

Before the Greater Christchurch Partnership Hearings Panel
at Christchurch

under: the Resource Management Act 1991, Local Government
Act 2002 and Land Transport Management Act 2003

in the matter of: Submissions in relation to the draft Our Space 2018-
2048: Greater Christchurch Settlement Pattern Update

in the matter of: **Lyttelton Port Company Limited**
Submitter 067

Statement of evidence of Mike Copeland (Economics)

Dated: 15 February 2019

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EVIDENCE OF MICHAEL CAMPBELL COPELAND

INTRODUCTION

- 1 My name is Michael Campbell Copeland.
- 2 I hold a Bachelor of Science degree in mathematics and a Master of Commerce degree in economics. I have over 35 years' experience in the application of economics to various areas of business, infrastructure and resource management matters. A summary of my curriculum vitae is attached as **Annexure A**.
- 3 I am a consulting economist and managing director of Brown, Copeland and Company Limited, a firm of consulting economists which has undertaken a wide range of studies for public and private sector clients in New Zealand and overseas. During the period 1990 to 1994, I was also a member of the Commerce Commission and during the period 2002 to 2008 I was a lay member of the High Court under the Commerce Act. Prior to establishing Brown, Copeland and Company Limited in 1982, I spent six years at the New Zealand Institute of Economic Research and three years at the Confederation of British Industry.
- 4 With respect to the Resource Management Act 1991 (*RMA*), I have prepared evidence for clients covering a number of projects and policies. A selection of these is listed at the end of my curriculum vitae in **Annexure A**.

SCOPE OF EVIDENCE

- 5 As part of the Lyttelton Port Company's (*LPC's*) response to the document: "Our Space 2018-2048 Greater Christchurch Settlement Pattern Update", I have been requested by LPC to prepare this evidence highlighting the economic importance for the Greater Christchurch sub-region of facilitating the unimpeded development and operation of LPC's Lyttelton Port, Midland Inland Port at Rolleston and City Depot in Woolston.
- 6 Following a summary of my evidence, I cover:
 - 6.1 Economic wellbeing and the efficient use and development of resources as relevant matters to consider under the RMA;
 - 6.2 The economic significance of merchandise trade to the New Zealand economy;
 - 6.3 The economic significance of Lyttelton Port, Midland Inland Port and the City Depot;
 - 6.4 The Canterbury regional economy;

- 6.5 The implications of the introduction of bigger container ships on New Zealand's trade routes;
- 6.6 LPC's port recovery plan; and
- 6.7 The conclusions of my evidence.

CODE OF CONDUCT

- 7 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the code of conduct for expert witnesses contained in part 7 of the Environment Court Practice Note 2014. I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SUMMARY OF MY EVIDENCE

- 8 Economic wellbeing and the efficient use and development of resources are relevant considerations under the RMA;
- 9 The New Zealand economy is highly dependent upon international shipping and sea ports;
- 10 Lyttelton Port is by far the most significant port in the South Island in terms of total tonnages of cargo and containers, the value of exports and the value of imports. Lyttelton Port has been growing in relative importance and is expected to continue to do so in the future as a result of:
 - 10.1 Growth in Canterbury and South Island exports and imports;
 - 10.2 Greater use of Lyttelton Port instead of other South Island ports as shipping companies have reduced services to some ports; and
 - 10.3 In the short to medium term, the Port handling increased quantities of building materials and machinery for the greater Christchurch rebuild.
- 11 LPC forecasts ongoing growth for its container terminal to reach well over one million twenty-foot equivalent units (*TEUs*) by 2041. Non-containerised volumes of export and import trades are expected to continue growing but not as fast as containerised cargo;
- 12 Midland Inland Port and the City Depot help facilitate the efficient development and operation of Lyttelton Port. The rail

interconnections between LPC's three facilities help divert freight transportation from Greater Christchurch's road network;

- 13 The agriculture, forestry and fishing industries and the manufacturing industry together generate an estimated 104,600 jobs or 35% percentage of the total employment in the Canterbury region and underpin much of the economic activity of Greater Christchurch and the wider Canterbury region. These two industry groups are highly dependent upon Lyttelton Port, Midland Port and the City Depot exporting their finished products and importing goods required as inputs to their production activities. LPC's facilities also continue to fulfil significant roles in the rebuild of Christchurch City after the earthquakes of 2010 and 2011;
- 14 International container trade shipping services are trending towards larger vessels and fewer port calls to reduce international shipping costs. Lyttelton Port has obtained consents for, and is in the process of implementing, its Capital Dredging Programme (*CDP*) that will enable it to become big ship capable;
- 15 The unimpeded development and operation of LPC's facilities will facilitate the implementation of the Lyttelton Port Recovery Plan (*LPRP*) and help restore their capabilities to meet the current and future requirements of the Greater Christchurch and the Canterbury regional economies.
- 16 With regards to the purpose and principles of the RMA, the unimpeded development and operation of LPC's Lyttelton Port, Midland Port at Rolleston and City Depot in Woolston:
 - 16.1 Enables the residents and businesses of Canterbury and other regions of the South Island *"to provide for their ... economic ... well being"*; and
 - 16.2 Is consistent with *"the efficient use and development of natural and physical resources"*.

RELEVANCE OF ECONOMIC CONCEPTS UNDER THE RMA

- 17 Part II section 5(2) of the RMA refers to enabling *"people and communities to provide for their social, economic and cultural well being"* as a part of the meaning of *"sustainable management"*, the promotion of which is the purpose of the RMA. The unimpeded development and operation of LPC's facilities will contribute to the social and economic wellbeing of the people and communities of Greater Christchurch, the Canterbury region and the wider South Island through generation of direct employment and facilitation of trade as well as the associated economic multiplier effects of these activities.

- 18 Part II section 7(b) of the RMA notes that in achieving the purpose of the Act, all persons "*shall have particular regard to ... the efficient use and development of natural and physical resources*". Facilitating the growth and unimpeded operation of LPC's facilities within Greater Christchurch will provide lower cost shipping services for Canterbury exporters and importers and is therefore consistent with the efficient use and development of resources.

THE IMPORTANCE OF MERCHANDISE TRADE TO NEW ZEALAND

- 19 Merchandise trade (also known as commodity trade)¹ is extremely important to the economic wellbeing of New Zealanders because the relatively small size of our population, labour force and economy limits the range of commodities that can be efficiently produced in New Zealand. In addition we are reliant on imports of commodities which can be produced more efficiently overseas. Lower cost imports help maintain the competitiveness of New Zealand producers as well as providing cost savings to consumers.
- 20 Merchandise trade enables New Zealand to specialise in the production of certain products in which New Zealand has a comparative advantage enabling production surplus to domestic consumption to be exported. These exports in turn provide the foreign exchange to enable New Zealand to finance the purchase of competitively priced imported goods and services.
- 21 The alternative model of "fortress New Zealand" would see higher priced goods and services, reduced choice in the range of goods and services available in New Zealand and a less efficient use of our physical and natural resources. This would result in lower incomes and a lower standard of living for New Zealanders.
- 22 New Zealand's reliance on overseas trade and sea transport is highlighted by the total volume of containers handled across all New Zealand ports representing almost 1% of annual global container throughput.² New Zealand's population of 4.9 million people is only 0.06% of the world's population.
- 23 Although the New Zealand economy has diversified with growth in non-agricultural industries, it remains heavily dependent upon the agricultural sector and the export of agricultural commodities. In the year ending 31 December 2017, dairy products, meat, fruit, wool

¹ A distinction is made between "commodity trade" (or "merchandise trade") and total trade. Commodity trade relates to the exporting and importing of goods only, whereas total trade includes the exporting and importing of both goods and services.

² Source: The Question of Bigger Ships. Securing New Zealand's International Supply Chain. New Zealand Shippers' Council; August 2010.

and raw hides, skins and leather made up 43% of the value of New Zealand's commodity export trade. Mineral fuels, vehicles, parts and accessories, plastics and electrical machinery and equipment are the most important import commodities making up 32% of the value of New Zealand's commodity import trade in the year ending 31 December 2017.

- 24 In 2012/13, 99.6% of New Zealand's exports and imports of goods by volume and 85.6% by value was transported by sea.³ This highlights the significant role played by New Zealand sea ports.

THE ECONOMIC SIGNIFICANCE OF LPC'S OPERATIONS

- 25 Lyttelton Port is recognised as a "lifeline utility"⁴ and "significant infrastructure" at the local and national level.⁵ It, together with LPC's City Depot in Woolston and Midland Port at Rolleston play a significant role in the current and future economic (and social) well-being of Greater Christchurch and the Canterbury region in that:

25.1 They are key contributors to the economic drivers of the Canterbury (and South Island) regional economy, which in turn underpins much of the economic activity within Greater Christchurch; and

25.2 They contribute to the Greater Christchurch rebuild process.

- 26 As at 30 June 2018, LPC had \$391.1 million dollars worth of property, plant and equipment.⁶ During the year ended 30 June 2018, the company collected \$122.2 million in revenue, provided over 550 jobs and paid \$56.7 million in salaries and wages.⁷ It spent \$28.1 million on goods and services, much of this going to local Greater Christchurch suppliers.⁸

- 27 In terms of total tonnage, Lyttelton Port is the largest port in the South Island and is third largest container port in New Zealand (behind Tauranga and Auckland). It is New Zealand's second largest export port (behind Tauranga). The port is by far the most significant port in the South Island in terms of total tonnages of

³ Source: Ministry of transport website:
www.transport.govt.nz/ourwork/tmif/freighttransportindustry/ft100

⁴ See Civil Defence Emergency Management Act 2002, s 60.

⁵ See New Zealand Government's 2011 National Infrastructure Plan, Christchurch City Council's Christchurch Transport Plan 2012-42, and the Civil Defence Emergency Management Act 2002, Schedule 1.

⁶ Source: Data Lyttelton Port Company 2018 Annual Report.

⁷ Source: Data from LPC and Lyttelton Port Company 2018 Annual Report.

⁸ Source: Data Lyttelton Port Company 2018 Annual Report.

cargo, number of containers handled, the value of exports and the value of imports. By volume, the Port accounts for 30.7% of South Island seaports' overseas exports and 45.1% of overseas imports. By value the Port handles 35.8% of the South Island's seaports' exports and 70.0% of the South Island's seaports' imports.⁹Due to the exclusion of coal export values, however, these percentages are understated.

- 28 The main export trades by value through Lyttelton Port in 2017 were¹⁰:
- 28.1 dairy products (\$1,956 million and 14.4% of the total dairy exports for New Zealand);
 - 28.2 meat (\$581 million and 6.6% of the total meat exports for New Zealand);
 - 28.3 wool (\$261 million and 47.3% of the total wool exports for New Zealand);
 - 28.4 wood and wood products (\$195 million and 4.6% of the total wood exports for New Zealand); and
 - 28.5 fish (\$187 million and 11.6% of the total fish exports for New Zealand).
- 29 The main import trades by value through Lyttelton Port in 2017 were¹¹:
- 29.1 fuels (\$863 million and 16.2% of the total fuel imports for New Zealand);
 - 29.2 vehicles (\$673 million and 7.5% of the total vehicle imports for New Zealand);
 - 29.3 plastics and plastic articles (\$260 million and 12.0% of the total plastic imports for New Zealand);
 - 29.4 iron and steel and iron and steel articles (\$197 million and 12.5% of the total iron and steel imports for New Zealand);
 - 29.5 fertilizers (\$112 million and 17.3% of the total fertilizer imports for New Zealand); and

⁹ For the year ending 30 June, 2018. Source: Statistics New Zealand Infoshare, Overseas Cargo Statistics (www.archive.stats.govt.nz/infoshare)

¹⁰ Source: Statistics New Zealand NZStat Imports and Exports Tables.

¹¹ Source: Statistics New Zealand NZStat Imports and Exports Tables.

