Greater Christchurch Partnership

Te Tira Tū Tahi

One Group, Standing Together

Business Development Capacity Assessment

April 2023

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Glossary

The following table defines commonly used acronyms and abbreviations in this document.

Term	Definition
BCA	Business Capacity Assessment
CCC	Christchurch City Council
ECAN	Environment Canterbury / Canterbury Regional Council
FDS	Future Development Strategy
GC	Greater Christchurch
GCP	Greater Christchurch Partnership[1]
HBCA	Housing and Business Development Capacity Assessment
HCA	Housing Capacity Assessment
LA	Local Authority (city, district and regional councils)
LTP	Long Term Plan
NPS	National Policy Statement
NPS-UD	National Policy Statement on Urban Development
NPS-UDC	National Policy Statement on Urban Development Capacity
ODP	Outline Development Plan (in Christchurch District Plan)
PEL	Property Economics Limited
RMA	Resource Management Act
RPS	(Canterbury) Regional Policy Statement
SDC	Selwyn District Council
TA	Territorial Authority (city and district councils)
UDS	Urban Development Strategy
WDC	Waimakariri District Council

[1] Environment Canterbury, Christchurch City Council, Selwyn District Council, Waimakariri District Council, Te Rūnanga o Ngāi Tahu, New Zealand Transport Agency, Canterbury District Health Board, Greater Christchurch Group – the Department of Prime Minister and Cabinet, Regenerate Christchurch.

1. Executive Summary

This Business Development Capacity Assessment (BCA) has been prepared by the Greater Christchurch Partnership through the member Councils in the Partnership (Christchurch City, Selwyn District and Waimakariri District Councils) and fulfils the requirements of the National Policy Statement on Urban Development (NPS-UD) released by Government in 2020, as well as informing the Greater Christchurch Spatial Plan (GCSP).

The overall objective of the capacity assessment is to provide a comprehensive and robust evidence base to inform spatial planning decisions for Greater Christchurch, including the Future Development Strategy (met through the GCSP). The assessment will be updated at least every three years to inform Future Development Strategies, Long Term Plans, and Infrastructure Strategies.

The Partnership has been working collaboratively for over a decade to foster and manage growth in the Greater Christchurch area, including as part of earthquake recovery. The impacts of the Canterbury earthquakes during 2010 and 2011 and the recovery and regeneration activity that has followed, presents unique circumstances for the Greater Christchurch area that need to be considered as part of this capacity assessment.

This capacity assessment concludes that the Partner Councils and other infrastructure providers are well placed in terms of planning for urban growth and providing sufficient business development capacity to meet projected needs in Greater Christchurch, at least over the medium term (10 years) and to a large extent over the longer term (to 30 years). This is particularly the case in terms of industrial land supply.

This BCA builds on and updates the previous BCA completed in 2018. Any limitations of not adopting a single growth model for the Greater Christchurch area have sought to be overcome by working collaboratively to understand and agree each other's methodologies. In combination, the result is a bottom-up approach to assessing business land needs in Greater Christchurch (i.e., assessment at TA level to aggregate up to the Greater Christchurch sub-regional area).

Industrial Sufficiency

An analysis has been undertaken of the capacity (supply) enabled through district plans and the Canterbury Regional Policy Statement, as well as an assessment of whether that supply is serviced or planned to be serviced by infrastructure and is suitable to develop. Partner Councils agreed that it was appropriate to establish capacity based on the level of development that was likely to be undertaken (based on historical trends) rather than assess the maximum theoretical development capacity that was plan-enabled.

For Greater Christchurch, the assessment identifies that there is likely to be sufficient and serviced industrial land supply for the next 30 years and beyond[2]. That does not necessarily mean that all plan-enabled capacity (in terms of land extent) is serviced, but that sufficient opportunities exist to meet projected needs.

Industrial Medium Term

Area	Feasible Capacity	Demand with Margin	Surplus / Shortfall
Waimakariri	32ha	31ha	1ha
Christchurch	663ha	36ha	627ha
Selwyn	377ha	131ha	246ha
Total	1,073ha	198ha	874ha

Industrial Long Term

Area	Feasible Capacity	Demand with Margin	Surplus / Shortfall
Waimakariri	102ha	79ha	23ha
Christchurch	663ha	119ha	544ha
Selwyn	425ha	347ha	78ha
Total	1,190ha	545ha	645ha

[2] Based on a capacity of total vacant land (whole and part sites included)

For Christchurch, a significant surplus of industrial land exists with short term land sufficiency amounting to 627 hectares and over the long term, there is 544 hectares of land sufficiency at a city-wide scale. Demand for industrial land is modelled to decrease over the long term due to global economic trends, and as a result the total zoned supply of 778 hectares within the City is not expected to be fully utilised. The City will continue to monitor economic trends to determine the most appropriate use of the surplus industrial zoned land.

For Selwyn, the modelling indicates that there may be additional capacity of around 246 hectares of industrial land in the medium term and capacity of 78 hectares in the long-term. This is largely due to recently approved private plan changes. Capacity is influenced by a number of factors that need to be evaluated on an ongoing basis, including the regular monitoring of population growth and land take up. Infrastructure availability has not been identified as an immediate constraint to developing the identified plan-enabled commercial areas in Selwyn District.

For Waimakariri, the modelling indicates that there may be additional capacity of around 1 hectare of industrial land in the medium term and 23 hectares in the long term. Capacity is influenced by a number of factors that will need to be evaluated on an ongoing basis, including the regular monitoring of population growth and land take up. As in Selwyn, infrastructure availability has not been identified as an immediate constraint to developing the identified plan-enabled commercial land areas in the Waimakariri District.

Commercial Sufficiency

For Greater Christchurch, the assessment identifies that there is not likely to be sufficient and serviced commercial land supply for the next 30 years and beyond[3].

Commercial Medium Term

Area	Feasible Capacity	Demand with Margin	Surplus / Shortfall
Waimakariri	36ha	12ha	24ha
Christchurch	102ha	85ha	17ha
Selwyn	19ha	18ha	1ha
Total	157ha	115ha	42ha

Commercial Long Term

Area	Feasible Capacity	Demand with Margin	Surplus / Shortfall
Waimakariri	63ha	32ha	31ha
Christchurch	102ha	212ha	-110ha
Selwyn	30ha	50ha	-20ha
Total	195ha	294ha	-99ha

Land demand and supply for commercial activities in Christchurch paints a different picture, with the assessment concluding that there is sufficient commercial land supply in the Christchurch area over the short and medium term but an estimated shortfall of 110 hectares over the longer term[4]. The focus for the Greater Christchurch Spatial Plan will be to determine what response (if any) may be required to address these longer-term commercial space requirements and to address identified limitations with infrastructure availability. However, this assessment concludes that given the significant quantum of older industrial land in and around the central city, there exists plenty of opportunity for redevelopment of this land for commercial activities, as industrial activities are naturally displaced to outlying zones, particularly in the south and north of the city.

For Selwyn, the modelling indicates that there is capacity of 1 hectare of commercial land in the medium term and a shortfall of 20 hectares in the long-term. The medium-term only considers wholly vacant land supply[5], if 'Vacant Potential supply'[6] is included, this would improve the medium term sufficiency though relies on developers making more optimal use of the available land. Capacity is influenced by a number of factors that

[3] Based on a capacity of total vacant land (whole and part sites included)
[4] Based on historical average building heights and total vacant land supply (i.e., whole and part vacant sites and vacant floorspace)
[5] Vacant supply includes the properties that have no building footprint or floorspace at 2016
[6] Properties that have low levels of floorspace and for which capacity has been identified based on their redevelopment potential

need to be evaluated on an ongoing basis, including the regular monitoring of population growth and land take up. Infrastructure availability has not been identified as an immediate constraint to developing the identified plan-enabled commercial areas in Selwyn District.

Regarding land demand and supply for commercial activities in Waimakariri District, there is projected to be capacity of around 24 hectares over the medium term and 31 hectares in the long term. Further work considering how to use existing under-utilised commercially zoned land (including intensification within Rangiora and Kaiapoi) will be considered through the GCSP.

2. Context

2.1 Introduction

National Policy Statements are issued by the Government to provide direction to local authorities on matters of national significance that contribute to meeting the purpose of the Resource Management Act 1991 (RMA). The National Policy Statement on Urban Development 2020 (NPS-UD) aims to ensure urban areas are well-functioning and meet the changing needs of diverse communities[7]. This is achieved by directing local authorities to provide for sufficient development capacity to meet expected demand over the short (3 years), medium (3-10 years) and long terms (10-30 years)[8].

'Development capacity'[9] is defined in the NPS-UD as the capacity of land to be developed for housing or business, based on the zoning, objectives, policies, rules, and overlays that apply in the operative District Plan and the provision of adequate development infrastructure to support development of the land. This development could be expansions to the urban form of townships through development of 'greenfield' sites and/or intensification or redevelopment of existing neighbourhoods or commercial and industrial areas. Sufficient development capacity is necessary for urban land and development markets to function efficiently to meet anticipated population growth and community needs.

The NPS-UD defines the objectives or outcomes anticipated including:

- Well-functioning urban environments that enable people and communities to provide for their well-being and health and safety (Objective 1);
- Improvements in housing affordability (Objective 2);
- Urban environments that develop and change over time in response to the diverse and changing needs of people, communities and future generations (Objective 4);
- Planning decisions take into account the principles of the Treaty of Waitangi (Objective 5);
- Integration of urban development with infrastructure planning and funding (Objective 6);
- Robust and up to date information to inform decisions (Objective 7);
- Responsive planning (Objective 6); and
- Urban environments support a reduction in greenhouse gas emissions and are resilient to the current and future effects of climate change (Objective 8).

Key deliverables of the NPS-UD include:

- Completion of a Housing and Business Development Capacity Assessment (this project);
- Setting of Housing bottom lines; and
- Preparation of a Future Development Strategy (FDS) to demonstrate how a territorial authorities intend to achieve a well-functioning urban environment and provide at least sufficient development capacity over the next 30 years to meet expected demand. The FDS will set out the broad locations in which development capacity will be provided over the long-term in both new Greenfield areas and through intensification opportunities, the infrastructure required to support or service that capacity along with the general location of corridors and other sites required to provide it, and any constraints on development.

2.2 Greater Christchurch Context

Greater Christchurch is the largest urbanised area in the South Island. Christchurch is New Zealand's second largest city, and the sub-region is home to 80% of the Canterbury region's population (44% of the South Island population). Christchurch Airport and Lyttelton Port of Christchurch are respectively the principal hubs for international visitors and freight, emphasising the sub-region's importance as a strategic regional centre and economic gateway. This has been boosted in recent years through the creation of inland ports at the I-Zone southern business hub in Rolleston.

The Greater Christchurch Partnership (GCP) has worked collaboratively for more than a decade on planning and managing growth and urban development in Greater Christchurch to support the long-term needs of our people and communities. In this context, the collaborative work undertaken through the Partnership has

[7] https://www.hud.govt.nz/urban-development/national-policy-statement-on-urban-development-nps-ud/
[8] Policy 2 of the NPSUD
[9] See definition in NPSUD (page 6)

primarily focused on the creation of key planning documents that set the long-term direction for Greater Christchurch, and enable consistent, effective, and efficient decision making across partner organisations.

In June 2020, the GCP agreed to prepare Greater Christchurch 2050 to set a new strategic direction for Greater Christchurch. Through Greater Christchurch 2050, a new strategic framework has been drafted following a current state assessment of intergenerational wellbeing in Greater Christchurch and extensive consultation with the community and stakeholders about their aspirations and priorities for the future.

The next step in contributing to the aspiration set out in the Greater Christchurch 2050 Strategic Framework is the preparation of a Greater Christchurch Spatial Plan (GCSP), which will be the first major reconsideration of Greater Christchurch's urban form since the development of the Urban Development Strategy in 2007 and will look to take into account the new strategic direction of Greater Christchurch 2050 and the national policy context.

The GCSP will:

- Determine the most effective and appropriate urban form for Greater Christchurch to give effect to the strategic direction set through Greater Christchurch 2050, and therefore contribute to the vision and outcomes sought for Greater Christchurch (including the aspirations of hapū and iwi in Greater Christchurch).
- Align with the Government's Urban Growth Agenda objectives and provide the basis for a joint work programme that would be delivered through an Urban Growth Partnership for Greater Christchurch.
- Satisfy the requirements of the National Policy Statement on Urban Development for partner councils to jointly prepare a Future Development Strategy for Greater Christchurch (which can be treated as part of a spatial plan) in time to inform 2024 Long Term Plans.
- Provide the basis for any regional spatial planning that may need to be undertaken at the Canterbury level in the future, noting the Resource Management Review Panel's recommendations for regional spatial strategies and the Governments Resource Management Reform work.
- Develop a shared, evidence based spatial view of the future of Greater Christchurch that better integrates land use and infrastructure, provides certainty about the future to guide and stimulate investment, and enables councils to undertake more detailed planning at the local level.

2.3 Housing and Business Capacity Assessments

The NPS-UD requires Tier 1 local authorities to prepare a Housing and Business Development Capacity Assessment (HBA) every three years. In terms of business land, the local authorities must:

a) "…estimate, for the short term, medium term, and long term, the demand for each business sector for additional business land in the region and each constituent district of the tier 1 urban environment"[10]; and

b) "the development capacity …to meet expected demand for business land for each business sector, plus the appropriate competitiveness margin; and (b) of that development capacity, the development capacity that is: (i) plan-enabled; and (ii) plan-enabled and infrastructure-ready; and (iii) plan-enabled, infrastructure-ready, and suitable for each business sector"[11].

The local authorities must then identify whether there is sufficient development capacity for the short, medium and long-term, and where there is any insufficiency, the HBA must *"identify where and when this will occur and analyse the extent to which RMA planning documents, a lack of development infrastructure, or both, cause or contribute to the insufficiency"*[12].

This will then inform the setting of Housing Bottom Lines and a Future Development Strategy, both required under the NPS-UD.

[10] 3.28(1) of the NPSUD
[11] 3.29(1) of the NPSUD
[12] 3.30(3) of the NPSUD

2.4 Scope and Interpretation

Development Capacity is defined in the NPS-UD as the capacity of land to be developed for housing or for business use, based on:

a) the zoning, objectives, policies, rules and overlays that apply in the relevant proposed and operative RMA planning documents; and
b) the provision of adequate development infrastructure to support the development of land for housing or business use.

The local authorities have agreed the framework for assessing what is included as Development Capacity for the purpose of this BCA. This includes the following:

- land zoned for business activities in the urban areas of Christchurch City and townships within the boundary of the Greater Christchurch boundary;
- 'greenfield priority areas - business' as identified in the Canterbury Regional Policy Statement 2016 (CRPS) for Greater Christchurch (Chapter 6);

It has also been agreed that the assessment of development capacity should exclude:

- land within the Projected Infrastructure Boundary (as shown on Map A of the CRPS) that is not zoned or identified as a greenfield priority area for business activities; and
- land outside the Projected Infrastructure Boundary.

It should be emphasised from the outset that the three territorial authorities are at different stages in terms of reviewing their district plans. CCC completed a review of their District Plan, which was made fully operative in December 2017. This review zoned significant areas of commercial and industrial land to accommodate the projected needs over the plan period and beyond. As part of this review, CCC zoned all land identified in the CRPS as Greenfield Priority Areas for Business, except for two areas where development constraints could not be satisfactorily addressed to be zoned.

SDC and WDC have both notified their District Plans. Notwithstanding the stage of these reviews, SDC and WDC have zoned all of the GPAs identified for business activities, excluding the site of the future Lincoln hub (Refer to section 2.8 for an explanation. This has enabled the capacity assessment to be based on established business zonings that are consistent with the Greater Christchurch Urban Development Strategy, Land Use Recovery Plan and related provisions in Chapter 6 of the CRPS or plan changes approved through the framework enabled within the NPS-UD.

Some additional capacity is included from private plan changes. SDC has included additional commercial capacity within PC64 (approved through COVID19 Fasttrack) and industrial capacity in PC66 and PC80.

2.5 Engagement

The NPS-UD anticipates engagement in preparation of the HBA, with Policy 10 of the NPS-UD requiring engagement with the development sector to identify significant opportunities for urban development. Section 3.21 goes onto state as follows:

"In preparing an HBA, every tier 1 …local authority must seek information and comment from (a) expert or experienced people in the development sector; and (b) providers of development infrastructure and additional infrastructure; and (c) anyone else who has information that may materially affect the calculation of the development capacity".

With regard to the development sector, the partner councils identified parties most actively involved in the development sector and significant landowners and asked these parties to undertake a market demand and intentions survey. Forty-one developers, landowners and some involved in the real estate sector completed an online survey in late June/early July 2021. They responded to questions about their views on the demand and supply of land for residential and business development within the Greater Christchurch area, supply issues or barriers to development, and development intentions and possible timing for these. The low response rate to the survey means it is difficult to draw informed conclusions, however, there are some clear, common views expressed across the survey that reflect some elements of the development sector's interests and opinions. A more detailed summary and analysis of the responses is provided in a separate supporting report. In addition, the partner councils have engaged with key landowners to understand their intentions and understanding of future growth.

For Selwyn, the key feedback was that demand for commercial land is limited and has not necessarily grown with population growth. Business growth also may not translate into floor space growth as online retail has increased, especially as a response to Covid-19. This means prices have not increased significantly either. Industrial growth has been largely around the inland ports, which is caused by the regional and national demand rather than district growth. Feedback from developers outline where land should be provided, with a focus on Rolleston and a little less in Lincoln.

With regard to the infrastructure, the partner Councils have engaged with infrastructure providers in order to update information on infrastructure to inform the assessment of whether plan enabled capacity is infrastructure ready.

2.6 Study Area

The study area is the extent of the Christchurch City, Selwyn District, and Waimakariri District, having been expanded beyond the Greater Christchurch boundaries for the 2018 BCA. The basis for doing so is described in Section 2 of the 2021 Housing Capacity Assessment.

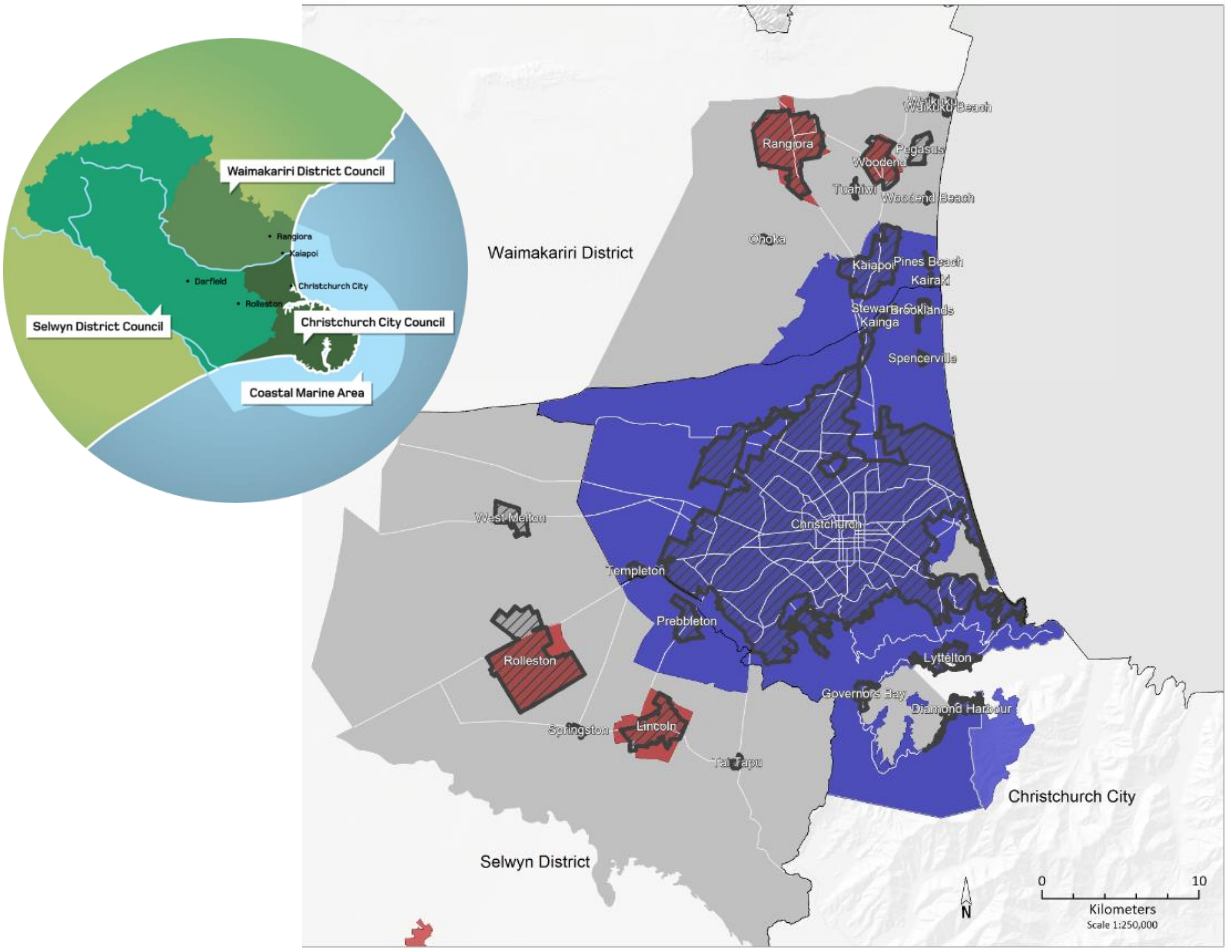
Christchurch has been identified as a 'Tier 1' urban environment in the NPS-UD. As a consequence, all of the related objectives and policies for 'Tier 1' Councils apply to Environment Canterbury, Christchurch City Council, Selwyn District Council and Waimakariri District Council.

Policy 10 of the NPS-UD requires that Tier 1 local authorities that share jurisdiction over urban environments work together when implementing the NPS-UD. Section 3.19 goes on to state "If more than one tier 1 …local authority has jurisdiction over a tier 1 urban environment, those local authorities are jointly responsible for preparing an HBA as required by this subpart.

The four Councils that form part of the Greater Christchurch Partnership (GCP) have been collaborating in this manner since 2004. This was reflected in the preparation of the first HBCA and subsequent Future Development Strategy, Our Space 2018 - 2048, with the Greater Christchurch area shown in grey and encompassing the areas in blue and red in the figure below.

The areas marked blue and red represent the SNZ Main and Minor Urban Areas respectively whilst the black hatched area represents the area within the Projected Infrastructure Boundary shown on Map A of the Canterbury Regional Policy Statement.

Figure 1: High Growth Urban Area and BCA Study Area



2.8 Description of Business Land in Greater Christchurch

Having regard to the NPS definition of business land, for the purposes of this assessment business land in Greater Christchurch includes land zoned as follows:

Christchurch City

Industrial Heavy Zone
The Industrial Heavy Zone (IH zone) recognises and provides for industrial activities that generate potentially significant adverse effects on the surrounding environment (such as high levels of noise, odour and heavy traffic movements), or involve significant use and storage of hazardous substances, necessitating separation from more sensitive land use activities. The established industrial heavy zones are located in the east at Bromley and Woolston, along Blenheim Road and the rail corridor between Addington and Hornby, and at Belfast. To the north of the city, areas at Chaneys and along Johns Road provide for mostly rural industries such as timber, aggregate processing, and construction materials storage. A large area of industrial IH Zone was created by rezoning (from rural) at South West Hornby through the Christchurch District Plan Review.

Industrial General Zone
The Industrial General Zone recognises and provides for industrial and other compatible activities that can operate in close proximity to more sensitive zones, due to the nature and limited adverse effects of those activities (such as noise, odour and traffic), and provides a buffer between residential areas and the Industrial Heavy Zone. The largest areas of Industrial General zoning are located within the established industrial areas of Wairakei, Hornby, Sydenham, Phillipstown and Woolston, whilst new areas were zoned Industrial General zone in South West Hornby, Islington and North West Belfast through the Christchurch District Plan Review.

Industrial Park Zone
The Industrial Park Zone recognises and provides for industrial activities in the high technology sector and other similar industries that seek to locate in a high amenity environment, dominated by open space and landscaping. These activities have the potential to generate higher volumes of traffic than other industry, but have negligible effects in terms of noise, odour or the use and storage of hazardous substances. They are mostly located in the vicinity of the Airport, at Wairakei Road and Memorial Avenue and also at Awatea in South West Christchurch.

Commercial Central City Business Zone
The Commercial Central City Business Zoned area is the principal employment and business centre for the city and wider region and the primary destination for a wide range and scale of activities, including comparison shopping, dining and night life, entertainment activities, recreation, community, civic and cultural activities as well as events and tourism activities. Visitor accommodation and residential activities are permitted above ground floor level.

Commercial Central City (South Frame) Mixed Use Zone
This relatively small zone in the Central City is intended to provide a clear delineation between the Commercial Central City Business Zone and the Commercial Mixed use Zone and enables a range of activities which support the Commercial Central City Business Zone. It is distinctive in that it encourages technology-based businesses and research and health related activities in a high amenity setting.

Commercial Central City Mixed Use Zone
The Commercial Central City Mixed Use Zone provides for the continuation of existing activities (including industrial) and a wide range of other community, commercial and business activities, while supporting the role of the Commercial Central City Business zone as the focus for retail activity, offices, and commercial services. Residential activities and visitor accommodation are permitted in this zone, including at ground floor level.

Commercial Core Zone
The Commercial Core Zone provides for the major commercial development in centres other than the CBD and is often the part of a suburban centre dominated by a mall or supermarket. The zone provides for a range of convenience and comparison shopping as well as community and employment activities. Visitor accommodation and residential activity is also permitted above ground floor level. The Commercial Core zone can be found in all District and Neighbourhood centres as defined in the Christchurch District Plan.

Commercial Banks Peninsula Zone

The Commercial Banks Peninsula Zone is confined to the established commercial centre of Lyttelton and Akaroa. The zone provides for a range of commercial and community activities and supports their role in meeting the needs of the surrounding community and visitors to the area. District Plan provisions for Lyttelton and Akaroa also recognise and protect the special character of the centre. Visitor accommodation and residential activity is permitted generally above ground floor, provided it is located outside of the Lyttelton Port Influences Overlay Area.

Commercial Local Zone
The Commercial Local Zone primarily comprises small groups of convenience shops and community facilities that serve the immediate area. There are 131 of these centres located around the city.

Commercial Retail Park Zone
The Commercial Retail Park Zone is made up of those areas that provide for larger format commercial activities as well as trade suppliers, e.g., large scale hardware stores, and yard-based retailing, e.g., car sales yards. It provides for a larger scale of development reflecting the types of activities in these locations, with rules limiting the range of activities. These zones are located at Tower Junction, Shirley (Homebase), Hornby, Papanui and along Moorhouse Avenue.

Commercial Mixed Use Zones (outside the central city)
The Commercial Mixed Use Zone recognises areas at Addington, New Brighton, Blenheim Road and around Mandeville Street where a significant proportion of commercial activity has historically established, but where the growth and development of additional commercial activities is limited (mostly to existing commercial activity) to ensure that commercial activity is focused within the network of commercial centres.

Commercial Office Zone
The Commercial Office Zone recognises and enables office activities in existing office park areas at Addington and Russley. These areas have large scale office activities which were lawfully established but have located in less-than-optimal locations (e.g., with poor public transport accessibility in some cases and outside of commercial centres). They are discouraged from expansion in support of a centres-based strategy for commercial development in the city.

Specific Purpose Airport Zone – Development Precinct only
The Development Precinct of the SP Airport Zone includes part of the terminals and land effectively outside the "airport security fence" and includes areas of business development to the north and south of the main airport area. Predominantly owned by Christchurch International Airport, the District Plan enables a range of business activities including light industrial development, visitor accommodation, entertainment and tourism-based ventures, retail, and offices (both subject to limitation on scale within the precinct). Much of the zone is also designated for airport purposes, which enables a range of airport related business activities including car rental.

These are the locations within Christchurch City that are zoned[13] and generally available for the general business market to operate and are shown in Appendix 1. It excludes business land zoned for a specific purpose and which is generally not available or has less availability for general business use e.g., Port, Hospital, Education and Council buildings/facilities.

The assessment of business land also includes two areas of unzoned land that are identified in the Canterbury Regional Policy Statement as Greenfield Priority Areas for (primarily Industrial) Business. These are located in the vicinity of Christchurch International Airport at 711 Johns Road and north of Avonhead Park Cemetery (Hawthornden GPA)[14].

Selwyn District Council[15]

Industrial Zone – Business 2
Business 2 Zones are areas where activities likely to be considered less pleasant by people are located, including light and heavy industrial developments. Aesthetic and amenity standards are less than what is anticipated in Living or Business 1 Zones, but activities are still managed to protect natural resources and

[13] In the Christchurch District Plan, operative December 2017
[14] These two GPA areas are zoned rural. Industrial zoning was considered but not confirmed in the recent Christchurch District Plan review on account of (predominantly) infrastructure constraints.
[15] The zones described below are that of the Operative District Plan. SDC is undertaking a Proposed District Plan process within which the zone names and descriptions will differ and align with the National Planning Standards.

people's health or well-being. Activities likely to cause 'reverse sensitivity' issues, such as residential activities, are discouraged in Business 2 Zones. The primary industrial node serving the district and wider region is located in Rolleston across State Highway 1 and the Main Trunk Line west of the town centre and residential environments. This node accommodates some light industrial activities along Jones Road but is dominated by the established I-Zone industrial park and the more recently zoned I-Port business park that is progressively being developed for industrial activities and includes a defined area for some Large Format Retail. The Port of Lyttelton and Port of Tauranga inland ports are both located within the Rolleston Business 2A zone. A secondary light industrial node is provided for in Lincoln, south of Lincoln University along Springs Road opposite the Te Whariki subdivision, although it is substantially smaller in size and has yet to be developed.

