

Social Impacts of Housing Intensification

Research Review

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1 Overview

This report has been prepared to explore the social impacts of housing intensification. Housing intensification has been recognised as an important mechanism in addressing unmet housing need and shortage in Aotearoa New Zealand. Medium Density Residential Standards (MDRS) have responded to this by requiring all Tier 1 Councils in New Zealand’s urban areas to remove barriers to development and allow for more homes to be built. The benefits of intensification have been acknowledged worldwide. In addition to enabling better access to housing, the concentration of people in serviced areas will reduce reliance on private vehicles thereby reducing emissions. While there are clear benefits to housing intensification, there are also social effects that could have significant impacts on people’s lives. Ōtautahi-Christchurch has a recent history of earthquakes and associated community concerns around building heights, an ageing population that is changing typology demand, high levels of unmet housing need due to lack of typology diversity, and a dispersed, low-density urban form. This report reviews relevant recent New Zealand and international research on the social effects of housing intensification with consideration to how findings might apply to the unique Ōtautahi-Christchurch context. It is acknowledged that Councils can have a leading role in supporting local area planning and community engagement processes so as to mitigate the possible adverse effects of housing intensification.

2 Introduction

2.1 Housing intensification

In 2012, the New Zealand Productivity Commission identified an urgent need to increase land availability in order to ease housing supply constraints and house price pressure (New Zealand Productivity Commission, 2012). The Commission called for an immediate release of significant tracts of new residential land to the market, both on the urban fringe and urban land that could be redeveloped for housing. This was particularly important in the ‘high land demand areas’ of Auckland, Christchurch, Tauranga and Hamilton, although this process was already underway in Ōtautahi-Christchurch in response to the Canterbury earthquakes. The Commission also called on Councils to ensure their planning policies “are not frustrating more efficient land use” (p. 2) and recommended central government review legislation in the interests of easing housing supply constraints. However, Aotearoa New Zealand’s housing affordability has continued to deteriorate since the Commission made these recommendations, despite consecutive governments implementing various policy changes (Yeoman, 2022). In 2021, the OECD named our housing market as the least affordable for low-income families and one of the most expensive relative to income in the OECD (OECD, 2021). There is also a continuing lack of social housing, with public and community providers unable to meet increased demand (Community Housing Aotearoa, 2020).

In the context of a serious and persistent housing crisis, the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act (HSAA) passed into law on 20 December 2021 with the purpose of enabling greater housing supply in Aotearoa New Zealand’s urban areas (Ministry for the Environment, 2022). It would do this by setting more permissive land use regulations, and by bringing forward and strengthening the National Policy Statement on Urban Development (NPS-UD). The NPS-UD is “about ensuring New Zealand’s towns and cities are well-functioning urban environments that meet the changing needs of our diverse communities”

(Ministry for the Environment, 2023, p. 1). Policy 3 of the NPS-UD in particular contributes to central government's Urban Growth Agenda (UGA) – to remove barriers to the supply of both residential and commercial land and infrastructure – through the introduction of MDRS, which, by law, must be integrated into all Tier 1 Council's district plans (Ministry for the Environment, 2023). While most residential zones currently allow only a single dwelling of no more than two-storeys on each site, MDRS will enable three dwellings of up to three storeys to be developed on each site without the need for resource consent (Ministry for the Environment, 2022). MDRS forms the basis of housing intensification in Aotearoa New Zealand's urban areas.

MDRS are to be applied throughout all urban areas, irrespective of any nuances in different local or city environments. This 'blanket application' (Yeoman, 2022) has been contested by the Tier 1 Councils, with Auckland, Hamilton, Tauranga, Wellington and Christchurch rejecting some or all of the rules. In the context of Ōtautahi-Christchurch, a city with a recent history of earthquakes that have led to sensitivity around building heights and fears of losing more heritage buildings, MDRS are potentially problematic. Post-earthquakes, the Christchurch Central Recovery Plan was developed with the lower-rise aspirations of the community in mind, and buildings in the Central City core were restricted to seven storeys. Height limits in the current District Plan are seen as sympathetic to the city's post-earthquake environment and ground conditions (Dalziel, 2022). There are also perceived risks around the implications of MDRS for the Garden City's existing residential vegetation and sunlight access (Christchurch has smaller sun angles than its northern counterparts). The blanket application of MDRS has also been contested in terms of the development pattern it will likely result in across each urban area (Yeoman, 2022). A *laissez faire* approach, MDRS will see the market decide where intensification occurs, which will see ad hoc development that is dispersed across urban areas and could result in increased costs for public infrastructure and service provision across cities (Yeoman, 2022; Ferm, Clifford, Canelas, & Livingstone, 2021). There are also concerns that deregulation and upzoning, while increasing housing supply, are 'not enough' because they do not reduce economic and spatial inequalities and therefore undermine the purpose of new intensification policies to enable affordable housing for all (Wetzstein, 2022; Dantzler, 2022; Yeoman, 2022; Rodríguez-Pose & Storper, 2020).

In addition, the NPS-UD directs:

- Enabling, in city centre zones, building heights and density of urban form that realise as much development capacity as possible, to maximise benefits of intensification
- Enabling building heights of at least six storeys within walkable catchments of the edge of the city centre zone
- Enabling, within and adjacent to neighbourhood centre zones, local centre zones, and town centre zones (or equivalent), building heights and density of urban form commensurate with the level of commercial activities and community needs
- Modifying those enabled building heights and requirements as needed to accommodate Qualifying Matters (see further detail in Section 2.2 below).

2.2 Overview of Proposed Housing and Business Choice Plan Change 14

The Proposed Housing and Business Choice Plan Change 14 (PC14) is an Intensification Planning Instrument (IPI) required to bring the Christchurch City Council District Plan in line with government direction given via the NPS-UD under the HSAA. PC14 sets out residential and commercial zones throughout Christchurch City in which intensification will be enabled. These zones will enable high-density or medium-density housing to be built. High-density residential zones will be concentrated around the Central City and the large commercial centres of Hornby, Papanui and Riccarton. This will see buildings of at least six storeys be enabled within walkable catchments of these centres. In the Central City, this will enable heights of 20 metres (approximately 6 storeys) within 1.2 kilometres, which will enable the construction of apartment buildings and multi-storey flats. Outside of the Central City, high-density residential zoning will enable houses of up to 14 metres (approximately 4 storeys) be constructed without the need for a resource consent (subject to a recession plane). Across most other residential areas of the city, medium-density residential zoning will be applied. This gives effect to the MDRS by enabling up to three dwellings of up to 12 metres (3-4 storeys). See Figure 1 for definitions used in this report.

Figure 1: Definitions (BRANZ, 2017)

Term	Definition
Medium-density	Excludes stand-alone buildings and includes apartment buildings and multi-unit dwellings of up to 6 storeys.
High-density	Apartment buildings greater than 6 storeys, with individual dwelling unit sizes ranging from studio apartments to 3-4 bedroom apartments.
Low-density	Stand-alone dwellings, generally 1-2 storeys, on an individual section where the size is greater than 400m ² .
“Higher-density”	Includes both medium and high-density housing and living environments. Higher-density neighbourhoods can consist mainly of medium-density dwellings.

