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 FRASER COLEGRAVE
ON BEHALF OF KIWIRAIL HOLDINGS LIMITED

ECONOMICS

1. SUMMARY

1.1 This evidence addresses the likely wider economic effects of the Freight Hub (ie those economic effects that are likely to occur over and above direct effects on the freight network). Those wider economic effects include:

(a) Freeing up land at KiwiRail's existing rail yard at Tremaine Avenue ("**Existing Freight Yard**") for other uses. Not only will this help offset the "loss" of North-East Industrial Zone ("**NEIZ**") land due to the Freight Hub, but the land underlying the Existing Freight Yard appears to be far more valuable than other, nearby industrial land. Accordingly, releasing that land for alternative uses will enable it to be put to new productive uses and hence confer economic benefits on the city.

(b) Impacts of changes in land use due to the NoR. The Freight Hub will consume approximately 177 hectares of land, about 50 hectares of which is currently zoned as NEIZ. While the uptake of that NEIZ land may bring forward the need to rezone additional industrial land, the proposed site for the Freight Hub ("**Site**") spans land that has very low values compared to other land across the city. As a result, it is unlikely to impose significant economic opportunity costs.

(c) Employment and other construction-related effects. The process of planning for, designing, and constructing the various buildings and

structures that comprise the Freight Hub will draw in workers from many fields and create jobs and incomes for numerous workers across a broad range of fields. In fact, I estimated that construction of the Freight Hub could boost North Island gross domestic product ("**GDP**") by nearly $100 million per annum for 10 years, create full-time employment for nearly 920 people (again, for 10 years), and boost annual household incomes by $48 million. In addition, once operational, the Freight Hub (and its associated onsite freight partners) could provide full-time employment for more than 1,000 people.

(d) Effects on housing demand. Construction of the Freight Hub will increase the demand for employment in Palmerston North city, some of which will be met by migration into the city. These new workers who are moving to the city, in turn, will need somewhere to live, thereby increasing the demand for city housing. Assuming that a quarter of total construction costs are spent in Palmerston North, and that half of the resulting increase in city employment is met by migration, I estimated that construction will generate local housing demand for an additional 115 dwellings (over and above what would be anticipated if the Freight Hub was not constructed).

1.2 My evidence also responds to relevant economic issues raised in submissions and confirms that those various economic concerns are either unlikely to transpire and / or will be no more than minor.

1.3 Finally, I respond to two issues raised in the Section 42A Technical Evidence by Mr Shane Vuletich dated 18 June 2021. Specifically, I confirm that his suggestion of using cost-benefit analysis to estimate employment effects is misguided in the current context, and that his comments on the benefits of freeing up land at the Existing Freight Yard do not reflect KiwiRail's natural focus on the NoR process (instead of potential future uses of the Existing Freight Yard).

2. INTRODUCTION

2.1 My full name is Fraser James Colegrave. I am an economist and the managing director of Insight Economics, an economics consultancy in Auckland. I hold the qualification of Bachelor of Commerce (First Class Honours) in Economics from the University of Auckland.

Experience

2.2 I have over 21 years' consulting experience and have led, and completed, more than 500 projects across a wide range of sectors during that time. I have estimated the regional and national economic impacts of some of the largest projects and organisations in New Zealand, including:

(a) New Zealand's largest gas field (Maui);

(b) New Zealand's largest dairy farm;

(c) New Zealand's largest mussel farm;

(d) Auckland Airport;

(e) a $250 million infant milk formula plant;

(f) the velodrome and cycling centre of excellence in Cambridge; and

(g) the upgrade and extension of Skyline Resort in Queenstown.

2.3 I regularly appear as an expert witness before Councils, Boards of Inquiry, Independent Hearing Panels, the Land Valuation Tribunal, the Environment Court, the Family Court, and the High Court of New Zealand.

Involvement in the Freight Hub

2.4 I was engaged by KiwiRail in 2021 following lodgement of the NoR application for the Freight Hub to assist with, and provide advice on, various economic issues that were raised in Palmerston North City Council's ("**PNCC**") first request for further information. These included matters relating to:

(a) the impacts of freeing up the Existing Freight Yard for other uses;

(b) the impacts of changes in land use associated with the Freight Hub proposal;

(c) employment and other construction-related impacts;

(d) impacts on housing demand; and

(e) broader strategic / economic effects.

Code of conduct

2.5 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 my assessment of the economic impacts of the Freight Hub;

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

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

4. ASSESSMENT OF ECONOMIC EFFECTS

4.1 The future development and operation of the proposed Freight Hub will have a wide range of economic effects, many of which have been addressed in detailed work by other technical specialists, particularly Mr Paling, so I do not repeat them here.

4.2 The broader economic effects of major transport initiatives like the Freight Hub are described as wider economic benefits ("**WEBs**") in Waka Kotahi NZ Transport Agency's ("**Waka Kotahi**") new economic evaluation manual – The Monetised Benefit and Cost Manual ("**MBCM**").[1] These broader economic effects include:

(a) *Productivity impacts* – which can arise when economic activities cluster together and give rise to agglomeration effects. This agglomeration generates economic benefits by reducing transport costs and lifting the average productivity of businesses (for example, through the sharing of labour, specialised assets, and ideas). As businesses establish and thrive around the proposed Freight Hub over time, they will benefit from agglomeration effects, just like the various businesses that recently collocated with the Waikato Freight Hub in Hamilton once it opened.

[1] https://www.nzta.govt.nz/resources/monetised-benefits-and-costs-manual/

(b) *Employment impacts* – in addition to providing employment during construction, the Freight Hub's future operations will also create stable, direct long-term employment for the local community.

(c) *Competition effects* – a more cost-effective freight service will reduce transport costs for a broad range of businesses, helping them to become more competitive in their respective markets. This is addressed in detail in the evidence of Mr Paling, which I agree with.[2]

(d) *Exemplar effects* – The proposed Freight Hub may be the first of many new freight hubs developed across New Zealand to help strengthen the national rail network and encourage a modal shift away from transporting freight by road. If so, the Freight Hub proposal may have important wider benefits by creating a blueprint for future developments and hence improving the economic efficiency with which the national rail network is developed over time.

Impacts of freeing up land at the Existing Freight Yard site

4.3 Development of the proposed Freight Hub will free-up land at the Existing Freight Yard, with resulting impacts on the local land market.

4.4 First, relocation of the Existing Freight Yard will release its land from its current use. While future redevelopment or uses of the Existing Freight Yard land are not yet confirmed, prior analysis by Mr Paling suggests that it may be suitable for various light industrial or commercial activities. I agree.

4.5 Redevelopment of the Existing Freight Yard site for such uses may offset the uptake (or "loss") of NEIZ land as part of the proposed new designation for the Freight Hub. This, in turn, may help to neutralise the impacts of the proposal on Palmerston North city's supply of industrial land, particularly since the Existing Freight Yard is zoned industrial and could be subdivided into relatively large lots (if needed), just like the NEIZ.

4.6 Second, there may be broader effects if the Existing Freight Yard land has a different value to other industrial zoned land in Palmerston North city. That may be the case simply because this land is closer to the central business district than other industrial land, or because it has other attributes that are particularly attractive to the market.

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2 Evidence of Richard Paling, dated 9 July 2021.