Commercial Zone – Business 1

Business 1 Zones are the primary commercial and retail centres serving the district's townships. These environments are recognised as being noisier and busier than Living zones, with more traffic, people, signs and building coverage. Business 1 Zones are still pleasant areas for people to live or work in, with good amenity/aesthetic values. They are also areas where higher density housing can be established as a permitted activity. The town centres in Rolleston and Lincoln are recognised Key Activity Centres (KACs) that are subject to precinct-based provisions to enable them to be a focus for community, commercial and service activities in the context of the Greater Christchurch Centre's Network. This KAC status comes with a number of prerequisites, including the need for these locations to be serviced by the strategic transport network and for the scale of development to be sufficient to service the specified catchment while ensuring it complements other centres within the network. This includes the Christchurch Central Business District that is the principal commercial, office and retail centre for Greater Christchurch. There are a range of business environments within Selwyn that are managed through the Business 1 Zone provisions, ranging from the larger centres in Rolleston and Lincoln, to the more localised town centres of Prebbleton and West Melton and neighbourhood centres servicing the residential subdivisions in the larger townships.

Neighbourhood and Local Centres

Neighbourhood[16] and Local Centres[17] are enabled in the District Plan to provide small convenience shopping for residents living within the larger subdivisions in Rolleston and Lincoln. These local commercial developments retain a Living Z zoning but are subject to the Business 1 Zone provisions of the District Plan where they are identified as a Neighbourhood or Local Centre on an outline development plan. The size and type of retail offerings within these centres are managed to ensure they complement the town centre environments.

Rolleston has three Neighbourhood or Local Centres at Brookside, Falcon's Landing, and Geddes/Dryden Trust that have capacity to support additional development. Two additional Neighbourhood Centres have been established within Rolleston's Faringdon and Lincoln's Rosemerryn subdivisions. These localised shopping areas have been fully developed.

These are the locations that are enabled for industrial and commercial purposes through District Plan zones and provisions that have some vacant land or redevelopment capacity. It excludes business land zoned for a specific purpose and which is generally not available or has less availability for general business use, including specifically the Lincoln University and the Crown Research Institutes that have a specific tertiary education and research purpose under the Business 3 Zone. A further Neighbourhood Centre was provided for in Lincoln to the south of the New World Supermarket, but this has been absorbed into the Town Centre KAC.

Waimakariri District Council[18]

Business 1 Zone

The Business 1 Zone includes key activity centres which are significant focal points for business, social, community, cultural and administration activities in those towns. Business activities are the predominant activity in the zone. For individual townships, the zone includes:

- Kaiapoi & Rangiora which are primary employment and civic destinations.
- Ravenswood which is a focus for local shopping and community activities.
- Pegasus with a grouping of community buildings, local shops, and other commercial activities (social and business focus).

Business 2 Zone

[16] Neighbourhood Centres provide for retail floor space up to a total of 2,000m^2 and individual retail tenancy areas less than 350m^2 GFA.
[17] Local Centres provide for retail floor space up to a total of 450m^2 and individual retail tenancy areas less than 350m^2 GFA.
[18] The zones described below are that of the Operative District Plan. WDC is undertaking a Proposed District Plan process within which the zone names and descriptions will differ and align with the National Planning Standards

The Business 2 Zone includes industrial and commercial areas which are characterised by large-scale buildings, low density of development and industrial type activities. The Business 2 Zone is intended to cater for activities with potential environmental effects unsuited to a town centre location, or which are conducted in conjunction with a primary activity.

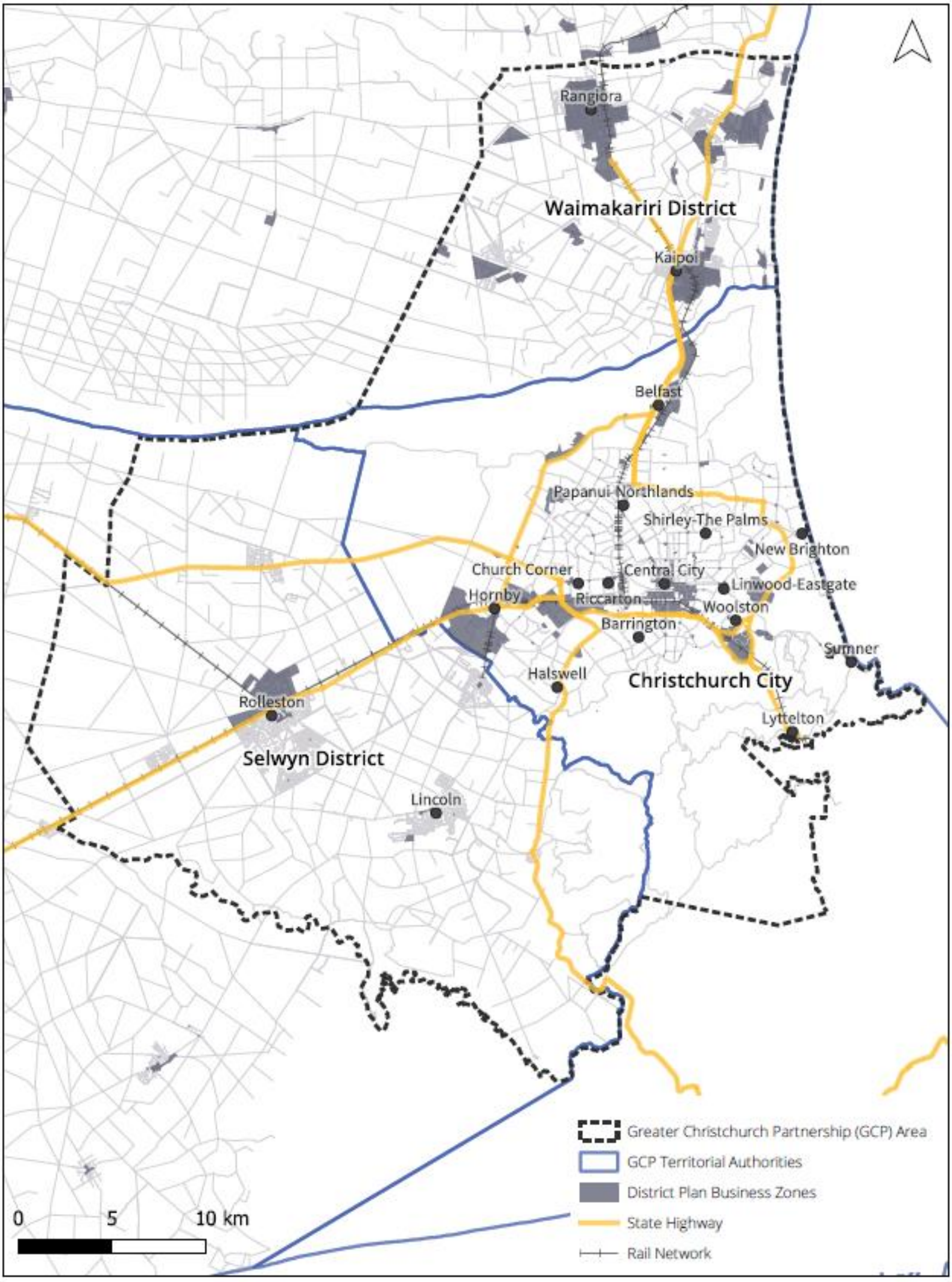
Business 3 Zone
The Business 3 Zone is a single, spot zone for the Carter Holt Harvey MDF panel plant at Sefton (approximately 167ha). The first building consent for the site was to 'erect a fibreboard factory' which was issued in 1974, therefore the activity has been established for over 40 years.

Business 4 Zone
The Business 4 Zone provides for local community business at four locations, being Kaikanui shops, Lilybrook shops, West Kaiapoi (Silverstream) and Mandeville North. They service a localised residential catchment, generally within walking or cycling distance of the zone.

Business 5 Zone
The Business 5 Zone is a spot zone which provides for trade supplier and large floorplate office activities in a distinct area at Kaiapoi. The site is approximately 8ha and is bound by State Highway 1, Smith Street and the Kaiapoi River (added to the District Plan in 2015 via Private Plan Change 20). The zoning recognises the unique locational characteristics of the area, opportunities for enhanced connectivity with road, pedestrian, cycle and reserve networks, and suitability for the development of space extensive activities not easily located within the Kaiapoi Town Centre.

Business 6 Zone
The Business 6 Zone is a spot zone which provides for a museum, wedding venue, tavern, and conference facility with associated non-permanent accommodation. The site is approximately 4.2ha and is located at the corner of Fernside Road and Flaxton Road, Southbrook, Rangiora. This site has not yet been developed and it is unclear if this will occur.

Figure 2: Greater Christchurch Partnership Plan Enabled Business Land



Greater Christchurch Partnership Plan Enabled Business Land

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Prepared by: Monitoring & Research
Date: November 2022

3. Population and Household Projections

3.1 Summary

To achieve the BCA requirements, having robust population and household projections is key to addressing the level of demand and subsequent supply required in both housing and business markets in the Greater Christchurch area.

Section 4 of the HCA outlines the methodology and rationale for the population and household projections. In short, the HCA identifies a range of projections based on the Stats NZ low, medium, and high population projections. It considers the factors that contribute to the projections (such as life expectancy, fertility, and migration) and compares that with recent take-up and Stats NZ population estimates. The population projections chosen for Waimakariri and Selwyn follows the Stats NZ high projection, and Christchurch follows the medium projection. The use of different projections for different TAs is appropriate as the projection chosen better reflects the growth trend. It also reflects the nature of the growth faced by the different TAs, Selwyn has a lot of internal migration that is harder to project whereas the size and age of Christchurch makes it easier to project.

The population projections are then converted to household projections. This uses the Stats NZ average household projection from the 2018 projection assumptions as they are the most recent. From households, a typology demand can be derived based on projected household compositions. The competitiveness margin is then included on top of this. This can then be shown as demand by sub-areas, which are based on Stats NZ SA2 areas.

Table 1: HCA Population Projections

Area	Short-Medium	Long	Total
Waimakariri	5,618	7,620	13,238
Christchurch	14,139	23,368	37,507
Selwyn	9,989	17,354	27,343
Total	29,746	48,343	78,088

4. Economic context and recent past

4.1 Introduction

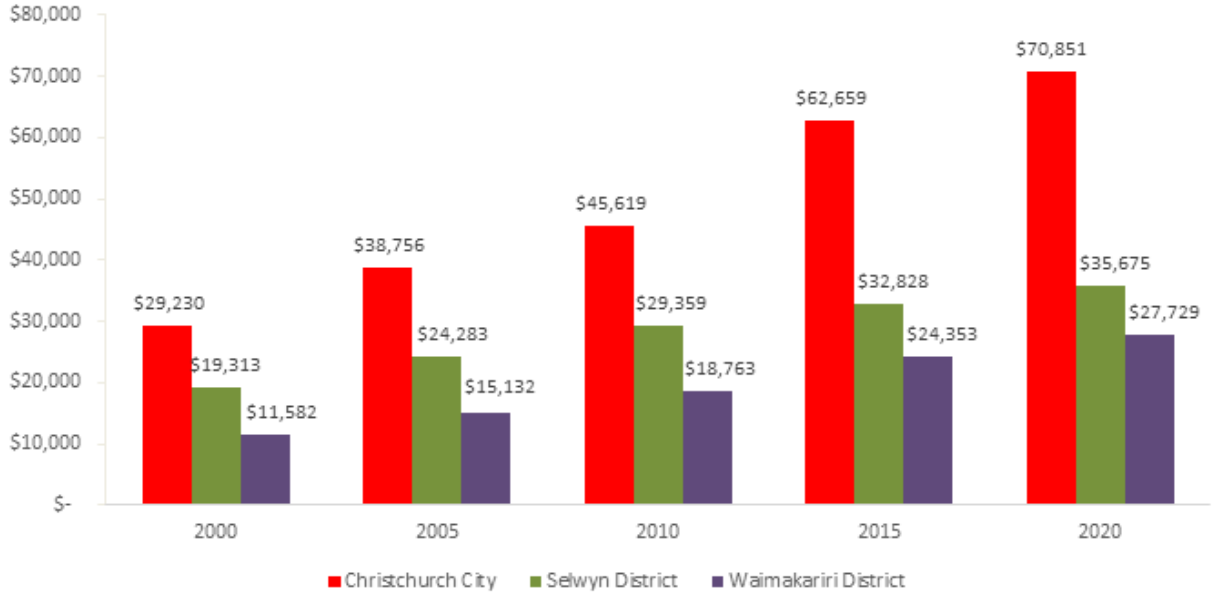
As context to this BCA and the Greater Christchurch Spatial Plan, analysis of the current composition and recent trends in business activity has been undertaken that considers the context and role of Greater Christchurch, employment, business, and economic activity.

Greater Christchurch plays a predominant role in the economy and population of New Zealand's South Island serving as the gateway to the South Island. The area of Greater Christchurch is the economic heart of the South Island, operating as a logistics and service hub for the region and the rest of the island with a strong diversified economic fabric with international air and seaports, good land transport and broadband communications infrastructure underpinned by reliable energy networks and well-established water supply, wastewater, and stormwater networks. It has a better level of social capital compared to other urban centres (especially in the North Island) and has proven to be a very resilient region and adaptable to drastic economic and social changes.

Greater Christchurch has a number of regional public assets, such as Te Pae (convention centre) and Tūranga, metro sports centre and the planned multi-use arena. There are a number of quality health and education facilities (including the largest hospital in the South Island, four tertiaries and several research institutions, including six of New Zealand's seven Crown Research Institutes). Greater Christchurch is also blessed with a significant asset base to support its future economic wellbeing. It sits within rich regional natural environment, has quality-built infrastructure and amenity, high quality health and education services and a diverse economy. The city has relatively greater capacity for growth (in terms of space) than other major urban centres in New Zealand (especially Auckland and Wellington).

The Greater Christchurch economy has undergone important structural changes over the past two decades, with changes in productivity and employment for most industries. This area's economy has been able to grow despite the 2010 and 2011 earthquakes, which influenced the economy and steered it in a direction that is now the 'new normal'. In terms of gross domestic product (GDP), the economy of Greater Christchurch comprises almost 10 percent of New Zealand's GDP and almost 45 percent of the total economy of the South Island[19].

Figure 3: GDP per capita – Christchurch City, Selwyn District, and Waimakariri District



Source: Ministry of Business, Innovation and Employment (MBIE)

In general, the agricultural hinterland of Greater Christchurch is a foundation of the regional economy and the region's dominant export base, with the top export commodities being dairy, meat and forestry products and tourism. Christchurch City's economy is strong when the regional economy is performing well and equally the

[19] According to the latest figures published by Infometrics (corresponding to the June 2021 quarter).

region benefits from a city that is performing well. For the last two decades the manufacturing industry has been the one that has comprised the largest share of the area's GDP. However, the share that this industry has had on Greater Christchurch's GDP has reduced over time. Despite this, the manufacturing industry remain a key sector for the local economy. The manufacturing, construction, and 'professional, scientific, and technical services' sectors contribute greatly to Greater Christchurch's economic output, and also exhibit above average productivity gains.

In Christchurch City (which is the main commercial hub in Greater Christchurch) the main business activity occurs in the Central City and in the Key Activity Centres. Christchurch Central is the principal business centre for the city and wider region, despite experiencing a decrease in its number of businesses and employees in the last decades, and as it is reasonable to assume that there will be a strong relationship between employment and business growth, and population growth. The areas in Christchurch that experienced high annual average growth rates in the number of businesses in the retail sector, in the accommodation and food services sector, and in the arts and recreation services sector during the period 2000-2020 (among the top twenty areas with the highest number of businesses in each of these sectors) were Woolston South, Tower Junction, and Sydenham Central, respectively.

The areas in Selwyn District that registered high annual average growth rates in the number of businesses in the retail sector, in the accommodation and food services sector, and in the arts and recreation services sector during the period 2000-2020 (among the top twenty areas with the highest number of businesses in each of these sectors) were Ladbrooks, Prebbleton, and Newtons Road, respectively.

The areas in Waimakariri District that experienced high annual average growth rates in the number of businesses in the retail sector, in the accommodation and food services sector, and in the arts and recreation services sector during the period 2000-2020 (among the top twenty areas with the highest number of businesses in each of these sectors) were Kaiapoi Central, and Mandeville-Ohoka.

Regarding retail spending in Greater Christchurch, during the period 2016-2020 on average 85.4 percent of the total amount of retail spending in the area occurred in Christchurch, whereas 5.7 percent happened in Selwyn District and 8.8 percent in Waimakariri District. During this same period the amount of retail spending in Greater Christchurch registered an annual average growth rate of 1.5 percent.

In terms of employment changes during 2006 and 2020, people moved mainly west. Employment grew by 43,342 (21.0 percent) from 2006 to 2020. Of the total employment growth, 29 percent occurred in Southwest Christchurch, 23 percent in Northwest Christchurch, 16 percent in the Inner-West and 14 percent in Selwyn. Almost all the growth in the Northwest and the Southwest has occurred since 2011. Two-thirds of the growth in the Inner West has occurred since 2011. Employment fell in the Central City (10,400 workers) and Inner-East (2,253 workers) from 2006 to 2020, mainly due to the loss and damage to land and building in the eastern part of the city because of the earthquakes.

Figure 4: Employment by Sub-Area

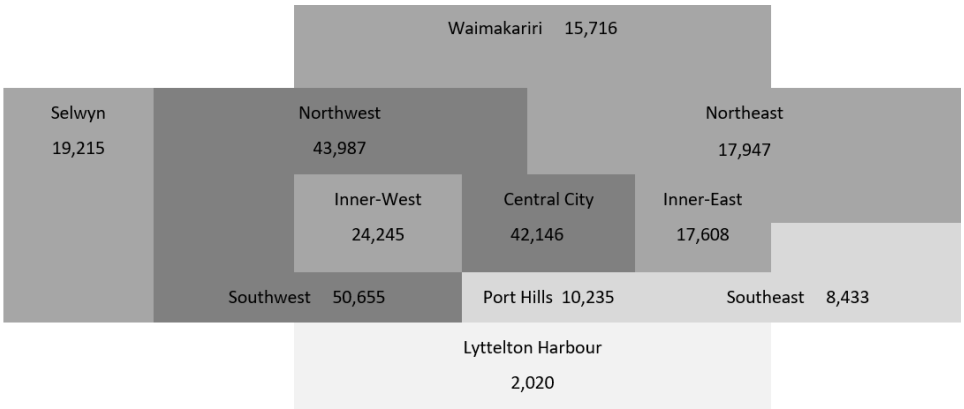


Table 2: Distribution of Employment across Industries in Greater Christchurch and Canterbury 2019

	Canterbury (excluding Greater Christchurch)	Christchurch	Waimakariri	Selwyn
% of Canterbury employment	17.6%	71.2%	5.0%	6.2%
Agricultural Production & Manufacturing	30.7%	3.6%	17.3%	26.3%
Tech Manufacturing	1.9%	3.8%	2.6%	4.0%
Other Manufacturing (excl agri & tech)	2.1%	3.9%	1.4%	2.0%
Construction	7.9%	9.9%	14.4%	9.6%
Transport & Warehousing	8.7%	10.8%	5.6%	7.4%
Retail, Hospitality, Arts & Rec Services	19.1%	19.0%	22.6%	15.2%
Knowledge Intensive Services	5.9%	14.0%	6.7%	9.3%
Public Services & Utilities	3.5%	5.1%	4.7%	8.5%
Education	6.2%	7.5%	9.8%	11.2%
Health	8.2%	13.0%	8.2%	3.1%
Other Services	5.8%	9.5%	6.8%	3.5%

Source: StatsNZ

5. Future Demand for Business Land

5.1 Introduction

The NPS-UD requires Tier 1 Councils to estimate the demand for each business sector for additional business land in the region and each District (Christchurch City, Selwyn and Waimakariri Districts) in the short, medium and long terms20.

This section sets out the results of the modelling undertaken to project employment growth to 2051 (30 years). Appendix 4 contains the methodology and description of the modelling approaches. When converting employment to workspace to floor area, different ratios are required. These ratios are based on what is currently happening in the Territorial Authority's market and considers the different nature of the employment. E.g., Christchurch has around 30m^2 per commercial employee, whereas Selwyn is nearer 40m^2.

The projections in this section are reported at the Greater Christchurch, and territorial level, which are translated from employment into floorspace and land requirements to subsequently compare projected land demand against the supply of business land enabled through the planning documents of each Council.

For Christchurch City, the modelling for demand is based on a VAR model, whereby employment growth drives population growth and employment growth is modelled based on past trends across a number of years (in this case, 20 years) as opposed to a single point in time. Employment data is the employment count sourced from Statistics New Zealand (Stats NZ), Business Demography database and spanning from 2000 to 2020.

For Selwyn District Council and the Waimakariri District Council, demand is forecast by establishing a set of final demands and then running these demands through an economic model that records the inter industry outcomes that are required to meet those demands. The employment count is modified to include sole traders to provide a more complete count of employment though this doesn't necessarily translate through to workspace demand. These interrelationships then vary through time. Demand is looked at for each main township that has a business centre (being Rolleston, Lincoln, Rangiora, and Kaiapoi, and then summarised for the rest of the district).

[20] NPSUD 3.28(1)

5.2 Retail and Office Land Demand for Christchurch City

Table 3 and Table 4 below shows the net additional demand for retail and office space in Christchurch City. The key outputs are the likely space requirements (in sqm) and land requirements in hectares with competitiveness margin added in accordance with the NPS-UD. The modelling to estimate the relative demand for retail and office space is influenced by a number of factors that need to be monitored on a regular basis, including projected employment growth.

The tables below show the net additional demand for land in the commercial zones of Christchurch City. In summary, the demand for retail activity is projected to increase by 20 hectares in the medium term and reach 47 hectares in the long term. With the competitiveness margin added, retail demand is projected to reach 24 hectares in the medium term and 54 hectares in the long-term.

Table 3: Projected retail demand for Christchurch City

Period	2024 (Short)	2031 (Medium)	2041	2051 (Long)
Likely Land Requirement (land, sqm)	66,885	129,922	151,269	118,793
Cumulative Likely Land Requirement (land, sqm)	66,885	196,808	348,077	466,870
Cumulative Likely Land Requirement (ha)	6.69	19.68	34.81	46.69
Cumulative Likely Land Requirement with competitiveness margin	8.03	23.62	40.03	53.69

The demand for office space is projected to increase by 51 hectares in the medium term and reach 137 hectares in the long term. With the competitiveness margin included, office demand is projected to reach 61 hectares in the medium term and 160 hectares in the long-term.

Table 4: Projected office demand for Christchurch City

Period	2020 Base	2024 (Short)	2031 (Medium)	2051 (Long)
Total Jobs	57,182	63,891	73,599	101,493
New Jobs		6,709	9,708	27,894
Likely Workspace requirement (sqm)		208,426	300,973	864,253
Likely Workspace Requirement (ha)		20.84	30	86.4
Likely Cumulative Workspace Requirement (sqm)		208,426	509,399	1,373,652
Cumulative Likely Land Requirement (ha)		20.84	50.9	137.36
Cumulative Likely Land Requirement with competitiveness margin		25	61	157.9

Table 5: Total Commercial Demand for Christchurch City

Period	Short	Medium	Long
Retail Land Requirement (ha)	8.03	23.62	53.69
Office Land Requirement (ha)	25	61	157.9
Total	33.0	84.6	211.6

5.3 Retail and Office Land Demand for Selwyn and Waimakariri

Selwyn District

Formative Ltd has used the same method to assess demand in the Selwyn and Waimakariri Districts using Growth Models with the same functionality. The Growth Models have been developed using the most detailed spatial data available to establish the current and future potential location of demand by location within each district. This modelling is constrained by the supply of land (and floorspace) within each location (planning zones) i.e., the Growth Models impose supply constraints to the district level projections.

Appendix 4 outlines the methodology adopted for projecting the growth in floorspace using an economic futures projection of employment by sector, the current employment in the Business 1 Zone and the current developed floorspace. Of note is that a conservative approach was adopted when setting key assumptions.[21] This conservative approach was selected because of the inherent uncertainty associated with projecting demand over the timeframes of the NPS-UD. This is likely to be more apparent in the long term.

Table 6 below shows the net additional demand for Business 1 zone land in the Selwyn District. The key output is the likely land requirement in hectares under the NPS-UD requirements. The table also shows the split of demand between retail and non-retail commercial activity in terms of floorspace. The modelling to estimate the relative demand for commercial land is influenced by a number of factors that need to be monitored on a regular basis, including projected population increases.

In summary, the demand for retail, commercial services and non-retail community activity is projected to increase by 20 hectares in the medium term and 44 hectares in the long term. For the Business 1 zone the NPS buffer suggests that 24 hectares should be provided for in the medium-term and 50 hectares for the long-term.

Table 6: Projected commercial demand for Selwyn District

	Short	Medium	Long
New Retail Jobs	161	499	1,469
New Commercial Services Jobs	593	1,741	4,310
New Non-Retail Community Jobs	817	2,756	9,327
Total New Commercial Jobs	1,571	4,996	15,106
Likely Workspace Requirement (sqm)	18,749	59,625	176,982
Likely Land Requirement (ha)	5	15	43
Likely Land Requirement (ha) with competitiveness margin	6	18	50

The conversion of employment to workspace has been conducted using Workspace Ratios. The workspace ratios are estimated using current employment as compared to floorspace within the business zones. In the commercial zone the vast bulk of buildings in the District are single level, therefore all sectors compete for the same ground floor space. Broadly, the Workspace ratio generally ranges from 30m^2 to 60m^2, with an average of 38m^2. While purpose built (newer) spaces may achieve a higher density, it is conservative to apply the existing achieved rate which may overstate the demand for floorspace.

The conversion of workspace to land area is conducted using Floor Area Ratios. The Floor Area Ratios are estimated using current floorspace compared to land parcel area within the business zones. Broadly, the Floor Area Ratio ranges from 0.30 to 0.60, with a mid-point of 0.41. While newer buildings tend to achieve a higher density, it is conservative to apply the existing achieved rate which may overstate the demand for land.

[21] For example, the assumption of work space ratios was held constant in the modelling. In the absence of historic data for Selwyn and Waimakariri, it was not possible to build evidence on the potential trends. However, there is data for some of the larger urban economies in Australasia that indicates that commercial work space ratios are decreasing – i.e., demand for space is decreasing per worker. Therefore, the assumption of constant work space ratio is considered to be conservative – which may result in the projected demand being higher than is required.

Waimakariri District

Demand for the Waimakariri District is estimated using the same method described for Selwyn District and therefore this method is not repeated. However, Waimakariri District has an additional commercial zone, the Business 1 (town) and the Business 4 (small neighbourhood). In the following tables these two zones area combined.

Table 7 below shows the net additional demand for land in the Business 1 and Business 4 zones in the Waimakariri District. In summary, the demand is projected to increase by 9 hectares in the medium term and reach 16 hectares in the long term. For the Business 1 and Business 4 zone the NPS buffer suggests that 11 hectares should be provided for the medium term and 18 hectares for the long term.

Table 7: Projected commercial demand for Waimakariri District

	Short	Medium	Long
New Retail Jobs	251	760	2,007
New Commercial Services Jobs	506	1,480	3,706
New Non-Retail Community Jobs	611	2,029	6,208
Total New Commercial Jobs	1,368	4,269	11,921
Likely Workspace Requirement (sqm)	22,277	69,518	189,416
Likely Land Requirement (ha)	3	10	27
Likely Land Requirement (ha) with competitiveness margin	4	12	32

The conversion of employment to workspace has been conducted using Workspace Ratios. The workspace ratios are estimated using current employment as compared to floorspace within the business zones. In the commercial zone the vast bulk of buildings in the District are single level, therefore all sectors compete for the same ground floor space. Broadly, the Workspace ratio generally ranges from 30m^2 to 60m^2, with an average of 38m^2. While purpose built (newer) spaces may achieve a higher density, it is conservative to apply the existing achieved rate which may overstate the demand for floorspace.

The conversion of workspace to land area is conducted using Floor Area Ratios. The Floor Area Ratios are estimated using current floorspace compared to land parcel area within the business zones. Broadly, the Floor Area Ratio ranges from 0.50 to 0.80, with a mid-point of 0.70. While newer buildings tend to achieve a higher density, it is conservative to apply the existing achieved rate which may overstate the demand for land.

5.4 Retail and Office Land Demand at a Greater Christchurch level

Table 8 below summarises the total demand for commercial activities at a Greater Christchurch level.

Table 8: Total demand for retail and office activities for Greater Christchurch

	Short Term	Medium Term	Long Term
Christchurch	33.0ha	84.6ha	211.6ha
Selwyn	6ha	18ha	50ha
Waimakariri	4ha	12ha	32ha
Greater Christchurch	**43ha**	**114.6ha**	**293.6ha**

5.5 Industrial Land Demand

Christchurch City

The industrial land requirement is estimated to be 13 hectares in the short term, extending to 15 hectares by 2031 and 26 hectares by 2051 with the competitiveness margin added in accordance with the NPSUD.

Table 9: Projected industrial demand for Christchurch City

Period	2021	2024	2031	2051
Employment	21,446	24,990	24,543	23,363
Associated demand for space	96,883	105,694	126,126	229,837
Annual new floor space demand		8,811	20,432	103,711
Cumulative space requirement		105,694.4	126,126.1	229,837.5
Cumulative total land requirement (ha)		10.57	12.61	22.98
Cumulative total land requirement with competitiveness margin		12.68	15.14	26.43

Reflecting global trends, the demand for warehousing and logistics is anticipated to be greater. The land requirement for warehousing and logistics is estimated to be 6 hectares in the short term, extending to 21 hectares by 2031 and 93 hectares by 2051 with the competitiveness margin added in accordance with the NPSUD.

Table 10: Projected demand for warehousing and logistics in Christchurch City

Period	2020	2024	2031	2051
Employment	24,814	26,170	28,445	34,909
Additional Floor Space Demand		47,351	123,773	635,459
Cumulative space requirement		47,351	171,124	806,584
Cumulative Land requirement (ha)		4.74	17.11	80.66
Cumulative total land requirement with competitiveness margin		5.68	20.53	92.76

Table 11: Total Industrial Demand for Christchurch City

Period	Short	Medium	Long
Industrial Land Requirement (ha)	12.68	15.14	26.43
Warehousing and Logistics Land Requirement (ha)	5.68	20.53	92.76
Total	18.4	35.7	119.2

Greater levels of demand are anticipated in the south, south west and west of the City which can be attributed to its good access to the State Highway network linking north and south and to the airport, seaport and inland ports.