Christchurch City Council (the Council) has deemed that not all areas of Ōtautahi-Christchurch are suitable for greater intensification (i.e. denser than currently provided for under the Operative district Plan) and has subsequently proposed modifications to the rules in order to maintain and protect the qualities of identified areas, and to ensure a well-functioning urban environment more generally. These qualities are sought to be maintained through application of a Qualifying Matter (QM), which includes existing matters currently managed under the Operative District Plan and some proposed new matters. Proposed QMs include:

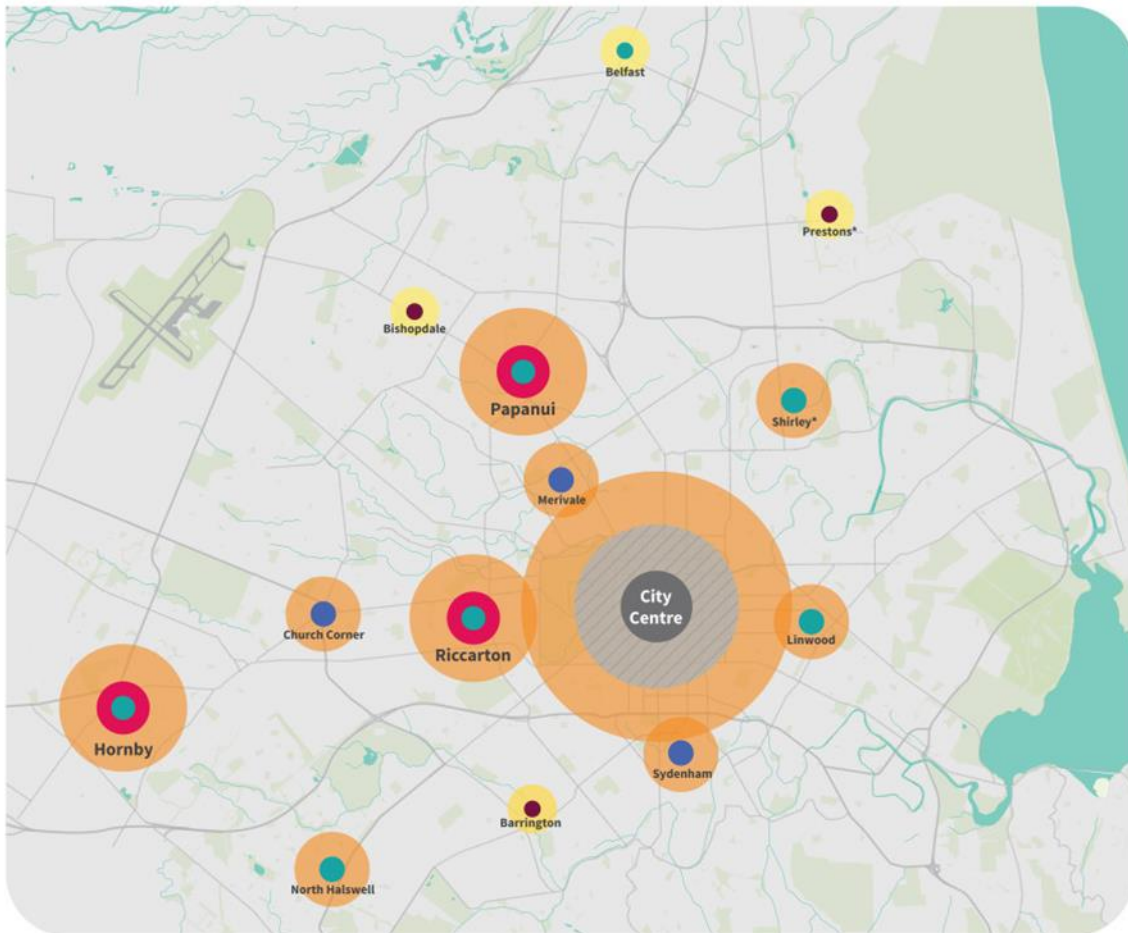
- Significant and/or outstanding sites and areas of heritage, cultural, landscape and ecological value (RMA Section 6 matters of national importance) (existing matter)
- Public Open Space Areas (existing matter)
- Significant and heritage trees (existing matter)

- Residential Heritage Areas (new matter)
- Residential Character Areas (existing and new proposed matter)
- Electricity Transmission Corridors (existing matter)
- Airport Noise Contours (existing and new proposed matter)
- Electricity Distribution Corridors (existing matter)
- Lyttelton Port Influence Overlay (existing matter)
- NZ Rail Network Interface Sites (existing matter)
- Radio Communication Pathways for the Justice and Emergency Services Precinct (new proposed matter)
- Wastewater Constraint Areas (new proposed matter)
- Sunlight Access (new proposed matter)
- Low Public Transport Accessibility (new proposed matter)
- Industrial Interface (new proposed matter)
- Riccarton Bush Interface (existing and new proposed matter)
- Tsunami Management Area (new proposed matter)
- Ōtākaro Avon River Corridor (existing matter)
- Fitzgerald Avenue Geotechnical Constraint (new proposed matter)
- Outline Development Plan Features (existing matter)
- Key Transport Corridors – City Spine (new proposed matter)

Of particular relevance to this report is the Low Public Transport QM, which seeks to limit medium-density development to areas that are near high-frequency bus routes and commercial centres in order to both minimise pressure on infrastructure and reduce dependency on cars. The Council is also proposing to avoid greater intensification of areas at medium and high-risk from coastal inundation, coastal erosion and tsunamis. Residential Heritage Areas (areas that have buildings and features that are collectively significant to the city's heritage and identity), including 44 buildings or items and 26 building interiors, and Residential Character Areas (character neighbourhoods that are distinctive from their wider surroundings) are also proposed Q Ms. The Council is proposing to update tree setbacks to protect individual trees and incentivise tree planting. Developers may need to pay Financial Contributions to mitigate the negative effects of development on the city's tree canopy as part of the Financial Contributions QM. Sunlight Access is also being proposed as a (city-wide) QM in order to reflect the city's specific latitude and climate and to ensure sunlight access at all levels of a building.

Whilst decisions on PC14 are still pending, it is expected that the District Plan will be changed to increase the permitted building envelope for the city. In doing so, significant additional opportunity for medium and higher-density development across the city will be provided. This report considers the social impacts of the expected more intensive urban form.

