

# Memo

To: Dean Christie, NTP Development Holdings Ltd  
Jo Appleyard, Anderson Lloyd

From: Natalie Hampson, Savvy Consulting Limited

Date: 25 February 2026

**Subject: FTAA-2505-1057: Pound Road, Christchurch Applicant  
Response to Minute 14**

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## Introduction/Scope

1. This memorandum provides additional economic information to assist the Applicant's response to the questions raised by the Panel in Minute 14.
2. In order to respond to the Panel's queries in a robust and transparent way, some further changes to existing economic impact modelling have been necessary as well as some additional modelling not previously reported.
3. This memo includes some economic cost analysis for the intersection effects modelling carried out by Mr Fuller (Novo Group) as described in his latest memo for Minute 14. Details of that further work are described below and should be read in conjunction with Mr Fuller's memo.
4. Unless where stated that the economic assessment in this memo updates or replaces assessment previously documented (in the original Economic Assessment Report (June 2025) and/or memo responding to the economic peer review in Christchurch City Council's ("CCC") comments (20 November 2025)), this memo should be read in conjunction with those earlier documents. The conclusions reached on significant net economic benefits of the project (quantified and qualified) set out in my June 2025 Economic Assessment report remain valid and are further evidenced in this memo.

## Aligning Economic Impacts Already Reported to Wider Project Timing Assumptions

5. In my memo dated 20 November 2025 in response to CCC's comments on the application, I provided amended construction economic impact modelling results (value added (GDP) and employment) in response to Formative's peer review. Those amended construction economic impacts superseded those in the Economic Assessment Report (June 2025).
6. That updated construction impact modelling included estimates of the net present value ("NPV") of the value added (GDP) impacts as well as annual average employment impacts over an indicative 16.5 year total construction period. While total economic impacts of a project (cumulatively) are not sensitive to the timing or the rate of development, NPV and annual average employment impacts are sensitive to timing assumptions (i.e. the duration of development).
7. I had originally assumed that the four stages of land development would occur in four consecutive years (after an initial 6 month planning preparation period in the second half of 2026), and that construction of buildings on each site would begin 12 months after the first stage (year) of land development and continue evenly over 15 years. If year one of the project was assumed to be 2026 (if approved), this means that I had assumed (for annual average employment and NPV calculations) that all buildings would not be fully completed until year 16.5 or 2042.
8. Conditions of consent for the project (offered or suggested) are linked to development time frames (including issuing of titles following stages of land development). In order to address Minute 14 and integrate the latest transport assessment response by Mr Fuller with further economic assessment, it has become apparent that the assumptions for development timing in my Economic Assessment (and CCC response) do not match those adopted by Mr Fuller. There has also been:
  - a. more specific timing provided for land development stage start and finish times which, while similar to my earlier assumptions, appear to extend into a 5th calendar year (refer memo by Dean Christie, NTPL, dated 24 February 2026).
  - b. New information provided on the costs of land development and on-site and off-site infrastructure costs (refer memo by Todd Inness, Davie Lovell-Smith, dated 24 February 2026). The civil costs of land development per section are

substantially higher than estimates I was initially provided. Infrastructure costs were not available at the time of my report preparation and so are additional.

9. Mr Fuller set out his assumptions for when various stages of the Pound Road development would be completed and generating traffic at key intersections in his earlier memo dated 26 January 2026. That timing is shown in the following excerpt from that memo:

- 3. Development of the site is anticipated to occur at a steady rate between 2028 to 2038, with the proposed conditions deferring issuing of Lot titles until 31 December 2027. This leads to approximately 9% of the development occurring each year to completion in 2038. As such:**
- i. Stage 1 would be complete in 2030 / 2031;**
  - ii. Stage 2 would be complete in 2032 / 2033;**
  - iii. Stage 3 would be complete in 2036 / 2037; and**
  - iv. Stage 4 would be complete in 2038.**

10. Importantly, these timing assumptions relate to occupancy of constructed buildings by businesses which occurs only after construction is completed. As set out in the Economic Assessment Report (and my CCC response), I have not modelled/quantified the economic impacts of the operational stage of the development but noted that these would be additive to the construction impacts and would be significant and enduring. If I *had* modelled operational impacts, they would apply after (indicatively in the following year) each increment of building construction.
11. To account for the information available on development and operational timing described above, and new and more detailed cost estimates that now cover most infrastructure costs, I have made the following updates to my economic impact model to bring it into alignment (as far as practicable):
- a. Land development stages now take place between 2027 and 2031 calendar years (inclusive).
  - b. Land development costs are now based on the latest available information (assumed to be late 2025 prices) and include the Civil, Enable and Power costs for stages 1-3, and the Barbers Road Intersection, Water Supply Upgrade, Sewer Connection and Sewer Pump costs specified for stage 1 in Mr Inness's memo. GST has been added for the purpose of the multiplier analysis. While there are other itemised costs (including some redacted) in

that memo, these have not been included. While land development costs for stage 4 have not been provided by Mr Inness, I have assumed that they are approximately a third of stage 3 costs. Total land development costs are now estimated at just under \$33 million paid for by the applicant.

- c. No changes to average building construction costs/sqm or estimated floorspace per site reported in the November 2025 update (response to CCC peer review). Building construction costs paid for by purchasers of the industrial sections are estimated at nearly \$585 million.
- d. No change in the economic sectors assigned for the initial planning, design and remaining sign-off expenditure, land development expenditure and building construction expenditure in the model. The initial (post approval) planning, design and remaining sign-off expenditure is retained at 1% of land development costs (but is now increased in absolute terms (to \$0.3 million) given the higher and more comprehensive land development costs).<sup>1</sup>
- e. The IO Model has been updated with the latest Producers Price Index (“PPI”) deflators for each sector (2025 Q3 to 2020 Q1). Model results continue to be in \$2020. This change in deflators means that even where costs have not changed (such as building construction costs) there will be some minor differences.
- f. Operational impacts (of occupying businesses) are now included in the model. Assumptions and approach for determining gross output, value added and employment impacts for a scenario of operational business mix are included in Appendix A of this memo.
- g. Stage 1 construction of buildings starts one year after stage 1 land development starts (and finishes) and occurs evenly over 3 years (2028–2030). Businesses occupying stage 1 buildings start one year after stage 1 construction starts and builds evenly over 3 years (2029–2031).
- h. Stage 2 construction of buildings starts one year after stage 2 land development starts (and finishes) and occurs evenly over 4 years (2029–2032).

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<sup>1</sup> This is indicative only for post approval, but pre-land development cost. I do not include the potential cost of implementing the Lizard Management Plan and so my indicative value is likely to be conservative.

Businesses occupying stage 2 buildings start one year after stage 2 construction starts and builds evenly over 4 years (2030–2033).

- i. Stage 3 construction of buildings starts two years after stage 3 land development starts (and finishes) and occurs evenly over 6 years (2031–2036). Businesses occupying stage 3 buildings start one year after stage 3 construction starts and builds evenly over 6 years (2032–2037).
- j. Stage 4 construction of buildings starts two years after stage 4 land development starts (and finishes) and occurs evenly over 6 years (2032–2037). Businesses occupying stage 4 buildings start one year after stage 4 construction starts and builds evenly over 6 years (2033–2038). The development is fully occupied and operational in 2038 (as per Mr Fuller’s assumptions and traffic modelling).
- k. Economic impact modelling is now extended over a 20 year time period (2026–2045) to show the ongoing impact of the operational stage of the project. A specified time period is required for NPV calculations, but it is important to note that the operational impact is effectively permanent in the economy and extends beyond that 20 year modelling period.

