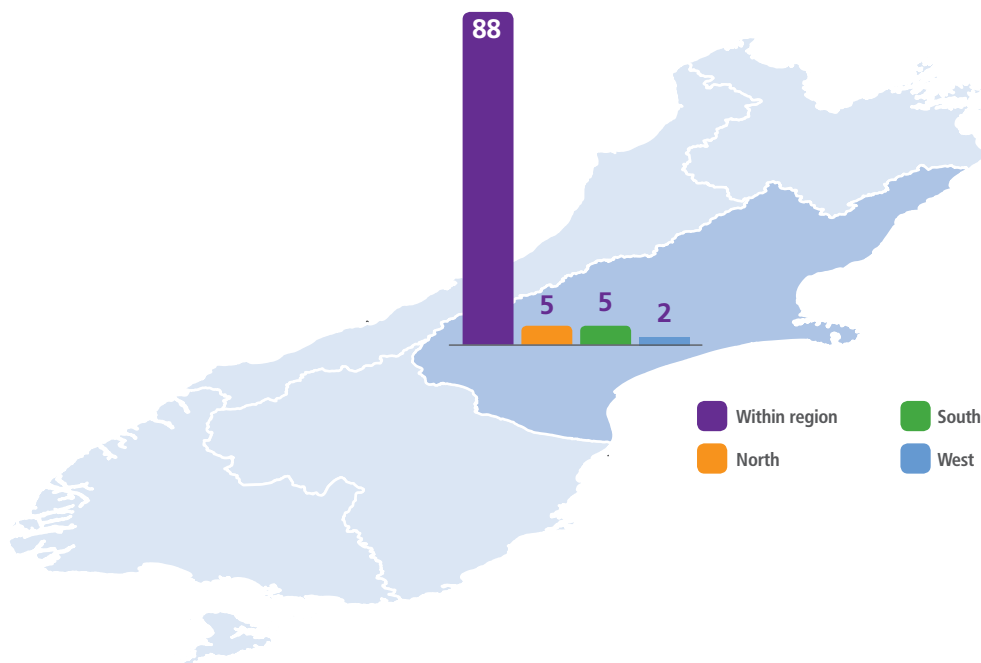


### Freight growth in Canterbury



Of the 12% being line hauled, 5% will move north, 5% will move south and 2% will move west.

### Canterbury's freight movements for 2042



Canterbury's total freight demand in 2042 is predicted to be 61.2m tonnes. This increase is equivalent to an additional 940,000 (44 tonne) truck trips per year across Canterbury. Over the same time rail freight is forecast to increase by 1.4 million tonnes, which equates to an extra 10,000 wagon movements per year placing an extra 1.9 million tonnes of demand on Canterbury's rail infrastructure. Any increase in passenger rail in the future could put pressure on the rail network to accommodate increasing freight movements.

## 2.9 Otago

The population of Otago is 211,300, which is 4.8% of the total population of New Zealand. This is forecast to grow by 0.5% per annum between 2012 and 2031.

Otago contributes 4.3% to GDP and provides 5% of national employment. The region has a diverse economy with strengths in agriculture, tourism, and education. The three major contributors to GDP are business services, social services and manufacturing. Manufacturing is significant in Waitaki and Clutha Districts, while sheep, dairy, beef and grain farming, are primarily concentrated in Clutha, Central Otago and North Otago. Central Otago has strengths in stone and pip fruit production, plus grape growing and wine production.

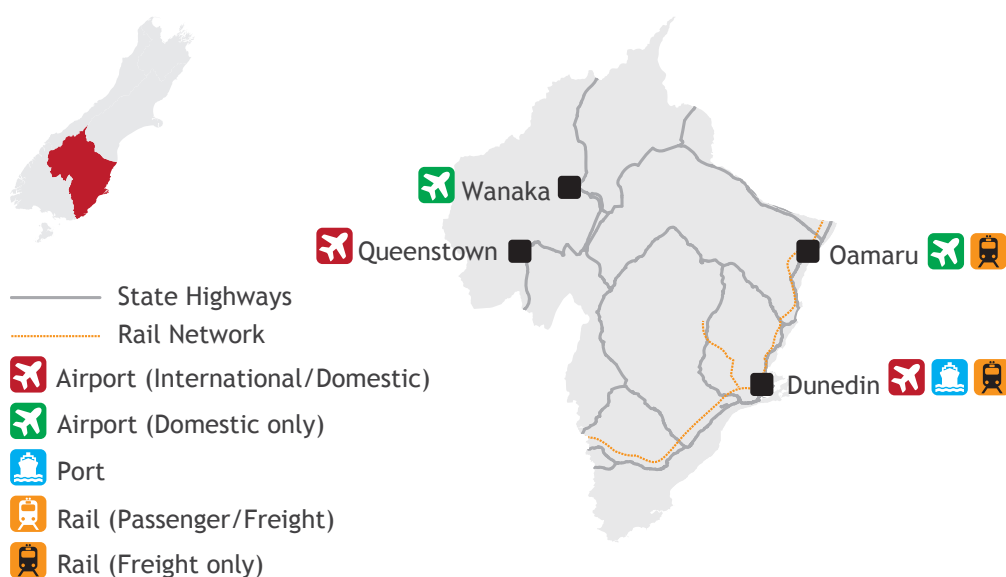
Around 50% of the region's workers live in Dunedin, which accounts for approximately 50% of the regions GDP. Professional, scientific and technical services experienced 4% annual average employment growth over the last decade, while education and training employment grew 2.1% over the same period, reflecting strong tertiary education and research activity in Dunedin.

Tourism is important in each of Otago's districts, particularly Queenstown Lakes, and has shown solid growth over the last five years. Over the last 10 years, population growth in Queenstown Lakes and Central Otago has been amongst the highest in New Zealand, reflecting both growth in tourism and people moving into this area for lifestyle reasons. Population growth in the rest of the region has been much slower.

To service this region, Otago has 1,304km of State Highways and 9,260km of local roads. There are two railway lines totalling 285km of main trunk line and 65km of branch line, the later used primarily as tourist railways. The region also has two short haul international airports at Dunedin and Queenstown, a number of regional airports and New Zealand's deepest container port at Port Chalmers (primarily for freight export).

### Otago's freight infrastructure

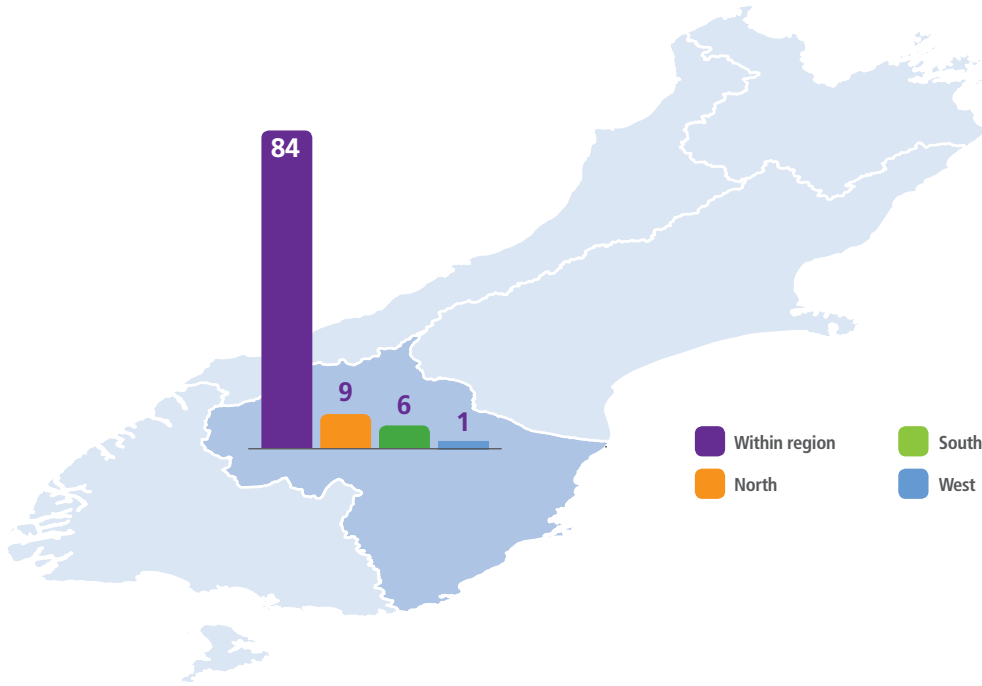
Key Infrastructure	Otago	NZ
Road density (length per 1000km <sup>2</sup> area, 2010)	310	215
Heavy Vehicle km travelled per km of network (2011)	60 850	97 686
International Connections		
Cargo traded through regional ports (\$m) – Exports	3 854	48 076
Cargo traded through regional ports (\$m) – Imports	356	47 037



The bulk of freight in Otago moves within the region. Of the 11.6 million tonnes moved in 2012, 84% moved intra-regionally. Of the 17% of freight lined hauled, 9% moved north, 6% moved south and 1% moved west.

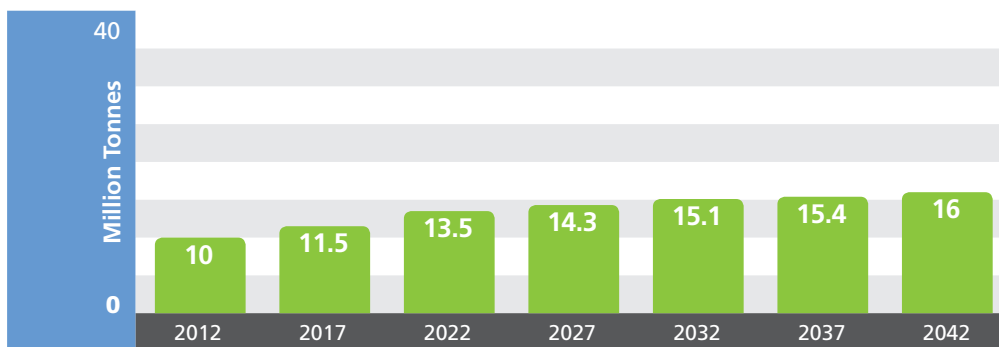
A significant proportion of the freight demand for the inland part of the region, Queenstown Lakes in particular, is serviced from outside the region, through road transport over the Lindis Pass from Christchurch, and (for building supplies) Invercargill. A freight hub operates at Cromwell, which is used for breaking down the loads coming over the Lindis Pass.

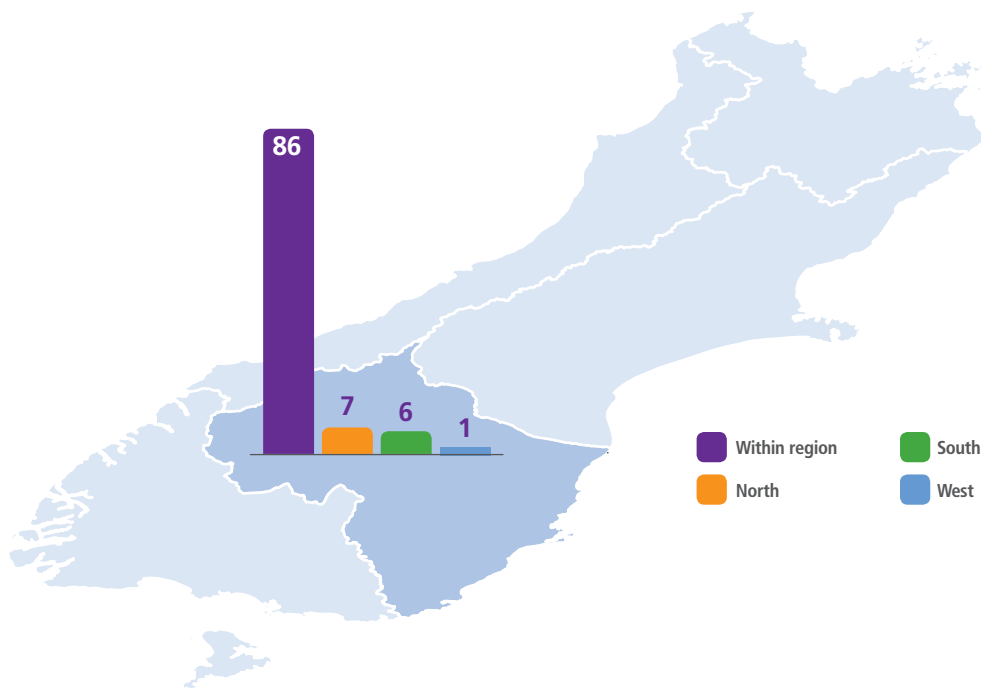
### Otago's freight movements for 2012



Over the thirty years between 2012 and 2042 the freight task for Otago is forecast to grow by 7.8 million tonnes. The bulk of this demand is expected to be driven by six commodities; liquid milk, manufactured dairy, aggregate, general freight, limestone/cement/fertiliser and concrete.