Figure 2: Proposed zones of development in PC14 (Christchurch City Council, 2023)



Key

- **City Centre Zone:**
90 metres; 45 metres around Cathedral Square and Victoria St, and 28 metres around the Arts Centre and New Regent St
- ▨ **High Density Zone:**
32 metres enabled (10 storeys, depending on building design)
- **High Density Area (Residential and Commercial):**
20 metres enabled (six storeys, depending on building design)
- **Larger Town Centre:**
22 metres enabled (six storeys, depending on building design) – applies to Riccarton, Hornby and Papanui
- **Town Centre:**
20 metres enabled (six storeys, depending on building design)
- **Local Centre:**
14 metres (four storeys, depending on building design)

- **Larger Local Centre (Significant):**
20 metres enabled (six storeys, depending on building design)
- **Medium Density Zone Precinct:**
14 metres enabled (four storeys, depending on building design)

Note:

Central City Mixed Use Zone: 32 metres enabled
 Rest of the city – Medium Density Zone– enables at least 12 metres (unless Qualifying Matters apply).

*For areas outside of the vacuum sewer wastewater constraints only.

3 Objectives, scope and structure

The primary objective of this report is to review relevant New Zealand and international research that identifies real and anticipated social effects of housing intensification. The report also considers how these effects might play out in Ōtautahi-Christchurch through the intensification strategies of PC14. It draws on *Life in Christchurch* survey results, which offer insight into resident perceptions of various aspects of life in Christchurch. The most recent *Life in Christchurch* survey explored resident perceptions of issues related to housing and neighbourhoods. Relevant social effects identified by the literature are organised into the following broader categories of social indicators:

1. Urban form – types, density and cost of housing, infrastructure and services and the functionality of urban form in relation to economic and social life. This includes issues of access and connectivity to goods and services, and transport.
2. Social equity – the distribution of positive/negative effects, for different types of households and social groups, including vulnerable groups such as low-income people.
3. Health and wellbeing – physical health effects, and emotional and social wellbeing effects, including effects on social connection, conflict and cohesion.
4. Environmental aspects – consequences of changes in the physical and natural environment for people and communities, specifically as they relate to sunlight, privacy and the tree canopy.

The remaining parts of this report are structured into the following three sections:

- Section 4 outlines in further detail the context of PC14, including the key planning considerations that underpin it and the context in which it will operate.
- Section 5 reviews New Zealand and international research on the social effects of housing intensification and considers their relevance to the intensification strategies of PC14.
- Section 6 provides an overall conclusion to the report.

4 Context

This section outlines Ōtautahi-Christchurch's changing housing market and community profile. The contextual factors outlined in this section will influence the nature and scale of change that is realised within the community and will subsequently see the impacts of housing intensification vary across the city, from neighbourhood to neighbourhood, and from household to household.

4.1 Key planning considerations

The NPS-UD is arguably the most directive housing intensification policy that Aotearoa New Zealand has seen thus far and is central to PC14. MDRS and NPS-UD direct Councils to remove overly restrictive planning rules and allow for greater medium and higher-density housing enablement across urban areas. Critically, the NPS-UD recognises the national significance of well-functioning urban environments for people and communities to ensure their social, economic and cultural wellbeing, and their health and safety, both now and into the future (Ministry for the Environment, 2023). NPS-UD objectives are to enable Councils to provide sufficient development capacity; plan well for growth in the short to long term, particularly in areas that have good access to public transport, and existing services and infrastructure; ensure rules do not unnecessarily

constrain growth; and ensure that urban development occurs in a way that takes into account te Tiriti o Waitangi.

The planning requirements underpinning PC14 are set out in Section 2.2 of this report. Following are other strategies and planning directions that have been acknowledged as important context to this review.

The Urban Growth Partnership for Greater Christchurch, the Whakawhanake Kāinga Komiti, have developed the draft Greater Christchurch Spatial Plan (GCSP). Greater Christchurch includes the three territorial authorities (TAs) of Christchurch City, Waimakariri District, and Selwyn District. The purpose of the GCSP is three-fold (Greater Christchurch Partnership, 2019; Greater Christchurch Partnership, 2023):

- To set a desired urban form for the projected population of 700,000 by 2050 and one million within the next 60 years
- To coordinate and align the aspirations of central government, local government and mana whenua
- To satisfy the requirements of the NPS-UD for the Greater Christchurch Councils to jointly prepare a future development strategy that demonstrates that Greater Christchurch will have sufficient and feasible development capacity over the medium (3-10 years) and long term (10-30 years).

The key objectives of the GCSP relate to affordable housing, emissions reduction, and the creation of liveable and resilient urban areas. Critically, the draft GCSP provides a blueprint for how population and business growth will be accommodated in the sub-region through targeted intensification in centres and along public transport corridors. The GCSP is based on a scenario in which Greater Christchurch has a population of one million. Christchurch City has a June 2022 population estimate of 389,300, and an expected population based on medium-growth projections of around 448,000 in the next 30 years. As evidenced by the 2021 Greater Christchurch Housing Capacity Assessment, even without MDRS and the NPS-UD, long-term housing and business demand is adequately catered for within the Greater Christchurch area. This is largely due to the earthquake response, which saw the Land Use Recovery Plan provide for an anticipated 40,000 new households in both greenfield and intensification areas (Canterbury Earthquake Recovery Authority, 2013). This is discussed further in the following section.

4.2 Housing supply and demand

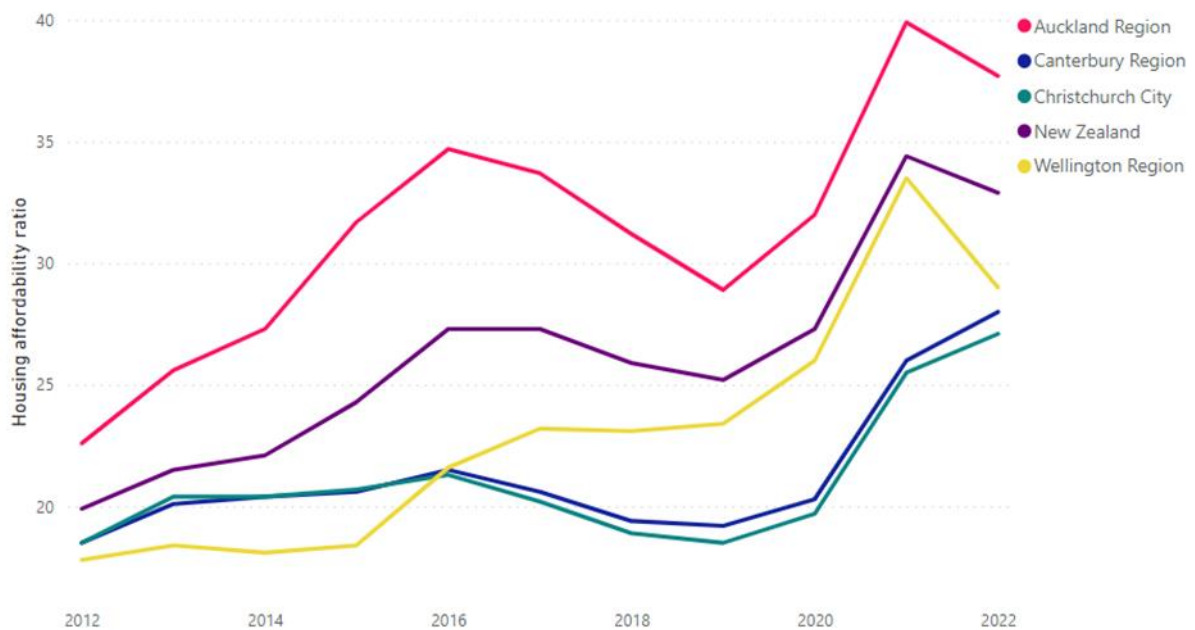
The 2021 Greater Christchurch Housing Capacity Assessment concluded that over the long term (the next 30 years) the sub-region will have sufficient housing capacity and a significant surplus of over 83,700 commercially feasible households. This assessment was based on the current level of enablement provided for under the Operative District Plan. However, there are concerns that while there may be a sufficient housing supply, Urban Christchurch will require a 'very different' stock typology and more affordable housing if it is to meet the changing demands of its ageing population and be responsive to a continued decrease in owner-occupation (which is projected to drop below 60% in 2051) (Greater Christchurch Partnership, 2021; Mitchell, Saville-Smith, & James, 2021). As Gjerde and Kiddle (2022) note, the prevailing housing typology in New Zealand is the standalone dwelling, synonymous with the 'kiwi quarter-acre dream'; and the aging demographic