#### Updated Economic Impact Results, Inclusive of Operational Scenario Impacts

- 12. Based on the approach and changes set out above, the following provides an update of the project’s estimated gross value added, household income and employment impacts. The same limitations and caveats for these results discussed in the original Economic Assessment and CCC peer review response still apply and are not repeated here.
- 13. Table 1 shows the timing and direct expenditure estimates for the construction stages of the project, whereby direct expenditure translates to gross output of the businesses providing the goods and services for that lift in construction demand. The four stages of development are colour coded to help highlight the transition (and assumed lags) between land development, building construction and business operation. It also includes the gross output of the indicative operational business scenario assumed for the purpose of this memo (and discussed in more detail in Appendix A). Footnotes to the table explain alignment with proposed conditions and transport modelling timing assumptions.

Table 1 – Direct Gross Output and Timing Assumptions by Stage (2025 Dollars) 2026–2045

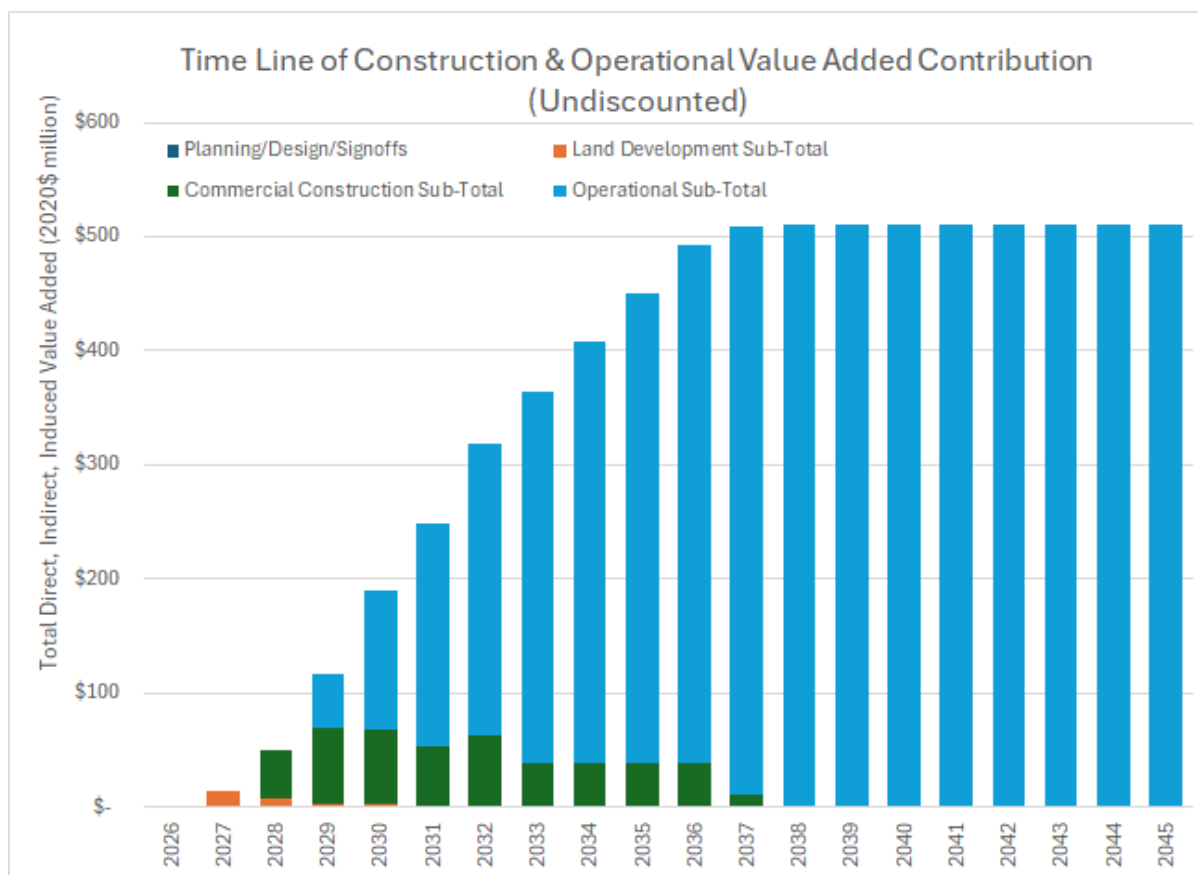
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	Total 2026-2045 (20 Years)
		(1)		(2)		(3)		(4)				(5)	(6)								
Planning/Design/Signoffs	\$ 0.3																				\$ 0.3
Land Development Stage 1		\$ 17																			\$ 17
Land Development Stage 2			\$ 9																		\$ 9
Land Development Stage 3				\$ 4	\$ 1																\$ 5
Land Development Stage 4					\$ 1	\$ 1															\$ 2
Commercial Construction Stage 1			\$ 54	\$ 54	\$ 54																\$ 162
Commercial Construction Stage 2				\$ 32	\$ 32	\$ 32	\$ 32														\$ 127
Commercial Construction Stage 3						\$ 36	\$ 36	\$ 36	\$ 36	\$ 36	\$ 36										\$ 214
Commercial Construction Stage 4							\$ 14	\$ 14	\$ 14	\$ 14	\$ 14	\$ 14	\$ 14								\$ 82
Operation Stage 1				\$ 46	\$ 92	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 138	\$ 2,203
Operation Stage 2					\$ 27	\$ 54	\$ 81	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 108	\$ 1,565
Operation Stage 3							\$ 30	\$ 61	\$ 91	\$ 121	\$ 152	\$ 182	\$ 182	\$ 182	\$ 182	\$ 182	\$ 182	\$ 182	\$ 182	\$ 182	\$ 2,093
Operation Stage 4								\$ 12	\$ 23	\$ 35	\$ 46	\$ 58	\$ 69	\$ 69	\$ 69	\$ 69	\$ 69	\$ 69	\$ 69	\$ 69	\$ 728
<b>Total</b>	<b>\$ 0.3</b>	<b>\$ 17</b>	<b>\$ 63</b>	<b>\$ 135</b>	<b>\$ 207</b>	<b>\$ 260</b>	<b>\$ 330</b>	<b>\$ 367</b>	<b>\$ 409</b>	<b>\$ 451</b>	<b>\$ 493</b>	<b>\$ 499</b>	<b>\$ 497</b>	<b>\$ 497</b>	<b>\$ 497</b>	<b>\$ 497</b>	<b>\$ 497</b>	<b>\$ 497</b>	<b>\$ 497</b>	<b>\$ 497</b>	<b>\$ 7,207</b>

Source: Savvy, NTP Development Holdings Limited, Other Project team members (e.g. Novo Group, DLS). Expenditure is in 2025\$ and includes GST.

(1) Stage 1 titles issued. (2) Stage 2+ titles issued January 2029. (3) Stage 1 operational. (4) Stage 2 operational. (5) Stage 3 operational. (6) Stage 4/fully operational.

14. Table 1 (bottom row) shows that total expenditure for the project builds rapidly over time, and as different aspects of the project occur simultaneously, total annual expenditure peaks at \$499 million in 2037, before stabilising at an indicative \$497 million in gross output once fully operational.
15. Figure 1 provides an overall summary of updated gross value added economic impacts for the project once that direct expenditure is entered into the Input Output multiplier model, showing total (direct, indirect, induced) value added by development component and year, out to 2045.
16. In gross terms, the economic impacts of the project (in full) are considered significant at the regional level. The construction impacts are now higher than previously modelled (due to higher cost inputs and more compressed time frames for full development) and will be an important boost to the Region's construction sector. The long term operational impacts have been quantified and make a significant addition to the medium term construction impacts and are key to the project's economic benefits. Even in the absence of quantified operational impacts at the time of their review, Formative (for CCC) agreed that the project would – once construction and on-going operational impacts were accounted for – deliver significant gross economic impacts for Canterbury Region. Figure 1 highlights the relative and absolute significance of the on-going operational component of the project.

