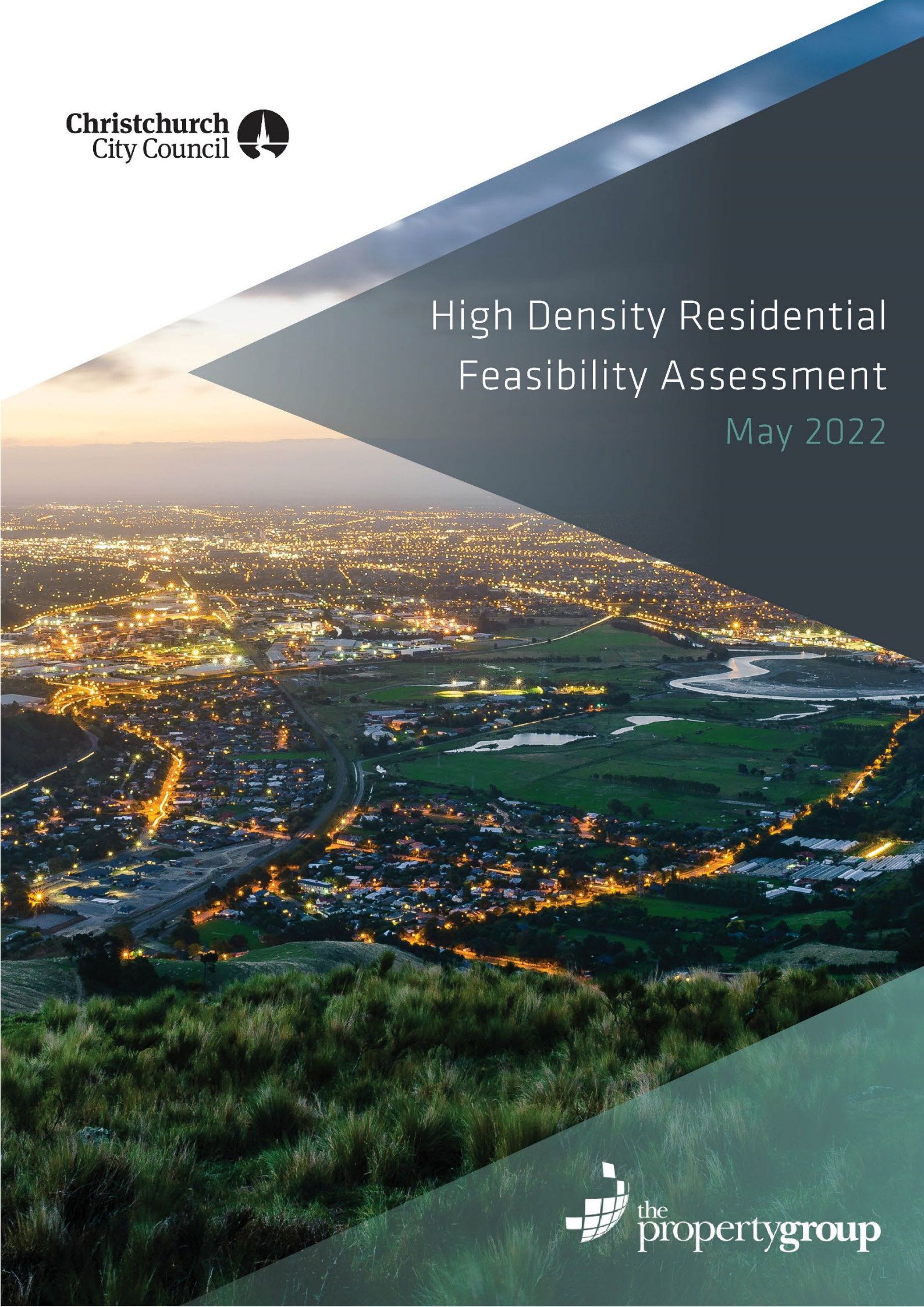
Christchurch City Council

High Density Residential Feasibility Assessment

May 2022



the propertygroup

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Revision	Revision date	Details	Authorised	
			Name/Position	**Signature**
A		Initial review	A Harley	
B	1 June 2022	Response to feedback	R Allen	

Executive Summary

The National Policy Statement on Urban Development (NPS-UD) aims to create denser housing in cities and around centres and areas with good access to public transport. This reflects international best practice for creating sustainable urban form and increasing housing diversity and choice. Christchurch is identified as a Tier 1 urban environment, and this policy applies to the city centre itself and a range of smaller centres that have been identified through the implementation of this policy direction.

In response to the requirements of the NPS-UD Christchurch City Council has prepared the Draft Housing and Business Choice Plan Change (PC14) which implements a High Density Residential Zone framework to enable high density residential development of between 4 to 10 stories in the areas surrounding the cities centres.

This marks a change in the type of development enabled across the city. Christchurch city has historically been referred to as the garden city and is well known for low density and green leafy suburbs surrounding a more commercial city core. Following the 2011 earthquake, significant planning reform and investment occurred across the city that enabled far greater levels of medium density housing, while maintaining a relatively low scale city centre at a maximum of six stories.

This assessment has been undertaken to assess the feasibility of the introduction of high density residential development across the cities centres under the new provisions of PC 14.

Feasibility under current market conditions

The feasibility testing undertaken illustrates that despite the increases in density enabled through PC14 provisions, under current market conditions it remains challenging for development of buildings above six storeys to be feasible in the range of suburban centre locations explored. The analysis demonstrates that whilst the feasibility of high density development in the city centre does increase as heights are increased and greater yields are achievable, based on work completed by TPG in other areas within in New Zealand it is estimated that heights allowable would need to increase significantly (for example up to 32 stories) in the city centre to begin to achieve a viable development currently.

There are few (if any) current residential buildings of this nature, and to try and make a viable development, premium/high sales prices would need to be achieved. The impact of medium density, and lower density housing prices means that it would be unlikely that potential buyers would purchase a high density premium product for more than a standalone or terrace dwelling within the same suburb.

Maturity of the market

It is important to note that these results are based on the estimated current market values and current high risks around the increasing construction costs and market instability. Into the future, as the Christchurch residential market changes and the construction sector stabilises the viability of high density residential development at 10-12 stories in the city centre may improve. The price points achievable would need to increase similar to those achieved in the Wellington market alongside high levels of amenity provided for inner city residents.

Based on this analysis it is however considered unlikely that high density residential development (4 stories and above) within the cities local centres or metropolitan centres

will be feasible without a significant shift in the market or significant government intervention. For example, the potential increase in land values that may result from investment in infrastructure such as MRT in these areas.

Investment in amenity

Key factors in generating premium sales prices are generally related to the amenity a development provides, both within the dwelling and building, but also the amenity provided in the surrounding neighbourhood. In addition, the provision of access through high quality public transport and active modes also has a significant role. In the locations reviewed the amenity and access provision would not currently be high enough to drive any land value uplift or attract a premium sales price.

Enabling provisions

There are some levers that still remain to be explored. The size and shape and aspect of lots has a considerable impact on the ability to create feasible developments. Corner sites show the most promise for viable development at greater heights, however amalgamation of lots also create opportunities where the potential yield generates developments that are feasible. The planning levers to encourage development of higher density on corner sites, or amalgamated sites should be explored as one of the tools to improve development feasibility for high density in the range of locations tested.

1. Introduction

The Property Group Limited (TPG) has been engaged by Christchurch City Council (Council) to undertake a feasibility analysis of the High Residential Density Zone (HRZ) as set out in the Draft Housing and Business Choice Plan Change (PC14). The analysis will support the development of an evidence base required for the Section 32 evaluation and reporting for PC14.

The HRZ framework has been drafted, both in spatial extent and with provisions to achieve development outcomes. Key conclusions that can be drawn from the feasibility assessment include a set of recommendations to ensure the proposed controls will enable housing delivery in the locations where increases in residential density is planned.

Scope of the Feasibility Assessment

This assessment has analysed the feasibility of development under the proposed HRZ being realised, given the parameters of the rules framework proposed. The assessment included:

1. A housing and market assessment.
2. Preparation of bulk and location plans for eight sites using three typical lot sizes in the HRZ within different development precincts.
3. Development feasibility testing and analysis of each of the eight sites.

The scope of each step is outlined in more detail below.

Housing and Market Assessment

A review of the current market drivers behind residential development was completed to support the feasibility analysis. This includes both an understanding of the current residential market trends as well as anticipated levels of growth and demand for housing.

This provides an understanding of the current market for high-density residential development within Christchurch and some indication of how this may change into the future based on future directions for growth.

Bulk and Location Plans

Bulk and location plans were developed for eight typical sites that are within the proposed HRZ Precinct located around different centres.

The plans were developed using the key bulk and location controls applicable to each site under the proposed plan change, including a review of earlier design analysis to ensure the intent of the controls is reflected in the analysis.

Development scenarios for 4 storeys, 6 storeys, and 10 storeys were tested. The plans maximise the sites' potential and reflects a likely development outcome, allowing quantification of the potential development yield (Gross Floor Areas) for each test site.

Development Feasibility Testing and Analysis

A bespoke feasibility model was developed that assesses each site's development potential by comparing the likely costs of development (including addressing issues of resilience) with the potential realisation of the sale of the completed development.

A comparison of the feasibility outcomes of each site, taking into consideration the projected demand and accessibility assessment across each precinct, has been undertaken. This identifies how the feasibility of the proposed height limits are varied across different centre precincts.

Report Structure

Following this introduction, this report provides an overview of the results of the feasibility assessment in the following sections:

- **Section 2, The Changing Policy Framework**: provides an overview of the new planning framework and its implications for residential development in Christchurch
- **Section 3, Residential Market Overview**: provides an understanding of the current market for high-density residential development within Christchurch and some indication of how this may change into the future
- **Section 4, Analysis Approach**: outlines the approach taken to the feasibility analysis
- **Sections 5-6, Results of the Development Feasibility Analysis**: provides a summary of the results of the feasibility analysis and the implications for high density development in Christchurch.

2. The Changing Policy Framework

The National Policy Statement on Urban Development

Under the National Policy Statement on Urban Development (NPS-UD) Christchurch is identified as a Tier 1 urban environment. Tier 1 authorities are required to enable denser housing, particularly in centres and areas with good access to public transport.

The polices of the NPS-UD that will require changes to the district plan controls and will have an impact on the potential for residential development are mostly contained in Policy 3.

Policy 3: In relation to tier 1 urban environments, regional policy statements and district plans enable:

(a) in city centre zones, building heights and density of urban form to realise as much development capacity as possible, to maximise benefits of intensification; and

(b) in metropolitan centre zones, building heights and density of urban form to reflect demand for housing and business use in those locations, and in all cases building heights of at least 6 storeys; and

(c) building heights of least 6 storeys within at least a walkable catchment of the following: (i) existing and planned rapid transit stops (ii) the edge of city centre zones (iii) the edge of metropolitan centre zones.

(d) within and adjacent to neighbourhood centre zones, local centre zones, and town centre zones (or equivalent), building heights and densities of urban form commensurate with the level of commercial activity and community services.

Currently the Christchurch City Central Area is proposing height between 4 storeys and 10 storeys in HRZ areas. As required by Policy 3(a) of the NPS-UD, the city centre zones will be required to have heights and density controls that enable as much development capacity as possible, which effectively removes the height limits in the centre zone and implements a 6 story minimum within the walking catchment of the centre.

In addition Policy 11, removes the ability of Tier 1, 2 and 3 authorities to require car parking when applying for resource consent to construct new housing. This could lower development costs in Christchurch and potentially encourage development through increasing land use flexibility. The impact of this change to carparking polices has not been included in the scope of this assessment.

Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021

The Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 (the Act) works with the NPS-UD to accelerate housing supply in areas of high demand. The Act, which was passed into law in December 2021, enables greater levels of permitted residential intensification within low and medium density residential zones in New Zealand's largest centres. This is achieved through two key instruments:

Medium Density Residential Standards (MDRS) – requires Tier 1 authorities to adopt new medium density residential standards in residential zones, which enable people to

build up to three units and three storeys on most residential zones, without the need for a land use resource consent, provided all other rules and standards in the district plan have been complied with. Exceptions to individual sites and areas will apply based on qualifying matters set out in the NPS-UD and councils must publicly notify their proposed changes to their district plans by the end of August 2022.

The Intensification Streamlined Planning Process (ISPP) – supports councils to implement the intensification policies of the NPS-UD and adopt the MDRS at least a year earlier, by amending the existing streamlined planning process under the RMA to be faster, easier, and less costly.

The MDRS apply to all residential zones in the Tier 1 urban environments, except:

- large lot residential zones and settlement zones
- areas predominantly urban in character that the 2018 census recorded as having a resident population of less than 5,000, unless a local authority intends the area to become part of an urban environment, or
- offshore islands.

Plan Change 14

Council is developing the Draft Housing and Business Choice Plan Change (PC14) to give effect to the National Policy Statement – Urban Development (NPS-UD) and recent changes to the Resource Management Act (RMA) following enactment of the Enabling Housing Act, which promotes intensification around urban centres and application of the Medium Density Residential Standard (MDRS) across areas of the city.

Prior to notification in August 2022, the Council released draft material for public feedback on PC14 which includes prospective changes to residential and commercial zones, including subdivision changes. Two residential zones will replace all the existing residential zones across the city. The High Density Residential Zone (HRZ) allows development to achieve heights of 4 storeys without requiring consent, and 6-10 is enabled within the consenting process. The HRZ and related precinct is applied to the catchment surrounding the CBD as well as the majority of the centres and their surrounding catchments. The Medium Density Residential Zone (MRZ) meets the MDRS requirements set out in the Enabling Housing Act allows development to achieve 3 storey heights with requiring consent, and 4 storeys is enabled within the consenting process. The MRZ is applied to all residential areas within the city outside the centres and that are not impacted by qualifying matters.

Public feedback on the Draft PC14 closed on 13 May 2022. Council is now in the process of undertaking analysis that will support the development of an evidence base for the Section 32 evaluation.

Centres – walking catchments and intensification precincts

As outlined above, NPS-UD has a requirement to intensify to at least six storeys within a walkable catchment from the CBD and metropolitan centres, and intensify within and adjacent to centres. Intensification should be proportionate to the level of community activity and community services.

PC14 responds to the directive in the NPS-UD by taking a suburban centres approach to intensification, refer to Figure 1 below. Intensification will be focused within the centres and within a walkable catchment around centres, which will increase depending on the accessibility to amenities and housing demand. Council have established that a walkable catchment is generally considered to be a 400 metre distance or 5 minute walking time. Using this as a starting point, the smaller centres with less amenity and demand have smaller catchments while the bigger centres have larger catchments. The CBD catchment includes a minimum of 10 minutes walking distance which increases based on accessibility to amenities and housing demand, resulting in a catchment of 1.2 km or 15 minutes walking time.