4.7 Specifically, if the land underlying the Existing Freight Yard is significantly more valuable than other industrial zoned land nearby, the land's pending availability for other future industrial uses will confer economic benefits on the city, and vice versa. This is because the proposal frees up that valuable/scarce for other productive purposes, whereas currently it is tied up in an existing use

4.8 To examine this possibility, I used Core Logic's *Property Guru* ("**Property Guru**") tool to compare the land value of properties directly adjacent to the Existing Freight Yard site to other industrial zoned land nearby.[3] My working hypothesis was that, if the land directly adjacent to the Existing Freight Yard is significantly more or less valuable than other nearby industrial land, the same may also be true of the land upon which the Existing Freight Yard resides.

4.9 The two figures below show the areas that I compared for this purpose. The red outlines in Figure 1 represent land directly adjacent to the Existing Freight Yard site and the red outlines in Figure 2 represent nearby industrial areas used as comparators.

Figure 1: Properties Directly Adjacent to the Existing Freight Yard site (Highlighted in Red Outlines)

3 The location of these other industrial sites is shown in the map below. They were selected because they have the same zoning as the Existing Freight Yard and are also located very nearby. Accordingly, they differ largely / only because they are not immediately adjacent to the Existing Freight Yard.

Figure 2: Other Industrial Properties Used for Comparison Purposes

4.10 The analysis returned property information for 36 industrial properties directly adjacent to the Existing Freight Yard site, and a further 431 other industrial properties located nearby. *Figure 3* below compares the land values of adjacent properties (the red bars) to other industrial properties (the grey bars).

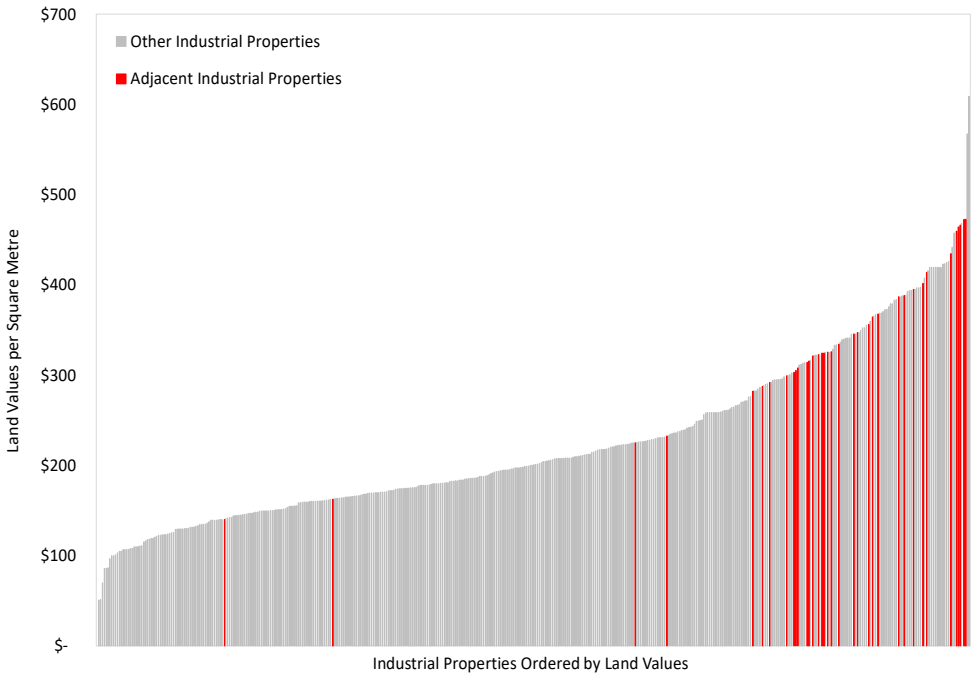

Figure 3: Comparison of Land Values Across the Two Locations ($ per m^2)

4.11 The cluster of red bars on the righthand side of *Figure 3* confirms that land directly adjacent to the Existing Freight Yard is more valuable than other industrial land. In fact, the average land value ("**LV**") for industrial properties adjacent to the Existing Freight Yard site was $341 per square metre, compared to only $216 for the other areas. Thus, sites directly adjacent to the

Existing Freight Yard site are worth 57% more per square metre of land than comparable properties nearby.

4.12 To test whether this observed difference in LVs was statistically significant, I used an Excel function called the z-test for two means. This is a type of statistical "hypothesis test", which formally measures whether the observed variance in average LV represents a fundamental difference between the two datasets or is merely a statistical anomaly.

4.13 The strength of the test result is measured by the p-value, which is bound by zero and one. The closer the p-value is to zero, the more certain it is that the observed differences represent a true divergence in LV, and vice versa. In general, p-values less than 0.05 indicate strong statistical significance, while values greater than 0.1 indicate that differences are likely to be an anomaly.

4.14 The Figure below shows the outputs of the statistical test, where the p-values are effectively zero. The associated value of negative 9 for the z-score means that the probability of these observed differences in LV being a statistical anomaly (rather than reflecting a true difference in land values) is less than one in a trillion.

z-Test: Two Sample for Means		
	Other	*Adjacent*
Mean	216.18	341.23
Known Variance	7,487.00	6,137.00
Observations	431.00	36.00
Hypothesized Mean Difference	-	
z score	- 9.12	
P(Z<=z) one-tail	-	
z Critical one-tail	1.64	
P(Z<=z) two-tail	-	
z Critical two-tail	1.96	

Figure 4: Outputs from Statistical Tests

4.15 While the statistical tests do confirm a significant difference in LVs, they cannot tell me *why* the values differ so greatly. In my view, there are two possible reasons:

(a) first, these sites adjacent to the Existing Freight Yard may be more valuable due to their proximity to the Existing Freight Yard site and associated rail facilities; or

(b) second, these sites adjacent to the Existing Freight Yard may be more valuable because of other reasons, such as their relatively central location in Palmerston North city, proximity to residents (ie

workers), accessibility from Tremaine Avenue, and proximity to the CBD.

4.16 I consider it likely that both factors are at work in these circumstances. Accordingly, it follows, that the construction of the Freight Hub and decommissioning of the Existing Freight Yard site will not only free-up relatively valuable industrial land near Palmerston North, but that the relocation of the freight hub activities may also positively influence the value of industrial land adjacent to the new location for the Freight Hub (ie the NEIZ).

Impacts of Changes in Land Use Due to the NoR

4.17 The Freight Hub will span approximately 177 hectares of land between the Palmerston North Airport and Bunnythorpe, approximately 127 hectares of which is currently zoned rural, and the remaining 50 hectares of which is zoned NEIZ.

4.18 To understand the potential impacts of changes in land use resulting from the proposed NoR, I used Property Guru to extract information on the land parcels that comprise it. This enabled me to assess the uses to which that land is currently put, and to gauge its current market values.

4.19 Property Guru could not trace the outline of the boundaries of the proposed designation ("**Designation Extent**") perfectly, which meant that the results excluded a few parcels that fall within the Designation Extent, while including a few that do not. Overall, however, I consider that the results provide a reasonable approximation of the affected area from which to consider any potential effects on land use changes.

4.20 Figure 5 below shows the area for which property information was extracted. It comprises 52 parcels with a total land area of nearly 159 hectares.