- 29.6 electrical machinery (\$124 million and 2.6% of the total electrical machinery imports for New Zealand).
- 30 The Port has experienced a more than 10 fold increase in the number of containers handled in the past 30 years. Trade through Lyttelton Port has grown considerably across both containerised and general cargo. The volume of containerised and general cargo through the port has increased by 17.8% over the period 2010 to 2018.¹² In the year to 30 June 2015, the port handled 370,000 twenty-foot equivalent units (*TEUs*) and forecast the number of TEUs handled by the port's container terminal would grow to well over 1 million TEUs by 2041.¹³ In the year to June, 2018 the port handled 424,560 TEUs, up 5.7% from 401,711 TEUs in the year to 30 June, 2017.¹⁴ Non-containerised volumes of export and import trades are expected to continue growing but not as fast as containerised cargo.
- 31 The Port is a significant piece of infrastructure underpinning two of the three economic drivers of the Canterbury regional economy – agriculture and manufacturing (including agricultural product processing). The Port also plays a role, albeit less significant, in relation to the third economic driver, tourism. The economic (and social) well-being of Greater Christchurch is largely dependent on the economic activity generated by the wider Canterbury region, as set out below. Therefore Greater Christchurch's earthquake recovery and future economic prosperity is also significantly influenced by the current and future performance of Lyttelton Port and LPC's Midland Inland Port and the City Depot in Woolston.
- 32 The trend towards Lyttelton Port being used as a hub for all regions in the South Island is likely to intensify in the future making the Port an integral part of economic activity throughout the South Island.
- 33 LPC's Inland Midland Port at Rolleston and City Depot in Woolston have been developed to enable containerised cargo for export to be aggregated before transport by rail or road to Lyttelton Port. Also they are used for containerised imported freight to be disaggregated and redistributed at locations relatively close to, and within the main South Island domestic market of Christchurch.
- 34 They help to mitigate operational constraints at Lyttelton Port because of ship-side land limitations. These operational constraints will be exacerbated in future as a result of:

¹² For years ending 30 June. Source: Statistics New Zealand Infoshare, Overseas Cargo Statistics (www.archive.stats.govt.nz/infoshare)

¹³ Source: LPC Annual Review. 2015. (page 18).

¹⁴ Source: LPC Annual Review. 2018. (page 3).

- 34.1 Expected future growth in container volumes through the port; and
- 34.2 LPC embarking upon various construction projects as part of its Port Recovery Plan following the Christchurch earthquakes. This includes the new cruise ship terminal.
- 35 Because Lyttelton Port, the City Depot and the Midland Port are connected by rail, the Midland Port and City depot help to divert containerised import and export cargo from road to rail through Christchurch City and elsewhere throughout the South Island. This not only reduces transport costs but also reduces road transport externality costs such as vehicle emissions, road accidents and road congestion. The Greater Christchurch Freight Study¹⁵ points out that inefficiencies in the movement of freight particularly congestion issues relating to road, rail and port access, add to the costs for individual businesses and negatively impact on overall productivity for the Canterbury region's economy.
- 36 One of the Greater Christchurch Freight Study's recommended actions was the development of an inland port and associated freight precinct at Rolleston to improve Lyttelton Port's overall capacity.¹⁶ The benefits the study identified from such an inland port located at Rolleston included freed up capacity in and around Lyttelton Port, shorter road trips leading to better fleet utilisation, greater off-peak movement of freight and co-location of complementary businesses. By significantly reducing the freight related traffic entering Christchurch (especially traffic between Lyttelton Port and other parts of the South Island), an inland port at Rolleston was expected to free up existing road capacity and improve the amenity of Christchurch itself.
- 37 LPC's Midland Port development is fulfilling the inland port role envisaged by the Greater Christchurch Freight Study. So far only part of the site's 27 hectares has been developed with future development planned to meet expected future growth in demand. At full development LPC expect up to 80 persons will be employed in shifts on the site covering its 24 hour per day operation.

THE CANTERBURY REGIONAL ECONOMY

- 38 The agriculture, forestry and fishing industries and the manufacturing industry together generate an estimated 52,300

¹⁵ Greater Christchurch Freight Study Freight Management Directions Statement; Aurecon; 22 December, 2014.

¹⁶ Greater Christchurch Freight Study Freight Management Directions Statement; Aurecon; 22 December, 2014. page 20.

jobs¹⁷ or 17% of total employment in the Canterbury region and underpin much of the economic activity of Greater Christchurch and the wider Canterbury region. These two industry groups are highly dependent upon Lyttelton Port, Midland Port and the City Depot for exporting their finished products and importing goods required as inputs to their production activities.

- 39 There are important linkages between the performance of the Canterbury regional economy (which is heavily dependent upon agriculture and agricultural product processing) and the Greater Christchurch economy. Apart from construction activities associated with the Christchurch rebuild, and tourism which accounts for some but not all¹⁸ of the jobs created in the retail trade and accommodation and food services sectors, the key economic drivers for Greater Christchurch are manufacturing and services provided to the agriculture and agricultural product processing activity within the wider Canterbury region.
- 40 Employment in other sectors is to a large extent driven by the demand for goods and services by these industries and their employees with the so called "multiplier" effects creating additional jobs for the region's economy.
- 41 Multipliers for a region such as Canterbury are typically in excess of 2.0¹⁹ – in other words for each job created in an industry such as tourism, agriculture or manufacturing there is at least one additional job created in other industries providing goods and services required by that industry or the personal requirements of that industry's employees and dependants.
- 42 Conservatively assuming a Canterbury regional multiplier of only 2.0, the agriculture, forestry and fishing and manufacturing industry groups alone generate 104,600 jobs or 35% of the total employment in the Canterbury region. These two industry groups are highly dependent upon LPC's facilities for exporting their finished products and importing goods required as inputs to their production activities.

¹⁷ Source: Statistics New Zealand NZ Stat. Business demography tables.

¹⁸ Employment in tourism is difficult to identify from official statistics since the relevant sectors such as retail trade and accommodation and food services for which data is collected meet the needs of domestic and international visitors, business travellers and local residents and businesses. However, tourism is an important economic driver for the Canterbury regional economy as it is for the national economy.

¹⁹ See for example, Appendix 8 of evidence in chief of Geoffrey Vernon Butcher for Christchurch City Council and Canterbury Regional Council in relation to the former Proposed Change 1 to the Canterbury Regional Policy Statement.

- 43 To a lesser extent tourism, the third key driver of the Canterbury regional economy is also dependent for some inputs upon the Lyttelton Port, Midland Port and the City Depot.
- 44 Future employment growth and associated economic well being for the Canterbury region is also likely to be largely associated with the three key economic drivers of agriculture, manufacturing and tourism, although disruptions due to the 2010 and particularly 2011 earthquakes have impeded tourism activity within Greater Christchurch.

THE IMPLICATIONS OF BIGGER SHIPS ON NEW ZEALAND'S TRADE ROUTES

- 45 At present the average sized container ship calling at New Zealand ports has a capacity of approximately 2,700 TEUs. The largest sized ship calling at New Zealand ports regularly has a capacity of approximately 4,100 TEUs. It is expected in future more ships with capacities in the range of 4,000 to 7,000 TEUs will be used on New Zealand trade routes as even larger vessels are used on the more significant international trade routes.
- 46 The Ministry of Transport commissioned a report by Deloitte entitled Future Freight Scenarios Study.²⁰ The study examined the impacts that larger ships would have on the New Zealand freight system across a range of scenarios assuming different ports and different numbers of ports in each of the North and South Islands became big ship capable.²¹ It concluded that combining together the benefits from cheaper international freight costs (assuming these are passed on to New Zealand shippers of cargo) with the additional costs associated with hubbing – i.e. the additional land transport and coastal shipping costs and capital costs for port, rail and road infrastructure improvements – the net effects overall would be substantially negative. The study concludes:

"The economic cost benefit analysis indicates that the projected BCR for all scenarios is less than 1 and eight of the scenarios have a projected BCR less than zero. This means that the increase in broader economic costs associated with port hubbing, as well as operating costs and capital investments, outweigh the economic benefits (incremental to the Status Quo – Scenario 1) under the port hubbing."

²⁰ November, 2014.

²¹ Of the 10 scenarios considered in the study (including the status quo), 6 included Lyttelton Port being a big ship capable hub.

- 47 However, in interpreting the results of the Future Freight Scenarios Study it is important to appreciate that:
- 47.1 New Zealand will not get a choice as to whether larger ships will be used on New Zealand's overseas trade routes – i.e. in the future the status quo is not an option. It is necessary therefore to seek the cheapest option for New Zealand shippers of overseas cargo; and
- 47.2 From the perspective of Canterbury (and West Coast) shippers of overseas cargo, the Future Freight Scenarios Study shows that the least cost options involve Lyttelton Port becoming big ship capable. Of the various scenarios considered in the study, those options which involve Lyttelton becoming big ship capable result in savings in total freight costs of greater than 10% for Canterbury and West Coast shippers of overseas cargo.²² For those scenarios not involving Lyttelton becoming big ship capable, freight costs are estimated to increase by between 11 and 50% for Canterbury shippers of overseas cargo and between 50 and 100% for West Coast shippers of overseas cargo. These cost penalties will negatively impact on business profitability and competitiveness and increase costs for consumers. The unimpeded development and operation of LPC's Lyttelton Port, Midland Port and City Depot will help facilitate the requirements from the Port becoming big ship capable and will provide substantial benefits to the businesses and residents of Canterbury (and the West Coast).
- 48 If Wellington's CentrePort does not become big ship capable, the Tasman, Nelson and Marlborough regions will become increasingly dependent upon Lyttelton Port, Midland Port and the City Depot and their supporting rail and road networks. Similarly if Dunedin's Port Chalmers does not become big ship capable the Southland and Otago regions will need to rely on LPC's facilities and their supporting rail and road networks for the exporting and importing of cargo.

LPC'S PORT RECOVERY PLAN

- 49 In 2014 and 2015 LPC assisted Environment Canterbury to prepare the Lyttelton Port Recovery Plan (*LPRP*), which was subject to community consultation and approved by the Minister for Canterbury Earthquake Recovery in November 2015. The LPRP

²² Under a scenario of only limited consolidation of port visits (Scenario 2), the Future Freight Scenarios Study estimates no material change in freight costs because there is an insufficient reduction in port visits to generate sufficient cost savings to offset the additional infrastructure costs.

provided for infrastructure repairs, rebuild and development in the aftermath of the damage caused by the 2010 and 2011 Christchurch earthquakes and required a number of inter-related investment projects at the Port, Midland Port and City Depot to be formulated, sequenced and implemented to:

- 49.1 Repair and reinstate the damaged and destroyed assets with reasonable despatch;
 - 49.2 Restore the capability of the Port's infrastructure together with LPC's other facilities to meet LPC customers' current and future requirements;
 - 49.3 Expedite the Christchurch rebuild process and the recovery of the Greater Christchurch economy; and
 - 49.4 Meet the growing demands that will be placed on the Port as a consequence of projected growth in cargo volumes through the Port.
- 50 The unimpeded development and operation of LPC's facilities will facilitate the implementation of the LPRP and help restore LPC's capabilities to meet the current and future requirements of the Greater Christchurch and the Canterbury regional economies. Consistent with the Christchurch Earthquake Recovery Act (CERA) and the CERA Recovery Strategy, the LPRP does not simply reinstate the Lyttelton Port's before-earthquakes capabilities but incorporates development components enhancing those capabilities to match expected future requirements as efficiently as possible.

CONCLUSION

- 51 The unimpeded development and operation of LPC's Lyttelton Port, Midland Port at Rolleston and City Depot in Woolston:
- 51.1 Enables the residents and businesses of Canterbury and other regions of the South Island *"to provide for their ... economic ... well being"*; and
 - 51.2 Is consistent with *"the efficient use and development of natural and physical resources"*.