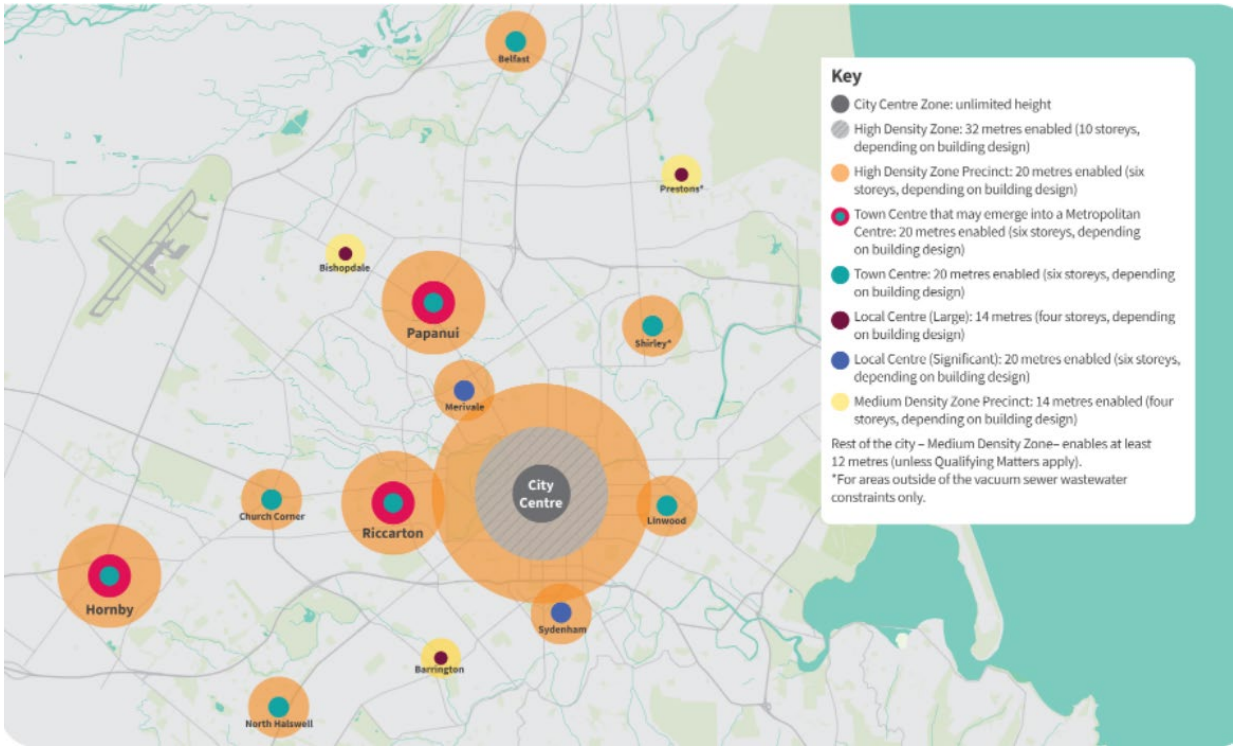


FIGURE 1: SUBURBAN CENTRES APPROACH MAP SHOWING THE HIERARCHY OF CENTRES AND SURROUNDING CATCHMENTS (PRECINCTS) AS SET OUT ON PAGE 8 OF THE PC14 CONSULTATION DOCUMENT

The suburban centres approach identifies a hierarchy to classify centres based on size and relative services and amenities:

- City Centre
- Metropolitan Centre
- Town Centre
- Significant Local Centre
- Larger Local Centre
- Local Centre.

Precinct overlays are also applied over the catchment of each centre to allow a more nuanced approach to the application of the two proposed residential zones (refer to Figure 2 below). These precinct overlays determine the size of the centre catchment and the intensification enabled within the catchment area.

FIGURE 2: MAP SHOWING PRECINCTS OVERLAYS AROUND THE DIFFERENT CENTRE TYPES

The HRZ Precinct, applied to the majority of centres, allows for heights of 20 metres or 6 storeys. The centres with the HRZ Precinct overlays and the HRZ, which is located adjacent to the City Centre and enables heights of 32 metres or 10 storeys, are the focus of this exercise, as highlighted in Table 1 below.

Centre Type	Area of catchment (precinct)	Building Height (centre and precinct)	Precinct / Zone
City Centre (Christchurch CBD)	Two-tier catchment as per below:	Unlimited	City Centre Zone
	800 metres (10 mins walking distance)	32 metres (10 storeys)	HRZ
	0.8 – 1.2 km (10-15 mins walking distance)	20 metres (6 storeys)	City Centre HRZ Precinct
Emerging Metropolitan Centre	600 metres	20 metres (6 storeys)	Emerging Metropolitan Centre HRZ Precinct

Town Centre and Significant Local Centre	400 metres	20 metres (6 storeys)	Town Centre HRZ Precinct and Significant Local Centre HRZ Precinct
Larger Local Centre	200 metres	14 metres (4 storeys)	MRZ Precinct / Larger Local Centre MRZ Precinct
Local Centre	Centre only	12 metres (MRZ)	N/A

TABLE 1: SUMMARY OF CENTRE CATCHMENTS, PRECINCTS AND BUILDING HEIGHTS

3. Residential Market Overview

Current residential density

In 2021, the estimated resident population of Christchurch City was 392,100 people (Statistics NZ, 2021). In line with the existing zoning, the more densely populated areas are those suburbs surrounding the city centre and in areas surrounding the districts centres (see Figure 3).

The residential market is mostly made up of standalone homes and new medium density development. In the last three months (February-April 2022), 1200 standalone homes were sold in Central Christchurch, compared to 354 flats/townhouses and just 54 apartments.

Medium density development has been the main focus of the Christchurch construction market over recent years with steady demand for townhouses and fewer recent apartment building developments in the city.

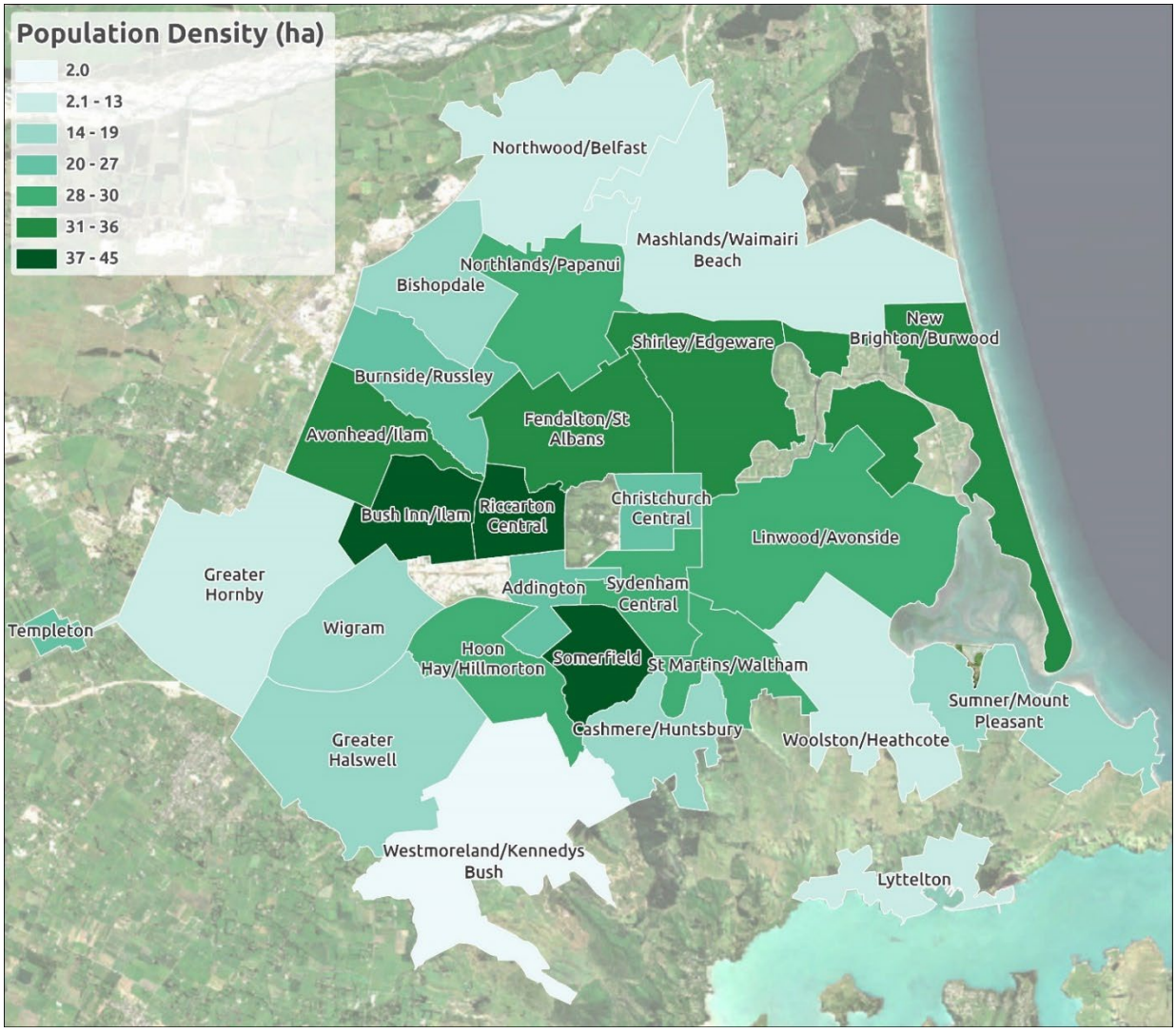


FIGURE 3: CHRISTCHURCH POPULATION DENSITY (TPG, 2022)

Factors driving existing development patterns and densities

Post-earthquake urban expansion

Christchurch has historically been a low-density urban environment, that has steadily expanded outwards of the city centre as demand for housing has increased. This dispersal was accelerated following the 2010 and 2011 Christchurch earthquakes.

Immediately after the earthquakes, Councils, the Christchurch Earthquake Recovery Authority (CERA) and the Minister responded to the need for additional housing for people displaced from the red-zones by accelerating development areas already identified for growth in the Urban Development Strategy 2007 (UDS). This has resulted in significant growth North and South of the City in the Waimakariri and Selwyn Districts.

Increasing new housing supply in areas close to the city centre

In the last 24 months there has been a significant increase in the number of residential building consents issued within Christchurch City. This is reflective of the increased demand for new residential development and the strength of Christchurch's residential property market (refer to market assessment in Appendix 1 for further analysis).

As shown in Figure 4, the location of new residential development is mainly located in the growth area of Halswell (14% of new residential consents), but notably over 30% of consents have been issued for residential development in the urban areas close to the city centre.

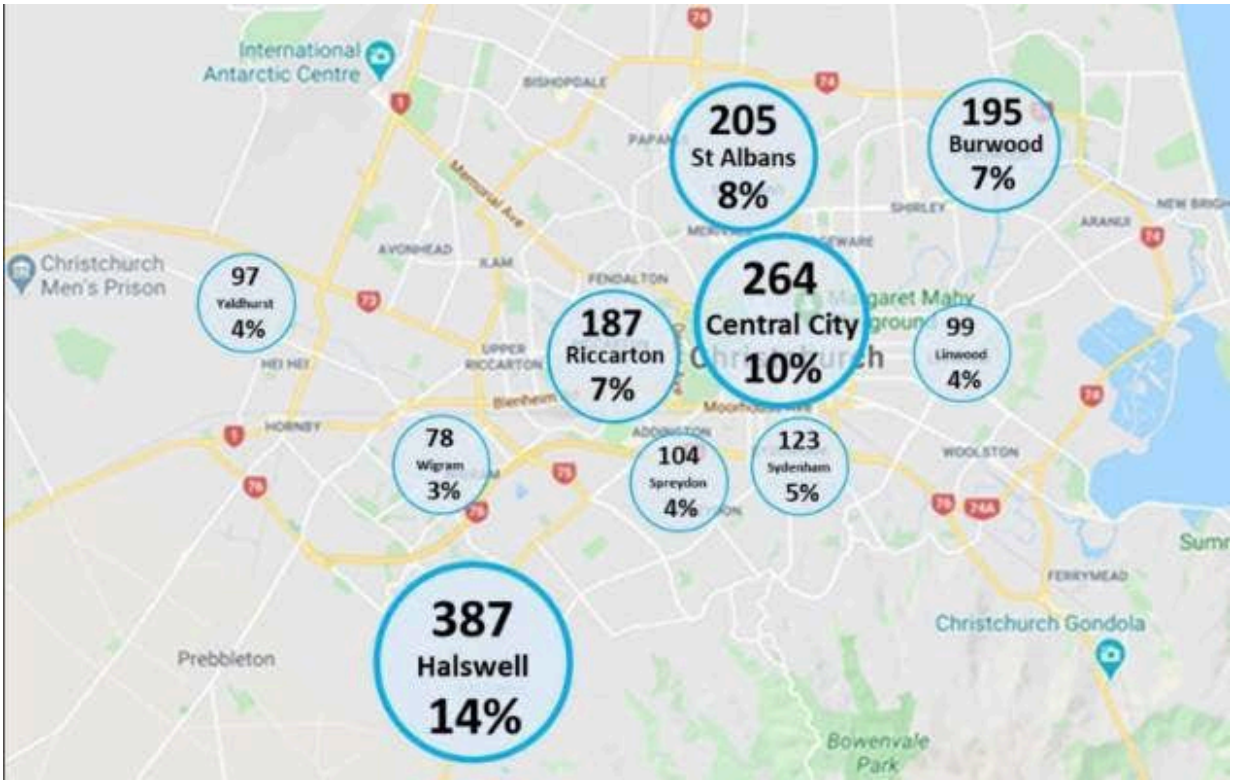


FIGURE 4: LOCATION OF NEW RESIDENTIAL CONSENTS ISSUED 2020 (BLACKBURN MANAGEMENT, 2020)

Increased medium density offering

The initial policy response to the earthquakes was integrated within a Land Use Recovery Plan (LURP) – a statutory document prepared by CERA under the Canterbury Earthquake Recovery Act 2011. The LURP provides clear direction for residents, businesses and councils of greater Christchurch about where development should occur and what form it should take to support recovery, including targets for the % of new households to be provided in existing urban areas and provisions to encourage medium density development.

This has successfully encouraged more intensive housing types, such as terrace and town house developments within existing urban areas. Of the new resource consents issued since 2018, 38% have been for medium density housing.

Focus on commercial development in the City Centre

The Central City Recovery Plan, known as the 'Blueprint' also includes provisions to support medium to high density living in the Central City, and sets a target of 20,000 people living within the four avenues by 2024. The Blueprint, published in 2012, provides a spatial framework for central Christchurch, including defining a new central 'core' and 17 'anchor' projects.

Whilst some residential development has occurred in the central City, the uptake of inner-city living has been slow, with population levels only recently surpassing pre-earthquake levels. This may be a reflection in part of the rebuild process which has focused on the delivery of commercial precincts such as the Convention Centre and Justice and Emergency Services Precinct. This has attracted commercial investment to the Central City, but achieved little in terms of attracting new residents.

Consumer preference for standalone homes

The *Living in Christchurch* 2021 Survey revealed a strong preference for detached houses over more intensive typologies. The most popular housing type among respondents was a stand-alone single storey home (55%) with three bedrooms (51%). This preference continues to drive the City's residential market.

Respondents identified lack of privacy and intensity of the development as the main deterrents to living in an apartment or townhouse. One respondent shared the opinion that *"The apartments currently built are not fit for long-term family living. They are far too small, lack storage, adequate outdoor living space and privacy."*

These findings are consistent with the results of the New Zealand Housing Preferences Survey 2017. Respondents overwhelmingly preferred stand-alone houses to other typologies and favoured attached and low-rise MDH typologies over high-rise MDH typologies (see Figure 5).

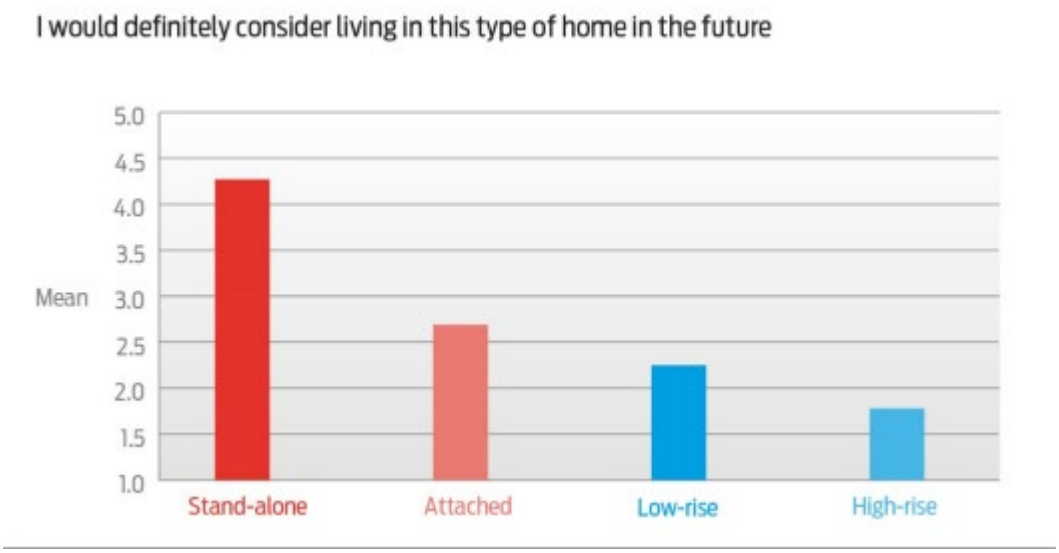


FIGURE 5: NEW ZEALAND HOUSING PREFERENCES SURVEY 2017 - PARTICIPANTS AGREEMENT WITH THE STATEMENT " I WOULD DEFINITELY CONSIDER LIVING IN THIS TYPE OF HOME IN THE FUTURE" (BRANZ, 2017)

It is worth noting that multi-unit housing in Christchurch has not always been perceived to be of high quality. This has resulted in poor urban development outcomes, and some public opposition to multi-unit housing in existing residential areas. There is an opportunity to improve the quality of multi-unit housing and shift the opinions of Christchurch residents in favour of more intensive housing.