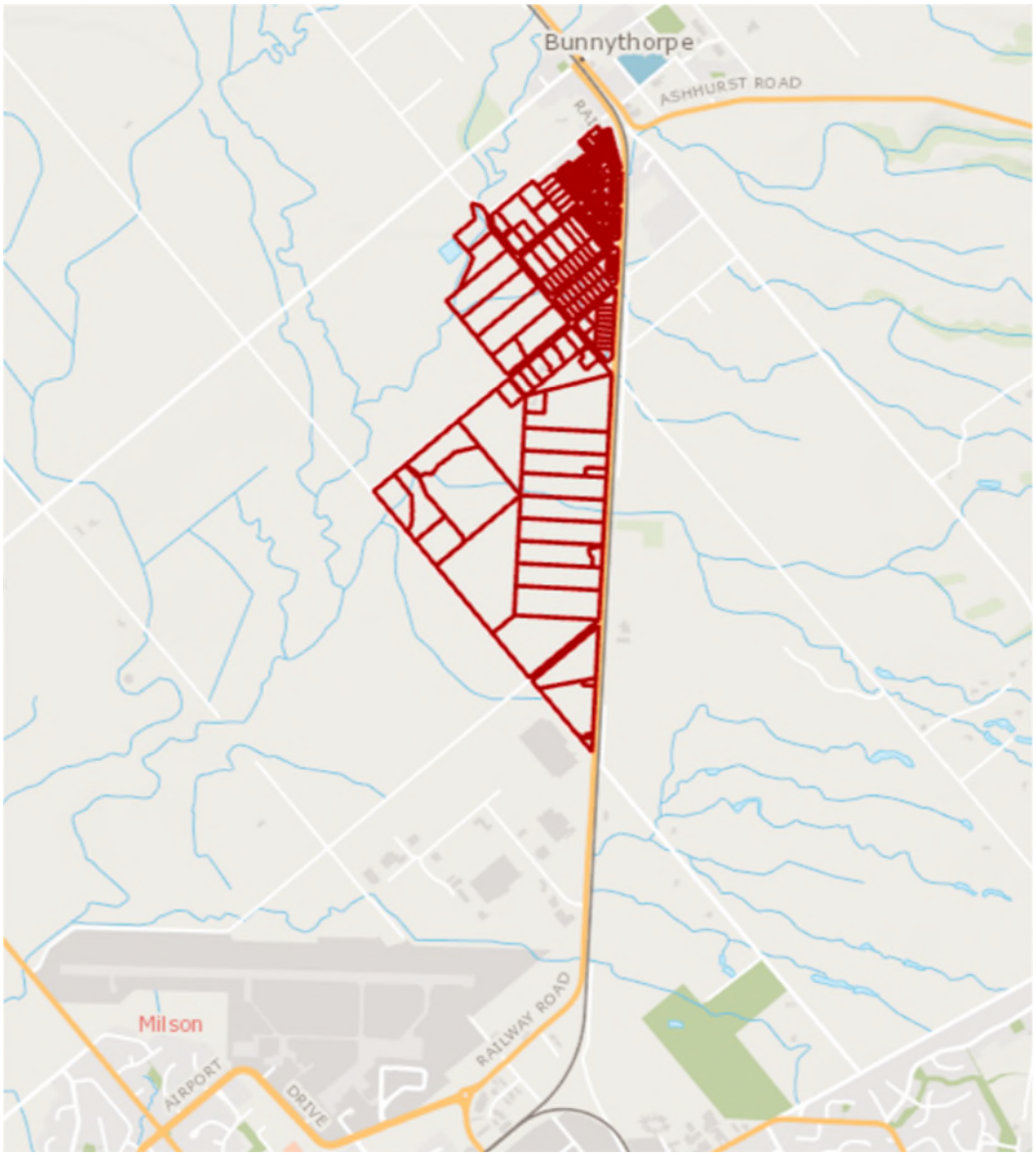

Figure 5: Property Guru Approximation of Land Affected by the NoR

4.21 Table 1 summarises the current land uses based on data from Property Guru, along with corresponding land areas and LV.

Table 1: Land Uses for Parcels within the Designation Extent

Land Use Types	**# of Properties**	**Land Area (ha)**	**Total LV ($m)**	**$/m² LV**
Farming	7	75	$4.7	$6
Rural / Lifestyle	19	52	$5.9	$11
Residential	18	7	$2.8	$43
Vacant Industrial	6	25	$8.6	$35
Other	2	1	$0.5	$39
Totals	**52**	**159**	**$23.0**	**$14**

4.22 Table 1 shows that most of the parcels (71%) within the Designation Extent are either residential or lifestyle (ie rural residential) properties. However, these account for only 37% of the total land area analysed. Farming properties, conversely, account for 13% of land parcels but 47% of land area. The other notable land use is vacant industrial (which represents some of the undeveloped land within the NEIZ), which accounts for just over 10% of parcels but nearly 16% of total land area in the Designation Extent.

4.23 Further, the LVs attached to each land use range from $6 per square metre for farming up to $43 for residential, with vacant industrial land weighing in at around $35 per square metre. The overall average per square metre is $14. These figures are quite low overall compared to land prices elsewhere in the city,[4] which suggests that the loss of land within the Designation Extent will not cause significant opportunity costs. This is particularly true for the land used for farming within the Designation Extent, which Property Guru mostly labels as "uneconomic" due to its evidently marginal nature.

4.24 Another important consideration is the potential effects of the accelerated uptake of NEIZ land, 50 hectares of which would be occupied by the Freight Hub. According to reporting recently completed under the National Policy Statement on Urban Development Capacity 2016 ("**NPS-UDC**"), "approximately 150ha of the 212ha of land zoned for large floor-plate development (in the NEIZ) has been developed or has been secured with the intention to develop in the short to medium-term (up to 10 years)."[5] Accordingly, it concludes, there may be a need to consider the provision of additional land for large-lot industrial sooner than previously anticipated.[6]

4.25 The same report goes on to state:[7]

> One of the drivers for early market interest in securing land in the Extension Area is the announcement of rail access into the area. Rail seems to be a catalyst that is drawing investment interest because of the opportunity for the Extension Area to become a central North Island multi-modal transport and distribution hub that includes convenient access to road, rail and air. Market indications at the end of 2018 are that a number of large sites in the Extension Area are now under contract or have been purchased by development interests.

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4 For example, as shown earlier, the average value of land across various industrial areas of the city was $216 / m^2, which is 15 times higher than the average value for the land notionally affected by the NoR.

5 Palmerston North Housing and Business Development Capacity Assessment Report, May 2019.

6 Ibid. At [2.30] on page 12 states "it is likely that capacity issues for large floor-plate industrial land is likely to arise in the next 10-15 years (medium to long-term) rather than beyond the 20-year horizon (long-term) projected in the Capacity Assessment.

7 Ibid. At para [7.19] on page 107.

4.26 In other words, the market started acquiring land in and around the NEIZ extension area in anticipation of an intermodal freight hub because it would create a significant economic anchor towards which complementary activities would naturally gravitate. Therefore, not only would the Freight Hub consume a significant proportion of the Palmerston North city's current stock of large-lot industrial land, but it has also accelerated the uptake of peripheral land to enable the agglomeration of like-activities. This agglomeration (or clustering) of economic activity, in turn, will generate economic benefits by reducing transport costs and lifting the average productivity of businesses (for example, through the sharing of labour, specialised assets, and ideas). Indeed, these agglomeration benefits are the motivating force for compatible / related economic activities willingly collocating with one another across the world.