### Freight growth in Otago





Otago’s freight demand in 2042 is predicted to be 18.48 million tonnes with 86% being moved intra-regionally, 7% moved north, 6% moved south and 1% moved west. This increase in demand is equivalent to an additional 201,000 (44 tonne) truck trips per year across Otago by 2042. Over the same time rail freight is forecast to increase by 0.28 million tonnes, which equates to an extra 3,000 wagon movements per year placing an extra 0.38 million tonnes of demand on Otago’s rail infrastructure.

## 2.10 Southland

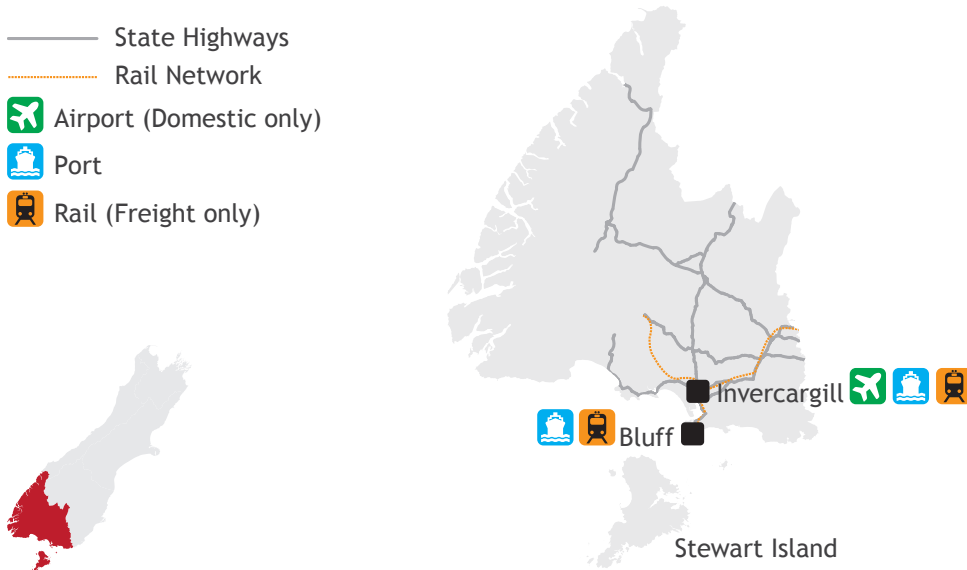
The population of Southland is 95,000, which is 2.1% of the total population of New Zealand. This is not forecast to grow between 2012 and 2031. Southland is a small to medium-sized economy with a strong agriculture and manufacturing base. In 2013, Southland contributed 2.4% to national GDP and 2.3% of national employment. The region’s economy relies extensively on its natural resources. Both the dairy industry and the Tiwai Point Aluminium Smelter, which are the largest employers and generators of income, are dependent on freshwater. The dairy industry relies on the reliable rainfall for growing grass and Tiwai Point uses the power generated from the Manapouri hydro power station. Southland has a significant amount of employment in export-focused agri-business, with sheep, beef, grain and dairy farming representing 13.7% of total employment in the region. The dairy sector has exhibited strong annual employment growth from 2003 to 2013.

To service this region Southland has 778km of State Highways and 5,838km of local roads. The existing rail freight service to Southland is limited to the South Island main trunk line and the Ohai and Bluff branch lines. Short haul services are also available, particularly to and from the Port of Bluff. The region’s major port is South Port (Bluff); however the depth of water in the port limits the size and range of vessels that can enter the harbour. Invercargill airport is primarily used for domestic travel and is the principal airport in Southland.



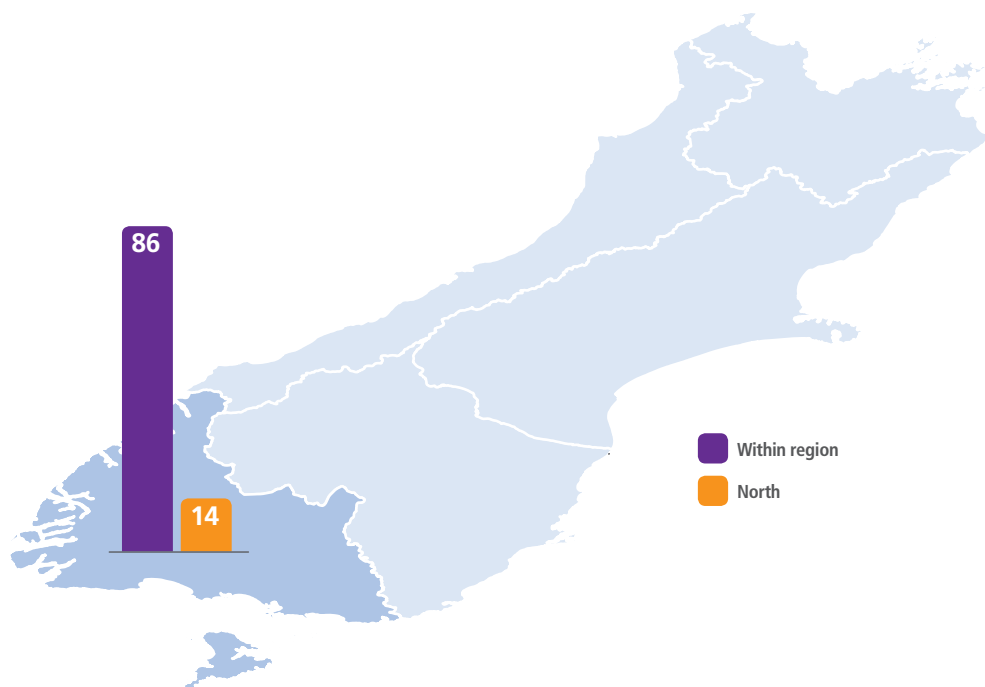
## Southland's freight infrastructure

Key Infrastructure	Southland	NZ
Road density (length per 1000km <sup>2</sup> area, 2010)	215	215
Heavy Vehicle km travelled per km of network (2011)	108 462	97 686
International Connections		
Cargo traded through regional ports (\$m) – Exports	1 020	48 076
Cargo traded through regional ports (\$m) – Imports	807	47 037



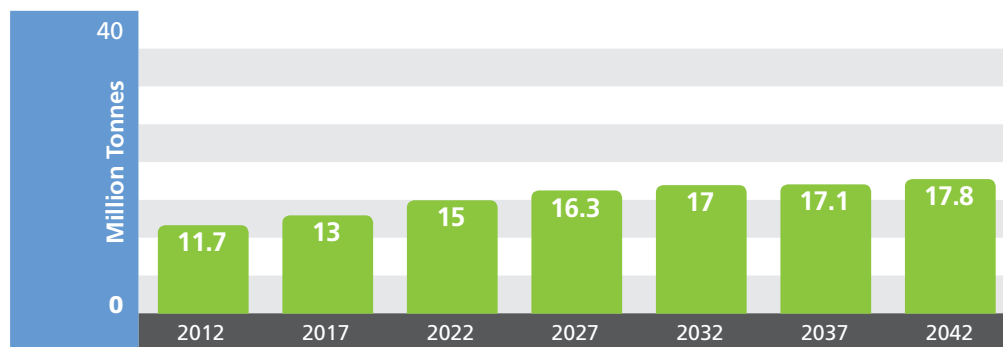
The bulk of freight in Southland moves within the region. Of the nearly 12 million tonnes moved in 2012, 86% moved intra-regionally and 14% moved north.

### Southland's freight movements for 2012



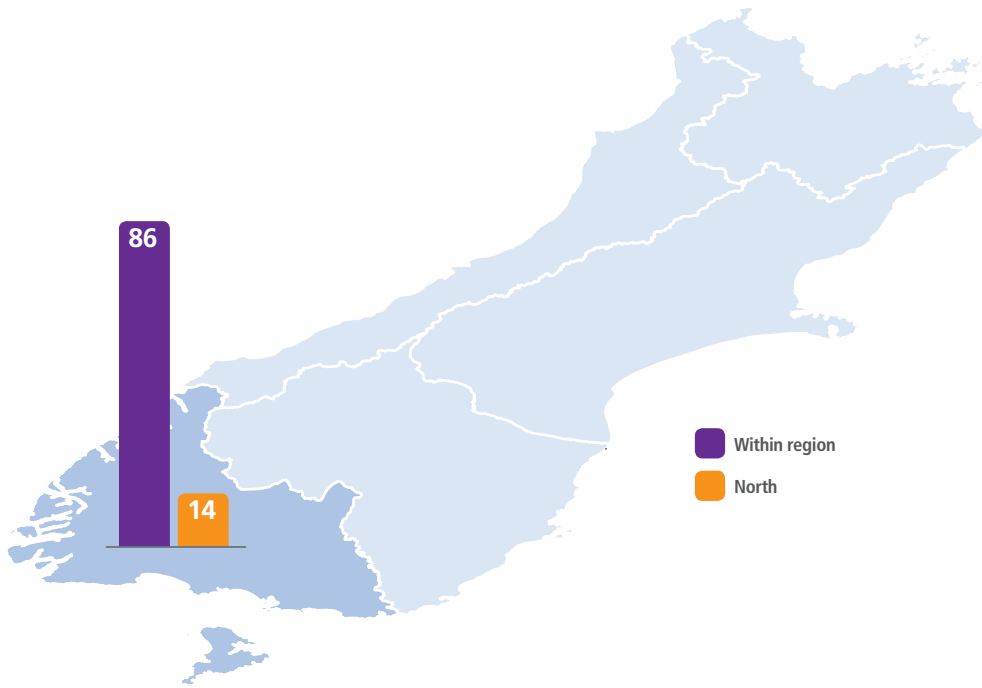
Between 2012 and 2042 the freight task for Southland is forecast to grow by 6.1 million tonnes. The bulk of this demand is expected to be driven by five commodities; liquid milk, aggregate, general freight fertiliser, limestone and cement.

### Freight growth in Southland



Southland's freight demand in 2042 is predicted to be 18.1 million tonnes with 86% being moved intra-regionally and 14% moved north (which is unchanged from 2012).

### Southland's freight movements for 2042



This increase in demand is equivalent to an additional 205,000 (44 tonne) truck trips per year across Southland by 2042. Over the same time rail freight is forecast to increase by 0.28 million tonnes, which equates to an extra 30,000 wagon movements per year placing an extra 0.37 million tonnes of demand on Southland's rail infrastructure.

### 3. Key freight journeys

The importance of inter-regional journeys must be recognised, as these comprise the majority of the freight task in the South Island. This section describes these freight journeys in more detail.

Essentially the South Island freight network is based around a north/south spine in the east of the island with cross connects to the west over alpine passes. This network is largely linear and covers long distances from north to south. This makes for a challenging and complex network with freight patterns always changing in response to increases in demand, productivity, and the routing of international cargo.

The National Freight Demand Study commissioned by the Ministry of Transport in 2014 provided data on freight movements in New Zealand both in terms of total movements and movements by individual modes, albeit based on 2012 data. The following maps provide a visual representation of the spatial patterns of freight movements across New Zealand for all road, rail and coastal shipping.

