Christchurch City Council

Cranford Regeneration Plan – High Level Economic Assessment

Date: March 2017

m.e spatial

Document reference: CCC 027.17

Date of this version: 10/03/2015

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Date	Version	Changes
02/03/2017	First draft	-
07/03/2017	2nd Draft	Includes amendments in response to Ivan Thomson's (CCC) feedback.
10/03/2017	Final Draft	Minor edits, formatting and comments from Ivan Thomson and Gavin Thomas
16/03/2017	Final Report	Final edits to reflect comments from Ivan Thomson

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1 Introduction

Christchurch City Council (CCC) is considering a proposal to change the zoning of part of Cranford Area (see Appendix 1) from rural to urban. The area to be rezoned is around 55 ha and is the remnant land not required for storm water (Cranford Basin storm water management facility) and transport infrastructure (Northern Arterial Extension). In this paper, we provide high level commentary about the potential economic effects, their likely scale and direction. The zone change is being undertaken in the wider context of the Greater Christchurch Regeneration Act (2016). This context is important because the Act provides an indication of the meaning of regeneration, specifically that regeneration means[1]:

"…improving the environmental, economic, social and cultural well-being, and the resilience, of communities…"

While this is not a legal opinion, the importance of assessing the rezoning in a way that shows how it aligns with the abovementioned well-being is clear. The assessment of the economic effects is undertaken with the economic well-being as focus point. Section 2 outlines the considerations.

With reference to the economic assessment, it is stressed that this paper presents a high level assessment and is based on preliminary data analysis. We have used existing information and data to inform our assessment. This assessment focuses on the rural zoned area around the Cranford area and compares the area's productive potential with the potential economic effect associated with a residential development. This assessment does not compare the Cranford Area and the potential economic effects of developing this area against alternative areas. In other words, this assessment has a 'within Cranford Area' perspective. Therefore, the results of this assessment should not be viewed in isolation. Instead, the findings should be viewed together with other assessments[2] of the potential effects on other land uses and activities, such as retail, office and commercial activities as well as industrial real estate markets. Ultimately, the rezoning (and the regeneration potential that it could unlock), needs to be viewed in the context of Christchurch's overall growth needs, how the Cranford area opportunity compares to alternative locations around the city as well as other disciplines (such as transport and planning).

It is our understanding that the Christchurch City Council wishes to understand the potential economic effects associated with changing the zoning from rural to urban (residential).

The paper is structured as follows:

- The next section uses the Greater Christchurch Regeneration Act (2016) to provide a context for the rezoning.
- Section 3 presents the potential economic value(s) of the proposed development, and
- Section 4 concludes the paper.

[1] This is outlined in Part 1 Preliminary provisions, under the Purpose of the act. Paragraph 3(2)(b).

[2] We understand that the Council is considering these other effects as part of another work stream.

2 Context

As already mentioned, the Greater Christchurch Regeneration Act (2016) (GCRA) provides the context within which the rezoning is being undertaken. The purpose of the Act is stated in Part 3. Specifically, the Act is to support the regeneration of Christchurch. The Act defines 'regeneration' as

(a) rebuilding, in response to the Canterbury earthquakes or otherwise, including—

(i) extending, repairing, improving, subdividing, or converting land:

(ii) extending, repairing, improving, converting, or removing infrastructure, buildings, and other property:

(b) improving the environmental, economic, social, and cultural well-being, and the resilience, of communities through—

(i) urban renewal and development:

(ii) restoration and enhancement (including residual recovery activity).

Intuitively, the rezoning aligns with regeneration as defined in the GCRA, particularly points (a)(i) and (b)(i). The Canterbury (and Christchurch) rebuild is now more than halfway completed with most of the core infrastructure repairs nearing completion. Residential and commercial rebuilding activities are expected to remain strong over the near term.

The Cranford area rezoning is being undertaken to ensure that there is sufficient land available for development and that land availability does not restrict development. Developing the Cranford area should be viewed in the wider development landscape and the potential contribution that it could make to regenerating Christchurch as opposed to focusing in on the micro, neighbourhood level.