Relative cost of apartments

Over the 3 month period ending April 2022, the average sale price of standalone home in Central Christchurch was $679.000, compared to $492,750 for a flat and $520,500 for an apartment. The relative cost of an apartment is reflected in the higher number of standalone homes and townhouses in the market.

Buyers in the market for a smaller dwelling typology (e.g. first home buyers, retirees) are more likely to purchase a flat/townhouse than an apartment if a townhouse is more affordable. Townhouses also typically offer a higher level of amenity (e.g. outdoor space, privacy), which makes them more attractive housing choices.

Future market for high density development

There are a number of factors that may change the market for high density development in the future.

Strong residential growth and increasing demand

Under a medium growth scenario, Statistics NZ estimations project the population of Christchurch City to grow from 392,100 people in 2021 to 417,000 people in 2028. This reflects an increase of 6.4%, with further projected growth to 453,800 people in 2038. The number of dwellings in the city is also projected to increase from 148,000 in 2018 to over 161,100 by 2028, and 172,400 by 2038 to account for population growth (refer to Market Assessment in Appendix 1 for further analysis). This suggests there will be strong demand for housing over the coming decades, which may create more demand for higher-density dwellings.

Demand needs to be met through a larger degree of intensification and infill

The Council's adjusted growth model is currently showing flattened housing demand across the city, with a much smaller emphasis on intensification in and around the city centre than the Statistics New Zealand's population and household forecasts (refer to Market Assessment in Appendix 1). The adjusted model also suggests demand will need to be met through a larger degree of intensification and infill (greenfield/infill ratio of 23%/77% vs Council's previous aim of a 40%/60% greenfield/infill ratio). This additional demand for intensive housing in Christchurch's existing urban areas may improve the market for high density development.

Change in approach to high density development

As outlined is Section 2 of this report, the NPS-UD effectively requires Council to remove height limits in the city centre zone and enable at least six storeys within a walkable catchment of the Christchurch CBD and metropolitan centres. This represents a step change in height limits in the City Centre and will help create the conditions for developers to construct higher density housing in well-connected areas.

Growing demand for smaller housing typologies

Whilst a growing number of medium density dwellings are being consented, there is limited availability of apartments, townhouses, or smaller dwelling types across Christchurch in comparison to similarly sized New Zealand cities. The average household size is also projected to decrease from 2.54 in 2021 to 2.45 in 2051 (Greater Christchurch. 2021). This suggests that there is currently an area of unmet demand for diversity of the housing stock including smaller dwelling typologies to accommodate, smaller household sizes and affordable price points.

4. Analysis Approach

Due to the limited time available to undertake the assessment, the analysis approach developed is based on testing a range of potential outcomes, on different sized sites, across different locations. From this, high level conclusions can be drawn regarding the feasibility of high density development across the cities centres.

Whilst further sensitivity testing and detailed analysis would be required to assess how each individual centre performs, the high level analysis provides a useful indication of how viable high density development is currently under the proposed controls and the likely conditions required to improve feasibility.

The following section provides an overview of how the sites for testing were selected, the process for preparing the scenarios, the establishment of prices points for residential apartments and the methodology for the feasibility assessment.

Lot Size and Site Selection

The lot sizes used in the analysis were selected to represent the range of different development opportunities that are likely to available across the cities HRZ precincts. Unlike greenfield development, the new planning framework implemented under PC 14 enables high density development to occur within the existing urban area. Available development sites are therefore dependant the size of the existing lots available for redevelopment and potentially in some cases were sites have been amalgamated to create a larger development site.

Testing a range of different site sizes is important to understanding feasibility as the land available for development plays a significant role the feasibility of development. Based on a review of available development opportunities the following site sizes were used for testing:

- Large lot size (1200m^2). Site widths of 21 metres and 26 metres were tested. Site widths of 26 metres are generally only available where two or more sites have been amalgamated.
- Medium lot size (731m^2) located on a corner site.
- Small lot size (450m^2).

Site Selection Process

Three typical lot size range were identified within the Christchurch morphology, lots below 500sqm, between 500 – 1,000sqm, and lots above 1,000sqm.

An exercise using GIS mapping identified the comprehensive development lots within the relevant centre precincts as set out in the table below:

Centre / precinct	Lots below 500sqm	Lots 500- 1,000 sqm	Lots above 1,000 sqm
High Density Zone	438	224	67
City Centre HRZ Precinct	235	196	87
Emerging Metropolitan Centres HRZ Precinct	147	360	109
Town Centre HRZ Precinct	104	95	61
Significant Local Centre HRZ Precinct	242	103	42
TOTAL	1166	978	366

TABLE 2: COMPREHENSIVE DEVELOPMENT LOTS BY CENTRE PRECINCT AND SIZE

Comprehensive development lots were identified on the basis of the following:

- Existing vacant sites – identification of appropriately zoned vacant sites excluding those designated for an alternative purpose
- Sites with earthquake prone buildings
- Sites with re-development potential – identification of sites where the value of the existing improvements is low comparative to the land value. Based on a review of recent developments

across the city where sites have a land value that makes up to 80% of the capital value have been considered as providing a development opportunity[1].

Sites were excluded if they fall within under the potential qualifying matters categories, such as natural hazard risks including liquification, areas of cultural or ecological significance, contaminated sites, or sites within the flight path restrictions.

A typical development lot from the High Density Zone, Emerging Metropolitan Centre HRZ Precinct, and Town Centre HRZ Precinct was selected to undertake the feasibility testing:

- Site 1: High Density Zone, lot between 500- 1,000 sqm (medium)
- Site 2: Emerging Metropolitan Centres HRZ Precinct, lot above 1,000 sqm (large)
- Site 3: Town Centre HRZ Precinct, lots below 500 sqm (small).

As typical development lot sizes were used for the design tests, these could be applied to lots in other geographic locations across the relevant centres to produce economic feasibility tests in those locations.

It was noted that analysis to select the lot sizes for testing found that typical lot dimensions in Christchurch tend to be deep with narrow street frontages.

Residential Building Typologies

To test the different outcomes achievable under PC14, on each different lot size a built form outcome was developed to represent how the site could be developed maximising its potential. The design test looked at three building height scenarios: 4 storeys, 6 storeys and 10 storeys to align with the heights enabled in the HRZ and HRZ precincts.

The models produced demonstrate if different residential typologies and building height scenarios are achievable on the three different typical site sizes when applying the HRZ standards.

The residential dwelling yield produced by the scenario tests, along with the geographic location of the sites selected, was the basis for undertaking the economic feasibility testing.

[1] It is noted that previous assessments have identified development potential on sites where land value has been 70% of capital value. For this assessment 80% has been used to reflect recent market activity. If 70% was applied the number of sites that show development potential across the city would increase considerably (approximately 6,000 more comprehensive development sites).

Development Feasibility Model

To test the development feasibility of the residential typologies developed a Residual Land Value model has been prepared. The model assesses a site's development potential, in simple terms, by comparing the likely costs of development (including addressing issues of resilience) with the potential resale value. From this, the residual land value (the value a developer would pay to acquire the land) is derived to test feasibility.

Establishing the cost assumptions

The construction costs used in the model are based upon current capital city rates for apartment buildings between 1 and 12 levels (AECOM, 2022). The other development cost assumptions are detailed in the market assessment (Appendix A) and where applied to the sites analysed based upon the bulk and location analysis, a risk assessment of ground conditions and flooding. The two key contingency allowances associated with the options analysis included seismic resilience assumption and a development cost contingency. Land costs were estimated based upon the notional sites selected in these locations and ranged between 730m^2 and 1,200m^2.

In addition to the market assessment assumptions and unless stated above, the following assumptions inform the feasibility analysis:

- No consenting risk
- Reference to Christchurch liquefaction information - liquefaction damage
- Reference to Christchurch liquefaction information - Vulnerability to Liquefaction
- Christchurch City Council District Plan Natural Hazards
- City Fringe and Outer Centre price points are discounted at 5% cumulatively from the analysed Central City price points
- Car parking at $50,000 per space in addition to purchase of apartment in Central City and City Fringe.

Establishing the revenue assumptions

The price points for apartments used to inform the model, are associated with premium, market and affordable apartments. The market assessment has shown that apartments are generally not well represented in Christchurch and this is compounded by limited sales evidence to inform the feasibility analysis. Market and premium sales rates were established through blended rates between the limited Christchurch evidence and additional comparable sales and rents from other large towns and cities. The affordable sales rates are calculated at approximately 85% of market value for comparative purposes.

Limitations and Assumptions

Due to the time constraints for this analysis, a high level approach to the assessment has been undertaken. This has included typology testing and feasibility assessment on a range of typical sites to establish key assumptions that could be applied across the city rather than an in depth analysis of each different centre.

To provide a more detailed assessment of feasibility it is recommended that further sensitivity analysis is undertaken. This should include testing of additional sites across each centre and more detail review of land values based on the upcoming updates to the rating base. This would give a more accurate range of parameters for the model.

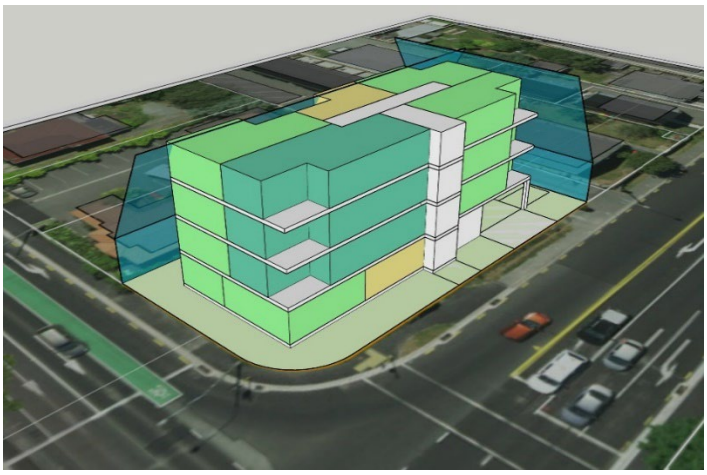
5. Built Form Outcomes – Design Feasibility

To provide the inputs in the development feasibility analysis the potential built form outcomes that could result from the draft provisions on three different sites sizes was analysed (site sizes were selected to represent potential development opportunities, refer to Section 4).

On each lot size, three different heights (4, 6 and 10 stories) were tested to reflect the different rules that apply as the increase in heights are allowed for. The outcomes of the design analysis are summarised below with more detail provided in Appendix 3.

Site type 1 – MEDIUM lot size (731m²)

FIGURE 6: SCENARIO 1: 4 STOREYS



Built Form Outcomes

Yield: 19 units

FIGURE 7: SCENARIO 2: 6 STOREYS

Built From Outcomes

Yield: 23 units

FIGURE 8: SCENARIO 2: 10 STOREYS

Built From Outcomes

Yield: 40 units

The design outcomes demonstrate that on a medium site size of 750 sqm, all heights can be achieved. The site selected demonstrates how, on a corner site, the development can achieve a greater yield with 3 m set backs at the road boundary allowing floor a larger floor pate. As the building increases on height it is considered that the corner site provides a more viable development outcome.

Site type 2A - LARGE lot size (1,200m2) – narrow lot (21.1m)

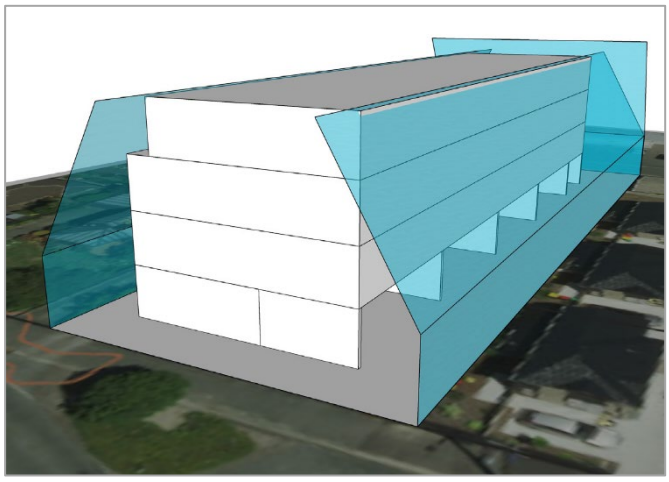


FIGURE 9: SCENARIO 1: 4 STOREYS

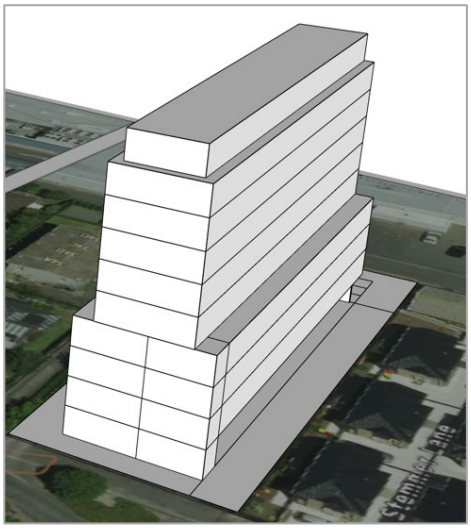
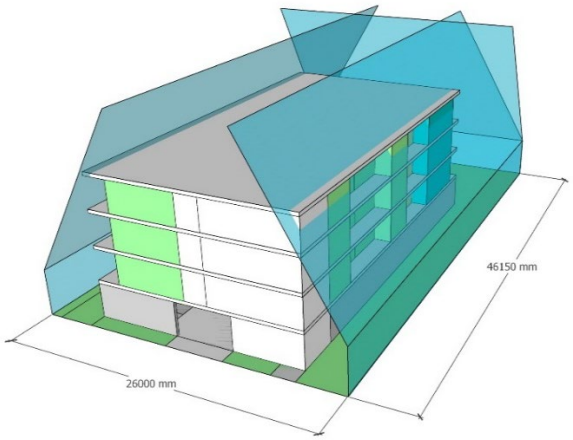


FIGURE 10: SCENARIO 2: 10 STOREYS

Site type 2B – LARGE lot size (1,200m^2) – wide lot (26m)

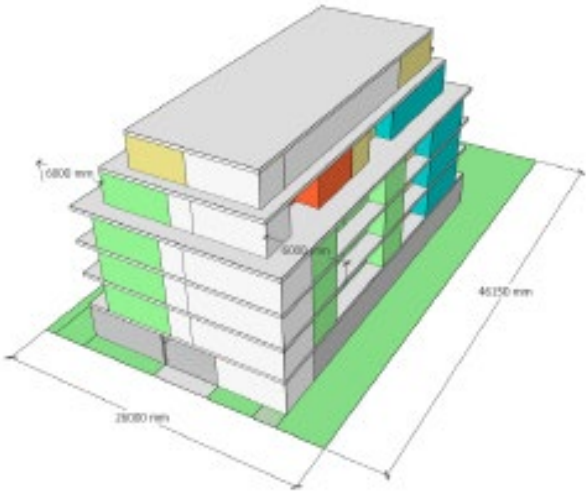
FIGURE 11: SCENARIO 1: 4 STOREYS



Built From Outcomes

Yield: 24 units

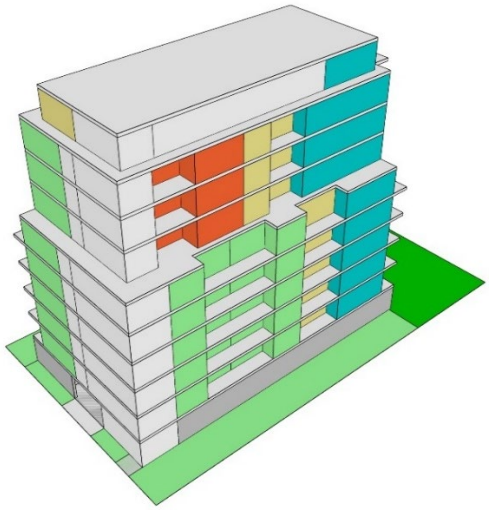
FIGURE 12: SCENARIO 2: 6 STOREYS



Built From Outcomes

Yield: 35 units

FIGURE 13: SCENARIO 2: 10 STOREYS



Built From Outcomes

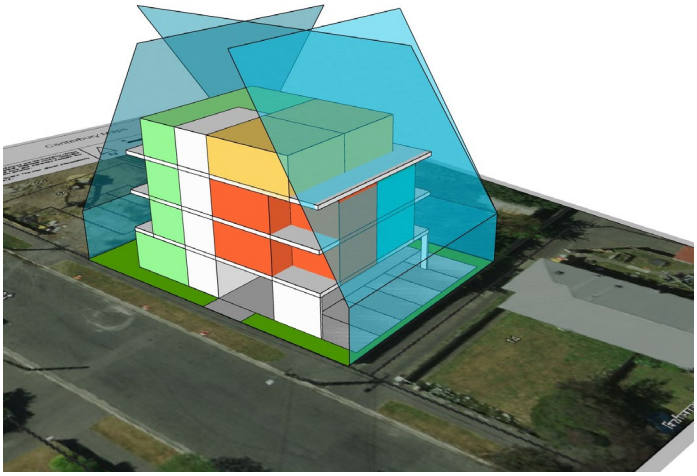
Yield: 62 units

The design analysis demonstrates that all height scenarios (4 storeys, 6 storeys, and 10 storeys) can be achieved on larger sites of approximately 1,2000m^2. Whilst a narrow lot, with a street edge width of 21.1 metres (which is typical of the development lots within the city centre precinct) can accommodate a 10 storey building the resulting built from is a narrow tower typology which is difficult to achieve an efficient apartment layout within (refer to Figure 9 and 10.