4.27 As a result, Palmerston North city will need to start planning for the rezoning of other land to ensure that there is a sufficient supply of large-lot industrial sites to meet requirements over the longer term. I do, however, reiterate that the loss of some NEIZ land to the Freight Hub will be offset, at least partially, by the release of land currently occupied by the Existing Freight Yard (assuming this is redeveloped for industrial purposes). Given the relative proximity of that land to the CBD, it is highly likely to be more valuable than the land occupied by the Freight Hub in the NEIZ.

4.28 On the basis that I am not aware of any factors that would preclude the successful identification and rezoning of additional land to offset the increased uptake of NEIZ as a result of the Freight Hub and complementary land uses, it is unlikely, in my view, that there will be any adverse economic effect. Conversely, the development of the new Freight Hub at the proposed location will instead give effect to PNCC's objective of using "Palmerston North's central location and access to road, rail and air transport to build a significant future-proofed freight and distribution hub."[8]

Effects on employment and other construction related effects

4.29 The future development of the Freight Hub will cost several hundred million dollars and hence create significant economic stimulus for the Palmerston North city, Manawatu-Whanganui region, and the broader North Island economy. For example, the process of planning for, designing, and constructing the various buildings and structures that comprise the Freight Hub will draw in workers from many fields and create jobs and incomes for numerous workers across a broad range of fields. For example, the following

8 https://www.pncc.govt.nz/media/3130972/city-development-2018.pdf, page 16

workers would be required to complete the Freight Hub, many of which would be city / regional locals:

(a) architects, planners, lawyers;

(b) quantity surveyors;

(c) transport specialists;

(d) civil and structural engineers;

(e) site preparation workers;

(f) building contractors and sub-contractors; and

(g) plumbers, electricians, glaziers.

4.30 To estimate the potential economic impacts associated with the design and construction of the Freight Hub, I used a multiplier analysis. This incorporates detailed matrices called input-output tables, which show how the various sectors of the economy are interrelated. Consequently, they enable the overall impact of the proposal, including its flow on effects, to be estimated.

4.31 Given the scale of the Freight Hub development and its construction will likely draw on resources from a broad area, I selected the entire North Island as the relevant study area. For each major phase in the development process, I then mapped the estimated costs to sectors of the North Island economy. Finally, I overlaid the corresponding economic multipliers to derive the estimated impacts on North Island GDP, employment, and household incomes. Table 2below presents the results.

Table 2: Estimated Total Economic Impacts of Construction ($million)

Economic Impact Measures	Direct	Flow-On	Total
GDP $m	$300m	$680m	$980m
Employment (FTE-years)	2,960	6,230	9,190
Household Incomes $m	$185m	$295m	$480m

4.32 As demonstrated in Table 2, construction of the Freight Hub could generate nearly $1 billion of GDP for the North Island (including $680 million of flow-on effects), and create employment for nearly 9,200 full-time-equivalent years ("**FTE-years**").[9] In addition, increased employment could boost household incomes (ie worker wages and salaries) by around $480 million over the construction period for the Freight Hub.

9 An FTE-year means one full-time equivalent employed for a full year. Hence, 9,200 FTE-years could mean 4,600 people employed for two years, 920 people employed for 10 years, and so on.

4.33 Since the construction period is expected to last approximately 8 to 10 years, it is helpful to convert these aggregate estimates into annual equivalents. To that end, Table 3 restates the impacts above on an annual basis assuming a construction period of 10 years.

*Table 3: Estimated **Annual** Economic Impacts of Construction ($million)*

Economic Impact Measures	Direct	Flow-On	Total
GDP $m	$30m	$68m	$98m
Employment (FTE-years)	296	623	919
Household Incomes $m	$18m	$30m	$48m

4.34 Table 3 shows that construction of the Freight Hub could boost North Island GDP by nearly $100 million per annum for 10 years, create full-time employment for nearly 920 people (again, for 10 years), and boost annual household incomes by $48 million.

4.35 Assuming that half of these North Island impacts occur regionally, the Freight Hub could boost regional GDP by nearly $50 million per annum for 10 years, provide employment for almost 460 people, and lift regional household incomes by $24 million per annum for 10 years.

4.36 This shows that the economic impacts of construction of the Freight Hub are significant, and represent a material gain to both the regional and wider North Island economies.

4.37 It is also important to put these economic impacts in the context of the likely effects of several other major projects that are anticipated for the Palmerston North city and Manawatu-Whanganui region over the next 10 years or so. A list of these other projects (reproduced in Figure 6 below) was compiled by PNCC and subsequently outlined in several documents, including a recent report titled Urban Development Capacity Indicators for Palmerston North (June 2020).[10]

10 https://www.pncc.govt.nz/media/3133106/urban-development-capacity-indicators- June 2020.pdf

Major construction projects

Major development and construction projects announced for Palmerston North and the Manawatū region amount to more than $3.0 - $4.0 billion of construction activity over the period to 2030.

Some projects under development do not have final values for the project, such as the construction of the MidCentral critical service block and KiwiRail freight hub, although KiwiRail suggests it might attract $4 billion in investment to Palmerston North.

(Source: Palmerston North City Council)

Development	$ million	Timing
Manawatū Gorge	650	start January 2020
Linton and Ohakea regeneration plan	397	2018 - 2030
Mercury Energy - Turitea	256	started August 2019
Massey University capital plan	230	2020 - 2030
Powerco growth and security projects	150	2017 - 2024
Hokowhitu campus redevelopment	90 - 135	started late 2019
P-8A Poseidon aircraft - infrastructure	300	finish by 2023
NZTA regional roading investment	cost and timing to be confirmed	
BUPA retirement village	40	started 2017
KiwiRail regional freight hub	cost and timing to be confirmed	
MidCentral DHB acute services block	370	timing uncertain
MidCentral sugical and mental health	57	late 2020/early 2021
Countdown distribution centre	66	2020 - 2021

Figure 6: Major Projects Planned for the City/Region

4.38 This broader list of major projects shows that the Freight Hub will be one of many major initiatives that will significantly bolster local / regional GDP, incomes, and employment. Taken as a whole, this forthcoming body of work will create sustained employment for a large and diverse workforce, rather than resulting in only one-off, transient economic effects.

4.39 Further, the Freight Hub will have significant employment effects over the longer term due to ongoing operations. According to preliminary analyses performed by KiwiRail, the Freight Hub (and its associated onsite freight partners) could provide full-time employment for more than 1,000 people. This is likely to be conservative however because these estimates are based on current KiwiRail employment figures from the Existing Freight Yard. As the Freight Hub grows to reach its long-run operating capacity, the fulltime employment figures are likely to significantly exceed the baseline estimate of 1,000 people.

Effects on housing demand

4.40 The increases in employment associated with the construction of the Freight Hub – and the other major projects identified above – will increase the demand for local housing, and hence potentially place some pressure on Palmerston North city's housing market. The diagram below broadly illustrates the general relationship between the estimates of increased employment tabulated above, and the corresponding impacts on the demand for city housing.