Traditionally, regeneration activities are associated with brownfield locations and not greenfield developments *per se*. Nevertheless, residential developments (whether greenfield or infill) can be, and often are, used as part of wider regeneration initiatives. In the context of the Regeneration Act, the Cranford area development is likely to be classified[3] as urban 'development' with some marginal contribution to overall renewal. The renewal is likely to be in the form of spill over benefits to the surrounding neighbourhoods. The scale of these spill over effects are likely to be small[4].

The rezoning is expected to add to the City's ability to house residents so therefore, the rezoning would fit under urban development, contributing to Christchurch City's regeneration by adding to housing stock and making good use of the available land resource. Therefore, it is important to view the rezoning proposal in light of urban development (as defined under the GCRA) and the alignment with the four well-beings (also under the GCRA). While our focus is on the economic wellbeing, the cross overs between the economic and other well-beings are acknowledged.

[3] See GCRA Part 1 para 3(2)(b)(i).

[4] It is our understanding that the Council had commissioned research into some of the spill over effects, particularly the property values and potential uplift. We believe that the research showed that the overall scale of the uplift effects are likely to be marginal.

2.1 Contribution to economic wellbeing

Historically, urban regeneration (or rejuvenation or redevelopment) was associated with transitioning an area away from a 'downward' trajectory. The tools used varied, but tended to include efforts to change an area's overall performance by:

- Reinvesting in it,
- addressing infrastructure issues,
- stimulating business activity and refocusing activity into the area,
- changing the economic base (e.g. away from sunset sectors to other, emerging, growth sectors),
- encouraging mixed use development, and
- developing or improving transport systems, etc.

However, the Cranford development area is generally seen as a greenfield development with the added layer of providing stormwater infrastructure to service the wider area. In the context of the City's urban form, developing the Cranford area could also be classified as infill or intensification. For this assessment, we consider the residential component and we do not consider the effects associated with the stormwater infrastructure component. It is our understanding that the stormwater component is already in place. Therefore, the rezoning focuses on the area that is not needed for stormwater. It is our understanding that the stormwater component will be developed into a multi-purpose wetland, providing for passive recreation, active transport and ecological functions. From an economic perspective, these uses will provide a range of benefits, particularly 'ecosystem services' by improving the ecosystem capital in the immediate area of Cranford. Valuing these services is complex and difficult and is also beyond the scope of this paper. Nevertheless, it is worthy to highlight that development of the basin area (i.e. the wetland) is likely to lift the value of the ecosystem service and add to the overall regeneration activities.

In our view, the residential rezoning and development is expected to make the following important contributions to the economic wellbeing of residents:

- Enabling growth in housing stock, and
- Improving and contributing towards an efficient urban form.

Both of these contributions are important in the wider context of Christchurch's regeneration and urban development because they support and underpin the effective functioning of the local economy and its sub-parts. These contributions are discussed below.

2.1.1 Enabling growth in residential stock

Housing and residential real estate is very important for urban regeneration[5] and are often used as a driver of regeneration efforts. Overall, the demand for housing can be viewed as a proxy for a city's level of attractiveness as a place to live. If the city's economy is successful and growing, then businesses and workers will be attracted to it – relocating to the city. This results in further economic activities and growth (i.e. the spill over effects). In turn, this creates another round of jobs and growth opportunities with a consequential lift in business activity.

If there is a very high level of demand for housing, and a low level of supply, the house prices will rise affecting overall housing affordability. As a consequence, salaries and wages may have to increase so that businesses can retain and attract workers. Further, if local businesses' ability to attract workers is undermined (by high house prices), then they may consider relocating to other areas. Alternatively, if housing supply exceeds

[5] Date accessed: 28/02/2017: https://www.designingbuildings.co.uk/

demand, housing prices decrease causing major problems to the housing market and putting the wider economic system in the area at risk. Therefore, it is important to match housing supply and demand to optimise the wider economic effects of this crucial market.