Figure 1 – Project Gross Valued Added by Year and Component 2026–2045



17. Table 2 provides a summary of all economic impacts of the project (value added, household incomes and employment) by component and shows the breakdown by direct, indirect and induced impacts. It is based on full development of the project. The impacts are summed over a 20 year period (where relevant), with the NPV calculated for that 20 year period.
18. Some key points from Table 2:
- a. All results are in 2020 dollar terms as this is the base year of the national Input Output table relied on for the multipliers.
  - b. Initial (post approval) preparations for development conservatively contribute an estimated \$0.3 million of total value added over a 6 month period in 2026.
  - c. Land development contributes up to \$28 million (\$24.5 million NPV) in total value added and supports up to 210 FTE years over a 5 year period.

- d. Building construction contributes up to \$451 million (\$296 million NPV) in total value added and supports up to 3,567 FTE years over a 10 year period.
- e. Business operations (occupying new buildings on site) contribute up to \$6.76 billion (\$2.7 billion NPV) in total value added and support 48,420 FTE years by 2045 (and will continue over the long term).
- f. The total project will contribute up to \$7.24 billion (\$3.0 billion NPV) in total value added and support 52,199 FTE years by 2045 once direct, indirect and induced impacts are counted.

Table 2 – Total Economic Impacts (Gross) by Development Component (2020 Dollars) 2026–2045, including NPV (8% Discount Rate)

	Direct Impact	Indirect Impact	Induced Impact	Total Impact	NPV over 20 years (8%)
<b>Design/Planning/Consents</b>					
FTE Years	1.0	0.6	0.5	2.1	
Value Added (\$ <sub>2020</sub> m)	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.3	\$ 0.3
Gross Household Income (\$ <sub>2020</sub> m)	\$ 0.1	\$ 0.0	\$ 0.0	\$ 0.1	\$ 0.1
<b>Land Development</b>					
FTE Years	66	92	52	210	
Value Added (\$ <sub>2020</sub> m)	\$ 8.5	\$ 12.2	\$ 7.4	\$ 28.0	\$ 24.5
Gross Household Income (\$ <sub>2020</sub> m)	\$ 5.8	\$ 6.2	\$ 2.8	\$ 14.8	\$ 12.9
<b>Building Construction</b>					
FTE Years	567	2,194	806	3,567	
Value Added (\$ <sub>2020</sub> m)	\$ 63.7	\$ 273.2	\$ 114.2	\$ 451.1	\$ 295.5
Gross Household Income (\$ <sub>2020</sub> m)	\$ 46.3	\$ 138.3	\$ 43.4	\$ 227.9	\$ 149.3
<b>Business Operations</b>					
FTE Years	19,787	16,501	12,133	48,420	
Value Added (\$ <sub>2020</sub> m)	\$ 2,941	\$ 2,155	\$ 1,668	\$ 6,764	\$ 2,700
Gross Household Income (\$ <sub>2020</sub> m)	\$ 1,645	\$ 1,050	\$ 633	\$ 3,327	\$ 1,328
<b>Total Project (Undiscounted)</b>					
FTEs Years	20,420	18,787	12,992	52,199	
Value Added (\$ <sub>2020</sub> m)	\$ 3,013	\$ 2,441	\$ 1,789	\$ 7,243	\$ 3,020
Gross Household Income (\$ <sub>2020</sub> m)	\$ 1,697	\$ 1,194	\$ 679	\$ 3,570	\$ 1,491

Source: StatisticsNZ, Savvy Consulting, Client Inputs. Results are in \$2020 and employment terms. While previous versions of this table had average annual employment FTEs in the white rows, now all employment impact rows, including in the Total Project block at the bottom, show cumulative FTE years.

19. All economic impacts in Table 2 are impacted by the limitations of Input Output multiplier modelling (refer discussion in the Economic Report and memo response to CCC comments). They are gross economic impacts in that they do not account for any displacement of resources, labour or other economic activity and do not account for economic costs/disbenefits of the project (discussed further below). They should be considered maximums as they do not account for price rises or changes in productivity over time. FTE's supported by the project may be a mix of sustained existing jobs (more so for construction) and new jobs (more so for new business activity occupying the site).
20. Net additionality of the impacts to the economy are not certain. The development responds to projected demand for industrial land and, if not met by the project, may be assumed to be met by other developments, providing that sufficient (freehold) zoned land is provided and that there are other developers with the funds, capacity and planning approvals (where relevant) to meet that demand. That said, meeting the demand that the project will facilitate in alternate locations in Greater Christchurch may not be as commercially feasible or desirable (from a market perspective) as Pound Road will be, given that the Islington-Hornby South is the industrial locality of highest relative demand and growth in Greater Christchurch.
21. Table 3 shows the same overall (gross) economic impact results by development stage (cumulatively) over the same 20 year period. This table is a direct response to Minute 14. It shows what economic impacts the project would likely contribute out to 2045 if development was limited to either stage 1, 2, or 3, and compared with enabling the full (stage 4) development to occur.
22. I note that my economic analysis does not deal with the commercial viability of the project if it was limited to any particular stage less than stage 4 (full development). It simply shows the economic impacts if those stages were completed. Commercial viability is addressed in Mr Christie's memo (24 February 2026). The economic impacts reported in this memo (and the wider economic benefits discussed in the original Economic Assessment report) will only be delivered if the project is commercially viable and proceeds.

Table 3 – Total Economic Impacts (Gross) by Development Stage (2020 Dollars) 2026–2045, including NPV (8% Discount Rate)

	Direct Impact	Indirect Impact	Induced Impact	Total Impact	NPV over 20 years (8%)
<b>Stage 1 Only</b>					
FTE Years	6,809	6,175	4,308	<b>17,292</b>	
Value Added (\$ <sub>2020</sub> m)	\$ 1,006	\$ 803	\$ 593	<b>\$ 2,402</b>	<b>\$ 1,109</b>
Gross Household Income (\$ <sub>2020</sub> m)	\$ 566	\$ 393	\$ 225	<b>\$ 1,184</b>	<b>\$ 548</b>
<b>Stages 1 and 2 Only</b>					
FTE Years	11,649	10,595	7,379	<b>29,624</b>	
Value Added (\$ <sub>2020</sub> m)	\$ 1,720	\$ 1,377	\$ 1,016	<b>\$ 4,114</b>	<b>\$ 1,848</b>
Gross Household Income (\$ <sub>2020</sub> m)	\$ 968	\$ 674	\$ 386	<b>\$ 2,028</b>	<b>\$ 912</b>
<b>Stages 1, 2 and 3 Only</b>					
FTE Years	18,153	16,654	11,537	<b>46,344</b>	
Value Added (\$ <sub>2020</sub> m)	\$ 2,679	\$ 2,164	\$ 1,589	<b>\$ 6,432</b>	<b>\$ 2,726</b>
Gross Household Income (\$ <sub>2020</sub> m)	\$ 1,508	\$ 1,059	\$ 603	<b>\$ 3,170</b>	<b>\$ 1,345</b>
<b>Stages 1, 2, 3 and 4 (Full Proposal)</b>					
FTE Years	20,420	18,787	12,992	<b>52,199</b>	
Value Added (\$ <sub>2020</sub> m)	\$ 3,013	\$ 2,441	\$ 1,789	<b>\$ 7,243</b>	<b>\$ 3,020</b>
Gross Household Income (\$ <sub>2020</sub> m)	\$ 1,697	\$ 1,194	\$ 679	<b>\$ 3,570</b>	<b>\$ 1,491</b>

Source: StatisticsNZ, Savvy Consulting, Client Inputs. Results are in \$2020 and employment terms. While previous versions of this table had average annual employment FTEs in the white rows, now all employment impact rows, including in the Total Project block at the bottom, show cumulative FTE years. Savvy notes that costs relied on are based on delivering the total project and may differ if fewer stages were enabled by the consent (or consent conditions). These results by stage should be considered indicative only, and likely at the upper limit (all else being equal).

