Holly Lea: Fast Track Consent Application

Economic Impact Assessment

30 January 2023 – Final Report

m.e consulting

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Economic Impact Assessment

Prepared for

Holly Lea Village Limited

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1 Introduction

Holly Lea Village Limited (Holly Lea) is seeking referred project status under the COVID-19 Recovery (Fast-track Consenting) Act 2020 (the Act) to accelerate the final stage of development of its existing retirement village in Christchurch (the Project). Given some sectors of the Canterbury economy have been particularly hard hit by the effects of a COVID-19 driven downturn, granting fast tracked referral status has the potential to be beneficial. Holly Lea has commissioned Market Economics to assess the economic effects of the Project and its impact on people and communities affected by the COVID-19 downturn and to quantify the effect of approving a referral under the Act.

1.1 Background

The Government has recognised that the COVID-19 pandemic has caused serious economic and social disruption in New Zealand – in particular, in areas that are highly reliant on tourism (especially international tourism) to sustain their economies. Further, COVID-19 has had significant impacts on other key sectors to the New Zealand economy such as hospitality and healthcare. The lockdown measures which were implemented in New Zealand's response to COVID-19 have impacted revenue in the hospitality industry due to the shutdown of hotels, restaurants, bars and cinemas. New Zealand's healthcare sector has also felt the negative effects of COVID-19 with medical staff and hospital occupancy being put under extreme pressure throughout the pandemic, and various associated supply chain issues.

In order to provide a degree of economic impetus, the Government recognised that by speeding up the development consenting process, benefits would flow early to communities as demand for labour would increase sooner and wages and salaries paid would sustain communities earlier. In addition, the developments themselves (commercial, residential and infrastructure) would stimulate and facilitate economic activity in communities suffering from COVID-19 driven downturns.

To this end, the Act came into effect in July 2020. The purpose of the Act is to promote economic activity while continuing to promote sustainable management of natural and physical resources.

Holly Lea seeks that the Project be referred under the Act. As set out in the assessment below, the Project will provide significant positive economic benefits to an economy affected by COVID-19. In particular, for developments with a residential focus, there is an added benefit of bringing additional housing supply on early, increasing capacity and in terms of overall house price reductions as supply increases.

1.2 Assessment Criteria

Before deciding whether to refer a project to an expert consenting panel under the Act, the Minister must be satisfied the project will help to achieve the purpose of the Act. The Minister will have regard to a list of matters set out in Section 19 of the Act, included in those matters are:

a) *the project's economic benefits and costs for people or industries affected by COVID-19:*
b) *the project's effect on the social and cultural well-being of current and future generations:*
c) *whether the project would be likely to progress faster by using the processes provided by the Act than would otherwise be the case:*
d) *whether the project may result in a public benefit by, for example*
    i. *generating employment:*
    ii. *increasing housing supply …*

The following assessment evaluates the impacts of fast-tracking the Project and the degree to which the Project generates economic benefits for people and communities affected by the COVID-19 downturn. The economic impact of the development of the Project and its ongoing operation is measured through an Input-Output (IO) model which is informed by projected spending and timeline estimates. The results are presented in terms of its contribution to GDP, through value added, and the level of employment it will sustain. Furthermore, the assessment also considers the impact that the Project will have on housing supply.

1.3 The Application

Holly Lea has applied for a fast-track referral to cover the construction of two new apartment buildings on the site of its existing retirement village in Fendalton, Christchurch. The existing retirement village (Figure 1.1) contains 66 apartments and a soon to open 37 suite Age Care Facility providing both hospital and memory assistance levels of care. The application covers the construction of two new apartments known as Building E (Heathfield Apartments) and Building D (Waimairi Apartments) (Figure 1.1). Building E will be located in the northeast corner of the site and contain 22 independent living units. Building D will contain 10independent living units and will be located in the southwest corner of the site.

Figure 1.1: Holly Lea Village Masterplan

Source: Holly Lea, November 2022

Under the standard RMA process the application for resource consent would be lodged in the second quarter of 2023, with preparatory works for construction of building E commencing around November 2024. This takes into account an 18 month lodgement, public notification period and hearing process under the RMA, with subsequent Environment Court appeals. This would be followed by full construction of Building E taking approximately 15 months and construction of Building D which is expected to take a minimum of around 14 months.

If the Project is referred, access to the fast-track consenting pathway under the Act would reduce this project timeframe by almost a year. The major difference being the referral process and EPA processing timeline taking in total 3-4 quarters (till the end of 2023/start 2024), when building consenting/engineering approval process can be undertaken and construction can begin.