Housing affordability is an important issue in NZ with overall affordability declining in recent years. Christchurch City's housing affordability is classified[6] as 'severely unaffordable' with a median multiple of 5.9[7]. The earthquakes destroyed or damaged a portion of the City (and Canterbury's) residential stock and the subsequent rebuild responded to the resulting housing shortage. A large portion of the rebuild was centred in the City but the surrounding districts also captured a sizeable portion of rebuild, and subsequently the growth. Some analysis[8] suggests that the surrounding areas have captured around half of the rebuild (in spite of having less than one fifth of the population). Recently, the number of consents per 1,000 population has remained high in both Selwyn and Waimakariri (up from 3.2 in 2012 to 11.5 in 2016). This is markedly below the Christchurch City levels (14.7 in 2012 to 17.0 in 2016; after peaking at 23.2 in 2014) but materially higher than recent figures. This suggests that the surrounding areas are becoming more attractive development locations.

Christchurch City is one of New Zealand's growth areas and it is critical to provide for the growth –business (commercial and industrial) and residential. The National Policy Statement for Urban Development Capacity (NPS-UDC) recognises the significance of well-functioning urban environments including the role of sufficient space for populations to live and work. It also highlights that the growth can be accommodated through developing 'up' by intensifying existing urban areas, and 'out' by releasing land in greenfield areas. According to research undertaken by the Productivity Commission[9], increasing the availability of residential land for development would help address affordability. This could be achieved by bringing tracts of both greenfield and brownfield land to the market. Therefore, the proposed rezoning is consistent with the NPS, which provides direction for decision makers (under the RMA) on planning for urban environments, as well as the Productivity Commissions findings.

The Cranford area provides an opportunity to provide residential units to the market. Supporting the smooth functioning of the residential market, through actions such as rezoning, will contribute to urban development as described by the GCRA. It is our understanding that the Council has compared the relative attractiveness of Cranford area, as a development area, with other options around the City and has found that it has definite advantages over other locations. One distinct advantage that Council has identified is the availability of bulk services to which the residential development can connect. This availability improves the ability to bring sections to the market before other developments areas. It also reduces the overall development timeframe. More importantly, this reduces the lead times that are normally needed to get a residential development established. This also means that the rezoning would support the City's overall regeneration by enabling development activities.

As mentioned, Christchurch is one of NZ's growth areas and it is important to support the economic growth by providing sufficient housing (due to the dynamics mentioned earlier). The neighbouring areas (Selwyn and Waimakariri) are also growing strongly and it is important to provide for growth within the City to limit the need for ongoing commuting in to/out of Christchurch's business locations. By extension, providing

[6] Demographia report. 2017 (Data for Q3 2016).

[7] It is noted that recent media reports have highlighted potential supply issues with housing stock not selling and that there could be an oversupply in the market. The potential reason(s) for this is beyond the scope of this assessment.

[8] Demographia report. 2017 (Data for Q3 2016).

[9] New Zealand Productivity Commission. Housing Affordability Inquiry. March 2011.

(rezoning) land for development, the City's housing affordability would not only address local (within Christchurch) issues but also wider sub-regional[10] issues.

From a Christchurch perspective, developing the Cranford area (for residential uses) is likely to support and enhance the City's residential market, with direct linkages to regeneration and urban development efforts. This is because it will add to the areas that can be developed, thereby supporting the residential market. It will make use of the land resource and contribute to urban form (urban form is discussed separately in another section).

2.1.2 Efficient urban form

The focus of the debate around urban form tends to focus on transport costs. These costs include those that are internalised by households as well as externalities that are not internalised in prices. Internalised costs include the cost to travel between residential areas and place(s) of work as well as shopping areas. External costs can include the environmental costs associated with vehicle emissions and the effects on natural environs. Efficient urban forms tend to minimise these costs. Minimising these costs have a direct and indirect effect on communities' wellbeing. For example, the direct effects include household transaction costs (e.g. fuel and transport costs, the value of time spent travelling). The indirect costs are wider and have longer timeframes. They can include energy use and consumption effects (and by-products) and the cost to support/maintain associated infrastructure. The cost to process waste is also an indirect cost. Spatial development has very strong 'lock in effects' because it is difficult and expensive to 'change' development patterns once it has occurred. Urban development decisions that influence land use are among the most crucial to environmental costs (and effects such as carbon emission[11]).