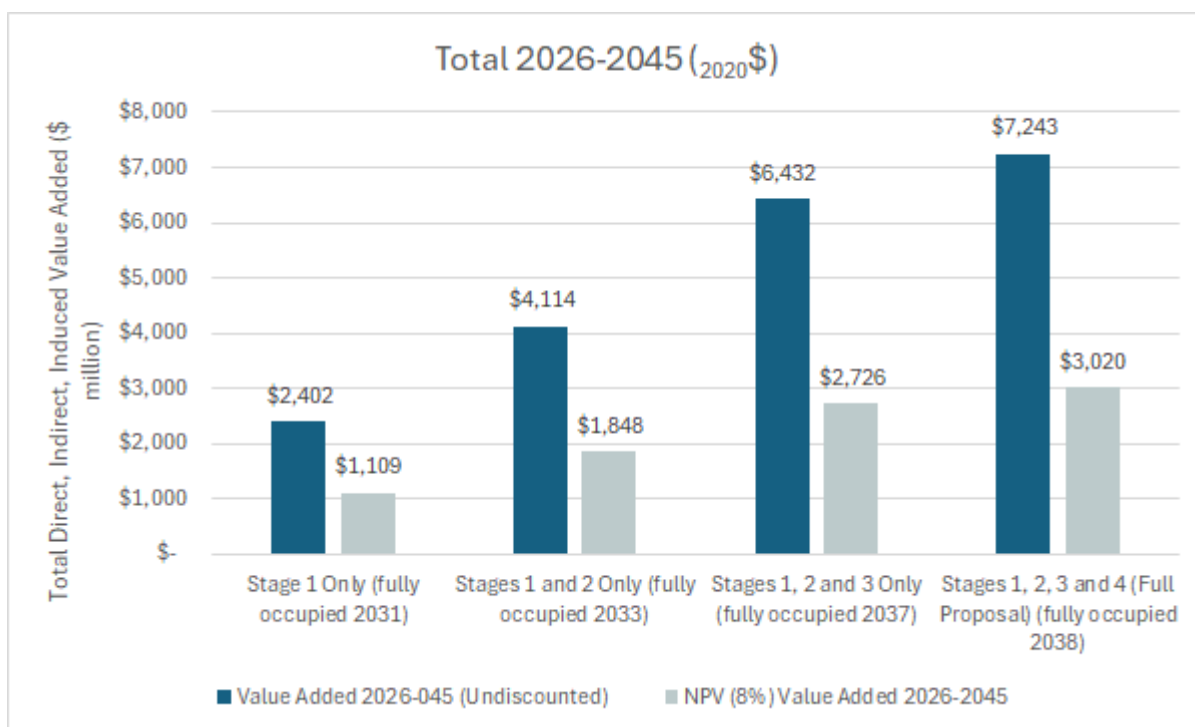
23. Table 3 shows the following indicative outcomes by stage:

- a. If limited to stage 1, the project will contribute up to \$2.4 billion (\$1.1 billion NPV) in total value added and support up to 17,292 FTE years by 2045. These impacts are likely overstated as they include some infrastructure costs that would likely be less if they did not need to cater for future stages.
- b. If limited to stage 2, the project will contribute up to \$4.1 billion (\$1.8 billion NPV) in total value added and support up to 29,624 FTE years by 2045.

- c. If limited to stage 3, the project will contribute up to \$6.4 billion (\$2.7 billion NPV) in total value added and support up to 46,344 FTE years by 2045.
- d. Last, and as set out previously, if the project is delivered in full, it will contribute up to \$7.24 billion (\$3.0 billion NPV) in total value added and support up to 52,199 FTEs years by 2045.

24. Figure 2 provides a simple summary of the total value added impacts out to 2045 by stage. It shows that if the project is limited to stage 1, this would deliver 33% of potential impact (undiscounted) of the full project (37% of the NPV valued added impact). There is a significant increase in the gross economic impact if able to deliver stage 2 as well. Completion to stage 2 accounts for 57% of the potential impact (undiscounted) of the full project (61% of the NPV valued added impact). Similarly, there is significant further increase in the gross impact if able to deliver stage 3 as well. Completion of stage 3 accounts for 89% of the potential impact (undiscounted) of the full project (90% of the NPV value added impact). Stage 4 offers a smaller but still material gain in economic impact compared with stage 3 (that is, a further \$811 million in total valued added (\$294 million NPV).

Figure 2 - Total Value Added Impacts (Gross) by Development Stage (2020 Dollars) 2026-2045, including NPV (8% Discount Rate)



25. Table 4 considers the relativity of staging on economic impacts from another perspective. The second and third column in Table 4 show the maximum economic impact (total value added, household incomes and FTE years) in annual terms. The first is the maximum annual impact between 2026 and 2045 for each stage, and the second is the average economic impact when divided by the 20 year period modelled.
26. If limited to stage 1 of the development, for example, the maximum annual valued added contribution (undiscounted) would be \$141 million between 2026 and 2045, or an average of \$120 million during that period. This is just 28% and 33% respectively of the annual contribution that could be delivered if the development could proceed in full (that is, a maximum annual contribution of \$510 in total value added, and an average annual contribution over the 20 years of \$362 million).

Table 4 – Annual Maximum and Average Economic Impacts by Stage - 2026-2045

	Maximum Annual (Also Long-term Steady State) (Undiscounted)	Average Annual 2026-2045 (Undiscounted)	Total 2026-2045 (Undiscounted)	NPV (8%) 2026-2045
<b>Total Value Added (<sub>2020</sub>\$ million)</b>				
Stage 1 Only (fully occupied 2031)	\$ 141	\$ 120	\$ 2,402	\$ 1,109
Stages 1 and 2 Only (fully occupied 2033)	\$ 252	\$ 206	\$ 4,114	\$ 1,848
Stages 1, 2 and 3 Only (fully occupied 2037)	\$ 439	\$ 322	\$ 6,432	\$ 2,726
Stages 1, 2, 3 and 4 (Full Proposal) (fully occupied 2038)	\$ 510	\$ 362	\$ 7,243	\$ 3,020
<b>Total Household Incomes (<sub>2020</sub>\$ millions)</b>				
Stage 1 Only (fully occupied 2031)	\$ 70	\$ 59	\$ 1,184	\$ 548
Stages 1 and 2 Only (fully occupied 2033)	\$ 124	\$ 101	\$ 2,028	\$ 912
Stages 1, 2 and 3 Only (fully occupied 2037)	\$ 216	\$ 159	\$ 3,170	\$ 1,345
Stages 1, 2, 3 and 4 (Full Proposal) (fully occupied 2038)	\$ 251	\$ 179	\$ 3,570	\$ 1,491
<b>Total Employment (FTEs)</b>				
Stage 1 Only (fully occupied 2031)	1,012	865	17,292	
Stages 1 and 2 Only (fully occupied 2033)	1,805	1,481	29,624	
Stages 1, 2 and 3 Only (fully occupied 2037)	3,143	2,317	46,344	
Stages 1, 2, 3 and 4 (Full Proposal) (fully occupied 2038)	3,652	2,610	52,199	

Source: StatisticsNZ, Savvy Consulting, Client Inputs. Results are in \$2020 and employment terms. Savvy notes that costs relied on are based on delivering the total project and may differ if fewer stages were enabled by the consent (or consent conditions). These results by stage should be considered indicative only, and likely at the upper limit (all else being equal).