Dated: 15 February 2019



Michael Campbell Copeland

ANNEXURE A:**CURRICULUM VITAE OF MICHAEL CAMPBELL COPELAND**

DATE OF BIRTH 3 October 1950

NATIONALITY New Zealand

EDUCATIONAL Bachelor of Science (Mathematics) 1971

QUALIFICATIONS Master of Commerce (Economics) 1972

PRESENT POSITIONS

(Since 1982) Economic Consultant, Brown, Copeland & Co Ltd

(Since 2017) Trustee, Trade Aid, Kapiti

PREVIOUS EXPERIENCE

1978-82 NZ Institute of Economic Research
Contracts Manager/Senior Economist

1975-78 Confederation of British Industry
Industrial Economist

1972-75 NZ Institute of Economic Research
Research Economist

1990-94 Member, Commerce Commission

2001-06 West Coast Regional Council Trustee, West Coast
Development Trust

2002-08 Lay Member of the High Court under the Commerce
Act 1986

2003-11 Director, Wellington Rugby Union

2010-13 Director, Southern Pastures

2010-17 Director, Healthcare New Zealand Holdings Limited

GEOGRAPHICAL EXPERIENCE

- New Zealand

- Australia
- Asia (Cambodia, India, Indonesia, Kazakhstan, Malaysia, Nepal, Pakistan, People's Republic of China, Philippines, Tajikistan, Sri Lanka, Uzbekistan, Viet Nam)
- South Pacific (Cook Islands, Fiji, Kiribati, Tokelau, Tonga, Tuvalu, Vanuatu, Western Samoa)
- United Kingdom

AREAS OF PRIMARY EXPERTISE

- Agriculture and Resource Use Economics (including Resource Management Act)
- Commercial Law and Economics (including Commerce Act)
- Development Programme Management
- Energy Economics
- Industry Economics
- Transport Economics

RESOURCE MANAGEMENT ACT SPECIFIC PROJECTS

- Port storage facilities at Westport;
- The proposed Clifford Bay ferry terminal;
- The proposed pipeline and related facilities to utilise water from the Waikato River for metropolitan Auckland;
- A container terminal expansion by the Ports of Auckland;
- The proposed Variation No. 8 to the Wellington City District Plan covering height and other controls on development of the airspace above the Wellington railway yards;
- Proposed expansion of Paraparaumu town centre within the Kapiti Coast District;
- Wellington City Council's heritage preservation policy;
- Solid Energy's proposed West Coast Coal Terminal at Granity;
- Solid Energy's Mt William North coal mine at Stockton in the Buller District;

- The proposed Waimakariri Employment Park;
- The designation of land for a proposed motorway extension in the Hawke's Bay;
- The Hastings District Council's Ocean Outfall – two consent renewal applications;
- A proposed new shopping and entertainment centre in Upper Hutt;
- Rezoning of land in Upper Hutt from Business Industrial to Residential;
- New regional correctional facilities in Northland, South Auckland, Waikato and Otago;
- Proposed controls on wake generation by vessels travelling within the waterways of the Marlborough Sounds;
- The expansion of marina facilities within the Marlborough Sounds;
- Southern Capital's proposed new township at Pegasus Bay, north of Christchurch;
- Renewal of water resource consents for the Tongariro Power Development Scheme;
- Economic analysis inputs to a Section 32 report for the Waitaki Water Allocation Board;
- The imposition of land use restrictions within noise contours surrounding Christchurch International Airport;
- The expansion of the Whangaripo Quarry in Rodney District;
- The economic significance of Winstone's proposed quarry at Wainui, in the north of Auckland City;
- A proposed five star hotel development for Wanaka;
- Holcim's proposed new cement plant near Weston in the Waitaki District;
- TrustPower's proposed new wind farm at Mahinerangi in Central Otago;
- TrustPower's proposed new Arnold hydroelectric power scheme on the West Coast;

- McCallum Bros and Sea Tow Limited's appeal before the Environment Court regarding extraction of sand from the Mangawhai-Pakiri embayment north of Auckland;
- The development of the Symonds Hill pit at Winstones' Hunua Quarry;
- The rezoning of land for residential development at Peninsula Bay, Wanaka;
- The rezoning of land for more intensive residential development at PekaPeka on the Kapiti Coast;
- A gondola development for the Treble Cone skifield;
- A gondola development for the Snow Farm and Snow Park skiing and snowboarding facilities;
- The extraction of gravel from the bed of the Shotover River;
- The proposed Hilton hotel development on Wellington's Queen's Wharf;
- Land use restrictions in relation to the Runway Extension Protection Areas for Christchurch International Airport;
- A new residential and commercial development by Apple Fields at Belfast on the outskirts of Christchurch;
- A proposed business park development on land at Paraparaumu Airport;
- The proposed redevelopment of Wellington's Overseas Passenger Terminal;
- The proposed Central Plains irrigation scheme in Canterbury;
- The staging of residential and business development at Silverdale North in the Rodney District;
- The redevelopment of the Johnsonville Shopping Centre;
- A Plan Change enabling the relocation of existing development rights for a residential and commercial development on Mount Cardrona Station in the Queenstown Lakes District;
- A new Pak'n Save supermarket at Rangiora;
- New supermarkets at Kaiapoi, Whitby, Silverstream and Havelock North;

- The extension of the TeRereHau wind farm in the Tararua District;
- MainPower's proposed new wind farm at Mount Cass;
- Fonterra's proposed new milk processing plant at Darfield and its subsequent expansion;
- Fonterra Pahiatua milk powder plant expansion;
- Fonterra's Studholme milk processing plant expansion;
- Renewal of resource consents at Fonterra's Edgecumbe, Edendale, Te Rapa and Te Awamutu milk processing plants;
- Fonterra's proposed new coal mine in the Waikato District;
- Assessment of the economic significance of ANZCO's Canterbury operations to the Canterbury regional economy;
- Resource consent extensions for Oceana Gold (New Zealand) Limited's gold mining operations at Macraes Flat in north-east Otago, the Globe Mine at Reefton and a proposed underground gold mine at Blackwater on the West Coast;
- Designation of land for NZTA's Waterview motorway project in Auckland;
- Designation of land and resource consents for NZTA's Transmission Gully motorway project in Wellington;
- Designation of land and resource consents for NZTA's MacKays to PekaPeka Expressway;
- Designation of land and resource consents for NZTA's PekaPeka to Otaki Expressway;
- Resource consents for NZTA's Basin Reserve Bridge Project;
- Resource consents for NZTA's Puhoi to Warkworth motorway extension;
- Assessment of the economic effects of a Queenstown Airport Corporation's proposed Notice of Requirement for the designation of additional land for aerodrome purposes;
- Assessment of the retail effects of proposed Plan Change 19 to the Queenstown Lakes District's District Plan;
- Assessment of the regional and national economic significance of Lyttelton Port;

- The economic benefits of utilising a Recovery Plan under the Canterbury Earthquake Recovery Act for the rehabilitation and enhancement of facilities at Lyttelton Port;
- The economic effects of the Lyttelton Port Company's Capital Dredging Project;
- Meridian's proposed new Mokihinui hydro scheme;
- Assessment of the economic effects of alternative wreck recovery options for the MV Rena and preparation of evidence for Environment Court hearing;
- Assessment of the economic benefits and costs of Transpower's corridor management approach to giving effect to the National Policy Statement on Electricity Transmission in District and City Plans;
- Assessment of economic effects of a proposed extension to Arrowtown's urban boundary;
- Assessment of the economic benefits of overhead deployment of ultrafast broadband infrastructure;
- Assessment of the economic benefits of the proposed Ruataniwha Water Storage Scheme;
- Preparation of evidence for Transpower in relation to the proposed Ruakura development on the outskirts of Hamilton City;
- Preparation of two reports reviewing the economic benefits of the Hobbiton movie set at Matamata;
- Assessment of the economic benefits of renewal of a water discharge consent for Silver Fern Farm's Belfast meat processing plant;
- Assessment of the economic effects of renewal of consents for the Alliance Group's Lorneville meat processing plant;
- Preparation of evidence for Winstone Aggregates in relation to the proposed extension of the Otaki quarry;
- An assessment of the economic benefits of NZTA's Waitarere Beach Road Curves Project, north of Levin;
- An assessment of the economic effects of enabling deeper quarrying in the Greater Christchurch sub-region;
- Preparation of evidence for Transpower in relation to the Proposed Auckland Unitary Plan;

- Preparation of evidence for Transpower, Ngāi Tahu Property Limited, the Lyttelton Port Company, Canterbury International Airport Limited, Tailorspace Limited, Church Property Trustees, the Roman Catholic Bishop of the Diocese of Christchurch, Pacific Park Limited, Fulton Hogan and the Christchurch Aggregates Producers Group in relation to the Proposed Christchurch Replacement District Plan;
- Preparation of evidence for Darby Planning LP, Soho Ski Area Limited, Treble Cone Investments, Lake Hayes Ltd, Lake Hayes Cellar Ltd and Mount Christina Limited in relation to economic issues concerning the Rural and Rural Recreation and Rural Lifestyle Chapters of the Proposed Queenstown Lakes District Plan;
- Preparation of evidence for Coastlands Shoppingtown Limited in relation to the proposed Kapiti Coast District Plan;
- Preparation of evidence for Tinline Properties Limited in relation to a proposed plan change to enable the establishment of an out of centre supermarket;
- The assessment of the economic effects of a proposed Plan Change for safeguarding the future efficient operations of the Rangiora Airfield;
- The assessment of the economic effects of proposed changes to Queenstown Lakes District Plan covering the Jack's Point resort area;
- The assessment of the economic benefits of the development of a marquee golf course in Christchurch;
- Economic assessment of Waitemata Harbour Crossing Project alternatives.
- Assessment of economic effects of proposed State Highway 3 Mount Messenger upgrade project.
- Assessment of economic effects of the proposed options for disposal of overburden from GBC Winstone's Otaika Quarry in Northland.
- Assessment of economic effects of Stevenson's proposed Te Kuha coal mine near Westport.
- Assessment of the economic effects of Road Metals proposed extension of its Yaldhurst Quarry in Christchurch.
- Assessment of the economic benefits from the continued operation of the Barracks Road quarry in Marlborough.

Before the Greater Christchurch Partnership Hearings Panel
at Christchurch

under: the Resource Management Act 1991, Local Government
Act 2002 and Land Transport Management Act 2003

in the matter of: Submissions in relation to the draft Our Space 2018-
2048: Greater Christchurch Settlement Pattern Update

in the matter of: **Lyttelton Port Company Limited**
Submitter 067

Statement of evidence of Courtney Groundwater (Transport)

Dated: 15 February 2019

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EVIDENCE OF COURTNEY JENNIE GROUNDWATER

INTRODUCTION

- 1 My full name is Courtney Jennie Groundwater.
- 2 I am a Chartered Professional Engineer (CPEng) and registered under the Chartered Professional Engineers Act 2002. This qualification means I have been reviewed by the registration authority and deemed competent to practice in my area of expertise. I am a member of Engineering New Zealand (CMEngNZ).
- 3 I hold the technical qualifications of Bachelor of Engineering with Honours in Civil Engineering from the University of Canterbury, and Master of Engineering Science in Transport Planning and Engineering from the University of Leeds (UK). For the past 9 years, I have worked exclusively in the traffic and transportation field as a consulting engineer. I have developed specialist skills in integrated transport assessments, transport business cases, and the planning, assessment and design of transport networks.
- 4 I hold the position of Principal Transportation Engineer within Abley Limited. The firm undertakes specialist transportation related commissions for local, regional and central government as well as private sector organisations, individuals and community groups.

SCOPE OF MY EVIDENCE

- 5 I have been engaged by Lyttelton Port Company Limited (*LPC*) to provide transportation planning evidence in relation to the Settlement Pattern Update to the Greater Christchurch Urban Development Strategy (*UDS*): "Our Space 2018-2048 Greater Christchurch Settlement Pattern Update" (*the Update*).
- 6 My evidence discusses:
 - 6.1 LPC's sites and projected growth and why accommodating LPC's needs is important;
 - 6.2 Key freight routes in Greater Christchurch and why the movement of commodities is different to the movement of people;
 - 6.3 The importance of integrating transport and land use planning and in particular the potential for reverse sensitivity impacts related to freight routes;
 - 6.4 Road capacity and resilience for freight; and
 - 6.5 Rail capacity and constraints for freight.

CODE OF CONDUCT

- 7 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the code of conduct for expert witnesses contained in part 7 of the Environment Court Practice Note 2014. I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SUMMARY OF MY EVIDENCE

- 8 Freight is different to the movement of people and is a necessary and core use of the transport network. The movement of freight in Greater Christchurch is important for the economy, therefore it is important we ensure the transport network enables efficient, resilient freight movement.
- 9 LPC operates the South Island's major commercial deep-water port in an economy that is dependent on exports and imports. It is therefore important that freight movements to, from and between LPC's sites are protected and efficient.
- 10 Lyttelton Port's operations are forecast to grow significantly. It is important that this growth is understood and planned for in parallel with population growth to ensure our transport system has sufficient capacity and resilience.
- 11 A number of key freight corridors connect LPC's sites and wider origins and destinations. It is important these routes are recognised and protected from congestion and reverse sensitivity impacts that may arise from new development.
- 12 The Greater Christchurch Urban Development Capacity Assessment: Housing and Businesses Interactions¹ (*HBI*), a supporting study to the development of the Update, identifies the potential for large increases in travel times under the projected development scenario. While the Update references integrated public transport systems, no evidence is provided to demonstrate that the transport network has capacity to accommodate the projected growth. Increases to journey times will also impact on freight movements and the regional economy.
- 13 The Government Policy Statement on Land Transport signals a shift towards moving more freight by rail and coastal shipping. Increases

¹ Greater Christchurch Urban Development Capacity Assessment: Housing and Business Interactions, Greater Christchurch Partnership 2018

in coastal shipping could further increase demand for short distance road freight trips to the Port, while rail increases will increase freight demand on the rail network. It is important that this change in policy is considered in assessing the capacity of the road and rail networks to accommodate the growth in transport demand signalled in the Update and its supporting documents.

