

PROPERTY **E**CONOMICS



CRANFORD AREA

ECONOMIC

ASSESSMENT

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SCHEDULE

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1. INTRODUCTION

Property Economics has been engaged by Christchurch City Council ('CCC') to provide a high level synopsis of the potential for the a residential rezoning of the Cranford Area subject within the context of the Greater Christchurch Regeneration Act 2016. Specific consideration will be given to the potential economic costs and benefits associated with this rezoning and the subsequent activity supported within the identified area.

It is Property Economics' understanding that the land area within the Cranford Area that is under consideration for residential development is approximately 38ha the rezoning sought addresses land within two specific areas Area A and B. This land area represents part of the balance of the land not required for infrastructural storm water and transportation works within the basin. The bulk of this residual land is envisaged for residential development and would be rezoned from Rural (as per the Operative Plan) to Urban.

1.1. CORE OBJECTIVES

- The economic contribution to the local and city economy, including efficiencies
- Economic opportunity and cost to the community
- Contribution to the timing of recovery
- Overall economic contribution to economy
- Identification of relevant economic costs
- 'At capacity' retail demand analysis and GFA / land requirement for the such activity in the area.
- Review the industrial and office markets at a high level to identify appropriateness in the context of the recovery plan.

1.2. INFORMATION & DATA SOURCES

Information has been obtained from a variety of data sources and publications available to Property Economics, including:

- Census of Population and Dwellings 2013 - Statistics NZ (extrapolated to 2016 by Property Economics)
- Household and Population Projections – Statistics NZ
- Capacity Assumptions – Christchurch City Council
- Household Economic Survey - Statistics NZ
- Retail Trade Survey - Statistics NZ
- Business Frame Data – Statistics NZ
- Christchurch Input / Output tables – Property Economics
- Google Maps NZ - Google

2. CHRISTCHURCH AND ECONOMIC BENEFITS OF CONSOLIDATION

The current activity and zoning is for rural use. While this is technically the alternative use based on the permitted activity, it is not the best approach to only assess the economic value of residential development against this activity as there has been limited and diminishing rural employment activity on this site, alternatively given the 'centralised' nature of this location both industrial and commercial suitabilities have been considered.

Given the limited opportunity for sites suitable to provide for the additional (given that this is assumed to be additional medium density residential product) residential product the differential of 400 new dwellings is reasonable to assess against an alternative location on the urban fringe.

There are several primary issues that relate to the net economic benefit of the proposed Cranford Area development. These are addressed below.

Amenity

The critical mass created through the additional households has the potential to increase local amenity through increased retail viability, employment and agglomeration benefits. As well as this, the provision of the higher density development has the potential to maintain rural amenity levels. These are sustained through the reduced need for additional Greenfield development due to the net addition of 400 residential units in this area.

The development of an additional 400 dwellings in this location generates an additional \$14.5m per annum in retail spend and supports 39 additional retail jobs. The increase in resident and business spend resulting from the additional housing units also leads to the likely development of local activity that would sustain an additional 24 commercial and commercial service jobs within the localised economic catchment.

Congestion

A key consideration in the net economic value associated with the proposed development is its fiscal impact upon existing infrastructure and community assets, including but not limited to; roading, water, schools, libraries and communication infrastructure. A potential economic cost associated with increased residential density is the overutilization of this infrastructure within a given location. This utilisation potentially leads to two outcomes: the congestion of infrastructure e.g. traffic jams, or usage restrictions that in turn create economic costs. If the capacity of the existing infrastructure is exceeded, this capacity will require expansion, creating additional costs and potentially increasing the marginal cost per dwelling.

The relative costs of infrastructure between this option and any alternative is pertinent due to the fact the current location does not represent additional community costs. This is because capacity in existing infrastructure not only exists but results in lower marginal costs per dwelling. Given this fact the net economic benefit associated with infrastructure is the simply difference

between the net infrastructure costs for this proposed development relative to a similar quantum of residential development on the urban fringe.

Without assessing a specific urban fringe site and the potential for 400 average homes (which would at this stage be inappropriate) it is difficult to quantify the infrastructure costs differential. However, it is possible to give an indication of the level of difference between the two options.