Also, land in western Christchurch is generally less constrained geotechnically than eastern and northern parts and there has been a relatively large available supply to accommodate market demands.

Selwyn District

Again, the Selwyn Capacity for Growth Model has been used to project demand for industrial land. The Business 2 zone is the only industrial zone. It is important to note that 'industrial' demand presented for Selwyn and Waimakariri reflects the demand by the multiple activities that have traditionally located in the industrial zones.

This means that some of the demand will be related to sectors that are not traditionally thought of as 'industrial' (like retail and office). Also, there is some industrial demand that will be located in other non-industrial zones (like rural manufacturing), which are excluded from the assessment of demand for Business 2 zone.

Table 12 shows the results from the Selwyn Capacity for Growth model which indicates that the demand for industrial land reaches approximately 224 hectares in the long-term. The NPS buffer would suggest a requirement of 257.6 hectares.

In the short term, the NPS-UD requirement is around 9.3 hectares per annum. In the medium term the NPS requirement is around 8ha per annum. In the long run, the NPS-UD requirements indicate that 8.6 hectares per annum will be required. Initial discussions with stakeholders have indicated that demand for vacant industrial land in Rolleston in particular may be higher, especially regarding industrial land demand driven by freight. Recent work by Selwyn Council shows additional land demand driven by freight is around 5 hectares per annum.

Table 12: Projected demand for industrial land in Selwyn District

	Short	Medium	Long
Employment	512	1,591	3,735
Associated demand for space (m^2)	142,568	443,020	1,188,933
Annual new floor space demand (m^2)	47,523	44,302	39,631
Cumulative land requirement (ha)	35	109	297
Likely total land requirement with competitiveness Margin	42	131	347

Broadly, in the industrial areas of the District the Workspace ratio generally ranges from 200m^2 to 300m^2, with a mid-point of 250m^2. The District has seen recent growth in storage and warehousing, which has resulted in the workspace ratio being larger than in the past. This trend may continue and should be monitored to ensure that sufficient supply is provided to meet demand.

The conversion of workspace to land area is conducted using Floor Area Ratios. The Floor Area Ratios are estimated using current floorspace compared to land parcel area within the business zones. Broadly, the Floor Area Ratio ranges from 0.30 to 0.50, with a mid-point of 0.40. While newer buildings tend to achieve a higher density, it is conservative to apply the existing achieved rate which may overstate the demand for land.

Waimakariri District

For Waimakariri District the results from the Waimakariri Capacity for Growth model indicates that the demand for industrial floorspace/land is around twice the level forecast in Selwyn. The demand is forecast to reach 40.5 hectares (including roads and services). The NPS buffer would suggest a requirement of 46.6 hectares in the long term as reported in Table 13 below.

In the short term the NPSUD requirement is around 4 hectares per annum. This high level of demand reflects the model assuming that demand in the medium term will come forward due to the availability of zoned and serviced land for development. In the medium term the NPS requirement decreases significantly. Over the thirty-year period the NPSUD requirements indicate that 1.6 hectares per annum will be required.

Table 13: Projected demand for industrial land in Waimakariri District

	Short	Medium	Long
Employment	349	878	2,339
Associated demand for space	50,979	128,250	333,450
Annual new floor space demand	16,993	12,825	11,115
Cumulative space requirement	10	26	98
Cumulative total land requirement (ha)	12	31	79

Broadly, in the industrial areas of the District the Workspace ratio generally ranges from 100m^2 to 200m^2, with a mid-point of 150m^2. The District has seen recent growth in storage and warehousing, which has resulted in the workspace ratio being larger than in the past. This trend may continue and should be monitored to ensure that sufficient supply is provided to meet demand.

The conversion of workspace to land area is conducted using Floor Area Ratios. The Floor Area Ratios are estimated using current floorspace compared to land parcel area within the business zones. Broadly, the Floor Area Ratio ranges from 0.30 to 0.60, with a mid-point of 0.49. While newer buildings tend to achieve a higher density, it is conservative to apply the existing achieved rate which may overstate the demand for land.

Greater Christchurch

The table below summarises the total industrial demand at a Greater Christchurch level.

Table 14: Total industrial demand at a Greater Christchurch level

	Short term	Medium term	Long term
Christchurch	18.4ha	35.7ha	119.2ha
Selwyn	42ha	131ha	347ha
Waimakariri	12ha	31ha	79ha
Greater Christchurch	**72.4ha**	**197.7ha**	**545.2ha**

Reflecting the nature of the models, the growth in demand is projected in the locations of existing activity. However, it is possible that past trends continue and there are higher demands in the south west (e.g., Hornby, Rolleston) with a preference for the flexibility of greenfield over brownfield land and the benefits of these locations in terms of accessibility.

6. Existing Land Supply

6.1 Introduction

The NPS-UD requires Councils to estimate the development capacity to meet expected demand for business land for each business sector, plus the appropriate competitiveness margin. This includes the capacity that is plan-enabled, plan-enabled and infrastructure-ready and plan-enabled, infrastructure-ready and suitable. Plan-enabled is defined in the NPS-UD as follows:

(a) in relation to the short term, it is on land that is zoned for housing or for business use (as applicable) in an operative district plan.
(b) in relation to the medium term, either paragraph (a) applies, or it is on land that is zoned for housing or for business use (as applicable in a proposed district plan)
(c) in relation to the long term, either paragraph (b) applies, or it is on land identified by the local authority for future urban use or urban intensification in an FDS.

Essentially, the assessment requires a stocktake of vacant zoned land (and land with redevelopment potential if applicable) and calculation of how much development capacity that land can accommodate, having regard to district plan provisions. Capacity, which is not currently zoned but identified in a longer-term planning document, may also be assessed.

For the purposes of this assessment, retail and office land supply is aggregated as 'commercial land supply' in recognition that commercial zones generally provide for either or both retail and office activities i.e., they compete for use of the same land.

It should be noted that for this assessment of vacant land supply SDC and WDC make a distinction between sites that are wholly vacant and those which are partly vacant. The latter is coined 'vacant potential' in the Selwyn and Waimakariri Capacity for Growth models and represents sites that have an existing building but are under-utilised and have capacity to accommodate additional building floorspace. CCC also records land in its vacant land database as wholly vacant or partly vacant but considers it more appropriate to combine the two for the purposes of this assessment to provide a total vacant land supply. CCC considers that together this total vacant land capacity still represents a conservative estimate of the City's commercial land capacity as the redevelopment potential of land has not yet been factored into the assessment.

6.2 Commercial Land Supply

Christchurch City

Commercial activity in Christchurch is primarily distributed within a network of centres (comprising Central City, District, Neighbourhood, Local and Large Format Centres, as shown in Appendix 1). The District Centres and two of the neighbourhood centres are also identified as Key Activity Centres in the Canterbury Regional Policy Statement, recognising the significant public and private investment made in, or intended for these areas and identifying them as the preferred locations for future development as businesses shift around the city over the long term.

There are also areas where commercial activity has traditionally located but where growth is no longer supported by District Plan policy (e.g., Commercial Office and Suburban Commercial Mixed Use areas). The commercial centres act as the focal points for community and business activity and each centre has a role that reflects their functions and catchment sizes. The Christchurch District Plan framework for commercial activity is to give primacy and support the recovery of the central city whilst supporting and enhancing the role of district centres and maintaining the role of the smaller neighbourhood, local and large format centres.

Each centre is comprised of zones (outlined in Section 2.8) which give effect to this centres-based framework. Commercial zones generally provide for retail and office activities although the permitted scale and range of activity is influenced by the role of the centre in the hierarchy. For instance, office tenancy size is limited in district and neighbourhood centres to encourage larger office tenants back into the central city and retail tenancy size is limited in neighbourhood and local centres to reflect their role in catering for the predominantly convenience needs of local residents. Residential activity and visitor accommodation is permitted within most

centres although is generally required to be located at upper levels of a development[22], therefore, maintaining ground level space for commercial activity. District Plan provisions therefore play an important role in determining the capacity of commercial land to accommodate multiple (sometimes competing) activities.

Commercial land supply (occupied and vacant land) in Christchurch City has been determined using the Council's Vacant Land Register and carrying out a land use survey of all commercial centres (excluding local centres).

Table 15 identifies an existing supply of 88 hectares of vacant commercially zoned land in Christchurch City along with a further 15 hectares of vacant land with a mixed (primarily commercial) zoning in the Central City.

As outlined below, there remains a significant amount (27 hectares) of vacant land in the Central City Business and Mixed Use Zones largely as a result of the significant earthquake related demolitions, along with extensive vacant commercial floorspace.In total, this brings plan-enabled supply identified in Christchurch to 103 hectares. For this BCA redevelopment potential to provide additional commercial capacity has not been more widely assessed. It is important to note that commercial activity also occurs outside of these centres, within industrial, specific purpose zones (e.g., hospital or airport) and residential zones in particular.

Table 15: Vacant Commercially Zoned Land in Christchurch City

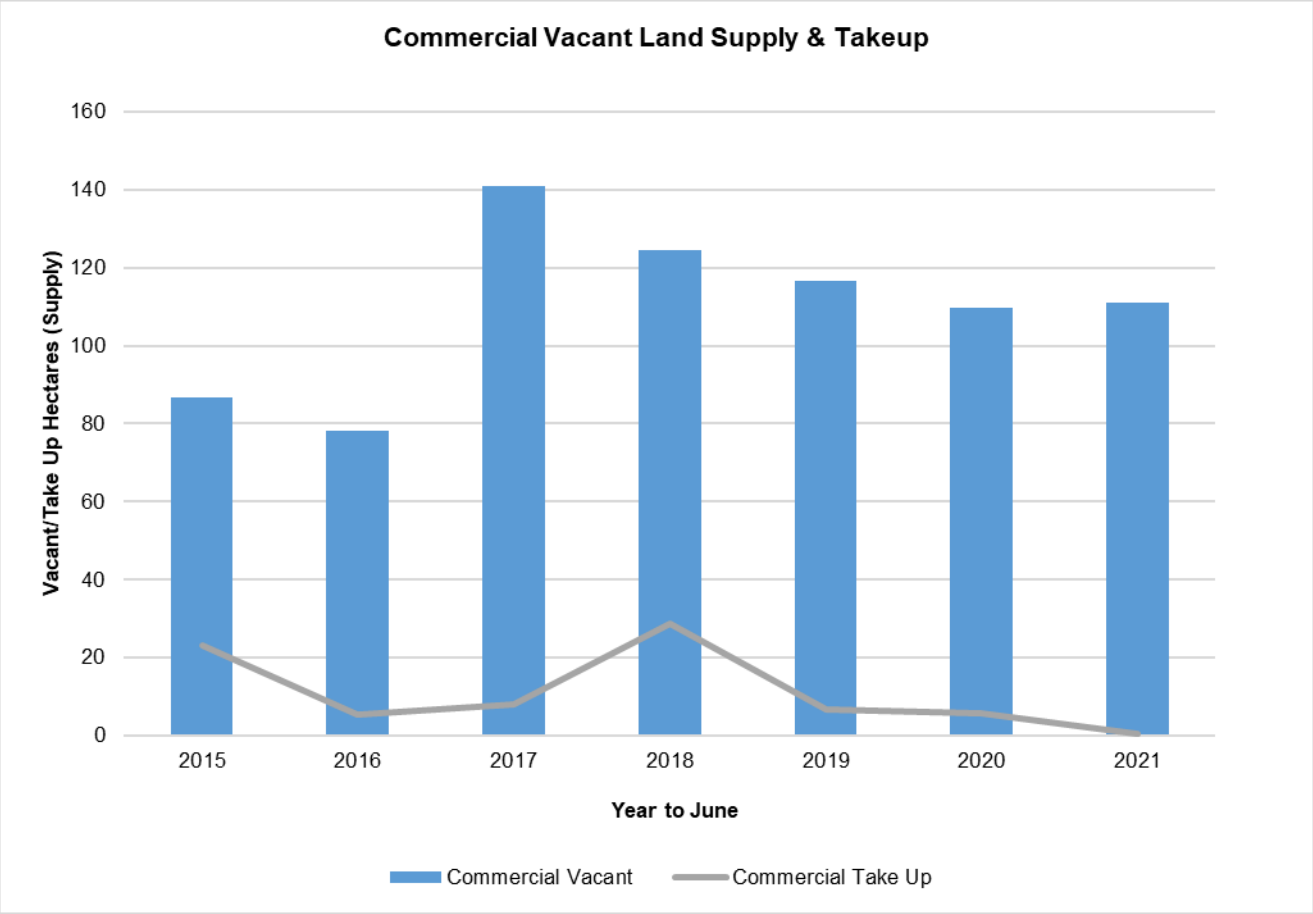
Commercial / Mixed Use	Vacant (potential) ha	Vacant (whole) ha	Total (ha)
Commercial			
Commercial Banks Peninsula	0	1	2
Commercial Central City Business	3	9	11
Commercial Core	15	41	56
Commercial Local	2	7	8
Commercial Office	3	1	4
Commercial Retail Park	1	5	7
Total Commercial	24	64	88
Mixed Use			
Commercial Central City (South Frame) Mixed-Use	1	2	3
Commercial Central City Mixed-Use	3	9	12
Mixed-Use Total	4	11	15
Total Commercial and Mixed-Use	28	75	103

The graph below shows that the supply of vacant commercial land in Christchurch increased in 2017 as a result of the District Plan becoming operative in December 2017. This included the rezoning of 17 hectares of vacant land at North Halswell as a new Key Activity Centre, zoned to accommodate the needs of a rapidly growing south-west population. This is followed by a slight decrease in 2018 and 2019, before steadying out in 2020 and 2021. The graph also illustrates the spike in commercial land take-up in 2018 associated with the City's rebuild. This, along with the commercial consents data[23], shows that this peak has now passed with commercial building activity and land development having dropped to a low level (0.7 hectares in 2021).

Figure 5: Commercial Vacant Land and Take-Up 2015-2021

[22] Other than in the Central City Commercial Mixed Use Zone where is it permitted at ground floor level

[23] See GCP Urban Development Indications Quarterly Monitoring Report (June 2017) Indicator 7 and Table 5 of the PEL Report on Christchurch Business Land Capacity (page 29)



Source: Adapted from the GCP Quarterly Monitoring of Urban Indicators Report

Table 16 shows the size distribution of vacant commercial land in Christchurch City for each quadrant or zone.

Table 16: Size distribution of vacant commercial land parcels in Christchurch City (by %)

Quadrant / Zone	<1,000m^2	1,000m^2 – 5,000m^2	5,000m^2 – 1 ha	1ha – 2ha	2ha – 5ha	>5ha
Quadrant						
Central and West	37.7%	35.9%	17.1%	9.2%	0%	0.0%
East, South and South West	19.9%	17.1%	7.8%	22.3%	6.2%	26.8%
North and North East	14.7%	12.4%	15.7%	35.1%	22.1%	0.0%
Zone						
Commercial Central City Business	39.7%	50.5%	0.0%	9.7%	0.0%	0.0%
Commercial Central City (South Frame) Mixed Use	64.9%	9.9%	25.2%	0.0%	0.0%	0.0%
Commercial Central City Mixed use	47.4%	32.1%	8.8%	11%	0.0%	0.0%
Commercial Core	15.2%	13.4%	11.8%	30.2%	13.8%	15.7%
Commercial Office	2%	32%	15.1%	0.0%	50.9%	0.0%
Commercial Retail Park	16.3%	11.6%	27.8%	44.3%	0.0%	0.0%
Commercial Local	36.6%	24.2%	26.5%	12.7%	0.0%	0.0%

Total vacant commercial parcels (%)	24.9%	21.1%	13%	22.9%	9.5%	8.6%

Source: CCC Vacant Land Register

As would be expected, the majority of commercially zoned land parcels are small, and many of these small sites are located in and around the CBD (noting that there is no minimum lot size in the Commercial Central City Business Zone). There is a more variable spread of site sizes in the Commercial Core zone as this zoning covers all the district centres (generally greater than 30,000m^2 retail GFA in size) and neighbourhood centres (generally between 3,000m^2 and 30,000m^2 retail GFA). Within the Commercial Core zone, there are varying parcel sizes, with the pattern of activities not necessarily reflecting the parcel size, due to prevalence of leasehold tenure. Shopping malls, for example, may be owned by one company but accommodate a large number of individual shops and some offices. Neighbourhood and local shopping areas are more likely to be in multiple land ownership.

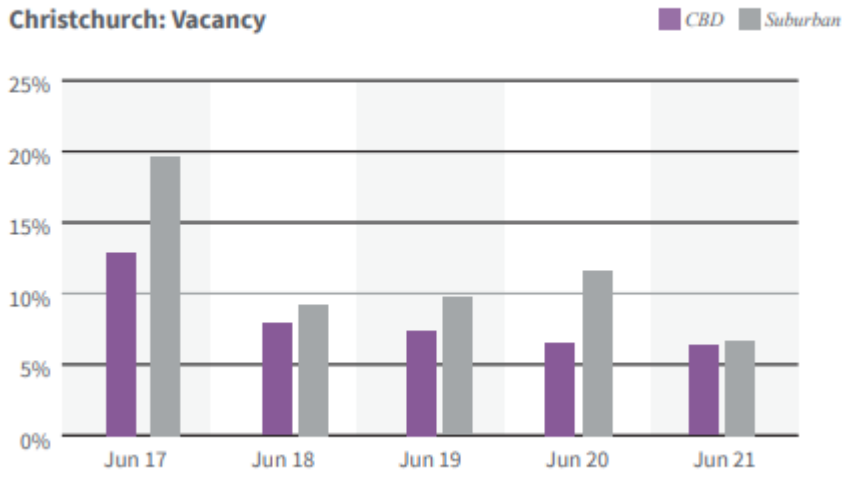
The commercial land size distribution shown in Table 16 above is "distorted" by the presence of two large zoned commercial zones at Belfast/Northwood (south of Radcliffe Road) and North Halswell, the former being developed for a retirement village. Both these zoned areas comprise several large titles, with the former all in single ownership while the latter is not. Because of tenure and site configuration variables, size of lots is less important for commercial than for industrial land. However, it appears that there is presently a range of vacant commercial lot sizes across the City which provides sufficient choice for businesses.

Commercial floorspace Vacancy

A healthy functioning, efficient, commercial market sector requires an element of floorspace vacancy in order to maintain choice, competitiveness and pricing and PEL has previously advised that an 8% vacancy rate provides the market with sufficient flexibility to meet its short-term needs (i.e., the movement of existing and new business)[24].

A review of vacant office space in October 2021 by JLL found there was 5.3% vacant space in the prime office market and with a limited supply in the pipeline, the level of vacant prime office floorspace was expected to remain low in the near term.[25] Similarly, the suburban market has shown lower levels of vacant floorspace as illustrated in the following graph.

Figure 6: Vacant floorspace

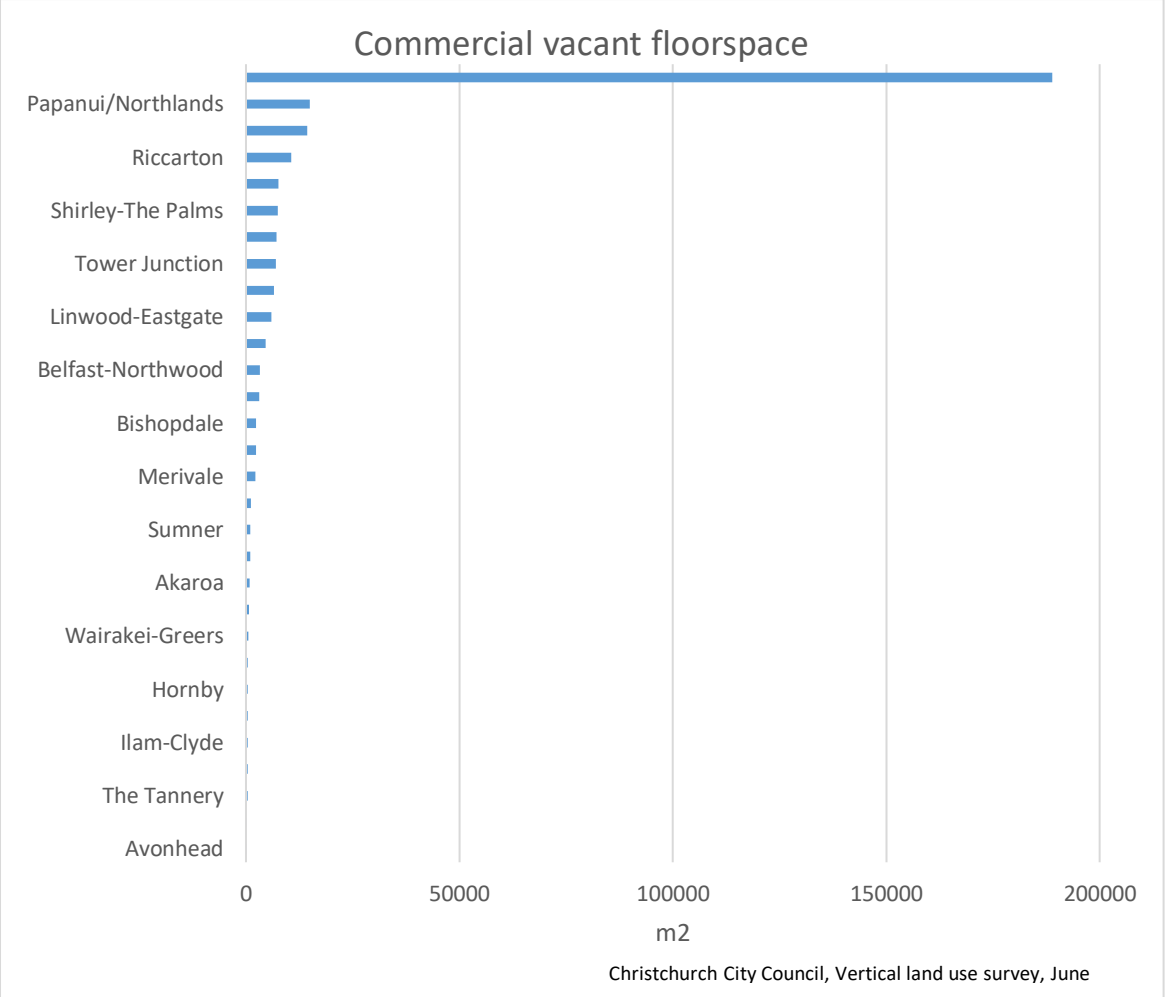


Source: JLL

As a comparison, Council's annual vertical land use survey estimates the amount of vacant space in completed buildings across each floor in commercial and industrial zones across the city.

Figure 7: Floorspace by area

[24] Property Economics Limited (2017) Christchurch Business Capacity Assessment page 61
[25] https://www.jll.nz/content/dam/jll-com/documents/pdf/research/apac/new-zealand/jll-nz-vertical-vacancy-review-q4-2021-final.pdf



The data indicates that the Central City (not shown in the figure above), Papanui/Northlands, Riccarton and Moorhouse Avenue have the most vacant floor space while Avonhead, Colombo/Beaumont and The Tannery have the least amount of vacant floor space.

The Central City has 188,940m2 of vacant floor space (comprised of 76,650m^2 vacant ground floor space and 46,446m^2 vacant first floor space). 224 Cashel Street (former IRD building – which has eight storeys of vacant space) and 161 Cashel Street (Grand Central Building) are two Central City buildings with the greatest amount of vacant floor space. This 188,940m2 of vacant floor space has not been included in the sufficiency assessment of this capacity assessment, however the vacant floor space will help alleviate the shortfall of commercial development capacity in the long term.

Papanui/Northlands has the second highest amount of vacant floor space (14,969m^2), spanning over ground and first floor tenancies. There are 7 vacant tenancies within Northlands Mall (at the time of the survey) albeit with a relatively small combined vacant space of 358m^2. There are also a few vacant tenancies along Papanui Road and Langdons Road. Like many other tenants, Briscoes has moved to the Northlink retail park development (still within the commercial centre).

Moorhouse Avenue has the third highest amount of vacant floor space (14,383m^2) which mostly consists of some large vacant buildings on Pilgrim Place and a vacant tenancy in the new Spotlight building.

Selwyn District

In order to estimate the amount of supply in the commercial (Business 1 Zones) the SCGM undertakes a desktop assessment of the rates database and building footprints and was last done in 2019[26]. In addition, as a ground-truthing exercise the Council has started monitoring commercial land within Rolleston, Lincoln, West Melton,

[26] Refer to the Market Economics Selwyn Capacity for Growth Model technical Report.

and Prebbleton to understand the rate of change. The results from any future surveys of floorspace will be incorporated in the next SCGM and BCA.

In the following section we present the results from the desktop analysis. While, the incorporation of the JLL results is likely to reduce the level of supply available within the district, the magnitude of the change is unlikely to change the findings of this study. Overall, we consider that the results presented in this report provide a reasonable proxy of the supply currently available.

The following table presents the supply in terms of hectares of land and two key metrics:

- Vacant land - properties that have no floorspace or building footprint in 2016.
- Vacant Potential - properties that have low levels of floorspace and for which additional floorspace is enabled within the property (potential for redevelopment).

The commercial supply in the plan enabled Business 1 zone is estimated to comprise 4.1 hectares of vacant land and 2.7 hectares of vacant potential, being between 4.1 to 6.8 hectares of available supply.

The supply results exclude vacant floorspace within existing buildings. The initial results from Selwyn's monitoring suggests that vacancy is very low. The scale of the floorspace vacancy in the B1 zone is well below a natural level that is required to maintain a healthy functioning, efficient, commercial market. Therefore, it is sensible to exclude this supply from the following assessment. Secondly, the redevelopment potential from fully developed properties[27] was not modelled. Given the age of buildings and relativity between full development levels and plan enabled development, it is less likely that this capacity will be utilised even in the long term.

Table 17: Vacant commercial land in Selwyn[28]

Commercial	Vacant	Vacant Potential	Total
Rolleston	18ha	8ha	26ha
Lincoln	1ha	1ha	2ha
Other	0ha	2ha	2ha
Total Zoned	19ha	11ha	30ha

Source: SCGM

Waimakariri District

The same approach used for determining land supply in Selwyn was also used in Waimakariri. The concepts of vacant and vacant potential applied for Waimakariri are the same as Selwyn. Again, the supply results exclude vacant floorspace within existing buildings. The initial results from the JLL survey suggest that vacancy is very low at well below 5%. The scale of the floorspace vacancy in the B1 zone is well below a natural level that is required to maintain a healthy functioning, efficient, commercial market. Therefore, it is sensible to exclude this supply from the following assessment. Secondly, the redevelopment potential from fully developed properties[29] was not modelled. Given the age of buildings and relativity between full development level and plan enabled development, it is less likely that this capacity will be utilised even in the long term.

The commercial supply in the plan enabled Business 1 and 4 zone is estimated to comprise 13 hectares of vacant land and 18 hectares of vacant potential, being between 13 to 31 hectares of available supply.

Table 18: Vacant commercial land in Waimakariri[30]

Commercial	Vacant	Vacant Potential	Total
Business 1 and 4 Zones	36ha	27ha	63ha

Source: WCGM

[27] Fully developed is a property that has buildings and floorspace that exceeds the level achieved in the local market.
[28] Note that these figures are currently under review and may be subject to change.
[29] Fully developed is a property that has buildings and floorspace that exceeds the level achieved in the local market.
[30] Note that these figures are currently under review and may be subject to change.

Greater Christchurch

Table 19 below summarises the quantum of vacant land at a TA and Greater Christchurch level.

Table 19: Summary of vacant commercial land at a TA and Greater Christchurch level

	Vacant (Whole)	Vacant (All)[31]
Christchurch	75.0ha	103.0ha
Selwyn	19ha	30ha
Waimakariri	36ha	63ha
Greater Christchurch	**84.8ha**	**133.5ha**

The above table presents vacant land as a range. The lower figure in the range comprises the total area of wholly vacant land within the districts. The upper figure represents the vacant land supply when under-utilized or partially vacant land capable of more intensive redevelopment is included.

[31] Vacant (all) includes wholly vacant and partly vacant sites in the context of Christchurch City, and wholly vacant and vacant potential in WDC and SDC

6.3 Industrial Land Supply

Christchurch City

Distribution of industrial land

The current distribution of industrial land is largely a result of historical settlement patterns and the rezoning of land through the district plan review on the periphery of the city. The earliest industry in Christchurch was in the Woolston area, near the Heathcote River, and focused on processing primary produce (e.g., tanneries, wool scouring, soap manufacture and flour milling.) Freezing works were established at Belfast and Islington and later a fertiliser works was built at Hornby. The rubber and plastics industry subsequently became important in the City, and further industry was established in the Sockburn area near the railway line and around the CBD. Christchurch also became a centre for clothing production for the domestic market, and later a centre for electronics.

While several of the longest established factories had closed by the latter part of the 20th century, the locational pattern of industry in the city has not changed dramatically over time. The older established industrial areas are still predominantly used for industrial purposes, albeit that some retail uses moved into industrial areas during a period when a more permissive planning regime of the previous City Plan was in place.

There has however been a trend in recent years for industry to prefer locations in the west of the city closer to SH1 and the airport. The degree of westwards movement of industry appears to have increased since the Canterbury Earthquakes, with temporary activity displaced out of the CBD to the suburbs becoming permanent in some instances, and geotechnical costs not favouring redevelopment in the east. In the short term, it appears that the trend for industrial tenants to relocate within the City to higher quality newer buildings in the west may have peaked[32], with a slowdown in consents for industrial buildings[33] and industrial land take up.

The industrial policies and zoning pattern in the new Christchurch District Plan generally promote the use and redevelopment of industrial land for industrial purposes to assist earthquake recovery and limit its use as a location for commercial activity. In general, the buffering of heavy industrial areas (Industrial Heavy zones) with lighter industrial surrounds (Industrial General or Industrial Park zones) is intended to help limit any significant noise, odour, traffic, or other adverse effects of industry on people and the environment.

Vacant Industrial Land

According to Council's Vacant Land Register, Christchurch has 319 (including CMU) hectares of zoned industrial land along with additional land zoned within the Specific Purpose Airport Zone (96 hectares) that enables industrial activities as a permitted activity[34].