2 Economic impacts of redevelopment

2.1 Approach

This assessment relies on an estimated cashflow analysis based on data provided by Holly Lea, in respect of forecast spending and the timing of that spending on earthworks, building construction, any infrastructure construction, and construction services. That is, the costs and anticipated timeframes to obtain necessary consents, deconstruct the existing buildings, earthworks and construction of the apartments and Care Units. This spending by Holly Lea is mostly directed to businesses within the Canterbury region.[1]

Specifically, M.E have assumed that all construction related activity will be carried out by businesses within the Canterbury region. The balance of spending (i.e., consent, design, and development project management costs) is also assumed to be directed to businesses based in Canterbury, due to the scale of Christchurch's service sectors. M.E. have matched this planned spending to 109 economic sectors in a Multi-Regional Input-Output (MRIO) model which has been customised for the Canterbury economy (using a 2020 base year). The MRIO model provides projections of the value added and employment generated and sustained in the economy as a result of this additional activity. Value added (synonymous with GDP) arises through the spending, directly through the construction process and indirectly as construction suppliers increase their purchases of raw materials and services, as the new activity flows on to other sectors of the economy and businesses pay wages and make profits. The links between the study area and the surrounding regions are also captured, showing the extent of the spread of the additional economic activity. This means that if the Canterbury construction sector purchases aggregates or timber supplies from the rest of the South Island, then increased demand in Canterbury, as a result of this development, has flow on effects in the rest of the South Island which are captured in the MRIO.

The IO model contains data on gross output for each sector and employment in Canterbury. We are then able to then generate an annual average ratio of gross output per person employed in each sector in order to translate additional economic activity into additional employment – by sector. As the cashflow analysis provides spending detail based on a mix of costs per stage of the development and for construction, we have split the year into quarters for this analysis. By applying these ratios to the quarterly revenue each sector is forecast to receive from Holly Lea's construction activity, M.E have been able to estimate the additional count of jobs (by sector and approximate location) sustained in each year as a result of the proposed development ("job years"). The employment projections are measured in Modified Employee Counts (MECs). MECs include both employees and working proprietors. This measure is used because the construction industry is known to employ large numbers of self-employed people and sole operator businesses.

Holly Lea have provided forecasted cashflow by development stage, with time estimates under the fast-track pathway and a resource consent scenario. The fast-track consent scenario has a projected total spend

[1] For the IO model all expenditure is assumed to be in Canterbury for simplicity. Businesses within the Canterbury economy have sufficient construction skills and capacity to cover all of the various construction tasks required for this build.

of $29.8m[2], which is also expected under the standard consent scenario. Both scenarios are expected to deliver the same scale of development, although the standard consent scenario is expected to be subject to an eleven month delay to the start of construction[3]. Therefore, the scenario under the regular consent process pushes back construction related cashflows by one year.

The analysis compares the value added and job years, sustained over time for each scenario. As the IO model uses 2020 as a base year, the projected spending inputs to the model are deflated to 2020 terms. From here, the IO model value added outputs are reinflated to present terms, while the employment outputs reflect the 2020 proportions of gross output per MEC without reinflation. The value added results are then discounted on a quarterly basis at an annual rate of 5%[4][5]. Discounting is used to reflect the rate of time preference and the opportunity cost of capital, reflecting the present value of future benefits. In other words, economic activity that happens today is worth more to the community in terms of the wages and salaries paid and the overall economic activity, than the same activity happening in two and a half years' time. The difference in value added between those two scenarios represents the benefits achieved under the Act.

2.2 Economic Effects

2.2.1 Direct Impacts: Value Added

The most appropriate measure of the economic impacts that occur in an area as a result of the development of a project such as proposed, is 'Value added'. Value added is effectively the contribution to GDP (less GST) that a project generates, as such it is the value of construction minus the intermediate costs to generate the construction (such things as the cost of building materials, consents, electricity, business services and imported goods). It captures wages and salaries paid, operating surpluses generated for owners, depreciation, and tax. In the construction sector it is equivalent to approximately 30% of total output.

The distribution of the direct value added impact by industry under the fast track consent scenario is shown in Figure 2.1. Under the fast-track scenario, we are informed that the development's works will begin at the end of 2023 and be completed at the end of 2025. The cumulative direct value added from the present to completion of the Project under this scenario is projected to be around $7.7 million. Breaking the results down annually, in 2023, the fast-tracked development could have directly created around $0.67 million in value added related to professional services and the initial stages of Building E. In 2024, the annual direct value added would increase to $4.1 million for the year, as the scale of construction activity increases. Finally, direct value is $2.9 million in 2025, as construction of the Building D concludes. The development as proposed would create an estimated $2.6 million value added per year, on average, if approved by fast-track consent.