- 14 While the movement of people and potential approaches to accommodating population growth on the transport network, particularly for commuter trips, has been considered to some extent, the Update is relatively silent on what this may mean for the operation of the freight network. Including how any impacts on efficiency can be mitigated or minimised, and to what level these impacts are considered acceptable. In my opinion further evidence is required to demonstrate the 60% increase in travel times for trips from the west, and other potential delays, identified as part of the HBI can be suitably avoided or minimised to an acceptable level. I consider this is required to demonstrate sufficient development capacity, in terms of development infrastructure, is available. As part of this consideration, I recommend the Greater Christchurch Partnership ensures it has the appropriate analytical tools and models in place to ensure commodity growth at the Port is accounted for.
- 15 I recommend the Greater Christchurch Partnership develops a further collaborative piece of evidence that draws together the projected growth in the Update with appropriate analytical tools for transport. This work should deliver an appropriate set of performance measures and targets for the transport network to 2048, and identify where investment to achieve those targets is likely to be required. I recommend these performance measures, targets and upgrades are then included in the Update.
- 16 I believe that the constraints on development generated by the transport network, and in particular key freight routes, are not sufficiently represented in the Update. In my opinion these constraints should be explicitly referenced and discussed in the update to ensure land use and transport networks are effectively integrated. I recommend an additional map depicting key freight routes, and suitably referenced in the text, is included in the Update.

LYTTELTON PORT COMPANY (LPC)

- 17 LPC operates from three sites in Greater Christchurch:
- 17.1 Lyttelton Port (the Port), the South Island's major commercial deep-water port and the hub for South Island container trade. The geography surrounding the Port constrain access and the operational capacity on site. LPC's two inland ports assist with

extending capacity and consolidating movements to and from the Port;

- 17.2 CityDepot, located in Woolston, is the largest container storage and repair operation in the South Island, operating as an 'inland port' with a road and rail interchange, and providing receipt and delivery of empty containers, full container loads and break-bulk 24 hours per day, five and a half days per week; and
- 17.3 Midland Port, located within Rolleston's IZone, is an inland port site. It acts as a distribution point that facilitates the transferring of containers between trucks and trains. Midland Port operates 24 hours per day, seven days per week. IZone also includes another inland port operated by Port of Tauranga, alongside other large-scale industrial operations.
- 18 The success of LPC is reliant on efficient, reliable connectivity between, to and from the sites listed above. As stated in the Greater Christchurch Freight Study; inefficient freight transport connections, such as those that are congested, "add to the costs for individual businesses and negatively impact on overall productivity for the Canterbury region's economy."²
- 19 As set out in the Evidence of **Mr Copeland**, the Port has been growing in relative importance and is expected to continue to do so in the future:

"The Port has experienced a more than 10-fold increase in the number of containers handled in the past 30 years. Trade through Lyttelton Port has grown considerably across both containerised and general cargo. The volume of containerised and general cargo through the port has increased by 17.8% over the period 2010 to 2018.³ In 2017 the port handled 279,818 containers, an increase of 7.3% on 2016 and an increase of 80.9% since 2010.⁴ Lyttelton Port has been growing in relative importance and is expected to continue to do so in the future. LPC forecast ongoing growth for its container terminal to reach well over 1 million twenty-foot equivalent units (TEUs) by 2041. Non-containerised volumes of export and import trades are expected to continue growing but not as fast as containerised cargo."

² Greater Christchurch Freight Study Freight Management Directions Statement; Aurecon; 22 December, 2014.

³ For years ending 30 June. Source: Statistics New Zealand Infoshare, Overseas Cargo Statistics (www.archive.stats.govt.nz/infoshare)

⁴ Source: www.championfreight.co.nz/largest-nz-ports

- 20 The Update recognises the Port as strategic regional/sub-regional infrastructure. **Mr Copeland's** evidence further demonstrates the importance of the Port to the regional economy, which remains heavily dependent on the import and export of commodities particularly for two of its three key drivers; agriculture and manufacturing. The Port will also have an increasing role in the regional tourism industry through the development of a new Cruise Ship Terminal.

KEY FREIGHT ROUTES

- 21 A number of key freight routes connect to LPC's sites:
- 21.1 Routes to Lyttelton Port: The Port Hills present a topographical barrier for road and rail access. The Port is connected to the wider transport network by three key routes that are viable for regular use for freight movements:
- (a) Lyttelton Tunnel: The majority of vehicles accessing the Port use Tunnel Road as this is the fastest and most direct route, with the highest design standards relative to other routes. The efficient and reliable operation of Tunnel Road is integral to the operation of the Port. The Greater Christchurch Freight Study⁵ identifies the lack of viable alternative routes to the tunnel as a resilience issue. There are various restrictions through the tunnel that meant prior to February 2011, the Sumner Road route was used as a secondary access. The closure of Sumner Road in February 2011 due to the Christchurch earthquakes means dangerous goods and over-dimension loads are currently transported through the tunnel each day;
 - (b) Sumner Road (via Evans Pass Road): Sumner Road is a key alternative route to the Port. The route is longer than the tunnel route (13.4km compared to 6.1km) and is subject to gradients and tight curves that are less than ideal for regular heavy vehicle use. However, it is not subject to any bylaws that restrict the passage of specific vehicles, especially for dangerous goods which cannot be transported through the tunnel without temporary closure. Sumner Road has been closed since the earthquakes of 2011 and is intended

⁵ Aurecon, 2014

to be re-opened this year (2019), returning the route to its pre-quake level of service;⁶

- (c) Lyttelton Rail Connection: The Port is connected to the Main South Line via a rail tunnel through the Port Hills running parallel to the road tunnel.

21.2 State Highway (SH) network:

- (a) SH1 forms the spine of New Zealand's road network, providing the primary route for freight from the north and south. Access from SH1 to Lyttelton Port is via the Christchurch state highway ring route (SH1, SH74, SH76).
 - (i) Christchurch Northern Motorway provides the SH1 connection to the north of Christchurch and over the Waimakariri River;
 - (ii) Russley Road (SH1) connects to Christchurch International Airport and provides a bypass function for vehicles travelling through Greater Christchurch;
 - (iii) Main South Road (SH1) provides connectivity from the south, links towards Christchurch Southern Motorway Stage 1 and will form part of Christchurch Southern Motorway Stage 2 once complete. Midland Port is located near Main South Road on Jones Road, currently accessed via Hoskyns Road. Following the opening of the Christchurch Southern Motorway Stage 2, freight traffic is likely to access Midland port via the Weedons Road grade separated interchange or Walkers Road.
- (b) SH76/ Brougham Street/ Christchurch Southern Motorway Stage 1, running into SH 74, is an important link connecting SH1 from the south and west of Christchurch to Lyttelton and CityDepot. This is also a key route for commuters, including those travelling into Christchurch City from Selwyn. The corridor also serves commercial activities from Middleton through to Woolston.

⁶ <https://www.ccc.govt.nz/transport/transport-projects/sumner-lyttelton-corridor/sumner-road-reopening/>

- (c) SH74 provides access to the Port from the north. SH74 runs from SH1 in the north, detours around Christchurch to the east and connects to the Lyttelton Tunnel.

- 21.3 Rail network: LPC's sites are served predominantly by the Main South Trunk Line which also connects to sidings in Midland Port and CityDepot. Northbound rail freight from the Port cannot access the Main North Trunk Line without staging in the Middleton Marshalling Yard. The Midland Line provides a rail connection from Rolleston to the west coast and is used to transport coal to Lyttelton Port for export.
- 22 Key freight routes connecting to LPC's sites are shown in the map attached to LPC's submission. The regional significance of LPC's operation is demonstrated in paragraphs 18 to 20, reinforcing that freight movement to, from and between LPC's sites is a key and necessary use of the transport network. The Greater Christchurch Freight Demand Statement⁷ states that inefficiencies in the movement of freight particularly congestion issues relating to road, rail and port access, add to the costs for individual businesses and negatively impact on overall productivity for the Canterbury region's economy. Furthermore, efficient freight connections not only reduce direct transport costs but also reduce road transport externalities costs such as vehicle emissions, road accidents and road congestion.
- 23 More widely, the Greater Christchurch Freight Infrastructure Statement⁸ recognises that all arterial roads are important for the movement of freight and references the expansion of the High Productivity Motor Vehicle (HPMV) Network, i.e. routes that have been assessed as suitable for HPMV passage, to demonstrate the extent of the freight network beyond the state highway network. The Christchurch Transport Strategic Plan⁹ identifies the freight network within Christchurch City, see excerpt in Figure 1. Some of these wider routes are additional to the key routes in LPC's submission, for example West Coast Road and the Hornby to Middleton corridor.
- 24 The Update references the importance of protecting key freight routes for the efficient movement of freight in section 5.6 where it states: *"An important part of managing the transport network is to ensure that freight can be moved efficiently to and through Greater Christchurch and this will require effective management of congestion on the main freight*

⁷ Greater Christchurch Freight Demand Statement, Aurecon, 2014.

⁸ Greater Christchurch Freight Infrastructure Statement, Aurecon, 2014.

⁹ Christchurch Transport Strategic Plan, 2012, Christchurch City Council.

routes.” However, no freight routes are explicitly identified in the Update.

- 25 I note that the Update includes transport routes in Figure 18, however this figure is not referenced within the text and no context for how it should be considered as part of an integrated approach is provided.

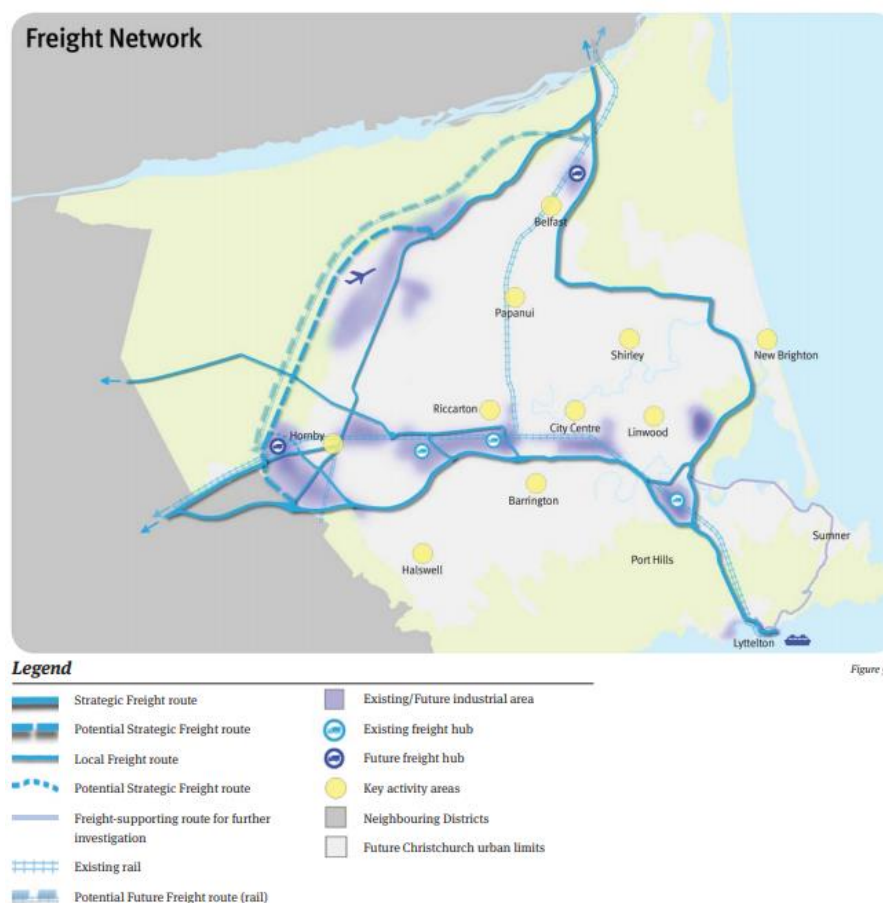


Figure 1: Christchurch City Freight Network – as set out in the Christchurch Transport Strategic Plan¹⁰

Why Freight is Different

- 26 The transport of commodities is different to the transport of people for a number of reasons. The efficiency of freight movements is directly tied to the economy with the cost of freight added to the price of our exports and imports.¹¹

¹⁰ Christchurch City Council 2012, Christchurch Transport Strategic Plan, Figure 5-4

¹¹ Canterbury Regional Land Transport Plan, 2018 Revision, Environment Canterbury

- 27 Freight is generally transported by heavy vehicles or rail. Freight vehicles are heavier than most private motor vehicles and therefore create more disturbance in terms of noise, vibration and emissions for nearby sensitive land uses. Key freight routes are also often utilised 24 hours a day, 7 days a week.
- 28 While commodities and people use the same networks for movement, the mechanisms and objectives for managing this movement are different. For example; the Government Policy Statement on Land Transport (*GPS*) recognises that integrated land use and transport planning that reduces the need for single occupant vehicle trips in urban areas is not applicable to freight movements. Reliability of freight journey times is a reporting measure identified for measuring success against the national land transport objective: "*A land transport system that provides increased access to economic and social opportunities.*"¹²
- 29 I consider the Update does not adequately ensure key freight routes are identified and protected as part of planning for population and business growth. Depictions of key freight routes across the Greater Christchurch area are fragmented and often contained in documents that were produced a number of years ago. In order to enable integrated land use planning and ensure capacity assessments are correct, I consider it is important to present a single view of key freight routes as they currently stand that can be viewed alongside land use projections.