27. Annual economic impacts (such as shown in Table 4) are directly comparable with regional GDP values as GDP is typically a measure of the scale of the economy over a 12 month period. Annual impacts therefore show how the economy potentially expands as a result of proposed (net additional) economic activity. The cumulative economic impacts (such as over the 20 years modelled for this memo) are important

for showing the duration of that “larger” economy and to provide another perspective on scale.

28. While housing projects may result in a marginal increase in the size of the economy during construction, that increase is not permanent. However, an industrial development such as the Pound Road project permanently sustains a marginally larger economy, year on year. That said, Canterbury Region’s GDP is significant at \$51.7 billion in the year to March 2024.<sup>2</sup> No project would show a ‘significant’ percentage impact on that in annual terms (for example, the maximum value added impact of the full development of \$510 million would (if all net additional in that year) equate to a 1% increase in the regional economy.<sup>3</sup>
29. While care is needed in comparing cumulative (i.e. 20 year) economic impacts with a snap shot of regional GDP (for reasons explained above), the potential valued added impacts of stage 1 only over the period 2026-2045 equate to 5% of regional GDP (2% in NPV terms) and the full development (to stage 4) equates to 14% of regional GDP (6% in NPV terms).
30. I have considered what the ‘tipping point’ for regionally significant economic benefits might be for the project based on stages 1-4. There is no accepted basis for determining ‘significance’ under the FTAA. This memo has (for gross economic impacts) focussed on the relative significance of the four project stages. It is clear that the significance of the economic impacts increases with each stage, and that the increase is not linear due to the different size of each development stage. I maintain that the full development is regionally significant. As stage 1 represents only a third of the potential economic impact of the project over 20 years (or 37% in NPV terms), and is likely overstated, I consider that that scale of industrial development would not reach the threshold of significant in the regional context.
31. Put another way, I would have been unlikely to support a Fast Track application for an industrial development in Greater Christchurch if it was limited to the scale of stage 1 of this project as I consider the regional significance test would be difficult to justify.

<sup>2</sup> <https://webrear.mbie.govt.nz/theme/gdp-totals/map/timeseries/2024/canterbury?accessedvia=canterbury&right-transform=absolute>

<sup>3</sup> This compares a value added impact in 2020\$ with a 2024 regional GDP value, do is slightly understated.

32. Importantly, stage 1 of the project would not deliver the same wider economic benefits of the project that full project delivery would. The smaller scale of development would have reduced economies of scale for development, would have reduced agglomeration benefits for the wider Islington-Hornby South industrial locality, would provide less certainty for future growth of this high-demand industrial area (and assist less in helping Council meet its requirements to provide sufficient medium and long term development capacity in locations of demand), and would have less of an impact on a competitive industrial land market in Greater Christchurch.
33. Critically, if limiting the development to a particular stage (less than stage 4) means that the development is not commercially viable, then no economic benefits will be delivered in this location (significant or otherwise).

#### Economic Costs of Additional Traffic Congestion and Injury Risk

34. Best practice under the Fast Track Act requires (where practicable) that economic benefits are expressed in net terms when there are comparable economic costs that can be deducted.<sup>4</sup> In terms of comparable quantified economic impacts, my Economic Report considered the opportunity cost of foregone primary production from one existing horticultural property within the site. No other quantifiable economic costs were identified at the time.
35. However, in collaboration with Mr Fuller (refer his further assessment set out in paragraphs 23 and 24 of his latest memo), I have been able to monetise estimates of the indicative cost of congestion and reduced road safety attributable to the proposed development, and assuming no upgrades of the Pound Road-SH1 and Pound Road-Waterloo Road intersections.
36. Mr Fuller's methodology (which I have reviewed) estimates the marginal change in traffic delay and traffic incidents at the two intersections in 2033 – when stage 2 of the proposed development may be fully occupied by business activity – and in 2038 – when stage 4 (the final stage) may be fully occupied by business activity.
37. Taking Mr Fuller's annual totals (expressed in net additional hours of delay in the morning and evening peak and net additional counts of total crashes over the

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<sup>4</sup> If they are not comparable, it is considered more appropriate to account for those costs as part of the s 85 proportionality weighting of adverse impacts against project benefits.

course of a year) I have applied monetised ratios from the NZ Transport Agency Waka Kotahi ‘Monetised Benefits and Cost Manual 2025’. This manual is “the industry standard for the economic evaluation of land transport activities”

38. Estimating the cost of increased delays at the two intersections requires a ‘value of time’ to be determined. This is on the basis that time spent travelling is an opportunity cost to both individuals and businesses. Table 16 of the Manual provides composite values of time for standard traffic compositions and accounts for the combined value of vehicle occupant time, vehicle time and freight time. A copy of the full table is included in Appendix B of this memo. I have applied the morning and afternoon commuter peak rates for urban arterial roads of \$33.37/hour/vehicle and \$33.57/hour/vehicle respectively. These values are in 2021 dollars.
39. Table 5 shows that by the end of stage 2 of the development (i.e., when stage 2 is fully occupied by businesses), the additional delay for vehicles using the intersection is estimated to equate to an opportunity cost of time of \$1.66 million.<sup>5</sup> By 2038, when the development is fully occupied (operational) the opportunity cost of time increases to \$5.66 million.<sup>6</sup> The cost in 2038 is considered to be the maximum impact of the proposed development – that is, while traffic volumes may continue to grow, and delays at those intersections may continue to increase beyond 2038, those increases would not be attributable to the project.
40. These monetised opportunity costs should be read in conjunction with Mr Fuller’s memo, particularly the level of service at each intersection in 2033 and 2038, and the acceptability of these time costs for users of the strategic road network in Christchurch.
41. To estimate the net additional costs of vehicle crashes at the two intersections, I have taken Mr Fuller’s marginal increases in annual crashes in 2033 and 2038 (stage 2 and 4) and applied the relevant ‘costs per crash’ for each intersection type (and traffic speed) contained in Table A36. A full copy of that table is included in Appendix B. The monetised values in Table A36 are stated as only reporting injury crashes because of the inconsistency in non-injury reporting rates between districts. The crash costs in Table A36 “take into account the typical number of unreported

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<sup>5</sup> Based on inflators in the NZTA manual, this equates to \$1.85 million as of July 2024.

<sup>6</sup> This equates to \$6.33 million as of July 2024.

injury crashes, the number of non-injury crashes, and the proportion of crashes of each severity per reported injury crash”.