Recent studies have shown that the public capital costs for streets and utilities were 50% greater for urban fringe locations than for medium to high-density planned development, with operating and maintenance costs 13% lower for high density residential development.¹

Research undertaken nationally² in 2015 found that the costs for infrastructure (parks, transport, water, wastewater, and stormwater) were 30% higher for low density residential over higher density product (Page 9 Table 2, CIE, 2015). It also found that "on average, the cost of providing infrastructure services to the greenfield case studies was estimated to be more expensive than infill developments" (Page 10, CIE, 2015). A key finding of this report is the value of the existing capacity for infrastructure. The presence of this capacity is a fundamental consideration in the community cost of development.

Given the existing infrastructure capacity at the Cranford site there is little doubt that the cost of providing 400 urban fringe dwellings, compared to the same number in the Cranford Area location, will result in higher capital and ongoing costs to the community.

Efficiencies

There are several issues relating to economic efficiency regarding the proposed development and the identified alternative. Several of these factors are considered in the quantification of value assessed later in the report but others are simply qualified at this point.

First, while the development of the total 400 residential dwellings in this location offers the opportunity of economies of scale, there is little doubt in the research material at hand that construction of medium to high density residential product is likely to be more expensive than its urban fringe counterpart. This cost however, and the willingness of the market to accept it, is in fact a proxy value for the potential economic and social values associated with this form of residential development. It illustrates that the potential buyers are willing to pay more per square metre for housing based on the associated efficiencies and other benefits afforded them.

A key consideration with regard to the recovery and rejuvenation of Christchurch is that redevelopment is sustainable. In terms of costs to the community this goes beyond simply the cost of housing but the cost of living and the accessibility to opportunities, employment and amenities. This is a fundamental consideration as Christchurch recovers. The development of potentially cheaper fringe locations is most often accompanied by higher accessibility costs and lower employment accessibility. This in turn increases the cost of living in such locations and often impacts significantly on equity and opportunity.

¹ Including 'Infrastructure Costs: Brownfield versus Greenfield, Redevelopment Economics' June 2012

² The cost of residential servicing, The Centre for International Economics 2015 (CIE)

It is important to note that not all these benefits are considered by buyers and therefore represent community benefits through consumption externalities. The Auckland Regional Growth Forum has commented that:

'Recent case studies of recent medium density developments in various parts of Auckland found that "the business community has benefited from having more people in the area...", while residents have enjoyed the convenience of having schools and shops in close proximity to their homes (Auckland Regional Growth Forum).

Efficiencies also apply for public transport with greater densities improving the viability and effectiveness of its provision. In terms of the 'net' position the Cranford Area proposal provides the market with greater levels of this access not only through the additional 400 units but also through the additional facilities that are sustainable through this level of development.

There has also been a considerable amount of research undertaken regarding the benefits of medium to high density residential development on safety and lowering the costs of crime and policing. The Auckland Regional Growth Forum reports on this research as follows:

'Improved personal security has been identified as one of the attractions of higher density living for residents of newly intensified areas nationally (Research Solutions, 2000). Research and evidence supporting the concept of natural surveillance and crime reduction counters the traditional association of higher density housing with "crime and anti-social behaviour". An investigation into the "social infrastructure impacts of urban growth" found that economic conditions, rather than density, are the key factors in generating such undesirable situations, and much of the research that purports to show a relationship between high density and stressful and unhealthy living is flawed, and the relationship is uncertain.

Temporal Costs

An important benefit when considering the potential economic benefits of the Cranford Area proposal is the deferment of development. An important consideration of the Cranford Area proposal is the ability for development to occur in a timely fashion.

In terms of direct economic activity and its Net Present Value ("NPV") this has been factored into the following economic activity comparisons through the incorporation of a discount rate.