An efficient urban form is important from planning and transport perspectives as well as an economic perspective. People, goods, services and information are key components of the economic system and accessing them in an efficient manner is key. The more efficient this access, the greater the economic benefits through economies of scale, agglomeration effects and networking advantages. An important consideration when assessing the potential economic effects of a zone change is the potential contribution the change could make toward improving urban form. Based on the Cranford area's general location in the Christchurch context, developing this area is likely to improve the urban form and associated outcomes and therefore, it is aligned with the anticipated outcomes of the regeneration and urban development activities.

The area that is earmarked for rezoning will contribute towards an efficient urban form by filling in an area and making better use of the resource. From an economic perspective, this is important because it reduces, limits and avoids unnecessary (and wasteful) economic transactions while freeing up resources for more productive use(s).

Some of the key benefits that are associated with improved urban form include (but are not limited to):

- Lower per capita transport costs (internal fixed costs such as vehicle cost and residential parking; internal variable costs such as travel time, vehicle operation and crash injuries; and external costs such as accident risk, congestion, parking costs and environmental externalities/costs),

[10] Christchurch, Selwyn District Council and Waimakariri District Council areas.

[11] European Environment Agency Technical Report. Urban Sustainability issues – What is a resource-efficient city? Report no 23/2015.

- Lower per capita travel times (such as the movement of people between their place of residence, places of employment and other activities such as shopping and leisure),
- Lower per unit infrastructure costs (capital, operating and re-investment; including water, roads, telecommunications and other),
- Reduced land consumption while retaining option values associated with potential future use,
- Reduced loss of open space and rural land[12] (protecting green space),
- Improved environmental outcomes (e.g. lower emissions and improved energy usage),
- Improved efficiencies[13] in public transport and public service delivery.

Developing the land in the Cranford area will provide an opportunity to improve the urban form in this location by transitioning from rural land to residential use. These wider effects are felt indirectly and over a long timeframe. The overall effect can be substantial so these factors need to be considered as part of Council's overall assessment.

Cranford area's general location in the Greater Christchurch context makes it a good location to develop from an urban form perspective. The area is located in close proximity to existing Papanui/Northlands Key Activity Centres (KAC) and transport routes, suggesting that developing this area will contribute towards delivering an efficient urban form. Increasing the number of households within the KAC catchment is likely to increase the relative productivity of the KAC due to the increase in the effective density (intensification) of the catchment.

2.2 Conclusion

Rezoning the Cranford area for residential development would support the City's regeneration and urban development efforts. Not only is the residential market an important economic sector in its own right, it has strong ties to the functioning of the wider economy. This importance is acknowledged in central government work such as the NPS for Urban Development Capacity, as well as the New Zealand Productivity Commission's own work. The proposed rezoning aligns with these work streams so it supports the city's economic functioning, urban development and regeneration. Intuitively, supporting the city's economy not only supports the regeneration activities, it is crucial to ensure the long term viability of the city. Ensuring that the labour force has sufficient (and affordable[14]) accommodation is important when competing nationally, and globally, for skilled and talented workers.

It supports the labour market as well as other economic activities such as retail (through households) and construction. In terms of urban form, developing the area will support the city's effective functioning. Intensifying residential development in reasonably close proximity to existing activity centres will lift the sales productivity. Delivering the positive outcomes associated with an efficient urban form is (presumably) an underlying objective of the regeneration and urban development activities. The proposal would result in an improvement of urban form considerations, and in that way contribute towards the city's regeneration and development.

[12] Rural land and open space have natural amenity values that are then protected and maintained (because the areas are not development in an inefficient manner).
[13] Ability to service an area relative to the cost to deliver the service.
[14] Although the Cranford development in itself is targeted at the higher end of the market, i.e. not viewed by everyone as 'affordable', it will add to the overall supply of residential stock in Christchurch. Lack of supply is seen as one of the factors contributing to housing affordability issues and pressures.

3 Potential Values

The site is located adjacent to the Cranford area, an area that is prone to flooding. We understand that the areas considered to have a high risk of flooding, are excluded from the proposed residential development. Currently, the area is being used for land intensive rural industries, with limited capital intensive activities. This is possibly due to drainage issues.