The City also has two areas of land that are unzoned but are identified as Greenfield Priority Areas for Business in the Canterbury Regional Policy Statement. These areas total 50 hectares but are not zoned nor serviced so have been deemed not currently available for industrial development.

Table 20: Vacant Industrial Land by Zone in Christchurch[35]

Industrial / Specific Purpose	Vacant (part)	Vacant (whole)	Total (ha)
Industrial			
Commercial Mixed Use Zone	2	4	7
Industrial General	86	122	209
Industrial Heavy	160	197	358
Industrial Park	71	22	93

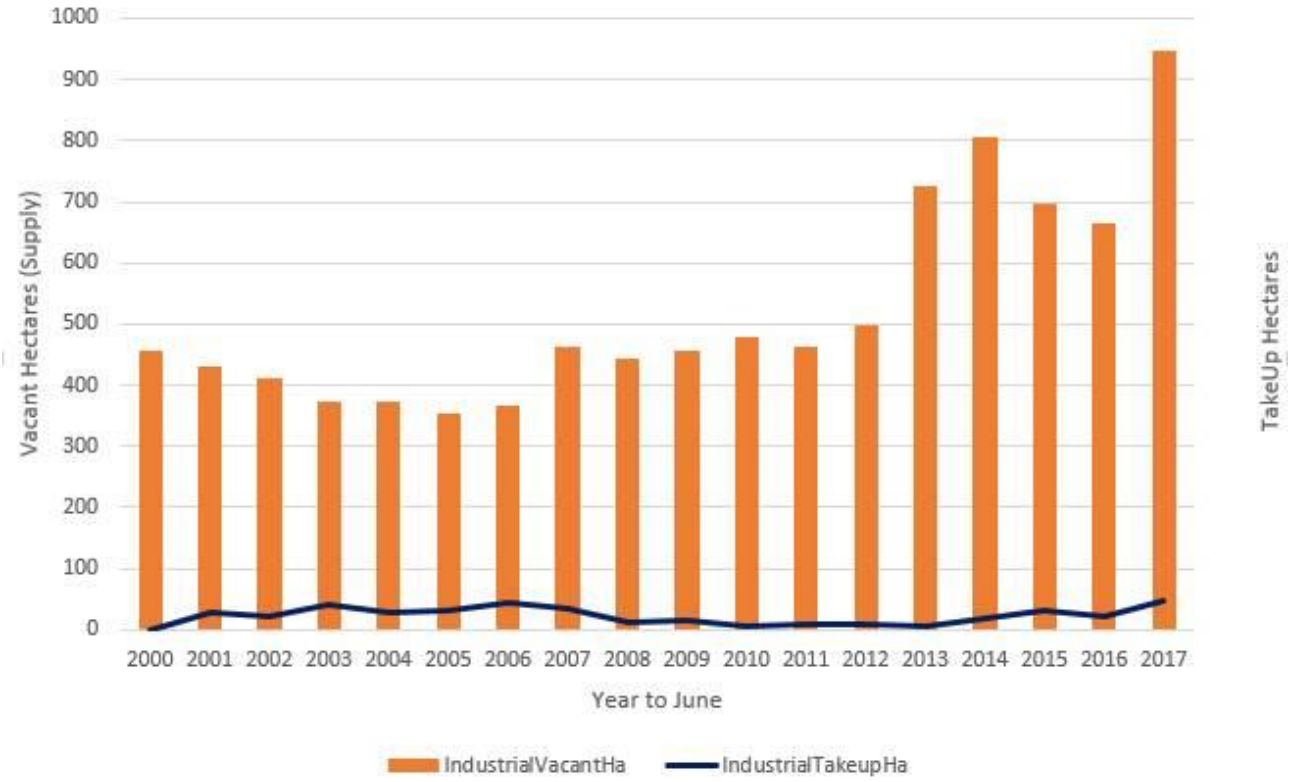
[32] JLL, Pulse, 3rd Quarter 2017.
[33] Property Economics (January 2018) Christchurch Capacity Assessment, Table 6, page 30.
[34] Note that this figure should be treated with caution. Subsequent desk-top analysis suggests the airport land supply is somewhat lower than indicated here. Confirmation has been sought from CIAL, the majority landowner in this Zone and any updates can be updated subsequently.
[35] Note that these figures are currently under review and any updates will be reflected in a February amendment.

711 Johns Road GPA (future potential)[36]			
Hawthornden and Russley Road GPA (future potential)[37]			
Industrial Total	319	345	667
Specific Purpose			
Specific Purpose Airport (Development Precinct) Zone	96	16	112
Specific Purpose Total	96	16	112
Christchurch Total	**415**	**361**	**799**

Source: CCC

CCC has been monitoring vacant industrial land and take up rates since 2000[38] and the results are shown in Figure 8.

Figure 8: Industrial Vacant Land Supply and Take-up[39]



Source: Adapted from GCP Urban Development Indicators Quarterly Monitoring Report June 2017[40]

The graph shows that the supply of vacant industrial land increased significantly from 2013 onwards as a result of plan changes rezoning land to industrial in the southwest of the city, first at South West Awatea and Wigram, then at Waterloo Business Park, Hornby and Hornby South. This was followed by significant additional areas being rezoned to industrial as a result of District Plan decisions becoming operative in 2017, at Belfast and in

[36] Identified as a Greenfield Priority Area for Business in the Regional Policy Statement
[37] As above
[38] Refer to section A11.5.1 of the Methodology in Appendix 11 for detail about the Vacant Land Register
[39] Note that the supply for 2017 indicated by this graph (912ha) is less than identified in this capacity assessment (1,010) due to inclusions in the latter of unzoned Greenfield Priority Areas for Business (50ha) and different methodologies for assessing vacant land supply in the airport zone.
[40] Note that the total vacant land shown here is slightly different from the totals included in elsewhere in this report. This is because of further ground-truthing of the 'vacant land register' since this graph was produced for the quarterly monitoring report.

the North West, and via Plan Change 84, which provides for light industrial uses at Christchurch Airport. The result is a very large supply of industrial land, allowing for considerable choice of location for the market.

In the decade of the 2000s, take-up of industrial land as indicated by the blue line fluctuated, with a peak of around 44 hectares in 2006 but trended downward after that time until post-earthquake increases in take-up in 2014 and 2015. Information on where this take-up of land has occurred is not readily available at this stage, although Indicator 5 of the first Urban Development Indications Quarterly Monitoring report[41] suggests that it is mostly in the southwest on the basis that vacant land in the east and south is still proportionately higher than in the newer industrial suburbs in the southwest.

The NPS-UD requires consideration of lot size in relation to business land, and "sufficiency" needs to reflect the demand for different types and locations of development capacity.

Table 21: Size distribution of vacant industrial land parcels (by %)Table 21 shows the size distribution of vacant commercial land in Christchurch City for each quadrant or zone.

Table 21: Size distribution of vacant industrial land parcels (by %)

Quadrant / Zone	<1,000m^2	1,000m^2 – 5,000m^2	5,000m^2 – 1ha	1ha – 2ha	2ha – 5ha	>5ha
Quadrant						
Central and West	0.4%	6.0%	12.5%	13.4%	27.0%	40.6%
East, South and South West	8.2%	17.9%	16.7%	14.3%	19.1%	23.7%
North and North East	0.3%	5.6%	7.1%	18.9%	41.5%	26.7%
Zone						
Industrial General	5.1%	13.4%	21.3%	19.7%	20.1%	20.5%
Industrial Heavy	0.6%	7.5%	10.5%	14.0%	26.9%	40.4%
Industrial Park	0.8%	6.4%	2.1%	13.5%	61.3%	15.9%
Commercial Mixed Use	19.9%	50.4%	29.6%	0.0%	0.0%	0.0%
Specific Purpose Airport	0.0%	0.8%	6.0%	11.3%	29.4%	52.5%
Total vacant industrial parcels (%)	1.9%	8.4%	11.9%	14.9%	29.3%	33.5%

Source: CCC Vacant Land Register

In reality, size of lots is only one element of demand for industrial land and will be strongly influenced by the type of activity under consideration, and the size of lots which the market makes available. Table 21 above indicates that there is existing choice in sizes of vacant lots (albeit more limited at the lower end of the range) and with capacity to subdivide larger sites to suit. Unsurprisingly, there are significant areas of large unsubdivided lots in industrial zones, and across each of the three main industrial zone types. There are also large unsubdivided areas within the airport business area, although the size distribution figures above for the airport zone should be treated cautiously, as lots are often not subdivided on airport owned land, but rather nominated sites are leased to occupants.

There are a range of smaller sized vacant sites in the east, and in and around the CBD (Central) area. This is consistent with subdivision patterns in these older industrial areas, and the types of activities that have historically located there. Both Christchurch City and Selwyn Districts have seen greater demand for large sites to accommodate buildings such as for the storage and distribution industries which can be up to or over one hectare in size. Sites of this size result in faster take-up rates of industrially zoned land, a factor which has probably contributed to low rates of vacant land in the wider Hornby area.

[41] http://greaterchristchurch.org.nz/assets/Uploads/SPR-NPS-UDC-Quarterly-Monitoring-Report-for-GCP-Committee-final.pdf

Selwyn District

In order to estimate the amount of supply in the Industrial (Business 2 Zones) the SCGM undertakes a desktop assessment of the rates database and building footprints and was undertaken for 2019[42]. In addition, as a ground-truthing exercise the Council has started monitoring industrial land within Rolleston and Lincoln to understand the rate of change. The results from any future surveys of floorspace will be incorporated in the next BCA.

In the following section, we present the results from the SCGM. These results have been modified to account for recent growth and overall, we consider that the results presented in this report provide a reasonable proxy of the supply currently available.

The following table presents the supply in terms of hectares of land and two key metrics:

- Vacant land - properties that have no floorspace or building footprint associated in 2016.
- Vacant Potential - properties that have low levels of floorspace and for which additional floorspace is enabled within the property (potential for redevelopment).

The following supply results exclude vacant floorspace within existing buildings. The initial results from Selwyn's monitoring suggest that this existing building vacancy is very low. The scale of the floorspace vacancy in the B2 zone is well below a natural level that is required to maintain a healthy functioning, efficient, market. Secondly, the redevelopment potential from fully developed properties[43] was not modelled. Given the age of buildings and relativity between full development level and plan enabled development, it is less likely that this capacity will be utilised even in the long term.

The plan-enabled industrial supply in the Business 2 zone is estimated to contain 142 hectares of vacant land and 37 hectares of vacant potential land, comprising between 142 and 179 hectares of available supply through to 2048.

Table 22: Vacant industrial land in Selwyn[44]

Industrial	Vacant	Vacant Potential	Total
Rolleston	364ha	48ha	412ha
Lincoln	13ha	0ha	13ha
Other	0ha	0ha	0ha
Total Zoned	377ha	48ha	425ha

Source: SCGM

Waimakariri District

The industrial land supply in the Business 2 zone is estimated to contain 109 hectares of vacant land and 52 hectares of Vacant Potential land.
The following supply results excludes vacant floorspace within existing buildings. The initial results from the JLL survey suggest that vacancy is very low at well below 5%. The scale of the floorspace vacancy in the B2 zone is well below a natural level that is required to maintain a healthy functioning, efficient market. Therefore, it is sensible to exclude this supply from the following assessment. Secondly, the redevelopment potential from fully developed properties[45] was not modelled. Given the age of buildings and relativity between full development level and plan enabled development, it is less likely that this capacity will be utilised even in the long term.

Table 23: Vacant industrial land in Waimakariri[46]

Industrial	Vacant	Vacant Potential	Total
Business 2 Zones	32ha	70ha	102ha

[42] Refer to the Market Economics Selwyn Capacity for Growth Model technical Report
[43] Fully developed is a property that has buildings and floorspace that exceeds the level achieved in the local market.
[44] Note that these figures are currently under review and may be subject to change
[45] Fully developed is a property that has buildings and floorspace that exceeds the level achieved in the local market.
[46] Note that these figures are currently under review and may be subject to change

Source: WCGM

Greater Christchurch

Table 2 below summarises the quantum of vacant land at a TA and Greater Christchurch level.

Table 24: Summary of vacant industrial land at a TA and Greater Christchurch level

	Vacant (Whole)	Vacant (All)[47]
Christchurch	361ha	799ha
Selwyn	377ha	425ha
Waimakariri	32ha	102ha
Greater Christchurch	770ha	1,326ha

The above table presents vacant land as a range. The lower figure in the range comprises the total area of wholly vacant industrial land within the districts. The upper figure represents the vacant land supply when under-utilized or partially vacant land capable of more intensive redevelopment is included.

[47] Vacant (all) includes wholly vacant and partly vacant sites in the context of Christchurch City, and wholly vacant and vacant potential in WDC and SDC

7. Availability of Development and Other Infrastructure

7.1 Introduction

This section considers the availability of Council and other infrastructure to service business land for the various time periods specified in 3.4(3) of the NPSUD.

7.2 Assessment of Availability of Infrastructure

Additional Infrastructure

"Additional infrastructure" as defined in the NPS and (as relevant to business growth needs) includes land transport, and networks operated for the purpose of telecommunications, and transmitting or distributing electricity or gas.

To determine whether 'additional infrastructure' is, or is likely to be, available to meet business growth needs, information was sought from identified providers of other infrastructure both directly (through survey, email, and phone communication) and indirectly (through information sourced from ChristchurchNZ)[48].
Enquiries were made to determine how the providers plan for growth and increased demand for infrastructure/services in those areas zoned for business activities in District Plans and/or identified for future growth in the Canterbury Regional Policy Statement and whether any of the business areas are constrained in respect of the infrastructure the organisation provides.

The information enabled councils to determine whether constraints would limit development and the availability of additional infrastructure over the next 30 years. In such circumstances, it would suggest that this land should be removed from or allocated to a later time period as part of plan-enabled capacity. Appendix 3 provides further information on additional infrastructure provision and funding systems for that infrastructure.
The assessment concludes that access to 'Additional infrastructure' is either available or likely to be available to service all business land needs over the next 30 years.

Development Infrastructure

"Development infrastructure" is defined in the NPS as 'network infrastructure for water supply, wastewater, or stormwater, and land transport (as defined in section 5 of the Land Transport Management Act 2003), to the extent that it is controlled by local authorities'. A standard term also used for "network infrastructure" is "bulk infrastructure". Both terms have the same meaning and exclude "local infrastructure" which is funded and provided by developers within their landholdings as development proceeds. Local infrastructure is usually subsequently vested in Councils to control and manage.

"Serviced" is not defined in the NPS-UD but is considered in this report as "serviceable by Council" i.e., there is capacity in the relevant network in the area which the developer may connect into. In some cases, the developer may need to provide a connection outside of their own landholding to reach that network, or where there is a wider community benefit Council may, if funding is available and allocated through its LTP, provide that connection, or enter into a cost sharing agreement with the developer to upsize that connection, to provide for other land to be serviced. It should be noted that some land is serviceable by Council, but there would be an issue if that land was being developed "out of sequence", where connections through intervening land are either not agreed or not yet in place. Such land is not included in the following table of vacant business land not serviced by Council infrastructure.

The approach to identifying the availability of development infrastructure involved reviewing plan-enabled business land with members of each council's infrastructure planning team, to identify any areas where a lack of development infrastructure could constrain development in the three-, ten- and thirty-year timeframes. During this process, both current and draft infrastructure planning and funding documents were reviewed.

[48] ChristchurchNZ (2017) Infrastructure Situation Report July 2017.

Analysis of development infrastructure shows that there are some areas of Greater Christchurch (notably in Christchurch City) that could be constrained by a lack of access to development infrastructure. These areas are not serviced at present, generally for either water supply or wastewater, although some areas are planned to be serviced in the medium term, as indicated in the current Long Term Plans. A few areas are not planned to be serviced by Council either in the medium or long term. Table 25 sets out the land in each of these categories, which are then discounted from supply for the relevant timeframes for the purposes of assessing sufficiency under the NPS-UD.

Development in some of these areas could be advanced by developers providing a connection outside of their landholdings to the City Council wastewater network (indicated by footnotes). There are however two areas where this cannot occur, either because the distance to the City Council's wastewater network is too great (Chaneys) or because there is inadequate capacity in the sewer in the area (Wairakei Industrial Park).

In Christchurch, the presence of aquifers across the City means that access to water supply may be obtained by drilling a well and obtaining a water right, so in general, a lack of access to a sewerage system (including for trade wastes or wet industry) is the only absolute constraint on industrial development. In the case of Chaneys, some dry industry is already established in the area relying on septic tanks, but this is not likely to be possible in the Wairakei ODP area for reasons of groundwater protection.

It should be noted that further business development is likely to lead to reductions in the level of service and capacity of transport infrastructure, resulting in increasing delays and congestion on the network, which could have a constraining impact on economic growth if not carefully managed. This will be considered further through long-term strategic planning.

The sequencing of residential development also influences the timing of when business land is viable to develop. This is evident recently in Selwyn District, where surrounding housing development needs to occur to establish the network infrastructure and critical population base to support the small Neighbourhood Centres in the Falcon's Landing subdivision and Geddes/Dryden Trust Special Housing Area and the Lincoln industrial park. These were either undeveloped or sit within partially developed 'greenfield' locations where sequencing of development and installation of infrastructure, including water and wastewater services, has yet to reach the property boundary of the identified commercial or industrial clusters.

In the context of Waimakariri District, there are no identified constraints in respect of development infrastructure. The Council's commitment over the past decade to major investment in infrastructure to cater for growth means that when considering development in the district over the next 30 years, the 'backbone' of the major infrastructure is already in place. In respect of transport, work is programmed over the next two to three years to improve the arterial link from the west of Rangiora and Southbrook commercial area to the State Highway and Kaiapoi via Fernside and Flaxton Roads. However, this does not preclude development occurring.

Table 25: Vacant business land not serviced by development (network) infrastructure – Christchurch City

Geographic Area	Short Term – Not Serviced		Medium Term (LTP[49]) – Not Serviced		Long Term (Infrastructure Strategy[50]) – Not Serviced	
Industrial						
Chaneys (IH)	47.00[51]	Selected sites can now connect to a new WW LPSS system to discharge to Kainga (37 ha). Sewer discharge restriction of 0.05 L/s/ha in place (Consent Notice on Title Deed). No WS services available.	47.01	No provision to provide WW capacity to remaining sites. No servicing provision in LTP.[52]	47.01	No provision to provide WW capacity to remaining sites. No WS servicing provision in Infrastructure Strategy
North Belfast (IG)	78.87	WW and WS Network links to be provided by developer. WS and WW pump station capacity available. Note: Sewer Limit Discharge Area. i.e., WW discharge restricted to 0.09 L/ha/s.	-	Provision in LTPs on staged basis for increased capacity of WW and WS pump station infrastructure to support development. Developer to provide WW and WS network to link to CCC Infrastructure in Belfast. No provision in LTP to provide network connections on behalf of the developer. Note: Sewer Limit Discharge Area i.e., WW discharge restricted to 0.09 L/ha/s.	-	
Wairakei Rd west of Stanleys Rd (IP)	40.70	Connection to CCC WW and WS network to be provided by developer.	40.70	No provision in LTP to provide network connections on behalf of developer	40.70	No provision in Infrastructure Strategy to provide network

[49] Info relates to both 2015-2025 and Draft 2018-2028 LTPs unless otherwise specified. Current and draft LTPs may specify programme funding only or alternatively set out individual projects.
[50] Current and draft IS may specify programme funding only or split out individual projects.
[51] Note though those industrial activities currently operate successfully from this zone. It is effectively a non-serviced rural industrial zone
[52] Too distant from Council infrastructure for developer connection to WW network as well as inadequate capacity in WW pump station.

Geographic Area	Short Term – Not Serviced		Medium Term (LTP[49]) – Not Serviced		Long Term (Infrastructure Strategy[50]) – Not Serviced	
		Developer to provide WW and WS network to link to CCC Infrastructure. Note: Sewer Limit Discharge Area. i.e., WW discharge restricted to 0.09 L/ha/s.		Note: Sewer Limit Discharge Area i.e., WW discharge restricted to 0.09 L/ha/s.[53]		connections to CCC Infrastructure. Note: Sewer Limit Discharge Area i.e., WW discharge restricted to 0.09 L/ha/s.
Memorial Ave MAIL (IP)	22.76	WW network connection available. Note: Sewer Limit Discharge Area i.e., WW discharge restricted to 0.09 L/ha/s Developer to provide water network link main through site to connect to the CCC water network.	-	Provision in LTP to provide additional WW infrastructure capacity to support development post 2023 (Avonhead Road wastewater upgrade). Note: Sewer Limit Discharge Area i.e., WW discharge restricted to 0.09 L/ha/s No provision in LTP to provide WS network link main through site.	-	-
SW Hornby IH rural wastewater irrigation area (west of Shands Rd and south of IG).	61.5 ha	WW and WS service being installed by developer. Note: Sewer Limit Discharge restricted to 0.09 L/ha/s	-	-	-	-
Springs Road (IH)	15.92	No WW or WS service.	15.92	Developer to provide WW and WS network to link to CCC infrastructure in Halswell Junction Road. No provision in LTP to provide network	15.92	Developer to establish WW and WS network to link to CCC infrastructure in Halswell Junction Road. No provision in LTP to provide these

[53] Limited capacity in WW system for developer to connect into.

Geographic Area	Short Term – Not Serviced		Medium Term (LTP[49]) – Not Serviced		Long Term (Infrastructure Strategy[50]) – Not Serviced	
				connections on behalf of the developer. Note: This was a condition of the plan change i.e., that the developer will provide linkage to Halswell Junction Road.[54]		networks on behalf of the developer.
Awatea (south of motorway) (IP)	10.47	WS service available in Mcteigue Road. WW service available in Bill Harvey Drive. Developer to provide WW and WS network to link to CCC infrastructure. Note: Sewer Limit Discharge Area i.e., WW discharge restricted to 0.09 L/ha/s	10.47	No provision in LTP to provide network connections on behalf of the developer.[55]	10.47	No provision in LTP to provide network connections on behalf of the developer. No provision for WW servicing in IS.
Total Industrial Not Serviced	277.22		114.10		114.10	
Greenfield Priority Areas[56]	Area not serviced (ha)	Notes	Area not serviced (ha)	Notes	Area not serviced (ha)	Notes
711 Johns Road	15		15	Limited WW discharge capacity available, no WS planned in LTP	15	No provision in Infrastructure Strategy to extend CCC WW and WS network into this area.

[54] Could be serviced in MT and LT by developer funded connection to Council system (restrictions will apply due to capacity limits of WW pump station).
[55] Could be serviced in MT and LT by developer funded connection to Council system.
[56] I.e., not yet zoned and therefore not considered part of supply except in long term.

Geographic Area	Short Term – Not Serviced		Medium Term (LTP[49]) – Not Serviced		Long Term (Infrastructure Strategy[50]) – Not Serviced	
Hawthornden Road	35.00		35.00	Some WW and WS capacity available (modelling not completed to confirm). Developer to provide WW a network to link to CCC infrastructure in Avonhead Road. Developer to provide WS link main from Avonhead Road to Hawthornden Road. No provision in LTP to provide network infrastructure on behalf of Developer.	35.00	No provision in Infrastructure Strategy to extend CCC WW and WS network into this area.
Total Greenfield Not Serviced	50		50		50	
Commercial						
Belfast/Northwood (CC zone)	9.44	No WW or WS network infrastructure, cap on traffic until Northern Arterial in place.	--	Provision in LTP to increase WS supply capacity to provide for this area. Network WW infrastructure capacity could be provided by Council post 2023 (programme funding in each case). Northern Arterial expected to be opened around 2021.	--	
Total Commercial Not Serviced	9.44		0.0		0.0	

Advice Note:
There are no identified infrastructure constraints for the balance of vacant and partly vacant land within already built-up Industrial and Commercial Zones that would preclude development.

Table 26: Vacant business land not serviced by development (network) infrastructure – Selwyn District

Geographic Area	Short Term – Not serviced		Medium Term (in LTP) – Not serviced		Long Term (Infrastructure Strategy) – Not serviced	
	Area not serviced (ha)[57]	Notes	Area not serviced (ha)	Notes	Area not serviced (ha)	Notes
All vacant business land is able to be serviced for each time period.						

[57] The size of the business areas has been calculated off GIS, with the overall size being inclusive of roads, reserves and utilities.

Table 27: Vacant business land not serviced by development (network) infrastructure – Waimakariri District

Geographic Area	Short Term – Not serviced		Medium Term (in LTP) – Not serviced		Long Term (Infrastructure Strategy) – Not serviced	
	Area not serviced (ha)[58]	Notes	Area not serviced (ha)	Notes	Area not serviced (ha)	Notes
All vacant business land is able to be serviced for each time period.						

[58] The size of the business areas has been calculated off GIS, with the overall size being inclusive of roads, reserves and utilities.

8. Suitability of supply

8.1 Introduction

The NPS-UD requires an assessment of whether any identified development capacity for business land is suitable for each business sector. A local authority has discretion on how it determines whether development capacity is suitable, but must, as a minimum, include suitability in terms of location and site size. As noted earlier, Councils are to engage with the development sector and infrastructure providers.

8.2 Methodology

The multi-criteria analysis (MCA) approach assesses clusters against attributes sought generally by the relevant development sector. For industrial activities, it is difficult to imagine a site so constrained that it would not be possible to use the site for an activity like storage units, stockpiling of landscaping materials or equipment hire.

An alternative option is to undertake a site level assessment to gain a more detailed understanding of the suitability of individual sites for development. Each of the Territorial Authorities have elected to undertake a broad area assessment for consistency. The MCA is a broad picture of the relative level of constraint on particular areas based on information presently known to Council planning staff. The methodology is outlined in Appendix 4 with the results discussed in Appendix 5. These scores reflect the constraints that would apply to a generic commercial or industrial development anticipated by the relevant zone and would likely change if the requirements of a specific activity were considered.

Sites listed below as not suitable and recommended for removal from development capacity for the purposes of this assessment are sites that either:

a) meet the very high test of being so constrained that they are very unlikely to be suitable for the majority of industrial or commercial activities anticipated by the zone; or
b) have a resource consent with a high likelihood of implementation for a non-commercial or non-industrial activity.

8.3 Suitability for Commercial Development

Christchurch City

Most commercial-zoned sites in Christchurch City are likely to be suitable for some form of commercial activity. Almost all of the centres are on arterial roads with good visibility. The highest scoring centres were generally established centres in residential areas with lower natural hazard risks and few contaminated sites. Lower scoring centres were generally:

a) greenfield emerging centres where servicing still needs to be established and/or the residential catchment has not developed or developed to the anticipated capacity (noting that whilst these centres may not be suitable to develop now, they are likely to be in the future); and
b) established centres with more significant land contamination or natural hazards issues.

The centres listed in Table 28 have vacant land that is considered to be not suitable for the reasons discussed below.

Table 28: Centres with vacant land that is considered not suitable for commercial development

Centre	Area not suitable (m^2)	Reason
Land on the SW corner of Main North Road and Radcliffe Road	4,750	Site has resource consent and is being developed for a retirement village
32A Central City Business	2,048	Site has recent consent to rebuild a historic church.

32F Central City Mixed Use	5,058	Three sites with recent consents for apartment complexes.
50A Redmund Spur	3,176	Centre is not connected to the road network or servicing, is relatively isolated and does not seem at the moment to have a sufficiently large existing residential catchment to support most commercial activities.
Total	15,032	

Redmund Spur was the only centre where none of the vacant land was considered suitable. Two other emerging greenfield centres (Highfield North and Highfield South) scored less than 80 (out of 104) because the surrounding residential catchment was considered not sufficiently developed to support commercial development at the current time.

The two established centres that scored less than 80 (out of 104) are Ferrymead and New Brighton. This reflects in part the fact that they are low-lying coastal centres in flood-prone areas where there is relatively high liquefaction risk and, in the case of Ferrymead, past uncontrolled filling that may increase the likelihood of contaminated soils. While vacant land in these centres may be suitable to develop in the shorter term, over a longer horizon there is need to consider the increasing risk to these centres posed by sea-level rise and increased costs for developers associated with mitigating those risks (for example, by the need to raise floor levels).

Three alternate scenarios considered most likely to affect the suitability of land supply in Christchurch City over the next 30 years and which will be the subject of future BCAs are:

a) Vacant land in coastal centres such as Ferrymead and New Brighton becoming increasingly at risk of coastal hazards.
b) A higher-than-expected take-up of residential activities in mixed-use zones, particularly in zones like the CCCMU where a number of recent consents for apartments have been issued in a cluster around the North Frame. Under this scenario the proportion of mixed-use land assumed to be in residential use may increase.

Greenfield emerging centres develop more quickly than anticipated meaning that centres which are were previously considered constrained by a lack of catchment or infrastructure would be more likely to come on-stream e.g., Redmund Spur.

It is recommended that the land supply in these areas is closely monitored to inform future capacity assessments.

Selwyn District

The MCA provided scores for the nine broad areas (Business 1 and Neighbourhood Centres) where there is plan enabled capacity, with there being little variation and most areas scoring highly. This signals that although some of the business clusters had constraints, these are unlikely to be so significant that it makes the land unsuitable to develop from a market perspective.

Lower scoring centres were generally:

- Broadly older centres (Lincoln and Prebbleton score of 3), which perform poorly for Land Assembly because of the fractured nature of land that may slow development in the areas.
- The Land Remediation score for the large centres (Rolleston Town Centre, Lincoln Town Centre and Prebbleton Town Centre) was lower than the smaller centres. These three centres have potential land contamination and/or fill issues which contribute to the lower score (3).
- Prebbleton town centre has potential issues associated with onsite stormwater management where part of the site may be managed on site while other areas fall within the catchment of an existing integrated scheme.
- The Planning Constraints criteria score for the large centres (Rolleston Town Centre, Lincoln Town Centre and Prebbleton Town Centre) was lower than the smaller centres. This variation is attributed to additional planning rules within the Key Activity Centre's of Rolleston and Lincoln that require an

assessment of urban design and restrictions on activity types in these areas, which reduces the flexibility of land use for some types of commercial activity (for example Large Format Retail).
- The Lincoln Town Centre also has a lower visibility score, which is due to a portion of the town centre being located behind Gerald Street.