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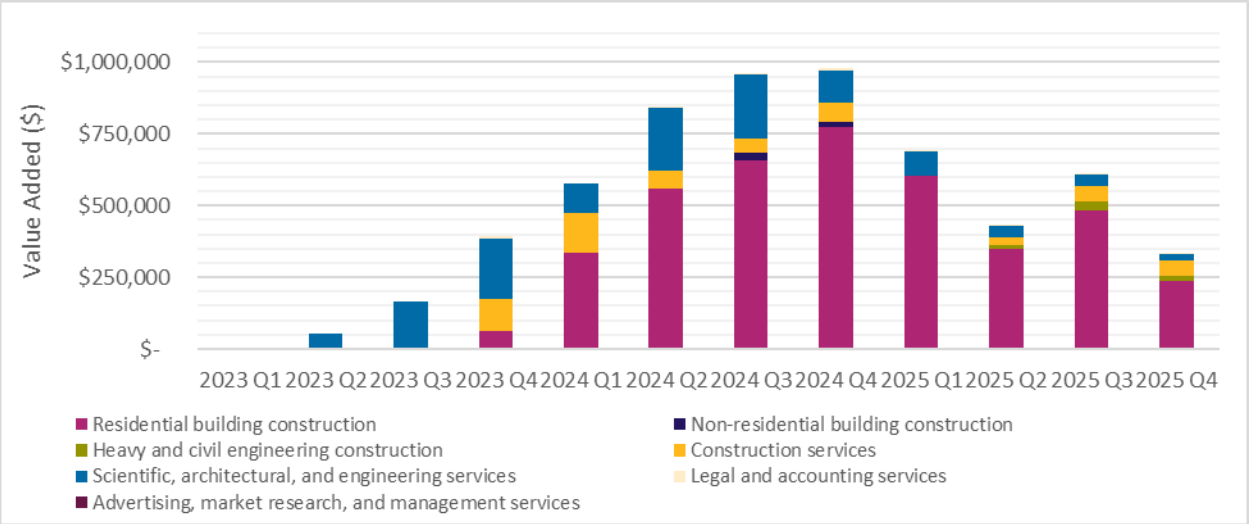
[2] The estimates provided indicate a total cost of s 9(2)(b)(ii), however, from this s 9(2)(b)(ii) was excluded from items such as land and financing costs.

[3] See appendix for a full summary of assumptions.

[4] Treasury NZ default discount rate is 5%.

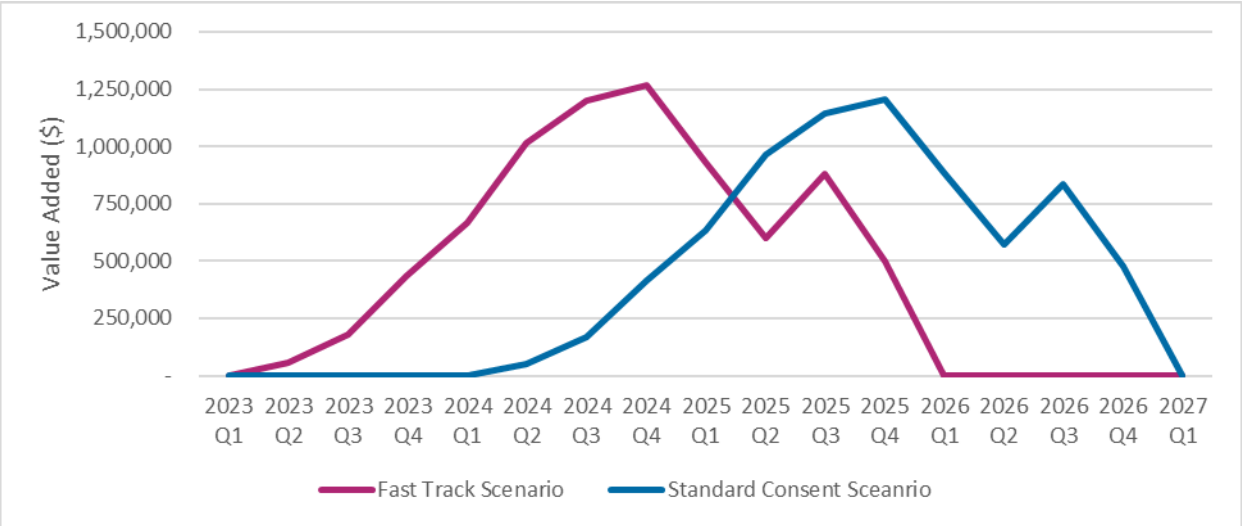
[5] Discounting is not applied to the employment impacts.

Figure 2.1: Direct Value Added by Industry – Fast-track Scenario



The value added directly created by the development is also shown in Figure 2.2 for the standard consenting process scenario (blue line) and the fast-track process (red line). The scenario for development under the standard RMA timeline consent generates a cumulative direct value added of $0.4 million less than the fast-track scenario.

Figure 2.2 - Total Direct Value Added by Quarter – Fast-track v Delayed Consent Scenario



The difference is a result of the timing of construction which means a greater reduction in the present value of future benefits through discounting. Without the fast-track consenting process under the Act, the development will have to be authorised through the normal consenting process. This is expected to add around one year onto the delivery, hence the peak construction phase is around a year into the future. As the standard consent scenario has construction occurring from late-2024 to late-2026, these inflows are discounted significantly more than the scenario with fast-track consent. Thus, as future periods are discounted more heavily, for two scenarios with identical direct spending amounts, the one which is first

