UNDER the Resource Management Act 1991 ("**RMA**")

AND

IN THE MATTER of a notice of requirement ("**NoR**") for a designation by KiwiRail Holdings Limited ("**KiwiRail**") for the Palmerston North Regional Freight Hub ("**Freight Hub**") under section 168 of the RMA

STATEMENT OF EVIDENCE OF RICHARD PALING
ON BEHALF OF KIWIRAIL HOLDINGS LIMITED

ECONOMICS

1. SUMMARY

1.1 Increasing the efficiency and capacity of intermodal freight facilities in the Palmerston North area through the construction of the Freight Hub will provide a range of economic benefits. These benefits will accrue both to Palmerston North and the surrounding area but also more widely to the extent that the new facilities support more efficient longer distance train movements and encourage the transfer of freight from road to rail with the consequent social and environmental benefits

1.2 The economic benefits include both direct impacts on the costs of the movement of goods and also indirect development impacts as firms adjust their operation to take advantage of the new opportunities that the Freight Hub provides. This evidence considers both these direct and indirect impacts.

1.3 The proposed Freight Hub's significance needs to be considered within the broader national context of rail in New Zealand, as outlined in the 2021 New Zealand Rail Plan ("**Rail Plan**"), the desire by Central Government to encourage the use of rail for the movement of freight in order to reduce the climate change effects of transport, and also the social and other environmental costs of the movement of freight by road.

1.4 These national objectives are also supported by a range of local plans and initiatives. At a more local level the Freight Hub would support the role of Palmerston North as the major distribution centre for the Lower North Island

with a catchment area reaching from Taranaki and Hawke's Bay down to Wellington. Because of this role, logistics plays a relatively large and rapidly growing role in the local economy and efficient logistics would also support producers in the area sending their outputs, mainly of primary products, for export. The new facilities would address the emerging shortages of capacity in container handling and would also help facilitate the use of longer more efficient trains.

1.5 I have identified a range of potential impacts from the provision of the new Freight Hub. Positive impacts include:

(a) improved freight handling and reduced transport costs;

(b) impacts associated with freeing up the Existing Freight Yard;

(c) potential for new development in the vicinity of the Freight Hub; and

(d) impacts on local businesses including those in the North East Industrial Zone ("**NEIZ**").

1.6 Some potentially negative impacts include:

(a) access to the workforce; and

(b) effects on access to existing firms in the vicinity of the Freight Hub.

1.7 Overall, in my opinion, the benefits of the development and operation of the Freight Hub in this location are positive.

2. INTRODUCTION

2.1 My full name is Richard Snowden Paling. I am an independent transport and economics consultant at Richard Paling Consulting. I hold the qualifications of a BSc (Economics with Statistics) from the University of Bristol in 1972 and a Masters degree (Transport Economics) from the University of Leeds in 1974.

Experience

2.2 I have 45 years of experience as a transport economist and transport planner, providing technical analysis and direction in the development and assessment of projects covering almost the entire range of modes within the transport sector. I have worked in a number of countries around the world. I

moved to New Zealand in 2004 and in 2005 set up my own company, Richard Paling Consulting, of which I am a director.

2.3 Since moving to New Zealand in 2004 I have been involved in a wide range of transport projects throughout the country and have undertaken a number of studies developing innovative approaches to address transport problems and issues. Of particular relevance to the Freight Hub, I have been involved in a number of studies looking at the wider effects of transport investment and work in the freight sector, which I describe below.

Research on the wider economic effects of transport investment

2.4 When I first moved to New Zealand, I was involved in a range of initial studies which focused on developing processes to help understanding the possible linkages between transport provision and economic development. As part of that work I was the co-author of several publications for the Ministry of Economic Development in 2006 and 2007.[1] This initial work was subsequently refined and now forms an integral part of the economic evaluation procedures used in New Zealand for the appraisal of transport projects. This is set out in detail in the Waka Kotahi / New Zealand Transport Agency Monetised Benefits and Costs Manual ("**MBCM**").[2] The development of the initial framework was followed by a number of studies applying these techniques, particularly in Auckland,[3] where the initial modelling was developed, and was also applied more widely, for example, in the Roads of National Significance ("**RoNS**") and a number of other major transport projects.[4]

2.5 In addition, the recent focus of the Provincial Growth Fund ("**PGF**") in providing funding for transport projects in regional New Zealand has required the establishment of assessment approaches which enable the economic development impacts of individual transport investments to be assessed on a broadly consistent basis. To address this issue, I have developed approaches to assess these impacts in a quantitative manner and have

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1 Williamson J, Paling R Staheli R and Waite D *Assessing Agglomeration Impacts in Auckland Phase 2* MED Occasional Paper 08/06 2008; Williamson J, Paling R Staheli R and Waite D *Assessing Agglomeration Impacts in Auckland Phase 2* MED Occasional Paper 08/06 2008.

2 Section 3.10 Monetised Costs and Benefits Manual (MBCM), Waka Kotahi 2020.

3 Paling R and Williamson J *Wider economic Impacts of the Waterview Connection*, for Transit New Zealand 2007.

4 Appendix C Roads of National Significance Economic Assessments Review, SAHA for NZ Transport Agency 2010.

applied these in studies, including upgrading SH2 and SH35 in Tairāwhiti and the Twin Coast Discovery Route in Northland.

Involvement in other freight studies

2.6 I have undertaken a wide range of freight related work across New Zealand. I was the technical lead for the National Freight Demand Study in 2008[5] and the subsequent two updates in 2014[6] and 2019.[7] I have also undertaken a range of regional and local freight studies, including in relation to the provision of facilities for freight in connection with the development of intermodal logging hubs in Southland, and a more general assessment of the potential for developing similar facilities for logs and other commodities across the South Island.[8]

Involvement in the Freight Hub

2.7 I was engaged by Stantec in 2019 to provide advice on the economic development and wider economic effects associated with the Freight Hub to assist in the preparation of the Assessment of Environmental Effects Report ("**AEE**") and to support the NoR.

2.8 I provided technical input into the preparation of the multi criteria analysis ("**MCA**") and decision conferencing workshops considering the possible development impacts of alternative locations for the Freight Hub, including the assessment and scoring of the various options against the background of the freight position in the area.

2.9 I prepared the Analysis of the Potential Economic Development and Wider Economic Impacts of the New Regional Freight Hub in Palmerston North ("**Economic Assessment**") that was included with the AEE.

2.10 I also provided input to KiwiRail's section 92 response dated 15 February ("**First Section 92 Response**"). This included matters relating to:

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5 Richard Paling Consulting et al *National Freight Demands Study, September 2008* for Ministry of Transport, NZ Transport Agency and Ministry of Economic Development.

6 Deloitte in association with Richard Paling Consulting, Murray King & Francis Small Consultancy and Cooper Associates *National Freight Demand Study 2014* for Ministry of Transport.

7 Richard Paling Consulting, Murray King & Francis Small Consultancy and EROAD Limited *National Freight Demand Study 2017/18* for Ministry of Transport.

8 https://www.ecan.govt.nz/your-region/living-here/transport/regional-transport-planning/south-island-regional-transport-committee-group#ImplementationPlan.

(a) the positive and negative economic development impacts of the Freight Hub on users of the hub;

(b) the positive and negative economic development impacts on businesses and residents located in the vicinity of the Freight Hub;

(c) an assessment of the local and national economic benefits from the increased freight capacity at Palmerston North and any associated reductions in costs resulting from the provision of the Freight Hub; and

(d) an assessment of the potential positive economic effects which may result from the land, which is currently occupied by the Existing Freight Yard, becoming available for alternative use(s).

2.11 I provided input to KiwiRail's section 92 response dated 28 May 2021. This included matters relating to:

(a) the modelling surrounding the data and assumptions used to generate economic impact estimates; and

(b) the expected economic benefits of 1500m trains if introduced post-2050.

Code of conduct

2.12 I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise, except where I state that I am relying on the evidence of another person.

3. SCOPE OF EVIDENCE

3.1 This statement of evidence will:

(a) provide an overview of the value of rail and the Freight Hub in terms of its importance to Palmerston North and the wider economy;

(b) outline the existing freight patterns at the Existing Freight Yard and the projected patterns;

(c) outline the forecasted future freight patterns;

(d) explain key conclusions of the analysis of the potential economic impacts of the Freight Hub;

(e) respond to the submissions received that relate to the economic effects of the Freight Hub; and

(f) address relevant matters raised in the Section 42A Report.

4. VALUE OF RAIL AND THE FREIGHT HUB

4.1 The proposed Freight Hub's significance needs to be considered within the broader context of rail in New Zealand, as outlined in the Rail Plan[9] and other strategic objectives at a national, regional and local level to support the use of rail in New Zealand.

The New Zealand Rail Plan

4.2 The Rail Plan published in April 2021 identifies "Investing in the national rail network to restore freight rail and provide a platform for future investments for growth" as a Strategic Investment Priority. It recognises that rail is an integral part of New Zealand's freight supply chain and helps ensure resilience by providing an alternative transport option for distributors and exporters. It provides strong positive social, economic and environmental benefits and looks to support growth in the regions through completing the rail investments committed by the Crown through the PGF. As explained in Mr Moyle's evidence, the Freight Hub has received funding through the PGF.[10]

4.3 An estimate of the benefits of the existing rail system in New Zealand is set out in the Value of Rail in New Zealand report ("**Value of Rail Report**").[11] In total the Value of Rail Report estimated a value of rail in 2020 of about $1.7–2.1 billion. However, this report which updates earlier work for the position in 2015[12] does not separate out an estimate of the benefits relating to the movement of freight. The earlier work estimated these benefits to amount to about $350 million per year. The composition of this and the comparison with the earlier totals is as follows:

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9 https://www.transport.govt.nz/area-of-interest/infrastructure-and-investment/the-new-zealand-rail-plan/.