Initial feasibility assessment indicated that the yields achieved on a narrow lot would not be sufficient to justify the cost of construction. A more likely scenario for a larger scale building would be the amalgamation of several parcels to create a larger development site. Therefore the scenario tested represents a possible site amalgamation to achieve the greater site width (26 metres).

Site type 3 - SMALL lot size (450^2)

FIGURE 14: SCENARIO 1: 4 STOREYS



Built From Outcomes

Yield: 10 units

FIGURE 15: SCENARIO 2: 6 STOREYS

Built From Outcomes

Yield: 14 units

The typical small lot size is able to accommodate scenario of 6 to 10 storeys when the setback requirements are applied at the upper stories however only a small tower is achievable. The yield only increases five when the height is increased from 4 to 6 storeys but the costs of construction increase significantly due to the requirement of a lift.

Design Feasibility Analysis

The medium lot size on a corner site and the large lot size with a minimum frontage width of 26 metres were able to achieve a feasible design when tested at 4, 6 and 10 storeys. The small lot size was able to achieve developments of 4 storeys and 6 storeys, with a possibility of increasing to 10 storeys with a small tower however this is considered an unlikely outcome.

The analysis shows that size and shape and aspect of lots has a considerable impact on the ability to create feasible developments. Challenges to achieving heights of 6 storeys and above were identified for all three typical lot size scenarios tested. Commentary on the design testing conclusions is summarised below:

- Long, narrow sites are typical in the centre catchments. Height in relation to boundary standards and the setback requirements above 4 storeys restrict height on these sites. Amalgamation of sites to create sites with a wider street frontage may be required to achieve greater height on these lots.
- Corner sites allow for greater floor plates as built form can be more generous on street frontage, there should be consideration of how development can be encouraged in these locations.
- Geometry of smaller sites may be more suitable for townhouse or three storey walk-up typologies due to the height limitations create by height in relation to boundary setback requirements.
- Upper floor setbacks may have development cost implications as they reduce the yield and potentially create increases in cost.
- Accommodating car parking poses a number of risk and opportunities:
    - Car parking has been provided in scenario tested to reflect a likely outcome that is delivered to meet market demand.
    - Under croft car parking at ground level reduces the flood risk and need to apply freeboard levels as there is no residential uses at ground floor level.
    - At grade and under croft car parking adjacent to public areas can led to poor street front activation.
    - At grade car parking external to the building can be an inefficient use of the site.
    - The use of pervious driveway and parking surfaces can increase car parking options and ensure development meets 70% impervious controls.

6. Development Feasibility Analysis

The development feasibility of the scenarios prepared were then tested against a range of current land values and estimated price points[2] achievable across different locations to reflect the distance of the site from the city centre. This approach was undertaken to enable a high level assessment of how the viability of high density development may differ across the different centre types based on their proximity to the city centre.

As noted in Section 5, whilst further sensitivity testing and detailed analysis would be required to assess how each individual centre performs, the high level analysis provides a useful indication of how viable high density development is currently under the proposed controls and the likely conditions required to improve feasibility.

The tables below provide a summary of the feasibility results across the different heights at different locations. More detailed summary of the results is provided in Appendix 4.

City Centre Location (City Centre HRZ)

	Premium	Market	Affordable
4-levels	-13.31%%	-12.77%	-25.16%
6-levels	-6.22%	-5.12%	-12.90%
10-levels	1.14%	2.40%	-5.50%

TABLE 3: CITY CENTRE LOCATION ECONOMIC FEASIBILITY SUMMARY

As shown in Table 3 above, the City Centre location was able to achieve greatest profitability under the 10-storey scenario using a market price point, which achieves 2.4% profitability. This falls significantly short of the industry rule of thumb of 20% profitability required for a development to be considered feasible.

[2] As noted in Section 5, due to the current limited evidence of high density sales in Christchurch the price points used in the analysis for residential apartments were drawn from an analysis of other comparable markets.

Despite the limited feasibility identified, the results do demonstrate that the feasibility does increase as heights are increased and greater yields are achievable. Based on work completed by TPG in other areas within in New Zealand it is estimated that heights allowable would need to increase to between 18-32 stories to begin to achieve a viable development (note this would require further testing to confirm).

It is also important to note that these results are based on the estimated current market values and high risks around the increasing construction costs and market instability. Into the future, as the Christchurch residential market changes and the construction sector stabilises the viability of high density residential development at 10-12 stories may improve. The price points achievable would need to increase similar to those achieved in the Wellington market alongside high levels of amenity provided for inner city residents.

City Fringe Location (City Centre HRZ Precinct)

	Premium	Market	Affordable
4-levels	9.09%	9.46%	1.39%
6-levels	12.55%	9.58%	1.51%
10-levels	14.99%	11.63%	3.67%

TABLE 4: CITY FRINGE LOCATION ECONOMIC FEASIBILITY SUMMARY

The City Fringe location under a 10-storey scenario at a premium price point achieves 14.99% profitability. This is the best profitability achieved across all design scenarios in each of the three locations tested. The 6-storey scenario at a premium price followed at 12.55% profitability. This is not achieving the 20% profitability required, however further design, definition and risk mitigation may pass on development cost savings that could improve overall profitability and potential achieve feasibility.

The difference between this location and the city centre location reflects the impact the lower land values has on enhancing the feasibility of development at the 6-10 storey height limit.

Outer Centre location (Local Centre)

	Premium	Market	Affordable
4-levels	-15.46%	-14.79%	-22.98%
6-levels	-7.54%	-6.21%	-14.55%

TABLE 5: OUTER CENTRE LOCATION ECONOMIC FEASIBILITY SUMMARY

None of the Outer Centre location scenarios tested achieved profitability with the best outcome being -6.21% profit under the 6-storey scenario at a market price point. A 10-storey scenario was not tested in the Outer Centre location as market demand for this type of unit is considered to be due to the reduced proximity, amenity, and connectivity offer which can be better achieved in more central locations.

Study findings

The analysis shows that across all options, under current market conditions that development of high density residential development (apartment buildings above 3 storeys) is challenging. This is evident by the lack of profitability equal to or above 20% return on investment. The reasons for these results are generally due to the revenues generated by these options are not high enough for the locations to address the high development (including land) costs and the risks associated with the development to achieve a developers profit.

The analysis shows a very challenging environment for residential apartments between 4 and 10 storeys. Profitability does improve as the scale of the building and associated gross floor area increase, albeit falling well short of the 20% profitability target.

- All 4-level development scenarios across the three locations are not profitable. Poor profitability was consistently associated with affordable apartments ranging between -25% (loss) in the City Centre, -23% in the Outer Centres and +1.4% profit in the City Fringe. Premium and Market apartments followed this trend however the City Fringe location performed better under the market conditions at 9.6%
- All 6-level development scenarios across the three locations are not profitable. Poor profitability was consistently associated with affordable apartments ranging between -14.6% (loss) in the Outer Centre, -12.9% in the Central City and +1.9% profit in the City Fringe. Premium and Market apartments similarly followed this trend however the City Fringe location performed better under the premium conditions at +12.6% profitability
- All 10-level development scenarios across the three locations are not profitable. Poor profitability was consistently associated with affordable apartments ranging between -5.5% (loss) in the Central City compared to +3.7% profit in the City Fringe. Premium and Market apartments similarly followed this trend however the City Fringe location performed better under the premium conditions at +14.9% profitability
- The 731m^2 site in the City Fringe performed better than the Central City and Outer Centre locations that where based upon a 1,200m^2 notional site.

Further design, definition and risk mitigation may pass on development cost savings that improve the profitability for all height options, in particular, for new premium and market apartment buildings at 10 levels.

The above analysis needs to be balanced against other housing typologies that could be viable on this site and based upon the relationship of profit and risk and outside the scope of this project, for example medium density housing. This approach provides only a starting point to determine viability of a new housing typology entrant that Council is seeking to encourage through its District Plan.

6. Conclusions

The analysis shows that across all development scenarios, under current market conditions, development of high density residential development in Christchurch is challenging. It is made even more challenging by the fact that currently the feasibility of lower scale, medium density development is high and people are able to purchase a larger medium density unit for much less than an apartment would need to sell for in the same location.

The analysis does demonstrate that the city centre (area zoned High Density Residential), and its directly surrounding area (the City centre HRZ Precinct), has some potential for supporting high density residential development into the future. Whilst the results demonstrate that the feasibility in the city centre does increase as heights are increased and greater yields are achievable, based on work completed by TPG in other areas within in New Zealand it is estimated that heights allowable would need to increase significantly (for example up to 32 stories) in the city centre to begin to achieve a viable development currently.

It is important to note that these results are based on the estimated current market values and high risks around the increasing construction costs and market instability. Into the future, as the Christchurch residential market changes and the construction sector stabilises the viability of high density residential development at 10-12 stories may improve. The price points achievable would need to increase similar to those achieved in the Wellington market alongside high levels of amenity provided for inner city residents.

Based on this analysis it is considered unlikely that high density residential development (4 stories and above) within the cities local centres or metropolitan centres will be feasible without a significant shift in the market or significant government intervention. For example, the potential increase in land values that may result from investment in infrastructure such as MRT in these areas.

Recommended further analysis

It is recommended to further understand how high density residential development can be supported in the city centre locations further design analysis and identification of risk mitigation measures that may pass on development cost savings be explored. This could include:

Testing the impact of minimum apartment sizes

To achieve high density it needs to be desirable above other housing typologies that could be viable on the site and based upon the relationship of profit and risk and outside the scope of this project, for example medium density housing. Residential dwelling sizes are larger in general in the Christchurch market and a high density dwelling will need to achieve a unit size comparable to a medium density dwelling to be desirable within the market. Apartment sizes should be explored to understand whether these could be used as a lever for feasibility if they were more comparable to medium density options.

Re-focusing the HRZ in areas of high amenity

The centre and precincts classifications within which the HRZ standards have been applied are linked to the level of services and amenities within the centre. The larger and more diverse centres are in turn associated with those locations where high density development

will be supported, as high density demand is linked to good proximity, amenity, and connectivity conditions. To achieve development feasibility there needs to be a focus on those locations where proximity, amenity, and connectivity conditions are at a premium.

Further testing of the impact of size and shape of lots to inform planning provisions

The design feasibility analysis identified that the size and shape of lots has a considerable impact on the ability to achieve the height enabled within the HRZ and associated precincts.

- Heights: Ten storey residential typologies could be achieved within the HRZ standards on the medium and larger lot sizes tested. Exploring further height of greater than 10 storey may determine a height that will achieve development feasibility. The market conditions, however may not support greater height in suburban centre locations.

- The geometry of smaller sites may be more suitable for townhouse or three storey walk-up typologies due to the height limitations created by height in relation to boundary setback requirements.

- Corner sites: Corner sites allow for greater height, particularly on the medium sized sites, as built form can be more generous on street frontage. Further testing and analysis of how development can be encouraged in on corner sites should be undertaken.

- Site amalgamations: Long, narrow sites are typical in the centre catchments. The large site originally selected for testing had a width of 21.1 metres, however the height in relation to boundary and setbacks standards under the HRZ significantly restricted the ability to achieve height above a four storey, and particularly a six storey, scenario on the site. While a 10 storey building is technically feasible on a 21 metre site, the design reality makes it unlikely. A minimum width of 26 metres is more realistic to achieve a ten storey development scenario. Amalgamation of sites to create sites with a wider street frontage may be required to achieve greater height on these lots.

Appendix 1: Market Assessment

High Density Residential Feasibility Assessment - Market Assessment

Christchurch City Council

May 2022

Contents

Quality control

Document	Christchurch City Residential Market Assessment
Ref	718289
Date	23 MAY 2022
Prepared by	Sophie Randell, Senior Property Consultant Ruth Allen, Lead Advisor Urban Regeneration
Reviewed by	Clinton Fisher,

Revision history

Revision	**Revision date**	**Details**	**Authorised**	
			Name/Position	**Signature**
01	23 May 2022	Draft for review	Ruth Allen	

Executive Summary

The Property Group Limited (TPG) has been engaged by Christchurch City Council (Council) to undertake a feasibility assessment of residential development in areas identified as the high-density residential zone in Christchurch City as part of Plan Change 14.

This market assessment has been prepared to provide a basis from which the revenue assumptions for the feasibility analysis can be determined, and to identify trends in demand for high density residential development into the future.

To establish revenue assumptions for apartments, this assessment provides an overview of the current residential market across Christchurch City and provides a review of what this could mean for high density residential development. As there is currently limited evidence of high density development in Christchurch a review of other centres across New Zealand has also been undertaken alongside the review of the Christchurch residential market.

The key findings of the market assessment and analysis include:

- **Strong district residential growth and increasing demand**

The population of Christchurch City is projected to grow under a medium growth scenario, from 392,100 people in 2021 to 417,000 people in 2028 reflecting an increase of 6.4%, with further projected growth to 453,800 people in 2038. The number of dwellings in the city is also projected to increase from 148,000 in 2018 to over 161,100 by 2028, and 176,400 by 2043 to account for population growth.

- **Currently there is limited supply of high-density residential typologies**

There is currently limited availability of apartments, townhouses, or smaller dwelling types across Christchurch compared to similarly sized New Zealand cities. This suggests that there is currently an area of unmet demand for diversity of the housing stock including smaller dwelling typologies to accommodate, smaller household sizes and affordable price points.

- **Strong value growth and demand**

In recent years, the Christchurch property market has experienced significant activity with strong demand across all value ranges which has resulted in a reduction in supply. The latest statistics released by Quotable Value indicate that Christchurch had the largest rise in average sale price across New Zealand, up 40.2% over 2021. Property listings in the region have been far less constrained than most other parts of the country for an extended period, with investors now attracted to Christchurch where prices are significantly more affordable than in Auckland and Wellington and much better yields are achievable.

- **Decreasing housing affordability**

Christchurch city is currently considered more affordable than all other main centres in New Zealand. After many years of slow value growth following the Christchurch rebuild, value growth in Christchurch has picked up considerably, with the housing affordability index despite still being much lower than other main centres, now following a similar downward trend.

1. Introduction

The Property Group Limited (TPG) has been engaged by Christchurch City Council (Council) to undertake a feasibility assessment of high-density residential development (apartment buildings 4 storeys and above) in areas identified as the high-density residential zone in Christchurch City as part of Plan Change 14. Plan Change 14 has been prepared to give effect to the requirements of the National Policy Statement on Urban Development (NPSUD) and the implications of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill and the new Medium Density Residential Standards (MDRS).

To support the development of the feasibility assessment, this market assessment has been prepared to establish a basis from which the revenue assumptions for the feasibility analysis can be determined. This includes both an understanding of the current residential market trends as well as anticipated levels of growth and demand for housing.