Table 5 – Opportunity Cost of Intersection Delays (Value of Net Additional Time) Attributable to the Project (Up to Stages 2 and 4, Assuming No Intersection Upgrades)

Year	Intersection	Peak	Net additional delay during peak period (all vehicles) (Hrs)	Net additional delay per day (all vehicles) (Hrs)	Net additional delay per year (all vehicles) (Hrs)	Cost of Time Factor (2021\$)	Opportunity cost per annum (2021\$)
2033	SH1 / Pound Rd	AM	5	26	9,367	\$ 33.37	\$ 312,567
		PM	16	79	28,980	\$ 33.57	\$ 972,872
		<b>Total</b>	<b>21</b>	<b>105</b>	<b>38,347</b>		<b>\$ 1,285,439</b>
	Waterloo Road / Pound Rd	AM	4	21	7,488	\$ 33.37	\$ 249,874
		PM	2	10	3,579	\$ 33.57	\$ 120,151
		<b>Total</b>	<b>6</b>	<b>30</b>	<b>11,067</b>		<b>\$ 370,025</b>
	<b>Total</b>	<b>AM</b>	<b>9</b>	<b>46</b>	<b>16,855</b>		<b>\$ 562,441</b>
	<b>PM</b>	<b>18</b>	<b>89</b>	<b>32,560</b>		<b>\$ 1,093,023</b>	
	<b>Total</b>	<b>27</b>	<b>135</b>	<b>49,414</b>		<b>\$ 1,655,464</b>	
2038	SH1 / Pound Rd	AM	28	138	50,294	\$ 33.37	\$ 1,678,308
		PM	31	157	57,128	\$ 33.57	\$ 1,917,786
		<b>Total</b>	<b>59</b>	<b>294</b>	<b>107,422</b>		<b>\$ 3,596,094</b>
	Waterloo Road / Pound Rd	AM	23	115	41,845	\$ 33.37	\$ 1,396,375
		PM	11	54	19,792	\$ 33.57	\$ 664,420
		<b>Total</b>	<b>34</b>	<b>169</b>	<b>61,637</b>		<b>\$ 2,060,795</b>
	<b>Total</b>	<b>AM</b>	<b>50</b>	<b>252</b>	<b>92,139</b>		<b>\$ 3,074,683</b>
	<b>PM</b>	<b>42</b>	<b>211</b>	<b>76,920</b>		<b>\$ 2,582,206</b>	
	<b>Total</b>	<b>93</b>	<b>463</b>	<b>169,059</b>		<b>\$ 5,656,889</b>	

Source: Novo Group, NZTA Monetised Benefits and Cost Manual Table 16, Savvy Consulting

Table 6 – Cost of Reduced Intersection Safety (Net Increase in Total Crashes) Attributable to the Project (Up to Stages 2 and 4, Assuming No Intersection Upgrades)

Year	Intersection		Net additional (total) crashes (annual)	Table A36 Parameter	Composite Cost of Crashes (2021\$)	Opportunity cost per annum (2021\$)
2033	SH1 / Pound Rd	All crashes	0.01	Signalised X, 30-50km/hr	\$ 662,000	\$ 8,109
	Waterloo Road / Pound Rd	All crashes	0.09	Signalised T,Y, 60-70km/hr	\$ 451,000	\$ 42,068
	<b>Total</b>	<b>All crashes</b>	<b>0.11</b>			<b>\$ 50,177</b>
2038	SH1 / Pound Rd	All crashes	0.02	Signalised X, 30-50km/hr	\$ 662,000	\$ 11,853
	Waterloo Road / Pound Rd	All crashes	0.14	Signalised T,Y, 60-70km/hr	\$ 451,000	\$ 62,326
	<b>Total</b>	<b>All crashes</b>	<b>0.16</b>			<b>\$ 74,179</b>
				Serious Crash (Injury Social Cost)	\$ 660,100	
				Fatal Crash (Injury Social Cost)	\$ 12,500,000	

Source: Novo Group, NZTA Monetised Benefits and Cost Manual Table A36, Savvy Consulting

42. Table 6 shows that by 2033, the project would create a marginal increase in the annual crash rate of both intersections of an estimated 0.11 (compared to the 'without project' crash rate). This equates to an estimated \$50,177 increase in annual crash related injury costs in that year.<sup>7</sup> By 2038, the marginal increase in annual crashes is 0.16 and the equivalent cost of crash related injuries in that year is estimated at \$74,179.<sup>8</sup> As with the cost of delay at the intersections, this is considered the maximum crash related cost attributable to the project for years past 2038.
43. Included in Table 6 for context are the NZTA Manual's cost for serious crashes (\$660,100 per crash in 2021) and the social cost of a fatal car crash (\$12.5 million per crash in 2021). The crash calculations shown in Table 6 appear to account for the weighted costs of the full range of injuries at each intersection type and so are estimated to account for the incidence of minor, serious and fatal crashes (if applicable). As such, I do not model the potential increase in serious/fatal crashes separately, although Mr Fuller does estimate the portion of total crashes that are likely to be serious/fatal in his latest memo.
44. Figure 3 plots these combined intersection delay and crash injury costs in 2033 and 2038 (in 2021 dollars). I have interpolated the costs between 2028 (where there are assumed to be no new businesses yet for stage 1 until the following year) and 2033, and again between 2033 and 2038. This inferred change in scale of intersection costs outside of the modelled years is indicative only, as it may not be a linear relationship. However, based on this approach, the combined potential intersection costs attributable to the project when stage 1 is fully occupied (2031) is estimated at \$1.02 million, increasing to \$1.71 million when stage 2 is occupied (2033), \$4.93 million when stage 3 is occupied (2037) and \$5.73 million when stage 4 is fully occupied (2038) (assuming no upgrades).<sup>9</sup>

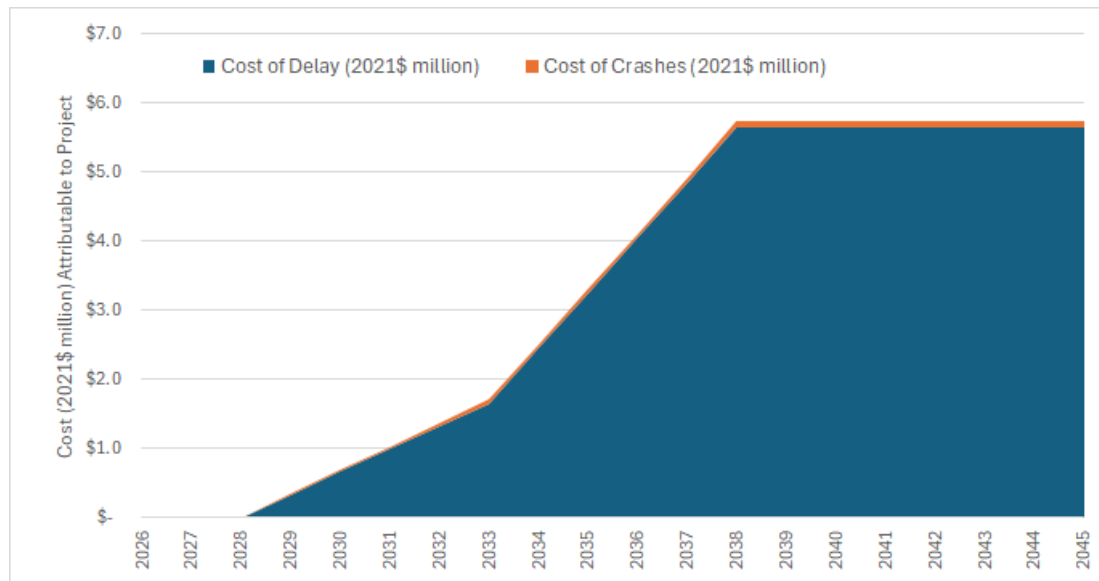
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<sup>7</sup> Applying the inflators in the NZTA manual, this equates to a cost of \$59,710 as of July 2024.

<sup>8</sup> This equates to \$88,273 as of July 2024.

<sup>9</sup> These are not discounted to present values.