Overall, the business clusters scored highly on average across the board, establishing that there appear to be few constraints to the market to develop vacant land or to redevelop existing sites. This is consistent with the advice provided at the one-on-one engagement discussions held with the significant landowners who signalled an interest in meeting[59].

Waimakariri District

The MCA was completed for seven broad areas that have commercial zones (Business 1 and Business 4).

The scores under the Accessibility criteria are consistent across most areas, with only one area scoring a 3 (Ravenswood). In this instance, the accessibility of the area is expected to improve when a planned road is connected to State Highway 1 (in the operative District Plan). The uniformity of the scores means that this criterion is likely to have little impact when differentiating between areas.

Under the Land Assembly criteria there was larger variation in scores than most of the other criteria. Broadly older centres (Rangiora and Kaiapoi Town centres score of 2) perform poorly because of the fractured nature of land which may slow development in the areas. The newer areas (Ravenswood and Kaiapoi Silverstream score of 4) have not been subject to subdivision / purchase by multiple landowners and will be more able to readily supply land to meet the demand of the market.

The Remediation and Infrastructure criteria have the same score for all of the broad areas. Under the Natural Hazards criteria there is the most variation amongst all the centres assessed. The worst score is Kaiapoi Town Centre (score 1) and Kaiapoi Silverstream (score 2), which are both identified as high hazard areas. The remaining areas have no significant hazards.

The scoring against the Planning Constraints criteria is consistent across most areas, with only one area scoring a 3 (Rangiora Town Centre). There are some planning rules that necessitate an urban design assessment or restrict parking and pedestrian access in Rangiora which reduces the flexibility of the land in this area for some types of commercial activity. Finally, the scoring under the Other Development Constraints criteria is the same score for all the broad areas.

Overall, the business clusters scored highly on average across the board, establishing that there appear to be few constraints to the market to develop vacant land or to redevelop existing sites.

Greater Christchurch

The preceding assessment indicates that all land is suitable across the TAs, with some exceptions in a Christchurch City context. As stated earlier, this reflects the nature of the assessment and feedback from the development sector that unless a site-by-site assessment is completed of costs and all possible scenarios, it is unlikely that land will be found to not be suitable.

8.4 Suitability for Industrial Development

Christchurch City

Most industrial-zoned sites in Christchurch City are likely to be suitable for some form of industrial activity. There was not significant variability between the scores for most of the clusters which fell into an approximately 10-point range near the top of the scale. Almost all of the clusters were on arterial roads with good access to the rail network, airport or port. Most established clusters had some contaminated sites and some natural hazard related constraints but generally not to the point that it was considered that development would not be suitable.

[59] Davie Lovell-Smith on behalf of BHL and Hughes Developments Ltd, Gillman Wheelans Ltd, Nimbus Group; Lincoln Developments Ltd, Denwood Trustee, Suburban Estates, Sparr Developments Ltd and White Gold Ltd.

Limited bulk servicing provision to some clusters affected the kinds of industries that could be expected to locate in those clusters but did not limit suitability overall. For example, a number of industrial clusters around southwest Hornby have limits on the amount of wastewater that can be discharged into the public wastewater network. This would constrain industries that rely on significant wastewater discharges but would not constrain "dry" industries like storage, light manufacturing, or logistics.

The two lower-scoring clusters are identified as greenfield priority areas (GPAs) for business in the CRPS but were not rezoned in the last District Plan review. While the two areas are more constrained than other clusters because they are still zoned for rural activities, are generally not serviced, and have other infrastructure-related constraints, they are still considered suitable. Even though industrial activities would require a non-complying a resource consent application, the application would have some policy support in the CRPS.

The following clusters have vacant land that is considered not suitable for the following reasons.

Table 29: Clusters with vacant land that is considered not suitable for industrial development

Cluster	Area not suitable (m^2)	Reason
26C Bower Avenue	1,896	Several sites have very significant natural hazards constraints.
46C Woolston / Ferrymead	5,185	Site of a demolished apartment complex intended to be rebuilt
52B Lyttelton	2,529	Site has recent consent to rebuild a historic fire station
Total	9,610	

In the context of the significant supply of industrial land within Christchurch City identified in the preceding section, this one hectare of 'unsuitable' land would appear to be insignificant.

Selwyn District

The MCA evaluations signal that all plan-enabled sites in Selwyn are likely to be suitable for some form of industrial activity.

The scores against most of the criteria are uniformly high across both broad areas (i.e., no difference on the score for Accessibility to the Transport Network, Land Assembly, Land Remediation Requirements, Natural Hazards, Planning Constraints and Other Development Constraints). It was only against one criterion (Location-specific Infrastructure) that there was a distinction between the two broad industrial areas. The Lincoln Industrial Hub (Business 2B Zone) has a lower score because of the onsite stormwater management requirements in this area and the likelihood that this will need to be managed within an integrated scheme developed at the same time as the adjoining residential subdivision.

In summary, the MCA scores show that there is very little difference between the broad areas that are zoned industrial and establishes that there are few constraints to the market to develop vacant land or to redevelop existing sites from a general suitability perspective.

Waimakariri District

The MCA evaluation provided scores for seven clusters that have an industrial zoning (Business 2). In summary, there is more variation in the scores (although the differences are small) for the industrial clusters in Waimakariri than the commercial broad areas.

The scores for accessibility criteria are consistent across most areas, with three areas scoring a 3 (Rangiora, Kaiapoi 1, Ravenswood). These areas are expected to be connected to main roading infrastructure in the future (either via Collector Road, Strategic Road, Arterial or Urban State Highway).
Scores against the Land Assembly criteria had the larger variation than most of the other criteria. Broadly older centres (Rangiora and Kaiapoi Town centres score of 2) perform poorly because of the fractured nature of land which may slow development/redevelopment in the areas. While the newer areas (Ravenswood score of 4) have not begun land division and will be more able to readily supply land to meet the demand of the market.

The scores against the Remediation criteria are the same for most areas. Only Rangiora area has a lower score of 2, which is related to the potential contamination and landfill in the area.
Scores against the Infrastructure criteria are the same for all the clusters.
The most variation in scores was against the Natural Hazards criteria. Kaiapoi Centre and Kaiapoi Smith Street (score 1) had the lowest scores which reflects their location in high hazard areas. The Rangiora and Southbank areas are identified as medium hazard areas which results in a score of 2. The remaining areas have no significant hazards.

In summary, the MCA scores show that there is very little difference between the clusters that are zoned industrial and establishes that there are few constraints to the market to develop vacant land or to redevelop existing sites from a general suitability perspective.

Greater Christchurch

The preceding assessment indicates that all land is suitable across the TAs, with some exceptions in a Christchurch City context. Like Commercial land, this reflects the nature of the assessment and feedback from the development sector.

9. Sufficiency of Business Land

9.1 Introduction

The final step in the business development capacity assessment is to establish whether the amount of suitable, serviced development capacity is sufficient to meet the estimated demand for different types and locations of business land and floor area.

Sufficient/sufficiency is defined in the NPS-UD as "the provision of enough development capacity to meet housing and business demand, and which reflects the demands for different types and locations of development capacity".

The results are set out below.

9.2 Commercial[60] Land Sufficiency

Christchurch City

Comparison of projected demands against available plan-enabled supply indicates that Christchurch City has sufficient commercial land over the short and medium terms. However, a projected shortfall of 110.1 hectares is projected over the long term. This reflects the shift in the economy's employment composition to a projected higher proportion of commercial employees[61]. It must be borne in mind that the sufficiency of commercial land development depends inherently on the assumptions used to calculate demand and supply projections[62]. A higher average building storey height assumption would obviously have a bearing on overall commercial land sufficiency citywide, but particularly for the Central City where taller buildings are more likely.

Table 30: Sufficiency of commercial land in Christchurch City

Christchurch City	Short Term Land Requirements	Medium Term Land Requirements	Long Term Land Requirements
Commercial Offices	25	61	157.9
Retail	8.0	23.6	53.7
Total Demand	33	84.6	211.6
Total Supply	103	103	103
Less land that is not serviced[63]	9.4	0	0
Less land that is not suitable[64]	1.5	1.5	1.5
Sufficiency	59.1	16.9	-110.1

Selwyn District

A comparison of projected demand against available plan-enabled supply utilising the wholly vacant land measure indicates that Selwyn has sufficient commercial land in the short term, but that there is a projected under-supply within the medium term of three hectares. A shortfall of 31 hectares is projected in the long term, once again using the wholly vacant land supply measure, including within the townships of Lincoln and West Melton. Vacant Potential supply may provide additional capacity sufficient to meet medium term needs, although it is dependent upon more optimal uses of business land. The variations between the Vacant and Vacant

[60] Land available for offices, commercial services and retail activities
[61] Property Economics, Christchurch Business Land Capacity Assessment (2018) page 57-58.
[62] Note that the Christchurch District Plan enables buildings of 28m (around 7 storeys) in the Central City Business Zone and 17m (4 storeys) in the Central City Mixed Use Zone, as a permitted activity.
[63] i.e., excludes land that has a servicing constraint over the short, medium or long term.
[64] i.e., excludes land that has been assessed by CCC as not suitable.

Potential supply estimates emphasise the need for regular monitoring to gauge the extent to which commercial land is utilised or redeveloped to more optimal ratios in Selwyn than what is currently the case.

Table 31: Sufficiency of commercial land in Selwyn District

Selwyn District	Short Term Land Requirements	Medium Term Land Requirements	Long Term Land Requirements
Total Demand	6ha	18ha	50ha
Total Supply	19ha	19ha	30ha
Sufficiency	13ha	1ha	-20ha

Waimakariri District

Comparison of projected demands against available plan-enabled supply indicates that Waimakariri has a potential shortfall of land of around 17ha in the long term (when considering only vacant commercial land) as outlined in Table 32. If the underutilization of existing commercial land is included into the total supply available, this changes the overall result from a shortfall of 17ha to an overprovision of land by 1ha.

Table 32: Sufficiency of commercial land in Waimakariri District

Waimakariri District	Short Term Land Requirements	Medium Term Land Requirements	Long Term Land Requirements
Total Demand	4ha	12ha	32ha
Total Supply	36ha	36ha	63ha
Sufficiency	32ha	24ha	31ha

Greater Christchurch

The results on sufficiency at a Greater Christchurch level indicate a sufficient supply of suitable commercial land to meet demand in the short and medium term. In the long term, there is an apparent shortfall. However, as stated above, this is premised on a number of assumptions to calculate demand and supply and further testing of these assumptions will be required together with active monitoring of take-up rates and projected changes in demand. The redevelopment of under-utilised sites and use of existing vacant floorspace may also affect the extent to which there is sufficient land.

Table 33: Sufficiency of commercial land in Greater Christchurch

Greater Christchurch	Short Term Land Requirements	Medium Term Land Requirements	Long Term Land Requirements
Total Demand	43ha	114.6ha	293.6ha
Total Supply	150.1ha	156.5ha	194.5ha
Sufficiency	107.1ha	41.9ha	-99.1ha

9.3 Industrial Land Sufficiency

Christchurch City

Table 34: Sufficiency of industrial land in Christchurch City

Christchurch City	Short Term Land Requirements	Medium Term Land Requirements	Long Term Land Requirements
Total Demand	18.4	35.7	119.2
Total Supply	778	778	778
Less land that is not serviced[65]	277.22	114.10	114.10
Less land that is not suitable[66]	0.96	0.96	0.96
Sufficiency	481.42	627.24	543.74

Selwyn District

Table 35: Sufficiency of industrial land in Selwyn District

Selwyn District	Short Term Land Requirements	Medium Term Land Requirements	Long Term Land Requirements
Total Demand	42ha	131ha	347ha
Total Supply	377ha	377ha	425ha
Sufficiency	333ha	246ha	78ha

Waimakariri District

Table 36: Sufficiency of industrial land in Waimakariri District

Waimakariri District	Short Term Land Requirements	Medium Term Land Requirements	Long Term Land Requirements
Total Demand	12ha	31ha	79ha
Total Supply	32ha	32ha	102ha
Sufficiency	20ha	1ha	23ha

Greater Christchurch

At a Greater Christchurch level, there is a significant quantum of industrial land, based on an assessment of fully and part vacant land, sufficient to meet long term demand. If the plan enabled capacity is limited to wholly vacant sites, the assessment projects a shortfall of industrial zoned land in the long term of 37 ha at a Greater Christchurch level. However, this does not take account of partially vacant sites or redevelopment potential of existing developed sites, which in many areas makes a significant contribution to land supply. Nor does it consider land that is not serviced but will continue to be utilised for industrial activities (e.g., Chaneys), and land that may be serviced as a result of provision by developers and/or the reconsideration of funding priorities. There remains a need for monitoring and future capacity assessment to consider the supply at a finer grain and whether it is meeting the needs of specific industries.

Table 37: Sufficiency of industrial land in Greater Christchurch

Greater Christchurch	Short Term Land Requirements	Medium Term Land Requirements	Long Term Land Requirements

[65] i.e., excludes land that has a servicing constraint over the short, medium or long term.
[66] i.e., excludes land that has been assessed by CCC as not feasible.

Total Demand	72.4ha	197.7ha	545.2ha
Total Supply	918.8ha	1,072.9ha	1,189.9ha
Sufficiency	846.4ha	874.2ha	644.7ha

10. Conclusions and Recommendations

10.1 Christchurch City

Industrial Land

Overall, the capacity assessment indicates that Christchurch City is likely to have sufficient, suitable, and serviced industrial land supply to meet projected needs for the next 30 years. There is 778 hectares of vacant industrial land in Christchurch City that is zoned for industrial purposes along with a further 50 hectares of rural zoned land that is identified in the Canterbury Regional Policy Statement as potential future industrial land. Whilst some of this land (around 114 hectares) has infrastructure servicing and other constraints over the long term that may limit the ability to bring the land to market over the planning period, even excluding this land would still leave a balance of 627 hectares available to meet a projected long-term demand for 119 hectares of industrial land in the city. CCC considers some of this constrained land will nonetheless also be utilised for industrial purposes over the long term as a result of developer led provision of infrastructure, reconsideration of infrastructure funding priorities and / or because some land can be used for industrial purposes, even without being fully serviced.

There is considered to be a good distribution of industrial land, in a range of property sizes and tenures, around the City to meet foreseeable demands. Continued monitoring of vacant land and take-up rates around the city will be important to understand the locations of greatest demand and whether land supply is being responsive to those demands over time.

Based on this assessment, there is no evidential need to identify new industrial land supply in the short, medium, or long terms. Based on this over-supply, neither does there appear to be a need to rezone the two rural areas currently identified in the CRPS as potential future industrial locations.

Commercial Land

For Commercial land, there will be a need for additional capacity in Christchurch City. Long term, the Christchurch area is estimated to require an additional 110 hectares above the current zoned provision.
Given the relationship between population and household growth and commercial land demands, it is appropriate that this additional commercial land provision be focussed in centres to serve residential growth areas including the central city, key activity centres, and new commercial centres which may be developed to support new suburban residential communities.

The Future Development Strategy will need to consider how to respond to this shortfall and which should consider the following:

- The extent to which existing industrial land in and around the Central City might be anticipated to meet future demands for commercial activity over the medium and longer term i.e., as older industrial land is naturally redeveloped for higher value commercial (and residential) uses.
- Opportunities for additional development capacity to be provided through making more efficient use of existing commercially zoned land including through the Housing and Business Choice Plan Change that will enable significant more capacity in and around commercial centres for office and other activities above ground floor. The city centre for example, will have significantly greater height limits, enabling significantly more capacity.
- Opportunities to provide additional commercial capacity through the redevelopment of surplus brownfield industrial land for commercial or mixed uses.

10.2 Selwyn

Industrial Land

For Selwyn, the modelling suggests that there will be more than sufficient supply to meet the demand for industrial land through the medium-term and the long-term. The increased industrial demand is from better understanding of freight demand while the increased capacity is met through recent private plan changes. The

plan-enabled land is serviced and relatively free from any development constraints that may limit its suitability to be developed or redeveloped for some form of industrial activity. Ongoing stakeholder engagement and monitoring of the uptake of industrial land is required to quantify whether this projected over-supply reflects market realities. Based on this assessment, there is a need to strategically plan for new industrial land in the long-term, which is largely freight-based land.

Commercial Land

For Selwyn, the modelling of commercial demand and supply estimates are indicating that there is insufficient land available into the long-term. The amount of business land improves when vacant potential capacity is utilised, however, this assumes that business land will be used more optimally in the future.

The Future Development Strategy will need to consider how to respond to this shortfall and which should consider the following:

- Ability of Vacant Potential land supply to meet retail and industrial demand and if not, where this potential shortfall could be accommodated.
- Regular ongoing monitoring of population and employment growth to reality check the rates of uptake and optimisation of business zoned land.
- Consider the individual demand and supply requirements for commercial land at a township level in Selwyn District.
- Consideration of the supply of land for specific types of commercial development, having regard to the size of parcels (e.g., small format / large format retail). This has not been addressed as part of this capacity assessment for SDC.

10.3 Waimakariri

Industrial Land

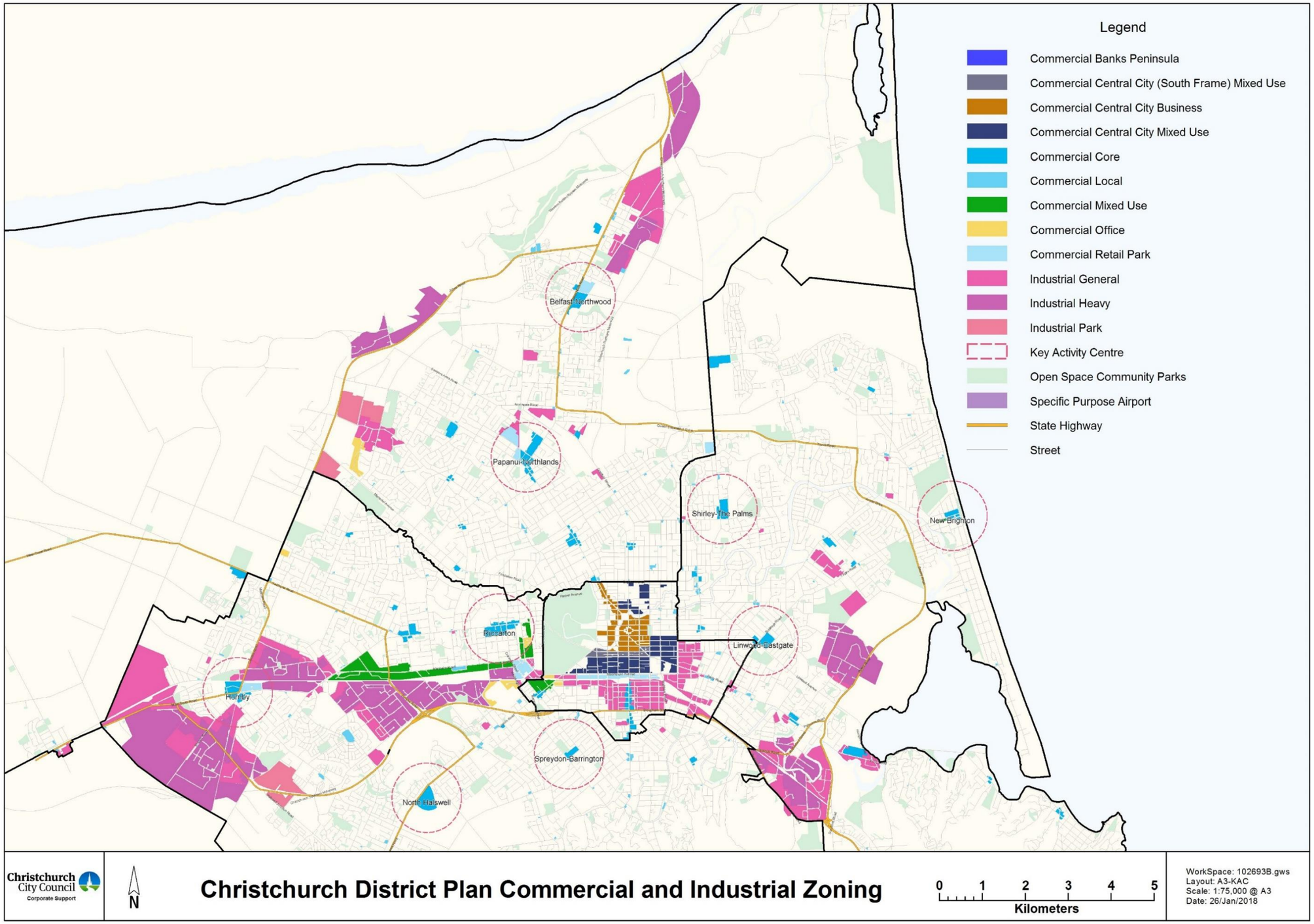
For Waimakariri, the capacity assessment indicates that there is likely to have sufficient, suitable, and serviced industrial land supply to meet projected needs for the next 30 years. However, there are some questions around the distribution of existing industrial land supply, in order to meet foreseeable demands. Monitoring of vacant land and take-up rates around Rangiora and Kaiapoi will be important to understand the locations of greatest demand and whether land supply is being responsive to those demands over time.

Based on this assessment, there is no evidential need to identify new industrial land. However, if ongoing monitoring suggests that existing land supply is not being brought to market in a timely manner, this position may need to be reconsidered in future capacity assessments.

Commercial Land

For Waimakariri, the capacity assessment indicates that there is likely to have sufficient, suitable, and serviced commercial land supply to meet projected needs for the next 30 years.

Appendix 1 – Christchurch District Commercial and Industrial Zoning



Appendix 2 – Report on Availability of 'Development Infrastructure'

This section supplements Section 7 above by providing further information on the actual and likely availability of development infrastructure for which the Council is responsible i.e., water supply, wastewater, stormwater and land transport, to support the development of land in the short, medium and long term, as required in the NPS-UD. Development infrastructure is defined in the NPS as meaning "network infrastructure" to the extent to which it is controlled by local authorities.

The infrastructure assessment considered whether any plan enabled capacity is:

a) currently serviced with development infrastructure, or;
b) to be serviced as a result of funding identified in Council's Long Term Plan (LTP): or
c) indicated as being able to be serviced in the longer term within the Council's Infrastructure Strategy.

A2.1 Christchurch City

A2.1.2 Availability of Development Infrastructure

The following sections summarise potential infrastructure constraints for Christchurch City.

Wastewater
For several greenfield areas, infrastructure is not currently available on the ground because of the nature of the funding and provision process, with development infrastructure only being provided when it is needed. This includes North Belfast Industrial General zone, and the MAIL site on Memorial Avenue. It will however be available when development begins, i.e., in the medium term, due to being included in the LTP either as specific projects or as programme funding. Some greenfield business areas are not currently programmed to be provided with wastewater servicing until sometime between 2019 and 2048. I.e., public sewer provision towards these areas might occur within the next 10 years but equally might not, depending on take-up of industrial land. These areas can be serviced in the medium term.

Parts of the City, especially peripheral ODP areas on the western side of the built-up area will continue to have "dry industry" only rules even when they are able to be serviced. This is to prevent wet industry in these locations because of distance to the Bromley treatment plant. Wet industry, because of greater flows and/or high concentration of wastewater, takes up capacity further down the system, and leads to greater corrosion on the system thereby shortening its lifespan. A range of industrial uses are still possible.

Two further zoned industrial areas, Chaneys and the Wairakei Road west of Stanleys Road area may not be serviced by bulk sewers within the 30-year period, meaning that satellite treatment systems might need to be considered for wastewater if development is to proceed earlier than this.

The greenfield priority areas still zoned rural are only included in land supply for the long term as they have servicing constraints, even in the long term.

Water Supply
Several water supply wells service the city by drawing on the aquifers below it, and they are all interconnected by supply pipelines for normal operation but can be isolated out by valve closure. It is intended that the system will operate with separate water supply zones (clusters of wells), to better control flows, for system resilience in isolating problems more rapidly and to allow pressure management in areas where pressure is high (generally central and to the east). An optimisation programme is underway and demand management measures will be increasingly important in the future.

There are few major water supply constraints to development of business land within the Christchurch area, as several major upgrades have either been undertaken in recent years or are planned to be undertaken within the next 10 years, i.e., are provided for in the current LTP.

However, as for sewerage, some greenfield business areas are not currently programmed to be serviced for water supply until sometime between now and 2048. Again, similar to sewerage infrastructure provision, development timing could be advanced if developers fund and construct new water supply mains not only within their landholdings but outside of the ODP areas to enable connection to Council services. In some of these areas' new wells and new network pump stations would also be required, to increase capacity.

A further area, the undeveloped parts of the Taits and east of Stanleys Road ODP area (IP and IG zones), would also require new wells and pump stations even though it is currently serviced for wastewater. This area is not included as being infrastructure constrained, as water supply in the NW is being assessed on an ongoing basis, and it is likely that Council would be responsible for these new wells and pump stations.

Stormwater
The Council's existing global consents for stormwater discharge set out what is to be achieved (standards for peak flows to control flooding, treatment to remove contaminants etc.), while Stormwater Management Plans set out how this will be done and by when. They are effectively a blueprint for how the water quality and quantity of urban development will be mitigated.
Where Council is mitigating new growth and allowing discharges, there is still a residual net increase in urban contaminants being discharged to receiving environments and therefore there is a requirement to balance this by retrofitting improved stormwater treatment for existing older development. Non-growth driven retrofit capacity or treatment must be funded by rates rather than DCs; therefore, improvement in water quality largely depends on how much Council can spend. As already noted, there are real financial constraints on Council at the present time.

For most sites in the northwest, west and southwest of Christchurch, stormwater capacity is not a significant constraint on new development, as these areas can provide their own stormwater detention and treatment and disposal on-site, or through a communal system nearby. This is because of the presence of subsurface gravel or coarse sand soils in these areas and means that almost all new development does not have to rely on a reticulated stormwater system outfalling to a stream or river.

On-site treatment and disposal of stormwater needs to be carefully managed however, because the west of the city sits above layers of unconfined aquifers, which are the source of the City's drinking water. Development is not precluded, but provision of land and facilities for stormwater treatment and disposal does increase the cost of development, meaning that stormwater facilities such as swales and infiltration basins are often incorporated in landscape areas or are located along roads.

Transport
The Christchurch urban area is serviced and connected by strategic transport links, including State Highways 1, 73, 74, 75 and 76, with these corridors controlled by NZTA (see "other infrastructure").

Council's Transport Strategic Plan 2012-2042 sets out a 30 year "vision" for transport within the city. This plan includes supporting the state highways with accompanying downstream enhancements to arterial connections and local roads, promoting modal choice through improved public transport, cycling and pedestrian networks, and a Travel Demand Management Programme. A draft Christchurch Transport Plan has been prepared and it is anticipated that consultation will occur on the draft in early 2023 subject to Council decision.

Additional growth is likely to lead to reductions in the level of service and capacity of some parts of the network, which will result in increasing delays and congestion on the network. This could have a constraining impact on economic growth, if not carefully managed.
While the Council's LTP sets out upgrades planned to Council's transport links within the next 10 years, it is difficult to directly link network constraints to developments in greenfield areas, as these normally simply add transport demand to particular routes and corridors.

There are infrastructure constraints indicated in Christchurch City where the District Plan requirements for roading improvements act as constraints on the timing of development. As for other Council infrastructure, developers are required to provide roading within new business subdivisions to Infrastructure Design Standards[67] and to vest these roads in Council.

A2.2 Selwyn District

A2.2.1 Availability of Development Infrastructure

Wastewater
The East Selwyn Sewer Scheme has capacity to support the development of the business environments in Rolleston, Lincoln, Prebbleton and West Melton, with additional upgrades planned and undertaken when population thresholds are met or where developers need to extend sewer mains and install lateral connections

[67] https://www.ccc.govt.nz/consents-and-licences/construction-requirements/infrastructure-design-standards/download-the-ids/

at the time of subdivision. Further, master planning and supporting Development Contribution policies are in place in the 2018-28 LTP.

Wastewater connections have yet to be installed to the boundaries of the proposed Neighbourhood Centres in the Falcon's Landing and Geddes/Dryden Trust Special Housing Area in Rolleston; the timing of which will be dependent upon the progressive development of the surrounding housing developments.

Although a connection is available to the trunk main to service the Lincoln Industrial Park, a wastewater main extension and pump station are required to be installed. These extensions and upgrades are likely to occur when the development of the adjoining housing areas is progressed.

Water Supply
Generally, bulk water infrastructure is planned and will be constructed in Rolleston, Lincoln, Prebbleton and West Melton as required, with developers needing to extend water mains and install lateral connections to the primary network at the time of subdivision. Further, master planning and supporting Development Contribution policies in place in the 2015-25 LTP. Some development areas in Lincoln, Rolleston, and Prebbleton require water supply and utility upgrades, which are programmed for upgrades by 2028. Developers have an option to progress these upgrades privately within a shorter timeframe in response to the timing and sequencing of development.

Water connections have yet to be installed to the boundaries of the proposed Neighbourhood Centres in the Falcon's Landing and Geddes/Dryden Trust Special Housing Area in Rolleston, the timing of which will be dependent upon the progressive development of the surrounding housing developments.

A water main is required to be extended to the Lincoln Industrial Park, the timing of which is dependent upon when the adjoining housing areas are developed.

Stormwater
Generally, stormwater capacity is available or possible for all sites that have been zoned for development, with an Integrated Stormwater Management System established in Lincoln to service the Rosemerryn Neighbourhood Centre.

The management of stormwater within the Lincoln Industrial Park may be able to be managed on-site, but it is likely that a combined scheme incorporating the adjoining undeveloped housing areas will need to be established to manage the wider site in an integrated way.

Transport
Urban areas have access to transport links, including the Main Trunk and Midland Lines and State Highway 1, 73 and 75. The Southern Motorway extension and Four-Laning State Highway 1 to Rolleston is under construction as a Road of National Significance. Future growth is enabled through progressive upgrades to transport links, which have been either undertaken or are programmed to ensure there is sufficient capacity within the strategic transport network to accommodate growth needs over time."