3. PROPOSED CRANFORD AREA DEVELOPMENT

The identified Cranford site is currently a rurally zoned block that extends over 55ha. The overall proposal from Christchurch City Council suggests a number of activities including storm water and transportation facilities as well as some residential development potential. For the remaining residential component it is assumed, for the purposes of this report that for Area A (Grassmere Block):

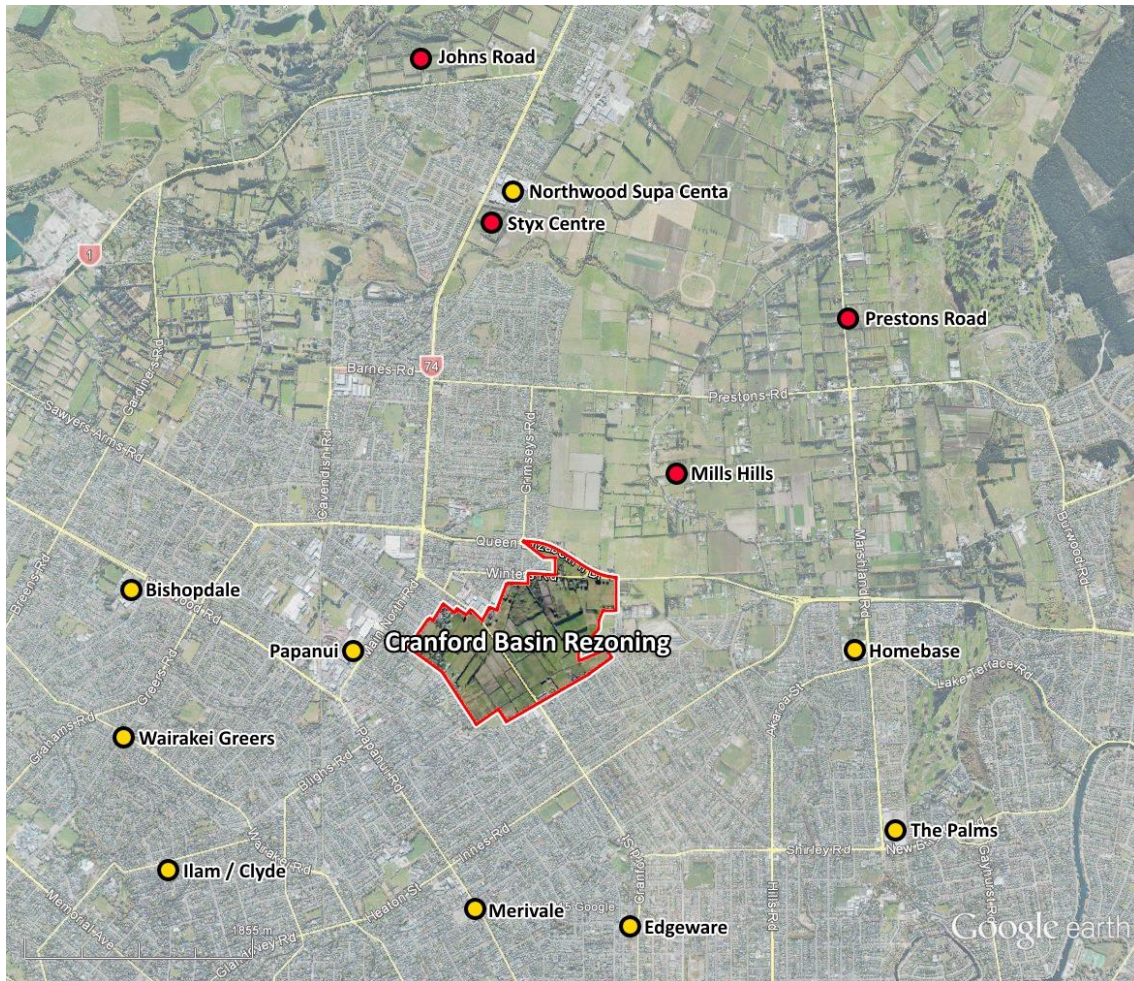
- A total of 32.9ha is included in the residential area
- This includes a 'camp area' of 5ha, RNN area 15.5ha and a 'constrained area' of 12.4ha
- 30% of this area is 'netted' out for roading and infrastructure
- A variety of a densities have been considered, for the purposes of this report however it is assumed the area will yield, in total, 400 residential units. This assumption produces average lots sizes within the RNN of approximately 400sqm.

Area B, the 'Case Crozier block', comprises 4.7 hectares of potential residential development adjoining the urban area and serviced mostly from Croziers Road. The remaining area is proposed to remain rural for the time being.

4. CRANFORD AREA ENVIRONMENT

Figure 1 below illustrates the wider commercial environment within which the Cranford Area residential development will sit. This shows an area with significant levels of accessibility to both commercial services and employment opportunities and in turn meets many of the outlined economic efficiency requirements outlined in the points raised in the preceding section.