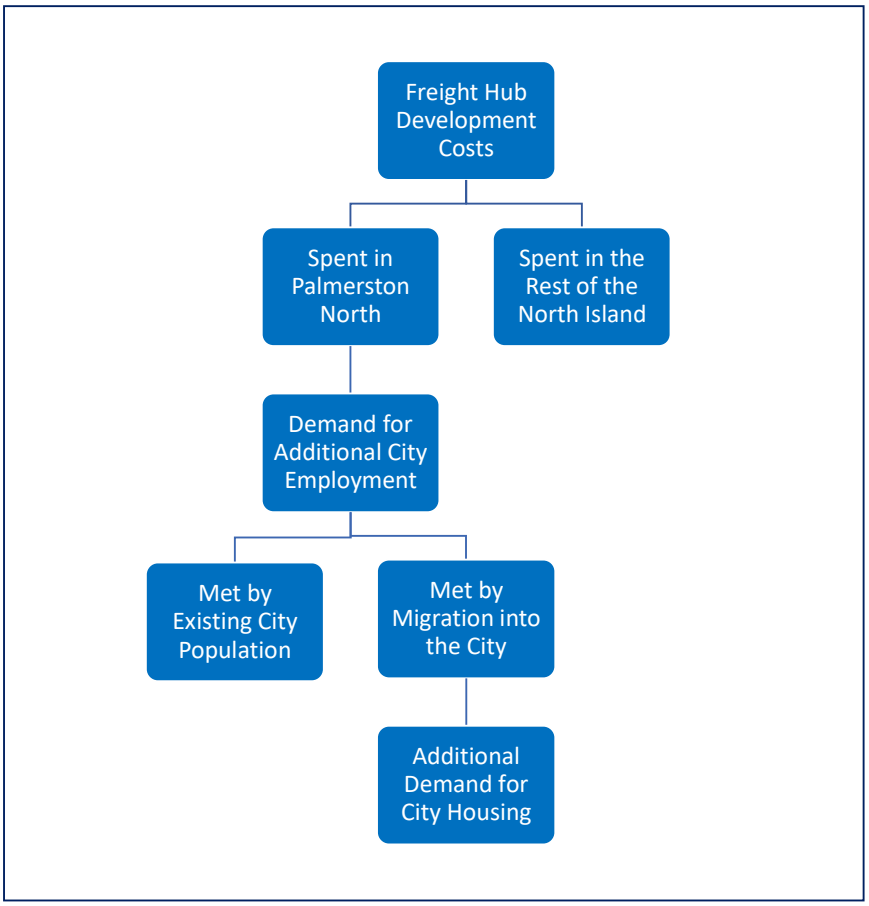

Figure 7: Relationship between Freight Hub Costs / Impacts and Local Housing Demand

4.41 To summarise, construction of the Freight Hub will increase the demand for employment in Palmerston North city, some of which will be met by the existing population, and some of which will be met by migration into the city. These workers who are coming to the city, in turn, will need somewhere to live, thereby increasing the demand for city housing.

4.42 To estimate the level of this effect, I determined the proportion of Freight Hub construction costs spent in the city, plus the proportion of the resulting increase in local city employment met by migration.

4.43 In the absence of any concrete information on the likely share of construction costs spent in the city, and in the interests of adopting a conservative approach, I assumed that a quarter of total construction costs will be spent in Palmerston North, and that half of the resulting increase in city employment will be met by migration. Then, I applied these assumptions to the estimated annual increases in employment during construction shown in Table 3 above. Under these assumptions, I estimated that construction of the Freight Hub will generate local housing demand for an additional 115 dwellings (over and

above the demand that would be anticipated if the Freight Hub was not constructed).

4.44 While this might seem like a significant figure itself, it needs to be considered in context. Specifically, according to the 2017 Sense Partners household projections for Palmerston North city, this will equate to only about a quarter of a year's average demand for additional dwellings out to 2043. Those household projections were contained in reporting recently completed under the NPS-UDC and are reproduced below.

Table 4: Long-term household projections for Palmerston North

	Sense Partners (September 2017)			Statistics New Zealand (December 2016)		
		Average annual change			Average annual change	
Period ended	Households	Number of households	Rate of change(%)	Households	Number of households	Rate of change(%)
2001	28,000			28,000		
2006	28,900	180	0.6%	28,900	180	0.6%
2013	31,500	371	1.2%	31,500	520	1.2%
2018p	33,000	300	0.9%	33,500	400	1.2%
2023p	35,300	460	1.4%	35,100	320	0.9%
2028p	37,600	460	1.3%	36,600	300	0.8%
2033p	40,000	480	1.2%	37,900	260	0.7%
2038p	42,100	420	1.0%	39,000	220	0.6%
2043p	44,300	440	1.0%			

Source: Statistics New Zealand and Sense Partners

5. RESPONSE TO SUBMISSIONS

5.1 The following submitters have raised matters relating to the economic effects of the Freight Hub on the economy that relate to matters addressed in my assessment:

(a) Aaron Fox;

(b) Accelerate 25;

(c) Manuwatu and Horowhenua District Councils;

(d) Central Economic Development Agency ("**CEDA**");

(e) Danelle O'Keefe and Duane Butts;

(f) Darren Green;

(g) submitter 97;[11]

(h) Nicola Schreurs and Thomas Good; and

(i) Peter Gore and Dale O'Reilly.

5.2 I have considered these submissions and respond to them by way of themes rather than individual submissions. Mr Paling has addressed, in his evidence, economic effects relevant to his assessment and area of expertise.[12]

Economic Benefits of the Freight Hub

5.3 Several submitters identified various economic benefits likely to arise from the Freight Hub. Those submitters include the Central Economic Development Agency, Accelerate 25, and Horowhenua District Council.

5.4 The likely economic benefits cited by these submitters include:

(a) that freight businesses will invest in the region due to the increased volumes distributed through the Freight Hub;

(b) job creation in the build phase;

(c) reduced costs of building and maintaining roads;

(d) central city land released for higher value activities;

(e) reduced emissions from transitioning from road to rail; and

(f) safer roads in central Palmerston North.

5.5 I acknowledge these benefits and consider that they will be both significant and enduring.

Opportunity Cost of Designated Land

5.6 Some submitters have raised concerns about the opportunity cost of land foregone to designation. For example, Nicola Schreurs and Thomas Good state that 66 properties will be subsumed, which inflates the overall cost of the proposed Freight Hub. Firstly, I understand that approximately only 24 dwellings will need to be acquired, not 66.[13]

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11 KiwiRail understands from PNCC that this submitter wishes to remain anonymous.

12 Evidence of Richard Paling, dated 9 June 2021, at section 8.

13 This issue was addressed in the social impact assessment, which can be accessed here https://www.pncc.govt.nz/media/3133269/j-social-impact-assessment.pdf

5.7 I acknowledge that the Freight Hub will require the acquisition of properties that currently contain dwellings. However, I disagree with the assertion by submitters that the underlying land is expensive and will therefore significantly inflate the overall cost of the Freight Hub.

5.8 According to the Property Guru data shown in paragraph 4.23 above, the average value of land within the Designation Extent is $14 per square metre. This is very low overall. For example, the average LV across various industrial areas of the city was $216 per square metre, which is 15 times higher.