10 Evidence of Todd Moyle, dated 9 July 2021.

11 EY (2021) *The Value of Rail in New Zealand* Report for the Ministry of Transport February 2021.

12 EY (2016*) The Value of Rail in New Zealand* – 2016 For the NZ Transport Agency.

Table 4.1 Estimates of the "Value of Rail" 2015 ($m)		
Benefit category	Total for all users	Freight only
Reduction in emissions	9	6
Reduction in congestion	1,367	204
Safety savings	65	58
Maintenance savings	65	79
Total	1,505	**347**

4.4 The benefit of $347 million from the movement of freight can be compared with the total freight movements in 2015 of about 4.5 billion net tonne-kms ("**ntkms**") giving an average "value of rail" equivalent to about $0.08 per ntkm. The higher totals included in the most recent work indicate that the value of the freight component is likely to have increased but no estimate of this is available from the published material. On the assumption that the share of the total benefits which resulted on the movements of freight remained similar to the position estimated for 2015, the total would increase to about $400 – $500 million per year.

4.5 The Value of Rail Report also identifies other non-quantified benefits from the existing rail network. These include:

(a) Connectivity benefits – the ability of rail to connect people to work, social activities, and other people. For freight, connectivity between ports and regional suppliers / businesses, resulting in better connections for imports and export routes.

(b) Land use and value uplifts – these can arise when land in close proximity to train lines and trains stations experiences an uplift in value. The Value of Rail report also notes that uplift can also be experienced by industrial / commercial properties as well but to a smaller degree in comparison to residential properties. Not all businesses that rent or own the property will be able to use the rail line productively and generate returns from it.

(c) Resilience benefits for the transport network – for example rail provides an alternative route in the event of traffic congestion, a natural disaster or storm event which disrupts travel by road. In the Christchurch earthquake, for example, rail provided resilience by supplementing the road network for the transport of goods to the

affected areas, and in the Kaikōura earthquake rail was used to assist in the reconstruction of the main north-south highway.

Alignment of the Freight Hub with national, regional and local strategic objectives

4.6 The Freight Hub in Palmerston North can be viewed against the background of the Central Government's objective to improve the performance of the rail system.[13] The enhancement of rail facilities forms one of the key elements in the Rail Plan and the KiwiRail Statement of Corporate Intent for 2021-2023, which identifies the opportunities for KiwiRail to play a greater role in supporting economic activity in New Zealand. Further detail on the Freight Hub's alignment with the Government Policy Statement on Land Transport 2021 is outlined in the evidence of Ms Bell.[14]

4.7 As part of moves to make rail more attractive to potential users, the need has been identified to provide increased capacity for rail freight interchange in the Palmerston North area in order to serve the growing needs of the lower North Island. As the Cabinet Paper on the KiwiRail Palmerston North Regional Economic Growth Hub notes:[15]

> KiwiRail's current Palmerston North Freight Yard is now surrounded by urban development. Remaining on this site will not allow for expansion to accommodate predicted national freight growth and does not align with Palmerston North City Council's strategic rezoning plans. Lack of connectivity to new industrial areas, double handling, rail infrastructure restraints on train sizes, and an inability to meet some time critical requirements limit rail freight handling capabilities at the existing site.
>
> Securing a site in the NEIZ to develop an upgraded, future-proofed Regional Economic Growth Hub would best position KiwiRail and its freight partners to efficiently and sustainably deliver on New Zealand's growing freight demands for the next 50 to 100 years. The NEIZ has been developed as a key location for New Zealand's rail freight in central New Zealand taking freight from north, south, east and west, supporting planned roading infrastructure in the area with its proximity to airfreight and complementing overall regional transport initiatives. The site is:

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13 Government Policy Statement on Land Transport 2021 https://www.transport.govt.nz/area-of-interest/strategy-and-direction/government-policy-statement-on-land-transport-2021/

14 Statement of evidence of Karen Bell, dated 9 July 2021.

15 Provincial Development Unit KiwiRail Palmerston North Regional Economic Growth Hub 5 November 2018.

- Centrally located in relation to the large North Island import ports
- Near the Wellington regional population
- Well situated to handle the flow of import goods south through the North Island (from Auckland to Wellington).

4.8 The Regional Growth Study, commissioned by Central Government in 2015, in consultation with Horizons Regional Council and the district and city councils, identified opportunities to help realise the Manawatu Region's economic potential.[16] One of the enablers identified in the study covers distribution and transport and the Manawatu-Whanganui Economic Action Plan notes that:[17]

> ...the region has a mature transport network but with specific future requirements:
>
> Efficient and well-serviced hubbing. The region needs to have the capacity to efficiently collect, package and redistribute product – and in so doing, reduce costs and increase the speed associated with getting products to market, when compared to other international suppliers.

4.9 Achieving this would allow the city to take advantage of its location at the centre of rail and road networks which go toward all four points of the compass and so contribute to the region's economic development.

The strategic role of Palmerston North and the wider Manawatu-Whanganui region

4.10 Palmerston North city has developed as an important logistics hub with facilities serving the distribution and transport of freight across the lower North Island. The lower North Island is an area with a current population of 1.03 million, which is approximately 22 per cent of New Zealand's population (2018 Census) and with a similar proportion of the country's gross domestic product ("**GDP**"). Palmerston North's role as a logistics hub has been supported by its central location in the lower North Island and its location at a transport cross-roads for rail and road. Both the main east-west rail lines from Taranaki and Hawke's Bay and the main north-south NIMT connecting Auckland with Wellington and the South Island transit through the Region. State Highway 3 and State Highway 1 also intersect in the Region.

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16 https://www.growregions.govt.nz/regions/manawatu-whanganui/

17 https://www.accelerate25.co.nz/

4.11 The Manawatu-Whanganui Region is also an important producer of primary products destined for overseas export markets, many of which are transported to New Zealand's ports by rail for export. These may be in the form of products exported with little processing, such as logs, or in the form of more complex and higher value manufactured products particularly from the meat and dairy industries.

4.12 For logs in particular, because of the relatively low value of the product and the length of the hauls to the export ports of Napier or Wellington (190 kms and 140 kms respectively from Palmerston North), transport costs can have a substantial impact on the returns achieved by growers, amounting to up to about 20-25 per cent of the total typical export value of $160 per tonne.[18] As a consequence reductions to the overall cost of transporting goods for export can have particular economic benefits to the forest owners in the area. For other higher value products where transport costs are much lower as a proportion of the total export price, the quality of the service offered and the reliability of the service is probably more important, although savings in transport costs would potentially accrue to producers.

4.13 Given the Freight Hub's role as a potential link in the distribution chain for goods moving into and out of the Manawatu Region, improved rail services and handling facilities clearly have an important role to play in supporting these key activities and enhancing regional economic development both in Palmerston North and the wider region.

4.14 In my opinion, a new Freight Hub in Palmerston North will have a positive impact on the economy of the Palmerston North and wider area. This assessment considers the types of these economic impacts which are likely to arise and assesses their broad scale. There will also be broader positive impacts for the New Zealand economy as whole which are discussed in the evidence of Mr Colegrave.[19]

Importance of logistics to Palmerston North and the wider regional economy

4.15 The benefits from the reduction in freight costs and other improvements to the quality of service for goods handled at the Freight Hub will have a particular impact on the economy of the Palmerston North area because of the importance of the city as the major distribution hub for the southern North

[18] Based on 2018 figures derived from The Ministry of Primary Industries website https://www.mpi.govt.nz/news-and-resources/open-data-and-forecasting/forestry/wood-product-markets/

[19] Evidence of Fraser Colegrave, dated 9 July 2021, at Section 4.

Island. Logistics represents an important activity in the Palmerston North area, reflecting its location in the centre of the lower North Island and at the crossroads of a number of major road and rail routes. This has been recognised in the Palmerston North City Council ("**PNCC**") Long Term Plan 2018-2028 which states:[20]

> As a major freight and logistics hub for the lower North Island, we already shift six times the freight of Taranaki and two and a half times as much as Wellington. Developing our infrastructure will enable even greater opportunity in this critical sector.