FIGURE 1: EXISTING AND PROPOSED CENTRE NETWORK



The specific location identified on Figure 1 as Cranford Area currently has limited commercial activity. This is outlined in Table 1 below which shows some in last 16 years with, overall, a steady decline to only 9 Agricultural and 3 Construction employees. The potential production value of this land has been assessed through the June 2015 Market Economics (ME) Report 'Cranford Basin Rezoning - Initial review of Economic Effects'. This report indicates the current limited productive value of this land as rural land. The productive rural value accrued through this land can effectively be transferred to other more effective locations in the Christchurch economy. In an effort not to reproduce the material provided in the ME report this report has focused on the alternative uses for the land in light of the future requirements and current capacity in Christchurch.

TABLE 1: CURRENT EC (EMPLOYEE COUNT) ACTIVITY AND CHANGES WITHIN THE CRANFORD AREA

	2000	2005	2016
A Agriculture, Forestry and Fishing	9	12	9
B Mining	0	0	0
C Manufacturing	0	0	0
D Electricity, Gas, Water and Waste Services	0	0	0
E Construction	9	6	3
F Wholesale Trade	0	0	0
G Retail Trade	0	9	0
H Accommodation and Food Services	0	0	0
I Transport, Postal and Warehousing	0	0	0
J Information Media and Telecommunications	0	0	0
K Financial and Insurance Services	0	0	0
L Rental, Hiring and Real Estate Services	0	0	0
M Professional, Scientific and Technical Services	0	0	0
N Administrative and Support Services	0	0	0
O Public Administration and Safety	0	0	0
P Education and Training	3	3	0
Q Health Care and Social Assistance	0	0	0
R Arts and Recreation Services	0	0	0
S Other Services	3	3	0
Total All Industries	24	33	12

5. POTENTIAL RESIDENTIAL ECONOMICS OF CRANFORD AREA

5.1. CURRENT ECONOMIC VALUE (OPPORTUNITY COST)

The alternative land use activity options for the area identified for residential development at Cranford Area assessed within this report include the potential and economic value of the land as agricultural as well as the need and appropriateness, within the wider economic environment, for this land as either industrial or commercial activities.

There are currently limited rural activities that operate within the identified Cranford Area. It is likely that, although this area has limited rural productivity, that this activity would be the baseline activity that would occur at some capacity.

The Market Economics report of 2015 has estimated the total value of production for this area, currently, at \$5.6m per annum (potentially rising to as high as \$8.2m in 15 years).

It is noted that this area has declined substantially in employment activity over the past 10 years perhaps in anticipation of land use changes.

5.2. POTENTIAL ALTERNATIVE ECONOMIC VALUE (OPPORTUNITY COST)

Given that the economic opportunity cost for Cranford Area should relate to the 'next best alternative' it is also prudent to understand if it is in fact relevant to consider any other forms of land use activity for this site given its centralised location. As a location for either commercial or industrial activity the Cranford Area location must be considered in terms of the wider business environment and specifically the existing capacity (and more efficiently located activity) within the network.

In terms of industrial activity although Cranford Area may provide additional industrial land capacity the recent work undertaken for the District Plan review would indicate that there is more than sufficient industrial land to meet the foreseeable requirements of the market. This would indicate that although the Cranford site could indeed cater for limited forms of industrial activity it is likely to simply result in a shift of demand from other locations.

In total, previous economic analysis and future industrial modelling undertaken in the Christchurch market, would indicate that there is in excess of 1,000 ha of land available for industrial activities, while additional industrial land demand to 2031 based on projected industrial growth was in the order of 400ha. The analysis indicates there is a significant level of contingent capacity in the city's industrial land supply to meet current and foreseeable future requirements.

In terms of commercial activity Figure 1 above illustrates the relative commercial position in which Cranford Area is situated. This shows the significant level of existing and proposed supply that is currently able to service the present and growing Christchurch market.

Stand-alone commercial office activity (or office park) is not considered appropriate (apart from a small scale activity and would form part of any convenience centre). Such development would represent increased inefficiency in the market and would likely result in increased community costs that are unlikely to be outweighed by community benefits.