Areas that are located on the boundary between urban and rural areas, with land resource, can fulfil a number of important functions in the urban-economic environment and it tends to accommodate activities that use the land resource as a key input (typically agriculture activities). In some cases, these boundary locations also contain land resource that is inactive (i.e. not actively used for production processes). As the urban and built environment expands, a need arises to transition the land resource towards other, more capital intensive, uses including residential use. The general sequencing of this transition needs to be managed. The area where this transition takes place is also one where urban and rural uses mix and often come into conflict. However, as the following analysis will show, the Cranford study area is unlikely to experience a high level of these conflicts because of the current low levels of activity[15] in the area. Christchurch City Council (CCC) is currently engaged in this management process through which it is seeking to protect valuable resources while enabling high quality development outcomes.

In this section we summarise the potential economic value[16] of the area and compare it to a residential development. The (potential) economic transactions are assessed and the flow on (direct, indirect and induced) effects are also summarised.

3.1 Potential Contribution

Rural areas provide various external benefits. Even seemingly unproductive land often provides unique values, such as aesthetic value. Preserving of open space is often the antithesis of urban expansion, particularly when productive rural land, ecologically or culturally valuable areas are at stake.

Allowing development to take place on rural land will result in a loss of productive activity and *potential.* Such a loss would mean that the economic value of the activity taking place (or that could take place) on the land would be replaced by another activity. Clearly the development should only progress if the 'new' activity has a higher value (and after considering other aspects as well as the economic effects). It is also important to consider the option value. This is the value associated with the *potential* activity that could be undertaken on a site given its current natural attributes. If the land is converted from primary production to urban use, such as residential activity, then the economic return from that rural activity would be lost. This includes both current production and potential production and can be seen as a baseline value.

Therefore, the current economic contribution of the study area is a function of the activity that is currently being undertaken on the land as well, or the activity that could be undertaken – whichever is the highest. That is the production *potential* of the area.

The net (or additional) economic effect of rezoning is the difference[17] between the economic contribution of current (potential) activities, and the enabled use(s). In many cases, the current and potential contributions

[15] Referring specifically to agricultural and land intensive activities.

[16] The report focuses on the economic aspects and to maintain readability we do not include 'economic' all instances. Nevertheless, the assessment focuses on the economic aspects.

[17] The difference should be adjusted to reflect any lost option values. Option values include the value placed on maintaining or preserving an asset or amenity even if there is little or no likelihood of the individual actually ever using it. Further, the option value

are estimated based on the relationship between the area, the type of economic activity and business/economic performance ratios (e.g. Revenue or Sales per hectare, employment per hectare). These values are then used as part of a Discounted Cash Flow (DCF) analysis, to translate current and future activity (and value) into a single figure, a Net Present Value (NPV) number. Such an approach assumes that the current business/economic parameters capture relevant characteristics such as: productivity, production economies (spatial scale and intensity requirements), consumer preferences, consumer incomes, and developer/development costs.

In general, investors (or households) will utilise a piece of land (real estate) to generate the maximum economic value based on the underlying land use permissions. The maximum value is of course subject to a range of limitations and constraints guiding the type of activity that can (legally) be undertaken on the land (including land use and building controls).

3.1.1 Current activity

A desktop review of the area suggests that the current scale of economic activity in the study area is limited. This implies that the land resource is not currently used for high value economic activity. Reasons for this could include:

- High capital and investment requirements,
- Economic production size constraints (diseconomies of scale issues),
- Site specific issues such as drainage and topography considerations,
- Market factors such as uneconomic returns on the goods/produce that can be cultivated on the site, and
- Seasonality effects.

A high level review of recent Business Demography Survey[18] statistics for the Cranford area shows that the overall scale of agriculture activity in the study area, is small. Combining available business statistics with sectoral performance estimates (Output and Value Add[19] per sector) suggests that the annual value of the (rural industry) production in the study area is around $114,000 (output) with annual Value Add of some $39,000. This suggests that the area is not an intensive production area. Assuming that the production intensity remains constant over the next 30 years, then the value of the activity is estimated at $344,000 (Value Added; ranging between $667,000 and $1.1m[20]).

In addition to the land based activities, there are some small businesses in the study area e.g. the holiday park towards the north western corner on Cranford Street (Christchurch Top 10 Holiday Park). Similarly, the Cranford area that is proposed for the rezoning, currently includes a small (4-8) number of dwellings.