IMPORTANCE OF INTEGRATING TRANSPORT AND LAND USE PLANNING

- 30 Land use and the functioning of the transport system are intrinsically linked. It flows from this that land use and transport planning should be integrated, as recognised in the Update, for example in Section 4.1 where it states: *Integrated land use and transport planning is a key principle that underpins the strategic direction for urban growth in Greater Christchurch.*
- 31 The need for integrated land use and transport planning is also explicitly stated in many higher-level documents that set the direction for the Update including the National Policy Statement on Urban Development Capacity,¹³ the Government Policy Statement on Land Transport¹⁴ and the Urban Growth Agenda.¹⁵

¹² Government Policy Statement on Land Transport, Ministry of Transport 2018.

¹³ Ministry for the Environment 2016.

¹⁴ Ministry of Transport 2018.

¹⁵ Ministry for the Environment 2018.

- 32 The need to integrate transport and land use planning encompasses many elements including:
- 32.1 Ensuring the transport network continues to operate efficiently for existing users as recognised in the Update in Section 5.6 where it references the need for Greater Christchurch to remain productive through integrating land use and transport planning, and to manage congestion on key freight routes;
 - 32.2 Ensuring the transport network can accommodate and provide for new users and trips generated by land use change;
 - 32.3 Avoiding reverse sensitivity impacts; and
 - 32.4 Ensuring trip origins and destinations are connected in a way that provides transport choice, and by extension network resilience.
- 33 While the Update references the need to integrate transport and land use planning, I consider the document does not go far enough in ensuring this integration. No specific details around the freight network are provided, despite its importance being recognised within the overarching text. This is in contrast to explicit transport mapping showing cycling accessibility and two potential rapid transit lines. In my opinion, this does not provide sufficient information to ensure the constraints and opportunities related to the transport network, particularly with respect to freight, are properly accounted for.
- Reverse Sensitivity*
- 34 Reverse sensitivity is the vulnerability of an established land use (such as busy transport or freight routes) to complaint from a newly establishing, more sensitive land use (for example, new houses). In practice such complaints can compromise the established land use by restricting when or how it can operate.
- 35 Sensitive activities to road and traffic noise include houses, schools and offices. Noise exposure can be both annoying and cause sleep disturbance, and over the long term may result in health and wellbeing effects. Vibration, light spill and air pollution are other disbenefits to sensitive activities that can be caused by being located close to the transport network.¹⁶

¹⁶ Management of road traffic noise effects on new developments and altered buildings <https://www.nzta.govt.nz/assets/resources/management-of-road-traffic-noise-effects/management-of-road-traffic-noise-effects.pdf>

- 36 Heavy vehicles are noisier and heavier than private cars and therefore their impacts on sensitive land uses are greater. Furthermore, as set out in paragraph 17, Port operations are often 24 hours per day meaning key freight routes are used continuously by heavy vehicles and trains. The anticipated growth in LPC's activities demonstrates that utilisation of LPC's key freight routes is anticipated to increase over time, further amplifying any reverse sensitivity issues related to the use of the network by freight.
- 37 The management of potential reverse sensitivity impacts is particularly important for the imminent re-opening of Sumner Road in early 2019, given this route has not been available for use by heavy vehicles since 2011. It is crucial for the functioning of the Port and resilience of the transport network that a viable alternative to Tunnel Road remains available for use by heavy vehicles going forward. Information on the re-opening states that the route will be returned to its pre-quake level of service and will assist with limiting night-time closures of Lyttelton Tunnel,¹⁷ indicating that heavy vehicles are expected to use the route as they did previously. Sumner Road is classified as a minor arterial in the Christchurch City Plan, and an Arterial in the NZ Transport Agency's One Network Road Classification, indicating its important movement function.
- 38 The NZ Transport Agency places the onus of managing the proximity and design of sensitive land uses as they relate to the state highway network on Councils for new and altered developments and activities.¹⁸ By extension I believe it is appropriate that the Update sets out key transport routes, including road and rail freight routes, to ensure these can be appropriately accounted for in planning future growth locations, ensuring reverse sensitivity impacts are minimised.
- 39 The potential for reverse sensitivity impacts along freight corridors means that key freight routes are a constraint on the location and/or cost of development. I consider that this constraint should be explicit in the Update, consistent with the treatment of environmental constraints in Figure 10.

ROAD CAPACITY AND RESILIENCE FOR FREIGHT

- 40 The capacity of the road network to accommodate growth projections in Greater Christchurch is considered to some extent in the Greater Christchurch Urban Development Capacity Assessment:

¹⁷ Christchurch City Council <https://www.ccc.govt.nz/transport/transport-projects/sumner-lyttelton-corridor/sumner-road-reopening/>

¹⁸ Management of road traffic noise effects on new developments and altered buildings <https://www.nzta.govt.nz/assets/resources/management-of-road-traffic-noise-effects/management-of-road-traffic-noise-effects.pdf>

Housing and Business Interactions (HBI),¹⁹ a background document to the Update. The results of the HBI related to transport capacity include:²⁰

Average travel speeds in the morning peak are forecast to decline by over 6km/h during the next thirty years (i.e. from 42km/h in 2013 to 36km/h in 2048). This means that journeys at peak times could take about 15% longer by 2048 than they do now.

...

Such delays would be noticeable for all people and purposes of travel, be that commuters to work or school, or commercial, freight and emergency service trips... The increase in travel times from the western areas of the City, Selwyn and Waimakariri into the central city could be much worse than the average increases, with travel times potentially being 60% longer by 2048 than they are now.

...

There could be substantial cost to the regional economy from increased travel times, as freight takes longer to transport around Greater Christchurch, including to and from the airport, port, distribution centres and warehouses. The cost to the economy from this increase in congestion could be approximately \$200 million per year. In the absence of targeted interventions, increased travel demands could also result in increased vehicle emissions, increased crash risk and negative social impacts for sectors of society without good access to goods and services.

41 A key recommendation of the HBI is:²¹

Options to manage the effect of population growth and increased travel demand on the transport network will be a key consideration of the Future Development Strategy [i.e. the Update]. Integrated transport and land use planning responses will need to consider how to maximise positive interactions between housing and business areas, and the transport network, and minimise negative interactions related to reduced travel time reliability, safety and accessibility. This will include planning for a transport system that positively influences land use patterns and behaviours that are economically, socially and environmentally sustainable.

¹⁹ Greater Christchurch Urban Development Capacity Assessment: Housing and Business Interactions, March 2018 <http://greaterchristchurch.org.nz/assets/Documents/greaterchristchurch/Our-Space-consultation/Greater-Christchurch-Housing-Capacity-Assessment-reports-1-4.pdf>

²⁰ At page 33 and 34.

²¹ At page 35.

- 42 The Greater Christchurch Freight Infrastructure Statement²² highlights the conflict between freight vehicles and urban growth, particularly with reference to growth in the Selwyn District. Noting that commute trips to/from Rolleston, Lincoln, Prebbleton and Darfield (i.e. from the west) utilise the same routes as freight traffic bound for dairy processing plants in the region and/or the Port. Therefore, the projected growth on routes from the west, and 60% increases in travel times, has the potential to negatively impact freight vehicles more significantly than light vehicles on average. The HBI identifies the potential costs of the impacts of development on the transport network and the requirement for targeted interventions to minimise the disbenefits of growth.
- 43 The Update discusses the need for integrated public transport planning and the potential for investment in rapid transit options. These considerations are important and appropriate for such a document. However, the potential impacts of these interventions, in particular how far they will go towards mitigating the impact of growth on the functioning of the transport network, is not stated. The proposed acceptable levels of service for operation of the network under the projected growth scenarios are not defined.
- 44 I consider that, based on the evidence provided, Greater Christchurch have not sufficiently demonstrated that the proposed transport interventions will enable the efficient functioning of the transport network for all uses, including freight, under the projected growth scenario. On this basis I believe the Update does not satisfy the National Policy Statement on Urban Development Capacity's requirement to demonstrate that sufficient development infrastructure is available to support the projected growth.

Transport Demand Growth

- 45 In understanding how the transport network will perform under the projected growth scenario the HBI uses the Christchurch Transport Model (CTM). The additional projected growth is accounted for through scaling up population projections. This is a simplified approach that may be appropriate for a high-level document such as the Update, however it should be noted that this does not take into account:
- 45.1 The growth in demand for goods that is expected to be generated through business and population growth;

²² Greater Christchurch Freight Infrastructure Statement, Aurecon 2014, <http://greaterchristchurch.org.nz/assets/Documents/greaterchristchurch/FreightInfrastructureStatementV2.pdf>

- 45.2 LPC's updated/most recent forecasts for growth, such as those set out in the evidence of **Mr Copeland**;
- 45.3 Construction traffic related to development of sites for businesses and homes, and other large-scale development such as construction of the Port's cruise ship terminal and ongoing reclamation; and
- 45.4 Changes to the use of the network with recent changes in strategic transport priorities. For example the Government Policy Statement on Land Transport signals a will for more freight to be moved by non-road modes including rail and coastal shipping. Any increase in coastal shipping may increase the number of short distance freight trips by road to the Port.
- 46 In addition to the above points regarding future growth, the base demand included in the CTM should be validated and calibrated to ensure current freight needs are appropriately accounted for. I understand, that the Greater Christchurch Partnership does not currently have a transport model that accurately considers commodity movements related to LPC's activities. As stated in the Lyttelton Port Recovery Plan:²³ *"A commercial vehicle model exists within the CTM but this has not been specifically calibrated to reflect the current operation of the Port of Lyttelton, nor is it an appropriate basis for forecasting future heavy vehicle flows associated with the Port. It is recommended that any future development work with the CTM should embrace the opportunity to improve Port heavy traffic forecasting."*
- 47 I recommend the Greater Christchurch Partnership review their analytical tools to ensure they are fit for purpose in understanding how the projected growth will impact the ability of the transport network to provide for the efficient movement of freight.
- Constraints on Road Network*
- 48 Through traffic modelling we are able to understand where constraints on the network are anticipated as a result of growth, provided the model is appropriately calibrated and validated. The HBI identified the potential for some journey times to increase by 60% by 2048. While I consider further work is required to calibrate and validate the model, it appears the projected growth has the potential to significantly degrade the functioning of the road network.
- 49 The Greater Christchurch Freight Infrastructure Statement identified a range of issues on the road network based on existing and future

²³ 2014 Lyttelton Port Recovery Plan, Appendix 12: Transportation Effects (Abley)

use of the network and freight growth. Brougham Street was identified as a major constraint on the freight network.²⁴ The opening of Christchurch Southern Motorway Stage 1 increased traffic on Brougham Street by 15% and the upcoming opening of Christchurch Southern Motorway Stage 2 is anticipated to place additional pressure on Brougham Street.²⁵ Abley's analysis as part of an assessment of the proposed cruise berth at the Port showed that parts of Brougham Street are currently operating at level of service E. Level of service E is generally considered unacceptable and means users of the affected part of the network will experience noticeable delays.

- 50 As is the case in transport, users of the network re-route to minimise their cost of travel (time and vehicle operating costs) in congested conditions. Based on this phenomenon we would expect a certain proportion of freight and other users to use alternative routes to Brougham Street during peak times, which could lead to undesirable use of parts of the road network. I understand that the NZ Transport Agency is currently looking at options to improve efficiency and safety on Brougham Street and the surrounding area²⁶.
- 51 In addition to capacity constraints, parts of the Greater Christchurch transport network suffer from resilience issues. This was highlighted following the closure of Sumner Road following the Canterbury earthquakes, as discussed in Paragraphs 21 and 37.
- 52 In addition to consideration of Brougham Street, the Greater Christchurch Freight Management Direction Statement identified multiple interventions for improving the efficiency and resilience of freight provision on the transport network, including:
- 52.1 Soft measures such as acknowledged freight corridors for 24 hour use and interactive information sharing across parties to optimise freight movement;
 - 52.2 Grade separation at Annex Road, Matipo Street and Whiteleigh Avenue to relieve capacity issues caused by the interaction of the road and railway network surrounding Middleton Yard;

²⁴ Greater Christchurch Freight Infrastructure Statement, Aurecon 2014, <http://greaterchristchurch.org.nz/assets/Documents/greaterchristchurch/FreightInfrastructureStatementV2.pdf>

²⁵ Greater Christchurch Freight Study Freight Management Directions Statement; Aurecon, 2014.