Scope of the Market Assessment

The market assessment aims to provide an understanding of the current market for residential development in areas identified as the high-density residential zone in Christchurch City as part of Plan Change 14. It also provides some indication of how this may change into the future based on future directions for growth and demand for housing.

The objectives of the market assessment include the following:

- Review and quantify the current residential supply across the City's catchments
- Identify the potential pipeline of residential development and likely demand
- Establish indicative development costs for residential development in Christchurch.

Report Structure

Following this introduction, this report provides an overview of the results of the assessment in the following sections.

- Section 2, Population Growth and Demand: provides a high-level overview of the population projections for Christchurch City to identify potential future residential demand for high-density
- Section 3, Residential Market Assessment: analyses trends in the residential market to establish current and future demand for this sector
- Section 4, Development Costs Assessment: provides a review of development costs including construction costs and other direct costs and assumptions.

2. Population Growth and Demand

The following section of this report provides a high-level overview of the population projections for Christchurch City to identify potential future residential demand.

Population Trends

In order to establish potential residential demand, it is important to consider population trends. The greater Christchurch area has experienced significant population change following the Canterbury earthquakes in September 2010 and February 2011. The population of Christchurch City fell in 2011 and 2012 by 18,000 people, mainly due to people moving to adjacent greater Christchurch areas (such as Selwyn and Waimakariri districts). Christchurch City's population took several years to re-bound, to surpass the 2010 population of 376,000 people. (Canterbury District Health Board, 2022). The inner-city residential population took much longer to recover, with population levels only recently surpassing the pre-earthquake population of approximately 8000 people.

The estimated resident population as 30 June 2013 and 2018 for Christchurch City is noted in Table 1 below in comparison to the Canterbury Region and New Zealand together with projections for 2023. Between the Census years of 2013 and 2018, the population of Christchurch City increased 42,331 persons or 12.4%, to reach 383,800. The estimated resident population of Christchurch City in 2021 is 392,100 people. This reflects a further increase of 8,300 persons (+2.1%) over the three-year period between 2018 and 2021 (Statistics NZ, 2021). This represents steady population growth, with some signs of growth slowing.

	2013	2018	2023 projection
Christchurch City	341,469	383,800	402,400
Population Change		+ 42,331	+ 18,600
% Increase		+ 12.4%	+ 4.8%
Canterbury Region	539,533	622,800	661,300
Population Change		+ 83,267	+ 38,500
% Increase		+15.4%	+ 6.2%
New Zealand	4,242,048	4,900,600	5,222,400
Population Change		+ 658,552	+ 321,800
% increase		+15.5%	+ 6.6%

TABLE 1: POPULATION STATISTICS AND PROJECTIONS (SOURCE: STATISTICS NZ)

Population and Household Projections

Table 2 shows the Statistics New Zealand population and household forecasts in Christchurch City from 2018 through to 2048 under a medium growth scenario. The period 2018

to 2033, as the short to medium term, is likely to be the most accurate and useful forecast information for immediate planning purposes.

Estimated population forecasts indicate a projected resident population of 430,600 by 2033 and an increase of 79,700 persons from 2018 to 2048, representing an estimated growth of 20.7%. The associated number of dwellings in the city is projected to increase from 148,000 in 2018 to over 167,200 by 2033, and 172,400 by 2038 to accommodate this population growth. This suggests there will be strong demand for housing over the coming decades.

	Forecast year						
Summary	**2018**	**2023**	**2028**	**2033**	**2038**	**2043**	**2048**
Population Forecast	383,800	402,400	417,000	430,600	453,800	453,800	463,500
Population Change	-	+ 18,600	+14,600	+13,600	+12,200	+11,000	+9,700
% Increase	-	4.8%	3.6%	3.3%	2.8%	2.5%	2.1%
Household Forecast (Medium growth scenario)	148,000	155,000	161,100	167,200	172,400	176,400	*

TABLE 2: POPULATION AND HOUSEHOLD FORECASTS FOR CHRISTCHURCH CITY 2018 - 2048 (SOURCE: STATISTICS NZ)

Household size

It is also important to explore the relationship between population and average household size, as if the average household size is falling, then there will need to be growth in the number of households (and dwellings for people to live in) to maintain or grow the population. In addition, a reduction in household size may increase the demand for smaller dwelling typologies.

The average household size was estimated to be 2.54 in 2021 and is projected to decreased to 2.45 by 2051, the declining rate reflects the changing demographics of older households and changing family structures (Greater Christchurch, 2021).

This changing demographic is reflected in table 3 below, with demand for all housing types projected to increase over the period 2018-2018.

Household Type	**Forecast year**						**Overall % change**
	2018	2023	2028	2033	2038	2043	
Family	101,100	108,100	113,500	119,000	123,700	127,700	26.3%
% Year total	68%	70%	70%	71%	72%	72%	

Other multi-person	10,400	9,800	9,800	9,800	9,700	9,600	7.7%
% Year total	28%	26%	26%	26%	25%	25%	
One person	36,500	37,100	37,800	38,400	38,900	39,100	7.1%
% Year total	25%	24%	23%	23%	23%	22%	
Total	**148,000**	**155,000**	**161,100**	**167,200**	**172,400**	**176,400**	19.2%

TABLE 3: HOUSEHOLD TYPE FORECASTS FOR CHRISTCHURCH CITY 2018-2048 (SOURCE: STATISTICS NZ)

Population Distribution

Whilst the Statistics New Zealand's population and household forecasts (SA2) are a useful baseline for understanding where population growth in Christchurch will occur, these do not take account of the medium density enabled through the new planning framework, development feasibility, or exhaustion of greenfield capacity in particular areas.

To provide a more accurate understanding of population densities into the future, Christchurch City Council is in the process of manually adjusting their growth model to reflect these additional considerations. The adjusted model is currently showing flattened demand across the city, with a much smaller emphasis on intensification in and around the city centre (see Figure 1).

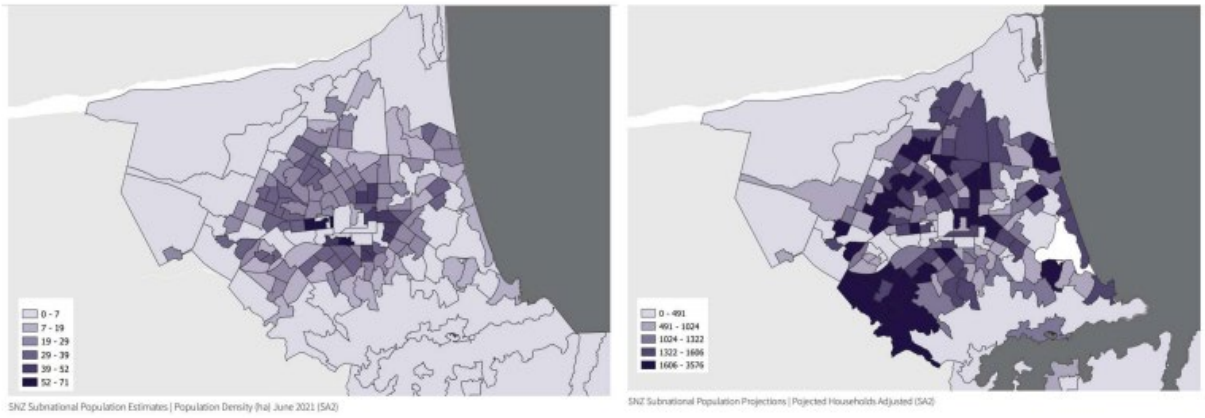


FIGURE 1: CURRENT POPULATION DISTRIBUTION TO 30YR PICTURE UNDER THE ADJUSTED GROWTH MODEL

The adjusted model also depicts a greenfield/infill ratio of 23%/77%. This proportion of infill development is much greater than Councils previous aim of a 40%/60% greenfield/infill ratio. This suggests demand may need to be met through a larger degree of intensification and infill than initially thought (77% vs 60%).

3. Residential Market Assessment

General Market Commentary

To identify recent and potential pricing trends for residential property in Christchurch City we have commented on general market trends over recent years and completed analysis of recent residential sales and rentals across the various catchments.

Following the emergence of the COVID-19 pandemic in late 2019 the New Zealand economy has recovered better than anticipated, and generally on a more national level the residential property sector has remained strong. During the period of 2015 to 2018, Christchurch City experienced a decline in the residential property market, followed by a period of relatively subdued but steady growth through to the end of 2019. This trend was unique in comparison to most of New Zealand, which was experiencing strong growth. Factors influencing the property market decline in Christchurch over this period included:

- Fast tracking of planning and consenting requirements, therefore accelerating development and supply of housing.
- Low population growth in the immediate years following the earthquakes.
- Increased construction associated with the 2011 earthquake rebuild and an influx of migrant construction workers required for the rebuild.
- Rapid growth in surrounding Selwyn and Waimakariri Districts with flat land which is relatively more efficient in term so cost and time to develop.

Post COVID-19 the Christchurch property market has experienced significant activity with strong demand across all value ranges which has resulted in a reduction in supply. The latest statistics released by Quotable Value indicate that Christchurch had an average sale price increase over the last 12 months of 28.4%, although prices are slowing with an increase of 0.9% over the 3-month period ending April 2022.

Following a strong year of growth over 2021, market confidence has decreased over recent months resulting in a decrease in the value of sales in the Christchurch market. A shift in market sentiment has resulted in buyers becoming more selective. Lending restrictions, rising interest rates, and shortage of labour and materials are having a major impact on all parts of the transaction.

Over recent years the apartment market has not experienced the same level of demand as other housing sectors in Christchurch. The slower uptake on apartment style living has been due to the competition from the inner suburb infill homes, like in St Albans, Riccarton and Merivale and the fact that apartments have not historically been a common housing option in Christchurch. However, more recently due to greater supply and a vibrant and established central city, apartment living has become a more attractive lifestyle option.

Recent land sales have decreased from rates of $1,000 per square metre in the latter half of 2021 to $700-$800 per square metre illustrating a drop of value of up to 30% over recent months. Due to the current market climate, developers are focusing on selling current housing stock and only looking to commence new projects if they can secure land at a low enough rate to make development feasible.

Summarised below are sales statistics relating to Median Sale Price for Christchurch City in comparison to New Zealand as a whole. The figures reflect the slower value growth Christchurch City when compared to national indicators during the period 2015 to 2018, with increased market activity and value appreciation during 2021 and 2022.

Regional							
	Apr-22	Apr-21	Apr-20	Apr-19	Apr-18	Apr-17	Apr-16
Christchurch City							
Median Sale Price	761,356	594,577	516,677	498,105	491,908	495,855	488,943
Annual Increase	28.1%	15.1%	3.7%	1.3%	-0.8%	1.4%	-
Overall increase - April 2016 to April 2022					55.7%		
National							
	Apr-22	Apr-21	Apr-20	Apr-19	Apr-18	Apr-17	Apr-16
New Zealand							
Median Sale Price	1,035,216	871,375	735,979	686,975	668,875	645,946	572,969
Annual Increase	18.8%	18.4%	7.1%	2.7%	3.5%	12.7%	-
Overall Increase – April 2016 to April 2022					80.7%		

TABLE 4: MEDIAN SALE PRICE, ANNUAL INCREASE CHRISTCHURCH AND NZ (SOURCE REINZ)

Summary of Sales Statistics and Analysis

City wide residential sales

The Christchurch residential market is mostly made up of standalone homes and new medium density development. In the last three months (February-April 2022), 1200 standalone homes were sold in Central Christchurch, compared to 354 flats/townhouses and just 54 apartments.

Apartment sales

Table 8 below provides a summary of average sale prices for 1-, 2- and 3-bedroom apartments across central city, fringe and outer suburbs in New Zealand's main centres. The number of apartment sales in Christchurch City is relatively low in comparison to the other centres. The majority of apartment sales occurring are in the City Centre, followed by a small number in Linwood and St Albans.

Sale Price Per Square Metre – Apartment Sales

	Auckland	Hamilton	Mount Manganui	Wellington	Christchurch
Central					
1 Bedroom	$11,873	$9,091	$12,237	$13,389	$8,380
2 Bedroom	$14,337	$8,323	$10,129	$11,412	$8,474
3 Bedroom	$14,210	$9,998	$10,159	$13,066	$7,967
Fringe					
1 Bedroom	$14,346	-	-	$11,323	-
2 Bedroom	$14,270	-	-	$12,654	-
3 Bedroom	$14,463	-	-	$11,101	-
Outer					
1 Bedroom	$12,608	-	-	-	-
2 Bedroom	$11,846	-	-	-	-
3 Bedroom	$11,722	-	-	-	-

TABLE 5: APARTMENT SALES RATES PER SQUARE METRE BY CITY (PROPERTY – GURU JUNE 2021 – MAY 2022)

Residential Rentals

An overview of the median and upper price points for rentals are shown in Table 6 below. The data is categorised by dwelling type, including apartments, flats and houses.

Suburb			Apartment						Flat						Houses									
	All Typologies		1 Bed		2 Bed		3 Bed		1 Bed		2 Bed		3 Bed		1 Bed		2 Bed		3 Bed		4 Bed		5+ Bed	
	Median	Upper	Median	Upper	Median	Upper	Median	Upper	Median	Upper	Median	Upper	Median	Upper	Median	Upper	Median	Upper	Median	Upper	Median	Upper	Median	Upper
Barrington	*No Data*																							
Belfast	510	550															390	420	520	550	600	600		
Bishopdale	498	544															420	450	500	540	550	585	635	684
Church Corner	*No Data*																							
City Centre	425	495	390	420	465	500	530	565	300	400	360	437			400	420	475	500	535	600	588	643	788	920
Hornby	450	490															400	435	473	491	605	645		
Linwood	350	430	335	360	355	389			290	308	340	360			295	300	400	485	460	500	500	550		
Merivale	478	550	405	439	455	508											465	523	563	620	900	963		
North Halswell	570	620																	533	560	620	650	710	743
Papanui	480	553															425	450	525	555	635	650		
Prestons	*No Data*																							
Riccarton	465	600			430	463	480	550	350	390	400	430	430	463	420	443	440	480	490	550	570	630	760	930
Shirley	465	500															443	483	470	500				
Sydenham	435	470	395	395	370	420			300	318	350	401			360	388	440	460	480	510	550	575		

(TENANCY SERVICES, OCTOBER - MARCH 2022)

TABLE 5: MEDIAN RENTAL BY SUBURB FOR CHRISTCHURCH CITY SUBURBS (TENANCY SERVICES 1 OCT 2021 – 31 MAR 2022)

Building Consents

Table 11, below shows the history of new residential building consents since 2017. The number of residential building consents dropped each year from 2017-2019, which reflects the normalising of residential construction post the Christchurch rebuild. The number of new dwelling consents have increased year-on-year from 2019 to 2022.

	Number of new dwellings consented					
Year ended January	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Christchurch City	3,237	2,498	2,327	2,805	2,974	4,038
Annual change		-739	-171	478	169	1,064
% Change over 5 years						22.0%
New Zealand	30,123	31,251	33,576	37,695	39,881	48,707
Annual Change		1,128	2,055	4,119	2,186	8,826
% Change over 5 years						47.1%

TABLE 6: RESIDENTIAL BUILDING CONSENTS SINCE 2015, CHRISTCHURCH AND NATIONALLY (SOURCE STATISTICS NZ)

The number of new dwelling building consents issued in Christchurch City has increased over the five-year period from January 2017 to January 2022 from 3,237 to 4,038 (807) reflecting a 22% increase over this time. This compares a national increase of 47.1% increase over the same five-year period.

Christchurch experienced a decrease in new dwelling consents between 2017 – 2019 however since January 2019, there has been a marked increase in the number of residential building consents reflecting the increased demand for new residential development and the strength of the residential property market over this period.

Medium density development has been the main focus of the Christchurch construction market over recent years with steady demand for townhouses and fewer recent apartment building developments in the city. Of the new resource consents issued since 2018, 38% have been for medium density housing.

Housing Affordability

The housing affordability index is the ratio of the average current house value to average annual earnings. A higher ratio, therefore, suggests that average houses cost a greater multiple of typical incomes, which indicates lower housing affordability (i.e. a lower index is more affordable).

Property value appreciation has become a more prominent issue affecting housing affordability and has been influenced by a range of factors including more widely accessible credit, historically low interest rates, high net migration and population growth with insufficient housing supply, increasing construction costs and high demand to live close to major centres. At the same time as there has been

consistent appreciation in property values, household incomes have generally risen at lower rates. (CorelogicNZ)

Figure 2 below outlines the Housing Affordability Index for Christchurch in comparison to other main centres around New Zealand, along with the share of income for repayments, years to save deposit and rent to income ratio.