Figure 3 – Annual Intersection Time and Crash Costs Estimated to be Directly Attributable to the Project (Stages 1-4, Assuming No Intersection Upgrades)



### Net Economic Contributions

45. Table 7 brings together the latest monetised gross impacts of the project by year, with the opportunity costs of foregone primary production each year modelled in the original Economic Report, the opportunity cost of time due to unmitigated intersection delays and the estimated cost of increased injury-based crashes.
46. As the transport related costs are just a direct monetised value (borne by households and/or businesses) and do not include any flow-on economic effects of those costs, I consider that these are most comparable to gross output of the proposed development each year, and the gross output foregone of primary production. Foregone primary production is assumed to apply from 2027 when stage 1 land development begins (irrespective of whether stage 1 necessarily overlaps the horticultural property). As discussed above, the two transport costs only start to apply in 2029 when the first group of new businesses are operating on the site. To be conservative, I have selected the highest potential primary production output (market gardening) for the site, even though root crop output is considered more realistic for current agricultural use.
47. Table 7 shows that in direct expenditure/output terms, the modelled costs/ disbenefits of the project in any one year over the next 20 years have only a minimal offsetting effect on gross expenditure facilitated by the project, with the exception

of 2027 and 2028. In 2027, the lost primary production output exceeds the expenditure related to stage 1 land development by \$2 million. In 2028, the gross expenditure is reduced by 31% as a result of project costs/disbenefits but still delivers net expenditure increase of \$66 million. From 2029 onwards, project related costs reduce gross expenditure by 13% (2029) down to just 4% (2038), but the net expenditure increases are significant.

Table 7 – Annual Gross Expenditure (Output) Facilitated by the Project compared with Annual Costs/Opportunity Costs of the Project 2026–2048 (2019–2021 Dollars)

Stage Completion (Fully Occupied)	Year	Gross Project Output (2020\$ million) Undiscounted (Fully Developed) *	Project Opportunity Cost - Primary Production Output (2019\$ million) Undiscounted **	Project Opportunity Cost - Intersection Delay Value of Time (2021\$ million) Undiscounted ***	Project Cost - Reduction in Intersection Safety (2021\$ million) Undiscounted ***	Net Project Output (2020\$ million) Undiscounted (Fully Developed)
	2026	\$ 0	\$ -	\$ -	\$ -	\$ 0
	2027	\$ 27	-\$ 30	\$ -	\$ -	-\$ 2
	2028	\$ 96	-\$ 30	\$ -	\$ -	\$ 66
	2029	\$ 227	-\$ 30	-\$ 0.3	-\$ 0.01	\$ 198
	2030	\$ 371	-\$ 30	-\$ 0.7	-\$ 0.02	\$ 341
1	2031	\$ 486	-\$ 30	-\$ 1.0	-\$ 0.03	\$ 456
	2032	\$ 621	-\$ 30	-\$ 1.3	-\$ 0.04	\$ 590
2	2033	\$ 710	-\$ 30	-\$ 1.7	-\$ 0.05	\$ 679
	2034	\$ 794	-\$ 30	-\$ 2.5	-\$ 0.05	\$ 762
	2035	\$ 878	-\$ 30	-\$ 3.3	-\$ 0.06	\$ 845
	2036	\$ 962	-\$ 30	-\$ 4.1	-\$ 0.06	\$ 928
3	2037	\$ 991	-\$ 30	-\$ 4.9	-\$ 0.07	\$ 957
4	2038	\$ 994	-\$ 30	-\$ 5.7	-\$ 0.07	\$ 959
	2039	\$ 994	-\$ 30	-\$ 5.7	-\$ 0.07	\$ 959
	2040	\$ 994	-\$ 30	-\$ 5.7	-\$ 0.07	\$ 959
	2041	\$ 994	-\$ 30	-\$ 5.7	-\$ 0.07	\$ 959
	2042	\$ 994	-\$ 30	-\$ 5.7	-\$ 0.07	\$ 959
	2043	\$ 994	-\$ 30	-\$ 5.7	-\$ 0.07	\$ 959
	2044	\$ 994	-\$ 30	-\$ 5.7	-\$ 0.07	\$ 959
	2045	\$ 994	-\$ 30	-\$ 5.7	-\$ 0.07	\$ 959
	Total 2026-2045	\$ 14,115	-\$ 562	-\$ 65	-\$ 0.99	\$ 13,487

Source: NTPL, Savvy, Novo Group, NZTA. While there are slight differences in the year that the dollar values apply to, they are in broadly similar dollar terms.

Savvy notes that costs relied on are based on delivering the total project and may differ if fewer stages were enabled by the consent (or consent conditions). These results across stages 1-4 should be considered indicative only, and likely at the upper limit (all else being equal).

\* Includes increase in gross output from pre-stage 1, land development, building construction and then ongoing occupying business operation based on a scenario of business composition only.

\*\* Adopts the highest (market garden) productive use to be conservative. A lower productive use (root crops) was considered more likely. Refer original Economic Assessment report.

\*\*\* Inputs sourced from Novo Group memo. Modelled Years 2033 and 2038. Other years interolated (linear)

48. Based on Table 7, I consider that the net economic impacts of the project (for example, if all positive and negative impacts were theoretically able to be expressed in a common value added or employment metric) would not be materially less than

the gross economic impacts updated and described throughout this memo. Of the economic costs modelled, they do not individually or cumulatively reduce the regional significance of the project if delivered in full.

49. I acknowledge that there are potentially other costs of the project that are not captured in this memo. Table 7 shows that those costs would need to be very substantial (in the order of hundreds of millions of dollars) and ongoing for them to reduce the significance of the net economic benefits of the project over the long term. To the extent that any additional costs (if borne by the developer) may impact on the commercial viability of the project as a whole (which may be time sensitive), that is outside the scope of the economic assessment to determine.

### Conclusions

50. Taking into account all of the additional modelling carried out for this memo, and notwithstanding the limitations of the economic impact modelling, I do not consider that any of the monetised costs of the project (with a maximum annual value of <sup>2019-</sup><sub>21</sub>\$35 million from 2038 onwards) are sufficiently significant to be out of proportion with the significant regional economic benefits of the project (estimated at <sup>2020</sup>\$994 million per annum in gross operational output from 2038 onwards (equivalent to annual value added of <sup>2020</sup>\$510 million)).
51. However, if the project was limited in extent, particularly if limited to stage 1 which delivers only around (and likely less than) 37% of the NPV of value added and employment impacts of the full project over a 20 year period, I consider that the economic benefits – while still positive – would not be significant in the regional context (for an industrial development project). Limiting the project to stage 2 will deliver 61% of the potential NPV value added and employment impacts of the full project over the next 20 years (for only a negligible increase in economic costs). Limiting the project to stage 3 will deliver 90% of the potential NPV value added and employment impacts, again with only a negligible increase in economic costs. There is only a minor difference in economic costs modelled for this memo if the development is completed to stage 4, but this would further increase the net economic impacts of the project by a substantial degree.

## Appendix A – Operational Economic Impacts Approach and Assumptions

52. This appendix sets out the approach and assumptions for modelling the economic impacts of the future businesses assumed to establish and operate in the Pound Road development following building construction.
53. While I consider the business mix most likely to occupy the project site will be one similar to the neighbouring Waterloo Business Park, there is no employment data available just for that industrial area. As such, I have assumed an indicative business mix scenario that reflects the average for the Islington-Hornby South industrial locality. While a limitation of this approach is that the whole locality comprises all three industrial zones in the District Plan (and the Project is akin to the Industrial General Zone provisions), there is considerable overlap in enabled activities.