4.16 At a more detailed level, the importance of distribution and logistics activities to the Palmerston North economy to which the Freight Hub would contribute, is emphasised in the relatively high shares of employment in the key distribution and logistics. Using the most recent statistics for 2020,[21] activities associated with logistics made up almost 10 per cent of the employment in Palmerston North City, compared to about 8 per cent nationally. This represents a share of local employment that is more than 20 per cent higher than the national position.[22]

4.17 The shares by activity for Palmerston North and New Zealand as a whole are set out in Table 4.2.

Table 4.2
Employment in transport and logistics related activities in Palmerston North and New Zealand 2020
(percentage of total employment)

Type of activity	Palmerston North	New Zealand
F Wholesale Trade	6.7%	5.0%
F33 Basic Material Wholesaling	0.8%	1.0%
F34 Machinery and Equipment Wholesaling	1.5%	1.3%
F35 Motor Vehicle and Motor Vehicle Parts Wholesaling	1.0%	0.4%
F36 Grocery, Liquor and Tobacco Product Wholesaling	2.7%	1.3%
I461 Road Freight Transport	1.5%	1.3%
I471 Rail Freight Transport	0.3%	0.0%
I51 Postal and Courier Pick-up and Delivery Services	0.6%	0.4%
I53 Warehousing and Storage Services	0.3%	0.3%
Total logistics related activities	9.4%	7.0%

4.18 In addition to being an important part of the local economy, growth in many of the subsectors related to logistics has been relatively high in recent years

20 https://www.pncc.govt.nz/council-city/official-documents/plans/10-year-plan/

21 Statistics New Zealand Business Demographics Database for 2020.

22 These figures supersede those for 2019 provided in earlier versions of this evidence.

with growth in these activities being about higher than for New Zealand as a whole. Growth has been particularly high for the movements associated with groceries and supermarkets, where employment has grown by almost a third since 2015. Improvements affecting distribution and logistics are therefore likely to have a relatively high impact in the Palmerston North area. The growing logistics activities in Palmerston North include distribution centres serving regional and national markets.

4.19 As well as the distribution of inbound goods to markets in the lower North Island, the logistics activities in Palmerston North also form part of the supply chains supporting the outbound movements of goods produced in the region. The districts surrounding Palmerston North are important producers of manufactured food products, particularly meat and dairy products. Employment in these sectors accounts for more than 10 per cent of the total for the surrounding areas of Manawatu and Rangitikei, and with a similar level of employment but a smaller proportion of the total workforce in Palmerston North.[23] Much of this output particularly of dairy and meat products is destined for overseas markets and efficient supply chains supporting these movements are therefore important. Rail using the Existing Freight Yard plays an important role in the movement of these products and improved services would benefit exporters.

4.20 The other important product from the area is logs destined for overseas markets. For this commodity transport, costs can make up a high proportion of the delivered costs at the export port. Minimising these costs is an important factor in achieving an adequate return to the grower and encouraging the longer-term sustainability of the industry with the resulting benefits for carbon capture supporting Central Government's broader climate change objectives.

5. EXISTING TRAFFIC AND FORECASTS

Existing freight traffic through the Existing Freight Yard

Introduction

5.1 The Existing Freight Yard is an important part of the logistics chain in the Palmerston North area and is a centralised distribution centre for freight, providing for:

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[23] Statistics New Zealand Business Demographics Database for 2020.

(a) the redistribution of freight travelling from Auckland / Wellington or the South Island to local areas via local rail;

(b) the distribution of freight to local areas via road; and

(c) the transfer of goods to rail for commodities produced in the Manawatu-Whanganui region, especially those destined for export.

5.2 The inbound movement of goods supports the role of Palmerston North as a major distribution centre for the lower North Island, while the outbound movement of goods primarily supports the movement of the primary products generated in the region for export to overseas markets.

5.3 Within the broader area surrounding the Manawatu-Whanganui Region, there is a smaller rail hub at Longburn mainly serving the needs of the industries located adjacent to it and with a focus on milk and dairy products and other chilled or frozen commodities.

Goods movements through the Existing Freight Yard

5.4 The volumes of goods handled at the Existing Freight Yard in 2019 amount to about 0.7 million tonnes, mainly comprising the outward movement of logs and other agricultural products for export and the inward movement of manufactured and retail goods for local and regional distribution. These account for almost all of the total movements inbound and reflect Palmerston North's role as the major distribution centre for the lower North Island with a catchment area stretching as far north as Taranaki and Hawke's Bay. Details of these are set out in Table 5.1 below.

Table 5.1
Main freight flows through the Palmerston North Existing Freight Yard 2018 / 2019
(000 net tonnes)

	Outbound	Inbound	Total
Dairy	3.5	0.0	3.5
Logs	280.1	0.0	280.1
Manufactured and retail items	35.9	303.8	339.7
Meat	31.0	0.0	31.0
Other agriculture	3.2	0.0	3.2
Other	1.7	3.1	4.8
Steel and aluminium	0.0	6.1	6.1
Total	**355.5**	**313.1**	**668.6**

5.5 Between 2018 and 2019 the volumes handled through the terminal increased by about 6 – 7 per cent, mainly driven by increases in the volumes of the

major commodities, logs outbound increasing by 10 per cent and manufactured goods inbound increasing by 9 per cent.

Through traffic at the Existing Freight Yard

5.6 As well as handling the transfer of goods between road and rail, the Existing Freight Yard at Palmerston North also handles the marshalling of the wagons passing through the area. In this context, the Existing Freight Yard serves a number of rail traffic flows from the north, south, east and west. The key flows include:

(a) Auckland to Wellington and the South Island (and return);

(b) Whareroa to Auckland (dairy);

(c) Whanganui to Wellington and north;

(d) Other traffic to and from New Plymouth;

(e) Gathering traffic from nearby stations to ship onwards, especially to the north (Pahiatua, Longburn, Marton);

(f) Karioi to Napier (pulp); and

(g) Other traffic to and from Napier.

5.7 In total, the traffic associated with these through movements (as distinct from the freight transferred between road and rail at the Existing Freight Yard) amounted to about 2.2 million tonnes in 2019, about 13 per cent of the total freight carried by rail across the country.[24] This represents an increase of about 20 per cent over the traffic recorded for 2018. Given the range of destinations served by the through services, improvements to the marshalling for these movements at the Freight Hub and associated reductions in costs would therefore have widespread positive economic impacts over the rail network and its customers across the country.

5.8 Combining this with the traffic transferred between road and rail at the Existing Freight Yard, the total rail freight including both through movements and traffic to and from Palmerston North would therefore amount to about 2.8 million tonnes per year.[25]

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24 Extracted from confidential data from KiwiRail on freight flows on the rail network.

25 Extracted from confidential data from KiwiRail on freight flows on the rail network.

5.9 The number of train movements through the Existing Freight Yard amounts to about 12,000 per year in 2018 or about 45 per day. Of these, about 10,000 would start or stop at the Existing Freight Yard. The details of these are set out in the Concept Design Report at Section 5.[26]

6. FREIGHT PATTERNS AND FORECASTS

6.1 The movement of goods through the Existing Freight Yard can usefully be considered within the context of the overall movements of freight both nationally and into and out of the Manawatu-Whanganui region. The forecasts of these provide an indication of the future markets in which rail will be involved, either maintaining or increasing their market share for key commodities.

National freight patterns

6.2 The revised National Freight Demand Study from 2017 / 2018 ("**NFDS**")[27] and the use of the associated Ministry of Transport Future Freight Model[28] gives a total growth in national domestic freight movements of about 45 per cent over the period from 2017 / 2018 to 2052 / 2053. These forecasts have been produced subsequent to the earlier estimates that are included in the Master plan for Intermodal Freight Hubs in New Zealand ("**Master Plan**") and now make an allowance for the updated population projections to 2048 available from Statistics New Zealand.[29] The revised NFDS and associated projections based on the Ministry of Transport model forecast a total national freight demand of 411 million tonnes in 2052 / 2053, compared to the earlier Masterplan forecasts of 393 million tonnes in 2050. I note that the Council's economist Mr Vuletich agrees that my forecasts are generally consistent with the outputs of the Ministry of Transport model and NFDS.[30]

6.3 However, although the total forecast future freight demand has remained broadly unchanged from that forecast in the Masterplan, there are differences in the growth patterns for the different commodities. In particular there is expected to only be limited growth in primary agricultural products balanced by increased flows of building materials and manufactured goods.

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26 Technical Report A dated 23 October 2020, at page 23.

27 "National Freight Demand Study 2017/18" Ministry of Transport September 2019

28 https://www.transport.govt.nz/statistics-and-insights/transport-outlook/sheet/updated-future-state-model-results.

29 Statistics New Zealand SubNational Population Projections 2018-2048.

30 Section 42A Technical Evidence of Shane Vuletich, dated 18 June 2021, at paragraph [90].

6.4 While the movements of milk and dairy products are likely to remain broadly constant in volume terms, a major feature of the forecasts is the scale of the log harvest and the extent to which this will be utilised for domestic production. The supply of logs is volatile and fluctuates both in response to the potential availability of trees of a suitable age for felling and to the level of demand and potential pricing on international markets. The forecasts in the NFDS over the longer term are derived from the Wood Availability Forecasts published by Ministry of Primary Industry.[31] These forecasts indicate substantial changes over time reflecting the availability of trees for harvesting and the likely intentions of the forest owners with a substantial decline in the volumes of logs harvested in the decade of the 2040s.

6.5 Although the position is expected to improve with increased log harvests over the later 2050s, the forecasts of the total log harvest and the flows of logs for export for 2052 / 2053 are below the levels currently being harvested and transported in New Zealand. Given the volatility of production, there is uncertainty with these forecasts and the levels of output that would arise beyond the forecasting period. Over the longer term, beyond this date, it is likely that with the current measures being supported by the Government with the proposals to plant a billion trees,[32] the volumes harvested and potentially transported through the Rail Freight Hub in the latter half of the century will increase above the levels predicted for 2052. The expected decline in log traffic to 2052 predicted in the NFDS represents a change from the assumptions in the Masterplan which assumed continued growth in this traffic.