However, if the land is rezoned then some potential land use(s) and economic activity would be foregone. This foregone activity can be viewed as the opportunity cost of shifting to another land use(s).

is recognised as an element of the total economic value of environmental resources. It is however, not always possible or practical to estimate and quantify these values.

[18] Released by Statistics New Zealand.

[19] Value Add is similar to GDP.

[20] Using discount rates of 4%, 6% and 8%.

3.1.2 Potential Production Value

The size of the potential production value is a function of the type of activity that could be undertaken on the land under current zoning. In turn this is a function of the business economics associated with the activity. Business economics include aspects such as:

- The yield per area e.g. income generating potential per unit of land ($/ha),
- The price per unit e.g. $/t that can be realised for products, and
- The cost structures and relationships of the business including gross profit margin, capital structure (debt/equity ratios), ability to generate a (required) rate of return and sectoral risks.

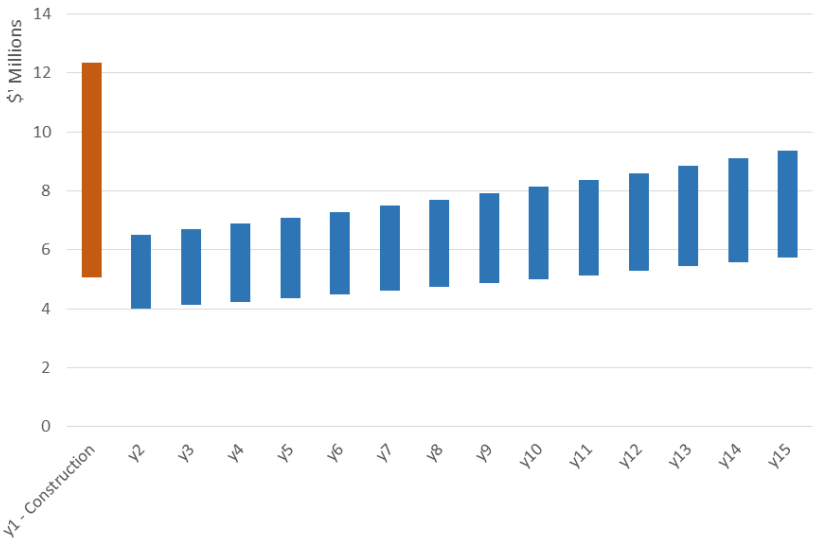
Horticulture and agriculture generally have relatively low margins. For example, between 2011 and 2014 'Surplus per Employee' for horticulture has ranged between $2,200 and $21,800. Small margins mean that it is difficult for an investor to generate a sufficiently large return on his/her investment. A rational investor would not invest in an underperforming opportunity but instead seek out other opportunities. In other words, the cost structure of horticulture means that an investor is unlikely to invest in an extensive (average value product) operation because of low yields and an unfavourable risk profile. However, farming a higher value product would improve financial returns and the associated risk profile.

We used a financial model and existing research[21] to estimate the potential production value of the land. We use two hypothetical examples[22]:

a) A high value product that is farmed extensively, and
b) A high value product that is farmed intensively.

These examples provide an ability to estimate the *potential* economic value of the site. Based on these examples, the study area has the *potential* to generate sales of between $3.9m and $6.3m annually, growing[23] to $5.1m and $12.4m in year 15. This excludes construction associated with establishing the necessary infrastructure. The development cost is estimated at between $5.0m and $12.4m. In Net Present Value (NPV) terms, over 15 years, the potential sales is estimated[24] at between $43.7m and $71.2m.

Figure 3-1: Potential Production Cost (Range; $'m)



These figures reflect the potential of the land. This can be viewed as the baseline value. Figure 3-1 shows the baseline values over time.

The (hypothetical) business activity will also have supply chain effects, generating flow on economic impacts in the wider economy. These economic impacts are measured in Value Added terms (which is similar to GDP). The analysis suggests that the total economic impact is between $44.7m and

[21] CCC Report: Rural Land Economic Assessment. Prepared by M.E in Nov 2008.
[22] We did not consider dairy farming.
[23] This growth is driven by inflation and price changes and not a lift in actual output volumes.
[24] Using a 6% discount rate. If a 4% discount rate is applied, the figures change to $50.1m and $81.6m. An 8% discount rate, returns $38.5m and $62.6m.