	Value to Income ratio		Share of income for repayments		Years to save deposit		Rent to income ratio	
Main centre	Latest (Q4 2021)	Average (2004-21)	Latest (Q4 2021)	Average (2004-21)	Latest (Q4 2021)	Average (2004-21)	Latest (Q4 2021)	Average (2004-21)
Auckland	10.1	7.0	55%	44%	13.5	9.4	21%	22%
Hamilton	8.6	5.2	47%	32%	11.5	7.0	22%	20%
Tauranga	11.9	7.9	65%	50%	15.8	10.5	30%	27%
Wellington	8.3	5.3	45%	33%	11.0	7.0	19%	18%
Christchurch	6.9	5.1	37%	32%	9.1	6.8	20%	20%
Dunedin	9.1	5.5	49%	35%	12.1	7.4	26%	23%
NZ	8.8	5.9	48%	37%	11.7	7.9	22%	21%

FIGURE 2: HOUSING AFFORDABILITY COMPARISON OF CHRISTCHURCH WITH OTHER MAIN CENTRES (SOURCE: CORELOGIC Q4 2021 HOUSING AFFORDABILITY REPORT)

The Christchurch housing affordability index was 6.9 in Q4 2021 up from 5.2 the previous year, this compares with the national average which reached a record high of 8.8 in Q4 2021 up from 6.8 the previous year. Whilst Christchurch appears to be following the national trend as a result of house price appreciation, the Christchurch affordability index is still much lower than all main centres across New Zealand.

Risk assessment

The long-term effects of COVID-19 pandemic over the past 24 months are still unknown. In the short term the pandemic appears to have been a factor in supporting residential sale price growth in Christchurch. We are now seeing the market starting to soften due to the volatility in the market from COVID-19. Interest rates are increasing, supply chains remain highly constrained, high price escalation and inflation are all having a negative impact. The long-term consequences of these factors are unknown and therefore it is hard to predict how long the downturn will last.

There are several risk factors which are currently placing pressure on the residential property market, these include:

- High Density Residential Development – Apartments are a relatively new housing typology in Christchurch and therefore there is not a significant amount of data on this market to draw on. Further marketaibility analysis is required to understand the demand for and perception around this typology.
- Government Policy and Interest Rates – House prices have continued to increase despite changes in Government tax policies focused on residential property investments, the tightening of bank loan to value ratios and falling population growth rates. The outlook is still tempered by the prospect of rising mortgage interest rates and the introduction of debt-to-income ratio restrictions on bank lending. Short term interest rates have increased since July 2021, as the Reserve Bank has started tightening its monetary policy settings. Market expectations are for higher interest rates to come, which in turn will limit homeowners buying power.
- Inflation – Inflation is currently 4.9% however new data to be provided in late January is expected to show a rate close to 6%. Uncertainty regarding the track for inflation is very high and strong price rises may begin to alter people's spending patterns.
- Construction Costs - On an annual basis, construction costs rose from 4.5% in Q2 2021 to 5.5% in Q3, the fastest rate of growth since the first quarter of 2018. The data shows that timber prices, particularly structural timber and cladding, have been a key contributor to overall cost increases. Metal costs and products have also been a factor in the increases. Looking ahead, it seems likely that the construction industry will remain strong for some time, with investors strongly incentivised to buy new-builds, due to their exemption from the loan to value ratio rules and ability to claim mortgage interest as a deductible expense for the first 20 years of the property's life (CoreLogic, Q3 2021).
- Construction supply shortages – the COVID-19 pandemic and resultant global supply chain issues is exacerbating shortages of construction materials and delaying project completion. The construction sector is experiencing increased holding costs as a result, and an inability to deliver on time and to budget.
- Housing Affordability - The housing affordability index has stepped up since 2016. The Index Value has increased from a figure of just under 5 to just under 6, meaning housing is now less affordable than 2016. This follows the general trend in New Zealand with house prices growing faster than incomes.

4. Development Costs Assessment

Introduction

The purpose of the development cost review and the rates noted below is to identify indicative construction costs within the Christchurch market to inform the preliminary financial feasibility and modelling of the development options. The cost information is based on the market sectors identified by TPG and as generally commented on in this report. The costs below are broad and based on generic assumptions of the site and proposed buildings. They assume a median build quality and average floor sizes. They will require refinement as the build options are further defined. Any site-specific conditions, including those that may onerously affect the due diligence, method of construction or materials will need to be assessed with the feasibility studies and included in addition to the below as the individual projects are defined and assessed.

It should be noted development costs, and particularly construction costs, are currently volatile while consequences of the COVID-19 pandemic a felt throughout the market. The below indicative costs are based on current development estimates as of early 2021, however, these estimates are themselves heavily caveated and subject to update, availability of materials and cost updates at the time of instruction. They will likely be influenced by pre COVID-19 prices and therefore a degree of cost escalation needs to be considered. Further comment is included in the Cost Escalation section below.

Construction Costs

Once the project is further defined including detail around occupier use, building type, floor areas, number of levels, location, access etc are available, a refined build cost will be provided for the feasibility studies which will incorporate site-specific issues. The following rates are indicative and for guidance only. They are build rates for construction above ground on a gross floor area basis. Rates are exclusive of the following:

- Goods and Services Tax
- Professional fees
- Legal costs
- Council development costs (contributions)
- Remediation, earthworks, and site infrastructure costs
- Removal of contaminated materials, including in demolition and earthworks
- Resource consent fees
- Service connections
- Car parking
- Resource consent fees
- Finance costs
- Land purchase
- Developers Profit
- Land purchase
- The following development cost assumptions were sourced from TPG's market intelligence.

TABLE 7: CONSTRUCTION COSTS (TPG INTERNAL DATABASE)

Construction Costs	Cost ($ plus GST, if any)
Residential	
Low density/rise	$4,800 - $6,700 psm
Medium density/rise	$4,900 - $6,800 psm
High density/rise	$5,000 - $7,000 psm
Carparking - Central CBD only	
Open Area Parking	$120 - $200 psm
Covered and Multi-level	$740 - $900 psm
Seismic Resilience	Base Isolation 12-36 % of construction costs
Open Space	
Soft	$100 psm
Hard	$400 psm
Demolition Costs	
Light duty – heavy duty	$100 - $250 psm
Site Establishment	$300/sqm (civils and services)

TABLE 8: ADDITIONAL FEES AND COSTS (TPG INTERNAL DATABASE)

Fees and Additional Costs	Cost ($ plus GST, if any)
Professional Fees	10-15%
Goods and Services Tax	15%
Council fees (subdivision and building)	$5,000 - $8,000 per dwelling
Legal Fees	$2,000 per dwelling
Marketing Costs	2.5% of gross sales
Survey and Title	$5,000 per unit
Project Contingency	10 – 20 %
Development Contributions	Refer Below
Interest Rate	7.0%
Cost Escalation	8.0%

Site establishment

Site establishment is not included within the above. The cost is site specific and will vary dependent on a number of factors including location, accessibility and surroundings.

Town Centre, brownfield or reclamations will incur additional site establishment costs than a greenfield site. Locations within a Town Centre location with restricted access, storage, site accommodation and the like will incur additional costs; this is likely to be in the region of 5% to 10% over that of greenfield sites.

Development Contributions

Development contribution charges are applied on a catchment basis. For resource consent (subdivision) applications, it is assumed that every lot created will contain one household unit equivalent (HUE). If, at a future time, more than one residential unit is developed on a lot, a development assessment is undertaken for each additional residential unit. Council's development contribution charges schedule is attached as Appendix 1 to this report.

A lot will be assessed as containing more than one household unit if it contains more than one kitchen. In these cases, the lot will be assessed at a rate of 1 HUE per kitchen where that kitchen creates a self-contained residential unit.

Small residential unit adjustment

- A small residential unit adjustment is applied to a residential unit with a gross floor area (GFA) of less than 100sqm, including garaging and potentially habitable accessory buildings. For activities other than stormwater and flood protection, the adjustment reduces the HUE calculation on a sliding scale in proportion of the GFA. For example, a residential unit with a GFA of 80sqm will be assessed at 0.8 HUE or 80% of the normally applicable development contribution requirement. The maximum adjustment is to a GFA of 35sqm or 35% of the charge for 1 HUE.
- For developments of more than one residential unit the adjustment is applied based on the average size of all units with a GFA of less than 100sqm (units with a GFA of 100sqm or more are assessed as 1 HUE). The assessment for stormwater and flood protection is on the basis of all units having an equal share of the total ISA.

Subsequent redevelopment

- If a residential unit has previously received a small residential unit adjustment and is later the subject of consent application to enlarge the GFA, a development contribution assessment will be made, recognising the development contributions previously paid.

Multi-unit stormwater and flood protection adjustment

- Residential developments of two or more attached residential units on a single lot receive an adjusted stormwater and flood protection development contribution if they have a lower-than-average Impervious Surface Area (ISA). The total impervious surface area of the development is divided by the average ISA for a single residential unit (427sqm) to calculate the number of HUES for stormwater and flood protection.

Resource Consent

Planning compliance, including resource consent costs will be dependent on the site the specifics. Costs for complex sites will require to be incorporated within site specific project business plans. As a general rule of thumb resource consents (exclusive of Development Contribution Fees) could be considered to generally be in the region of 0.05% to 0.1% of the gross development value, however this will be dependent on the project.

Legal fees

Legal Fees inclusive of Surveying and Subdivision Fees will be dependent on the site. Costs for complex sites will require to be incorporated within site specific project business plans.

Cost Escalation

Construction costs and material prices have been extremely volatile following implications of COVID-19. Effects including following the periods of shutdown, and also logistics and import difficulties have resulted in significant increases. These are ongoing, particularly for materials like timber and steel, and estimating a figure for how much these have increased over the past 12 months across the market will be inaccurate.

On an annual basis, construction cost growth rose from 4.5% in Q2 2021 to 5.5% in Q3, the fastest rate of growth since the first quarter of 2018. The data shows that timber prices, particularly structural timber and cladding, have been a key contributor to overall cost increases. Metal costs and products have also been a factor in the increases.

Looking ahead, it seems likely that the construction industry will remain strong for some time, with investors strongly incentivised to buy new-builds, due to their exemption from the loan to value ratio rules and ability to claim mortgage interest as a deductible expense for the first 20 years of the property's life (CoreLogic, Q3 2021). It appears a degree of cost uncertainty will continue over at least the short term and potentially over a longer time period.

Land Costs

Land values vary across Christchurch City as a result of varying parcel sizes, location and proximity to amenities and ground conditions. High level land values have been estimated through TPG sales analysis and through discussions with local property professionals and range from $1,000 - $5,000 per square metre.

The sales analysis compared recent vacant land sales in Christchurch with the August 2019 Rating Land Values. This indicates a 70-80% uplift in land value since the 2019 revaluation. As a high level approach, we have then applied the uplift percentage across the city to provide an estimate of land values across all suburbs, to understand how current land values may be linked to the feasibility of high density development in the current environment.

The lower end of the land value range reflects traditional sized development sites in the outer city suburbs, along with large centrally located sites, with the upper end of the land value range reflecting smaller and traditional sized Central City and West End development sites.

Liquefaction issues and ground conditions are factored into the purchase price of land, with developers discounting land prices by up to $300 per square metre if significant ground stability work and excavation is required. It is common practice for Council to request full geotechnical site investigations before consent for development is granted.

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2.7 Schedule of development contribution charges (per HUE)

Table 4: Development contribution charge for each activity by catchment. The overall charge will depend on the location of the development.

Activity Group	Activity	Catchment Development Contribution Charge							
Reserves	Regional Parks	District-wide							
	Ex. GST	$101.07							
	Inc. GST	$116.23							
	Garden and Heritage Parks	District-wide							
	Ex. GST	$140.36							
	Inc. GST	$161.42							
	Sports Parks	District-wide							
	Ex. GST	$337.17							
	Inc. GST	$387.75							
	Neighbourhood Parks	Central	Medium Density	Suburban	Growth	Banks Peninsula			
	Ex. GST	$119.02	$69.63	$535.35	$472.69	$136.56			
	Inc. GST	$136.87	$80.07	$615.65	$543.60	$157.04			
Network Infrastructure	Water Supply	Akaroa Harbour	Central North	Central South	Lyttelton Harbour	Marshlands	North	North West	Banks Peninsula
	Ex. GST	$10,977.46	$1,165.96	$693.16	$5,130.89	$4,755.71	$562.83	$2,008.11	$6,467.53
	Inc. GST	$12,624.07	$1,340.85	$797.13	$5,900.52	$5,469.06	$647.26	$2,309.32	$7,437.66
	Water Supply Cont.	West	Woolston/Sumner						
	Ex. GST	$1,608.04	$980.85						
	Inc. GST	$1,849.24	$1,127.97						
	Wastewater Collection	North	North West	South	South West	East	City	West	Lyttelton Harbour
	Ex. GST	$4,085.68	$1,862.04	$1,066.03	$6,989.79	$258.31	$261.61	$2,987.56	$6,025.25
	Inc. GST	$4,698.53	$2,141.35	$1,225.93	$8,038.26	$297.06	$300.85	$3,332.19	$6,929.04

Activity Group	Activity	Catchment Development Contribution Charge							
		Akaroa Harbour	**Banks Peninsula**						
	Ex. GST	$2,105.48	$258.31						
	Inc. GST	$2,421.30	$297.06						
Network Infrastructure	**Wastewater Treatment/Disposal**	**Christchurch**	**Akaroa Harbour**	**Banks Peninsula**					
	Ex. GST	$935.35	$42,057.16	$0.00					
	Inc. GST	$1,075.65	$48,365.73	$0.00					
	Stormwater & Flood Protection	**Styx**	**Ōtukaikino**	**Avon**	**Waimakariri**	**Coastal**	**Heathcote**	**Halswell**	**Banks Peninsula**
	Ex. GST	$11,717.92	$3,448.72	$829.57	$183.54	$654.56	$4,095.55	$13,469.48	$2,042.09
	Inc. GST	$13,475.61	$3,966.03	$954.01	$211.08	$752.74	$4,709.89	$15,489.90	$2,348.41
		Lyttelton Harbour / Whakaraupō							
	Ex. GST	$654.10							
	Inc. GST	$752.22							
	Road Network	**Growth**	**Central City**	**Medium Density**	**Suburban**	**Banks Peninsula**	**Lyttelton Harbour**		
	Ex. GST	$3,359.86	$984.01	$988.65	$948.58	$538.56	$1,035.88		
	Inc. GST	$3,863.84	$1,131.61	$1,136.95	$1,090.87	$619.35	$1,191.26		
	Active Travel	**Metro Zone**							
	Ex. GST	$851.70							
	Inc. GST	$979.46							
	Public Transport	**Metro Zone**							
	Ex. GST	$481.42							
	Inc. GST	$553.63							
Community Infrastructure	**Community Infrastructure**	**District-Wide**							
	Ex. GST	$859.50							
	Inc. GST	$988.43							

Appendix 2: Planning Controls Summary

Site	Relevant Built Form Controls for three units per site - permitted activity	Relevant Built Form Controls – RD consent for four or more units per site and separate RD consent for any breaches of permitted standards		Other Assumptions:
(1) City Centre Site 177 Bealey Avenue, St Albans Site size: 731sqm **High Density Residential Zone** **High Density Residential Precinct**	**Height – up to 14m, 4 storeys**	**Height – 14m up to 20m, 6 storeys**	**Height – above 20m, 6 storeys and above**	**Typology: Residential Flat Building (multi-unit)** Apartment sizes: - 35sqm for a studio - 45 sqm for a 1 bed - 55sqm for a 2 bed - 70 for a 3 bed + Apartment mix: - use mix to achieve most efficient layout but as a rough guide provide 65% 2 bed, 20% 3 bed + and 15% studio Car parking: - parking in underground or communal spaces where possible - note: parking minimums were been removed from the District Plan earlier in the year, only mobility spaces need to be provided
	Setbacks: • Front: 1.5 metres • Side: 1 metre • Rear: 1 metre (excluded on corner sites)	Setbacks: • Front: 1.5 metres • Side: 1 metre • Rear: 1 metre (excluded on corner sites) • Highest floor set back 1m from the floor beneath	Setbacks for part of building above 20m in height in High Density Residential Precinct: • 6m setback from all internal and rear boundaries • 3m setback from any front boundary • The highest floor shall be stepped back at least 1m from the floor beneath	
	Height to boundary: Buildings must not project beyond a 60° recession plane measured from a point 4 metres vertically above ground level along all boundaries.	Height to boundary: Buildings must not project beyond a 60° recession plane measured from a point 4 metres vertically above ground level along all boundaries.	Not applicable.	
	Building separation: Parts of a buildings above 12m shall have separation of 10m between buildings.	Building separation: Parts of a buildings above 12m shall have separation of 10m between buildings.	Building separation: Parts of a buildings above 12m shall have separation of 10m between buildings.	
	Building coverage: 50% net site area	Building coverage: 50% net site area	Building coverage: 50% net site area	
	Impervious surface: 70% of site area	Impervious surface: 70% of site area	Impervious surface: 70% of site area	
	Outdoor living space per unit: Ground floor – 20sqm per unit with dimension no less than 3m (can be grouped communally) Above ground – 8sqm per unit with dimension no less than 1.8m Studios exceeding 32sqm internal area or single bedroom units exceeding 45sqm internal area: 15sqm on the ground floor and 6sqm above ground floor, with a 1.5m minimum dimension for the latter.	Outdoor living space per unit: Ground floor – 20sqm per unit with dimension no less than 3m (can be grouped communally) Above ground – 8sqm per unit with dimension no less than 1.8m Studios exceeding 32sqm internal area or single bedroom units exceeding 45sqm internal area: 15sqm on the ground floor and 6sqm above ground floor, with a 1.5m minimum dimension for the latter.	Outdoor living space per unit: Ground floor – 20sqm per unit with dimension no less than 3m (can be grouped communally) Above ground – 8sqm per unit with dimension no less than 1.8m Studios exceeding 32sqm internal area or single bedroom units exceeding 45sqm internal area: 15sqm on the ground floor and 6sqm above ground floor, with a 1.5m minimum dimension for the latter.	