6.6 Regional growth forecasts for the Manawatu-Whanganui region have been derived from the Ministry of Transport Future Freight Model[33] now updated to take account of the revised population and regional GDP projections. These have been used to give estimates of the possible changes in the demand for movement through an intermodal freight facility in Palmerston North, whether this is the Existing Freight Yard or the proposed new Freight Hub at Bunnythorpe.

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31 Wood Availability Forecasts for the different regions in New Zealand are available at https://catalogue.data.govt.nz/dataset/wood-availability-forecasts

32 https://www.mpi.govt.nz/forestry/funding-tree-planting-research/one-billion-trees-programme/about-the-one-billion-trees-programme/

33 https://www.transport.govt.nz/statistics-and-insights/transport-outlook/sheet/updated-future-state-model-results

6.7 The implications of these regional growth figures for the Freight Hub are set out in Table 6.1.[34]

Table 6.1
Forecast growth in the main freight demands through the main Palmerston North Freight Hub 2018 / 2019 – 205 / 2053
(000 net tonnes)

	Outbound			Inbound			Total		
	Flow in 2018 / 2019	Growth from 2018 / 2019	Flow in 2052 / 2053	Flow in 2018 / 2019	Growth from 2018 / 2019	Flow in 2052 / 2053	Flow in 2018 / 2019	Growth from 2018 / 2019	Flow in 2052 / 2053
Manufactured & retail items	35.9	26%	45.3	303.8	44%	437.5	339.7	42%	482.7
Other exc logs	39.5	1%	39.8	9.2	55%	14.3	48.7	11%	54.1
Total exc logs	75.4	13%	85.1	313	33%	451.8	388.4	38%	536.8
Logs	280.1	-71%	81.3	0.0	NA	0.0	280.1	-71%	81.3
Total	355.5	-53%	166.4	313.1	44%	451.8	668.6	-8%	618.1

6.8 For the main containerised and wagon load traffic flows particularly of manufactured and retail goods transported to the distribution centres in Palmerston North, the freight traffic through the Freight Hub is forecast to grow fairly substantially by 2052 / 2053. This largely reflects the increases in population and GDP now forecast for the Manawatu-Whanganui Region with the updates to the earlier population projections by Statistics New Zealand.

6.9 The forecasts in Table 6.1 for the Freight Hub assume distribution patterns into and out of the region and the shares of these movements transported by rail similar to those currently in operation. As a result, the forecasts do not take into account changes in these patterns that might happen over time and changes in the shares of the markets which might be captured by rail (for example, as a result of moves by the Government to address climate change), especially with an improved facility. The provision of improved intermodal logistics provided by the new Freight Hub could provide an opportunity for improving rail's competitive advantage, increasing the share of rail in the markets it is already serving, and also possibly expanding into new markets. This expansion into new markets could be particularly important for the rapidly growing movement of building materials identified above. For these commodities the flows into the region are forecast to increase by up to 90 per cent up to 2052 generated by the increases in population and

[34] Consultants analysis using Ministry of Transport Freight Futures model https://www.transport.govt.nz/statistics-and-insights/transport-outlook/sheet/updated-future-state-model-results

economic activity now forecast for the Manawatu-Whanganui region. While these are not carried to any significant extent into the region at present they are moved by rail in other areas. This would increase the volumes of commodities travelling by rail through Palmerston North and help in the achievement of both KiwiRail and the Central Government's objectives for the development of more sustainable transport outcomes. The forecasts in Table 6.1 may therefore be conservative.

7. ASSESSMENT OF ECONOMIC EFFECTS

Scope of the analysis

7.1 The economic effects on the community arise where the Freight Hub would impact the level of employment and economic activity in the Palmerston North area. In addition to these more local economic impacts on the community in Palmerston North and the surrounding area, there are also wider national economic impacts that would arise from the construction of the new Freight Hub and associated activities. These include improvements to the general competitiveness of rail relative to road, encouraging a shift in the modes used to transport freight and contributions to the Central Government's environmental and sustainability objectives.[35]

7.2 While I have assessed some of the economic impacts in monetary terms, this is generally only indicative. While recognising that these broad impacts would exist, the main focus of my assessments and evidence has been on the particular economic development effects in the Palmerston North area although some consideration has been made of the direct benefits over the wider areas served by trains using the Freight Hub. Further discussion of the wider economic benefits of the Freight Hub is included in the evidence of Mr Colegrave.[36]

Categories of impacts

7.3 The factors considered when assessing the economic development impacts of the Freight Hub comprise:

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35 These are not easy to quantify comprehensively for the Freight Hub since in many cases the effects rely on the actions of third parties, which are uncertain.

36 Evidence of Fraser Colegrave, dated 9 July 2021, at Section 4.

(a) impacts on users of the Existing Freight Yard in Palmerston North and surrounding area (eg through improved freight handling and reduced transportation costs);

(b) impacts associated with freeing up the land currently occupied by the Existing Freight Yard;

(c) potential for new development in the vicinity of the Freight Hub;

(d) impacts on local businesses including those located in the NEIZ;

(e) access to the workforce;

(f) impacts on access to existing businesses in the vicinity of the Freight Hub;

(g) impacts on Bunnythorpe; and

(h) an assessment of the benefits from the cost savings and forecast transfer of traffic to rail for areas other than Palmerston North.

Impacts for existing users in the Palmerston North area

Increase in cost efficiencies and competitiveness

7.4 The new Freight Hub will improve the efficiency of the location of the Freight Hub ("**Site**") handling of freight during intermodal traffic transfer to or from rail at the Site and will help overcome emerging capacity issues with the Existing Freight Yard as the demands increase over time with the growth of the local economy. Capacity of the Existing Freight Yard is expected to be reached by 2030. This is illustrated in Figure 1, showing the growing shortage of capacity as the demand grows over time.

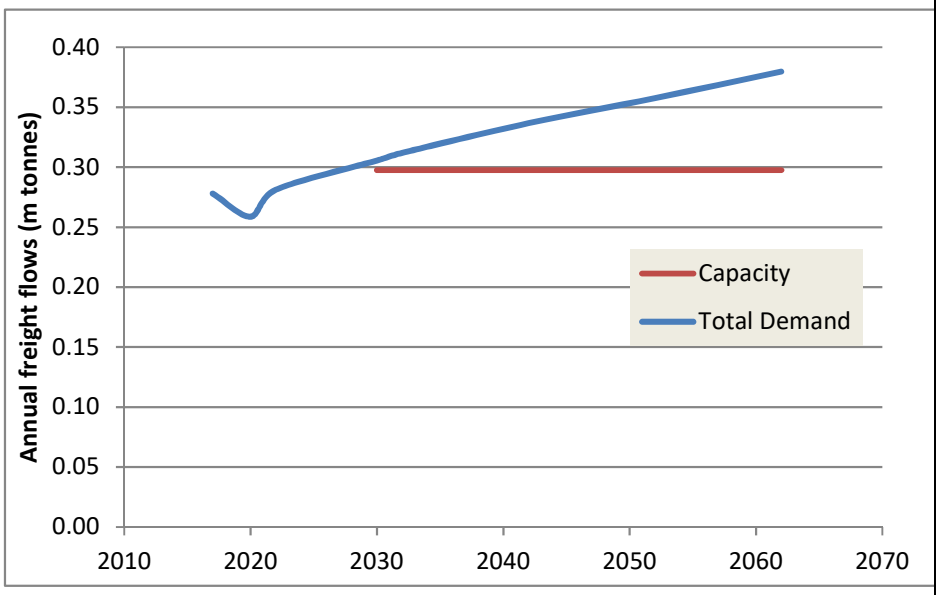

Figure 1
Demand and capacity through the existing PN freight terminal (m tonnes pa)

7.5 The Freight Hub will also provide for the handling of longer trains to, from or passing through the Site, which will in general improve the costs and quality of the rail services. These positive effects will encourage a modal shift resulting in more freight being transported by rail (rather than by road) giving wider community benefits The effects of these two elements are considered below in paragraphs 7.10.

7.6 As set out in Section 4 of my evidence, the Freight Hub aligns with a number of national and local strategies. This alignment is likely to ensure that the development of the Freight Hub and associated activities will be supported by the local authorities in the area. In turn this will help to ensure that the best use is made of the asset supporting its role in regional development in Palmerston North and the surrounding area.

7.7 Other complementary measures to increase the use of rail and enhance the role of the Freight Hub include steps to improve track capacity. The provision of additional capacity to allow the more efficient operation and dispatch of freight trains in the Auckland area will help meet the timing requirements of services to the south. These would be supplemented by the purchase of new rolling stock to replace and augment the existing fleet. I note that a number of other improvements to the national network are already underway, as outlined in the evidence of Mr Moyle.[37]

37 Evidence of Todd Moyle, dated 9 July 2021.

7.8 The efficiency impacts of the freight being handled on a larger site (compared with the site for the Existing Freight Yard), The Freight Hub will provide benefits from:

(a) improved facilities for marshalling trains allowing the introduction of trains of up to 1500 m in length for the route between Palmerston North and Auckland compared to the current maximum of 900 m;

(b) improved and expanded handling facilities for goods transferring between road and rail for unitised cargos (either in standard export containers or in lighter intermodal units for the domestic market) overcoming constraints that are likely to arise with the continued growth of this traffic; and

(c) improved handling facilities for other products such as logs.