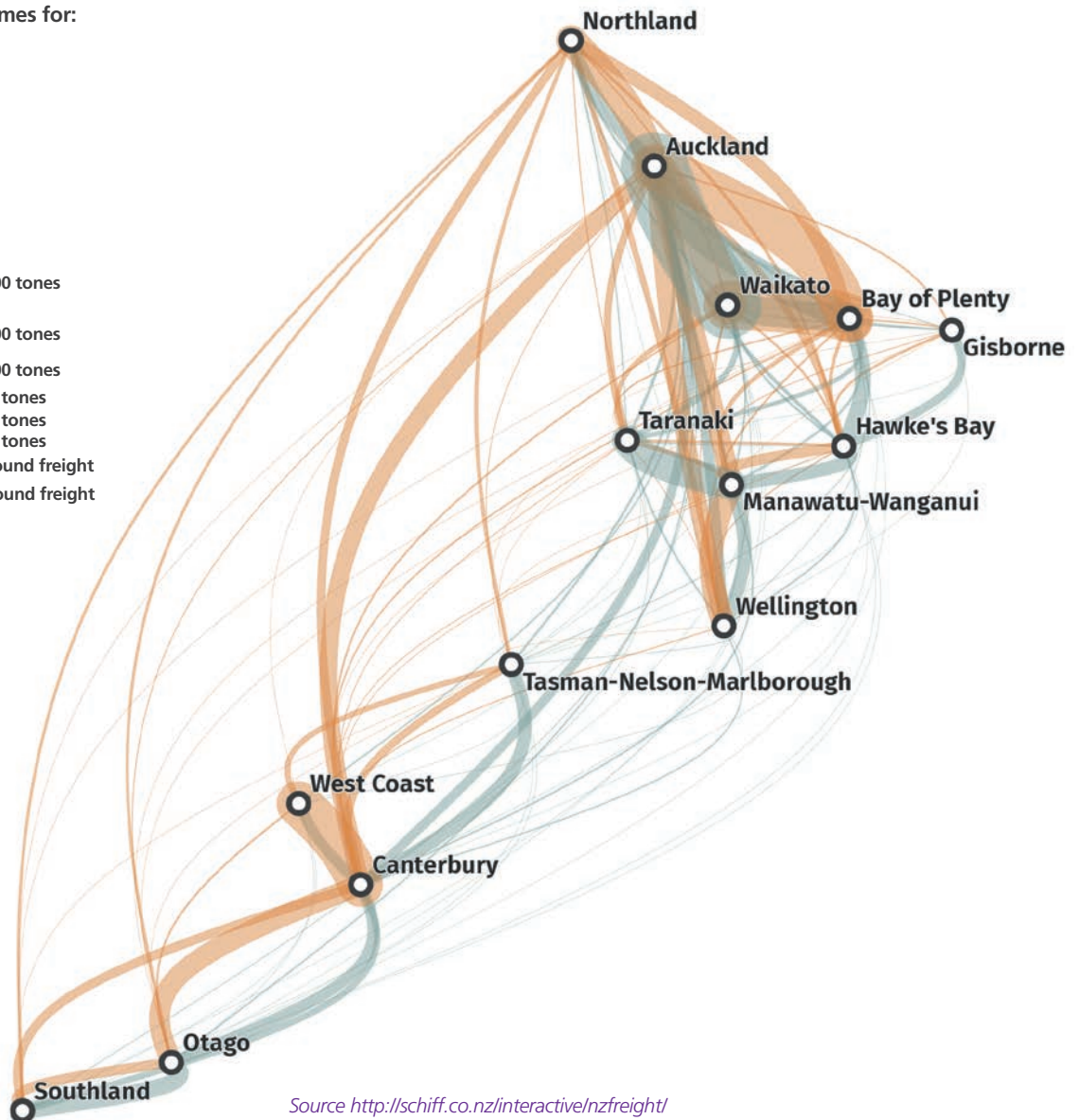
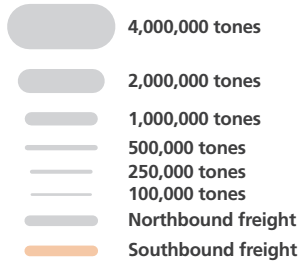
#### New Zealand freight volumes

The below visualisation shows estimated freight volumes transported within New Zealand in 2012 using data from the Ministry of Transport's National Freight Demand Study.

Note that freight volumes are only shown between origin and final destination regions but actual transport routes may involve intermediate points, and trans-shipments of containers are excluded.

Show freight volumes for:

- All modes
- Road
- Rail
- Coastal shipping

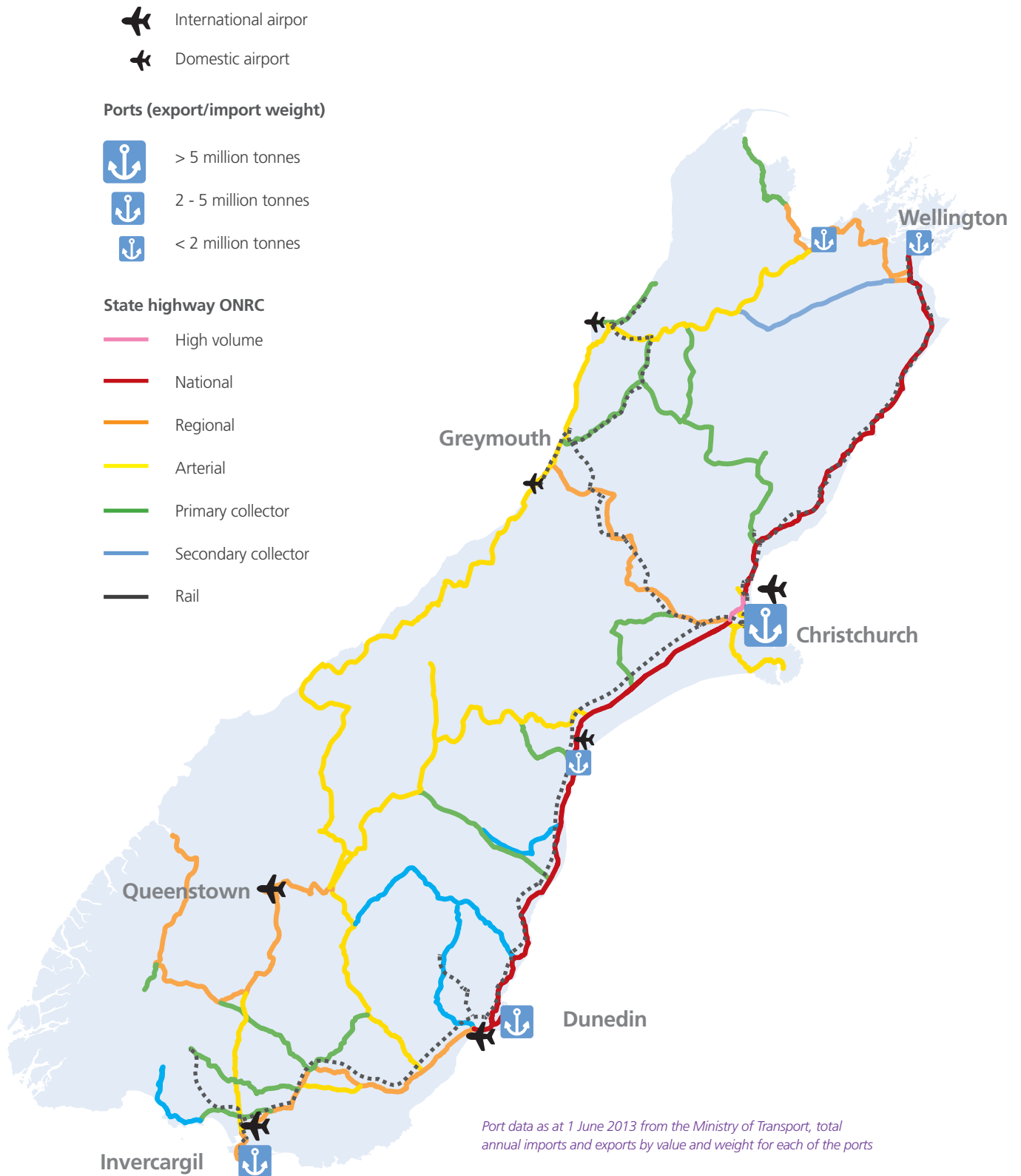


Source <http://schiff.co.nz/interactive/nzfreight/>

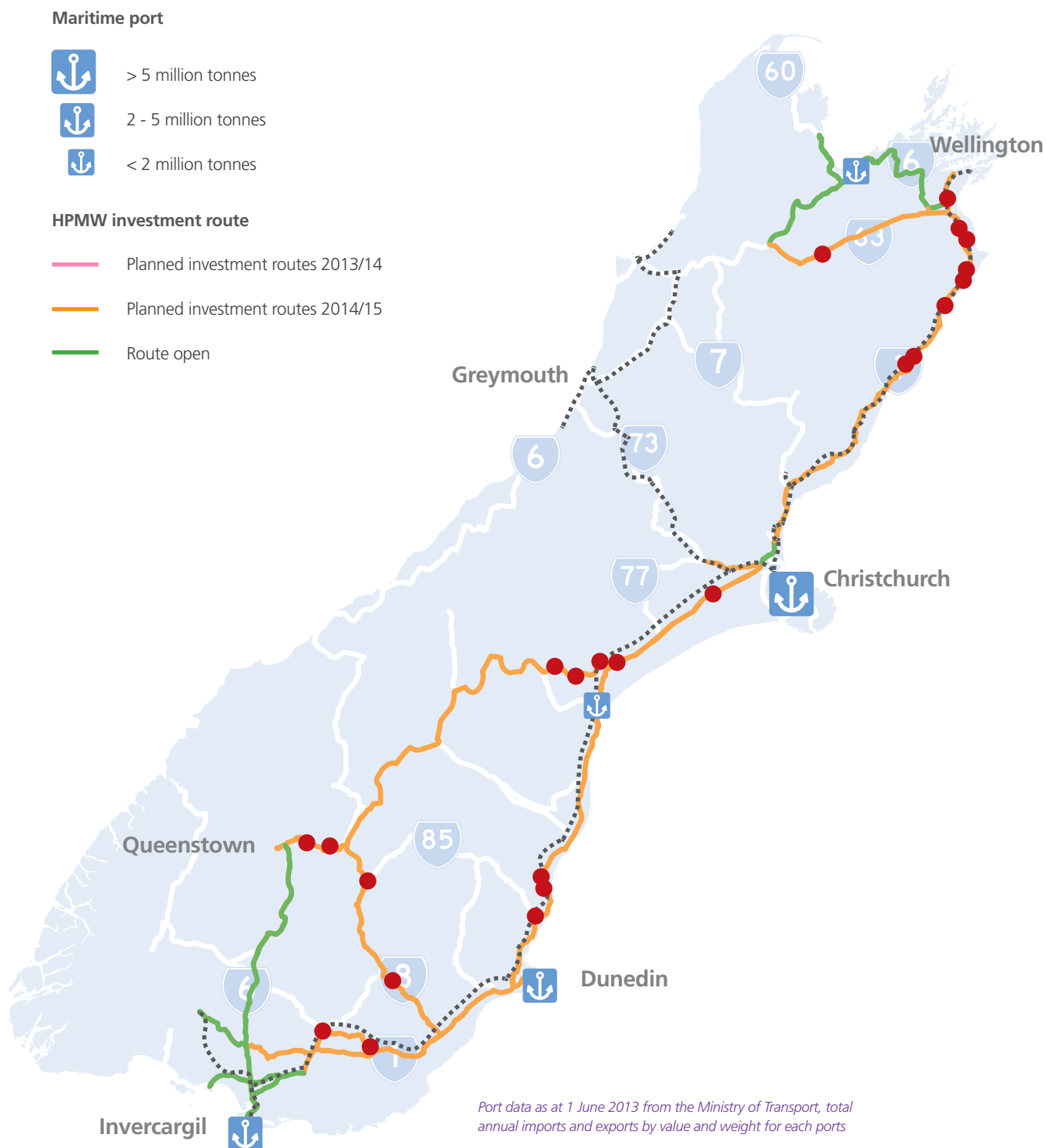


### 3.1 State highway freight journeys

While many of the farm to plant journeys occur on local roads, the longer distance journeys tend to be undertaken on state highways. The map below shows the various state highways throughout the South Island. This map shows that the primary state highway freight route and rail line run along the east coast of the South Island from Picton to Invercargill, with shorter routes crossing towards the west of the Island. The Midland rail line is also shown, crossing Arthurs Pass and providing connection to the West Coast from Ngakawau to Hokitika. A secondary road freight route runs along the West Coast from Nelson to Invercargill. The map also shows how the various ports and airports are serviced by the road and rail network.