Communal outdoor living space **- n/a**	Communal outdoor living space in High Density Residential Precinct: A ground floor communal outdoor living area shall be provided at a ratio of 100m^2 per 10 residential units with a minimum dimension of 8m. This ratio shall be calculated on the number of residential units on the 5th floor of the building and any subsequent floors above.	Communal outdoor living space High Density Residential Precinct: A ground floor communal outdoor living area shall be provided at a ratio of 100m^2 per 10 residential units with a minimum dimension of 8m. This ratio shall be calculated on the number of residential units on the 5th floor of the building and any subsequent floors above.
Windows to street: Any residential unit facing the street must have a minimum of 20% of the street-facing façade in glazing.	Windows to street: Any residential unit facing the street must have a minimum of 20% of the street-facing façade in glazing.	Windows to street: Any residential unit facing the street must have a minimum of 20% of the street-facing façade in glazing.
Landscaped area: 20% of the site is to be landscaped	Landscaped area: 20% of the site is to be landscaped	Landscaped area: 20% of the site is to be landscaped
Outlook space per unit: Principal living room outlook: 4m by 4m All other habitable rooms outlook: 1m by 1m	Outlook space per unit: Principal living room outlook: 4m by 4m All other habitable rooms outlook: 1m by 1m	Outlook space per unit: Principal living room outlook: 4m by 4m All other habitable rooms outlook: 1m by 1m
Ground floor habitable room: Residential units below 12m in height must: • Have a habitable space located at the ground level, where that unit is adjacent to a road boundary; and • Have at least 50% of residential units within a development shall have a habitable space located at the ground level; and • For each ground floor residential unit, at least one habitable room located on the ground level with a minimum floor area of 9m^2 and a minimum internal dimension of 3 metres and be internally accessible to the rest of the unit.	Ground floor habitable room: Residential units below 12m in height must: • Have a habitable space located at the ground level, where that unit is adjacent to a road boundary; and • Have at least 50% of residential units within a development shall have a habitable space located at the ground level; and • For each ground floor residential unit, at least one habitable room located on the ground level with a minimum floor area of 9m^2 and a minimum internal dimension of 3 metres and be internally accessible to the rest of the unit.	Ground floor habitable room: Residential units below 12m in height must: • Have a habitable space located at the ground level, where that unit is adjacent to a road boundary; and • Have at least 50% of residential units within a development shall have a habitable space located at the ground level; and • For each ground floor residential unit, at least one habitable room located on the ground level with a minimum floor area of 9m^2 and a minimum internal dimension of 3 metres and be internally accessible to the rest of the unit.

(2) Town Centre Site 11 Russell Street, Linwood Site size: 627sqm **High Density Residential Zone** **Town Centre Intensification Precinct**	Same controls for site (1) above.	Same controls for site (1) above.	Same controls for site (1) above.	**Typology: Residential Flat Building**
(3)Emerging Metropolitan Centre 23 Maxwell Street, Riccarton Site size: 938sqm **High Density Residential Zone** **Emerging Metropolitan Centre Precinct**	Same controls for site (1) above.	Same controls for site (1) above.	Same controls for site (1) above.	**Typology: Residential Flat Building**
(4)Large Local Centre Merivale **High Density Residential Zone** **Large local Centre Intensification Precinct**	Same controls for site (1) above.	Same controls for site (1) above.	Same controls for site (1) above.	**Typology: Residential Flat Building**
(5)New Mixed Use Area Site TBC – Addington **Commercial Mixed-use Zone**	**Height – up to 20m(?)** Height is included in the Draft Housing and Business Choice Plan Change, but not in any of the draft PC14 documents. Same controls for site (1) above (?). It appears that the controls for this zone are not yet confirmed.	**Height –20m and above (?)** Height is included in the Draft Housing and Business Choice Plan Change, but not in any of the draft PC14 documents. Same controls for site (1) above, excluding the controls that apply to the residential precinct and the centres precinct.	**Typology: Mixed use Building, ground floor retail, upper floors residential**
(6)Brownfield Overlay Site TBC – Papanui or Hornby **Industrial General Zone**	Comprehensive residential development is not a permitted activity on sites identified by the brownfield overlay	Comprehensive residential development is a RD activity on sites identified by the brownfield overlay The matters of discretion revert to the outcomes sought for the residential medium density zone.	**Typology: Mixed use Building, ground floor retail, upper floors residential**

High Density Residential Zone - intentions

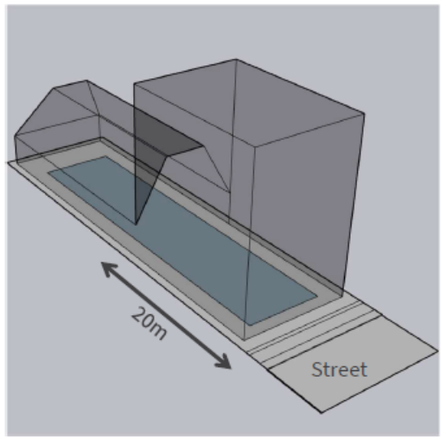
- Encourage location of buildings toward the street front
- Bulk of buildings frame the street, reduces privacy and overshadowing issues
- More open space to rear allows for shared amenity and sunlight access
- Allows taller buildings on small sites.

High Density Residential Zone

- 20m or 32m (6 or 10) storey limit
- MDRS for the first 12m in height
- Above this there are no recession planes (6m setback from side boundary applies instead)
- Assessment matters seek to avoid overly long, tall buildings built sideways to the street.

Changes to MDRS – High Density Zone

- Heights to 14m permitted
- No recession planes on side boundaries within 20m of the street boundary
- 6m setback applies above 12m (no recession plane)
- Accessory buildings can intrude into the side setback
- Eaves not included in site coverage
- Gables not included in calculation of size of front façade for glazing requirement
- Outdoor living space for one bed units can be 15m^2 (or 6m^2 where the unit is above ground).



Additional Standards - High Density Residential Zone

As for the MDRZ except that:

- 50% of units must have a habitable space at the ground floor (where height <12m)

OR

- 50% of ground floor must be habitable (where height is above 12m).

High Density Residential Feasibility- Bulk and Location

Revision A

Site Address: 177 Bealey Ave, St Albans
Site Area: 731 sqm

- Corner site allows for more generous built form along street frontage with vehicle access from side
- Opportunities for ground floor commercial/ retail purposes
- All units have 8m² decks

Scenario 1: 4 Storeys

Total Units: 19
Parking:12 parks
Landscaped Area: 220m2

- At grade residential units can be utilised for commercial/ retail purposes as required
- Landscaping includes private outdoor space for ground floor units
- Mix of undercroft and at grade parking

LEVEL	STUDIO	1 BED	2 BED	3 BED	TOTAL
Ground	2	0	2	0	4
Level 1	1	0	3	1	5
Level 2	1	0	3	1	5
Level 3	1	0	3	1	5
TOTAL	**5**	**0**	**11**	**3**	**19**

Scenario 2: 6 Storeys

Total Units: 23
Parking: 10 parks
Rear Communal Area: 155 m²

- At grade residential units can be utilised for commercial/ retail purposes as required but will require a reduction to car parking
- Basement parking

LEVEL	STUDIO	1 BED	2 BED	3 BED	TOTAL
Ground	0	0	0	0	0
Level 1	2	0	2	1	5
Level 2	2	0	2	1	5
Level 3	2	0	2	1	5
Level 4	3	1	0	1	5
Level 5	3	0	1	0	4
TOTAL	**12**	**0**	**7**	**4**	**23**

Scenario 3: 10 Storeys

Total Units: 40
Parking: 10 parks
Rear Communal Area: 260 m²

- At grade residential units can be utilised for commercial/ retail purposes as required but will require a reduction to car parking
- Ratio of unit types can be varied across floors to improve unit mix across development.
- Basement parking

LEVEL	STUDIO	1 BED	2 BED	3 BED	TOTAL
Ground	0	0	0	0	0
Level 1	2	0	2	1	5
Level 2	2	0	2	1	5
Level 3	2	0	2	1	5
Level 4	2	0	2	1	5
Level 5	2	0	2	1	5
Level 6	1	1	1	1	4
Level 7	1	1	1	1	4
Level 8	1	1	1	1	4
Level 9	1	0	1	1	3
TOTAL	**14**	**3**	**14**	**9**	**40**

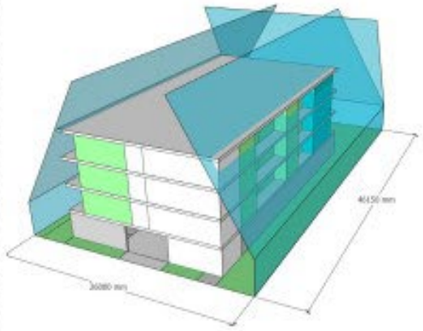
KEY:

- Studio (30m²)
- One Bedroom (45m²)
- Two Bedroom (55 m²)
- Three Bedroom (70m²)

High Density Residential Feasibility- Bulk and Location

Site Geometry: 26m street frontage x 46.15 m deep
Site Area: 1200 sqm

- 26m width allows for six storey height along street frontage and more efficient basement parking.
- Opportunities for ground floor commercial/ retail/ residential purposes with reduction to basement car parking for all scenarios.
- Use of pervious driveway and parking surfaces can increase parking options to ensure development meets 70% impervious controls.
- All units have 8 m² decks.



Scenario 1: 4 Storeys

Total Units: 24
Parking: 24 parks
Total Landscape Area: 590 m²

- Landscape area available for communal use

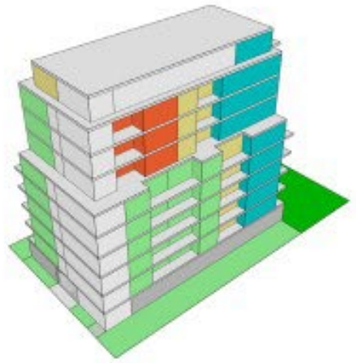
LEVEL	STUDIO	1 BED	2 BED	3 BED	TOTAL
Ground	0	0	0	0	0
Level 1	1	0	5	2	8
Level 2	1	0	5	2	8
Level 3	1	0	5	2	8
TOTAL	**3**	**0**	**15**	**6**	**24**

Scenario 2: 6 Storeys

Total Units: 35
Parking: 24 parks
Rear Communal Area: 300m²

- If applicable 20m recession plane setback rule will enable a slight increase in GFA for parts of the upper levels 5 and 6
- Full landscape area available for communal use

LEVEL	STUDIO	1 BED	2 BED	3 BED	TOTAL
Ground	0	0	0	0	0
Level 1	1	0	5	2	8
Level 2	1	0	5	2	8
Level 3	1	0	5	2	8
Level 4	1	1	3	1	6
Level 5	3	1	1	0	5
TOTAL	**7**	**2**	**19**	**7**	**35**



Scenario 3: 10 Storeys

Total Units: 62
Parking: 24 parks
Rear Communal Area: 300m²

- Ratio of unit types can be varied across floors to improve unit mix across development.
- Full landscape area available for communal use alongside rear landscape area.

LEVEL	STUDIO	1 BED	2 BED	3 BED	TOTAL
Ground	0	0	0	0	0
Level 1	1	0	5	2	8
Level 2	1	0	5	2	8
Level 3	1	0	5	2	8
Level 4	1	0	5	2	8
Level 5	1	0	5	2	8
Level 6	1	1	3	1	6
Level 7	1	1	3	1	6
Level 8	1	1	3	1	6
Level 9	1	1	0	2	4
TOTAL	**9**	**4**	**34**	**15**	**62**

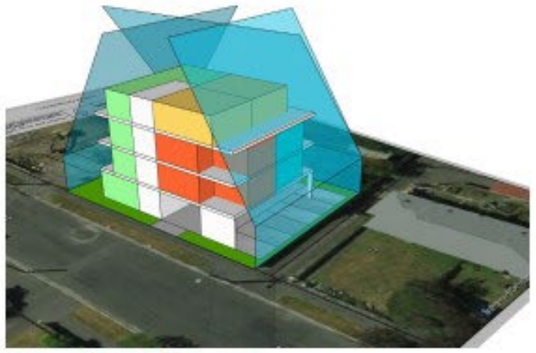
Key:

- Studio (30m²)
- One Bedroom (45m²)
- Two Bedroom (55 m²)
- Three Bedroom (70m²)

High Density Residential Feasibility- Bulk and Location

Site Address: 18 Ajax St, Burwood
Site Area: 450 sqm

Site area and geometry may be more suitable to townhouse development

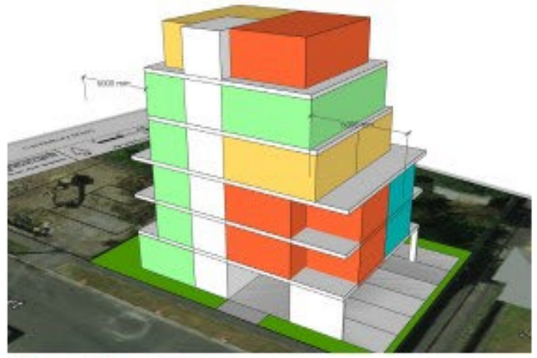


Scenario 1: 4 Storeys

Total Units: 10
Parking: 9 parks
Landscaped Area: 148m²

- Mix of undercroft and at grade parking
- Landscape area available for a mix of private and communal use

LEVEL	STUDIO	1 BED	2 BED	3 BED	TOTAL
Ground	0	0	1	0	1
Level 1	0	1	1	1	3
Level 2	0	1	1	1	3
Level 3	2	0	1	0	3
TOTAL	**2**	**2**	**4**	**2**	**10**



Scenario 2: 6 Storeys

Total Units: 14
Parking: 9 parks
Landscaped Area: 148m²

- Mix of undercroft and at grade parking
- Some rear landscape area available for communal use

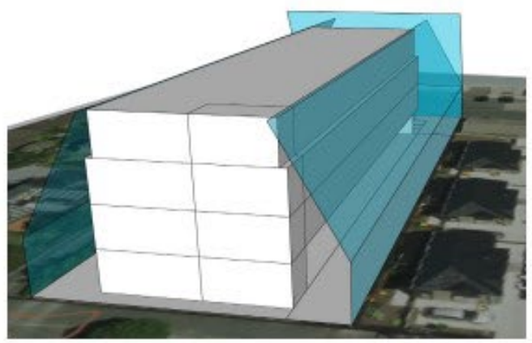
LEVEL	STUDIO	1 BED	2 BED	3 BED	TOTAL
Ground	0	0	1	0	1
Level 1	0	1	1	1	3
Level 2	0	1	1	1	3
Level 3	2	0	1	0	3
Level 4	0	0	2	0	2
Level 5	1	1	0	0	2
TOTAL	**3**	**3**	**6**	**2**	**14**