7.9 As a result of these improved handling facilities, the efficiency of the supply chain for goods moved in and out of Palmerston North will be improved, thereby reducing the costs of transport and improving the reliability of the rail service provided to users in the area. The benefits arising would accrue both in respect of freight movements to and from Palmerston North and also more generally for traffic on the key routes linking the upper North Island with the rest of New Zealand to the south. This would result in benefits to existing rail users and also by making rail more attractive, should attract freight traffic from travelling by road with the consequent environmental, crash reduction and congestion benefits.

7.10 I have undertaken a quantitative assessment of the benefits of the Freight Hub to reflect two of the main impacts of the Freight Hub.[38] These take into account the recently revised Statistics New Zealand projections of regional population growth and are therefore slightly higher than those set out in my earlier S92 responses. The two main impacts considered are:

(a) the provision of additional capacity for container handling; and

(b) the ability to handle trains longer than the current maximum length of 900 m.

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[38] An initial assessment of quantified benefits was made in KiwiRail's First Section 92 Response dated 15 February 2021. Following further analysis and information from KiwiRail the results were updated in KiwiRail's Third Section 92 Response dated 28 May 2021. These have subsequently been revised further to incorporate new regional population projections from Statistics New Zealand. As a result the estimates of the benefits have changed from those set out earlier in my technical assessment.

7.11 In summary:

(a) The cost savings to users with the additional capacity at the freight terminal have been estimated on the basis of the additional costs that users wishing to use rail would face if they were forced to use the more expensive alternative of movement by road. These benefits to users are estimated to increase from about $0.4 million in 2032 to $2.5 million by 2062. The associated social and environmental benefits from the reduction of emissions and reduced crash and congestion costs would grow from about $0.3 million in 2032 to $1.5 million in 2062.

(b) The introduction of longer trains would allow savings in the operating costs associated with the movement of freight since trains can benefit from economies of scale as they get heavier. Because the additional amount that can be carried on an individual wagon is effectively constrained by the loading gauge and axle weight limits this means that the way to make trains heavier and achieve the economies of scale is to make them longer and increase train lengths from the current de facto limit of 900 m.

(c) A detailed analysis has been undertaken which has considered the potential savings possible both in the terms of fuel costs and in the costs of drivers. This looked at evidence from overseas, particularly in relation to the fuel cost savings which could be up to 18 per cent. Taking into account this and other costs it was concluded that cost savings in the region of 9 – 12 per cent should be achievable.[39] The reduction in costs would not only benefit existing users but by making rail more attractive in relation to road would therefore result in some diversion of road traffic. Standard values from the MBCM have been used to assess the extent of this diversion.[40] In total these benefits are estimated to amount to about $13 million in 2032 growing to about $18 million by 2062.

7.12 Over a 60-year evaluation period for the Freight Hub, the benefits from the additional container handling capacity and use of longer trains from the outset are estimated to amount to about $1.3 billion in total or about $420 million NPV if discounted to the start of the project at the standard discount

39 Further details of this have been set out in answer to question 2 in the Third Section 92 Response.

40 MBCM Table 90.

rate of 4 per cent. These benefits do not take into account any measures by the Central Government or other agencies to encourage the use of rail further to help meet wider environmental and social objectives, such as addressing climate change. Of these, the direct benefits to Palmerston North traffic would amount to about 20 per cent and the benefits to the wider community from reduced environmental, crash and congestion costs would amount to about 40 per cent of the total.

7.13 While my analysis shows that additional capacity will be required to handle the forecast container movements after 2030, the timing of the introduction of longer trains is less certain. In practice, longer trains are likely to be introduced gradually over time. My analysis has shown that the sooner 1500 m trains are implemented the greater the economic benefits, but there are clear economic benefits from enabling trains that are longer than 900 m from 2030 onwards. The Council agrees that the need for the Freight Hub to provide for up to 1500 m trains has been demonstrated, even though the exact timing of the introduction of 1500 m trains to the rail network is uncertain.[41]

7.14 The direct benefits to Palmerston North freight traffic would include lower costs of transport movements to and from key markets. These savings would provide secondary opportunities and benefits to those sending goods through or for intermodal transfer at the Freight Hub or supporting these activities. This would also enhance the position of Palmerston North as a key distribution hub serving the lower North Island. This is likely to be reflected in increases in economic activities as industries using the Freight Hub respond to the reduced costs of transporting goods, either by achieving higher returns on their base output or using the opportunities arising from reduced transport costs to expand their activities.

7.15 The Freight Hub is also likely to provide opportunities for the local road haulage industry delivering these products to customers in the catchment area of the Freight Hub. There may be some reduced opportunities for longer distance road freight supplying the area from outside, particularly from Auckland, as some of this traffic is attracted to rail, although with the growth expected in the overall market for the movement of goods, it is likely that both road and rail freight movements would grow.

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41 Section 42A Report, dated 18 June 2021, at paragraph [797].

7.16 In a series of interviews in Palmerston North with large freight generating companies in which I participated,[42] one of the major freight forwarding companies indicated that they would probably relocate their business to be within the Freight Hub to gain the advantage of direct rail access into their premises. I consider it is likely that other similar businesses would take a similar approach. There would also be advantages for activities associated with the movements of goods located in the NEIZ adjacent to the Freight Hub. Based on current users, this would include the major distribution centres for Foodstuffs and the proposed development by Countdown in Alderson Drive. The Freight Hub would also be reasonably accessible to the other distribution centres located along Tremaine Avenue and in Kelvin Grove and the presence of the Freight Hub is likely to attract other users to the NEIZ.

7.17 The improvements in freight services from the Freight Hub and more efficient supply chains for businesses located in the catchment area of the Freight Hub would also support local producing industries with a focus on export markets. This would be particularly important for those in the manufacture of food products, an activity which is important in the economies of Palmerston North and the surrounding areas.

7.18 The location of the Freight Hub further away from the existing activities in the city centre could have some adverse impacts on support activities based in the existing urban area that would be at a greater distance from their customers. Analysis of the outputs of the traffic model[43] has indicated that increases in travel distances and travel times are forecast to rise. The effect of this is however likely to be small and is likely diminish over time if the Freight Hub develops a sufficient level of activity to support the relocation of these activities to the Freight Hub or to a site adjacent to the Freight Hub.

Impacts associated with freeing up the Existing Freight Yard

7.19 While there are no firm plans for the redevelopment of the Existing Freight Yard, potential development options would be constrained by the site being between the NIMT and Tremaine Avenue, a busy main road and by the potential contamination of the site which has been in use as a rail yard since

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42 A series of interviews was conducted with key firms in the freight and logistics sectors in Palmerston North in August 2019. This included freight forwarders, transport and distribution companies and manufacturers of goods.

43 The PNCC traffic model was used to analyse the traffic effects of the relocation of the rail freight hub to Bunnythorpe. This is described in detail in the Evidence of Mark Georgeson, dated 9 July 2021.

the 1960s. As a result, I consider that the site would likely be suitable for a range of light industry and commercial activities. This aligns with the current zoning of the site. My analysis has shown that the 20 ha site could typically support up to 250–500 workers.

7.20 On the basis of average figures for the area, these workers could contribute up to $50 m per year to the GDP of Palmerston North. The broader impacts of freeing up the land at the Existing Freight Yard are discussed in Mr Colegrave's evidence.[44]

Potential for new development in the vicinity of the Freight Hub

7.21 I have undertaken a qualitative assessment of the potential for new development in the vicinity of the Freight Hub. My analysis shows that the scale of activities potentially locating in the Freight Hub and the areas immediately surrounding could provide a critical mass for specialist suppliers in handling and logistics. This will encourage the relocation or new development of facilities to support these activities, with consequent increases in output and employment. The NEIZ zoning is suitable for industrial and commercial development and would provide opportunities to accommodate any new or relocated activities, allowing these to gain the benefits from the Freight Hub.

7.22 The use of NEIZ land for the Freight Hub means that less space would be available to be used by other businesses wishing to relocate to the area. However, Mr Colegrave's evidence is that the loss of some of the NEIZ land would be, at least partially offset by the release of the land occupied by the Existing Freight Yard.[45] In my view, the Freight Hub may also provide the opportunity for some businesses that would have otherwise located in the NEIZ outside the Freight Hub to take up opportunities within the Freight Hub itself.

7.23 Following on from my analysis above, the economic benefits arising from the potential for the Freight Hub to attract new businesses to the area include:

(a) the impacts of increased employment for those living in Palmerston North and the areas to the north in the Manawatu district, particularly in Bunnythorpe and Feilding; and

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44 Evidence of Fraser Colegrave, dated 9 July 2021, at Section 4.

45 Evidence of Fraser Colegrave, dated 9 July 2021, at Section 4.

(b) the benefits from a more integrated industrial structure with more support facilities located within or adjacent to the Freight Hub, potentially reducing the costs or increasing the attractiveness of business. These might include provision of specialist industrial services such as equipment supply and repair and other activities providing services to the workers in the Freight Hub.

Impacts on local businesses including those in the NEIZ

7.24 The employment in the Freight Hub of approximately 1000 or more workers over the long term and any further expansion of logistics activities in the NEIZ would provide opportunities for other businesses to relocate to the area to support the increased growth. These could range from the provision of specialist support services to support the businesses in the area (especially for the logistics industry), to the provision of activities in the area to service the social needs of those working in the area (such as cafes, childcare, and other personal services).