The following map shows High Productivity Motor Vehicle (HPMV) routes that are currently available throughout the South Island, and identifies those routes where further investment is planned to enable better HPMV availability.



## 3.2 Local road freight journeys

While the State Highway network carries the greater part of the road freight task there are also substantial flows on parts of the local road network, especially the farm to factory journeys. Much of the output from primary production travels on the local road network for at least part of the journey, particularly the initial part of the journey. The most predominant of these is dairy but logs and aggregate are also transported on local roads prior to reaching state highways.

Milk production in the South Island continues to grow. Major dairy factories are located throughout the South Island, with the main production sites at Darfield (Central Canterbury), Clandeboye (South Canterbury) and Edendale (Southland) and smaller factories are located at Awarua, Studholme, Dunsandel, Glenavy, Takaka, Brightwater and Kaikoura.

Milk production utilises the supply chain in a number of different ways, on both local roads and State Highways. Some examples of these activities are:

- The movement of raw milk from farms to production sites using road tankers
- During peak times raw milk can be transferred between production sites using tankers or pods
- Finished goods for export are moved between plants, distribution centres and ports using either rail or road

The seasonal nature of milk production means that the transport networks are used at different levels throughout the year depending on production levels.

Milk is only part of the freight task in rural areas using local roads. The transport of fertilisers, stock feed, grains, horticultural crops including grapes and wine and other farm products all contribute to the rural freight task. The harvesting of logs is forecast to grow significantly in the next 10 to 20 years (but then decline from 2034 onwards) and this will represent a major component of freight on local roads.

South Island tourism has been growing significantly especially in the Queenstown Lakes area and this is forecast to continue. Queenstown International Airport is the fourth busiest airport in the country, with a total of 1.25million passengers in 2014. Tourism contributes to the freight demand in these areas, as suppliers firms have to service the visitor centres and various tourism activities.

Canterbury, Otago and Southland currently have plans underway for the development of inland ports and the local road network to support these freight hubs will be vital. Other regional centres also have key industrial and warehousing areas that are serviced by the local road network.

## 3.3 Imports and exports from ports

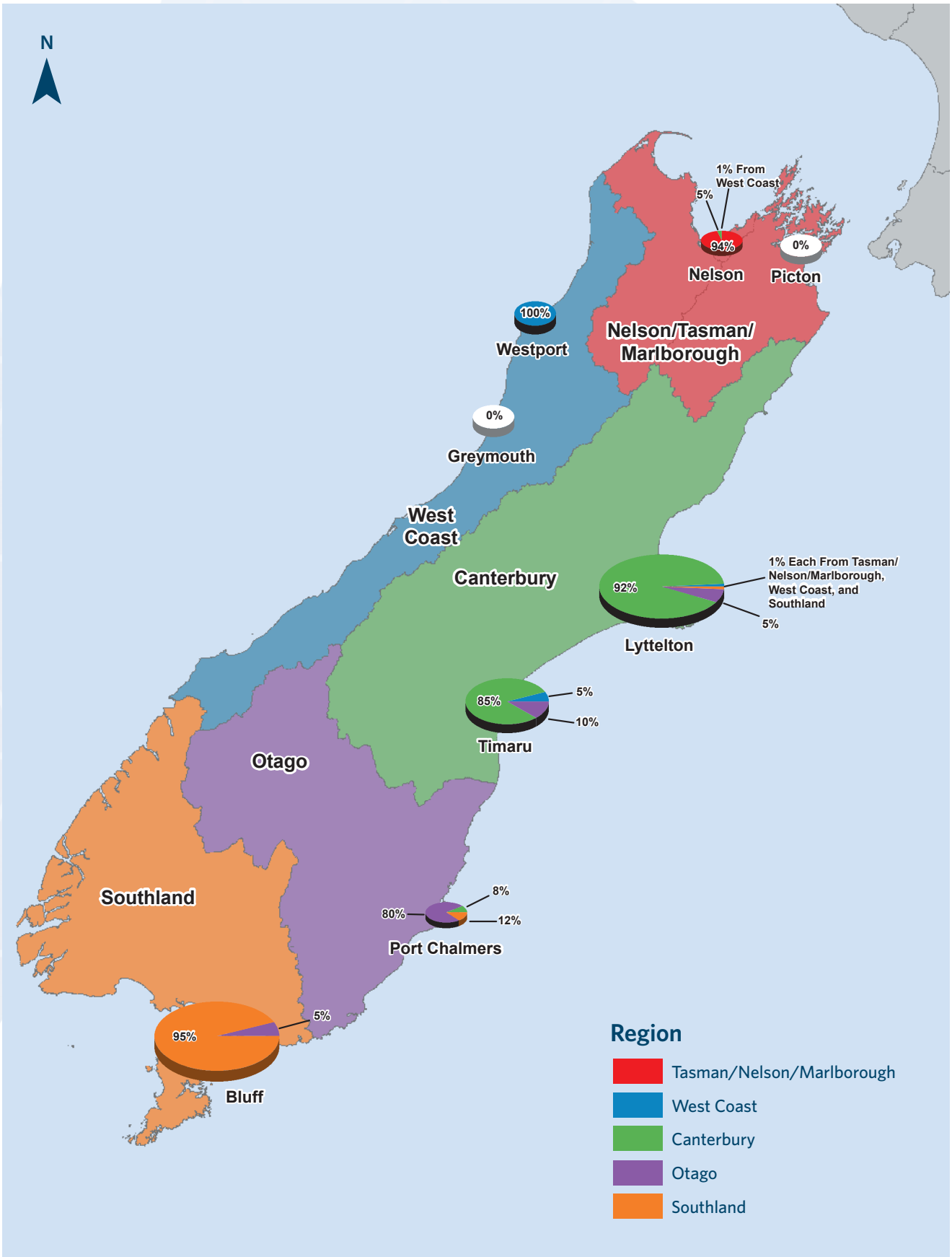
Maritime ports are a critical part of the freight network in the South Island. The vast majority of freight enters or leaves the South Island via one of these ports. There are two major container ports, one at Lyttelton in Christchurch and one at Port Chalmers in Dunedin plus six regional ports (Nelson, Picton, Westport, Greymouth, Timaru and Bluff). The following table outlines the contribution of each of these ports to the overall freight task in the South Island.

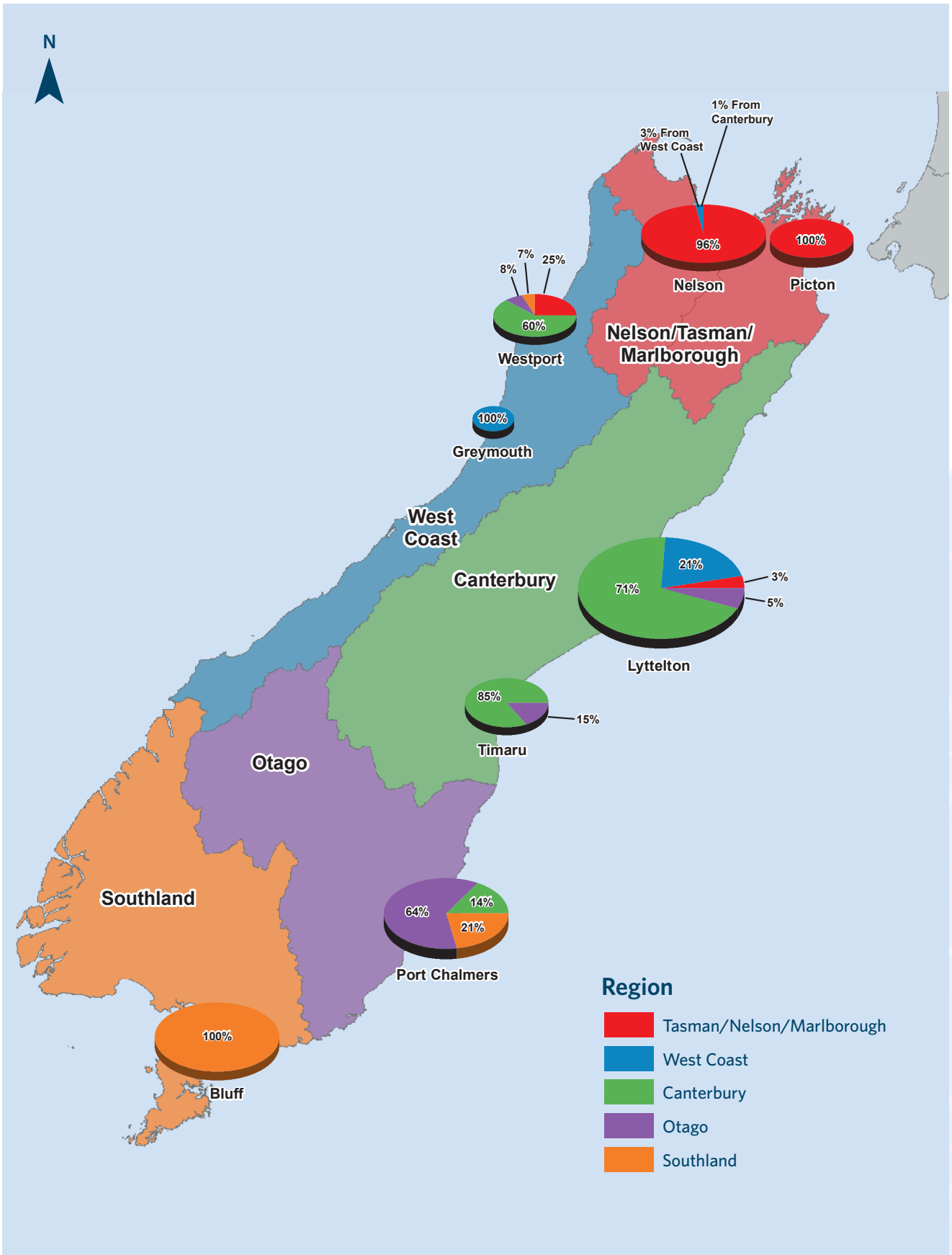
Table: Port Trade 2013/2014

	Major ports		Regional ports					
	Lyttelton	Otago	Nelson	Picton	Westport	Greymouth	Timaru	Bluff
<b>Ship visits</b>	1,059	501	758	3,443	116	688	374	316
<b>Cruise ship visits</b>	6	80	2	19	0	0	0	0
<b>Key commodities</b>								
Containers (TEU)	376,567	181,000	86,600	0	0	0	55,000	32,700
Coal (tonnes)	2,069,432	0	0	0	0	0	0	0
Logs (tonnes)	601,485	790,000	633,000	625,910	0	0	350,000	390,000
Bulk fuel (tonnes)	1,044,189	328,993	365,000	0	0	0	230,000	248,000
Dry bulk imports (tonnes)	769,019	172,373	191,700	0	0	0	515,600	1,289,000
Dry bulk exports (tonnes)	0	0	276,000	0	420,478	0	0	198,000
Motor vehicles (units)	40,778	0	6,000	290,444	0	0	0	0
Aluminium exports (tonnes)	0	0	0	0	0	0	0	220,000
Fish (tonnes)	0	29,209	145,000	10,030	3,672	17,500	0	0
Other (tonnes)	0	0	0	29,885	0	6,000	0	24,000
<b>Port volume modal split</b>								
Road	80%	40%	100%	60%	100%	100%	93%	95%
Rail	20%	60%	0%	40%	0%	0%	7%	5%
<b>Port volume hinterland split</b>								
<b>IMPORTS</b>								
Tasman/Nelson/Marlborough	1%	0%	94%	0%	0%	0%	0%	0%
West Coast	1%	0%	1%	0%	100%	0%	5%	0%
Canterbury	92%	8%	5%	0%	0%	0%	85%	0%
Otago	5%	80%	0%	0%	0%	0%	10%	5%
Southland	1%	12%	0%	0%	0%	0%	0%	95%
<b>Port volume hinterland split</b>								
<b>EXPORTS</b>								
Tasman/Nelson/Marlborough	3%	0%	96%	100%	25%	0%	0%	0%
West Coast	21%	0%	3%	0%	0%	100%	0%	0%
Canterbury	71%	14%	1%	0%	60%	0%	85%	0%
Otago	5%	64%	0%	0%	8%	0%	15%	0%
Southland	0%	21%	0%	0%	7%	0%	0%	100%

Data based on the 2013/2014 year







0 55 110 km 18/06/2015

## 4. Priority areas and outcomes

The regional workshops held around the South Island between October 2012 and March 2013 provided a good picture of the current and anticipated freight task, and the potential issues and opportunities that may affect the provision of a safe, efficient and effective freight transport system.