5.9 Even if the value of buildings and other improvements are included in the calculations, according to Property Guru, the value of properties within the Designation Extent remains relatively low. In fact, the average value of land and buildings in the affected area translates to only $21 per square metre of land, which is ten times lower than the value of land alone in the city's various industrial areas (of $216 / m^2).

5.10 For further context, I used Property Guru to extract data on every vacant residential section sold in Palmerston North city over the last two years to gauge their current values. This provided data on 282 sections with a total land area of 34.6 hectares and a combined value of $123 million. This equates to an average land value of $354/$m^2$, which is more than 16 times higher than the average value of land and buildings within the Designation Extent per square metre of land.

5.11 Finally, PNCC's assessment of feasible housing capacity – undertaken pursuant to the NPS-UD or its predecessor – assumes that greenfield residential sections will have an average land value of $533 / m^2.[14] This is 25 times higher than the combined value of land and buildings within the Designation Extent per square metre of land.

5.12 I therefore disagree that the proposed location of the NoR, coupled with the existing uses of the underlying land will significantly inflate the cost of the Freight Hub. Given the relative LVs outlined above, the opposite appears to be the case.

5.13 Other submitters, such as Peter Gore and Dale O'Reilly, are concerned about the loss of productive farm sites in the affected area. I acknowledge that small-scale farming occurs on some of the affected land. However, detailed reviews of aerial photos – coupled with official employment data and Property Guru

[14] PNCC Housing & Business Development Capacity Assessment Summary Report, May 2019, page 19.

information – suggest that the extent of any productive farming in limited in this area. Moreover, land currently used for farming within the Designation Extent had an average LV of only $6 per square metre, which is very low compared to the value of land in other parts of the city (as described above at paragraphs 4.22 to 4.23 of my evidence).

Impacts on Residential Land/Dwelling Market

5.14 Some submitters consider that the land would better used for other purposes, such as residential development. For example, Aaron Fox contends that the Freight Hub land would be better used for housing in response to a "pressing need for space within the city's boundaries for new subdivision."

5.15 To assess the need for additional land to meet projected residential growth, I reviewed reports and data published under the NPS-UDC. First, I considered PNCC's housing capacity assessment ("**HCA"**), which compares projected housing demand to future supply to assess likely sufficiency.

5.16 PNCC's latest HCA was completed in May 2019 and indicates that the city has sufficient supply to meet short-term needs, but requires more capacity to meet medium- and long-term demand.[15]

5.17 To meet those longer-term future requirements, a City Development Strategy and integrated spatial plan have recently been adopted by PNCC, which set various directions that will improve the city's dwelling supply in both existing and new/greenfield areas.[16] The Section 42A Report confirms that the Council also considers that sufficient land is available to be zoned and serviced to accommodate predicted greenfields residential growth.[17]

5.18 In addition, the city's new Housing and Future Development Plan clearly prioritises future greenfield areas for growth. The map below illustrates that below, which confirms that the land for the Freight Hub was **not** identified as a future residential development.[18]

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15 Available here https://www.pncc.govt.nz/media/3133754/housing-business-development-capacity-assetsment-may-2019.pdf

16 The city development strategy is contained in a stand-alone document, which is available here https://www.pncc.govt.nz/council-city/official-documents/strategic-direction/goal-1-an-innovative-and-growing-city/city-development-strategy/. The spatial plan appears on page 170 of the 10 Year Plan (LTP), which is available here https://www.pncc.govt.nz/media/3131028/10-year-plan-2018-28.pdf

17 Section 42A Report dated 18 June at paragraph [818].

18 Available here https://www.pncc.govt.nz/media/3130979/housing-and-future-development-plan-2018.pdf

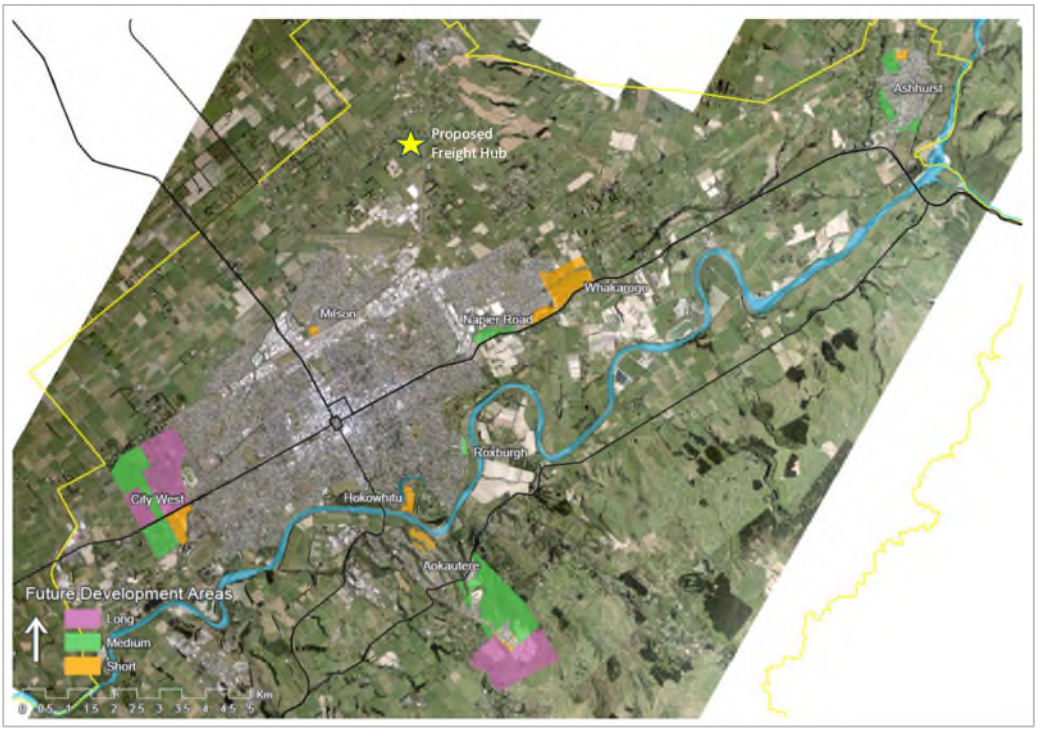

Figure 8: Future Development Areas in PNCC Housing & Future Development Plan

5.19 Although the land for the Freight Hub has not been identified as a future development area, I reviewed an NPS-UD indicator called the price-cost ratio, to see whether there is a profound existing shortage of residential land that may justify the future use of the NoR land for residential uses.

5.20 The price-cost ratio measures the ratio of dwelling prices to construction costs (excluding land). In general, values less than 1.5 signal that the land market is operating well, with house price inflation driven mainly by higher construction costs. Conversely, values greater than 1.5 indicate a lack of available land supply relative to demand, with house price inflation driven mostly by land prices.

5.21 Bearing that definition in mind, *Figure 9* compares Palmerston North's price-cost ratio (the yellow line) to Auckland's (the green line) – a city that is widely-known to have had a profound residential land shortage for many years.