$74.8m. This is the total impact and includes the direct, indirect and induced effects throughout the entire Christchurch economy.

These values represent the potential value of the area if it was used for horticultural activities and reflects the baseline potential as well as the economic flow on effects. If the area is developed, and the horticulture potential is lost, then these 'lost economic values' are the immediate effect (the loss of potential sales) as well as the flow on effects. This assumes that it would not be possible to restore the land to a state that would sustain horticulture.

With reference to the Holiday Park, the potential Value Add of this operation is difficult to estimate with a high level of certainty. Using available information from MBIE, SNZ and the Inland Revenue service suggests that the VA from this operation could be between $250,000 to $1m (but it is expected to be at the lower end of the range). Given the uncertainty around the potential value as well as our understanding that this area would be developed toward the end of the analysis period, we exclude it from the analysis. However if it is included, then the stated values would be reduced[25].

3.1.3 Potential Value of Residential Use

Understanding the economic effect of moving from one land use to another requires the baseline figures (outlined above) and the values associated with alternative uses. In this case, the alternative use is residential. Depending on the average densities used when developing the site, there is potential to deliver 400 to 450 new residential sites that are then sold for residential development. This suggests that the total construction cost (to build the residences) could be in the order of $108.8m-$122.5m. This figure is subject to the final specifications that are used as well as the final number of houses.

The construction[26] impacts are one-offs. Once occupied, the dwellings have a different set of economic effects, which are mostly related to how households spend their income[27]. This includes how they spend their income on items such as retail (food, clothes, groceries and so forth), investment and savings, mortgage payments, energy and transportation spending. Retail spending is one of the largest spending streams. The assessment puts the expected total household spending coming from the area, once fully developed, at between $15.3m and $17.2m per year. In NPV terms[28], this implied spending (retail demand) is estimated at between $144.5m and $162.5m. This additional spending will add to the existing retail market and is likely to flow to the Papanui Key Activity Centre (KAC). In turn this will improve its sales productivity, viability and sustainability. From a regeneration perspective, supporting and strengthening the exiting retail network (i.e. the KACs) is favourable and, as mentioned, the rezoning will increase the number of households (and retail dollar) in the catchments, thereby supporting good urban form. The final scale of this retail demand depends on a range of factors, such as the development's configuration (number of lots), socio-demographic features of the residents, general economic conditions and the interest rate environment.

The construction and household spending will generate wider economic impacts (as the spending flows through the economy). The total[29] Value Added effects of the residential component is estimated at between

[25] This is estimated at less than 1% of the NPV values; based on an annual VA of $250,000 and the conversion taking place in the last 5 years of the assessment timeframe.

[26] This is based on an average cost per house of $272,125. This is the average cost to build a 3 bedroom house in Christchurch (Q3/2016). If a higher specification (cost per house) is used then the values (VA) in the assessment is likely to be higher.

[27] The funds spent are normally sourced from salaries and wages but can also include the spending of saved funds, or investment returns.

[28] 6% and over 15 years. Using a 4% rate returns and NPV of $163,3m and $184,8m while an 8% rate yields $128,0m and $144,0m respectively.

[29] Direct, Indirect and Induced flow on effects.

$144.5m and $162.5m for the household spending and $57.7m and $64.9m for construction. In NPV terms (@6% and over 15 years) the total VA effect is estimated at between $167.6m and $188.5m. The construction effects will account for around a third of the total effects (VA in NPV terms).

3.1.4 Net Economic Effect

From the above, enabling residential activity in the Cranford area will have a net positive effect[30], after adjusting for the loss of potential activities associated with the land resource. Table 3-1 summarises the net difference between the potential and the residential development.

Table 3-1: Summary of the Net Effects

		Range	
Spending	Average annual effect	$9.7m	$10.7m
	NPV of Effects (Excl construction)	$91.3m	$100.7m
Value Added	Average annual effect	$6.5m	$8.0m
	NPV of Effects (Excl construction)	$62.2m	$75.3m

NPV are at 6% and over a 15 year period

The average annual effect of enabling the residential development is estimated at between $9.7m and $10.7m (per year). The construction spending will add between $103.8m and $110.1m to this but is only felt in one year (or the period over which construction takes place). This implies that a substantial portion of the spending effect is related to construction.