The issues raised during these workshops were categorised under four broad priority areas:

- Leadership and partnerships
- The South Island network
- Infrastructure investment
- Industry profitability

These workshops identified that the freight system is currently working adequately, but there are challenges to its future efficiency plus opportunities to get more from the existing infrastructure and to improve freight logistic operations. The key network issues include freight modal choice, journey connectedness, travel time efficiency and reliability and network resilience to minimise the occurrence of network outages and provide for future opportunities and resilience.

Freight movement is critical for the social connectedness of communities and for the economic prosperity of the country. Ensuring that our transport links are available, reliable and safe is a key task for our road and rail infrastructure providers. Where freight demands are high the transport links may require efficiency improvements, but on low volume routes it is more about maintaining connectivity through maintenance and operations and event response planning. The regional lifelines groups<sup>5</sup> play an important role in identifying key risks and ways to ensure our communities remain connected.

Freight logistic requirements affect the number and timing of truck and rail movements. Customer expectations of just in time delivery, especially at the beginning and end of the day can lead to increased congestion on the urban roads. If truck activities can be spread out over the whole day, then better utilisation of our urban road networks is possible. To achieve this there are a number of players in the supply chain who need to work together, including the producing and receiving companies being available to send and receive goods outside of normal working hours. The community impacts of noise and vibration need to be considered in these changing logistics conversations.

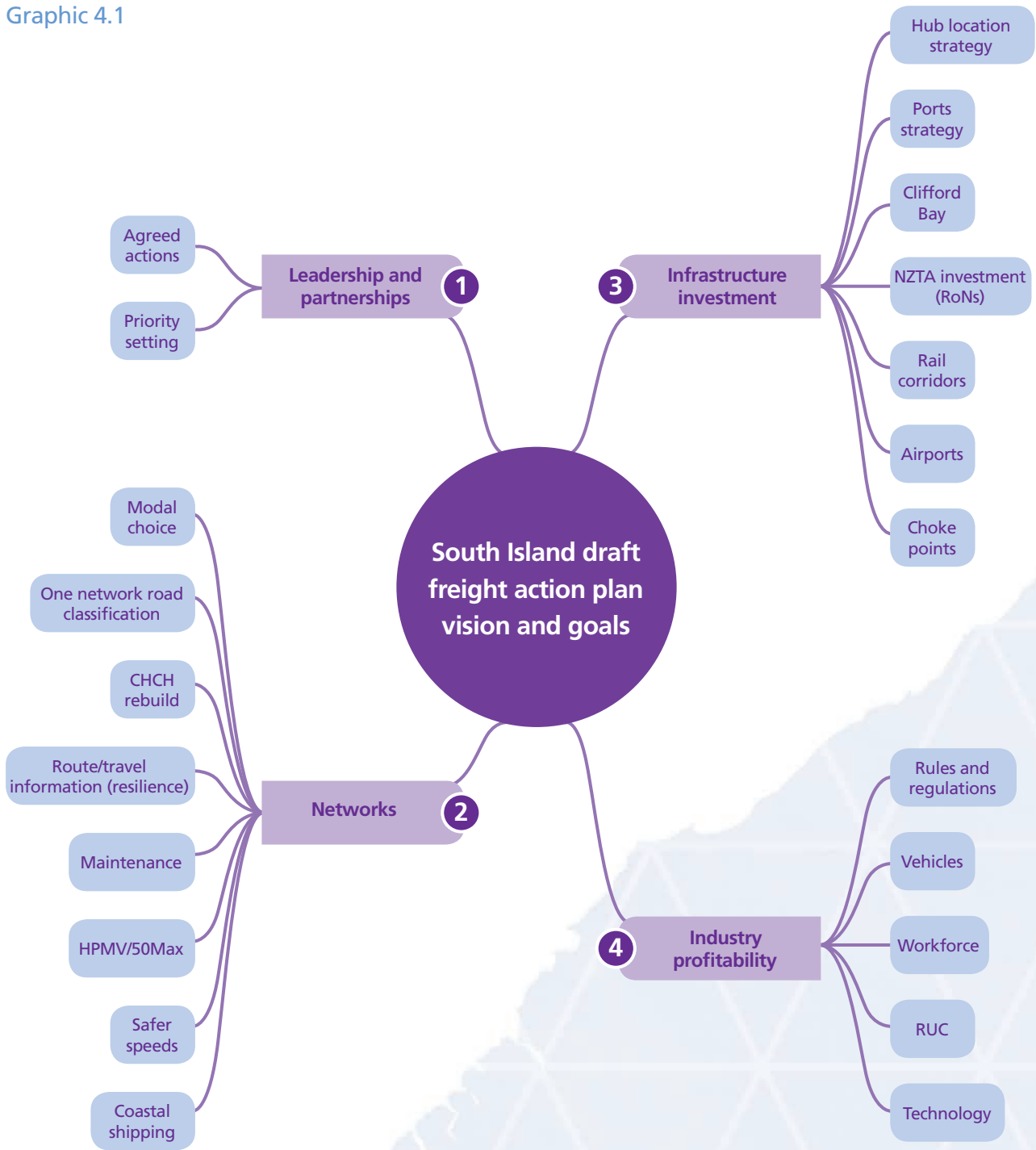
Heavy trucks impact on communities and other road users through safety, amenity value (noise, vibrations) and congestion impacts. Minimising these impacts is a key desired outcome of this draft plan. Reducing the number of trucks through sensitive urban environments can provide a significant benefit to community outcomes. Spreading the demands by time of day can optimise the use of existing network capacity. Introducing High Productivity Motor Vehicles (HPMV) can help achieve some of the community's desired outcomes through congestion relief and at the same time provide economic efficiencies for operators and customers.

Community complaints can restrict the movement of freight in some areas. Critical freight routes need to be protected from reverse sensitivity threats through district plan provisions. Land-use and transport planning must also consider existing freight routes and communities when identifying future growth opportunities.

This draft plan is intended to identify the appropriate responses to these issues. All issues can have an impact on the key outcome areas including connected and reliable freight journeys, ensuring safety and minimising impacts on the environment and communities.

<sup>5</sup>Refer to [www.civildefence.govt.nz/cdem-sector/lifeline-utilities/lifelines-groups/](http://www.civildefence.govt.nz/cdem-sector/lifeline-utilities/lifelines-groups/)

Graphic 4.1



The Working Group and Governance Group reviewed the priority areas (set out in Table 4.1 below) in light of the feedback from the workshops plus the freight work underway around the South Island. The Governance Group have confirmed the following priority areas, what success would look like in each of these areas and the constraints and challenges currently faced to achieve success.

Table 4.1

Priority area	Future state (What success looks like)	Constraints and challenges
<b>Leadership and partnerships</b>	The South Island has a strong and unified group representing all key freight stakeholders that can talk with one voice about the agreed freight needs for the South Island.	<ul style="list-style-type: none"> <li>■ Insufficient funding</li> <li>■ No industry forum to put issues forward and monitor developments</li> <li>■ Blockages in key decision making</li> </ul>
<b>Network</b>	The South Island freight transport network is efficient, safe, resilient, utilises the optimal mix of modes and supports South Island economic productivity.	<ul style="list-style-type: none"> <li>■ Resilience, including alpine passes</li> <li>■ Journey time unreliability</li> <li>■ Bottlenecks to/at freight hubs</li> <li>■ Inappropriate land use adjacent to key freight hubs and corridors</li> <li>■ Risks to network availability</li> <li>■ Increasing journey times</li> <li>■ Bridge capacity</li> <li>■ Communication of network unavailability during weather and other events.</li> </ul>
<b>Infrastructure investment</b>	Investment in the South Island freight transport network is the right investment in the right place at the right time.	<ul style="list-style-type: none"> <li>■ Increasing journey times</li> <li>■ Journey time unreliability</li> <li>■ HPMV improvements</li> </ul>
<b>Economic efficiency and effectiveness</b>	The South Island has efficient and effective freight supply chains that contribute to a thriving South Island and New Zealand economy.	<ul style="list-style-type: none"> <li>■ Limited uptake of technology</li> <li>■ Uncertain supply of skilled workforce</li> <li>■ Sub-optimal logistics practises</li> </ul>

## 4.1 Key outcomes

Freight movements are critical for everyone, whether a business moving products or a local community requiring goods and services for their daily needs. The transport system needs to be an enabler of safe, reliable and effective freight journeys and should try to minimise the impacts of these journeys on adjacent communities and environments.

Ensuring freight journeys are possible is a key issue for all the stakeholders involved in the transport sector. These journeys connect businesses and communities and need to offer an appropriate level of service for connectedness, reliability, efficiency and resilience. The transport system should provide a resilient network and transport choices by a range of freight modes as appropriate.

For the South Island the predominant freight mode is by truck, but rail offers an effective option for some freight journeys particularly those to and from the busier ports, with Canterbury having a significantly higher rail mode share than the national average. For road and rail networks to work effectively together a key requirement is to have efficient transfer facilities at well located freight hubs and sidings.

In terms of optimising road maintenance, the One Network Road Classification<sup>6</sup> system is used to guide the level of maintenance, operations and improvements that local authorities may need to undertake. To reduce any disbenefits from use of HPMV and 50 MAX trucks, development of industry specific freight hubs within regions may be necessary to reduce potential maintenance cost increases to the local road networks.

In terms of safety, the Safer Journeys Strategy<sup>7</sup> has a vision that New Zealand's roads will be increasingly free of death and serious injury. To achieve this vision, the Government has adopted a safe system approach. Safety outcomes where personal and collective harm is minimised are a key requirement of any changes to the freight system.

While freight must be able to reach all communities and destinations, large numbers of freight movements can result in impacts on adjacent communities and environments through noise, vibration, congestion and social severance. The freight sector needs to seek outcomes that minimise negative impacts. Choosing the best mode for freight movements and the best locations for freight hubs in order to integrate land-use and transport outcomes are key components in achieving these outcomes.



There are a number of transport strategies, policies and outcomes sought that are of relevance to improving the freight transport task in New Zealand, including:

- Greater travel choice
- Better connected journeys
- Greater journey reliability
- More efficient travel
- Greater network resilience
- Increased safety
- Minimise environmental impacts

As part of the development of this draft Plan a framework was developed that groups these outcomes along with the priority areas from Table 4.1. The framework also includes proposed actions aimed at achieving success and overcoming the constraints and challenges in each of the priority areas. For each proposed action the lead agency, broad timeframe and indicative cost has been identified.

Each of the actions has been assessed against its ability to contribute to the outcomes sought. The framework and actions were also assessed by the working group using a strategy and tactics tree. This is a tool that creates a logical tree of proposed actions/tactics that are both necessary and sufficient to ensure the achievement of higher level strategic goals.

This framework and actions are set out in the following section.