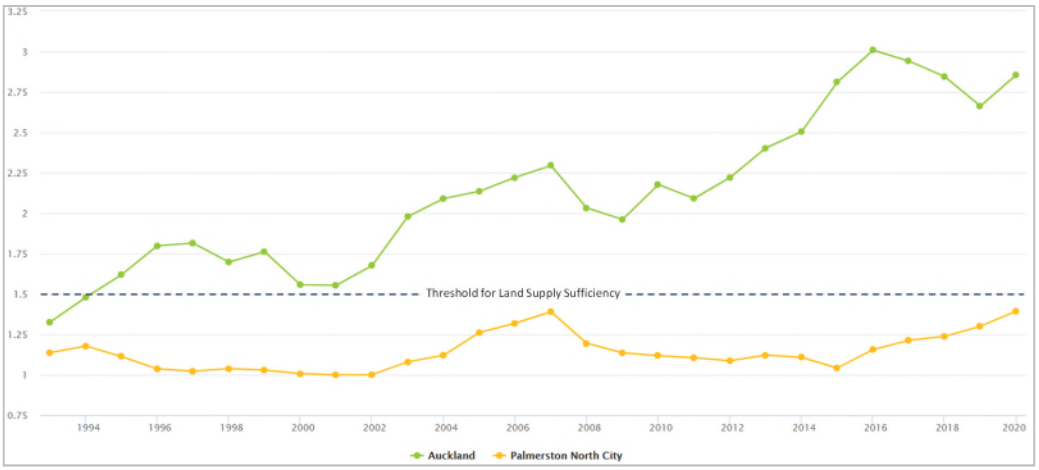

Figure 9: Price-Cost Ratios for Palmerston North (yellow) and Auckland (green)

5.22 Figure 9 shows that, despite a gradual increase over the last five years, Palmerston North's price-cost ratio has remained below 1.5 since at least 1993. Auckland's, conversely, has been above 1.5 since 1994 and has even been as high as 3 in recent times. This further reinforces the observation that Palmerston North does not have a significant shortage of residential land that would justify rezoning the NoR land for that purpose.

5.23 Given that recent PNCC analyses identify and confirm several future growth areas around the city, none of which are near the NoR land, I disagree that the Freight Hub proposal foregoes the land for residential purposes. I do not consider that this land would not have been used for residential development absent the Freight Hub.

5.24 Aaron Fox also expresses concern that people whose land is acquired because of the designation for the Freight Hub may not reinvest funds into similar properties elsewhere in the district, which will affect supply. However, if those properties were owner-occupied, a failure to purchase another home elsewhere in the district has no net impact on the city's residential market, because both supply and demand fall by the same amount.

Regional Employment and GDP Effects

5.25 Several submitters have raised issues regarding the Freight Hub's likely impacts on the regional economy, particularly employment effects. For example, Aaron Fox describes the Freight Hub representing aspirational economic forecasting, coupled with unrealistic projections of 1,000 new jobs and $4 billion of investment over a 10-year period. Similarly, Darren Green considers that the promise of new jobs will come at the expense of old ones,

while Danelle O'Keeffe and Duane Butts believe that the local construction sector is already under pressure, with the Freight Hub only making it worse.

5.26 I disagree that the Freight Hub represents aspirational forecasting, or that the projection of 1,000 construction[19] jobs is unrealistic.

5.27 While I only became involved in the process once the NoR had been lodged, I was responsible for estimating the likely employment impacts of construction in response to a request for further information and the following response is accordingly limited to those aspects.

5.28 The methodology that I used for that purpose was the same that I have previously used to analyse the likely impacts of numerous other major projects across New Zealand. My methodology is based on detailed supply-chain information provided by Statistics New Zealand, and is widely used around the world to estimate the likely regional and national economic impacts of different projects, industries, organisations, and events.

5.29 The estimate of 919 full-time construction-related employees shown in Table 3 of my response to PNCC's first section 92 request dated 14 December 2020 ("**First Section 92 Request**") represented total employment across the entire North Island for the Freight Hub's direct and indirect (flow-on) effects. These flow-on effects, in turn, reflect:

(a) increased economic activity at a wide range of North Island businesses that will supply skills, materials, and services to enable construction (which are known as indirect effects); and

(b) the effects of increased spending by people employed directly or indirectly because of the project, which creates an additional round of economic stimulus (known as the induced effect)

5.30 Accordingly, the estimate of 919 full-time employees in my report does not translate to more than 900 people working full-time on site, as some submitters may have interpreted it to mean.

5.31 Rather Table 3 in my response to the First Section 92 Request shows that fewer than 300 people will be employed directly due to the construction process, with the rest employed elsewhere via flow-on effects.

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19 Some submitters are unclear whether they are referring to construction or operating effects when commenting on employment effects. Since I estimated the construction employment impacts, I mainly focus on those here.

5.32 I also disagree that construction jobs created by the Freight Hub will provide no net gains, as asserted by some submitters. This is because, while I agree that some workers will transfer from existing jobs in the region, the jobs that they vacate then become available for other district / regional residents to fill. As a result, there will be net increases in employment opportunity.

5.33 In terms of the Freight Hub adding pressures to an industry that is already experiencing supposed skills shortages, I acknowledge that the construction sector has been under capacity pressure for some time. However, if the NoR is confirmed, construction will not commence immediately due to lead times associated with the finalisation of design and associated regional consents that will be required. That lead time will provide an opportunity for the city and region to clearly signal the need for more construction workers and for prospective workers to react accordingly.

5.34 Moreover, there are several carefully-planned and well-resourced Central Government and industry initiatives that have been designed specifically to address sector capacity constraints. These include:

(a) The 2019 Construction Accord – which will strengthen the partnership between Central Government and industry and help transform the construction sector for the benefit of all New Zealand. It identifies four shared goals and assigns responsibilities to different stakeholders to help achieve them. Most importantly, it recognises the need for a more skilled and reliable workforce to overcome capacity constraints that have limited construction activity in the past.

(b) 2018 Construction Skills Strategy and Action Plan – This has seen the Central Government collaborate with industry to drive a rapid and sustainable shift that delivers the right people, at the right time, with the right skills, to meet New Zealand's current and future construction needs.

(c) A new authority – Kāinga Ora – has been recently created, which will deliver on Central Government's vision of healthy, secure, and affordable homes within diverse and thriving communities. It has a broad range of statutory powers that will enable it to deliver new construction projects in a far more streamlined and coordinated manner than before.

5.35 In addition to these new initiatives, which will directly assist the sector along several dimensions (including capacity), the earthquake-related construction

activity in Christchurch has begun to taper off, which is releasing resources for deployment elsewhere and is hence helping to ease nationwide capacity constraints. This is illustrated in the chart below, which plots the gross floor area of new building work consented in Christchurch city each year since 1991.