Key:

- Studio (30m²)
- One Bedroom (45m²)
- Two Bedroom (55 m²)
- Three Bedroom (70m²)

High Density Residential Feasibility- Bulk and Location

Site Address: 36 Hanrahan Street,
Site Area: 1274 sqm (21.1m street frontage x 60.4m depth)



Scenario 1: 4 Storeys

Scenario 2: 6 Storeys

Scenario 3: 6 Storeys

Summary of 4, 6 & 10 level apartment development options, in the Central City, shown at Premium, Market and Affordable Price Points

Options	Option 1 4-levels	Option 1 4-levels	Option 1 4-levels	Option 2 6-levels	Option 2 6-levels	Option 2 6-levels	Option 3 10-levels	Option 3 10-levels	Option 3 10-levels
Price points	**Premium**	**Market**	**Affordable**	**Premium**	**Market**	**Affordable**	**Premium**	**Market**	**Affordable**
Project summary									
Residential GFA (m2)	1350	1350	1350	1985	1985	1985	3415	3415	3415
Residential Dwellings	24	24	24	35	35	35	62	62	62
Commercial GFA (m2)	0	0	0	0	0	0	0	0	0
Retail GFA (m2)	0	0	0	0	0	0	0	0	0
Car parking GFA (m2)	594	594	594	594	594	594	594	594	594
Car parking spaces	20	20	20	20	20	20	20	20	20
Total GFA (m2) (ex access, circulation and car parking)	**1350**	**1350**	**1350**	**1985**	**1985**	**1985**	**3415**	**3415**	**3415**
Financial analysis									
Gross realisation (Sales $m)	$19.58	$17.60	$15.10	$28.24	$25.21	$21.58	$48.16	$42.42	$36.20
Net proceeds ($m)	$16.48	$14.81	$12.71	$23.78	$21.22	$18.15	$40.55	$35.70	$30.45
Total construction costs ($m)	$9.05	$7.69	$7.69	$13.24	$11.24	$10.22	$22.97	$19.47	$17.70
Estimated land value ($m)	$3.82	$3.82	$3.82	$3.82	$3.82	$3.82	$3.82	$3.82	$3.82
Total development costs ($m)	$19.01	$16.98	$16.98	$25.36	$22.37	$20.84	$40.09	$34.86	$32.22
Profit or (loss) $m	**-$2.53**	**-$2.17**	**-$4.27**	**-$1.58**	**-$1.15**	**-$2.69**	**$0.46**	**$0.84**	**-$1.77**
Profit or (loss) as a % of total development costs	**-13.31%**	**-12.77%**	**-25.16%**	**-6.22%**	**-5.12%**	**-12.90%**	**1.14%**	**2.40%**	**-5.50%**

Summary of 4, 6 & 10 level apartment development options, in the City Fringe, shown at Premium, Market and Affordable Price Points

Options	Option 1 4-levels	Option 1 4-levels	Option 1 4-levels	Option 2 6-levels	Option 2 6-levels	Option 2 6-levels	Option 3 10-levels	Option 3 10-levels	Option 3 10-levels
Price points	**Premium**	**Market**	**Affordable**	**Premium**	**Market**	**Affordable**	**Premium**	**Market**	**Affordable**
Project summary									
Residential GFA (m2)	990	990	990	1145	1145	1145	2026	2026	2026
Residential Dwellings	19	19	19	23	23	23	40	40	40
Commercial GFA (m2)	0	0	0	0	0	0	0	0	0
Retail GFA (m2)	0	0	0	0	0	0	0	0	0
Car parking GFA (m2)	250	250	250	306	306	306	306	306	306
Car parking spaces	8	8	8	10	10	10	10	10	10
Total GFA (m2) (ex access, circulation and car parking)	**990**	**990**	**990**	**1145**	**1145**	**1145**	**2026**	**2026**	**2026**
Financial analysis									
Gross realisation (Sales $m)	$13.57	$11.87	$10.14	$15.80	$13.37	$11.44	$27.45	$22.94	$19.58
Net proceeds ($m)	$11.42	$9.99	$8.53	$13.30	$11.25	$9.62	$23.10	$19.30	$16.46
Total construction costs ($m)	$6.55	$5.56	$5.05	$7.56	$6.42	$5.83	$13.57	$11.50	$10.46
Estimated land value ($m)	$0.80	$0.80	$0.80	$0.80	$0.80	$0.80	$0.80	$0.80	$0.80
Total development costs ($m)	$10.47	$9.12	$8.41	$11.82	$10.27	$9.47	$20.09	$17.29	$15.87
Profit or (loss) $m	**$0.95**	**$0.86**	**$0.12**	**$1.48**	**$0.98**	**$0.14**	**$3.01**	**$2.01**	**$0.58**
Profit or (loss) as a % of total development costs	**9.09%**	**9.46%**	**1.39%**	**12.55%**	**9.58%**	**1.51%**	**14.99%**	**11.63%**	**3.67%**

Summary of 4 & 6 level apartment development options, in Outer, shown at Premium, Market and Affordable Price Points

Options	**Option 1 4-levels**	**Option 1 4-levels**	**Option 1 4-levels**	**Option 2 6-levels**	**Option 2 6-levels**	**Option 2 6-levels**
Price points	**Premium**	**Market**	**Affordable**	**Premium**	**Market**	**Affordable**
Project summary						
Residential GFA (m2)	1350	1350	1350	1985	1985	1985
Residential Dwellings	24	24	24	35	35	35
Commercial GFA (m2)	0	0	0	0	0	0
Retail GFA (m2)	0	0	0	0	0	0
Car parking GFA (m2)	594	594	594	594	594	594
Car parking spaces	20	20	20	20	20	20
Total GFA (m2) (ex access, circulation and car parking)	**1350**	**1350**	**1350**	**1985**	**1985**	**1985**
Financial analysis						
Gross realisation (Sales $m)	$16.78	$15.05	$12.75	$24.61	$21.95	$18.60
Net proceeds ($m)	$14.12	$12.66	$10.72	$20.72	$18.47	$15.64
Total construction costs ($m)	$9.05	$7.69	$7.00	$13.24	$11.24	$10.22
Estimated land value ($m)	$2.20	$2.20	$2.20	$2.20	$2.20	$2.20
Total development costs ($m)	$16.71	$14.86	$13.92	$22.41	$19.69	$18.30
Profit or (loss) $m	**-$2.58**	**-$2.20**	**-$3.20**	**-$1.69**	**-$1.22**	**-$2.66**
Profit or (loss) as a % of total development costs	**-15.46%**	**-14.79%**	**-22.98%**	**-7.54%**	**-6.21%**	**-14.55%**

Appendix 5: Feasibility Analysis Assumptions

In addition to the market assessment assumptions and unless stated above, the following assumptions inform the feasibility analysis:

1. No consenting risk
2. Reference to Christchurch liquefaction information – liquefaction damage
3. Reference to Christchurch liquefaction information – Vulnerability to Liquefaction
4. Christchurch City Council District Plan Natural Hazards
5. City Fringe and Outer Centre price points are discounted at 5% cumulatively from the analysed Central City price points
6. Car parking at $50,000 per space in addition to purchase of apartment in Central City and City Fringe.

CBD North

ASSUMPTIONS

FINANCIAL FEASIBILITY ASSUMPTIONS					**COMMENTS**
Existing conditions	Land Area	Improvements	Estimated land values	Contaminated land	
Site A	731.00	0.00	$1,094.39	0.00	RESIDENTIAL VACANT SITE, SOLD FOR $800K ON 24/10/20. FOR SALE ASKING $729K
Site B	0.00	0.00	$0.00	0.00	Not applied
Site C	0.00	0.00	$0.00	0.00	Not applied
Spare	*0.00*	*0.00*	*$0.00*	*0.00*	Not applied
Estimated totals	**731.00**	**0.00**	**$1,094.39**	**$0.00**	
Utilisation					
GBA to GFA	*95.00%*				Not applied
Access and circulation	*15.00%*				Not applied
GFA to GBA	*80.75%*				Not applied
Dwelling typologies	Studio	1brm	2brm	3brm	
GFA	*40*	*50*	*65*	*105*	
Mix	*0.00%*	*0.00%*	*38.00%*	*62.00%*	*100.00%*

REVENUE ASSUMPTIONS		**COMMENTS**
Gross realisation		
GST	15.00%	
Marketing & sales	2.50%	
Legal fees per dwelling	$2,000.00	
Net realisation	Low	Med	High	
Consenting risk	0.00%	0.00%	0.00%	Not applied
Developers profit	*20.00%*			

DEVELOPMENT COST RATES			**$/M2**	**$/M2**	**$/M2**	**COMMENTS**
Construction costs	**Building type (Levels)**	**Typology**	**Affordable**	**Market**	**Premium**	
Low-rise (Level 1-3)						
Residential						
Residential -terrace	Low-rise (Level 1-3)	2-brm	$4,000.00	$4,400.00	$5,200.00	Entry of street
Residential -terrace	Low-rise (Level 1-3)	3-brm	$4,000.00	$4,400.00	$5,200.00	Entry of street
Residential -walk up	Low-rise (Level 1-3)	Studio	$4,200.00	$4,620.00	$5,460.00	Entry of street, units off internal access
Residential -walk up	Low-rise (Level 1-3)	1-brm	$4,300.00	$4,730.00	$5,590.00	Entry of street, units off internal access
Residential -walk up	Low-rise (Level 1-3)	2-brm	$4,300.00	$4,730.00	$5,590.00	Entry of street, units off internal access
Residential -walk up	Low-rise (Level 1-3)	3-brm	$4,400.00	$4,840.00	$5,720.00	Entry of street, units off internal access
Balcony	Low-rise (Level 1-3)	-	$130.00	$150.00	$170.00	Extra, over and above
Commercial						
Commercial office	Low-rise (Level 1-3)	A-Grade	$6,700.00	$7,370.00	$8,710.00	Base build, fit out to MCHF, SHF. Excludes SF/FF&E
Commercial office	Low-rise (Level 1-3)	Prime	-	-	-	
Retail						
Retail	Low-rise (Level 1-3)	Shell only	$3,100.00	$3,410.00	$4,030.00	Suburban
Low-rise (Level 1-6)						
Residential						
Residential -apartments	Low-rise (Level 1-6)	Studio	$4,830.00	$5,320.00	$6,280.00	
Residential -apartments	Low-rise (Level 1-6)	1-brm	$4,940.00	$5,440.00	$6,430.00	
Residential -apartments	Low-rise (Level 1-6)	2-brm	$5,040.00	$5,550.00	$6,560.00	
Residential -apartments	Low-rise (Level 1-6)	3-brm	$5,130.00	$5,650.00	$6,670.00	
Balcony	Low-rise (Level 1-6)	-	$130.00	$150.00	$170.00	Extra, over and above
Commercial						
Commercial office	Low-rise (Level 1-6)	A-Grade	$6,800.00	-	-	Suburban
Commercial office	Low-rise (Level 1-6)	Prime	-	-	-	
Retail						
Retail	Low-rise (Level 1-6)	Shell only	-	-	-	
Medium-rise (Level 1-12)						
Residential						
Residential -apartments	Medium-rise (Level 1-12)	Studio	$4,940.00	$5,440.00	$6,430.00	
Residential -apartments	Medium-rise (Level 1-12)	1-brm	$5,020.00	$5,530.00	$6,530.00	
Residential -apartments	Medium-rise (Level 1-12)	2-brm	$5,090.00	$5,600.00	$6,620.00	
Residential -apartments	Medium-rise (Level 1-12)	3-brm	$5,250.00	$5,780.00	$6,830.00	
Balcony	Medium-rise (Level 1-12)	-	$130.00	$150.00	$170.00	Extra, over and above
Commercial						
Commercial office	Medium-rise (Level 1-12)	A-Grade	-	$8,500.00	-	Central Wellington

Commercial office	Medium-rise (Level 1-12)	Prime	-	$9,000.00	-	E.g. Deloitte Office Building
Retail						
Retail	Medium-rise (Level 1-12)	Shell only	-	-	-	
High-rise (Level 12 +)						
Residential						
Residential -apartments	High-rise (Level 12 +)	Studio	$4,980.00	$5,480.00	$6,480.00	
Residential -apartments	High-rise (Level 12 +)	1-brm	$5,230.00	$4,760.00	$6,800.00	
Residential -apartments	High-rise (Level 12 +)	2-brm	$5,340.00	$5,880.00	$6,950.00	
Residential -apartments	High-rise (Level 12 +)	3-brm	$5,450.00	$6,000.00	$7,090.00	
Balcony	High-rise (Level 12 +)	-	$130.00	$150.00	$170.00	Extra, over and above
Commercial						
Commercial office	High-rise (Level 12 +)	A-Grade	-	-	-	
Commercial office	High-rise (Level 12 +)	Prime	-	$9,500.00	-	E.g. Deloitte Office Building
Retail						
Retail	High-rise (Level 12 +)	Shell only	-	-	-	
Hotel			**Suburban**	**3-star**	**5-star**	
Hotels			$3,000.00	$4,200.00	$5,700.00	Circa 2016 $s
Car parking			**Low-rise**	**Medium-rise**	**High-rise**	
At grade			$120.00	$150.00	$200.00	Asphalt with basecourse with some kerbing and lighting. Level site
Under croft			$200.00	$250.00	$300.00	Parking garage at ground floor, as above with trafficable concrete slab. Substructure
Basement			$740.00	$800.00	$900.00	As undercroft but including extra excavation, extra over substructure, water proofing, retaining to edge, services
Other Direct Costs						
Seismic resilience			12.00%	24.00%	36.00%	Estimates for low, medium and high risk for ground shaking and liquefaction for low, medium and high rise buildings. Based on significant ground improvement works - jet grouting
Civil works						
Enabling works			$25.00	$35.00	$45.00	Assumes a level site, minimal site clearance, excludes any demolition or services removal
3 waters			$500.00	$600.00	$700.00	Only a high level indication for 3 waters. Very dependent on design and extent. Excludes any other civil and external works
Transport			$200.00	$250.00	$300.00	Access trafficable road high level
Engineered fill	$/m3		$85.00	$110.00	$140.00	
Sloping versus flat site			5.00%	10.00%	15.00%	High level increase/extra over for a flat site
Public open space						
Soft landscaping			$30.00	$45.00	$60.00	Only soft landscaping i.e. lawns, planting, topsoiling. Excludes any groundworks
Hard landscaping			$130.00	$200.00	$400.00	Only hard landscaping. Excludes any groundworks. Very dependent on specification of pavers and any features
Roof top gardens			$300.00	$400.00	$500.00	Extra over roof for creating a roof garden. Additional structure, waterproofing, drainage, landscaping.
Demolitions						
Light duty	$/m2		$100.00	-	-	
Heavy duty	$/m2		$250.00	-	-	
CBD high-rise	$/m2		$350.00	-	-	
Contaminated land remediation			$200.00	$350.00	$450.00	$/m3, can vary a lot on type of material and available tipping
Contingencies						
Cost escalation			6.00%	8.00%	12.00%	Subject to inherent risk levels. Rules of thumb:
	New build (greenfield)		5.00%	-	-	
	New build (brownfield)		5.00%	6.50%	8.00%	Range low - High. Mid point assumed
	Upgrade of existing building		10.00%	12.50%	15.00%	Range low - High. Mid point assumed
	Seismic upgrade		10.00%	20.00%	30.00%	Range low - High. Mid point assumed
Contingency allowances			5.00%	10.00%	20.00%	
Professional fees	Complexity		Conventional	Complex	Complex	
Design, engineering, QS and project management			10.00%	15.00%	15.00%	
Resource consent			0.05%	0.10%	Complex	
Building consent				0.05%	0.10%	
Survey & title	per dwelling		$1,500.00			
Development contributions	per DC Policy refer to DC shee	Residential	$6,137.00			
		Non-residential	$4,118.00			
		Studio/1-bedroom dwellings	0.70			
		Non-residential EHU/m2	42.00			
Test finance interest rate			7.00%			