A2.3 Waimakariri District

A2.3.1 Availability of Development Infrastructure

Three waters infrastructure
Infrastructure services for stormwater, wastewater and potable water range from individual sewerage and water systems (such as in rural areas) to Council provided reticulated (piped) schemes. There has been a shift in recent years towards connecting-up small community schemes to larger reticulated schemes, and it is expected that this trend will continue. The Council has invested heavily in response to higher growth rates, including those driven by the 2010 and 2011 earthquake events. Two major infrastructure investment decisions are an example of this:

- The construction of the $36 million Eastern Districts Sewerage Scheme that connects and treats wastewater from nine eastern towns and communities (95% of properties in the district). The Eastern Districts Sewerage Scheme has capacity for projected growth until at least 2050. It also provides improved environmental benefits by replacing discharges to lowland rivers and streams or disposal onto land with an ocean outfall.
- A $16 million major upgrade of the Rangiora water supply in 2011 that includes a new deep artesian water source with multiple bores and in-ground infrastructure. With the completion of all planned bores in the borefield and additional reservoir storage, sufficient capacity has been provided for a doubling

in the size of Rangiora's population, thereby providing sufficient capacity to match the demand projected by the growth projections.

The Council's commitment over the past decade to major investment in infrastructure to cater for growth means that when considering development in the district over the next 30 years, the 'backbone' of the major infrastructure is already in place. The only work now required to meet growth demands is to integrate new development areas into the existing systems and respond to national policy requirements and meet the changing expectations of the community regarding the standard of services provided.

Transport

The main roading projects (outside of the State Highway network within the Waimakariri District) relate to connecting the eastern part of the District with Christchurch and making sure local arterial roads have sufficient capacity to cope with the anticipated growth in traffic volumes. This includes ensuring safety considerations are taken into account particularly on key routes and at intersections.

Work is programmed over the next two to three years to improve the arterial link from the west of Rangiora and Southbrook commercial area to the State Highway and Kaiapoi via Fernside and Flaxton Roads. As population grows so does the likelihood and number of crashes. Several safety projects have been planned, including the re-alignment of Skew Bridge, to allow for the increased volume and speed of traffic to and from the new arterial road at Silverstream.

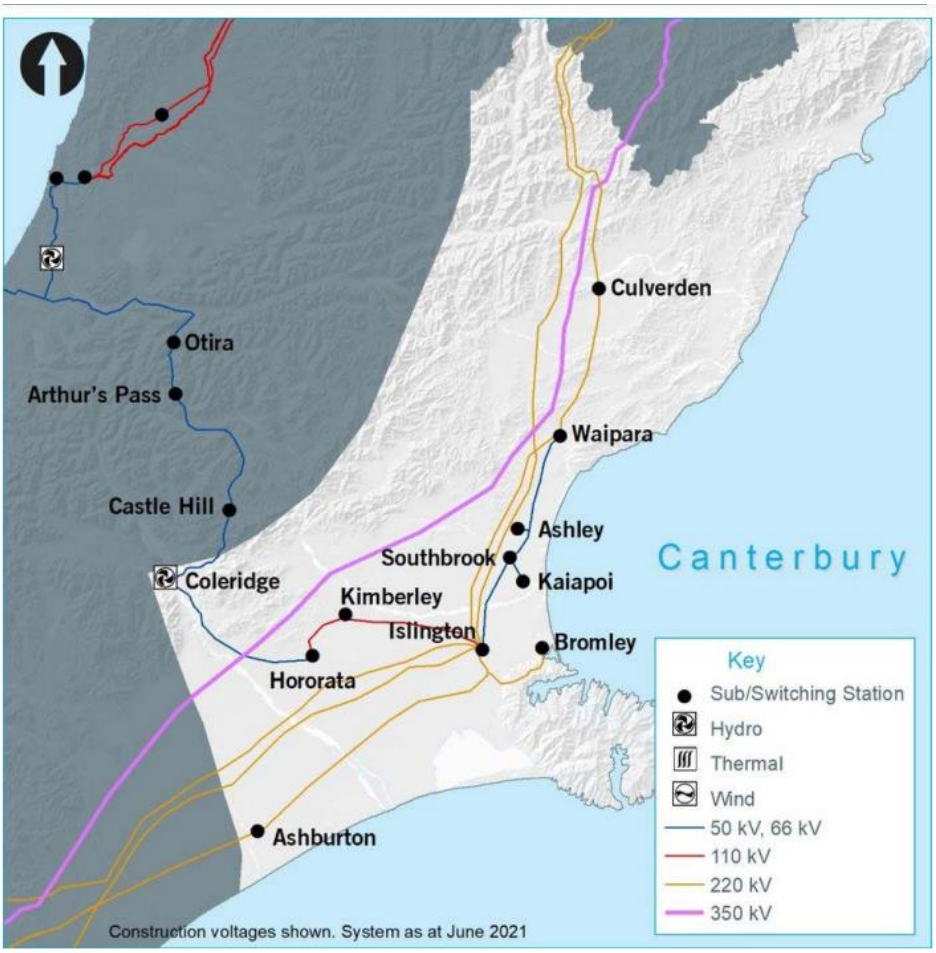
Other projects reflect the move towards providing alternatives to increased road construction and more cars. Council is already providing for an increased demand in cycle facilities and is looking longer term into Park 'n' Ride in Rangiora and Kaiapoi to encourage increased public transport uptake. Ongoing improvement to cycle lane facilities, such as the Belfast to Kaiapoi route will provide further opportunities for alternatives for commuters, particularly with the uptake of e-bikes.

Appendix 3 – Report on Availability of 'Additional Infrastructure'

A3.1 Electricity Transmission Infrastructure

Transpower is the State-owned enterprise that plans, builds, maintains, owns, and operates NZ's electricity transmission network known as the National Grid. Transpower transports bulk electricity from where it is generated by companies such as Meridian Energy and Genesis Energy, to the local lines distribution companies like Orion which supply the electricity to homes and businesses. It also connects several larger industrial companies directly (like the aluminium smelter at Tiwai) although there are no such connections within the Greater Christchurch area. The region's transmission network is illustrated below.

Figure 9: Canterbury Region Transmission Network



Source: Transpower Planning Report 2021

Transpower's Development Strategy "Transmission Tomorrow" (2018) describes key factors that it believes are driving significant change in the electricity sector. These are climate change; the possibility of increasing economic, political and security uncertainty; new technologies that are disrupting the energy industry; population growth and urbanisation; and New Zealand's unique combination of energy circumstances. These challenges lead to five strategic priorities: play an active role in enabling New Zealand's energy future; sustain our social licence to operate; match our infrastructure to need over time; evolve our services to meet customers' needs; and accelerate our organisational effectiveness[68].

[68] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn1

Transpower regularly produces a Transmission Planning Report which sets out the grid asset capability and projects that it considers possible over the next 15 years. It forecasts annual peak demands at grid exit points (Bromley and Islington in Christchurch and Islington and Hororata for Selwyn) over this period. These forecasts are based largely on information provided by the distribution companies[69].

Transpower plans and funds for this forecast growth as it translates to the need for new and upgraded assets and renewals. At present, there are identified constraints with Christchurch's supply capacity from around 2025 and options to address these constraints are being investigated[70]. However, Transpower will continue to plan for and be responsive to forecast growth in accordance with this model over the next 30 years and as such, electricity transmission infrastructure is likely to be available to meet business growth needs over this period.

2. A3.2 Electricity distribution infrastructure

Orion New Zealand Limited is the electricity lines company that provides and manages the distribution network for Christchurch City and Selwyn Districts. MainPower NZ Limited services the Waimakariri District. In Christchurch, Orion takes power from Transpower grid exit points at Bromley and Islington, distributing electricity via predominantly 66kV and 33kV sub-transmission and 11kV distribution lines and cables to businesses and residential areas throughout the city. In Selwyn, Orion distributes power from the grid exit points at Islington, Kimberley, Hororata, Lake Coleridge, Castle Hill and Arthurs Pass around the district via the same means. In this regard it is important to note that currently the electricity supply in Selwyn is in large part met by grid exit points in Christchurch City. In Waimakariri, Mainpower takes power from Transpower grid exit points at Southbrook, Kaiapoi and Ashley and distributes the electricity via 66kV sub-transmission overhead lines and underground cables[71].

Over the next 10 years Orion is forecasting total capital expenditure of $946m on its distribution network across both Christchurch City and the Selwyn District to meet demand from major industrial customers and steady growth in certain residential areas, including enabling decarbonisation of process heat and transportation. This capital expenditure forecast also supports maintenance of safety levels and asset condition for existing asset fleets. Mainpower plans to spend $19M, in order to strengthen and expand its urban electricity network to connect customers[72]. Both companies have a 10-year plan where it identifies forecast growth areas based on data supplied by all three Councils including vacant land and take-up rates along with projected growth areas. This is monitored on an annual basis and the information shared with Transpower[73].

[69] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn2

[70] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn3

[71] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn4

[72] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn5

[73] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-

This information is supplemented by additional specific information about development projects and plans. Proponents of new developments should work with Orion early in the development planning process to identify their projected electricity supply requirements. Where developers leave engagement with Orion to the resource consent stage of a development (or otherwise after plans are well advanced), this can create challenges to meeting the required electricity supply. Small-scale renewals and improvements are paid for by user charges. Significant new infrastructure is partially funded by new customers (or existing customers where it is their development that necessitates the significant new infrastructure).

Sometimes significant new developments come on-stream which necessitate bringing new and upgraded infrastructure investment forward to accommodate demand. An example of this is occurring in North Belfast at present with high electricity users, including Silver Ferns Farms decarbonising, or large redevelopments and upgrades to primary production facilities in the wider Burnham, Norwood and Dunsandel areas which are increasing demands on the distribution network in that area. Orion is currently in the final planning stages of a new Grid Exist Point and upgrading its network in these areas to meet this demand.

Whilst the existing network may have capacity constraints in various areas, Orion and Mainpower's planning and funding models means that electricity infrastructure is either presently available or likely to be available to meet future business demands.

However, the electricity sector is facing increasing uncertainty and a period of significant disruption and transformation. Rapid decarbonisation and increasing electrification present new and significant challenges for the industry - while novel and growing alternative generation resources (such as solar) and new technologies are likely to require modification and reconfiguration of existing electricity distribution and transmission network infrastructure. Orion is focused on meeting these challenges.

3. A3.3 Land Transport

The aspects of land transport which are defined as 'Additional Infrastructure' under the NPS-UD, are the parts of the Land Transport network which are not controlled by Councils (i.e., the Rail network which is controlled by KiwiRail and the State Highway network which is controlled by the New Zealand Transport Agency). The other aspects of land transport which are controlled by Councils (i.e., local roads, public transport, and most cycleways / footpaths) are considered 'Development Infrastructure'.

A3.3.1 Rail

It is estimated that around 20% of total freight volume moved through Greater Christchurch is by rail, significantly higher than the national average of 7%[74]. Much of this rail freight traffic carries dairy, coal, and timber products for export via the Port of Lyttelton. Consequently, much of this freight travels through Greater Christchurch from locations both within and outside the Canterbury region including Darfield, Clandeboye, the West Coast, Southland, and the North Island.

The rail lines in and out of Christchurch include:

- Auckland to Christchurch Line – containerised general freight movement predominantly north to south traversing the North Island Main Trunk, Cook Strait via Ferry and the Main North Line (Picton to Christchurch);
- Midland and West Coast Lines – linking Greymouth with Christchurch and the Port of Lyttelton. It is used mostly for transporting coal from the West Coast to Lyttelton for export.
- Main South Line - linking south to coastal towns and cities including Timaru, Oamaru, Dunedin (with an extension to Port Chalmers), Gore, Invercargill (with an extension to Ohai) and Bluff. It transports

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[74] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn7

general freight, empty containers from the Lyttelton Port Company's City Depot in Woolston returning south, milk products from Clandeboye and coal from Ohai to South Island industrial consumers. There is also a branch line from Hornby (the Hornby Industrial line, formerly the Southbridge Branch) that serve the Industrial areas of South Hornby.

In 2014, a study concluded that despite large volumes of export-related freight being moved by rail, there was still spare capacity on the rail network[75]. KiwiRail confirms that its infrastructure is sufficient to accommodate future growth and that being a service provider, they will respond as they can to meet clients' needs as they arise[76]. The company also states that it is unaware of any constraints that existing clients are experiencing in relation to rail.

Rail infrastructure is not considered to be an impediment to the development of business zones in Greater Christchurch because most businesses do not require or rely on rail transport and those that do, either locate in business zones with easy access to connect with the rail network (e.g., Middleton and Portlink Industrial areas) and/or provide their own rail infrastructure to suit their needs. For instance, Westland Milk's Rolleston plant in IZone, Rolleston I-Port, Metroport Christchurch and various lots within the Waterloo Business Park[77] provide rail sidings which enable packing and loading of containers onto rail for export through the Port of Lyttelton and/or the Port of Timaru. KiwiRail operates a freight interchange yard at Middleton which is used to stage freight from the north carrying domestic freight for local and regional distribution and export product to Lyttelton (by road)[78]. Access to rail infrastructure is not generally needed for industrial zoned land in Waimakariri as these zones mostly serve a localised need.

The capacity assessment identifies that there is a significant amount of industrial land supply available in locations which have rail freight access including at Rolleston, Waterloo Business Park, Middleton, and Belfast. However, if there was significant growth in rail use, there are some parts of the network where there are capacity constraints. The Main North Line is mostly a single track and there is no longer a direct connection between the Main North line and the Main South Line to Lyttelton. There is also a single track between Rolleston and Islington on the Main South Line, and through the Lyttelton tunnel.

In the event that demand for rail access from industrial zones grows, there may be scope to consider additional opportunities to provide new railway infrastructure to link with the existing rail network in the north and south of the city in particular. Alternatively greater use of the container interchange facility at Middleton could be used, albeit with identified implications on level crossings in the vicinity of the Yard. Middleton Yard also has capacity constraints under its current configuration but has additional land available for expansion to meet the

[75] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn8

[76] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn9

[77] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn10

[78] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn11

growth needs for freight volumes[79]. In conclusion, it is considered that access to rail infrastructure is, or is likely to be available, to support business development that is presently enabled in existing plans in Greater Christchurch.

A3.4 Land Transport – State Highway Network

The State Highway Network contributes to city-wide, inter-regional and international transportation of freight, and facilitates the movement of the Greater Christchurch population and visitors. The Network supports Christchurch as the main freight distribution hub for Canterbury and the South Island, linking production to markets in the city and elsewhere through the South Island's only deep-water port at Lyttelton and Christchurch Airport (the South Island's only international airport offering long haul services). A highly efficient, safe, and sustainable transport network is therefore vital to support businesses and the City's economic growth.

Rapid growth in and around Christchurch in recent years, particularly in the Selwyn and Waimakariri Districts, has placed demands on the State Highway network to the north and south of the city and around its western edge, reducing the efficiency of access to the City Centre, the Christchurch International Airport (SH1) and Port of Lyttelton (SH74 and SH73). T

In general, it can be said that the majority of industrial zoned land in Greater Christchurch has access to the state highway network. However, growth is likely to lead to reductions in the level of service and capacity of some parts of the network, which will result in increasing delays and congestion on the network, which could have a constraining impact on economic growth, if it is not carefully managed[80].

The largest areas of industrial zoned land have access to both the state highway and rail network, with considerable enhancements recently achieved, currently underway or programmed for the coming few years. Given the importance of Christchurch as a centre for the distribution of local and regional commodities, and the size of the local market, a number of distribution centres and freight forwarders are located along the Main South Line corridor between Hornby and Middleton. Other areas including Rolleston and Islington (Waterloo Business Park) benefit from both good road and rail connections, whilst the airport provides predominantly for logistics and freight handling of goods transported by air. The smaller industrial areas including at Kaiapoi and Rangiora and in and around the eastern suburbs of Christchurch City (not including Woolston), also have access to the state highway and/or rail network.

The main issue with regards to the state highway network relates to levels of service. Brougham Street is already heavily constrained, particularly during peak periods, affecting levels of service on this route for all road users including freight. This could have a constraining impact on economic growth if it is not carefully managed. The Transport Agency is working closely with the City Council on this issue. The impact of growth on this issue will be considered further through the Future Development Strategy.

4. A3.5 Telecommunications

All of Christchurch is covered by wi-fi with some very minor exceptions in the Port Hills. A combination of Cable internet, ADSL and VDSL cover Greater Christchurch comprehensively. Greater Christchurch also has access to fibre connection. Internet access and coverage is therefore widely accessible although potentially at different levels of upload/download quality.

[79] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn12

[80] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn13

Mobile network coverage is available across Greater Christchurch[81]. Providers Vodafone, Spark and 2degrees own shares across the different bandwidths of 2G, 3G, 4G and 4G+ to collectively provide coverage to Greater Christchurch at varying coverage reliability.

[81] https://auc-word-edit.officeapps.live.com/we/wordeditorframe.aspx?ui=en%2DUS&rs=en%2DNZ&wopisrc=https%3A%2F%2Fenvironmentcanterbury.sharepoint.com%2Fsites%2FGreaterChristchurchSpatialPlan%2F_vti_bin%2Fwopi.ashx%2Ffiles%2Fdd370ec19863407ba467196955384d42&wdenableroaming=1&wdfr=1&mscc=1&hid=BAC86FA0-B0B4-1000-AFEB-0011DEEDC254&wdorigin=ItemsView&wdhostclicktime=1666084426455&jsapi=1&jsapiver=v1&newsession=1&corrid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&usid=c8b216c2-bbfa-4644-98f6-efc9dd100a7b&sftc=1&cac=1&mtf=1&sfp=1&instantedit=1&wopicomplete=1&wdredirectionreason=Unified_SingleFlush&rct=Medium&ctp=LeastProtected#_ftn14

Appendix 4 - Methodology

A4.1 Introduction

This section summarises the methodology for this BCA, which brings together the demand and supply results for business land by Territorial Authority to present an overview of the sufficiency of business land at a Greater Christchurch level. In effect, a bottom-up approach has been applied of collating results at a TA level.

Existing information and models have been relied on to the extent possible and in some cases, the recommended approach in the guide has not been followed due to the timeframes and resources available. Notwithstanding this, the BCA gives effect to the evidence and monitoring requirements of the NPS-UD.

A4.2 Population and Household Projections

A4.2.1 Introduction

To achieve the BCA requirements, having robust population and household projections is key to addressing the level of demand and subsequent supply required in both housing and business markets in the Greater Christchurch area. The projection methodology is outlined in the GCP Housing Capacity Assessment 2021. This is summarised here.

A4.2.2 Statistics New Zealand Projections

The initial step was to identify demand projection ranges. These were the three Stats NZ projections of low, medium, and high. Each projection varies some the following assumptions: future fertility (births), mortality (deaths), and migration. Stats NZ first does this as a national projection and then uses this as a constraint for the subnational assumptions (this 'top-down' approach prevents implausible projections for any area). The projections produced by Statistics New Zealand are not to be considered as predictions, but an indication of likely future population change given specific assumptions listed above.

By comparing recent growth trends (Net New Building Consent Data), the most appropriate projection was chosen. Selwyn and Waimakariri is High, and Christchurch is Medium. Once the projection was chosen, they were adjusted to the most recent Stats NZ Estimate. The Estimate gives a population at a particular time, the Estimate used was June 2020. This sets the starting point, and the projection defines the growth per year.

Population Projections

Table 38: TA Population Projections

	2020	2021	2024	2031	2051	Total
Waimakariri	64,700					
Christchurch	394,700					
Selwyn	69,700					
Total	**529,100**	**536,880**	**558,540**	**600,580**	**705,600**	**+168,720**

Source: Statistics New Zealand, GCP

Households Projections

The projected number of households was determined using the population projections and average household sizes. This work was done by Livingstone and Associates and is shown below.

Table 39: TA Household Projections

Housing Demand by Typology	Short Term		Medium Term		Long Term	
	Standalone	Multi-unit	Standalone	Multi-unit	Standalone	Multi-unit
Waimakariri	1,307	221	3,730	778	9,313	1,847
Christchurch	3,691	1,619	10,556	4,624	24,414	10,780

Selwyn	2,177	85	6,805	313	20,617	1,107
Total	**7,175**	**1,925**	**21,091**	**5,715**	**54,344**	**13,734**

Source: Livingstone and Associates GCP Report

A4.3 Business Demand

A4.3.1 Projections

Business demand is generated by several factors and each TA has a model that projects employment, floorspace and land demand. For Selwyn and Waimakariri, the population projections are a key factor in determining employment growth. For Christchurch, agglomeration and ancillary employment are more important than population growth. The difference in approach reflects the difference in the type and scale of the employment centres across Greater Christchurch and is therefore complementary.

A4.3.2 Christchurch City

The modelling for demand is based on a VAR model, whereby employment growth drives population growth and employment growth is modelled based on past trends across a number of years (in this case, 20 years) as opposed to a single point in time.
Employment data is sourced from Statistics New Zealand (Stats NZ), Business Demography database and spanning from 2000 to 2020.

The employment data of twenty-two (22) industries within the economy are aggregated into six sectors that represent the main users of the land, the VAR model capturing the relationship between industries within the economy over time.

The model assumes that the level of employment in the current period affects the next period's employment level. This is evident in the historical employment values within most economies, as next year's level of employment adjusts to what it was in this year.

A4.3.3 Selwyn and Waimakariri Districts

The methodology for Selwyn and Waimakariri Districts is the same and therefore summarised together. The model uses base employment data by ANZSIC 2nd level categories and projects employment growth based on several factors to determine demand for commercial zones and industrial zones.

Key assumptions and inputs to determine the employment growth are household growth, investment demand, and export demand. These, along with the inter-relationship supply, increasing self-sufficiency, and ancillary growth produces the projections. This is aggregated into commercial and industrial employment demand for the district.

Projections of growth are then converted to a floorspace. This is based on current ratios of employment to floorspace. Generally, these are around 40m2 for commercial and 169m2 for industrial for Selwyn and around 40m2 for commercial and 100m2 for industrial for Waimakariri. The floorspace data used was based on the Rateable Property database of SDC and WDC, LINZ building footprint data. It includes all floorspace, some of which may not be utilised e.g., vacant space, or that is used for other activities. The employee to floorspace ratios may therefore be conservative i.e., higher than is likely to be the case in respect of occupied space.

The final step in the model is to covert the demand for floorspace into demand for land. The Floor Area Ratios (FAR) of existing development have been assessed to establish an understanding of the intensity of floorspace to land that is achieved in each zone. The resulting FAR is used to covert the demand for floorspace into demand for land. Generally, these are around 0.45 for commercial and 0.47 for industrial for Selwyn and around 0.75 for commercial and 0.49 for industrial for Waimakariri.

The future demand located in each zone reflects the types of activities that currently locate in the zone. For example, there is currently a proportion of the retail and office sectors that locate in industrial zones, and it is assumed that this continues. This approach is considered appropriate in the context of Selwyn and Waimakariri District, having regard to the current District plan rules, in assuming that a similar level of economic activity will

occur in the same zones as present. The distribution of commercial activity may change in the future because of changes associated with District Plan reviews.

A4.3.4 Evaluation of the methodologies

GCP has utilised existing information and consultants as much as possible. This meant that understanding and agreeing each other's methodologies including synergies and potential inconsistences, was extremely important. While preparing the BCA, key elements of the methodologies of each of the Councils were identified, including differences. Through discussion amongst the staff from each of the TAs alongside the modellers' expertise, these differences were reconciled to reach consensus on an agreed approach or differences were agreed as appropriate and documented. This is outlined in Appendix 6.

A4.4 Business Capacity

Business capacity refers to the total vacant and vacant potential land is available in business-zoned land.

A4.4.1 Christchurch

For Christchurch City, plan-enabled capacity for all business activity draws on the Council's existing Vacant Land Register (VLR), which includes information on the approximate quantum and size of vacant parcels in both industrial and commercial zones (both partial and whole sites), zoning, location, and other attributes of each parcel.

This information has been collected over a number of years and is based primarily on changes in the built form, identified through building consent data for construction and demolitions, and reviewed, where necessary, against aerial/ satellite photography. GIS layers are used to ensure parcel and zoning information is accurate. Some ground-truthing of the VLR was also undertaken, which has led to the removal and addition of the areas identified in Table 40. The basis for the largest areas being removed, particularly in the North Quadrant of the City, was land was in the VLR that was in fact occupied by activities without a building e.g., car rental businesses.

Table 40: Land removed and added from the VLR

Land to be removed (ha)	Commercial	Industrial	Notes
Central Quadrant	12.1	1.78	Removal of land subject to designation for central city anchor projects (Stadium and Metro Sports Facility)
East Quadrant	0.29	5.76	
North Quadrant	0.49	50.22	Mostly airport land that was showing on the VLR but is actually occupied by activities without buildings e.g., car hire
South Quadrant	3.58	19.90	
Land to be added	Commercial	Industrial	
Central quadrant	0.56	-	
Eastern quadrant	2.84	-	

In addition, the following sources have been utilised in determining the supply of land and floorspace:

- Land use surveys of all commercial centres
  Surveys were carried out to quantify the actual retail floorspace and out of zone commercial activity. This identified the amount of existing occupied retail floorspace both in zone and out of zone, as well as quantifying vacant sites and floorspace. In doing so, the quantum of floorspace utilised for non-commercial activity could be determined which has been excluded from the assessment to avoid over-estimating the potential capacity.
- Vacant office floorspace in the Central City
  A number of developments in the Central City have relied on insurance proceeds and not the typical lending constraints, proceeding without tenants secured for their premises. This has contributed to the development of space, which there has not been demand for, contributing to an over- supply of office floorspace. Therefore, for the purpose of this assessment, account has been had of the vacant

office floorspace available (in excess of the 8% vacancy rates deemed necessary for an efficiently operating market) in determining short-term supply. This data was sourced from Colliers International, dated October 2017.

- Redevelopment potential based on resource consents
  For Christchurch City, the focus of its assessment of plan-enabled supply was vacant land rather than redevelopment potential. However, some account was taken of known pipeline or likely redevelopment proposals, primarily within or immediately adjoining commercial centres. This included capacity that may be enabled by the following:

Table 41: Summary of potential redevelopment opportunities

	Site	Size	Activity type	Status	Quadrant	
1	Northlands Mall	2,024GLFA (3,010sqm GFA)	Food precinct addition with covered 'winter garden' and outdoor seating. Two new retail tenancies and centre entrance fronting Main North Road. Net loss of 104 parking spaces and landscaping.	Completed	North	RMA/2016/2020 (expires 14/09/21)
2	Hornby Mall	3,000sqm GLFA	Additional capacity enabled by consent that hasn't yet been implemented.	Not commenced but recent application to extend the lapse period for consent. This floorspace is the balance of a previously implemented consent.	South	RMA92021123 and RMA/2017/2678 (expires 01/11/22)
3	Riccarton Mall	8,000sqm GLFA	Additional retail, car parking, outdoor hospitality	Not commenced.	South	RMA92021562 (expires 31/07/2019)
4	Riccarton Mall	Land Area: 2,703sqm site	No known development plans but has been purchased from CCC by Scentre/Westfield Mall. Existing buildings (Council community centre) to be demolished and rebuilt on adjacent land (complete end 2018)	No commenced and no resource or building consents have been lodged	South	n/a (Commercial Core Zone - may not require RC).
5	Palms Mall	9,329sqm GLFA	Additional retail floorspace, mall and service space located at ground level adjacent to Marshland Road. Extension to existing car parking on level 2 and creation of 2 new car parking levels (3&4)	Not commenced.	East	RMA92015315 Expires 22/04/2020
6	Land adjoining the Palms Mall	Land area: 21,029sqm	Mall owner AMP has purchased a large number of residential properties surrounding the Mall and has	Not commenced and no resource or building consents have	East	n/a

			obtained a change of zoning from residential to commercial core for this land. Therefore, the District Plan is enabling of redevelopment of this land. NB that AMP also owns other land adjoining the Mall which is still in residential zoning (13,468sqm).	been lodged to date.		
7	Eastgate Mall	Current resource consents for redevelopment of some of car parking area however this is already taken into account via the vacant land supply assessment so no need to consider again				
8	Church Corner	1,674sqm GLFA (net increase)	Redevelopment to provide new Liquor King, Briscoes and Farmers Market. Increasing GLFA from 19007sqm to 20681sqm and a loss of 82 car parks.	Completed		RMA/2017/2306 (Expires 01/12/22)

Aside from the extant resource consents referred to above, the redevelopment potential of existing developed sites has not been incorporated in the assessment. The estimates of supply are therefore conservative and any potential shortfall in supply could potentially be addressed through redevelopment opportunities elsewhere.

Also not accounted for is vacant floorspace for industrial activities. Data has been supplied by JLL but there are limitations with the datasets such that it cannot be relied on, namely that the dataset is not complete i.e., it does not capture all vacant floorspace.

In the assessment of vacant land and the potential floorspace on any given site, assumptions have been made, which are summarised below.

Building height in the Central City

An initial estimate of 2.06 stories was assumed, based on the average height of buildings in Christchurch's CBD prior to the earthquakes of 2010/2011. This is relatively consistent with and in some cases, higher than the average assumed in other centres including Auckland (1.8) and Hamilton (1.6). Wellington has a higher average of 2.4, which may reflect the limited area available for growth of the CBD.

Sensitivity testing has been undertaken with a revised assumption of 3.3 stories being used on the basis that building heights were likely to increase over time. This was informed by the following:

1. Research by Colliers and Beca in 2011 indicated that buildings above 12 floors were not likely to be economically viable, and the residual land value declined sharply as building heights increased above 6 stories. This suggests buildings of a lesser height (3 – 4 stories) are more viable[82].
2. A vision of the CCRP is a more compact central city, which implies a greater level of efficiency in the use of land i.e., utilisation of vertical space. Given the inefficient use of land in the Central City prior to the earthquake, a higher average in the height of buildings has been assumed.
3. Landowners who have been paid out by their insurance company may have more equity to build higher without the necessity of tenant guarantees.

As recommended in section 1.4 of part 3 to the guide, ground-truthing has been undertaken to understand the height of buildings developed in the Central City. The results of this analysis have enabled an understanding

[82] Appendix G – Technical Appendix to the Draft Central City Plan – Financial Feasibility of Building Development in the Christchurch CBD (Colliers International and BECA) (14 November 2011)

of the average building heights by zone and EFM area as presented in the table below. These two EFM areas comprise the whole of the Central Quadrant.