²⁶ Brougham Street/ Moorhouse Avenue Area Project <https://www.nzta.govt.nz/projects/brougham-street-moorhouse-avenue/>

52.3 Reopening of Sumner Road to freight traffic; and

52.4 Duplication of Lyttelton Tunnel to provide better resilience.

- 53 The Update identifies in Section 5.6 that further investment in the Christchurch road network is not scheduled. As previously noted, there is a lack of demonstrable evidence within the Update that the impacts of residential and business growth on the efficient operation of the network can be mitigated by the proposed public transport options. On this basis I consider the statement that further transport investment is not scheduled to be premature. I also recommend that further account in the Update is taken of the recommendations of targeted studies such as the Greater Christchurch Freight Study.
- 54 In particular I believe that the ability of the transport network to provide for efficient freight movement requires further consideration.

RAIL CAPACITY AND CONSTRAINTS FOR FREIGHT

- 55 LPC's three facilities are connected by rail to each other and the wider rail network. Midland Port was developed as a transfer point between trucks and trains to increase container freight efficiency and has daily connecting rail services to the Port via a dedicated rail shuttle. Midland Port has rail siding capacity for two 60 TEU trains. CityDepot also has a 24 wagon rail siding.
- 56 In the past four years, rail freight growth has not been as rapid as predicted nationally. The latest rail tonnage totals across New Zealand are similar to 2014 levels.²⁷ However, the 2018 Government Policy Statement on Land Transport signals a shift towards more domestic freight moved by rail and/or coastal shipping to reduce transport emissions and improve road safety. Therefore, it is not unreasonable to expect rail freight growth to exceed projected growth rates based on industry growth alone.
- 57 The Update signals the potential for rapid transit lines from Rolleston and Rangiora into Christchurch City Centre. While it is not explicitly stated in the Update, my understanding based on national strategic transport priorities, and recent media releases, is that use of the existing heavy rail network is an option under consideration for delivering the proposed rapid transit lines.

²⁷ Based on Freight Information Gathering (FIGS) data, MoT updated July 2018
<https://www.transport.govt.nz/mot-resources/freight-resources/figs/rail/rail-trends/>

- 58 The Greater Christchurch Freight Management Direction Statement suggests there is sufficient rail capacity for freight to 2041 providing the 2014 mode split is maintained. However, this is excluding any passenger services over and above those that are currently operating (i.e. the Coastal Pacific and TransAlpine services). Furthermore, the Government's increased prioritisation of moving more freight by rail may increase the demands for rail freight on the network. Based on this I consider the capacity of the rail network requires further consideration as part of the Update to ensure proposals and priorities are feasible and the efficient operation of the rail network for freight can be maintained.

Constraints on Rail Network

- 59 In ensuring efficiency of the rail network to allow more freight to be moved by rail, a number of potential interventions have been considered in past or ongoing studies:
- 59.1 The Rolleston Flyover, as signalled in the Selwyn District Council Long Term Plan, is proposed to better connect the Rolleston Town Centre and industrial area. The Flyover would provide a grade separated connection across SH1 and allow the level crossing on Hoskyns Road to be closed. Closure of this level crossing is anticipated to provide additional marshalling and shunting space on the Main South Trunk Line and consequently easier access to Midland Port from the south and west. Removing this interaction at Hoskyns Road should improve safety and efficiency for both the road and rail networks;
- 59.2 Duplication of the main trunk line between Islington and Rolleston is identified in the Greater Christchurch Freight Management Direction Statement as an improvement that would increase the capacity for a higher rail mode share around the industrial zone, and Midland Port, in Rolleston;
- 59.3 The Greater Christchurch Freight Study states that KiwiRail has identified that the current configuration of Middleton Yard will reach capacity in the next five to ten years under current freight growth trends, as at 2014. Middleton Yard is important for staging in freight between the north and the Port.
- 60 The HBI considers the capacity of the road network to accommodate growth, however no assessment of the rail network is referenced. If the intention is that existing rail infrastructure will play a role in accommodating growth, I consider an assessment of existing rail infrastructure capacity is required.

CONCLUSION

- 61 Overall, I consider the Update does not go far enough to identify and protect key freight routes, which are important for the local, regional and national economy. Freight routes require protection in terms of both capacity and resilience to ensure efficient commodity movement, and from reverse sensitivity impacts that may arise from land use changes and sensitive activities establishing nearby.
- 62 While the movement of people and potential approaches to accommodating population growth on the transport network, particularly for commuter trips, has been considered to some extent, the Update is relatively silent on what this may mean for the operation of the freight network and how any impacts on efficiency can be mitigated or minimised, and to what level these impacts are considered acceptable. In my opinion further evidence is required to demonstrate the 60% increase in travel times for trips from the west, and other potential delays, identified as part of the HBI can be suitably avoided or minimised to an acceptable level. I consider this is required to demonstrate sufficient development capacity, in terms of development infrastructure, is available. As part of this consideration, I recommend the Greater Christchurch Partnership ensures it has the appropriate analytical tools and models in place to ensure commodity growth at the Port is accounted for.
- 63 I recommend the Greater Christchurch Partnership develops a further collaborative piece of evidence that draws together the projected growth in the Update with appropriate analytical tools for transport. This work should deliver an appropriate set of performance measures and targets for the transport network to 2048, and identify where investment to achieve those targets is likely to be required. I recommend these performance measures, targets and upgrades are then included in the Update.
- 64 Consequently, I support **Mr Bonis'** recommendations, in Paragraph 71 of his evidence, for text deletions and additions within Section 5.6 'Transport and other Infrastructure' [pg. 27] of the Update.
- 65 I believe that the constraints on development generated by the transport network, and in particular key freight routes, are not sufficiently represented in the Update. In my opinion these constraints should be explicitly referenced and discussed in the Update to ensure land use and transport networks are effectively integrated.
- 66 I recommend Figure 18 of the Update is amended as set out in **Mr Bonis'** evidence and appropriately referenced in the text.
- 67 I recommend an additional figure depicting key freight routes is included in the Update, and suitably referenced in the text. This

should include those routes identified in Figure 1 of my evidence and be extended to cover the entirety of the Greater Christchurch area.

Dated: 15 February 2019

A handwritten signature in blue ink, consisting of several loops and a trailing line that ends in a small arrowhead pointing to the right.

Courtney Jennie Groundwater

Before the Greater Christchurch Partnership Hearings Panel
at Christchurch

under: the Resource Management Act 1991, Land Transport
Management Act 2003 and Local Government Act 2002

in the matter of: Submissions in relation to the draft Our Space 2018-
2048: Greater Christchurch Settlement Pattern Update

Whakahāngai O TeHōrapaNohoanga

and: **Lyttelton Port Company Ltd**
Submitter 067

Statement of Evidence of Matthew William Bonis

Dated: 15 February 2019

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STATEMENT OF EVIDENCE OF MATTHEW WILLIAM BONIS

INTRODUCTION

- 1 My full name is Matthew William Bonis.
- 2 I am an Associate at Planz Consultants in Christchurch. I have held this position since 2009.
- 3 I hold a Bachelor of Regional Planning degree, and have been employed in the practise of Planning and Resource Management for 23years. I am a full member of the New Zealand Planning Institute.
- 4 I am providing planning evidence on behalf of Lyttleton Port Company Limited (*LPC*) (submitter number 067) in relation to LPC's submission on the draft *Our Space 2018-2048: Greater Christchurch Settlement Pattern Update*.
- 5 I am familiar with the submission made by LPC on 29 November 2018 and the planning issues discussed in that submission.
- 6 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the code of conduct for expert witnesses contained in part 7 of the Environment Court Practice Note 2014. I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.
- 7 I have identified my evidence where I have relied on the evidence of the following in making my conclusions:
 - 7.1 Mr Mike Copeland – Economics; and
 - 7.2 Ms Courtney Groundwater – Transport.

SCOPE OF EVIDENCE

- 8 My evidence will deal with the following:
 - 8.1 Evidence common to both and (067) and CIAL (039) – the purpose and structure of *Our Space* as it applies to the Port (and airport) and its role in the planning hierarchy;
 - 8.2 An introduction to the planning issues relevant to LPC;
 - 8.3 Points raised in LPC's submission on the draft *Our Space 2018-2048* document, including:

- (a) Lyttelton Port (including Midland Port and City Depot) as regionally important and strategic infrastructure;
- (b) Urban limits and the Port reclamation;
- (c) Key freight routes and rail; and
- (d) Rolleston Overpass.

8.4 Response to issues raised in the officer's report dated 8 February 2019.

EXECUTIVE SUMMARY

- 9 The *Our Space* document is critical in terms of determining and facilitating long term land use and infrastructure decisions for Greater Christchurch.
- 10 The importance of *Our Space* in setting direction, and its statutory implementation in relevant RMA 1991 and LGA 2002 plans and policies is significant.
- 11 This Future Development Strategy should not only outline how long term housing and business growth is to be provided for, but equally how it will encourage a well-functioning urban environment to provide for Greater Christchurch communities' wellbeing
- 12 Lyttelton Port of Christchurch over its long term planning horizons will be dependent on the its ability to rely on clear statements in *Our Space* as to the economic and social significance of its operations as *Strategic Infrastructure*. Concerningly, the document does not provide a coherent approach to the role and function of freight routes as a key part of the strategic network, and the appropriate inclusion of Te Awaparahi in the urban limits.

EVIDENCE COMMON TO BOTH CIAL (039) AND LPC (067) – THE PURPOSE AND STRUCTURE OF *OUR SPACE*

- 13 The purpose of *Our Space* is not as clear as it could be.
- 14 Our Space seeks to combine the role of a Growth Strategy as prepared under the Local Government Act 2002 (*LGA2002*) with the requirements of the National Policy Statement – Urban Development Capacity (*NPS-Capacity*) under the Resource Management Act 1991 (*RMA1991*).¹ This is a laudable aim; however, it remains unclear the extent to which *Our Space* will drive subsequent statutory

¹ Especially Policy PA1 and PC1.

processes, and in the absence of robust analysis what this means in terms of growth patterns and infrastructure provision.

- 15 Figure 6 of *Our Space* outlines the role and function of the Settlement Pattern Update in the hierarchy of statutory and non-statutory plans and policy statements.
- 16 It appears from Figure 6 and the text of section 2.5 of *Our Space* that the intention of *Our Space* is that it will feed into subsequent revisions of the Canterbury Regional Policy Statement and the Christchurch, Waimakariri and Selwyn District Plans.² The text of section 2.5 also notes that:

"the implementation of some of the planning responses proposed in this Update will also require changes to resource management documents, including to the Canterbury Regional Policy Statement and district plans for Christchurch City, Selwyn and Waimakariri."

It would be beneficial if the *Our Space* document provided more clarity as to the extent and scope of these potential changes.

- 17 In terms of context, the Resource Management Act 1991 (*RMA*) requires that councils must have regard to management plans and strategies prepared under other Acts to the extent that their content has bearing on the resource management issues of the region (s61(2)(a)(i) and s74(2)(b)).
- 18 The intent of *Our Space* is that it will influence changes to Chapter 6 of the CRPS, relevant District Plans and Long Term Plans prepared under the LGA. There is some difficulty to gauge both the scope of changes that may be imposed, and importantly in terms of the freight transport network, the importance of any gaps in *Our Space*.
- 19 I understand, through my involvement in District Plan changes for Taupo District, that the relevance of Growth Strategies to RMA instruments can be substantial.
- 20 I understand there is a body of case law which suggest that considerable weight should be given to relevant non-RMA plans and strategies.³ I am also aware based on my own experience assisting councils to prepare growth strategies that the fundamental role of such documents is to enact a land use and infrastructure strategic plan to be implemented by the respective statutory plans under the RMA1991 and LGA2002.

² Draft *Our Space* 2018-2048: Greater Christchurch Settlement Pattern Update (*Our Space*), Figure 6.

³ For example, *Mapara Valley Preservation Society Inc v Taupō District Council* (A083/07) and *Sade Developments No.2 Limited v Taupō District Council* (A083/09), dealing with the Taupo District growth strategy.