<sup>6</sup>The One Network Road Classification (ONRC) involves categorising roads based on the functions they perform as part of an integrated national network. The classification will help local government and the Transport Agency to plan, invest in, maintain and operate the road network in a more strategic, consistent and affordable way throughout the country. Refer to [www.nzta.govt.nz/projects/road-efficiency-group/onrc.html](http://www.nzta.govt.nz/projects/road-efficiency-group/onrc.html)

<sup>7</sup>Safer Journeys is the government's strategy to guide improvements in road safety over the period 2010 to 2020. The strategy's vision is a safe road system increasingly free of death and serious injury and introduces the Safe System approach to New Zealand. Refer to [www.saferjourneys.govt.nz/](http://www.saferjourneys.govt.nz/)

# 5. Action Plan

	<b>Actions:</b> <b>Contribution to achieving outcomes</b> √√ = strongly positive √ = positive 0 = neutral contribution x = negative xx = strongly negative	Outcomes										<b>Lead agency</b> TLAs = Territorial Local Authorities RCAs = Road Controlling Authorities LPC = Lyttelton Port Company CTOC = Christchurch Transport Operations Centre SDC = Selwyn District Council CCC = Christchurch City Council CIAL = Christchurch International Airport Ltd DCC = Dunedin City Council QLDC = Queenstown Lakes District Council ORC = Otago Regional Council ES = Environment Southland	Commencement timeframes			<b>Indicative cost</b> \$0-5m = \$ \$5-\$50m = \$\$ \$50-\$100m = \$\$\$ \$100m+ = \$\$\$\$			
		Journey											Safety	Environment			Short (0 - 5 yrs)	Med (5 - 15 yrs)	Long (15+ yrs)
		Travel choice	Connectedness			Reliability	Efficiency	Resilience	Safer journeys	Liveable communities	Low environmental impacts								
		Optimising across freight modes (e.g. road, rail, sea & air)	Land use integration	Connecting communities	Access to key freight hubs	Optimising existing infrastructure	Targeted investment in future capacity	Key route protection											
<b>South Island wide actions</b>																			
<b>Leadership and partnerships</b>	1. Continuation of the South Island Freight Governance Group that represents the views of different sectors, regions and transport modes in an integrated manner and development of a Terms of Reference for the group	Set the mandate										South Island Strategic Alliance	√			\$ (Admin Costs)			
		0	0	0	0	0	0	0	0	0	0								
	2. Foster and maintain regular engagement between industry, government, RTCs and stakeholders to identify and resolve emerging issues	√	√	√	√	√	0	0	√	√	√	Governance Group	√			\$ (Admin Costs)			
	3. Promote an industry led freight operators forum to raise issues and opportunities	√	√	√	√	√	0	0	√	√	√	Governance Group	√			\$ (Admin Costs)			
	4. Establish a working group to undertake further analysis to determine the scope of the workforce capacity and capability problem eg recruitment, retention, upskilling and driver licensing	0	0	0	0	0	0	0	0	0	0	NZTA (at a national level)	√			\$ (Admin Costs)			
	5. Maintain a sound information base to inform decision making by regular reviews of the freight task in the South Island	Informs the dialogue										Governance Group	√			\$ (Admin Costs)			
		0	0	0	0	0	0	0	0	0	0								
	6. Review progress with actions under the South Island Freight Plan and overcome obstacles with implementation	0	0	0	0	0	0	0	0	0	0	Governance Group	√			\$ (Admin Costs)			
7. Update the South Island Freight Plan as required	0	0	0	0	0	0	0	0	0	0	Governance Group	√			\$ (Admin Costs)				
8. Increase customer focus and understanding of freight logistics across the sector and develop an appropriate communications plan	√√	√	√	√	√√	0	0	0	√	0	Governance Group	√			\$				
<b>Network</b>	9. Promote opportunities to promote an optimal mix of modes	√	√√	x	√√	√√	0	√√	√	x	√	TLAs	√			\$			
	10. Protect freight corridors and land areas adjacent to freight activities	√	0	0	0	√√	0	√	√	0	0	RCA's	√			\$			
	11. Implement HPMV use of key freight routes	√	0	0	√	√	0	√	√	0	0	RCA's	√			\$			
	12. Define key freight routes and identify freight levels of service gaps across the network in relation to efficiency, safety and resilience	√	0	0	√	√	0	√	0	0	0	RCA's	√			\$			

	<b>Actions:</b> <b>Contribution to achieving outcomes</b> √√ = strongly positive √ = positive 0 = neutral contribution x = negative xx = strongly negative	Outcomes										<b>Lead agency</b> TLAs = Territorial Local Authorities RCAs = Road Controlling Authorities LPC = Lyttelton Port Company CTCOC = Christchurch Transport Operations Centre SDC = Selwyn District Council CCC = Christchurch City Council CIAL = Christchurch International Airport Ltd DCC = Dunedin City Council QLDC = Queenstown Lakes District Council ORC = Otago Regional Council ES = Environment Southland	Commencement timeframes			<b>Indicative cost</b> \$0-5m = \$ \$5-\$50m = \$\$ \$50-\$100m = \$\$\$ \$100m+ = \$\$\$\$
		Journey											Short (0 - 5 yrs)	Med (5 - 15 yrs)	Long (15+ yr s)	
		Travel choice	Connectedness			Reliability	Efficiency	Resilience	Safety	Environment						
		Optimising across freight modes (e.g. road, rail, sea & air)	Land use integration	Connecting communities	Access to key freight hubs	Optimising existing infrastructure	Targeted investment in future capacity	Key route protection	Safer journeys	Liveable communities	Low environmental impacts					
Network	13. One Network Road Classification implementation including optimisation to address identified level of service gaps	√	0	√	√	√√	0	√√	√	0	0	RCA's	√			\$
	14. Investigate and implement a programme of regional weigh facilities	√	0	0	0	√√	0	√√	√	0	0	NZTA	√			\$
	15. Encourage off-peak movements of freight	0	0	x	√√	√√	0	0	√	x	√	Governance Group and operators	√			\$
Infrastructure investment	16. Develop inland hubs and associated freight precincts to facilitate the consolidation, deconsolidation and distribution of freight	√√	√√	0	√√	√√	√	0	√	x	√	TLA's	√			\$\$
	17. Investigate rail network improvements and implement as appropriate	√	0	x	√	√	√√	√	0	x	0	KiwiRail		√		\$\$
	18. Investigate road network improvements for efficiency, safety and resilience and implement as appropriate	0	0	√	√	0	√√	√	√	√	√	RCA's		√		\$\$\$\$
	19. Investigate improvements to the network to allow full HPMV use	0	0	0	0	√	√	√	0	x	0	RCA's		√		\$\$
	20. Investigate port improvements and implement as appropriate	√	√	0	√	0	√	0	0	x	0	Port companies	√			\$\$\$
Economic efficiency and effectiveness	21. Investigate airport improvements and implement as appropriate	√	√	0	√	0	0	0	0	x	0	Airport companies	√			\$
	22. Identify opportunities for logistics chain efficiencies, especially at Ports, airports and freight hubs	√	0	0	√	√	0	0	0	0	0	Operators	√			\$
	23. Increase the efficiency and safety of the freight vehicle fleet	0	0	0	0	√	0	0	√	√	√	Transport Agency with operators	√			\$
<b>Region specific actions</b>																
Canterbury	Implement a vehicle booking system at LPC	√√	0	0	√	√	0	0	0	0	0	LPC	√			\$
	Brougham Street optimisation	√	0	0	√√	√√	√√	√	√	0	0	CTOC, NZTA	√			\$\$
	Brougham Street corridor improvements	0	0	√	√	0	√√	√	√	√	√	NZTA			√	\$\$\$
	Rail improvements along the rail corridor through greater Christchurch and at LPC	√	0	x	√	√	√√	√	0	x	0	KiwiRail		√		\$\$\$
	Increase backloading at LPC	√√	0	0	√	√	0	0	0	0	0	LPC	√			\$
	Empty container storage arrangements	√√	0	0	√	√	0	0	0	0	0	LPC	√			\$

	<b>Actions:</b> <b>Contribution to achieving outcomes</b> √√= strongly positive √ = positive 0 = neutral contribution x = negative xx = strongly negative	Outcomes										<b>Lead agency</b> TLAs = Territorial Local Authorities RCAs = Road Controlling Authorities LPC = Lyttelton Port Company CTCOC = Christchurch Transport Operations Centre SDC = Selwyn District Council CCC = Christchurch City Council CIAL = Christchurch International Airport Ltd DCC = Dunedin City Council QLDC = Queenstown Lakes District Council ORC = Otago Regional Council ES = Environment Southland	Commencement timeframes			<b>Indicative cost</b> \$0-5m = \$ \$5-\$50m = \$\$ \$50-\$100m = \$\$\$ \$100m+ = \$\$\$\$
		Journey							Safety	Environment			Short (0 - 5 yrs)	Med (5 - 15 yrs)	Long (15+ yr s)	
		Travel choice	Connectedness			Reliability	Efficiency	Resilience		Liveable communities	Low environmental impacts					
		Optimising across freight modes (e.g. road, rail, sea & air)	Land use integration	Connecting communities	Access to key freight hubs	Optimising existing infrastructure	Targeted investment in future capacity	Key route protection	Safer journeys							
Canterbury	Increase capacity of LPC, particularly to cope with projected container growth	√	√	0	√	0	√	0	0	X	0	LPC	√		\$\$\$	
	Protection of freight corridors and land areas adjacent to freight activities	√	0	0	0	√√	0	√	√	0	0	ALL	√		\$-\$\$\$	
	Development of inland ports and associated freight precinct at Rolleston	√√	√√	0	√√	√√	√	0	√	X	√	LPC, Kotahi, SDC, KiwiRail, NZTA	√		\$\$\$	
	Increase Middleton Yard rail capacity	√	0	X	√	√	√√	√	0	X	0	KiwiRail	√		\$\$-\$\$\$	
	Grade separations of rail and road at key locations	0	0	√	√	0	√√	√	√	√	√	CCC, KiwiRail		√	\$\$\$	
	Re-opening of Sumner Road to freight traffic	0	0	√	√	0	√√	√√	√	√	0	CCC	√		\$\$\$	
	Lyttelton long term access investigations	0	0	√	√	0	√√	√	√	√	0	NZTA	√		\$	
	Common user unpack and pack facilities adjacent to the Port or inland port	√√	0	0	√	√	0	0	0	0	0	LPC	√		\$	
	Encourage off-peak freight movements	√√	0	0	√	√	0	0	0	0	0	ALL	√		\$	
	Increasing air freight capacity	√	√	0	√	0	√	0	0	0	0	CIAL	√		\$	
	HPMV improvements to the network	0	0	√	√	0	√√	√	√	√	√	NZTA	√		\$\$\$\$	
	Improvements of north and west corridors	0	√	√	√	√	0	√	√	√	√	RCAs	√		\$\$	
	One Network Road Classification implementation	0	0	√	√√	0	√√	√	√	√	√	NZTA	√		\$	
	Christchurch Motorways Roads of National Significance Project	0	0	0	√	0	√	√	√√	0	0	NZTA	√		\$\$\$\$	
	Lyttelton Tunnel Safety Retrofit	√	√	√	√	√	√	√	√	√√	√	NZTA	√		\$	
	SH1 – Rolleston Intersection Improvements#	√	0	0	√	√	0	√	√	0	0	NZTA	√		\$	
	HPMV T2 Darfield to Lyttelton	0	0	√	√	0	√√	√	√	√	√	NZTA	√		\$\$\$\$	
	Implement four-laning of SH1 through Timaru to the Port as outlined in the NZTA/TDC Timaru Transportation Strategy	0	0	0	√	0	√√	√	√	0	0	NZTA	√		\$\$\$	
Support the construction of a second Ashburton River Bridge to relieve peak traffic congestion	0	0	√	√	√	√√	√	√	0	0	NZTA	√		\$\$		
Mingha Bluff	0	0	0	√	0	√	√	√√	0	0	NZTA	√		\$\$		
Otago	Kawarau Falls Bridge replacement	√	0	√	√	√	√√	√	0	0	0	NZTA	√		\$\$	
	Caversham Highway Improvements – Stage 2	0	0	0	√	0	√	√	√	0	0	NZTA	√		\$\$	
	SH 6 - Glenda Drive	0	√	√	√	√	√	0	√	0	0	NZTA	√		\$	
	SH 1 - Flood Mitigation Projects	0	0	√	√	√√	√	√√	√	√	0	NZTA	√	√	\$\$	