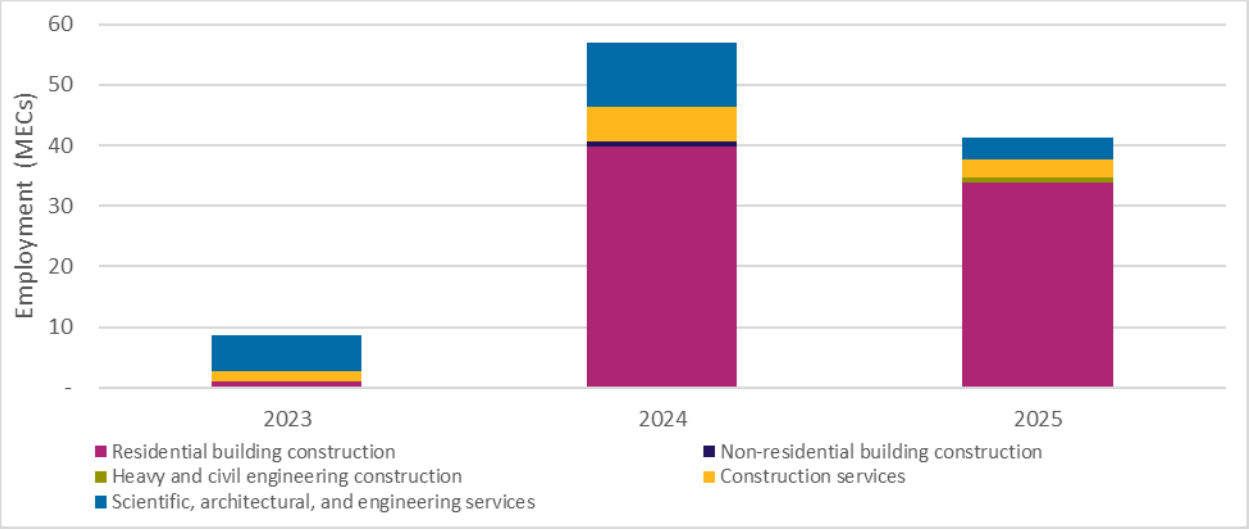
to begin will generate the greatest value added in current terms. These benefits are particularly significant relative to the standard consent scenario from 2023 to 2024.

2.2.2 Direct Impacts: Employment

Under the fast-track scenario, directly sustained construction employment begins in 2023 and is completed by 2025. The results include job years (measured in MECs, similar to Full-Time Equivalent[6]) estimated to be sustained inside the Canterbury region, as it is assumed all direct activity is limited to the region. The majority of direct employment impact is construction sector activity with onsite construction related to the development running from 2023 to 2025.

Overall, a total of 108 job years' worth of work are directly sustained between 2023 and 2025. In 2023, the fast-tracked development will directly sustain around 9 MECs through professional services. In 2024, this total increases to around 57 MECs sustained, as construction activity peaks. The direct employment impact finishes at 42 in 2025 as Building D construction is completed. The majority of the direct employment is in construction industries, although there is professional services employment at a lower level which spans both the consenting/design and construction phases. Furthermore, the construction jobs are not limited to jobs occurring on the construction site, as the construction companies will have office-based staff included in the estimated ratios that will reside at headquarters around Canterbury. It is important to note that while the development may generate a number of 'new jobs' and opportunities for apprentices and the like, the majority of the work will be carried out by existing skilled workers in the construction sector. Therefore, the development does not 'generate' new jobs as much as it sustains jobs across the sector. This is the case with all large scale construction activities.

Figure 2.3: Direct Employment Sustained by Industry – Fast-track Scenario

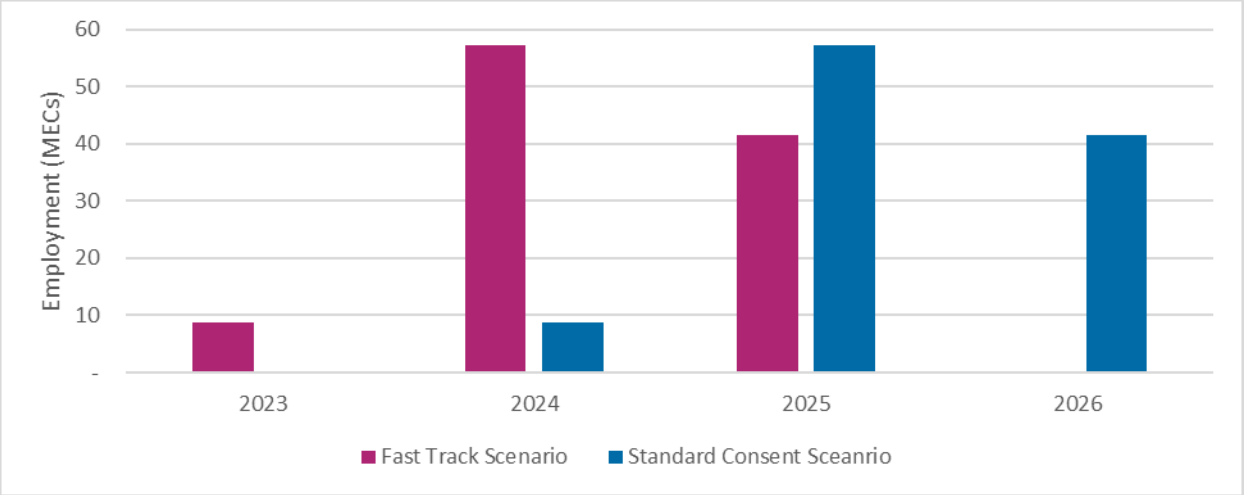


A comparison of the direct impact on employment between consent scenarios is shown in Figure 2.4. It summarises estimated total job years or FTEs sustained directly by the development, through direct activity