Table 42: Average building heights by zone and EFM area

	EFM Area 1 (Inner city)	EFM Area 2 (Inner City Edge)
Commercial Central City Business	4.23	-
Commercial Central City Mixed Use	1.81	-
Commercial Central City (South Frame)	2.4	-
Industrial General	-	1.1
Commercial Office	-	2.25
Commercial Core	-	1.3
Commercial Retail Park	-	1.55
Total by EFM Area	2.7	1.2
Grand Total	2.14	

This ground-truthing exercise confirmed that the original assumed average height in those areas (2.06 storeys) was consistent with historical built form but that a higher average building height (3.3) was appropriate to adopt for the reasons set out in (1)-(3) above. Recent building activity, particularly in the Central City Business Zone, indicates that new building activity in this central quadrant is likely to be at levels higher than the historical heights.

Reconciliation of land/ floorspace utilised for non-business activities

Part 4 of the guide requires consideration of the interactions between housing and business, including the need to consider how capacity may be utilised for non-business activities, to avoid under-estimating, over-estimating, and double-counting supply. Section 2.1 suggests that Councils undertake "a review of district plan activity tables to identify the types of activities that are enabled in different zones. However, it is also useful to 'ground-truth' these cases by analysing current land uses within zones that enable multiple types of use or discussing with stakeholders".

The following describes assessments made of non-business activities in commercial zones.

Residential Activity in Business Zones

No reconciliation was considered necessary for the majority of business zones on the basis that district plan provisions do not enable residential activity to locate at ground floor (other than to the rear of commercial activities) and because there was little evidence of any ground floor residential activity occurring on business zoned land. Indeed, there is very little evidence of residential activity occurring above ground floor in business zones either, other than to a limited extent in the central city[83].

The exception to this is the Commercial Central City Mixed Use Zone which permits residential activity at ground floor, thus having the potential to compete with other activities for use of this land. A land use survey was undertaken by CCC in November 2017 to inform the extent to which land for various land uses within the CCCMU Zone is split between the Housing and Business Development Capacity Assessments. However, it was difficult to find an area of the zone which was likely to be representative of the future proportional split of activities. This is because:

- The central city has sustained such considerable damage to land and buildings including significant building demolitions, that makes identifying the recent / current land use composition difficult; and

The Christchurch Central Recovery Plan (and its incorporation into the Christchurch District Plan) resulted in a new planning framework for the central city, including this zone. This means that the historical composition of activities in this zone is unlikely to continue into the future and should not be used as a basis for future projections. This part of the city was previously an inner-city industrial zone characterised by light industry, warehousing and service industries including a range of long-established industries often on small sites. The new planning framework still enables these activities but now promotes redevelopment as a vibrant urban area

[83] See also the section 2.1 of the HLCA which assumes that no residential activity will occur in commercial zones outside the central city. It also considers there to be no capacity in the CCCB and CCCMU Zones above ground floor level because there is no evidence to inform the potential capacity at this stage.

where a diverse and compatible mix of activities can co-exist, including commercial and residential activities. It is anticipated that this zone will typically be redeveloped for these higher value uses.

Notwithstanding these limitations, a survey area[84] was selected that is undergoing redevelopment of the kind anticipated by the new zone provisions. That survey identified the following proportional split of activities at ground floor level.

Table 43: Proportional split of activities at ground floor level in survey area

Activity	Land area	%
Retail	34,685	38
Residential	9,217	10
Office	11,738	13
Industrial	7,695	9
Vacant/Carpark	20,884	23
Other	6,272	7
TOTAL	90,491	100

However, it should be noted that the survey area comprises a very large residential development site85 which the project team considered unlikely to be replicated throughout the CCCMU Zone over the next 30 years. For the purposes of this capacity assessment, it was assumed that 5% of the CCCMU (rather than 10%) will not be available for business activities at ground floor level.

Retirement Villages in Business Zones
Retirement Villages are a form of residential activity that is permitted at ground floor level in some commercial zones and in theory could compete with commercial activities for land. However, analysis of previous consents (past 10 years) shows that almost all retirement villages have located within residential zones; therefore, for the purposes of this assessment, it has been assumed that no business land will be taken up for this use.

Visitor Accommodation in Business Zones
No reconciliation was made for visitor accommodation on the basis that in commercial centres, visitor accommodation is required to be located at upper floors, thus not competing for ground floor space/land. In the context of business land, this is most likely to be hotels locating within the central city. Other forms of visitor accommodation tend to locate outside of centres, mostly in residential zones within an Accommodation and Community Facilities overlay. The HLCA has made allowance for this within that assessment.

Anchor Project designations
The most significant reconciliation exercise forming part of this assessment for Christchurch City relates to land which is commercially zoned but designated for other (non-business) purposes. This includes:

Table 44: Reconciliation of Anchor Project designations

Designation	Underlying Zoning	Size	Activity/Purpose
North and East Frames (designation reference V4) Requiring Authority: Ōtākaro Limited	Commercial Central City Business Zone and Commercial Central City Mixed Use Zones	9.1ha (6.8ha vacant)	Designation for housing by Ōtākaro Limited. Master Plan proposed 900 houses and approx. 1,000sqm commercial floorspace. Under construction.
Metro Sports Facility (V7) Requiring Authority: Ōtākaro Limited	Commercial Central City Mixed Use Zone	7.2 ha (5.8 ha vacant)	Sports facility and ancillary activities.

[84] The survey area was bound by St Asaph Street in the north, Madras Street in the east, Dundas Street and Eaton Place in the south and Colombo Street in the west.
[85] Atlas Quarter, Government-led development projecting comprise of 106 townhouses and apartments. https://www.stuff.co.nz/the-press/news/97271353/Crown-led-housing-project-triggers-transformation-of-Christchurchs-Welles-St

Stadium including Spectator Events Facility (H4) Requiring Authority: Minister Supporting Greater Christchurch Regeneration	Commercial Central City Mixed Use Zone	6.9 ha (4.7 ha vacant)	Stadium including Spectator Events Facility and ancillary activities

This land was removed from the BCA. The Housing Assessment includes the North and East Frame land as plan enabled housing supply (900 houses).

Business activities in non-business zones
This BCA assumes that future business activities will locate within business zones. This assumption is made on the basis that there is no reliable data upon which to inform any assumption about the likely future extent of out-of-zone business activity. Whilst historical data shows that a significant amount of all commercial activity has occurred outside of commercial zones since 200086, the new District Plan has a centres-based commercial strategy, directing new commercial activities to centres such that it is anticipated that out of zone activity will be much more limited.

Allowance has however been made to recognise the extent of business activities that were displaced by the earthquakes and that currently operate 'out of zone' under special regulatory dispensation87. As discussed, earlier these activities will require space within business zones when their temporary accommodation permits expire in June 2021.

A4.4.2 Selwyn and Waimakariri Districts

The methodology for Selwyn and Waimakariri Districts is the same and therefore summarised together. The task of determining capacity forms part of the Capacity for Growth Models. This involves the following steps.

Establishing the amount of zoned land for business
The first task was to define land that was capable of development. This involved the exclusion of some areas e.g., roads and railways, designations. Other restrictions on land, for example covenants, were not excluded due to the lack of data to make an informed decision. The exercise of determining the quantum of zoned land required a review of parcel boundaries relative to zone boundaries, which did not match in some instances. A process was therefore carried out to allocate a proportion of each parcel split by a zone boundary to a business zone.

Identification of current development
As a second step, the amount of land that is already utilised was determined, having regard to the amount and location of existing development[88]. In commercial zones, the quantum of floorspace on each site was estimated using the building floor area and a street view survey of the height of buildings (in stories).

Contemporary development potential
Building on the preceding steps, an assessment was made to determine the 'contemporary development potential' that the market could be expected to deliver. This draws on data on existing development to provide outputs of what is "achievable". This highlights the level of development that has been achieved by the market which can be thought of as 'currently suitable'.

Data on existing development was used to determine the floor area ratio (FAR) of every parcel[89]. Analysis was then undertaken to establish the FAR at the 80th percentile for each zone, i.e., only 20% of the existing built form in each zone is more intensive. The FAR at the 80th percentile is considered to represent an achievable level of development. With development exceeding this level, it is considered reasonable to assume that other parcels in the zone could be developed to this level.

[86] Property Economics Report (2017), Christchurch Business Land Capacity Assessment, page 41.
[87] Canterbury Earthquake (RMA Permitted Activities) Order 2011
[88] The source of data on the amount and location of existing development included Rateable property and the LINZ building outline.
[89] The existing floorspace on each parcel was estimated using the building floor area for each Rateable Property and building coverage for each Building Outline.

The 80th percentile was then applied to existing sites to determine their redevelopment potential and the 'contemporary development potential'.

It is important to note that the contemporary development capacity is significantly smaller than the plan enabled capacity. The estimate of development capacity based on existing intensities of development may in itself be overly conservative and unlikely to eventuate but provides a relevant base line for understanding the least amount of potential development that could be suitable in Selwyn and Waimakariri. Generally, in high growth economies, the intensity of development tends to increase with time. This means that the contemporary development potential is likely to underestimate the development level that is achieved in the future.

A4.5 Development Infrastructure

The assessment of 'Development Infrastructure' involved an evaluation of the plan enabled capacity to determine what area was serviced. In circumstances where it was not, an assessment was made to determine whether infrastructure was identified in a Long Term Plan and Infrastructure Strategy consistent with the NPS-UD. This involved dialogue with asset managers to understand what was emerging in the draft LTP as well as what consideration was being given to servicing areas that are not serviced and where infrastructure was not identified in an LTP.

Assumptions made in identifying and documenting Development infrastructure include:

- The Development Infrastructure identified does not include infrastructure constraints that are anticipated to be borne by the private developer. These fall within the scope of the suitability assessment as a consideration that may render land less commercially suitability to develop.
- The areas identified for the purpose of the BCA are serviced, or infrastructure is identified in the Draft or Proposed Long Term Plan or an Infrastructure Strategy. Where an area is not, it is excluded from the assessment of Development Infrastructure.
- For the purpose of the assessment, both the existing and draft LTP for 2018 – 2028 have been considered in determining the Medium-Term supply. This is on the basis that the draft LTP has been through a statutory process including consultation and adoption while also taking into account Council's most up to date position as reflected in the draft.
- In some cases, it is considered inappropriate to discount unserviced industrial land on the basis that it provides an alternative type of industrial land (essentially rural industry) that forms an important role and is currently successfully taken up (e.g., at Chaneys). This is documented in the report.

A4.6 Suitability

Suitability is a requirement for the business capacity assessment. Section 3.30 of the NPS-UD outlines that 'local authorities may define what it means for development capacity to be "suitable" in any way it chooses, but suitability must, at a minimum, include suitability in terms of location and site size'. The following is the methodology for assessing clusters of business land for suitability.

A4.6.1 Selection of Clusters for Analysis

Due to the large quantum of business land in the Greater Christchurch area, the task of completing a site-by-site assessment was not considered practicable in the timeframe. It was therefore determined that the assessment of suitability be undertaken on a cluster basis, each cluster being a sub-area of commercial or industrial activity in the city or town that could be distinguished geographically from other areas, and which had similar characteristics, constraints and zoning provisions. Where a number of smaller clusters were close together and had similar characteristics and/or the same zoning (in respect of undeveloped areas), these were grouped together as a single cluster.

The cluster-based approach also recognised that sites within each cluster may score consistently against some criteria e.g., accessibility to the strategic road network. This approach was agreed with the MBIE[90].

Assessments were completed for all vacant industrial land in the study area and two areas identified in the RPS for future business land, but which where were not rezoned in the Christchurch District Plan review[91].

Assessments were completed for the majority of the commercial centres including emerging centres in new greenfield developments. In Christchurch City, the focus was on centres that had at least 1,000m^2 of vacant

[90] Confirmed 6/12/2017 meeting with Peter Nunns, MBIE
[91] Hawthornden and Johns Road Greenfield Priority Areas (CRPS)

land; the threshold being determined to prioritise assessments of the most significant parcels of land where development may occur. In Selwyn and Waimakariri districts, all vacant commercial land was assessed and included established and developing town centre environments and local centres.

A4.6.2 Criteria Selection and Weighting

For the original BCA, staff from Councils representing the GCP drafted a set of assessment criteria as a starting point for discussions with representatives of the development sector. This was based on criteria applied elsewhere for assessing the desirability / attractiveness of different locations for development.

Table 45: Assessment criteria used as a starting point in development sector discussions

Retail/Office Activity	Industrial Activity
Size/configuration of sites	Size/configuration of sites
Proximity to housing	Access to arterial roads
Visibility to customers	Proximity to housing
Public transport accessibility	Public transport accessibility
Planning constraints	Planning constraints
Development constraints	Development constraints
Natural constraints	Natural constraints
Infrastructure (private)	Infrastructure (private)
Features/environment (e.g., amenity, parking)	Features/environment (e.g., amenity, parking)
Market availability	Market availability
Legal/property tenure	Legal/property tenure
Resource consent	Resource consent
Price	Price

The key feedback received from the focus group was that:

- Parking availability was best considered as part of a broader 'accessibility' criterion, namely for retail and office activity;
- Land contamination was the key development constraint likely to affect suitability and should be included as a separate criterion;
- Geotechnical and flooding constraints were the key natural constraints likely to affect suitability so could be specified as such;
- While high levels of amenity are relevant, they are not a key consideration with respect to suitability, so should be removed from the assessment criteria;
- Access not just to arterial roads, but to the rail network, port and airport was important for industrial activities;
- Proximity to housing for the workforce was not a key consideration for industrial development but reverse sensitivity could be a concern; and
- Public transport links were not very important for industrial activities.

Some criteria were also combined as a result of discussions (e.g., size/configuration, market availability, and legal/property tenure were combined into single criteria of land assembly and access issues). The focus group also indicated the relative importance that they placed on each of these criteria. This translated into the weighting given to the criteria in the assessments.

Table 46: Weighting given to assessment criteria

Retail/Office Activity	Industrial Activity
Necessary (x4)	Necessary (x4)
Proximity to residential areas	Transport accessibility
Planning constraints	

Very important (x3)	Very important (x3)
Visibility	Planning constraints
Transport accessibility	Natural hazard constraints
Natural hazard constraints	Land assembly
Land assembly	
Somewhat important (x2)	Somewhat important (x2)
Land remediation	Land remediation
Private infrastructure requirements	Private infrastructure requirements

An “other constraint” criteria was also retained to account for other cluster specific constraints such as reverse sensitivity issues, significant community opposition to development, likely archaeological sites or other factors that could affect suitability such as abnormally high land values or low rental rates where known.

The focus group also emphasised the importance of other potential suitability criteria such as overall market demand, costs of material and labour, and access to financing. Whilst the project team agrees that these criteria significantly impact on commercial suitability, these factors were not assessed as part of the MCA. This was on the basis that they could be assumed to apply in a relatively consistent manner across the partnership area at any given point in time (e.g., labour and materials costs), or could vary considerably depending on the individual circumstances of the developer (e.g., access to / need for financing), or in the case of demand, would be assessed as part of the wider BCA. The focus of the assessments was on criteria where it was anticipated that there would be variability between clusters.

A4.6.3 Sources for Suitability Assessments

The suitability assessments were primarily desk-based studies using information available to councils in the timeframes available and supplemented by a survey of the development community and landowners of vacant sites. The latter included follow-up interviews with some respondents and discussions with relevant council experts (Refer below for a summary of this engagement).

Assessments generally relied on existing information as there was not sufficient time or resources to commission additional work (for example, to obtain rental rates for clusters not already studied for the Commercial Centres Fact Sheets project[92] and information contained on Council records and GIS). Where there were multiple sources of information (for example, several geotechnical or contamination investigations for a series of consents on the same site) efforts were made to find the most relevant and up-to-date report but it is likely that further investigations or later remediation work may render some information quickly out of date. By nature, the assessments are a snapshot of a sometimes rapidly evolving landscape.

Key inputs into the assessments were:

1. An online survey was sent to all property owners of vacant sites in the clusters studied asking respondents to rate the relative significance of development constraints in those areas with respect to the criteria identified above. The survey included opportunities to propose additional criteria or to comment in more detail on the constraints.
2. Follow-up interviews were had with most respondents as available to discuss responses in more detail and to identify specific planning constraints identified as causing suitability issues or specific parts of clusters affected by contamination or natural hazards issues.
3. A planning assessment undertaken for each cluster identifying any District Plan rules likely to have a significant impact on suitability and any relevant natural hazards constraints.
4. A review of any relevant land use or subdivision consents issued in the past five years for vacant sites and, in particular, any land contamination or geotechnical reports accompanying them. Vacant sites with a recent consent for a non-industrial or commercial activity and with a high probability of implementation (e.g., consent to rebuild an apartment complex in a mixed-use zone) were noted as making the site not suitable for a business activity.

[92] CCC Urban Regeneration and Strategies Programme project to update baseline information about key commercial centres in Christchurch.

5. A review of the Listed Land Use Register (LLUR) for any vacant sites to identify listed Hazardous Activities and Industries List (HAIL) sites, the extent of previous investigations and the outcomes of more recent Detailed Site Investigations (DSIs) where available.
6. In Christchurch City, for some greenfield areas that were rezoned or investigated for proposed rezoning during the District Plan Review, technical reports informing the s32 report[93] for the proposed rezoning were consulted.
7. In Christchurch City, the Urban Regeneration team regularly prepares Commercial Centre Fact Sheets for most District and Neighbourhood commercial centres and selected local centres. These fact sheets include statistics on the number of residents within a walkable catchment of the centre (based on analysis of 2013 census data), average rental rates for low-end, medium-end and high-end retail and office sites (prepared by CBRE in 2016) and assessments of transport accessibility (prepared by Ableys Transport in 2016). These statistics and assessments were drawn on for centres where available, noting that the boundaries of the centres for the Fact Sheets do not precisely line up precisely with the boundaries of the study areas for the suitability assessments in all cases.
8. GIS information was obtained about contaminated sites (as a cross-check to the LLUR), location of public transport, cycle facilities and infrastructure servicing, archaeological sites not scheduled in the District Plan, landfill and uncontrolled fill sites, consent notices, assessments of high liquefaction risk areas and information on the roading hierarchy.
9. For Christchurch City, high level comments were sought from Council experts on liquefaction, flood risk and infrastructure servicing constraints.
10. Lists of current key activities were based on Google Maps and personal familiarity. A limited number of site visits were undertaken to ground truth desk-based research as part of a high-level audit of the vacant land register.

A4.6.5 Scoring Methodology

Scale and weighting
Once information had been gathered to inform the assessment for each criteria, a score was assigned based on the following scale:

0 – Constrained to the extent that development would not be suitable solely on this criteria
1 – Significantly constrained
2 – Moderately constrained
3 – Minor constraint
4 – Minimal or no constraint

Where no information was available, the score was assumed to be a 4. Where there was significant variability between sites in the same cluster (e.g., a 1 for one site and a 3 for another) a median score was generally selected (e.g., 2) except where the size of one site relative to the others and to the overall quantum of vacant land in the cluster suggested that greater weight should be given to that site.

These scores were then weighted to reflect the relative importance assigned to each criteria, based on input from the focus group to arrive at an overall weighted score for the cluster.

The Christchurch City assessments only scored the vacant sites in the cluster and may not reflect the score that would be assigned if the entire area were assessed. For example, there is only one vacant area in Elmwood at the back of existing shops, so this centre scored poorly for visibility even though the developed part of the centre fronts onto an arterial road.

The Selwyn and Waimakariri assessments were initially carried out at the cluster level, with Market Economics Limited utilising the property level information contained within the Selwyn and Waimakariri Capacity for Growth Models to provide a site-by-site analysis of constraints targeted to vacant land holdings. This evaluation was initially based on the information outlined in Section A11.6.4 above but may subsequently integrate property-based land values and related costings to provide a more accurate understanding of the suitability of vacant business land.

General assumptions
The assessments take into account the outcomes anticipated by the district plans for the relevant cluster and the context and scale of each business node. For example, the Christchurch District Plan anticipates local centres will primarily draw customers from within the local catchment, so more consideration was given to walkability, local cycle access and an established residential catchment than to factors including public

[93] An evaluation report (including an assessment of costs and benefits) required under Section 32 of the Resource Management Act for plan/policy changes.

transport access. On the other hand, large format retail centres are assumed to be accessed primarily by car from further afield. More consideration was given to adequate parking provision and less to the number of households in the immediate walkable catchment in this context.

For greenfield emerging centres, current suitability was assessed relative to the proximity and quantum of housing to make the centre viable, including whether it had reached the critical mass to support the centre and sequencing of development had installed the necessary infrastructure. This is on the basis of the NPS-UDC directing an assessment of whether development is currently suitable, not whether it could be suitable to develop in the future.

Some greenfield centres adjoin existing roads while other centres would require new roads to be built to connect to the transport network. Generally, consideration was given to the distance that new roads and other infrastructure would need to traverse to connect into existing systems. Any information on how soon those connections could be expected was also considered. For example, one centre did not have road access, but properties had been purchased to achieve the access required, with the demolition of former buildings completed and consent sought for earthworks. This centre was considered less constrained than sites where multiple landowner approval and/or land purchase was still required to connect the centre to the existing network.

Scoring for Criteria
The following summarises the basis for scores under each criteria.

a. Accessibility to the Transport Network
In Commercial Centres a '4' score was generally given if the centre had direct access to arterial roads and a level of public transport, parking and/or cycling provision consistent with what is anticipated for the type of centre. Lower scores generally reflect:

- emerging centres that do not currently have roads connecting them to the main network (e.g., North West Belfast, Redmund Spur);
- Commercial Office-zoned areas that do not have direct public transport servicing or are serviced by only one low frequency bus route (e.g., Mandeville);
- Neighbourhood or Local centres with a combination of comparatively poor public transport and cycle access, lack of alternative routes in the event of congestion, and less central locations (e.g., Port Hills Road, Lyttelton in Christchurch City and the Falcon's Landing and Geddes/Dryden Trust Neighbourhood Centres in Selwyn)

Industrial Clusters scored a '4' when they had direct access to the arterial road network and reasonably good access to either the rail network, port, or airport.

Clusters which scored lower generally had a number of sites that could only access the arterial road network via local roads, often in close proximity to residential or rural-residential areas or where there were other known constraints such as difficulties associated with upgrading intersections to accommodate heavy vehicle movements.

b. Land Assembly
Clusters generally scored a '4' if there was the potential to easily provide for a range of site sizes (including by subdividing) consistent with other typical developments anticipated in the same zone.
Lower scores reflect:

- a significant proportion of vacant sites in the cluster that were of a shape and/or held in ownership that was not conducive to development (e.g., long narrow sites in multiple ownership, where a row of shops was demolished). These sites would potentially be more difficult to amalgamate, to coordinate rebuilding or to develop as a stand-alone development without reference to the other sites;
- significant earthworks being required on sloped sites.

c. Land Remediation Requirements
Clusters generally scored a '4' where there were no known or potential Hazardous Industries and Activities List (HAIL) sites or where previous investigations indicated that contamination levels were within acceptable guideline levels and/or had been successfully remediated.

Clusters with a '3' generally contain known or suspected HAIL sites that have not been investigated or which have been investigated and require remediation of only discreet hotspots (e.g., as a result of leaking storage tanks).

Clusters with lower scores generally reflects the presence of significant areas of known or probable contamination (e.g., former landfill sites), where the sites have either not been investigated or have been found to exceed guideline levels for commercial or industrial development. Some sites are subject to an ongoing site management plan (SMP) and in the case of other sites, planned remediation had not yet been certified as complete.

d. Location-Specific Private Infrastructure[94]
Most developed clusters scored a '4' on the basis that they did not require significant additional investment in private infrastructure other than standard service connections.

Some greenfield clusters scored lower because existing servicing would need to be extended to reach the cluster or because District Plan Outline Development Plan (ODP) requirements necessitate new roads or intersection upgrades to be installed at the developers cost.

Some District Plan ODPs make development contingent on the installation of larger scale on-site stormwater treatment facilities such as artificial wetlands and green corridors. Where these requirements necessitate coordination between multiple landowners or take up a significant amount of developable land, this could potentially constrain suitability.

e. Natural Hazards
The score for natural hazard constraints was a composite of assessments of risks from liquefaction-induced settlement, flooding and coastal hazards.

Liquefaction
Assessments were completed based on a review of geotechnical reports accompanying recent subdivision consents for vacant sites or proposed plan changes and discussions with Council experts. Generally, these reports referenced minor, moderate, or significant liquefaction and lateral spread risk often in terms of the technical category (TC) system designed for residential developments. This acted as an indicator for overall ground conditions in the context of industrial or commercial developments. TC1 generally indicates unlikely future land damage from liquefaction and TC3 indicates that specific foundations would need to be designed or ground improvement undertaken to address relatively significant risks of liquefaction-induced damage. CCC is currently in the process of updating its modelling for liquefaction risk areas. This work was not available for the present study but could be including in future assessments.

Caution must obviously be applied in extrapolating geotechnical conditions assessed at recently subdivided sites to vacant land across an entire cluster. The geotechnical reports were also generally commissioned for specific development projects which may have varying requirements. A factory using laser-cutting tools will not have the same foundation requirements as a storage shed and a four-storey mixed-use retail and apartment building will not have the same requirements as a corner dairy. Site specific investigations would be required to accurately determine foundation design. Performance can also vary considerably depending on the location of the future earthquake event.

Levels of risk do not always translate directly into levels of costs and hence in reduced suitability. In a large-scale development with varied ground conditions, for example, patches of higher risk TC3-type land could be used for stormwater treatment or parking instead of requiring more complex or expensive foundations. However, for the purposes of the present exercise, increased risk has generally been used as a proxy for increased costs.

For Christchurch City, these assessments were cross-referenced with the Council's existing high-level assessments of liquefaction risk. These were based primarily on observation of performance in the recent earthquake sequences. For clusters where recent geotechnical investigations were not available for specific sites, assessments were based on the extent to which vacant sites intersected known high or moderate liquefaction risk areas. For Selwyn and Waimakariri, these assessments utilised geotechnical information held on the respective Council's GIS systems, which for Selwyn, included layers referencing reports prepared by Geotech Consulting Limited.

Clusters generally scored a '4' where the majority of vacant land was not in an area where future land damage from liquefaction was considered likely. In Christchurch City, this meant the land was not in a Liquefaction

[94] This criteria looks at private infrastructure that would need to be installed at the developer's cost and excludes public network infrastructure. For example, it includes on-site servicing connections to the public network but not upgrades in capacity of the public network required as a result of new development or intensification.

Management Area (LMA), was in an area assessed as have low liquefaction risk and/or had recent geotechnical investigations indicating recently subdivided vacant sites were predominantly TC1-type land.

Clusters generally scored a '3' where the majority of land was in an area assessed as having a minor risk of land damage from liquefaction. In Christchurch City, this meant that most or all of the vacant land was in a LMA and/or recent geotechnical investigations identified a minor risk of liquefaction on the majority of sites with assessments (low end TC1 to high end TC2 or only parts of the cluster affected).

Clusters generally scored a '2' where the majority of land was in an area assessed as having a moderate risk of land damage from liquefaction. In Christchurch City, this meant that the entire cluster was within an LMA, most of the vacant land was in an area identified as moderate risk (potentially with some isolated high-risk areas) and/or recent geotechnical investigations identified an overall moderate risk of liquefaction (TC2 across the cluster, potentially with patches of TC3).

Clusters generally scored a 1 where significant risk from liquefaction were identified. In Christchurch City, this meant that most of the vacant land was in a high-risk area or geotechnical investigations indicated a likely and significant risk (TC3 across a significant portion of the vacant sites).

Flooding and Coastal Hazards
For Christchurch City, flood risk was generally assessed based on the percentage of the vacant sites in a Flood Management Area (FMA) or other overlay area indicating flood risk. Generally, in FMAs, developments are required to raise their floor levels to mitigate flooding risk. Higher floor levels increase construction costs and can constrain design options – for example where part of a relatively small site needs to be dedicated to ramps for disabled access.

Some additional information was provided by survey respondents relating to the floor levels in some clusters. In parts of New Brighton, for example, floor levels for new buildings may be required to be raised almost a metre above the existing ground level.

In Christchurch City, clusters generally scored a '4' where few or none of the vacant sites were located within FMAs. Clusters generally scored a '3' where less than half of the vacant sites were in an FMA. Clusters scored a '2' where more than half of vacant sites were in an FMA and/or where survey responses indicated that high floor levels required for that cluster were a constraint.

Some clusters on the coast have also been modelled as being at significant risk of coastal inundation from a 1 in 100-year return period event in the next 50 years. Industrial or commercial developments may be less sensitive to these risks than residential development because flood-proofing can more easily be integrated into the design (albeit at some additional cost). However, identified risks from coastal hazards can still make approval of financing and insurance more difficult or costly. It may also affect market perception. Clusters with a large percentage of vacant sites in a FMA and in areas identified as at significant risk from coastal hazards scored a '1' for this part of the assessment.

f. Planning Constraints
Clusters were scored on the extent to which the suitability of developing activities anticipated by the zone might be constrained by planning rules specific to that cluster. Generally, the district plan provisions are enabling of the types of activities anticipated for the zone and restrictive of activities not anticipated. Those restrictions were not considered a constraint to development.

Clusters generally scored a '4' where there were no planning rules specific to the cluster or where any specific planning rules (such as setbacks) would likely be covered by the 30% of developable land assumed to be set aside for car parking, landscaping, stormwater requirements and building setbacks[95].

Clusters scored a '3' where there were cluster-specific rules that were somewhat more onerous than other provisions and would likely reduce the amount of developable land by more than 30%. For example, in some clusters there were 20 or 50 metre setbacks for some activities or significant areas set aside for stormwater treatment. Some clusters had additional requirements for acoustic attenuation for office activities near the rail corridor or the airport and this was considered to potentially impose minor additional costs for those activities.