<b>Actions:</b> <b>Contribution to achieving outcomes</b> √ = strongly positive ✓ = positive 0 = neutral contribution x = negative xx = strongly negative		Outcomes										<b>Lead agency</b> TLAs = Territorial Local Authorities RCAs = Road Controlling Authorities LPC = Lyttelton Port Company CTCOC = Christchurch Transport Operations Centre SDC = Selwyn District Council CCC = Christchurch City Council CIAL = Christchurch International Airport Ltd DCC = Dunedin City Council QLDC = Queenstown Lakes District Council ORC = Otago Regional Council ES = Environment Southland	Commencement timeframes			<b>Indicative cost</b> \$0-5m = \$ \$5-\$50m = \$\$ \$50-\$100m = \$\$\$ \$100m+ = \$\$\$\$
		Journey											Short (0 - 5 yrs) Med (5 - 15 yrs) Long (15+ yrs)			
		Travel choice	Connectedness			Reliability	Efficiency	Resilience	Safety	Environment						
		Optimising across freight modes (e.g. road, rail, sea & air)	Land use integration	Connecting communities	Access to key freight hubs	Optimising existing infrastructure	Targeted investment in future capacity	Key route protection	Safer journeys	Liveable communities	Low environmental impacts					
Otago	SH 1 - Andersons Bay Rd/ Caversham Motorway	✓	0	0	√√	√√	√√	✓	✓	0	0	NZTA	✓	✓		\$
	Eastern Freight Bypass Upgrade	✓	0	0	√√	✓	√√	✓	✓	✓	0	DCC	✓			\$
	Intersection of St Andrews Street and Anzac Avenue	✓	0	0	√√	√√	√√	✓	✓	0	0	NZTA	✓	✓		\$
	SH 1 – Deborah Realignment	0	0	0	✓	✓	✓	✓	√√	0	0	NZTA	✓			\$\$
	SH 1 – Katiki Erosion Protection	0	0	✓	0	✓	0	√√	✓	0	0	NZTA		✓		\$
	SH 1 Waitati Curve Realignment	0	0	0	✓	✓	0	✓	✓	0	0	NZTA		✓		\$
	SH 6 – Cromwell Intersection Improvements	0	0	✓	✓	✓	✓	✓	√√	0	0	NZTA		✓		\$
	SH6A Corridor Improvements	0	0	√√	✓	✓	✓	✓	✓	✓	0	NZTA		✓		\$\$
	Strategic Corridors: Warehouse Precinct Accessibility (SH1)	✓	0	0	√√	√√	√√	✓	✓	0	0	DCC		✓		\$\$
	Eastern Access Road#	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	QLDC	✓			\$\$
	SH88 walkway/cycleway, Dunedin to Port Chalmers	0	0	✓	0	√√	0	✓	√√	√√	✓	NZTA	✓			\$\$
	SH1 cycle way, Oamaru to Pukeuri	0	0	✓	0	0	0	0	√√	√√	✓	NZTA		✓		\$
	SH1 Cycleway in Dunedin	0	0	✓	0	√√	0	0	√√	√√	✓	NZTA	✓			
Stock truck effluent disposal facilities	0	✓	0	0	✓	✓	0	0	✓	√√	ORC	✓			\$	
Dredging the channel, Otago Harbour	√√	0	0	√√	√√	√√	0	0	0	0	Port Otago	✓			\$\$	
Southland	SH 1 - Edendale Realignment	✓	0	✓	✓	✓	√√	✓	✓	√√	✓	NZTA	✓			\$\$
	SH 1 –Elles Road Roundabout	0	✓	0	√√	0	✓	0	√√	0	0	NZTA	✓			\$
	SH 1- Safety Improvements	✓	0	✓	0	√√	✓	√√	√√	✓	✓	NZTA	✓			\$
	Stock Truck Effluent Disposal sites	0	✓	0	0	✓	✓	0	0	✓	√√	ES	✓			\$
West Coast	SH6 Resilience Project	0	0	0	0	0	✓	✓	✓	0	0	NZTA	✓			\$
	Taramakau Bridge replacement	0	0	✓	0	0	✓	✓	√√	0	✓	NZTA	✓			\$\$
	Stoney Creek Bridge replacement	0	0	✓	0	0	✓	✓	✓	0	✓	NZTA		✓		\$
	Passing Opportunity improvements	0	0	0	0	0	✓	✓	√√	0	0	NZTA	✓			\$
	Enhanced Network Resilience SH6, SH7, SH73	0	0	0	0	0	✓	✓	✓	0	0	NZTA	✓			\$
Ahaura Bridge replacement	0	0	✓	0	0	✓	✓	√√	0	✓	NZTA	✓			\$	
Nelson / Marlborough/Tasman	HPMV – Nelson to Blenheim via SH63	✓	✓	0	√√	✓	✓	0	0	0	0	NZTA	✓			\$
	HPMV – Port Marlborough to SH1	√√	✓	0	√√	✓	✓	0	0	0	0	NZTA	✓			\$
	HPMV – Riverslands to Port Nelson	√√	✓	0	√√	✓	✓	0	0	0	0	NZTA	✓			\$
	HPMV – Kaituna Sawmill to Port Nelson	√√	✓	0	√√	✓	✓	0	0	0	0	NZTA	✓			\$
	HPMV – Spring Creek Rail Head to Port Nelson	√√	✓	0	√√	✓	✓	0	0	0	0	NZTA	✓			\$
Wairau Bridge replacement	0	0	0	√√	✓	√√	✓	✓	✓	0	NZTA	✓			\$\$	





## 6. Next steps

As noted in the Introduction, this draft plan is intended as a starting point for conversations by those with an interest in the freight network in the South Island. The governance group is undertaking another series of regional workshops around the South Island and inviting local government, ports and operators to attend and discuss this draft plan.

If you cannot make it to a regional workshop please direct your comments on this draft plan by Friday 28 August to:

**Email:** [southislandfreightplan@nzta.govt.nz](mailto:southislandfreightplan@nzta.govt.nz)

or

**Postal Address:** New Zealand Transport Agency  
Attn: South Island Freight Plan  
PO Box 1479  
Russley  
Christchurch 8140

After the regional workshops comments and feedback received will be collated, summarised and analysed. This will be used to develop the final South Island Freight Plan that will be endorsed by the governance group and made publically available.



## Appendix one – reference documents





Canterbury Regional Freight Impact Study, Timaru District Council & Environment Canterbury, 2012

Central Otago District Council's Economic and Business Development Strategy 2013 -2016

Dunedin's Economic Development Strategy 2013 - 2023

Economic Development Strategy for the Nelson/Tasman Region

Greater Christchurch Freight study, 2014 & 2015, comprising:

- Greater Christchurch Freight Demand Statement
- Greater Christchurch Freight Infrastructure Statement
- Greater Christchurch Freight Management Directions Statement

Greater Christchurch Transport Statement, December 2012

Lyttelton Access Project, June 2014

Lyttelton Port Recovery Plan, November 2014

National Freight Demand Study, February 2014

Queenstown Lakes District Council's Draft Economic Development Strategy

Regional Freight Stories, 2013, Transport Agency

- Tasman/Nelson/Marlborough
- West Coast
- Canterbury
- Otago
- Southland

Regional Prosperity – An Economic Development Strategy for the Nelson Tasman Region 2014 – 2020

The KiwiRail Turnaround Plan

The South Island Freight Story – Research Report, August 2014

Upper North Island Freight Story, 2013, Transport Agency

Upper North Island Freight Accord, 2015, Transport Agency

West Coast Regional Economic Development Plan 2014 – 2030

Future Freight Scenarios Study, Ministry of Transport, 2014

## Appendix two – group memberships

### South Island Strategic Alliance (SISA)

Central Otago District Council	Grey District Council
Clutha District Council	Hurunui District Council
Dunedin District Council	Kaikoura District Council
Environment Southland	MacKenzie District Council
Gore District Council	Marborough District Council
Invercargill City Council	Nelson District Council
Otago Regional Council	Selwyn District Council
Queenstown-Lakes District Council	Tasman District Council
Southland District Council	Timaru District Council
Waitaki District Council	Waimakiriri District Council
Ashburton District Council	Waimate District Council
Buller District Council	West Coast Regional Council
Chatham Islands Council	Westland District Council
Environment Canterbury	

### Governance Group

Jim Harland (Chair)	Regional Director New Zealand Transport Agency
Richard Kempthorne	Chair SISA and Mayor Tasman District Council
Andrew Rob	Chair Westland Regional Council
Stephen Woodhead	Chair Otago Regional Council
Bill Bayfield	CEO, Environment Canterbury
Rob Phillips	CEO, Environment Southland
Sue Bidrose	CEO, Dunedin City Council
Iain Hill	General Manager, KiwiRail
Dave Boyce	CEO, NZ Trucking
Geoff Plunkett	CEO, Port Otago
Peter Davie	CEO, Lyttelton Port
Dennis Robertson	General Manager, Road Transport Association NZ
Malcolm Johns	CEO, Christchurch International Airport Ltd

### Working Group

Jenny Dickinson (Chair)	NZ Transport Agency
Steve Higgs	NZ Transport Agency
Kirsten Tebbutt	NZ Transport Agency
Mike Blyleven	NZ Transport Agency
Peter McAuley	Hilton Haulage
Peter Dynes	Dynes Transport
Vincent Pooch	Consultant
Jane Turnbull	Otago Regional Council
Steve Gibling	Environment Canterbury
Todd Moyle	KiwiRail
Andrew Dixon	Timaru District Council
Richard Holland	Christchurch City Council
Scott O'Donnell	Richardson Group
Phil Melhopt	Prime Part Timaru





## Appendix three – the regional freight context

### Regional workshops

Between October 2012 and March 2013 the Transport Agency hosted regional workshops around the South Island attended by stakeholders from the freight sector, including local government, ports and transport operators. These workshops were an opportunity for attendees to discuss the challenges and opportunities they see within the freight industry now and into the future. The discussions at each regional workshop were summarised into *Regional Freight Stories reports*:

- Tasman/Nelson/Marlborough
- West Coast
- Canterbury
- Otago
- Southland

In some cases decisions have already been made on some of the topics raised at these workshops, for example Clifford Bay which was raised in many of the workshops. The map on the following pages presents the issues raised at the regional workshops.

In conducting the regional workshops we identified and collated a range of issues that different participants felt were impacting the freight task. Initially the issues that were raised during the workshops were categorised under four broad priority areas:

- Leadership and partnerships,
- The South Island network,
- Infrastructure investment and
- Industry profitability

Subsequently we have overlaid the demand picture and used analysis from a range of reports to test these issues and create a sense of priority. The key criteria in assessing the issues were:

- The scale of impact it has on the total freight task volume – regional wide verses local issue
- How soon the impact of this issue will be felt – now verses sometime in the future
- The complexity involved in addressing the issue – time and cost to solve





## Canterbury

### Canterbury Regional Freight Impact Study

In January 2012 Timaru District Council and Environment Canterbury undertook the Canterbury Regional Freight Study. The key points arising from this study were:

- Freight movements in the Canterbury region are likely to grow strongly in the future
- Much of the growth is focussed on SH1 and the network of collector and arterial roads
- There is a need to support the expansion of warehousing and distributions centres at locations well connected to the strategic freight network.
- Substantial increases in rail freight traffic are forecast
- Traffic flows through urban areas to the ports at Lyttelton and Timaru are likely to increase

### The greater Christchurch Transport Statement

The Greater Christchurch Transport Statement (GCTS) partnership formed in 2012 and comprises – Environment Canterbury, Christchurch City Council, Selwyn District Council, Waimakariri District Council, NZ Transport Agency, Christchurch International Airport Ltd, KiwiRail, Lyttelton Port of Christchurch, Canterbury Earthquake Recovery Authority and the Ministry of Transport. Many of these organisations have also been involved in the development of this Draft South Island Freight Plan.

Together the partners developed the GCTS which provides an overarching framework to enable a consistent, integrated approach to planning, prioritising, implementing and managing the transport network and services in the Greater Christchurch area. The GCTS is designed to help guide the development and management of greater Christchurch transport programmes and partners’ investment strategies towards a strong and resilient future. As part of the development of the GCTS the partners agreed a set of transport outcomes and objectives set out below to measure actions against.