[6] One MEC is estimated to be equivalent to around 0.79 of an FTE.

under the fast-track scenario (red bars) and the standard consent scenario (blue bars). By comparison, under a delayed resource consent scenario, there is projected to be no differences in the overall employment impact, also with a total of 108. However, it is subjected to a longer time period estimated for approval. The large share of construction activity has a starting date of one year later. This means that building construction does not start until 2024 and runs till the end of 2026. The key point is the timing of the labour needs between the two scenarios as the benefits that the fast-track consent delivers relate to the timing of local jobs likely to be directly sustained by proposed development. Significant employment activity is sustained earlier, delivering employment benefits to the community sooner, compared with the delayed alternative.

Figure 2.4 - Total Direct Employment Sustained by Year – Fast-track v Delayed Consent Scenario



Furthermore, the employment within the retirement village will also be impacted by the development. Annual operational spending figures provided by Holly Lea indicate that the once fully developed the village is projected to directly sustain 181 MECs annually. Although the change resulting in spending from the additions of buildings D and E was not specified, Holly Lea estimates after completion the Project will support 8 permanent FTEs.

2.3 Flow on Impacts

M.E's analysis of value added, and employment sustained (above) considers only the direct economic impacts. That is, the effects that are directly associated with the amount of expenditure required to develop the site. From a comprehensive economic impact perspective, 'indirect' and 'induced' impacts – also known as flow-on impacts – are also relevant. These reflect the additional activity, stimulated by the development, across the whole economy.

Many of the products required in construction are manufactured by industries based across Canterbury, with others made around New Zealand. As construction demands more girders (for example), wall panels and so on, the manufacturing sector increases output. In addition, when more labour is required in construction and in the suppling sectors, the workers are paid wages which they then spend at retail outlets generating more demand for goods and services. Thus, the indirect and induced impacts measure how

much additional activity the direct spend will stimulate. The MRIO allows the calculation of these indirect and induced effects as they relate to this development – for the Canterbury economy taking into account inter-regional goods flows.

Based on the IO modelling, if the development is fast-tracked, it will stimulate a total of $21.9 million of direct plus indirect value added (GDP) in current terms. Once the induced effects are included, this rises to $31.5 million in value added (GDP) across the duration of the development, again in current terms.

The fast-track scenario is also projected to contribute to sustaining the equivalent of around 418 job years or 418 full time workers working for one year, when the indirect and induced effects are considered. Employment figures projected for each year are set out in Figure 2.5. While all the direct impacts are assumed to occur in the Canterbury region, the indirect impact of the proposed development will have effects reaching the rest of the South Island and the rest of New Zealand.

Figure 2.5: Employment sustained by Economic Sector under Fast-Track (FTE years) scenario

Economic Sector	2023	2024	2025	Total Job years
Direct Employment (MECs)				
Construction	2.7	46.3	37.7	**87**
Professional Services	6.1	11.0	3.8	**21**
Total Direct (FTEs)	**9**	**57**	**42**	**108**
Direct, Indirect and Induced (MECs)				
Primary Sector	0.5	2.7	1.3	**5**
Mining and Quarry	0.1	0.3	0.2	**0**
Manufacturing	3.7	20.4	9.9	**34**
Utilities	0.3	1.5	0.7	**2**
Construction	17.9	98.7	49.8	**166**
Wholesale trade	1.9	9.6	4.7	**16**
Retail Trade	3.8	17.2	8.2	**29**
Accommodation and food services	2.2	9.5	4.5	**16**
Road transport	1.2	5.9	2.8	**10**
Information media and teleco	0.6	2.4	1.1	**4**
Finance, insurance and funds	1.3	5.7	2.7	**10**
Rental, hiring and real estate services	0.7	3.4	1.6	**6**
Professional Services	13.5	35.0	13.0	**61**
Government Admin (local and central)	0.7	3.3	1.6	**6**
Education and training	0.9	3.6	1.7	**6**
Health care and social assistance	1.6	6.7	3.2	**11**
Arts, Rec., Personal & Other services	2.0	8.5	4.0	**14**
Total Direct, Indirect and Induced (FTEs)	**56**	**246**	**116**	**418**

When the indirect impacts of the two scenarios are compared, differences arise based on the timing of benefits. Due to the discounting of future activity, value added is greater under the fast-track consent scenario because it occurs sooner and is discounted less. Figure 2.6 presents a summary of impacts (in

current terms) of the development under the fast-track timeline. It highlights how the impacts are concentrated into the Canterbury Region, but a significant portion of impacts are felt across the North Island ($5.0m of Value Add) and a smaller portion in the rest of the South Island ($1.4m in Value Add).