of Ōtautahi-Christchurch is driving this current (owner-occupier) demand (Greater Christchurch Partnership, 2021). *Life in Christchurch Housing and Neighbourhoods* survey results support this assessment, showing couples with children who no longer live at home and families with mainly independent children to be significantly more likely than other household types to live in a standalone detached two- or three-storey home (Christchurch City Council, 2023).

However, the structural ageing of the city's population will bring changes in both household composition and tenure (Mitchell, Saville-Smith, & James, 2021). There will be more older households, and the average household size is set to decrease from 2.54 in 2021 to 2.45 in 2051 (Greater Christchurch Partnership, 2021); couple-only and one-person households will make up around 82% of the city's projected total growth between 2018 and 2038 (Mitchell, Saville-Smith, & James, 2021). Senior and low- to modest-income households will be driven into the rental market, driving up demand for smaller and multi-unit homes (Mitchell, Saville-Smith, & James, 2021). It is important to note that senior and single-income households are the most likely to experience housing affordability stress (Mitchell, Saville-Smith, & James, 2021). Research shows that diversity in tenure, housing typology and price points will be critical in addressing unmet housing need and mitigating affordability stress in Urban Christchurch (Mitchell, Saville-Smith, & James, 2021).

As can be seen in the figure below, Ōtautahi-Christchurch has long been considered one of Aotearoa New Zealand's most affordable cities, in terms of both buying and renting (ChristchurchNZ, 2021). However, according to a recent CoreLogic (2023, p. 13) report, "this no longer applies to the same extent", with Wellington now having overtaken Christchurch as the country's most affordable main centre. The average number of years required to save a deposit for a home in Christchurch is now 8.8, which, while lower than the national average of 10.4 years, is now higher than the Wellington figure of 8.6 years. However, this is likely due to salaries in Wellington increasing at a rate greater than in Christchurch since 2017 (29% compared to 16% respectively) (CoreLogic, 2023). Rental affordability in Christchurch has also continued to deteriorate while there have been small improvements or stability elsewhere, with the rent to income ratio at 20.5% for Q4 2022, up from 19% for Q4 2017. Citing Trade Me listing data, a recent article in *The Press* reports that demand for rental properties has increased in Christchurch by about 25%, while supply has decreased by 2% (McDonald, 2023). Christchurch now has a persistent problem of housing affordability stress among renting households (Mitchell, Saville-Smith, & James, 2021). *Life in Christchurch Housing and Neighbourhoods* survey respondents acknowledge this; only a quarter (25%) agree that there are affordable housing options across their city, while over half (51%) do not agree. Some respondents express concerns that new builds have done little to make the city's housing more affordable, and many express frustration that medium and high-density housing is built and/or bought for the purpose of being an Airbnb, which serves to 'perpetuate' the lack of affordable housing options in the city (Christchurch City Council, 2023). Research on cities overseas supports this. In the central City of Toronto, the platform has increased land value, spurring gentrification and displacing renter communities (Grisdale, 2021). The potential role of intensification in the processes of gentrification and displacement is discussed further in Section 5.2.

Figure 3: Christchurch City housing affordability, 2012-2022



Data source: Infometrics

NB: Housing affordability ratio is calculated using average house value and average annual earnings (quarterly measure)

There is a current and projected increase in demand for social housing across Aotearoa New Zealand (Greater Christchurch Partnership, 2021). Key drivers behind this increase include falling home ownership; less secure employment and restricted access to welfare; rising house prices and rents that have outpaced increases in household incomes. Such drivers have had the most impact on lower-income households. Between March 2015 and March 2021, Christchurch City saw a 379% growth in the number of households in the Public Housing Register. While large, this was a smaller increase than Selwyn (500%) and Waimakariri (450%), likely due to their increased population growth. However, while the level of social housing need is expected to increase across all three districts, this increase will be significantly greater in Christchurch City. According to the Housing Capacity Assessment, this is a reflection of high numbers of low-income and social renters living in the city – and the number projected to continue to live in the city – compared to the other districts (Greater Christchurch Partnership, 2021). As of 2018, Christchurch City also had the highest level of crowding of all the Greater Christchurch districts, with 9% of renter households crowded (Mitchell, Saville-Smith, & James, 2021). In their 2021 report, Mitchell, Saville-Smith and James (2021) conclude that Urban Christchurch has over 20,000 renter households whose housing needs are not being met (through the provision of Kāinga Ora, local authorities, community housing providers or other non-market housing providers). Importantly, the typology demand for social housing is similar to that of the rest of the projected population, with most households on the Public Housing Register requiring small, one- or two-bedroom homes.

Despite predictions of changing typology demand, there are concerns that the housing market will be slow to respond. This is discussed by Gjerde and Kiddle (2022) in their paper *Preferences for medium density housing in New Zealand*. The researchers note that New Zealand’s housing supply is at the mercy of small-scale, private developers. Because building houses is a business activity for

these developers, houses are built at a low enough cost and sold at a high enough price to ensure sufficient profits are made (Bentley, 1999). In this context, incentive to introduce alternative housing typologies into the market is lacking because, to avoid risk, developers build houses that have already proven successful. This sees housing produced according to models popularised in the twentieth century and developed for a population that was considerably less diverse than the population today (CityScope Consultants, 2011; Buckenberger, 2012). While demand for these conventional housing types (i.e., standalone, detached) remains high, Gjerde and Kiddle (2022) posit that this is influenced at least in part by the fact that there are few other options available in the market to meet a diversity of needs. This is supported by *Life in Christchurch Housing and Neighbourhoods* survey results, with many respondents expressing satisfaction with the status quo and others wishing to see alternative typologies become available, such as cohousing developments, community housing, and tiny homes.