Transport outcomes		Objectives
<b>Journey</b> Links between people and places	Connectedness	Integrate land-use activities with transport solutions, enabling ease of movement between places.
	Resilience, reliability and efficiency	Optimise the use of existing transport assets through managing travel demands and networks.
		Provide safe, efficient and resilient links to connect people and places.
		Ensure efficient and predictable travel time between key places.
Travel choice	Provide more options for people to walk, cycle and use public transport.	
<b>Safety</b>	Safe journeys	Minimise the severity and social cost of crashes.
		Improve personal security.
<b>Environment</b>	Liveable communities	Support place-making, and active travel and public transport, reducing emissions and improving public and environmental health.
	Low environmental impacts	

The GCTS partners have committed to use their ‘best endeavours’ to give effect to the intended direction of the transport statement and will undertake annual reviews of the priorities.



## Greater Christchurch Freight Study

As part of the development of the GCTS the partners estimated freight growth forecasts for the Greater Christchurch region. The partners then commissioned Aurecon to undertake the Greater Christchurch Freight Study to validate these freight forecasts and explore options to improve and increase the resilience of freight logistics across greater Christchurch to respond to this growth. The Greater Christchurch Freight Study includes three reports.

The *Greater Christchurch Freight Demand Statement* outlines the current and future freight demand in Greater Christchurch. It is a desktop review of information, data and forecasts from a variety of sources. It also includes descriptions of commodities imported, exported or moving through Greater Christchurch and existing freight infrastructure, including freight hubs and key points of freight consolidation.

The *Greater Christchurch Freight Infrastructure Statement* provides a view on the capacity of the freight movement infrastructure in greater Christchurch and its interaction with current and future supply chains. In looking at current infrastructure and mode share it identified that Christchurch is well placed to move larger commodities and still has capacity in its networks to move more but that there are a number of constraints in the network.

The *Greater Christchurch Freight Management Directions Statement* builds on the Demand and Infrastructure Statements and considers how to address growth in freight demand and its impact on the overall system of freight movement in Greater Christchurch. Using the GCTS strategic framework of transport outcomes Aurecon made a number of recommendations to the partners to improve the capacity and efficiency of the freight network in greater Christchurch. These recommendations focus firstly on managing demand and ensuring we use all available capacity within the existing transport network. When all options to improve capacity and efficiency have been exhausted then the partners will look to improve the network by capital investment that provides efficiency gains, minimises the impact on the environment, increases the use of rail and coastal shipping while at the same time ensuring Greater Christchurch remains competitive nationally and internationally.

## Lyttelton Port Recovery Plan

The earthquakes of 2010 and 2011 caused extensive damage to Christchurch and Lyttelton Port. In response to the construction and operational challenges of rebuilding the Port and the risks posed by the regulatory processes, the Minister of Earthquake Recovery has directed Environment Canterbury and Lyttelton Port Company to prepare a Lyttelton Port Recovery Plan. The aim of the Recovery Plan is to provide a regulatory environment which is more appropriate for the post-earthquake recovery needs of rebuilding, repairing and enhancing a port whilst also providing for the social, economic and environmental well-being of the community. Lyttelton Port Company, Environmental Canterbury and the Canterbury Earthquake Recovery Authority all have roles in the development of the Recovery Plan and consultation on it prior to it being submitted to the Minister of Earthquake Recovery for his consideration. It is anticipated that the Lyttelton Port Recovery Plan will be finalised by the end of 2015.

## Nelson/Tasman

### Economic Development Strategy for the Nelson/Tasman region

The Nelson Regional Economic Development Agency (EDA) in consultation with a wide range of organisations, central and local government bodies and industry stakeholders has prepared an *economic development strategy for the Nelson Tasman Region 2014 – 2020*. This strategy sets out the following vision for the Nelson Tasman Region to 2020, which is underpinned by a mission statement and a series of targets and strategic initiatives:

*The Nelson Tasman region is a diverse region encompassing the vibrant Nelson city and the thriving communities of the Tasman District. The region has sound governance and an integrated approach to economic development, which balances a growing economy with the region's natural resources and the culture and lifestyle of its people.*

One of the aims of the strategy is to foster regional economic drivers because the development and expansion of the region's key export sectors will continue to drive the economy.

## West Coast

### West Coast Regional Economic Development Plan

The four West Coast councils and Development West Coast have developed a *West Coast Regional Economic Development Plan 2014 – 2030*. This plan sets out the following collaborative vision for the West Coast which is linked to four aspirational targets:

*In 2030 the West Coast is a busy, vibrant community, with a diverse economy underpinned by the three cornerstone sectors of Dairy, Mining and Tourism – all of which have strengthened and expanded over the 15 year period.*

Within the Economic Development Plan is a three year action plan that sets out specific actions the West Coast councils and Development West Coast will collectively seek to achieve by July 2017. This action plan concentrates on a small handful of key items that can be achieved quickly, with clarity of purpose.

## Southland

### Southland Integrated Transport Study

In 2011 Environment Southland commissioned the Southland Integrated Transport Study, a four part study that documented the transport demand in the Southland region, identified transport issues in the region and developed and recommended a list of possible strategic initiatives.

Stage one of the study found that population, employment, land use, industry trends, commodity flows and travel trends were determining the transport needs of the region. Stage two identified a range of issues that arose from this transport demand. Themes across issues emerged related to efficiency, integration, safety, infrastructure, tourism, economy and the environment. Stage three of the study developed a range of strategic initiatives that were work shopped and tested. This led to the recommendation of the following priority initiatives:

Strategic network (efficient movement of people and freight; guides and influences land use planning; essential infrastructure for economic growth and development)

- Coordinated location of development
- Primary network improvements
- Connections to cycle trails
- Rail freight mode share
- Connections to freight hubs

## Otago

### Dunedin's Economic Development Strategy 2013-2023

This strategy has been developed in partnership with a number of the Dunedin City Council's key economic partners. There are two specific economic goals, around additional jobs within the City, and increasing household income. The strategy is built around five themes; those relevant to freight are *Business vitality*, *Alliances for innovation and Linkages beyond our borders*. Each theme includes specific actions some of which are relevant to freight.

### Central Otago District Council's Economic and Business Development Strategy 2013-16

This strategy seeks to help the Central Otago community focus on issues that impact on the District's economic and social well-being, and suggests actions that can be taken over the next few years to address these impacts. It proposes to *take forward the priorities that have been identified by the Central Otago community against the background of a well performing but nevertheless cyclical Central Otago economy vulnerable to primary product commodity cycles, international monetary and trading conditions and imported energy prices*.

The key themes for freight in the Strategy include growing the Central Otago population, and promoting Central Otago as a place to do business and live. The Strategy also recognises the strengths that a collaborative approach offers, and suggests working alongside central government agencies as a means to achieve this.

### Queenstown Lakes District Council's Draft Economic Development Strategy

This draft strategy was published in August 2014. It follows the work completed by the *Shaping Our Future forum*, and will be developed in consultation with stakeholders. The intention was to identify possible ways to help grow, strengthen and diversify the local economy, providing benefits for the small communities in the District as well as the District as a whole.

The guiding aspiration in the strategy is a *higher value economy – higher value jobs and industries; higher quality urban and natural environments*. Relevant outcomes include *our infrastructure meets current and future needs; is fit for purpose; is cost effectively and efficiently managed; and is affordable for our residents*. Finally, a supporting priority is identified as follows:

#### Future proof infrastructure

Expanding funding options for investing in infrastructure; ensuring that adequate investment is made to maintain high quality infrastructure; and ensuring that funding sources and investment reflect the incidence of costs and benefits

Aside from this infrastructure-related action, the Strategy also sets out a number of economic development arrangements and support. By and large, these arrangements relate to the establishment of various groups and management structures to support the Strategy. The Strategy places significant emphasis on tourism activities and the development of the Convention Centre.

## Relevant district plan and policy reviews

There are a number of plans promulgated under the Resource Management Act 1991 that will have relevance to the strategic freight network. These plans set a land use framework for the region and district. Land use patterns have the effect of defining route choice and reliability, and determining where freight generating and freight related activities locate. Other, non-freight related, land use activities can also impact on the efficiency of the freight supply chain, and these plans also govern where those activities may occur.

Regional Policy Statements must be prepared for each region. They enable regional councils to provide broad direction and a framework for resource management within their regions. Regional policy statements must give effect to national policy statements.

A regional council may prepare one or more regional plans for its region. The purpose of these plans is to assist the regional council in carrying out its functions under the RMA. A regional council must prepare a regional coastal plan (applying below mean high water springs) but other regional plans are optional. Regional plans must give effect to national policy statements and regional policy statements. Regional Plans are not likely to be applicable to the freight task.

City or district councils must prepare a district plan for its district. The purpose of these plans is to assist territorial authorities in carrying out their functions under the RMA. District plans must give effect to national policy statements and regional policy statements. District plans must not be inconsistent with regional plans in regard to matters of regional significance and matters for which the regional council has primary responsibility.

These planning instruments are required to be reviewed every 10 years. The table below shows that a number of South Island policy statements and plans are currently under review, or will be reviewed in the foreseeable future. It's also noteworthy that the Resource Management Act provides the opportunity for requests for private plan changes to operative District Plans.

### District plan and policy reviews

Initiative	Completion	Lead
Tasman District Council Regional Policy Statement	Operative	Tasman DC
Tasman District Council Resource Management Plan Review	Operative and subject to periodic plan changes	Tasman DC
Nelson City Council Regional Policy Statement	Operative – review due	NCC
Nelson City Council Nelson Resource Management Plan	In progress – pre-consultation	NCC
Marlborough District Council Regional Policy Statement Review	In progress – pre-notification	Marlborough DC
Marlborough District Council Resource Management Plan Review	In progress – pre-notification	Marlborough DC
West Coast Regional Council Regional Policy Statement Review	In progress – pre-consultation	WCRC
Buller District Council District Plan Review	Operative – review due	BDC
Grey District Council District Plan Review	Operative – review due	Grey DC
Westland District Council District Plan Review	Operative – review due	Westland DC
Environment Canterbury Regional Policy Statement	Complete – operative 2013	ECan
Kaikoura District Council District Plan	Complete – part operative 2008	KDC
Hurunui District Council District Plan Review	In progress - to be notified 2015	HDC
Waimakariri District Council District Plan Review	In progress – pre-consultation, rolling review	Waimakariri DC

Initiative	Completion	Lead
Christchurch City Council District Plan Review	In progress - hearings	CCC
Selwyn District Council District Plan	Complete – part operative 2008	SDC
Ashburton District Council District Plan	Complete – operative 2014	ADC
Mackenzie District Council District Plan Review	In progress – rolling review	Mackenzie DC
Timaru District Council District Plan Review	In progress – pre-consultation	Timaru DC
Waimate District Council District Plan	Complete – operative 2014	Waimate DC
Otago Regional Council Regional Policy Statement Review	In progress – consultation	ORC
Waitaki District Council District Plan Review	In progress – pre-consultation	Waitaki DC
Dunedin City Council District Plan Review	In progress – consultation	DCC
Central Otago District Council District Plan Review	In progress – consultation	CODC
Clutha District Council District Plan Review	In progress – rolling review	CDC
Queenstown Lakes District Council District Plan Review	In progress – consultation	QLDC
Environment Southland Regional Policy Statement Review	In progress – hearings	ES
Southland District Council District Plan Review	In progress awaiting decisions	SDC
Gore District Council District Plan Review	In progress – rolling review	Gore DC
Invercargill City Council District Plan Review	In progress – hearings	ICC
Chatham Islands Council Resource Management Document	In progress - submissions	CIC

## KiwiRail turnaround plan

Investment in KiwiRail announced by the Government in 2014 marks the beginning of a long term plan to create a business capable of standing on its own feet financially. This investment is set out in The *KiwiRail Turnaround Plan*. This plan reflects the need to create a viable and efficient rail industry. The plan aims to increase rail traffic volumes and revenue, increase productivity, modernise assets and separate out the commercial elements of the business.

# Draft South Island Freight Plan

JULY 2015