7.25 As an example of the effect that might be achieved, the breakdown of employment by industry in the existing NEIZ / Palmerston North Airport zone has been compared with that for the more developed Tremaine Avenue area. In total, service activities in the Tremaine Avenue area account for about 28 per cent of total employment in the area, compared to just 4 per cent in the existing NEIZ/Palmerston North airport area. This demonstrates the potential for the development of these types of activities from employment generated by Freight Hub and from activities subsequently attracted to the NEIZ.

7.26 In addition to the new market opportunities discussed above, there would also be changes in the general accessibility to their markets and suppliers for businesses located in the NEIZ. For firms sending or receiving goods by rail there would be better connections with the intermodal facilities in the Freight Hub. At present, the distance to the Existing Rail Yard on Tremaine Avenue for firms located in the NEIZ is about 5 kms, involving travel through busy urban roads particularly along Tremaine Avenue itself. These travel distances would be much shorter as a result of the development of the Freight Hub resulting in reductions in travel times and the overall costs of movement.

7.27 Accessibility from the NEIZ to other destinations within the Palmerston North area would on balance improve slightly with a reduction of average heavy vehicle costs in the interpeak period (when most journeys are undertaken) of

about 7 per cent, again improving the attractiveness of the area to serve the city as a whole, particularly the main urban area to the south and west.

7.28 The detailed pattern of changes in the estimated travel costs for heavy vehicles is set out in Figure 2 below.[46] This shows savings for journeys connecting to the main urban area to the south and west of the NEIZ, although with some increases in costs to the areas to the east and north.

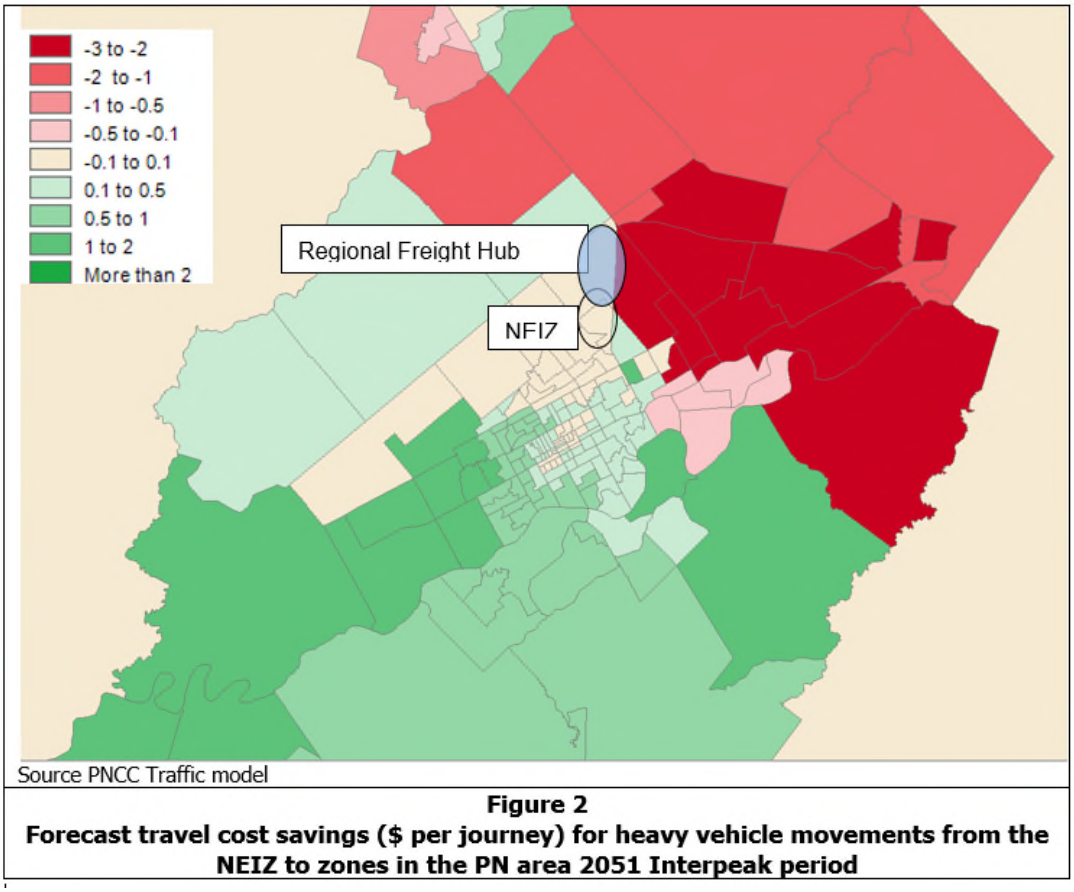

Figure 2
Forecast travel cost savings ($ per journey) for heavy vehicle movements from the NEIZ to zones in the PN area 2051 Interpeak period

Access to the workforce

7.29 The proposed Freight Hub lies at a greater distance from the existing residential areas of the workforce in Palmerston North. This will potentially

46 This is based on an analysis of the position derived from the PNCC traffic model for 2051 comparing the travel time and distance differences for the fully built out 'with Freight Hub' and 'without Freight Hub' scenarios. As discussed in the transport First Section 92 Response dated 15 February 2021, in response to question 117 this contains the effect on the time taken for a particular trip once the Freight Hub is in place. The analysis in Figure 3 also includes changes in the distances travelled forecast by the model reflecting the closure of Railway Road and the provision of a perimeter route round the Freight Hub. The travel time and distance changes have then been evaluated using the parameters set out in the NZTA / Waka Kotahi MBCM to determine the impact on the total travel costs.

increase the commuting costs of workers travelling to the Freight Hub from the major urban area.

7.30 The Freight Hub is approximately 5 kms distance from the Existing Freight Yard. While this increased distance would not apply to all workers, there is the potential that the relocation could limit the workforce based in Palmerston North that might be available for employment in the activities in the Freight Hub. To some extent, this would be balanced by the opportunities for those living in locations in closer proximity to the Freight Hub in the smaller settlements of Bunnythorpe or Feilding. The outcome will depend on the range of skills offered by employees living at different locations that might be available for employment at the Freight Hub, as to the scale of the impact on the efficiency of operations.

7.31 In practice this effect is likely to be limited and would also be likely to diminish over time as workers relocated to be closer to their places of work.

Effects on access to existing firms in the vicinity of the Freight Hub

7.32 While in general as discussed above (at paragraph 7.1) the proposed development of the Site would support economic activities in the vicinity of the Freight Hub, Roberts Line would become the main access to the Freight Hub from the south. This and construction of the new Perimeter Road around the Freight Hub which would become a key link between the east of Palmerston North and Bunnythorpe as well as Feilding and areas to the north would impact on the activities currently located along Roberts Line, increasing the traffic flows along the road. These traffic flows are set out in the evidence of Mr Georgeson.

7.33 To the extent that access to properties on Roberts Line is made more difficult as a result, this may have the effect of making these businesses less attractive locations.

7.34 There is however the potential to develop measures which would mitigate these access issues are discussed in Mr Georgeson's evidence.[47]

Effects on Bunnythorpe

7.35 For Bunnythorpe the main economic effects would be:

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47 Evidence of Mark Georgeson, dated 9 July 2021.

(a) the availability of a major employment centre that would provide increased job opportunities for the residents of Bunnythorpe; and

(b) some increases in travel costs to existing employment and other opportunities in the main Palmerston North urban area arising as a result of the changes to the roading network required to facilitate the Freight Hub and the effects of the additional traffic generated by the new facility and supporting activities. Reflecting this, using outputs from the PNCC traffic model (which have also been used for the Integrated Transport Assessment) it is estimated that in 2051 the total costs of travel (taking into account the value of the time spent as well as the vehicle operating costs) in the AM peak for Bunnythorpe residents travelling to these destinations will increase by about 3 per cent compared to the position if the Freight Hub is not constructed. These effects are illustrated in Figure 3.[48]

7.36 It is important to note that the material in Figure 3 shows the changes in percentage terms, meaning a shorter trip will have a higher percentage increase than a longer trip with the same travel time increase. For example, a shorter trip from Bunnythorpe to the NEIZ will show a bigger percentage change because the delays to movements caused by the Freight Hub make up a greater proportion of the total trip time. By contrast, when compared to a trip from Bunnythorpe to say the Longburn area to the south, the delays caused by the Freight Hub make up a smaller proportion of the total trip time. As a result, the same increase in travel cost will not have as much of an effect on a longer trip as the increase is a smaller percentage change across the longer trip.

7.37 The percentage changes reflect the increased traffic flows, and longer travel routes immediately to the south of Bunnythorpe. It should be noted that these percentage increases will tend to decline as the overall distances and times for destinations further away from Bunnythorpe increase as described above.

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48 The results in Figure 3 are based on the changes in travel times for the AM peak, which are similar to those set out for the PM peak period in Table 2.1 of the Regional Freight Hub Section 92 Traffic Response February 2021. The use of the AM peak figures reflects the costs of accessing employment and other opportunities, rather than the return trip home.