Table 8 – Business and Employment Profile of the Islington-Hornby South Industrial Locality 2023 by 1 digit ANZSIC

1 Digit ANZSIC Summary (Selected 3D ANZSICs only)	Businesses 2023	Total Employment (Selected 3D Anzsics)	Share of Businesses	Share of Employment	Simplified Share of Employment (Top 4)
Administrative and Support Services	13	356	2%	3%	
Agriculture, Forestry and Fishing	6	600	1%	5%	
Arts and Recreation Services	6	9	1%	0%	
<b>Construction</b>	<b>80</b>	<b>2,423</b>	<b>15%</b>	<b>20%</b>	<b>24%</b>
Education and Training	4	12	1%	0%	
Electricity, Gas, Water and Waste Services	3	285	1%	2%	
Information Media and Telecommunications	1	5	0%	0%	
<b>Manufacturing</b>	<b>118</b>	<b>3,269</b>	<b>22%</b>	<b>27%</b>	<b>32%</b>
Mining	-	-	0%	0%	
Other Services	17	228	3%	2%	
Professional, Scientific and Technical Services	23	187	4%	2%	
Public Administration and Safety	4	36	1%	0%	
Rental, Hiring and Real Estate Services	73	126	13%	1%	
Retail Trade	16	138	3%	1%	
<b>Transport, Postal and Warehousing</b>	<b>68</b>	<b>1,468</b>	<b>12%</b>	<b>12%</b>	<b>14%</b>
<b>Wholesale Trade</b>	<b>114</b>	<b>3,135</b>	<b>21%</b>	<b>26%</b>	<b>30%</b>
<b>Total Islington-Hornby South Industrial Locality</b>	<b>546</b>	<b>12,275</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: StatisticsNZ, Copied from Economic Assessment Report, June 2025, Table 3.2.

54. Table 8 is an extract of analysis included in the Economic Report (June 2025) for employment by 1 digit ANZSIC in the Islington-Hornby South industrial locality. The four main employment sectors are wholesale trade, manufacturing, construction and transport/warehousing. When just these four main sectors are isolated, they account for the percentages shown in the right hand column of Table 8. As above, I have taken this to be the scenario of future employment mix in the project.
55. To estimate the total employment potential of the project area, I have divided the total occupied land area (sqm) of the Islington-Hornby South industrial locality in 2023 (400.8ha) by the total 2023 employment shown in Table 8. This gives an average employment density of 327 sqm/worker.
56. Applying this to the net developable area of the project (48.7ha) gives an indicative employment count of 1,492. Table 9 shows how this may be spread across wholesaling, construction, manufacturing and transport/warehousing industries using the distribution in Table 8.

*Table 9 – Indicative Employment Profile of the Pound Road Development (Fully Developed and Occupied)*

Key ANZSIC Category (Selected 3D ANZSICs summarised by 1D ANZSIC)	Share of Total Employment	Indicative Total Project Employment (Fully Occupied)	Indicative Total Project Employment by Business Category
Wholesaling	30%	1,492	454
Construction	24%		351
Transport, Postal and Warehousing	14%		213
Manufacturing	32%		474
<b>Total Pound Road Development</b>	<b>100%</b>		<b>1,492</b>

57. Table 10 sets out my assumptions for determining the indicative gross output of that future business mix (once the development is fully occupied). I have derived national gross output per worker productivities at the 1 digit ANZSIC level from the national account (Use Table, 2020). I have adjusted these by Christchurch City location quotients to estimate local productivities. Applied to the indicative employment mix, this indicates total annual gross output (in 2020 dollars) of \$497 million.

Table 10 – Employment Productivity and Gross Output Working

Key ANZSIC Category (Selected 3D ANZSICs summarised by 1D ANZSIC)	Indicative Total Project Employment by Business Category	National Gross Output/ Worker (2020\$)	Location Quotient Christchurch	Final Gross Output/ Worker Chch (2020\$)	Indicative Operational Gross Output (Fully Developed) (2020\$ million)	Indicative Share of Operational Gross Output (Fully Developed)
Wholesaling	454	\$ 235,597	1.1	\$ 259,157	\$ 118	24%
Construction	351	\$ 276,547	1.2	\$ 331,856	\$ 117	23%
Transport, Postal and Warehousing	213	\$ 251,693	1.2	\$ 302,031	\$ 64	13%
Manufacturing	474	\$ 418,551	1.0	\$ 418,551	\$ 198	40%
<b>Total Pound Road Development</b>	<b>1,492</b>				<b>\$ 497</b>	<b>100%</b>

Source: Savvy Consulting, National Accounts, StatisticsNZ, Infometrics.

58. Gross output is the metric used as an input to the IO model. However, the IO model is based on 109 economic sectors and not 1 digit ANZSICs. Table 11 shows the IO sectors that I have adopted to represent the businesses that establish in the project area.

59. Table 12 contains the multipliers used for those sectors. This includes averaged multipliers where these are indicated in Table 11. All multipliers are from the national IO table.

60. The only other relevant assumption for my modelling of operational impacts for the project is that I have assumed the same business and therefore gross output mix for each stage of development as for the development as a whole. This includes the same mix for increments of development take up within each stage. All other modelling assumptions are described in the main body of this memo, or in the original Economic Assessment Report.

Table 11 – Indicative Selected 109 Sectors of Occupying Businesses Within Key Industry Categories

1 digit ANZSIC	Selected 109 Sector(s)
Wholesaling	Machinery and equipment wholesaling sector
Construction	Construction services sector
Transport, Postal and Warehousing	Average of: Road transport and Warehouse and Storage sectors
Manufacturing	Average of: Fabricated metal product manufacturing, Transport equipment manufacturing, Electronic and electrical equipment manufacturing, Machinery manufacturing, Furniture manufacturing, Other manufacturing sectors

Table 12 – Adopted Economic Impact Multipliers for Operational Business Impacts

Multiplier Type	1 digit ANZSIC	Direct	Indirect	Induced
Value Added	Wholesaling	0.56	0.32	0.31
	Construction	0.41	0.38	0.25
	Transport, Postal and Warehous	0.44	0.39	0.27
	Manufacturing	0.40	0.28	0.22
Gross Incomes	Wholesaling	0.34	0.16	0.12
	Construction	0.21	0.19	0.09
	Transport, Postal and Warehous	0.25	0.18	0.10
	Manufacturing	0.22	0.14	0.08
Employment (FTEs)	Wholesaling	4.22	2.46	2.18
	Construction	3.50	2.87	1.73
	Transport, Postal and Warehous	4.00	3.13	2.31
	Manufacturing	3.64	2.11	1.55

Source: National Accounts 2020, Savvy.

## Appendix B – NZTA Monetised Benefits and Costs Manual (v2)

**Table 16: composite values of travel time (\$/h/vehicle July 2021)**

Road category and time period	Composite value of time (\$/h/vehicle)	Maximum increments for congestion (CRV \$/h/vehicle)
<b>Urban arterial</b>		
Morning commuter peak	33.37	24.79
Daytime inter-peak	35.75	25.12
Afternoon commuter peak	33.57	24.43
Evening/night-time	33.56	23.79
Weekday all periods	35.52	25.48

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Road category and time period	Composite value of time (\$/h/vehicle)	Maximum increments for congestion (CRV \$/h/vehicle)
Weekend/holiday	36.05	27.00
All periods	36.01	26.17
<b>Urban other</b>		
Weekday	35.66	25.76
Weekend/holiday	36.36	27.33
All periods	36.14	26.38
<b>Rural strategic</b>		
Weekday	48.52	32.33
Weekend/holiday	48.53	34.99
All periods	47.04	32.24
<b>Rural other</b>		
Weekday	48.17	32.24
Weekend/holiday	47.34	34.81
All periods	46.55	32.13

**Table A36: cost per crash for different site/type**

Crash site/type	Cost per crash by speed limit area (\$000 July 2021)		
	30–50km/h	60–70km/h	80–110km/h
Mid-block	554	1,036	1,437
<b>Intersection crashes:</b>			
Uncontrolled T	520	676	1,252
Roundabout	420	445	667
Priority T & Y	514	689	1,373
Priority X	469	623	1,532
Signalised T, Y	518	759	1,659
Signalised X	451	662	977
All other sites	503	745	1,181