Requirements for urban design assessments were considered a minor constraint where the District Plan requires a resource consent for any new building. While the costs may not necessarily raise suitability concerns

[95] An assumption made in calculating plan enabled capacity of the ratio of building development to site area.

for a large-scale project, some uncertainty around outcomes could have a minor impact on suitability and were perceived by some survey respondents as a development constraint.

Clusters scored a '2' where there were more restrictive provisions, for example, where development could not proceed until specific conditions such as public infrastructure upgrades were met.

Clusters scored a '1' where commercial or industrial activities were not enabled by the zoning, for example in the two proposed industrial areas in Christchurch City that still have rural zoning and where any new industrial activity would require resource consent as a non-complying activity.

Many centres include caps on tenancy sizes (for example 450m2 GLFA for a retail or office activity) however these are not considered to significantly constrain the types of activities anticipated in those zones (supermarkets and department stores were exempt from these rules).

Centres that have overall caps on retail floorspace in the centre and that were known to be close to reaching those caps (e.g., the Specific Purpose Airport Zone retail cap in the Christchurch District Plan and Key Activity Centre Precincts and Neighbourhood and Local Centre thresholds in the Selwyn District Plan), were considered to have a minor to moderate constraint.

g. Proximity to Residential Areas (Commercial only)
Centres scored a '4' where they were generally surrounded by established residential areas. Alternately some centres, like the Central City, had fewer residential areas in close proximity but had a strong visitor accommodation and work catchment from which to draw potential customers.

Centres with lower scores generally had smaller immediate residential catchments relative to other centres of the same type, including greenfield emerging centres where the surrounding residential catchment had not yet been built.

In some cases, centres with comparatively small residential catchments such as Ferrymead and Redcliffs were given higher scores than they would otherwise because they were on a commuter route to the coastal suburbs and could rely on drive-by trade.

Less weight was also given to large format centres and other centres where the market is assumed to be drawn from a wider area.

h. Visibility (Commercial only)
Centres generally scored a '4' where they fronted onto arterial roads and where most of the vacant sites were clearly visible from the road. Centres where the majority of the vacant land fronts onto side streets or is located at the back of existing shops were given a lower score. Where vacant land was not clearly visible from the road but formed part of a destination shopping mall complex (e.g., Linwood/Eastgate), generally the centre scored a '4'.

Local centres providing small convenience shopping were scored a '3' where the sequencing of development had not enabled infrastructure to be established to the boundary of the centre. Some centres had lower scores as a result of relative geographic isolation (e.g., Port Hills Road, Redmund Spur) and the fact that they were not directly connected to the arterial road network.

i. Other Development Constraints
Other potential development constraints have been noted including the presence of heritage buildings, archaeological sites, listed trees, underground semi- or unconfined aquifers, potential springs and sites of significance to Mana whenua.

For Christchurch City, generally heritage buildings and listed trees did not reduce the score for the cluster as impacts on heritage buildings would only be assessed for discretionary or non-complying activities and listed trees could generally be developed around.

Archaeological sites, potential springs, and sites of significance to Mana whenua suggests additional investigations or consultation would be required which could potentially add costs or uncertainty to the development process.

Locations over aquifers was considered a minor constraint for industrial activities as it may restrict the types of activities that can locate there (e.g., wet industries) and the options for stormwater management.

A4.6.6 Sites Assessed as Not Suitable

Sites were assessed as not suitable where they scored a '0' in any one criteria. For example, the compound natural hazards risks associated with some sites in the Bower Avenue Industrial cluster resulted in those sites being assessed as not suitable. A '0' for specific sites, however, did not necessarily mean that the entire cluster was not suitable.

Some sites (e.g., Redmund Spur) were assessed as being not suitable as a result of scoring 1s for multiple criteria. These include greenfield emerging centres where the supporting residential catchment has not yet developed, and lack of servicing and road access would significantly affect commercial suitability in the short term. This does not indicate, however, that those sites will not become suitable at some stage or would never be suitable for niche proposals.

Sites were also assessed as not suitable where they had a recent resource consent with a high probability of implementation for a non-commercial or non-industrial activity (e.g., apartment complexes, fire stations, churches).

However, it must be emphasised that given the complexities inherent in assessing commercial suitability for the full and extensive range of business activities enabled by district plans, at a strategic level and using the methodology recommended in the guidance, our assessment is unlikely to provide an accurate and full assessment of whether land is commercially suitable to develop. Rather, the assessment indicates the major known constraints which may affect suitability (from a planning perspective) and over and above the typical costs involved in developing business land (land price, financing, construction costs, rental/sales values etc.). As such, this assessment provides an indication of which land is more or less suitable, having regard to the assessed factors.

A4.7 Sufficiency

Once identification of demand and supply has been completed, a reconciliation of the two was undertaken to identify whether there is sufficient capacity to accommodate future growth. Unlike the guide, this assessment has been at a quadrant level for the city due to the limitations in determine demand at a zone level.

Appendix 5 – Suitability Assessments

Due to document size restrictions, the appendix is attached separately.

Appendix 6 – Methodology Alignment and Assumptions

The following table outline particular assumptions regarding the methodology and the approach by each TA.

	Matter / question	Christchurch City	Selwyn District	Waimakariri District
1.	Assumptions: Modelling assumptions incl. consumption effect, effect of ageing population	. There is a relationship between employment opportunities and population growth. The model acknowledges that this relationship exists, and as a result a change in one will influence the other. Long-run, historical employment data is sourced from Statistics New Zealand (Stats NZ), Business Demography database and spanning from 2000 to 2020. The employment data of twenty-two (22) industries within the economy are aggregated into six sectors that represent the main users of the land. A vector autoregressive VAR model is used to forecast the level of employment for the 30 years, and captures the relationship between industries within the economy over time. The model considers all the variables (industries) within a matrix format, this captures the complex relationship within the economy. This essentially captures the key concept of economics through the Input-Output concept where forward and backward linkages are modelled. It also assumes that the level of employment in the current period	**Selwyn Economic Forecasts 2019 (SFM)** The economic forecasts developed for Selwyn have been constructed by establishing a set of final demands and then running these demands through an economic model that records the inter industry outcomes that are required to meet those demands. This approach is similar to the 2017 EFM projections, however the key difference is that the final demands relied on are forecasts and the interrelationships vary through time. (a) **Base Date**: Base employment data for each "activity category" from 2019 Stats Business Demographic counts EC series, modified by productivity rates, multi-regional input-output table, etc. (b) **Consumption Demand**: based on population cohort model and household growth (medium-high projection). The spend per households was established using Household Economic Survey, Retail Trade Survey, Market View Card transaction data. Spending consumption effect assumed to grow at 1.4% p.a. Also, the level of local consumption within the model changes over time to recognise that the structure of Selwyn's economy is expected to change as it grows. Specifically, the economic forecasts allow for changes in levels of household demand that is served within the District (self-sufficiency). (c) **Investment Demand**: investment demand estimates (Gross Fixed Capital Formation - GFKF) were generated by applying long-run average growth rates in capital formation to the base year GFKF estimates by industry, as obtained from the multi-regional input-output table. The growth rates are determined from statistical time series (econometric) analysis of the national level data.	**Waimakariri Economic Forecasts 2019 (WFM)** The economic forecasts developed for Waimakariri have been constructed by establishing a set of final demands and then running these demands through an economic model that records the inter industry outcomes that are required to meet those demands. This approach is similar to the 2017 EFM projections, however the key difference is that the final demands relied on are forecasts and the interrelationships vary through time. (a) **Base Date**: Base employment data for each "activity category" from 2019 Stats Business Demographic counts EC series, modified by productivity rates, multi-regional input-output table, etc. (b) **Consumption Demand**: based on population cohort model and household growth (medium-high projection). The spend per households was established using Household Economic Survey, Retail Trade Survey, Market View Card transaction data. Spending consumption effect assumed to grow at 1.4% p.a. Also, the level of local consumption within the model changes over time to recognise that the structure of Waimakariri's economy is expected to change as it grows. Specifically, the economic forecasts allow for changes in levels of household demand that is served within the District (self-sufficiency). (c) **Investment Demand**: investment demand estimates (Gross Fixed Capital Formation - GFKF) were generated by applying long-run average growth rates in capital formation to the base year GFKF estimates by industry, as obtained from the multi-regional input-output table. The growth rates are determined from statistical time series (econometric) analysis of the national level data.

		affects the next period's employment level. This is evident in the historical employment values within most economies, as next year's level of employment adjusts to what it was in this year. It is assumed that all growth will be /new development unless otherwise stated	Selection of the time series technique applied depends on the underlying dynamic behaviour of the sector output being analysed. Where historical observations fluctuate around a long-run mean, stationary time series methods are applied (e.g., the AMRA process). (d) **Export Demand**: future exports are generated by applying national long-run average growth rates for export commodities by sector to the 2015-16 international export estimates obtained from a multi-regional input-output table. The long run growth rates by export commodity are determined according to econometric analysis and the choice of technique applied depends on the underlying dynamic behaviour of the sector being analysed. The data utilised in this time series analysis is derived from Statistics New Zealand's Harmonised System data for commodity exports and Balance of Payments for exports of services. Regional growth rates in exports by sector are assumed to be consistent with the estimated national growth rates determined through these methods. For some industries that rely on primary outputs, levels of export demand have been forecast based on the potential level of farming activity that is possible within the region. (e) **Business Demand**: the IO modelling approach is adopted, which records business-2-business transactions. However, the interrelationships within the model are modified to recognise that the structure of Selwyn's economy is expected to change. The economic forecasts allow for changes in levels of demand (self-sufficiency) and the range of economic activity that is viable within the District (business-to-business). (f) **Productivity:** productivity within the economy increases by approximately 0.5% per annum. However, this rate of change differs for each industry in the economy.	Selection of the time series technique applied depends on the underlying dynamic behaviour of the sector output being analysed. Where historical observations fluctuate around a long-run mean, stationary time series methods are applied (e.g., the AMRA process). (d) **Export Demand**: future exports are generated by applying national long-run average growth rates for export commodities by sector to the 2015-16 international export estimates obtained from a multi-regional input-output table. The long run growth rates by export commodity are determined according to econometric analysis and the choice of technique applied depends on the underlying dynamic behaviour of the sector being analysed. The data utilised in this time series analysis is derived from Statistics New Zealand's Harmonised System data for commodity exports and Balance of Payments for exports of services. Regional growth rates in exports by sector are assumed to be consistent with the estimated national growth rates determined through these methods. For some industries that rely on primary outputs, levels of export demand have been forecast based on the potential level of farming activity that is possible within the region. (e) **Business Demand**: the IO modelling approach is adopted, which records business-2-business transactions. However, the interrelationships within the model are modified to recognise that the structure of Waimakariri's economy is expected to change. The economic forecasts allow for changes in levels of demand (self-sufficiency) and the range of economic activity that is viable within the District (business-to-business). (f) **Productivity:** productivity within the economy increases by approximately 0.5% per annum. However, this rate of change differs for each industry in the economy.
2.	Rates for conversion of employment projections to land/ floorspace	The ratios are based on 1st level ANZSIC categories broken down in some instances to 2nd level to account for sectors such as warehousing and logistics.	Assessment of the current location of employment compared to zone to understand the nature of employment that locates in each zone. The economic activity in each zone was then compared to the floorspace in each location to establish	Assessment of the current location of employment compared to zone to understand the nature of employment that locates in each zone. The economic activity in each zone was then compared to the floorspace in each location to establish

		There are 5 land demand models, each forecasting land demand for the various markets. Each of these has it's own set of key assumptions.	current productive – i.e., gross floorspace per worker (workspace ratio). Conversion of future growth based on the following conservative assumptions: • All growth locates in new space. This is a conservative assumption because the productivity of existing space will probably support some of the future growth. • Productivity remains constant in the future. This is a conservative assumption because productivity has been increasing. • Zone preference of each sector is constant at the existing rates. This is a conservative assumption because the traditional bricks/mortar location of businesses may change in the future with disruptive technologies. Broadly, we consider that these assumptions are conservative and will overstate the demand for floorspace.	current productive – i.e., gross floorspace per worker (workspace ratio). Conversion of future growth based on the following conservative assumptions: • All growth locates in new space. This is a conservative assumption because the productivity of existing space will probably support some of the future growth. • Productivity remains constant in the future. This is a conservative assumption because productivity has been increasing. • Zone preference of each sector is constant at the existing rates. This is a conservative assumption because the traditional bricks/mortar location of businesses may change in the future with disruptive technologies. Broadly, we consider that these assumptions are conservative and will overstate the demand for floorspace.
3.	Office	Assume space demand of 39sqm per employee on average. Uses recent building activity data and employment data from the Business demography database (StatsNZ) to measure the relationship between office space and the level of employment. The space per worker includes all the living spaces, hard and soft landscaping associated with the office. Industry norms and trends reveal that the average effective office space per worker is between 14sqm and 20sqm excluding the landscaping component	As discussed above, assessment of workspace ratio was undertaken at the zone level.[1] The vast bulk of buildings in the District are single level, therefore all sectors compete for the same ground floor space. Therefore, the growth model assesses all demand for the ground floor area together. There is no attempt to estimate which type of sector would 'win' in each area. In Business 1 where the vast bulk of office and retail locates the workspace ratio ranges from $30m^2$ to $60m^2$, with an average of $39.9m^2$. Purpose built (newer) spaces may achieve a higher density. However, it is conservative to apply the existing achieved rate which overstates the demand for floorspace. SCGM2019 allows the user to select one of three scenarios of density: • Low: $60m^2$ per job. • Medium: $40m^2$ per job. • High: $30m^2$ per job.	As discussed above, assessment of workspace ratio was undertaken at the zone level. The vast bulk of buildings in the District are single level, therefore all sectors compete for the same ground floor space. Therefore, the growth model assesses all demand for the ground floor area together. There is no attempt to estimate which type of sector would 'win' in each area. In Business 1 and Business 4 where the vast bulk of office locates the workspace ratio ranges from $30m^2$ to $70m^2$, with an average of $44.0m^2$. Purpose built (newer) spaces may achieve a higher density. However, it is conservative to apply the existing achieved rate which overstates the demand for floorspace. WCGM2019 allows the user to select one of three scenarios of density: • Low: $70m^2$ per job. • Medium: $40m^2$ per job. • High: $30m^2$ per job.

4.	Retail	Point of sale data, sourced from MarketView, is used for the retail analysis. This enables retail spending trend analysis on a small area level and enables the model to reflect local spending trends. Inflationary pressure or change in density is assumed to stay near 1%. The intensity of use for retail activity reveals a floor area ratio (FAR) of 0.35 (sourced from CCC land use information, this ratio is an indication of the existing retail establishment's building size as a percentage of the total site size). Increasing this use-intensity for properties below a FAR of 0.35 would improve use intensity and would reduce the amount of land required to support new demand.	As discussed above, assessment of workspace ratio was undertaken at the zone level.[2] The vast bulk of buildings in the District are single level, therefore all sectors compete for the same ground floor space. Therefore, the growth model assesses all demand for the ground floor area together. There is no attempt to estimate which type of sector would 'win' in each area. In Business 1 where the vast bulk of office and retail locates the workspace ratio ranges from $30m^2$ to $60m^2$, with an average of $39.9m^2$. Purpose built (newer) spaces may achieve a higher density. However, it is conservative to apply the existing achieved rate which overstates the demand for floorspace. SCGM2019 allows the user to select one of three scenarios of density, • Low: $60m^2$ per job. • Medium: $40m^2$ per job. • High: $30m^2$ per job.	As discussed above, assessment of workspace ratio was undertaken at the zone level. The vast bulk of buildings in the District are single level, therefore all sectors compete for the same ground floor space. Therefore, the growth model assesses all demand for the ground floor area together. There is no attempt to estimate which type of sector would 'win' in each area. In Business 1 and Business 4 where the vast bulk of office locates the workspace ratio ranges from $30m^2$ to $70m^2$, with an average of $44.0m^2$. Purpose built (newer) spaces may achieve a higher density. However, it is conservative to apply the existing achieved rate which overstates the demand for floorspace. WCGM2019 allows the user to select one of three scenarios of density, low, medium and high. • Low: $70m^2$ per job. • Medium: $40m^2$ per job. • High: $30m^2$ per job.
5.	Industrial	Regional industrial output trends reveal increased levels of output, which is being driven by increased levels of capital utilisation without a significant change in labour input. This suggests that the marginal rate of technical substitution supports higher use of capital than labour during production. Short term productivity growth for the industry averaged 3.3% for Christchurch City, slightly below the long-term average of 4.8%; the short-term growth rate(3.3%) has been applied in the model. The land demand requirement assumes all new development is greenfield.	120 – 180 m^2 per worker. This is based on Based on work conducted by M.E on industrial land in other TAs and calibration to the level of floorspace observed in the Business zones. SCGM2019 allows the user to select one of three scenarios of density: • Low: $180m^2$ per job. • Medium: $169m^2$ per job. • High: $120m^2$ per job.	90 – 120 m^2 per worker. This is based on Based on work conducted by M.E on industrial land in other TAs and calibration to the level of floorspace observed in the Business zones. WCGM2019 allows the user to select one of three scenarios of density: • Low: $120m^2$ per job. • Medium: $100m^2$ per job. • High: $90m^2$ per job.

		Increasing the use intensity for properties below a FAR or 0.32 would improve the use intensity, reducing the amount of land required to support new demand.		
6.	Warehousing & logistics	The short-term productivity growth for the industry averaged 2.8% for Christchurch City, slightly below the long-term average of 4.4%. The short-term growth rate (2.8%) is applied in the model. A relationship between industry output (StatsNZ) and new building activity (StatsNZ) is utilised in the model. This relationship allows the model to convert the output into space demand inclusive of services, hard and soft landscaping. Increasing this use-intensity for properties below a FAR of 0.43 would improve use-intensity and would reduce the amount of land required to support the new demand.	Selwyn has commissioned research on the warehousing and logistics, which has become a significant driver of land demand in the district since the two inland ports begun operation. This research is underway, and may result in adjustments to the industrial land demands for the District, which will go beyond the level forecast in the SFM 2019.	
7.	Accommodation	The model applies employment to space ratio, estimated from building activity and new employment from SNZ. A worker space requirement of 68sqm is applied in this model, based on the current medium to high density hotel establishments within the Merivale, Central City and Riccarton areas. The underlying assumption is that the majority of short-stay accommodation establishments will mirror these. Increasing the use intensity for properties below a FAR of 0.47 would improve the use intensity and would	Mostly not modelled as much of these sectors locate in non-business zones. Only models the proportion of each sector that is currently located in the business zones. The workspace ratios depend on the zone (see above).	Mostly not modelled as much of these sectors locate in non-business zones. Only models the proportion of each sector that is currently located in the business zones. The workspace ratios depend on the zone (see above).

		reduce the amount of land required to support new demand.		
8.	% leakage/ retention from Christchurch to Selwyn (and vice versa)	Point of sale retail data, sourced from Marketview, is used for the retail analysis. This enables retail spending trend analysis on a small area level and enables the retail model to reflect local spending trends (including any leakage). The business demography data used as the basis for the modelling already contains a certain level of employee "leakage". By using the business demography to project forward, the model assumes that there will be a natural leakage within the employee market.	Based on Market View Card transaction data. Also, the level of local consumption within the model changes over time to recognise that the structure of Selwyn's economy is expected to change as it grows. Specifically, the economic forecasts allow for changes in levels of household demand that is served within the District (self-sufficiency). Given the proximity of Selwyn to a large metropolitan centre (Christchurch), it is likely that there will always be a sizable amount of leakage of household demand out of the District. However, much of the leakage will relate to goods that are infrequently purchased (whiteware, furniture, electronics, etc.) or specialist items that cannot be supplied in the smaller economy (fine dining, entertainment, artisan goods, etc.). For the economic forecasts it is assumed that self-sufficiency continues to improve, the improvements are assumed slow over the coming decades. The following changes to self-sufficiency are applied: • **Medium Term**: slower improvements in self-sufficiency over the coming decade, at an annual rate that is a third of the level observed in the card transaction data. • **Long Term**: minimal improvements in self-sufficiency over the period 2029-2038, at an annual rate that is a fifth of the level observed in the card transaction data. • **Longer Term**: limited improvements in self-sufficiency over the period 2039-2053, at an annual rate that is a tenth of the level observed in the card transaction data.	N/A
9.	% leakage/ retention from Christchurch to Waimakariri (and vice versa)	Point of sale retail data, sourced from Marketview, is used for the retail analysis. This enables retail spending trend analysis on a small area level and enables the retail model to reflect local	N/A	Based on Market View Card transaction data. Also, the level of local consumption within the model changes over time to recognise that the structure of Waimakariri's economy is expected to change as it grows. Specifically, the economic forecasts allow

		spending trends (including any leakage). The business demography data used as the basis for the modelling already contains a certain level of employee "leakage". By using the business demography to project forward, the model assumes that there will be a natural leakage within the employee market.		for changes in levels of household demand that is served within the District (self-sufficiency). Given the proximity of Waimakariri to a large metropolitan centre (Christchurch), it is likely that there will always be a sizable amount of leakage of household demand out of the District. However, much of the leakage will relate to goods that are infrequently purchased (whiteware, furniture, electronics, etc.) or specialist items that cannot be supplied in the smaller economy (fine dining, entertainment, artisan goods, etc.). For the economic forecasts it is assumed that self-sufficiency continues to improve, the improvements are assumed to slow over the coming decades. The following changes to self-sufficiency are applied: • **Medium Term**: slower improvements in self-sufficiency over the coming decade, at an annual rate that is a third of the level observed in the card transaction data. • **Long Term**: minimal improvements in self-sufficiency over the period 2029-2038, at an annual rate that is a fifth of the level observed in the card transaction data. • **Longer Term**: limited improvements in self-sufficiency over the period 2039-2053, at an annual rate that is a tenth of the level observed in the card transaction data.
10.	Plan enabled capacity – Activities enabled.	Activities that are Permitted, Controlled, or Restricted Discretionary.	Activities that are Permitted, Controlled, or Restricted Discretionary – in SDC this is more relevant for allocating demand. The Activity types have very little impact on the scale of plan enabled capacity (i.e., how much floorspace can be built).	Activities that are Permitted, Controlled, or Restricted Discretionary – in WDC this is more relevant for allocating demand. The Activity types have very little impact on the scale of plan enabled capacity (i.e., how much floorspace can be built).
11.	Zones not deemed to be developable	Roads, parks, other Council land e.g., stormwater areas, designations for specific uses.	Roads, railways; rivers, streams and other hydro; legislated sites (reserves near motorways or rivers), local recreation (Council reserves). Designated land not taken into account.	Roads, railways; rivers, streams and other hydro; legislated sites (reserves near motorways or rivers), local recreation (Council reserves). Designated land not taken into account.

12.	Assumed FAR (applied to establish "Zone **Modified** enabled capacity")	Retail: 0.35; Office: 0.5; Industrial: 0.32; Warehousing: 0.43; Short Stay Accommodation: 0.47	The plan enables a large amount of theoretical supply – maximum potential developable is much larger than the market is likely to achieve. Therefore, the growth model develops a "Modified" capacity which is in line with what has been achieved in each zone. This is a similar concept to the residential capacity where in most cases developments do not (or are unable to) subdivide or develop to the maximum allowable level in the plan. The Modified Capacity is based on statistical analysis of the parcel level FAR in each business zone (existing development). Model allows user to model three settings 70th 80th and 90th percentile for each zone. This represents achievable/realistic development potential, which is much less than the plan enabled capacity **Assumed FARs** Business 1 (Centre) 0.45 Business 2 (Industrial) 0.47	The plan enables a large amount of theoretical supply – maximum potential developable is much larger than the market is likely to achieve. Therefore, the growth model develops a "Modified" capacity which is in line with what has been achieved in each zone. This is a similar concept to the residential capacity where in most cases developments do not (or are unable to) subdivide or develop to the maximum allowable level in the plan. The Modified Capacity is based on statistical analysis of the parcel level FAR in each business zone (existing development). Model allows user to model three settings 70th 80th and 90th percentile for each zone. This represents achievable/realistic development potential, which is much less than the plan enabled capacity **Assumed FARs** Business 1 + 4 (Centre and Local Centre) 0.75 Business 2 + 5 (Industrial and Business Park) 0.49
13.	Ratios applied for conversion of retail floorspace between gross and net.		No assumption required as this is implicitly accounted in the calculation of the Workspace ratio – see above. The growth model uses actual data so no assumption is required.	No assumption required as this is implicitly accounted in the calculation of the Workspace ratio – see above. The growth model uses actual data so no assumption is required.
14.	Assumed height per storey?		Permitted activity rules on height determine the total height. But the model does not report on this as the key output is modified potential that is more realistic.	No Bulk and location modelling. Model does not report on this as the key output is modified potential that is more realistic.
15.	Assumed to be above ground floor only?	Yes	Offices assumed to be at ground floor. All activities compete for the same space. The nature of the economy in these areas means that there are very few/no high-rise developments. It is conservative to assume that this will continue in the future.	Offices assumed to be at ground floor. All activities compete for the same space. The nature of the economy in these areas means that there are very few/no high-rise developments. It is conservative to assume that this will continue in the future.
16.	Is land used for storage treated as vacant? Other examples?	No – see above re vacant land methodology.	The Growth Model will identify land as vacant if it doesn't have a consented building.	The Growth Model will identify land as vacant if it doesn't have a consented building.

17.	Single level only?	Single level	Single level	Single level
36.	Slither of second zoning (page 26 of 'Working notes').	Each zoned portion of a parcel is treated separately	SCGM same as WCGM	Where 98% or more of a parcel is in one zone and less than 1,000 m2, then the whole parcel is treated as within the same zone.
37.	Small amount of land (less than 100m^2) in another zone e.g., accessway (page 26 of 'Working notes').	Land parcels of less than 100 m2 excluded. Narrow accessways manually reviewed and excluded from VLR unless there is sufficient width for a building.	Where area is less than 100m2, the whole parcel is treated as within the same zone.	Where area is less than 100m2, the whole parcel is treated as within the same zone.
38.	Parcels where a larger amount of land is split (page 27 of 'Working notes').		Two scenarios presented: Residential/ Rural Business/ Residential Assessment made based on context e.g., site on edge of a larger business zone with a portion within a residential zone is treated as Business.	Two scenarios presented: Residential/ Rural Business/ Residential Assessment made based on context e.g., site on edge of a larger business zone with a portion within a residential zone is treated as Business.
39.	Greenfield areas with split zoning i.e., where parcel boundaries do not follow zone boundaries i.e., zoning ahead of subdivision (page 28 of 'Working notes').		Split according to spatial area of the zone (unless falling within categories above).	Split according to spatial area of the zone (unless falling within categories above).
40.	Extent of which capacity for non-business activities excluded?	**TBC**	Assumed that no residential or retirement villages locate in commercial zones. Based on assessment of commercial zones little/no residential or retirement village activity has located in commercial zones in the past. [3]	Assumed that no residential or retirement villages locate in commercial zones. Based on assessment of commercial zones little residential or retirement village activity has located in commercial zones in the past. [4]
41.	Extent to which capacity taken account of in non-business zones	The model does not account for space in non-business zones.	The SCGM does not model the requirement for business space in non-business zones. The SCGM allocates growth in employment in each sector to the business and non-business zones according to the existing location of the sector (see discussion above).	The WCGM does not model the requirement for business space in non-business zones. The WGM allocates growth in employment in each sector to the business and non-business zones according to the existing location of the sector (see discussion above).

			The employment that locates in non-business zones is not modelled from this point forward i.e., it is assumed that these businesses can find a location to operate. For example: **Rural** - much of the rural sector (farming) will locate in Rural Zones. No attempt is made to understand whether there is enough land (or floorspace) in the rural zone to enable these sectors to grow. **Home Offices:** do not impact on the potential capacity of the residential zone for housing. **Community**: some important business activities locate in the residential zone (e.g., schools, hospitals etc.). These activities compete for residential land. In the model current community businesses are removed using legal title, rates type and designations. No attempt is made to establish where new demand for schools or hospitals will be in the future. The location of these services is a central government decision that cannot be modelled reliably.	The employment that locates in non-business zones is not modelled from this point forward i.e., it is assumed that these businesses can find a location to operate. For example: **Rural** - much of the rural sector (farming) will locate in Rural Zones. No attempt is made to understand whether there is enough land (or floorspace) in the rural zone to enable these sectors to grow. **Home Offices:** do not impact on the potential capacity of the residential zone for housing. **Community**: some important business activities locate in the residential zone (e.g., schools, hospitals etc.). These activities compete for residential land. In the model current community businesses are removed using legal title, rates type and designations. No attempt is made to establish where new demand for schools or hospitals will be in the future. The location of these services is a central government decision that cannot be modelled reliably.
42.	Size distribution adopted for vacant land analysis	Less than 1000m^2, 1000-5000m^2, 5000m^2 – 1ha, 1ha – 2ha, 2ha – 5ha, greater than 5ha.	Data is recorded at the current parcel level. Split by site size is not an output.	Data is recorded at the current parcel level. Split by site size is not an output.
43.	Capacity inclusive of greenfield areas not zoned	Yes – Hawthornden block (35ha) and 711 Johns Road (15ha) identified in long-term supply only. There are identified as Greenfield Priority Areas in the RPS but were not zoned through the District Plan Review. No other rural land is considered.	Covers existing zones and future residential zones. However, **no** future **business zones** have been identified or modelled in the greenfield areas. Considered as a location for dwellings and business activity. Assumes that the current revealed preferences for dwellings and business activity in the rural area continues at the current level.	Covers existing zones and future residential zones. However, **no** future **business zones** have been identified or modelled in the greenfield areas. Considered as a location for dwellings and business activity. Assumes that the current revealed preferences for dwellings and business activity in the rural area continues at the current level.

44.	Any District Plan limitations to floorspace supply e.g., floorspace or tenancy caps	Yes, numerous of each, depending on zone and use– see 17/873590.	Implicitly accounted for as the existing uses provide an indication of what types of activities are enabled in a zone. The model assumes that these activity types will continue in the future. Modelling every activity status and tenancy caps was beyond the scope of the work.	Implicitly accounted for as the existing uses provide an indication of what types of activities are enabled in a zone. The model assumes that these activity types will continue in the future. Modelling every activity status and tenancy caps was beyond the scope of the work.