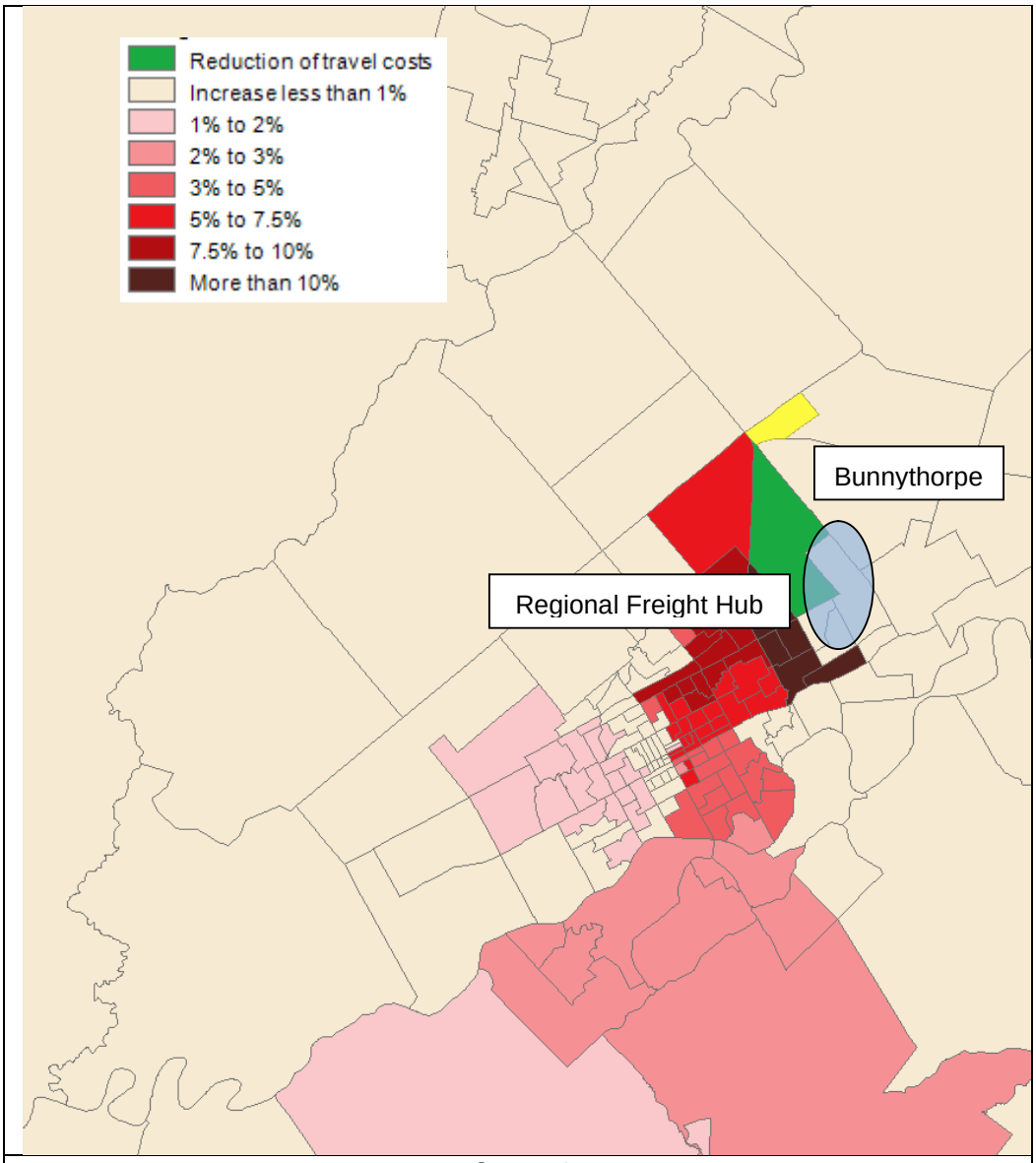

Figure 3
Increases in travel time and distance related costs for light vehicles from Bunnythorpe 2051 AM peak (per cent)

Source PNCC Traffic Model

7.38 In general, there will be an increase in travel costs to all destinations to the south as a result of the closure of part of the existing Railway Road, construction of the new perimeter road, and the increased volumes of traffic on the routes linking Bunnythorpe to the main urban area identified by the PNCC traffic modelling. For the most part these cost increases are relatively small (in the order of 2.5 per cent or less), although as noted above larger percentage increases are forecast for many of the shorter trips in the vicinity of the village to the south. These larger percentage increases however would be for journeys which would potentially gain the benefits of the substantial increase in employment opportunities with the Freight Hub just to the south of Bunnythorpe.

Impacts away from Palmerston North

7.39 In addition to the benefits for the Palmerston North and surrounding area, there would also be wider benefits to other rail users from the reduction in rail costs with the use of longer trains and to the community in general with the transfer of traffic from road to rail in response to these cost changes. Based on my Third Section 92 Response but taking into account the revised population projections these benefits to the wider area away from Palmerston North are estimated to amount to a total of about $0.7–1.0 billion or about $150–340 million if discounted to the start of the project, depending on the time at which longer trains are assumed to be operating.

8. RESPONSE TO SUBMISSIONS

8.1 I have reviewed relevant submissions relating to the economic effects of the Freight Hub. and the following main themes have been identified:[49]

(a) support for the Freight Hub and its economic benefits;

(b) economic and freight forecasting including the impacts of Covid-19; and

(c) lack of integration with industry.

Support for the Freight Hub and its economic benefits

8.2 A number of submissions support the Freight Hub and recognise the wide range of economic and associated benefits it will provide. These benefits would include:

(a) Increased investment and economic activity as the role of Palmerston North as a regional distribution hub is enhanced;

(b) Increased employment both directly from the Hub itself and from new and expanded activities responding to the enhanced opportunities that the Hub will generate; and

(c) Reduced transport emissions as more traffic is moved by rail.

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49 The relevant submissions are Nicola Schreures and Thomas Good (17), Aaron P Fox (47), Darren Green (71), Danelle O'Keefe and Duane Butts (72), Mike Tate (23), Zaneta Park (24), [Anonymous submitter 97], Accelerate 25 Manawatu-Whanganui (56), Central New Zealand Distribution Hub Stakeholder Group (63), Waka Kotahi (65), Michael Sharp (55), and Foodstuffs North Island (58).

Economic and freight forecasting including the impacts of Covid-19

8.3 Some submitters have raised concerns with the projected freight forecasting and economic benefits associated with the Freight Hub.

8.4 I do not agree that the economic benefits are solely dependent on traffic transferring from road to rail. The evidence suggests that while improvements in the costs and level of service of rail operations will lead to a transfer of freight movements from road to rail and these have been identified using the relationships set out in the MBCM[50] there will also be benefits to existing rail traffic from the benefits of improved handling facilities for containers and other intermodal movements at the Hub for existing users and from the benefits arising from the use of longer trains facilitated by the Hub.

8.5 The reductions in the costs with improved container handling and the use of longer trains made possible with the Freight Hub would provide KiwiRail with the potential to reduce its charges to its customers. The extent to which this would eventuate would depend on market conditions but in the light of the continuing competition with road freight and the desire by the Government to maximise the use of rail for the movement of freight, it is likely that all, or at least almost all, of the anticipated cost savings would be passed on in order for rail to be competitive against the road alternative.

8.6 This would result in the considerable benefits to users and to the wider community which have been identified in the quantitative analysis and discussed above in paragraphs 6.19–6.21. In relation to a concern that the freight forecasts are flawed, the freight forecasts and associated economic models have been based on an assessment of the current position and then its projection to the future using fairly conservative assumptions. In particular these have assumed that there will be only limited growth in the movement of primary agricultural products through the Freight Hub, reflecting a continuation of existing patterns and discussions with industry stakeholders.

8.7 The forecasting assumptions are in line with those adopted by the Ministry of Transport in its Freight Outlook model, updated to take account of the most recent population projections by Statistics New Zealand as outlined above. The base forecasts for rail freight assume a continuation of the current modal shares, which may be a conservative position given the Central Government's objective of transferring additional freight from road to rail to meet the environmental and safety benefits of the switch and its contribution

50 MBCM Table 99.

to climate change objectives. It is also likely to be conservative in the light of growing shortages of drivers which may limit the extent to which the road transport industry may be able to take up the opportunities associated with the growing freight task.[51]

8.8 Some submitters have raised concerns that the impacts of Covid-19 will affect the patterns of demand for freight. While this has clearly had an impact on many parts of the economy, its effects on the exports of primary products and also supermarket sales have been limited. There has also been little discernible impact on the demand for building materials with the construction industry continuing to grow strongly. In general, these industries are currently in a fairly buoyant state and are placing increasing demands on the transport sector, with the potential for transfer to rail at a level higher than incorporated in the steady state BAU assumptions used for the appraisal. While long term forecasts are necessarily uncertain, the current state of the market and the conservative approach taken to the forecasting would suggest that these predictions are relatively robust and that Covid-19 is likely to have a negligible impact on freight demand over the longer term operation of the Freight Hub.

The impacts of changes in truck technology on modal shift to rail

8.9 Some submitters have raised concerns that improvements in truck technology will make road freight more competitive with rail and so will reduce the extent to which traffic might divert to rail.

8.10 It is recognised that developments in technology will affect both road and rail freight movements in the long term. While there have been trials for the management of road freight movements by the use of platooning (vehicles travelling in groups being managed by the lead truck) which reduces fuel costs, these types of development will be challenging to implement. In the New Zealand context they will be particularly difficult to implement because of the types of narrow and winding roads and long distance routes used by road vehicles operating in the same markets as the longer distance rail services which would benefit from the Freight Hub.