- 21 The purpose of outlining these concerns, which no doubt is well known to the Commissioners (and also those drafting *Our Space*) is that the statutory weight behind the Growth Strategy is not underestimated. For CIAL and LPC this is significant for two reasons:
- 21.1 both rely on clear statements and recognition in higher-order plans and policy documents as to the importance of the Port and Airport assets as strategic infrastructure, the avoidance of reverse sensitivity effects, and the role of CIAL and LPC in terms of employment and GDP growth to the region; and
 - 21.2 several of these matters are absent in the draft *Our Space* document, specifically the role and function of freight routes as a key part of the strategic network, and the appropriate inclusion of Te Awaparahi in the urban limits.
- 22 The Panel is respectfully asked to keep in mind when considering submissions on *Our Space* that:
- 22.1 the Officer's report recommendations on submissions deferring decisions to any subsequent CRPS review could preclude fair process and transparency in future planning processes; and
 - 22.2 there should be a robust policy and assessment platform to support the final role and function of the *Our Space*.

INTRODUCTION TO LYTTELTON PORT (INCLUDING MIDLAND PORT AND CITY DEPOT)

- 23 LPC operates three key sites within Greater Christchurch:
- 23.1 The Port of Lyttelton (*Lyttelton Port*), which encompasses areas at Naval Point, Dampier Bay, Cashin Quay, Te Awaparahi Bay and Gollans Bay.
 - 23.2 The City Depot in Woolston (approximately 12ha), with access off Chapmans Road and by rail siding.
 - 23.3 Midland Port in Rolleston (approximately 27ha), with access off Jones Road and by rail siding.
- 24 Lyttelton provided the first safe anchorage to the Canterbury Plains in 1850. However comprehensive transformation of the Port largely commenced in the 1950's and 1960's. In 1964 Cashin Quay commenced operations, providing berths for larger vessels. In the same year the road tunnel to Christchurch opened.

- 25 Developments at Chapmans Road (early 2000's) and Midland Port (2012) have added integrated freight hubs that are interwoven with LPC's portside operations.
- 26 These Inland Ports have been developed to enable containerised cargo for export to be aggregated before transport by rail or road to Lyttelton Port; they also allow for containerised imported freight to be disaggregated at locations relatively close to, and within the main South Island domestic market.
- 27 Substantial re-investment and rebuilding has occurred at Lyttelton Port since the damage inflicted by the Canterbury earthquake sequence. Reinstatement work was estimated at some \$500million.
- 28 The Port Recovery Plan as directed by the Minister for Canterbury Earthquake Recovery was gazetted in 2015 to facilitate that recovery including:
- 28.1 a total reclamation of 34 hectares of land at Te Awaparahi Bay;
 - 28.2 the repair and rebuilding of wharf structures and infrastructure including Cashin Quay;
 - 28.3 commercial activities at Dampier Bay (including a marina) and the office redevelopment at the Inner Harbour; and
 - 28.4 enablement of dredging, including berth pockets and the main navigational channel.
- 29 The Port Recovery Plan⁴ also identified that pinch points along Brougham Street corridor, Port Hills Road / Chapmans, the Lyttelton Tunnel Road and conflicts relating to Norwich Quay could result in congestion Post 2026 – 2041, without substantial upgrading being undertaken. A Memorandum of Understanding was established between relevant Agencies setting out the principles of resolving these issues⁵.
- 30 The strategic freight network (road and rail) is therefore crucial to supporting the interwoven characteristics of LPC's total infrastructure, and accordingly Canterbury's economic and employment prosperity.

⁴ Port Recovery Plan. Appendix 12 – Integrated Transport Assessment

⁵ Christchurch City Council, Canterbury Regional Council, the New Zealand Transport Agency, LytteltonPort Company Limited and KiwiRail agreed to develop a Memorandum of Understanding that sets out the principles of working together to ensure a transport network that supports recovery while maintaining safe and efficient transport solutions for users.

- 31 In terms of economic importance to the Region and South Island, **Mr Copeland** identifies that:
- 31.1 Assets associated with LPC exceed \$390million. There are over 550 direct employees, and some \$56.7million paid in wages (2018).
 - 31.2 In terms of tonnage, Lyttelton Port is the largest port in the South Island, and the fourth largest in New Zealand. It is the second largest export port behind Tauranga.
 - 31.3 By volume, the Port accounts for 30.7% of South Island's overseas exports and 45.1% of imports.
 - 31.4 Container trade has increased 10-fold over the last 30 years. General cargo and containers have increased 17.8% since 2010.
 - 31.5 LPC forecast container growth to be over 1 million by 2041, from 424,560 (June 2018).
 - 31.6 Some 35% of employment in the Canterbury Region (some 104,600 employees all rely to some extent on efficient Port operations).
- 32 The statutory and planning hierarchy– as this integrates in with LPC's submission points, is as follows:
- 32.1 **Civil Defence Emergency Act (2002)** identifies the Port as a 'lifeline utility';
 - 32.2 **Christchurch City Council Transport Plan (2012 – 2042)** identifies the Port as 'significant infrastructure'.
 - 32.3 **The Urban Development Strategy (2007)** identifies the Port (and Airport) as strategic regional infrastructure to be protected and enhanced⁶, and that the Port noise contours were a constraint to development⁷.
 - 32.4 **New Zealand Coastal Policy Statement (2010)**, recognises that the provision of infrastructure in the coastal environment is important to the social, economic and cultural wellbeing of people and communities;⁸ and some activities

⁶ Urban Development Strategy (2007). 'Encouraging Prosperous Economies' [15, 16]

⁸ NZCPS **Policy 6(1(a))**

have a functional need to be located in the coastal marine area⁹.

32.5 **Canterbury Regional Policy Statement (2013) (CRPS)** identifies Lyttelton Port, CityDepot and Midland Port as *Regionally Significant and Strategic Infrastructure and Critical Infrastructure*.

32.6 Objectives and policies¹⁰ seek to ensure that development does not adversely affect the efficient operation, use, and development and future planning of the Port as strategic infrastructure. The CRPS specifies that only new development should be provided that does not affect the efficient operation, use, development, and appropriate upgrade of the Port.

32.7 The social, economic and cultural well-being benefits of regionally significant and strategic infrastructure are to be recognised.¹¹

32.8 Land use integration with a safe, efficient and effective transport system is sought to meet local, regional, inter-regional and national needs for transport, **including for the movement of goods**¹². (my emphasis).

32.9 The Lyttelton Port of Christchurch is identified in the **Christchurch District Plan (2016)** as *Strategic Infrastructure*, being:

"those necessary infrastructure facilities, services and installations which are of greater than local importance. It includes infrastructure that is nationally significant".

32.10 Port Noise contours were formalised through the Banks Peninsula Operative District Plan (2005), and have been carried over into the operative Christchurch District Plan.

32.11 The Port Noise Contours (which are to be updated regularly) have a dual function to both manage the generation of noise, and to prevent sensitive activities from establishing within the contours so as to prevent nuisance, annoyance and potential restraints. There are duties on LPC to provide for acoustic insulation to existing sensitive activities within the residential

⁹ NZCPS **Policy 6(2(c))**

¹⁰ CRPS **Objective 6.2.1** and **Policy 6.3.5(4)**

¹¹ CRPS **Objective 5.2.2, Policy 6.3.5**

¹² CRPS **Objective 5.2.3, Policy 5.3.2(3)**

zone when these become contained within the measured 65dBA Ldn contour.

- 32.12 There are no established noise contours associated with the Industrial Heavy zoned site at City Depot.
- 32.13 The Special Purpose (Port) zone is contained within the 'existing urban area' boundary in CRPS-Map A. The exception is that area of reclaimed land (34ha) associated with Te Awaparahi Bay as enabled by the Port Recovery Plan. The reclamation area is also not identified in the Christchurch District Plan as Special Purpose (Port) zone.
- 32.14 No noise contours are associated with the Business 2A zoned site at Midland Port in the operative **Selwyn District Plan**. LPC is currently consulting with Selwyn District Council to notate Midland Port as Special Purpose (Port) zone¹³, and to establish noise contours within their District Plan review.
- 33 The implications for *Our Space* from the above are as follows:
- 33.1 The Port plays an essential role in the current and future economic wellbeing of the Region in that it is a key economic driver of growth and the exchange of freight.
- 33.2 The Port is recognised in the higher order statutory documents as *Strategic Infrastructure*. This extends to Midland Port and City Depot.
- 33.3 The efficient operation and development of Port operations (and associated infrastructure) is to be provided for, including through limiting activities which may otherwise lead to restraints on Port operations.
- 33.4 The importance of identifying and protecting key freight routes and rail.
- 34 The purpose of *Our Space* is to address significant sub-regional issues, and will subsequently inform changes to the CRPS, district plans and other processes under the LGA2002 / LTMA2003¹⁴. Accordingly, it seems logical that matters associated with the matters discussed in paragraph 33 above are reflected in *Our Space* and the future growth and operations of LPC across all of its Port sites are provided for.

¹³ Draft National Planning Standards. Zone Chapters (S-Zones) Page 43.

¹⁴*Our Space – Officers Report* [pg 1]

ISSUES RAISED IN LPC SUBMISSIONS TO THE DRAFT OUR SPACE 2018-2048: GREATER CHRISTCHURCH SETTLEMENT PATTERN UPDATE

Lyttelton Port of Christchurch as regionally significant and strategic infrastructure

- 35 *Our Space* identifies Lyttelton Port of Christchurch as Strategic Regional infrastructure, which is to be protected.¹⁵ Figure 18 also identifies Lyttelton Port, and Midland Port and City Depot as 'Freight Hubs'.
- 36 As identified above, there is considerable statutory recognition of LPC as Regionally Significant Infrastructure¹⁶ or Strategic Infrastructure¹⁷.
- 37 **Mr Copeland** has also identified the economic and social importance of the Port, and **Ms Groundwater** has described the significance of Lyttelton Port, City Depot and Midland Port from a transportation perspective, including the reliance these sites place on the transport network.
- 38 LPC has supported the identification of Lyttelton Port, City Depot and Midland Port as *Strategic Infrastructure* to be protected. This is consistent with the recognition found across other statutory and planning documents. This is not discussed in the Officers' report, presumably as this matter is not challenged.¹⁸
- 39 The Officers' Report does however¹⁹ identify that:
- 'the proposals in Our Space do not deviate from the long term growth strategy that has been in place for Greater Christchurch for some time, the proposals are not expected to have significant adverse effects on key infrastructure and therefore have only been briefly referenced.'*
- 40 I do not agree with this approach. It is not clear that *Our Space*, is intended to provide an update to the Urban Development Strategy (2007).
- 41 Furthermore, neither Midland Port nor Metro Port were established in 2007, and the subsequent protections provided by the CRPS did not emerge until 2013. Accordingly, I consider that an explicit statement in *Our Space* reiterating the importance of this

¹⁵ *Our Space*, page 5.

¹⁶ CRPS Objective 5.2.2, Policy 5.3.9

¹⁷ CRPS Objective 6.2.1, Policy 6.3.5.

¹⁸ *Our Space – Officers' Report*, page 62.

¹⁹ *Our Space – Officer's Report, Section 4(10) [page 23]*

infrastructure and a commitment to facilitating its efficient operation and protection is appropriate.

42 It is therefore recommended that Our Space be amended as follows:

42.1 Amend the following into Figure 3 [pg 5]:

Strategic regional and sub-regional infrastructure, including Lyttelton Port and Christchurch International Airport, service and utility, **and freight** hubs, and existing and future corridors, ~~is~~**are protected; the operation of this infrastructure is not compromised; and the health, safety and wellbeing of the communities of Greater Christchurch enabled.**

43 The need for such identification would both:

43.1 recognise the importance of the Lyttelton Port, Midland Port (and Metro Port) and City Depot as Strategic Regional Infrastructure, and the need for their appropriate operation, growth and development; and

43.2 supports the imposition of constraints on noise sensitive activities proximate to Port activities which provides important protection for Port operations.

Urban limits and the Port reclamation

44 The Port Recovery Plan facilitated some 34ha of reclamation as associated with Te Awaparahi Bay. The reclamation is to provide for deeper and longer shipping channels to be 'big ship capable'. CRC175507 (with a commencement date of 23 January 2018) provides the coastal permit for these works.

45 The area of reclaimed land near Te Awaparahi Bay is to be used for a range of Port, logistics and cargo handling activities. Additional benefits are provided by locating noise generating sources away for more sensitive receivers in Lyttelton township to new facilities at Te Awaparahi Bay.