Figure 2.6: Summary of Impacts under the Fast-track consenting pathway

	Canterbury Region	Rest of South Island	Rest of New Zealand	Total
Direct Value Added ($m)	$ 7.7	$ -	$ -	$ 7.7
Indirect Value Added ($m)	$ 11.5	$ 0.7	$ 2.0	$ 14.2
Induced Value Added ($m)	$ 5.9	$ 0.7	$ 3.0	$ 9.6
Total Value Added	**$ 25.1**	**$ 1.4**	**$ 5.0**	**$ 31.5**
Direct Emplyoment	108	-	-	108
Indirect Employment	178	7	12	197
Induced Employment	90	6	18	113
Total Employment	**376**	**12**	**30**	**418**

Under the RMA consenting timeline, the value added amounts (in current terms) are smaller given the greater discount, while the employment totals are the same – albeit they occur later (Figure 2.7).

Figure 2.7: Summary of Impacts under the RMA consenting pathway

	Canterbury Region	Rest of South Island	Rest of New Zealand	Total
Direct Value Added ($m)	$ 7.4	$ -	$ -	$ 7.4
Indirect Value Added ($m)	$ 10.9	$ 0.7	$ 1.9	$ 13.5
Induced Value Added ($m)	$ 5.6	$ 0.6	$ 2.9	$ 9.1
Total Value Added	**$ 23.9**	**$ 1.3**	**$ 4.8**	**$ 30.0**
Direct Emplyoment	108	-	-	108
Indirect Employment	178	7	12	197
Induced Employment	90	6	18	113
Total Employment	**376**	**12**	**30**	**418**

In total, in current dollar terms, the fast-track development pathway generates approximately $1.5m more value added (GDP) than the traditional RMA consenting pathway in current terms. However, there is no difference in employment impacts of job years between the two scenarios, although the timing of the employment impacts and addition operational employment is delayed.

2.4 Summary of Fast-Track Benefits

The development of the two apartment buildings at Holly Lea Village is estimated to directly sustain employment equivalent to 108 job years (FTEs) within the Canterbury economy, in other words the employment equivalent to 108 people working full time for one year (see Figure 2.5 for details). In addition to that, it will indirectly sustain considerable local jobs across the supply chain in a range of sectors, while the staffing needs of the fully developed village will directly require 181 MECs once completed. A fast-track

consent will mean that construction related employment can begin sooner and during a period when it will deliver the most value to local construction businesses facing a projected downturn of growth in an uncertain economic climate. This will allow them to employ more people across Christchurch/Canterbury – potentially offsetting some of the adverse impacts by COVID-19. As a fast-track consent is estimated to bring the peak of the Project's activity forward by an estimated one year.

The development under a fast-track consent is also projected to have a significant value added impact of $7.7m, directly, and a total impact of $31.5. The difference between the standard consent scenario is approximately $0.4m less directly and $1.5m less when the total impact is considered.

Bringing forward development means additional certainty for investors as the returns on investments occur sooner and the risks of building cost escalation are reduced. This means that more investment is likely via the fast-track process – in total, than under the RMA process.

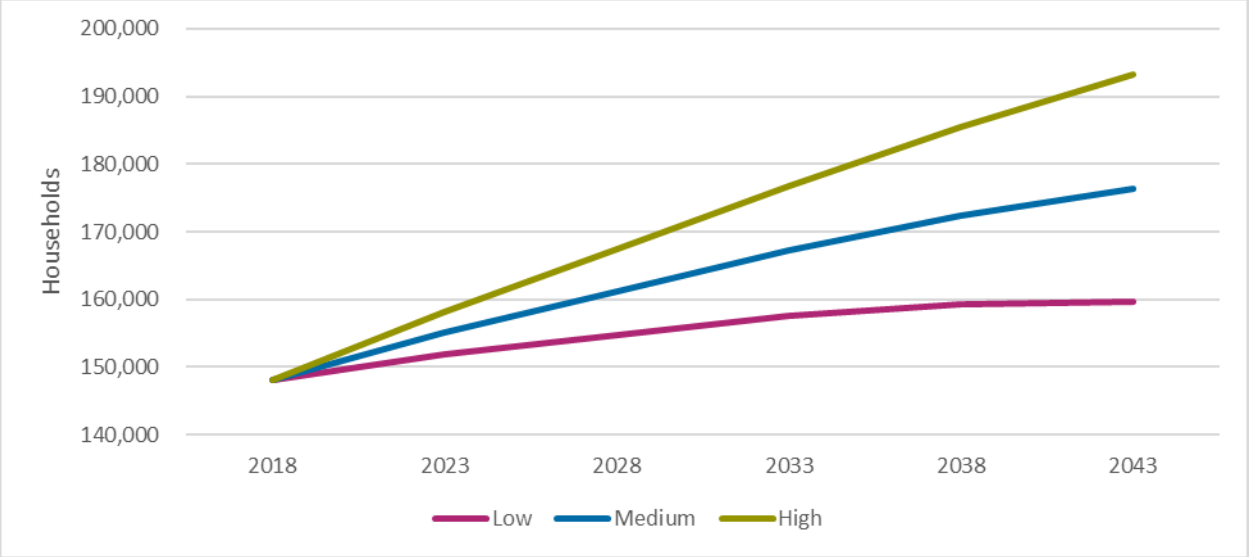
Figure 2.8: Summary of Development Impacts: Fast-track vs RMA pathways