Ōtautahi-Christchurch has recently been experiencing high growth rates of new residential building consents. In August 2021, the number of building consents compared to one year previously grew 67% compared to the national increase of 42% (ChristchurchNZ, 2021). Since 2016, there has been significant housing gain in Christchurch City despite the number of building consents issued staying relatively constant. This is due to a strong uptake of redevelopment capacity in zones that currently enable intensification (Greater Christchurch Partnership, 2021). There have been higher rates of building consent applications for higher-density housing from 2017 onwards (see Figure 4). Multi-unit dwellings made up just 39% of all residential building consents issued in 2016 in Christchurch City (a total of 815 homes); in 2022, 69% of the residential housing gain consisted of multi-unit rather standalone dwellings (a total of 2,846 homes), the highest proportion in Christchurch City thus far (Christchurch City Council, 2023). This uptake has been particularly strong in ongoing infill areas of the (StatsNZ SA2 areas) Avon Loop, Sydenham and Barrington North (see Figure 5) due to good access to the Central City and the availability of property for development due to an aging housing stock and earthquake damage. These areas were also zoned for infill in the previous District Plan. Despite this increase in intensification, the greenfield developments of Hendersons Basin, Belfast and Sawyers Arms saw the highest housing gains in 2022, as shown in Figure 6 below. To explore these trends further, visit ccc.govt.nz/culture-and-community/statistics-and-facts/built-environment-reporting/

Figure 4: Christchurch City residential building consents by typology, 2016-2023

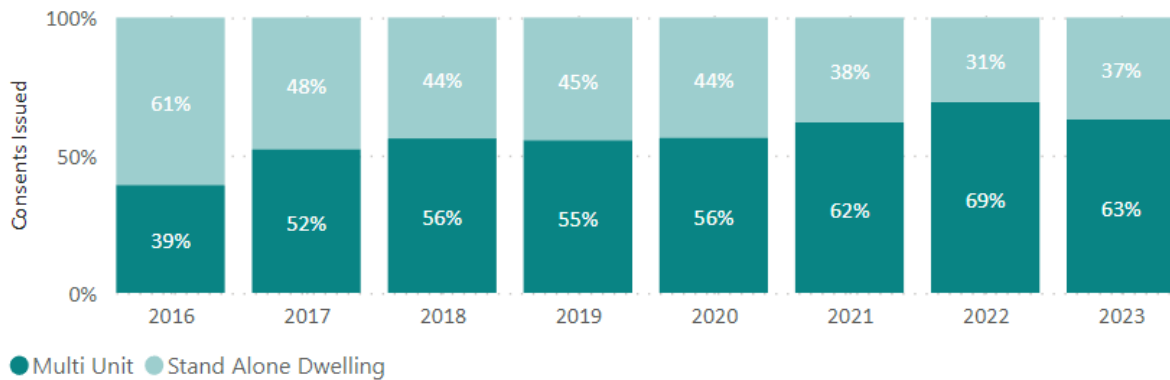


Figure 5: Christchurch City areas with the highest number of multi-unit residential building consents, 2020-2022

Area Unit	Consents Issued	Housing Gain
Avon Loop	43	470
Sydenham	58	329
Barrington North	47	249
St Albans East	55	242
Spreydon	44	222
Edgware	55	218
Linwood	36	208
Ensors	35	151
Phillipstown	34	142
Total	437	2,357

Figure 6: Christchurch City areas with the highest total housing gains, 2022

Area Unit	Consents Issued	Housing Gain
Hendersons Basin	291	329
Belfast	86	163
Sawyers Arms	68	130
Halswell West	101	128
Oaklands East	84	85
Highfield Park	76	80
Yaldhurst	58	58
Travis Wetland	55	55
Cashmere West	44	43
Total	901	1,110

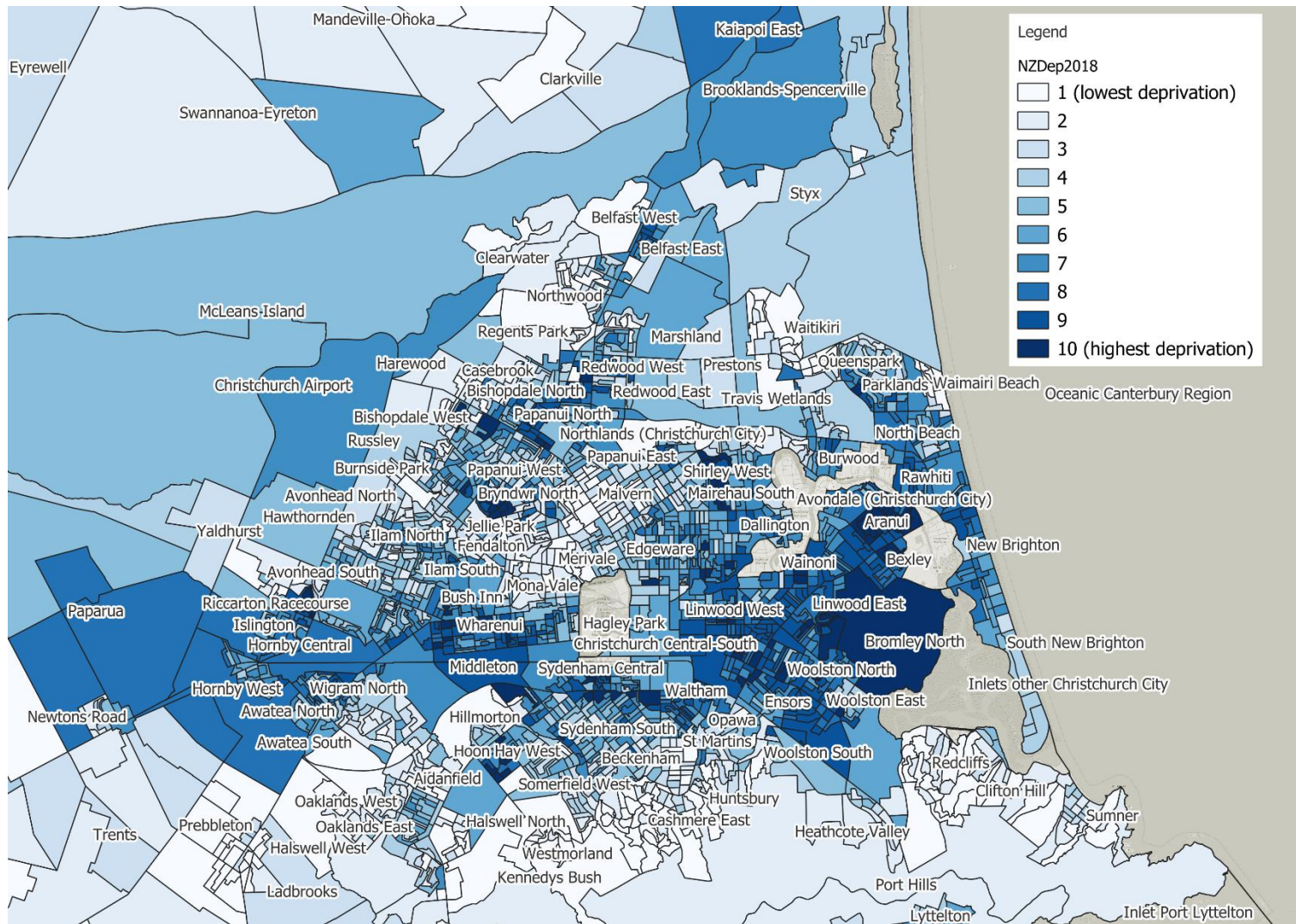
4.3 Spatial contexts

There are several factors that could see PC14 have uneven social effects across the city, including socioeconomic deprivation levels and the extent of public service and infrastructure availability.