8.11 A matter raised in submissions is the introduction of electrically powered trucks. While some tentative steps have been taken in this direction mainly

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51 References include:

- https://www.newshub.co.nz/home/money/2021/01/trucking-industry-desperately-short-of-drivers.html
- https://truckjournal.co.nz/driver-shortage-still-a-pressing-issue-for-industry/

for urban delivery services[52] the challenges of developing electric trucks capable of delivering large payloads over long distances are regarded as formidable.[53] The introduction of such vehicles is therefore unlikely. The use of electric vehicles for urban deliveries including distribution from the Freight Hub would reduce the carbon footprint of the overall journey using rail and thus make its use more attractive to customers.

8.12 Other technology improvements could also benefit rail in the long term, offsetting the effects of any changes in road transport in terms of a competitive advantage.

8.13 The Council's economist, Mr Vuletich, agrees that the assumption that the mode share of rail remains constant is reasonable.[54] While there are clearly uncertainties, on balance changes in technology are considered to be unlikely to discourage a modal shift from road to rail. However the modal split could be influenced by Government policies to encourage the use of rail and by an increasing desire on the part of customers to reduce the carbon footprint associated with the movement of their goods.

Lack of integration with industry

8.14 Some submitters have raised a concern that the design of the Regional Freight Hub does not provide rail connections for potential users in the NEIZ and that there is no provision for a dedicated freight corridor connecting the Regional Freight Hub with sites in the NEIZ.

Rail connections for potential users

8.15 Freight hub users have been categorised by CEDA into three main groups:[55]

(a) Level 1 users who are heavily rail dependent and who need railhead access. These would typically be the major freight forwarders;

(b) Level 2 users who also make substantial use of rail but who do not require direct railhead access. These could locate either within the

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52 https://www.countdown.co.nz/community-environment
https://www.foodstuffs.co.nz/here-for-nz/sustainability/climate-change

53 https://www.woodmac.com/news/opinion/the-long-haul-for-electric-heavy-trucks/
https://www.commercialfleet.org/fleet-management/will-electric-trucks-be-in-it-for-the-long-haul

54 Section 42A Technical Evidence of Shane Vuletich, dated 18 June, at paragraph [95].

55 Section 42A Technical Evidence of Shane Vuletich, dated 18 June, at paragraph [44].

Hub or close to it in the NEIZ. These would include the major distribution centres such as those currently operated by Countdown and Foodstuffs; and

(c) Level 3 users who are less frequent users of rail who would typically choose to locate away from the Site.

8.16 Applying CEDA's categorisation of rail connection users here, the proposals for the Freight Hub include a number of rail connected warehouses within the Site in the area identified as the Freight Forwarders Depot. This will give the Level 1 users within the transport and logistics industry the potential for direct connections with rail services, avoiding the need to move commodities by truck on the road system outside the Hub and thus facilitate the movement of freight by rail.

8.17 Some submitters have raised that provision be made for a grade separated connection between the NEIZ and the Freight Hub who choose to locate outside the Freight Hub. It was suggested that this should be capable of use by vehicles not permitted on the public road network such as straddle carriers and MAFI trailers.[56] This issue has also been raised in the Section 42A Report and is discussed in further detail below.

9. RESPONSE TO SECTION 42A REPORT

9.1 I have reviewed the sections of the Section 42A Report relevant to my evidence, particularly the evidence prepared by Shane Vuletich.

9.2 In general, this evidence supports the findings in my evidence stating:[57]

> that the Freight Hub is likely to generate significant economic benefits for the region

9.3 Mr Vuletich has not undertaken his own independent economic analysis and yet asserts that it appears that the potential regional benefits have been overstated because of the "early reporting of longer train benefits and allocation of transport cost savings to Palmerston North users."[58]

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56 A MAFI trailer is a trailer capable of carrying heavy loads often within ports but which because of its configuration cannot be used on a public highway.

57 Section 42A Technical Evidence of Shane Vuletich, dated 18 June 2021, at paragraph [5].

58 Section 42A Technical Evidence of Shane Vuletich, dated 18 June 2021, at paragraphs [87] and [100].

9.4 While there is uncertainty over the timing of the introduction of longer trains, KiwiRail is starting to introduce the modifications to rolling stock which would permit their use. Trains of longer than 900 m are currently in operation in the South Island. Due to the cost advantages, I consider it is likely that KiwiRail will start introducing longer trains (albeit of a shorter length than 1500 m) at an early stage after 2030. As a result, while the full benefits of the longer trains may not be achieved until the middle of the century some benefits are likely to be achieved at an earlier stage. This does not mean that the benefits themselves have been overstated but rather that when they will be realised is dependent on the timing of their introduction.

9.5 Mr Vuletich indicates that he believes that the benefits from the cost reductions with the Freight Hub would be spread between different groups and the totals allocated to Palmerston North rail users are therefore overstated. He does however accept that the method used to estimate the total benefits is reasonable.

9.6 The reductions in the costs with improved container handling and the use of longer trains made possible with the new Freight Hub would provide KiwiRail with the potential to reduce its charges to its customers. The extent to which this would eventuate would depend on market conditions but in the light of the continuing competition with road freight and the desire by the Government to maximise the use of rail for the movement of freight, it is likely that all, or at least almost all, of the anticipated cost savings would be passed on in order for rail to be competitive against the road alternative, This would result in the considerable benefits to users and to the wider community which have been identified in the quantitative analysis and discussed above in paragraphs 7.8–7.12

9.7 Mr Vuletich also states that the Ministry of Transport model provided with the Section 92 Response "appears to use an outdated set of population projections to inform its freight demand projections."[59]

9.8 The population estimates used in the assessment of the future freight demand were those incorporated in the current version of the model developed by the Ministry of Transport which used population projections based on the position in 2013. Updated population projections based on the

[59] Section 42A Technical Evidence of Shane Vuletich, dated 18 June 2021, at paragraph [91].

position for 2018 are now available in the Statistics New Zealand website.[60] These predict rather higher population growth in the Manawatu-Whanganui region than was anticipated earlier. I have therefore rerun the model using the new figures.

9.9 The outputs from the model show that with the higher population assumptions and associated increases in regional GDP, the demand flow through the Freight Hub is forecast to be higher than the earlier estimates. As a consequence, the benefits from the provision of the additional capacity at the terminal increase by over 40 per cent compared to earlier Section 92 estimates. There would also be more longer distance train traffic with the benefits increasing by about 1–2 per cent. Overall on the assumption that longer trains are in operation from the opening of the facility, the total quantified benefits increase by about 6 per cent.

9.10 If alternatively it is assumed that longer trains are not introduced until 2050, the increase in benefits amounts to about 11 per cent.

9.11 It is agreed that the longer term impacts of the reduced costs of operation at the new Freight Hub would be substantial. These are however difficult to quantify reliably. They have therefore not been included in the quantitative assessment but have been recognised in my qualitative assessment.

9.12 Mr Vuletich raises the issue of the connections between the Freight Hub and the NEIZ. He notes that there is no special provision for Level 2 users who wish to locate outside the Freight Hub and transport goods between their premises and the Freight Hub using vehicles such as straddle carriers and MAFI trailers which are not permitted on a public road. He does however comment that:[61]

> Initial freight volumes may not warrant the level of expenditure that would be required to develop a grade-separated connection immediately.

9.13 He also quotes the traffic and transportation evidence of Harriet Fraser which states:[62]

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60 As part of this updating the assumptions of regional GDP per capita were kept unchanged so regional GDP would increase in line with population increases.

61 Section 42A Technical Evidence of Shane Vuletich, dated 18 June 2021, at paragraph [148].

62 Section 42A Technical Evidence of Harriet Fraser, dated 18 June 2021, at paragraph [125].

> My understanding is that for containers to be moved between the two sites without using the public road network a straddle corridor with a width of around 50 m would be needed.

9.14 This would represent a very substantial corridor width about twice as wide as that for Railway Road and about the same as the main runways at Palmerston North Airport.

9.15 In my view, a grade separated corridor between the NEIZ and the Freight Hub is neither necessary nor justifiable from an economic perspective Level 2 users who wish to have the closest connections with the rail heads in the Freight Hub would potentially have the opportunity of locating in the areas identified as Rail Service Distribution Centres within the Freight Hub itself. As a result, it would only be a part of the Level 2 market for which any dedicated freight route might be required. However, these users currently appear to be able to operate satisfactorily using the public road

9.16 As well as providing land for the proposed route in the Freight Hub, there would need to be a corridor to provide the segregated connections necessary within the NEIZ. Given the width of the corridor required and the potential length of the corridors within the NEIZ (if they are to provide reasonable coverage) this could potentially sterilise considerable areas of land within the NEIZ with a resulting high cost. In addition, the majority of the traffic of the Level 2 users is carried in containers with weights that can be accommodated on vehicles using public roads so there is little need for specialised equipment to carry these. These factors, the potentially limited market for the connection and the costs associated with its construction would severely constrain the economic feasibility of the link. Mr Georgeson's evidence also states that there would be sufficient capacity at the roundabout providing the main route into the Freight Hub to handle the flows identified.[63]

9.17 Given these considerations, there appears to be no economic justification for the sterilisation of the land that would be required for this freight corridor and the costs of construction and operation that would be incurred, given the low volumes likely to be carried, and the adequate alternative access routes available.

Richard Paling

9 July 2021

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63 Evidence of Mark Georgeson, dated 9 July 2021.