	Canterbury Region	Rest of South Island	Rest of New Zealand	Total
Fast Track Scenario				
Direct Value Added ($m)	$ 7.7	$ -	$ -	$ 7.7
Indirect Value Added ($m)	$ 11.5	$ 0.7	$ 2.0	$ 14.2
Induced Value Added ($m)	$ 5.9	$ 0.7	$ 3.0	$ 9.6
Total Value Added	**$ 25.1**	**$ 1.4**	**$ 5.0**	**$ 31.5**
Direct Emplyoment	108	-	-	108
Indirect Employment	178	7	12	197
Induced Employment	90	6	18	113
Total Employment	**376**	**12**	**30**	**418**
Standard Consent Scenario				
Direct Value Added ($m)	$ 7.4	$ -	$ -	$ 7.4
Indirect Value Added ($m)	$ 10.9	$ 0.7	$ 1.9	$ 13.5
Induced Value Added ($m)	$ 5.6	$ 0.6	$ 2.9	$ 9.1
Total Value Added	**$ 23.9**	**$ 1.3**	**$ 4.8**	**$ 30.0**
Direct Emplyoment	108	-	-	108
Indirect Employment	178	7	12	197
Induced Employment	90	6	18	113
Total Employment	**376**	**12**	**30**	**418**
Difference				
Direct Value Added ($m)	$ 0.4	$ -	$ -	$ 0.4
Indirect Value Added ($m)	$ 0.5	$ 0.0	$ 0.1	$ 0.7
Induced Value Added ($m)	$ 0.3	$ 0.0	$ 0.1	$ 0.5
Total Value Added	**$ 1.2**	**$ 0.1**	**$ 0.2**	**$ 1.5**
Direct Emplyoment	-	-	-	-
Indirect Employment	-	-	-	-
Induced Employment	-	-	-	-
Total Employment	**-**	**-**	**-**	**-**

3 Housing Supply

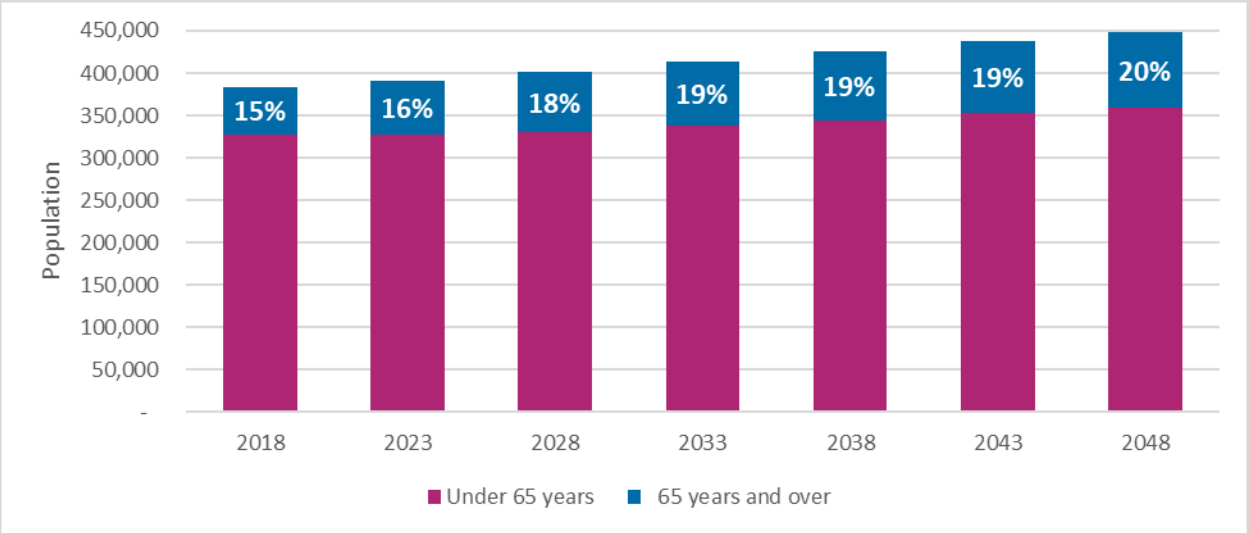
The population of Christchurch is expected to grow steadily over the long term. From 2023 to 2043 the city is expected to add 47,400 people in 21,400 households. The majority of these people will be 65+ (22,400 or 47% of total growth). This long term growth in household numbers is shown in Figure 3.1 under the low, medium and high Statistics New Zealand projections. Average annual growth ranges from 385 households per year from 2023 to 2043 under the low growth future up to 1,760 annually under the high growth future. As household numbers reflect the number of dwellings demanded, residential construction must keep up with at least an average of 1,070 households each year to meet the projected medium growth from 2023 to 2043. This highlights the need for new residential dwellings to be constructed.

Figure 3.1: Christchurch City Household Growth, 2018 – 2043 (Low, Med, High Stats NZ)



While the proposed development does not deliver conventional housing, it will provide approximately 32 retirement village units targeted at the 65+ market. This is important given the 65+ age group represents over 47% of total anticipated population growth over the next 20 years (2023 – 2043), reaching 20% of the Christchurch population in 2048. Every additional unit added into a retirement village or care facility potentially opens a family home up to the wider market. These more established homes are often better located relative to work, public transport and amenities than brand new subdivision developments so are an important part of the market for first or subsequent home buyers.