These effects are ongoing and will be felt over multiple years. Over a 15 year period the difference in net position (in terms of spending that is felt in the local economy) is projected to sit between $91.3m and $100.7m (using a 6% discount rate).

Importantly, the estimated spending is not the 'economic impact'. The net Value Added (an indicator of economic impact) difference between the area's underlying potential and a residential development is estimated at between $6.5m and $8.0m per year (in Value Added terms) to the Christchurch economy. In NPV terms (@6% over 15 years), the value of shifting from rural to urban (residential) is estimated at between $62.2m and $75.3m.

Importantly, these effects are not 'new' to the economy (i.e. it's not additional) because some of the growth could be located at other sites around Christchurch and any comparison of the economic value of the site, has to reflect potential transfer effects.

Assessing the effects of the development in a wider context is beyond the scope of this assessment. Such a wider assessment would need to include and compare alternative locations. If the residential development can be delivered elsewhere then the associated economic effect will still be felt in the city (but generated elsewhere).

In such an event the economic effects associated with the residential development will be generated from another locality in the City. This means that it is necessary to view the development opportunities in the Cranford area in a city-wide context. This wider perspective includes not only (potential) alternative sites but also how the development would fit into the urban form. The decision to alter the zoning, needs to include

[30] In this section, we comment on the 'net **economic** effect'. To maintain readability, we do not refer to the 'economic' aspect of the effects. This paper is, after all, about the economic effects.

a range of perspectives, not just economic views. When development is enabled, it tends to unlock a series of economic influences and effects. Some of these effects are durable, lasting for a long time. For example, infrastructure might be delivered in response to change. Infrastructure investments are costly and expensive to reverse. It is therefore crucial to ensure that the decision to allow (decline) a specific change is based on a sound evidence base that considers an appropriate perspective.

Nevertheless, when viewed in the light of the potential timing issues (i.e. that enabling development in Cranford area is likely to progress sooner than some of the other development areas), then it is obvious that achieving these effects sooner is more preferable than delaying the point when they realise. Capturing the effects, including the increased retail productivity (through intensification in the retail catchments), will support the regeneration and urban development drive.

4 Concluding Remarks

The Cranford area has been identified as one potential area where rezoning the rural land to residential could facilitate, and accommodate, residential growth. However, the rezoning has to be undertaken with due consideration of the area's productive potential. Once developed it is difficult to return to the undeveloped state.

This high level overview of the proposed changes in the Cranford area suggests that moving from the current agriculture activities to urban activities (particularly residential) would move the land to a higher economic use, i.e. residential use. Over the past decade, the area has seen little intensive activity. Since 2000 only two registered rural industry-type firms operated in the area. Agriculture, and rural industry related employment is put at less than 2, down from around 6 in 2000. This suggests that the area has not been actively used for the past 15 years.

This assessment compared the *potential* economic value[31] of the land against that of a residential development. Based on a narrow Cranford area perspective, the move would generate a net positive effect that is estimated to be between $6.5m and $8.0m of Value Added (on an annual basis; depending on the development intensity). However, we anticipate that the bulk of the economic effect will arise due to potential urban efficiency gains.

In addition to these effects and gains, developing the Cranford area is also expected to contribute positively toward Christchurch's urban form – an important consideration in the regeneration and urban development contexts. Planning decisions have long 'lock in periods' that are difficult to reverse and rectify making it important to deliver regeneration and urban development in a way that contributes to the four well-beings[32]. This assessment points to the importance of the residential market in supporting overall economic activity and the community's economic wellbeing, economic considerations as well as the link to regeneration and urban development. It is our understanding that the Cranford area would be developed to a high standard (i.e. above average, towards the higher end of the market). In this assessment, we have followed a conservative approach and used the average costs. Therefore, our analysis is likely to understate the potential (positive) economic effects, and the impacts are likely to be greater but there is some uncertainty about the degree to which the effects would be greater than estimated.

[31] From a production perspective using a hypothetical example.

[32] Environmental, economic, social and cultural well-being

Appendix 1: Cranford Area – Suggested Zone Changes