5.3. POTENTIAL RESIDENTIAL VALUE

As outlined above the proposed Cranford Area residential area is expected to result in the capacity for 400 new residential dwellings. The following assessment takes into account both the likely direct economic injection into the local economy and (to a more qualified level) the potential gains through the consolidation of residential.

The first factor relates to the local economy due to the fact that it is unlikely that the residential dwellings developed at the Cranford Area would be entirely unique to the wider City or Region and therefore would, to a significant extent, represent a redistribution of this activity in the wider economy. A key consideration here however is the opportune utilisation of land which will contribute in a timely fashion to the rebuilding of the Christchurch economy and community.

FIGURE 2: CRANFORD AREA ECONOMIC ACTIVITY GENERATION

Table: Estimated Economic Impact on Christchurch City

<u>Initial construction Injection</u>	
<i>Residential</i>	
Number of Sites	400
Estimated Cost Per Sqm	
Total Construction Cost (\$m)	\$97
Direct Christchurch Impact (\$m)	\$38
Christchurch Impact (\$m)	\$65
<i>Other (Development Costs Est.)</i>	
Pre-construction services	\$8
Earth Works (Civil Construction) etc.	\$6
Post-construction services	\$10
Christchurch Impact (\$m)	\$16
Initial Economic Injection (\$m2016)	\$81

NB: Total Activity is based on Output II Multipliers

The development of 400 new dwellings within the local area brings with it increased economic impetus in regard to commercial activity and associated amenity.

For the purposes of this assessment it has been assumed that the residents developed at this location will exhibit similar income and retail spend tendencies.

Based on this a total of \$14.5 (2017\$) will be generated by the residents. Of this spend approximately \$2m will be spent on convenience goods and services within the localised area.

TABLE 2: ESTIMATED ECONOMIC ACTIVITY GENERATED THROUGH RESIDENTIAL DEVELOPMENT

Activity	Initial Direct Expenditure (\$m)	Direct Value Added (\$m)	Indirect / Induced Value Added (\$m)	Total Value Added (\$m)	Employment
TOTAL Construction Economic Impact				\$81	
TOTAL Construction Employment 4 years					56
Local Annual Ongoing Economic Impact					
Retail	\$14.50	\$3.92	\$0.59	\$4.50	35
Commercial		\$2.48	\$0.41	\$2.88	24
TOTAL Annual Ongoing Impact	\$4.50	\$6.39	\$0.99	\$7.38	59
Net 'Wealth Creation'				\$7.20	

As identified above while the development of 400 residential units is likely to generate in order of \$14.5m in total retail spend (through both the direct residential spend and the any associated business activity, e.g. Home businesses) the level of retail spend likely to be captured in a more localised convenience offer is significantly less.

In aggregate the total level of retail spend generated by category has the potential to sustain approximately 3,000sqm of net retail, and 4,000 of GFA. Once again given this category composition this would require approximately 1 ha of retail land (if all at grade) to accommodate this level of activity.

The level of local convenience spend is estimated at \$2m per annum which would support 370sqm of net retail floorspace and 450sqm GFA. In addition to this some level of commercial services could be expected to co-locate with a total GFA of approximately 800 to 1,000sqm requiring 2,500qm of land area to be self-sufficient (in terms of parking, set-backs and land scaping).

It is important to note that a significant level of the economic activity represented in Table 2 above is not location dependent as the development of 400 new residential dwellings is not unique to this location. As such activity such as retail spend and employment creation is likely to occur at a similar level elsewhere in the City. The 'net wealth' creation is however a differential in average square metre land value between this location and an average 'fringe' location. This implies that while there is a level of central urban residential development potential any additions have the potential to reduce the need for more locationally dispersed residential development.

Residential locations that have greater accessibility to transportation, employment and amenity generally (natural locational factors aside) represent these locational attributes through increased land value (per square metre, not necessarily through higher nominal site values). This increased value can be utilised as a proxy to understand the potential economic gains achieved through these locations.

As such the economic wealth creation of \$7.2m potentially represents some of the additional locational value of the attributes associated with Cranford Area.

It is important to note that while the value of this location may be represented in this manner, the benefits also contribute to potentially lower costs of living with improved accessibility, lower transport costs and increased opportunities.