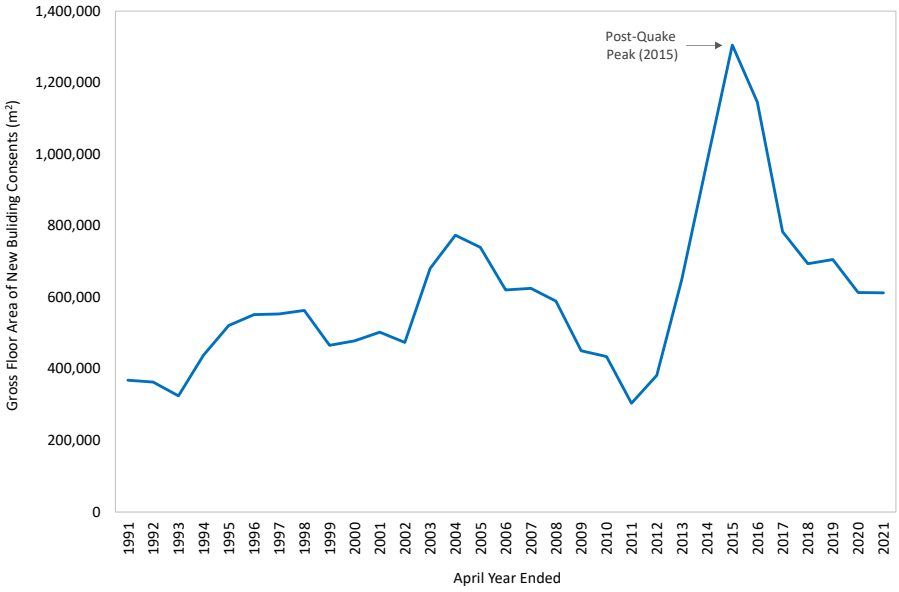

Figure 10: Christchurch City Consents for New Buildings – Gross Floor Area (m2)

5.36 As a result, I disagree that the Freight Hub will exacerbate perceived prevailing construction sector pressures to any material degree.

Industrial Land Impacts

5.37 One submitter expressed concern about the Freight Hub's impacts on industrial land. Specifically, Danelle O'Keefe and Duane Butts note that future uses of the Existing Freight Yard site are unknown and that KiwiRail has not made any undertakings in that regard. They further opine that the Freight Hub negatively effects the availability of land in the NEIZ and essentially creates a monopoly on real estate in the NEIZ.

5.38 I acknowledge that the future use of the Existing Freight Hub site has yet to be determined, which is understandable in my view given that KiwiRail's focus has been to secure designation for the new site first. This does not mean that they will unduly delay decisions about how the existing land will be reallocated if the NoR for the Freight Hub is confirmed.

5.39 I agree that the Freight Hub will consume land in the NEIZ, but I disagree that it creates a monopoly on such land or will have enduring effects on the ability of local businesses to find suitable space there.

5.40 I addressed these matters at paragraphs 4.24 to 4.28 above, where I noted that the Freight Hub – and other activities have already established in the NEIZ in anticipation of it – have consumed significant chunks of NEIZ land.

5.41 However, since I am not aware of any factors that would preclude the successful identification and rezoning of additional land to offset the increased uptake of NEIZ due to the Freight Hub and complementary land uses, it seems unlikely that there will be any adverse economic effect.

5.42 Conversely, the development of the new Freight Hub in this location will instead give effect to PNCC's stated objective of using "Palmerston North's central location and access to road, rail and air transport to build a significant future-proofed freight and distribution hub."

6. RESPONSE TO SECTION 42A REPORT

6.1 I have reviewed the sections of the Section 42A Report relevant to my evidence, particularly section 5.3.1 of the Section 42A Technical Evidence by Shane Vuletich, dated 18 June 2021, which addressed my estimates of construction impacts.

6.2 While Mr Vuletich agrees that construction will generate significant economic benefits, he disagrees with the methodology that I used to estimate the likely impacts on GDP, incomes, and employment.

6.3 Before I respond to Mr Vuletich, I wish to reiterate that there is strong agreement between PNCC and KiwiRail that the project will deliver significant economic benefits and will help PNCC to achieve its vision of enabling a significant, future-proofed freight and distribution hub. I therefore respond to the issues raised by Mr Vuletich purely for completeness.

6.4 At paragraph 113(a) of the Section 42A Technical Evidence by Shane Vuletich, Mr Vuletich concludes that my estimates of construction benefits are overstated because they are based on an economic impact assessment ("**EIA**"). He goes on to contend that social cost benefit analysis ("**CBA**") is the preferred methodology of Central Government agencies, and hence that I should have used that instead.

6.5 I agree that CBA is a common methodology used by Central Government, particularly for assessing specific policies and / or comparing the likely impacts of competing investment options.

6.6 However, social CBA is not the preferred method for assessing transport projects, as Mr Vuletich intimates, with such assessments instead directed by Waka Kotahi's *Monetised Costs and Benefits Manual* ("**MCBM**").[20]

6.7 The MBCM is a highly detailed (379-page) manual that provides detailed procedures for assessing the likely economic impacts of transport projects. I understand that it closely informed the economic assessments already completed by Mr Paling prior to my involvement in the project. However, as far as I am aware, the MCBM does not address the employment impacts of transport projects, which I was tasked with estimating.

6.8 It is also critical to consider the context in which the EIA was used. In late 2020, the NoR was lodged along with a suite of detailed technical reports, including an economic analysis by Mr Paling (which, again, I understand was conducted according to the MCBM).

6.9 Later that year, KiwiRail received a request for further information under section 92 of the RMA. Amongst other things, the first further information request requested a quantitative assessment of the economic impacts of the project on employment, plus the related effects on housing demand.

6.10 Given that the Freight Hub's likely other economic and non-economic effects had already been assessed and noting the first further information request's focus on a quantitative assessment of employment impacts, EIA was the logical choice. Indeed, the key use of EIAs is to estimate the employment (and GDP) impacts of planned economic activities, such as the proposed new Freight Hub. Accordingly, I disagree that a social CBA should have been used instead.

6.11 I also note that, in an RMA context where the focus is on the effects of a specific proposal, and where detailed information on all other effects has been provided by subject matter experts (and then synthesised in the corresponding Assessment of Environmental Effects), it is wholly inappropriate for an economic assessment to attempt to weigh them all up in a social CBA.

6.12 Doing so would not only lead to double-counting of non-economic effects (because they are already addressed in separate technical reports), but would also unduly elevate the status of the economic assessment beyond that of all other technical experts (such as noise, traffic, social, and so on). In addition, many of the non-economic effects that would presumably feed into such a CBA elude quantification, let alone monetisation (as required for a CBA).

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20 This replaced the former Economic Evaluation Manual in 2020.

6.13 Finally, I note that Treasury's guidance on social CBA also acknowledges that "EIA can provide useful contextual information for decision makers" despite not being a suitable tool for weighing up all the economic and non-economic costs and benefits of a specific project or decision.[21]

6.14 Accordingly, while I acknowledge that social CBA is a commonly used tool for Central Government decision making, particularly for the comparison of competing investment options, I disagree that it should have been used to estimate the likely employment effects of the proposed Freight Hub, as requested in the first further information request.

6.15 In section 5.5 of his Economics Report, Mr Vuletich identifies various potential economic benefits arising from the release of land from its current use at the Existing Freight Yard. However, he then concludes that these should be afforded relatively little weight as KiwiRail has yet to commit to a specific course of action to make that land available for new uses in future.

6.16 While KiwiRail does not yet have any firm plans for the Existing Freight Yard. However, in my view, this is understandable given that KiwiRail's focus has been to secure designation for the new site first. However, this does not mean that little weight should be placed on potential future uses of the Existing Freight Yard.

Fraser Colegrave

9 July 2021

21 Treasury, Guide to Social Cost Benefit Analysis, July 2015, paragraph 244, page 54.