Figure 3.2 - Projected Population by Age for Christchurch City (2018 base year)[7]



Overall, M.E consider that the anticipated economic and social benefits of the proposed increase in residential dwelling capacity - in particular capacity targeted at the retirement community - is likely to outweigh any potential economic and social costs. On that basis, a fast-track consent is the most efficient approach to achieve the intended development outcome and will result in a public benefit by increasing housing supply sooner than if the traditional RMA process was used.

[7] Source: Stats NZ – Subnational population projections, by age and sex, 2018(base)-2048 update

4 Conclusion

The proposed development at the Holly Lea retirement village with the construction of two apartment buildings is expected to positively contribute to the future economic and social wellbeing of the Canterbury region, and through flow on effects, other areas of New Zealand. To be eligible under the COVID-19 Recovery (Fast-track Consenting) Act 2020, projects must meet several criteria set out in the Act. As discussed throughout this report, the proposed development project will result in economic benefits for an economy significantly affected by COVID-19 and will assist in sustaining the large construction sector (and many other sectors) within the Canterbury region (including upstream suppliers) suffering as a direct and indirect result of a downturn in economic activity and the uncertainty of the economic climate.

The benefit of the fast-track process is clear. It means that a larger number of local jobs can be sustained in the short-term future, with the enabling development works expected to begin in 2023, one year sooner than would be likely under a standard consent approach. While building consent data shows that recent levels of construction activity are likely to be maintained over the short term, the outlook beyond that is highly uncertain and there is a real risk that construction activity will rapidly slow, putting even more local jobs (and households) on the line. Numerically, allowing consent to be applied for under the Act, via the referred projects pathway, for this development generates a net additional contribution to GDP directly of approximately $0.4m in current dollar terms, that is over and above the standard RMA development timeline. When indirect and induced impacts are considered, this rises to $1.5m in current dollar terms.

In terms of employment, the redevelopment will directly sustain approximately 108 MECs for a year. Once the flow on effects is included, this rises to employment equivalent to 418 workers working for a year (418 MECs). Note that this figure does not change between the two scenarios - rather it is directly related to the scale of the development. Additionally, Holly Lea estimates after completion the Project will support 8 permanent FTEs.

Once fully developed, the Project will provide further capacity to the existing retirement village, which has the potential to deliver a combined total of approximately 32 independent living units across the two buildings. Not only does this help meet the needs of a high growth community (the 65+ age group), but it potentially frees up established homes for first and subsequent home buyers assisting with housing market mobility.

Appendix A – IO Model Assumptions

The following assumptions were made in order to run the input-output analysis:

- The analysis is based on a series of estimates for project expenditure and the timing of project stages. Quarterly expenditures are used, and the impacts are calculated based on the quarters in which they are expected to occur.
- This planned spending is to 109 economic sectors with 3 regions (Canterbury, rest of the South Island, and rest of New Zealand) in an input-output model which has been customised for the Canterbury economy using a 2020 base year.
- It is assumed that all direct expenditure of the development is received in the Canterbury region. This was made for simplicity and the high likelihood that the major of spending is directed to Canterbury as the site is in Christchurch and as one of New Zealand's major financial and service hubs, the city (region) has the capability to be largely self-sufficient in completing the development.
- The estimates provided by Holly Lea indicate that if approved, direct construction activity will begin in the fourth quarter of 2023 and finish after the fourth quarter of 2025. For the standard RMA consent scenario, this will start in 2024 and be finished sometime after the end of 2026.
- Holly Lea have provided an estimate for the value of total spending at s 9(2)(b)(ii). The estimated construction costs provided cover infrastructure, building construction, construction services, and professional services at total cost of s 9(2)(b)(ii) over the duration of the development. An amount totalling s 9(2)(b)(ii) was not included in the analysis as it is allocated for land, client insurance, subsidies, and disbursements.
- From here it is assumed that the costs are spread evenly across the duration over which each activity is projected to occur. This is done according to the assumed timeline. These assumptions therefore create figures close to an average expenditure per quarter, rather than the potential distribution of activity and expenditure. These are all classified as expenditure to either the construction or professional services industries and are exclusive of GST.
- Two scenarios are used, one which reflects approval of a COVID-19 Fast-track consent and the other a delayed RMA resource consent, which reflects the standard process. According to Holly Lea estimates, the timing difference is around one year, and there is no cost difference under the standard consent scenario.
- The results of the input-output model are discounted (except for employment) quarterly at an annual rate of 5%, which is line with the default discount rate recommended by Treasury NZ.
- The input-output model has a base year of 2020. As such, the spending projections are deflated to 2020 terms to be used as inputs to the model. For the model outputs, the value added results are reinflated back to present terms, while the employment results reflect employment numbers based on the base year (2020) proportions between gross output and employment (Gross Output per MEC) where no reinflation is applied. Furthermore, future inflation or cost escalations are not accounted for across the assessed timelines.