As is the case with most cities, socioeconomic disparities exist across Ōtautahi-Christchurch. The NZ Deprivation Index (NZDep2018) is a measure of socioeconomic deprivation that combines nine variables from the 2018 Census which reflect eight dimensions of deprivation. These dimensions are internet access, income (receiving a benefit), income (below a threshold), employment, qualifications, home ownership, support, living space and living condition. The Eastern and Southwestern parts of Christchurch City are home to some of the city's the most deprived communities, which include Shirley, Richmond, Aranui, Bromley, Woolston, New Brighton, Linwood and Phillipstown in the East and Hornby in the industrial Southwest. Towards the Port Hills and in the Northwest of the city, there are suburbs with the least deprived communities, including Fendalton and Merivale in the Northwest.

Mitchell, Saville-Smith and James (2021) note that housing affordability stress for renting households in Ōtautahi-Christchurch is a problem across the city, irrespective of sub-area. While areas in the Northeast, Northwest and Southwest have high proportions of modest-income households who are spending more than 30% of their income on rent, severe housing affordability stress with rent outgoings more than 50% of their income is more common in households on the Southeast side of the city.

Figure 7: Christchurch City NZDep2018 by SA1 (University of Otago, 2018)



Data source: University of Otago

NB: Breakdowns are at the SA1 level and labels are at the SA2 level

As will be addressed in Section 5.2, the city-wide application of MDRS through PC14, by sidestepping targeted development and investment, could have implications for social equity in Ōtautahi-Christchurch. Currently, only a quarter (25%) of *Life in Christchurch Housing and Neighbourhoods* survey respondents agree that there are affordable housing options available in a range of locations across the city. Some see ‘affordable’ housing to come at a cost, namely: safety and reputation of the neighbourhood, vulnerability to climate change/natural hazards, proximity to industrial areas, school zones/quality of education, noise levels and green space. Residents have also expressed frustration at perceived disparities in infrastructure maintenance and provision between communities in the East and Northwest of the city. Across *Life in Christchurch* surveys, respondents living on the East side express desire for the Council and businesses to invest in their neighbourhoods to the same degree as they do for the rest of Christchurch. Respondents living in the East side of the city are considerably more likely than those living elsewhere in the city to find walking, cycling and using public transport difficult for reasons related to the condition and maintenance of infrastructure.

The following table displays social infrastructure counts for each ward in Christchurch City and shows that there are differences across wards in service and infrastructure counts. For instance, the number of schools ranges from six in each of Burwood, Hornby, Innes and Waimairi, to 17 in Fendalton. The Central ward has the highest total count of social infrastructure (360), while Innes (148) and Papanui (178) have the lowest total counts of infrastructure.

Figure 8: Christchurch City access to social infrastructure by ward

Ward	BusNetwork	Education	Employment	Health	Library	OpenSpaces	RecAndSport	ShoppingCentre	Supermarket	Grand Total
Banks Peninsula	19	7	5	3	4	172	2		3	215
Burwood	87	6	5	3	2	93	5	1	3	205
Cashmere	119	9	1	5	1	93	5		2	235
Central	143	12	82	14	1	72	28	3	5	360
Coastal	170	9	7	6	2	95	9	1	2	301
Fendalton	125	17		8	1	22	6	3	3	185
Halswell	75	8	23	3		173	11	1	2	296
Harewood	107	9	37	5	1	101	6	3	4	273
Heathcote	192	12	88	7		120	16	3	2	440
Hornby	107	6	62	5	1	129	6	3	2	321
Innes	104	6	1	8		24	3	1	1	148
Linwood	96	8	34	2	1	47	2	2	2	194
Papanui	99	10	9	7	2	37	11	1	2	178
Riccarton	114	9	13	8	1	26	12	5	2	190
Spreydon	125	10	20	7	1	38	7	1	1	210
Waimairi	116	6	6	5		42	5	1	2	183

Also of particular note in regard to PC14, is the proposal for parts of Shirley, Aranui and Prestons to be exempt from increased housing density due to infrastructure constraints that mean these areas cannot accommodate MDRS levels of development. Vacuum sewer pipes in Shirley and Aranui have reached capacity and so the Council is only able to accept like-for-like development in these areas, and development in Prestons must align with Prestons Sewer Master Plan. This constraint has a direct implication on the redevelopment potential of the area, and consequently the resulting level of development-associated future investment. The potential social impacts of intensification are likely to vary depending on the specific local neighbourhood, given the variation in the provision of existing and planned infrastructure.

5 Review of social effects

5.1 Urban form

Urban form refers to how communities are designed and structured, the type and location of development, and how areas are connected (Waka Kotahi, 2023). For residential activity, urban form relates to the location, layout, and density of housing in relation to topographical features. A more dispersed urban form is often characterised by low-density housing, single-use zoning, reliance on private vehicles for transport, and the development of productive land (Brody, 2013). Dispersed development patterns see larger distances between residences, jobs and other frequent daily trip destinations. Because low-density areas in general are not well-served by public transport, these distances are more likely to be travelled by private vehicle. This results in more vehicle kilometres travelled (VKT), and subsequently increased air pollution and greenhouse gas emissions. There are also significant costs associated with car ownership, and these costs have increased in recent years. New Zealand retail fuel prices peaked in 2022 (MBIE, 2022) and prices of new cars in New Zealand were up 5% in Quarter 1 2023 compared to the same quarter in 2022 (the highest increase since Quarter 4 2009) (StatsNZ). In 2021, the AA estimated that it costs New Zealanders \$22 per day on average to own and run a small car (AA, 2021). Reliance on private vehicles can also encourage the development of ‘homogenous’ neighbourhoods that lack a mixture of land uses (Song & Knaap, 2004). Despite the problems associated with a more dispersed development pattern, calls for planning authorities to free up land on urban peripheries for residential development to address New Zealand’s housing affordability crisis have been persistent (The Commerce Committee, 2008; The New Zealand Productivity Commission). However, commentators warn that if Aotearoa New Zealand’s cities continue to disperse, the country will struggle to meet its target under the Zero Carbon Act to be carbon neutral by 2050 (Welch, 2023).