46 In order to ensure that the appropriate Port operations zoning is applied to this area, and the respective CRPS and District Plan provisions do not cause any unnecessary impediments, it is necessary to include this area within the 'Urban Limits' boundary identified in Figure 18. The full extent of the reclaimed area (as provided for by CRC175507) is appended as **Attachment A**.

- 47 The Officer's Report²⁰ recommends that this change is not made, as:

"the appropriate process to consider any alteration to the PIB is during the review of Chapter 6 of the CRPS scheduled for 2020".

- 48 It appears from the text of *Our Space* that there are going to be amendments to the CRPS flowing from this process. I consider this is therefore an appropriate time to ensure that the urban boundaries are correctly set to support what essentially is an administrative tidy-up to ensure that land reclaimed as surrounded by urban activities and supporting urban uses, is correctly identified as being within the urban boundary.
- 49 The alternative is that there remains a gap until 2020 (and beyond for consequential changes to the District Plan) between the clearly identified use of the site, as enabled through resource consent, and the statutory platform that will ultimately recognise and zone for such. As *Our Space* is supposed to reflect the settlement pattern of Greater Christchurch, it would be appropriate that it sets out the actual and planned future extent of the Lyttelton Port.
- 50 The proposed change to Figure 16 will then ensure, if it flows through to amendments in the CRPS, that the (urban) Port uses undertaken by LPC on the reclamation at TeAwaparahi Bay is proactively and appropriately recognised.
- 51 In the interim, it would provide a higher level non-statutory document that signals that port activities are appropriate in Te Awaparahi Bay, against a regulatory backdrop (CRPS and Christchurch District Plan) that issues *avoidance* policies²¹ for urban activities undertaken outside of recognised urban limits.
- 52 It is therefore recommended that the following be amended within *Our Space*:
- 52.1 Insert the Port reclamation at Te Awaparahi Bay as provided in Attachment A into Figure 16 [pg25] as 'Existing Urban Area'.
- 52.2 This area should be incorporated in the Business Feasibility Assessment (Appendix 12 – Feasibility Assessments) to *Our Space*²² as needed.

²⁰*Our Space – Officer's Report [page 63]*

²¹ CRPS – **Objective 6.2.1**, Christchurch District Plan – Strategic **Objective 3.3.7(a)(iii)**

²² Cluster 52B: Lyttelton Industrial Area does not include the Port zoned areas.

Identification of key freight routes

- 53 The evidence of **Mr Copeland** identifies the predicted increases in container movements and coastal shipping. **Ms Groundwater** identifies that this may result in increased demand for short distance freight trips to LPC's various Port locations, and increased rail loadings.
- 54 There is little evidence to demonstrate that the transport network has the capacity to accommodate not only this growth, but also subsequent trips generated by increases in housing demand and employment over the 30 year period associated with *Our Space*.
- 55 These transport congestion and resilience issues, as they relate to Port operations are not new. As above, pinch points on Brougham Street corridor, Port Hills Road / Chapmans, the Lyttelton Tunnel Road, and Norwich Quay were identified in the Port Recovery Plan.
- 56 As **Ms Groundwater** explains, the success of LPC, or indeed any of the identified employment areas, is predicated on efficient and effective transport connections.
- 57 I understand that congestion can led to delays, and variable travel times, add cost to the freight of goods, and impact on environmental quality. In terms of the NES-Capacity the provision of appropriate transport (development infrastructure²³) is a key requirement and determinant in achieving targets for housing and employment.
- 58 The NPS-Capacity seeks to ensure that decisions regarding housing and business land development (PA1) is supported by infrastructure to enable urban development (PA2).
- 59 Our Space contains general statements as to the need to integrate land use and transport²⁴. However, the focus in relation to the transport network is redevelopment opportunities along 'core transport corridors', a significantly enhanced public transport system, and cycleways²⁵.
- 60 Freight is mentioned once, only at page 27 as below. There are no freight routes explicitly identified in *Our Space* or Figure 18 'Greater Christchurch Transport Network':

"Christchurch is a major freight hub for the South Island with two inland ports, the Port of Lyttelton and Christchurch International Airport, acting as major

²³ NES-Capacity Policies PA1, PA2, PA3(b), PB3, PB5 (as this relates to NZTA) and PC13

²⁴ *Our Space* Section 4.1 Integrating Land Use and Transport Planning to shape desired urban form, Section 5.6 Transport and Other Transport.

²⁵ *Our Space* Figure 18.

gateways for produce and people. An important part of managing the transport network is to ensure that freight can be moved efficiently to and through Greater Christchurch and this will require effective management of congestion on the main freight routes”.

- 61 It is understood that *Our Space* should not simply highlight that congestion cannot be simply removed through capital works, and that progress is made through:
- 61.1 Adding targeted investment in priority upgrades;
 - 61.2 Ensuring that the efficient and effective functioning of strategy networks (road and rail) is maintained and enhanced, including through avoiding reverse sensitivity and limiting opportunities for side friction, access points;
 - 61.3 Encouraging uptakes in modal choice, reducing reliance on private vehicle trips; and
 - 61.4 Changing travel behaviour (such as through reducing single purpose trips and travel management).
- 62 I do not think that *Our Space* provides sufficient clarity on a number of these matters.
- 63 Figure 18 ‘Greater Christchurch Transport Network’ which purports to relate to the transport system is not referenced in the text. There is also no broader context in relation to transport and land use integration, staging and sequencing, or additional targeted works.
- 64 The limiting implications of the transport network (congestion and efficiency) on feasible business development are explicitly identified in the Business Development Capacity Assessment:

*“The assessment also flags that further business development along with the projected significant additional population growth in Greater Christchurch is likely to lead to reductions in the level of service and capacity of transport infrastructure, **with increasing delays and congestion on the network, and which may have a constraining impact on economic growth if not carefully managed.** This is matter of importance to broader land use patterns, including residential growth and will need careful consideration **as part of the Future Development Strategy and broader Settlement Pattern Review**”.*(my emphasis).²⁶

- 65 *Our Space* identifies itself as the *Future Development Strategy*:

*“The Update has been prepared in order to satisfy the requirement to produce a **future development strategy**, as outlined in the National*

²⁶ Business Development Capacity Assessment [pg 10, 75, 79, Figure A7-1 and 121]

Policy Statement on Urban Development Capacity (NPS-UDC)". (my emphasis).²⁷

66 I am unable to reconcile these statements. I remain unsure as to whether the congestion and capacity constraints identified in the Business Development Capacity Assessment are resolved in *Our Space* as the Future Development Strategy. This is certainly not apparent, and counterintuitive to the explicit statement in Section 5.5 of *Our Space* which states that the:

" Further major investment in road networks is not scheduled".

67 **Ms Groundwater**²⁸ identifies that background to *Our Space* acknowledges:

67.1 Travel times based on the projections being potentially 60% longer in 2048 than at present;

67.2 Substantial associated costs associated with congestion of some \$200million per annum, including those associated with delays in freight to and from the Port and Airport²⁹;

67.3 In the absence of targeted interventions, there will be an increase in health impacts, and a decrease in access, social mobility and wellbeing.

68 The provision of 'feasible development' for the purpose of the NES-Capacity is a function of integrated development infrastructure³⁰.

69 It appears remiss that there is not a comprehensive identification of key freight routes across Greater Christchurch in *Our Space*. It is considered that these are explicitly identified, protected and acknowledged in conjunction with Figure 18 and the future development areas in Figure 16.

70 This gap in *Our Space* appears to be recognised and accepted by the Reporting Officer, although no amended wording is proposed³¹.

71 I therefore recommend the following:

²⁷ Our Space [page i]

²⁸ EIC Groundwater. [39 – 43]

²⁹ <http://greaterchristchurch.org.nz/assets/Documents/greaterchristchurch/Our-Space-consultation/Greater-Christchurch-Housing-Capacity-Assessment-reports-1-4.pdf> [page 264]

³⁰ NES-Capacity Policies PA1, PA2, PA3(b), PB3, PB5 (as this relates to NZTA) and PC13

³¹ *Our Space Officers Report. Pg 28, 48.*

71.1 Further analysis is undertaken as outlined by **Ms Groundwater**³² that further collaborative piece of evidence is undertaken that draws together the projected growth in the Update, which sets out an appropriate set of performance measures and targets for the transport system to 2048, including targeted funding, and *Our Space* amended accordingly.

71.2 Within *Our Space*:

(a) Delete the reference in Section 5.6 'Transport and other Infrastructure' [pg 27]:

~~"...longer journey times. Further major investment in road networks is not scheduled. For Greater Christchurch..."~~

(b) insert into Section 5.6 'Transport and other Infrastructure' [pg 27]:

The efficient movement of goods and services is essential to prosperity and realising employment growth. Lyttelton Port of Christchurch and Christchurch International Airport are Canterbury's and the South Island's main national and international gateways.

There is also a significant role undertaken by strategic road and rail links in the distribution of freight within Greater Christchurch, as well as to neighbouring regions and the rest of New Zealand.

It is crucial that such infrastructure and networks are upgraded and improved to meet future demand, as travel delays and uncertainty from congestion creates real and substantial costs to businesses and impacts on realisable economic and employment growth in Greater Christchurch.

71.3 Amend Figure 18 (or preferably through the insertion of a new Figure and associated text), explicitly identifying Greater Christchurch's future strategic transport network, including: Christchurch International Airport, Lyttelton Port of Christchurch, City Depot, Midland Port and MetroPort, and Rapid Transit Routes, Core Public Transport routes, and necessary upgrades (including those set out in the evidence of Ms Groundwater, referencing the Christchurch Freight Management Strategy).

³² EIC Groundwater [63]

Constraints on the Rail network

- 72 LPC's three facilities are interconnected by the rail network. Both Midland Port (rail siding capacity for two 60 TEU trains) and City Depot (24 wagon rail siding) have been commissioned as transfer points between trucks and trains to improve container freight efficiencies.
- 73 **Ms Groundwater**³³ has identified based on previous and ongoing studies that a number of potential interventions would ensure and enhance the efficiency of freight movements by rail. These include:
- 73.1 the Rolleston Flyover which results in the closure of the level crossing on Hoskyns Road providing additional marshalling and shunting space and easier access to Midland Port from the south and west;
 - 73.2 Duplication of the main trunk line between Islington and Rolleston which increases mode share for Izone, including both Midland Port and Metro Port; and
 - 73.3 Acknowledgment and response planning that the current configuration of Middleton Yard is approaching capacity in five to ten years. Middleton Yard is important for staging freight between the north and the Port.
- 74 There are no references in *Our Space* to the role and function of Rail in terms of the movement of freight.
- 75 No assessment of the rail network is provided or whether there are capacity constraints that could / should be addressed through targeted intervention.
- 76 Given the substantial investment by LPC and Port of Tauranga in the Inland Ports at Midland and MetroPort, as well as connections to City Depot and the Port, it seems remiss that there are no definitive statements as to the long term role of rail for the transport of freight.
- 77 It is therefore recommended that the following be undertaken:
- 77.1 Further analysis is undertaken of the existing capacity of the rail network to convey freight efficiently and effectively for the 30 year timeframe of *Our Space*. The conclusions of which should be incorporated through amendments to Figure 18 (or preferably through the insertion of a new Figure and

³³EiC Groundwater [58]

associated text), identifying Rail links as a critical component of the Freight network and identifying targeted interventions.

77.2 Within *Our Space*:

Identify in Figure 18 timing and works associated with the Rolleston Flyover which improves efficiency of rail access for Midland Port.

CONCLUSIONS

- 78 *Our Space* represents a considerable undertaking by the respective Joint Partners.
- 79 Largely, the draft Strategy manages to combine the requirements of the NES-Capacity, including those associated with a Future Development Strategy (PC12 – PC14).
- 80 Given the importance of this Strategy in terms of guiding future changes to statutory documents (the CRPS and District Plans), there is a need for the Commissioners to be satisfied that it is robust, adequately incorporates necessary infrastructure support to provide for business and residential growth, and appropriately identifies and acknowledges key elements of Greater Christchurch’s urban form.
- 81 This evidence supports the Strategy in terms of its direction, and its recognition of the Port, Midland Port and City Depot, and associated rail and roading networks as Strategic Infrastructure.
- 82 This evidence, based on that provided by **Mr Copeland** and **Ms Groundwater** has recommended improvements in terms of clearly identifying and protecting strategic freight routes (which extends beyond just the issues raised by Port), as well as administrative amendments to Figure 16 to align the urban boundary with the reclamation at Te Awaparahi Bay

Dated: 15 February 2019



Matthew William Bonis

Attachment A: TeAwarahi Bay Reclamation Project – Site Map

Plan CRC175507