5.1.1 Accessibility and connectivity

While once focused around a strong central city, during the 20th century the urban area of Ōtautahi-Christchurch expanded outwards, an expansion that was largely enabled by the change in the dominant mode of transport from foot, bicycle and tram to the private car (Greater Christchurch Partnership, 2021). This, along with the availability of flat land that is easy to subdivide, has resulted in Ōtautahi-Christchurch having a significantly lower population density than other New Zealand cities. The 2018 census found the TAs with the highest population densities to be Hamilton City (1457.9 people/km²), Tauranga City (1011.8 people/km²), Wellington City (699.6 people/km²), Napier City (593.3 people/km²), Porirua City (323.5 people/km²) and Auckland City (318.1 people/km²). Despite Christchurch being the second largest city in New Zealand and the most densely populated TA in the South Island, its density is still considerably lower than its North Island counterparts at 241 people/km² (ehinz, n.d.). However, despite its low density, most housing settlement areas in Christchurch are highly accessible to services. Almost all *Life in Christchurch Housing and Neighbourhoods* survey respondents indicated that they are able to access a park or other open space within 15 minutes by walking (95%) or biking (96%); at least three in five respondents indicated that a supermarket is within a 15-minute walk or bike from them; and over two thirds of respondents are able to access their children’s or their own place of education within

a 15-minute bike ride (Christchurch City Council, 2023). The Council’s Walking Network App data supports these perceptions of accessibility (See Figure 9).

Figure 9: Residential street addresses in Christchurch City within 1km walking distance of services

Service	Number of Residential Street Addresses	Proportion Street Addresses with access
Employment	68,299	42%
Health	105,725	65%
Open Space	160,620	99%
Supermarket	56,698	35%
Education	122,756	75%
Total Street Addresses	163,007	100%

Perhaps due in part to the dispersed development pattern of its urban area, as of 2019, the Canterbury region had the second highest light vehicle ownership rate in the country (after Nelson-Marlborough), with 939 light vehicles per 1,000 people (ehinz, 2021). In contrast, a more compact urban form can make public and active transport more viable and works to limit reliance on cars, simultaneously reducing associated financial and environmental costs. Wellington, for example, as the third most dense city in New Zealand, has the lowest rate of car ownership (681 light vehicles per 1,000 people). Furthermore, a New Zealand study found 58% of householders living in low-density, single-use neighbourhoods travelled by car to their place of work or education compared to 48% of those living in medium-density, mixed-use neighbourhoods and just 35% of those living in high-density, mixed-use neighbourhoods (Saville-Smith, 2017). Comments about public transport from *Life in Christchurch Housing and Neighbourhoods* survey respondents are largely negative, particularly with regards to cost, reliability, and frequency. Many report that while they are open to catching the bus, the city’s public transport system is hard to use which means their private vehicle remains the most convenient mode of transport.

PC14 may enable better access to employment in Ōtautahi-Christchurch’s key centres if intensification occurs around them, which can also create agglomeration benefits where businesses are attracted to busy nodes. Not only does this have positive implications for accessibility, but research has shown ‘job density’ to significantly increase a city’s economic productivity (Salat, Bourdic, & Kamiya, 2017). On the other hand, if development happens sporadically throughout Ōtautahi-Christchurch, agglomeration benefits will not accrue in all centres and there is a risk that public and active transport modes are not well used, reducing their viability and likelihood for improvement (future investment) and causing private vehicles to remain the preferred mode of transport.

The Retirement Commissioner’s three-yearly retirement income policy review warns of a 100% increase in people aged 65 who are unable to own their own home and are subsequently unable to access aged care by 2048 (Bevin, 2022). This highlights the importance of ensuring affordable and easy access to medical centres, shops, libraries, entertainment venues and recreational places for the city’s ageing population, whose daily lives are more likely to take place within neighbourhoods compared to other age groups (Stephens, Birchall, & Thompson, 2021). Research conducted by Age Concern Canterbury identified the region’s gaps in services and activities that help mitigate social

isolation in older people, namely availability of local, neighbourhood-level social activities, and transport that enables access to such activities. Day programmes that were offered by rest homes but closed due to the earthquakes (i.e., Kate Sheppard, Parkwood, Merivale) have not been reinstated elsewhere, and demand for daytime social activities for older people in Canterbury has significantly increased but is not being met (Wylie, n.d.). In their report to the Commission for Financial Capability, the Health and Ageing Research Team at Massey University argue that the social factors and accessibility of neighbourhoods are not currently well-planned for (Stephens, Birchall, & Thompson, 2021). The researchers note that there is potential for a more compact urban form to enhance these aspects of urban living for older people, but argue that a stronger regulatory planning impetus is needed to ensure they will be able to access day-to-day needs.

5.1.2 Infrastructure and service provision

A more dispersed urban form significantly increases per-user costs of providing public services (OECD, 2018). Central and local government invest vast amounts of public money on public infrastructure in urban areas, which includes investment in transport networks, water supply and wastewater reticulation, recreational areas, stadiums, schools, hospitals and universities (Yeoman, 2022). However, for large-scale public infrastructure, the costs of servicing additional people decline with scale, meaning that the costs of meeting needs of existing and future communities decreases as growth is accommodated in the urban area (Yeoman, 2022). A more compact urban form could therefore reduce per-user costs of infrastructure and service provision, potentially resulting in higher-quality services and increased capacity for investment in public spaces (OECD, 2018). However, this relies on planning tools that encourage (rather than detract) growth into areas around centres that have good transport links and public infrastructure capacity (Yeoman, 2022).

MDRS are to be applied by PC14 across the city, irrespective of access to transport corridors and infrastructure capacity. Rather than local planning authorities, the market is likely to increasingly dictate where growth in Ōtautahi-Christchurch will occur (Yeoman, 2022). The government's assessment of the economic impact of MDRS found that MDRS could result in a 100% increase in development activity within an urban area, but that this could increasingly occur in residential areas outside of walkable catchments of public transport and main centres (PwC, 2022). This dissipated development pattern will be difficult to plan for and costly to serve with infrastructure (Yeoman, 2022). A UK-based study found that the deregulation of planning control 'on the ground', while successful in increasing housing supply, eclipsed the need for housing to be in sustainable locations (Ferm, Clifford, Canelas, & Livingstone, 2021). The researchers conclude that this deregulation negatively impacted the ability of the public sector to deliver adequate infrastructure to support the housing growth achieved, which further exacerbated the 'very real' budgetary challenges faced in the context of continued austerity. In the City of Parramatta, Australia, densification has put pressure on existing services and facilities (i.e., increased use of community infrastructure, higher maintenance costs) and Council resources (O'Neill & Fokkema, 2017). This is an important consideration in the context of the significant funding pressure currently being experienced by local government in Aotearoa New Zealand, whose current funding and financing approach (i.e., rates) has been deemed unsustainable in the face of complex wellbeing challenges and community expectations (The Review Panel, 2023). With rates being a cost of home ownership that is passed onto renters, and household living costs on the increase (StatsNZ, 2023), this would

further impact households' ability to maintain and/or achieve a basic level of health and well-being.

Life in Christchurch Housing and Neighbourhood survey respondents express concern around the need for Council and housing developers to strike a balance between access and amenity, and housing supply. That is, many respondents acknowledge the need for increased housing supply, but stress that this needs to be done with accessibility (both in terms of public and active transport) and amenity in mind. Survey comments that mention 'new neighbourhoods' are largely negative, with respondents noting that they are 'car-centric', lack amenities and community spaces, and do little to contribute to the vibrancy of Ōtautahi-Christchurch. Indeed, many respondents living in 'new neighbourhoods' express frustration that they are poorly serviced by public transport, and lack shops, cafes, playgrounds and green spaces. One participant commented that their new neighbourhood "is a pretty barren area for human activities" (Christchurch City Council, 2023). Frequently mentioned 'new neighbourhoods' with access and amenity problems are greenfield developments on the urban fringe of Christchurch City, such as Halswell and Wigram. In contrast, a more compact urban form could see residents having better access and amenity.

5.1.3 Development-related infrastructure

Concerns around the impact of housing intensification on access and connectivity are common amongst *Life in Christchurch Housing and Neighbourhoods* survey respondents, with respondents pointing to the need for adequate investment in infrastructure to mitigate real and anticipated effects of increased traffic congestion, specifically in relation to parking. The NPS-UD requires TAs to remove minimum requirements for car parking from their district plans, which will enable developments to be built without any off-street car parks. This is to enable more development, "particularly in higher-density areas where people do not necessarily need to own or use a car to access jobs, services, or amenities" (Ministry for the Environment, 2020, p. 1), leaving the availability of parking to be decided by market demand. A lack of off-street parking in densified neighbourhoods is a cause of concern for *Life in Christchurch Housing and Neighbourhoods* respondents, however, with one noting that "[lack of] parking is becoming a neighbourhood problem not a development solution". Respondents observe that 'intense' residential parking on the street has caused roads to be 'clogged' and difficult to navigate on foot, by bike and by car. An Auckland study exploring the perceptions of residents living near a medium-density housing development compared perceptions pre- and post-occupation, and found that, while the majority of fears were not realised, inadequate parking remained a concern and developments with internal access to parking were praised (Opit, Carroll, & Witten, 2020). In addition, *Life in Christchurch* survey respondents often point out that car-based travel will remain important for some segments of the community; for example, parents require a car to take their children to after-school activities and people with disabilities are unable to use active transport. This research highlights that while a more compact urban form has the potential to reduce car dependence, there is a need to ensure residents of densified areas have alternative ways of travelling to jobs, services and amenities to maintain liveability. It may also be necessary to plan for car ownership (particularly for EVs) and adequate storage facilities in order to deliver quality higher-density living environments.

5.2 Social equity

Central government has posed increasing housing supply through intensification as a strategy to increase affordability, but research warns that accelerating market-based housing supply has the potential to reproduce the status quo (Wetzstein, 2022). This is because there is a risk that the market will not provide for low- and modest-income households (Mitchell, Saville-Smith, & James, 2021); medium-density housing of the kind currently being provided by the market is preferred by those who desire a low-maintenance home that allows them to engage in other interests (Ancell & Thompson-Fawcett, 2008; Cheshire, Fitzgerald, & Liu, 2018). Christchurch-based research has found that private developers construct dwellings with a narrow set of needs in mind (i.e., those of retirees or young professionals) and do not provide for other demands that exist in the market (Ancell & Thompson-Fawcett, 2008; Schmidt, 2021). Most existing dwellings and new builds in Ōtautahi-Christchurch are not suitable for ageing in place or for people with mobility or sensory limitations (Mitchell, Saville-Smith, & James, 2021). The current housing stock is also inappropriate for households wishing to live intergenerationally; Mitchell, Saville-Smith and James (2021) note a supply-side ‘preoccupation’ with three-bedroom homes in suburban areas, which they see as contributing to an under-utilisation of housing stock. This ‘preoccupation’ has meant that households wishing to downsize are unable because alternatives are not available and the price of smaller homes are not affordable for low- and modest-income households.

As shown in Figure 10, high numbers of 2-person households in Christchurch City are occupying 3 and 4-bedroom homes. *Life in Christchurch* survey results also suggest a demand for additional storage. While the majority of *Life in Christchurch Housing and Neighbourhoods* respondents (65%) said that they used their garage mainly to store motor vehicles, there were significant differences across age groups. Those aged 25–49 years were significantly more likely to use their garage as additional storage space – either for recreation items or as general household storage. Those aged 35–49 years were also more likely than other age groups to use their garage as an office, laundry, play room, or other type of additional room. Mitchell, Saville-Smith and James (2021) conclude that housing need in Ōtautahi-Christchurch cannot be met by building new homes without concern for affordable price points or whether they can cater to people of all ages and life stages.

Figure 10: Number of bedrooms versus usual residents Christchurch City (2018 Census)

Number of bedrooms	Number of residents							
	1	2	3	4	5	6	7	8 or more
1	501	248	30	15	9	0	0	0
2	1356	1212	282	105	30	12	0	0
3	1728	3948	1539	1263	324	84	15	9
4	609	2580	1212	1719	762	222	54	24
5	69	360	186	282	249	117	33	18
6	9	42	36	36	42	33	27	12

Data source: StatsNZ

Another issue of social equity to consider is that market-based housing supply policies can result in processes of gentrification and displacement. In the absence of targeted development and intensification by local authorities, the market could direct intensification towards sites that currently house lower-income groups (Naismith & Murphy, 2023; Trambley, 2020; Soederberg,

2021). Research has explored gentrification and densification as connected processes that occur when large-scale property developers build higher-density housing for the professional middle-class (Cheshire, Fitzgerald, & Liu, 2018). This research has linked intensification policies to gentrification in Sydney, Australia (Bounds & Morris, 2006) and Oslo, Norway (Cavicchia, 2022). It has been argued that the desire for economic growth, increases in population, and efforts to contain the dispersed urban form has resulted in gentrification of Auckland's inner city areas through the construction of multi-unit dwellings targeted at a "trendy, upwardly mobile, youthful and cosmopolitan population" (Murphy, 2008, p. 2530). This comes at the expense of existing residents who are forced to relocate elsewhere, potentially impacting on their ability to access housing, education and employment. Research also suggests that gentrification could have negative effects on social cohesion in the context of densification, with a lack of interactions observed between 'gentrifiers' and existing low-income residents (Butler, 2003; Watt, 2009), as well as an increase in the range of neighbourhood tensions beyond noise complaints (i.e., problematic building developments, vegetation, parking, pets) (Cheshire, Fitzgerald, & Liu, 2018). Perceptions of inequality between low-income groups and their more affluent neighbours have also been identified as a source of tension in gentrified neighbourhoods (Nieuwenhuis, et al., 2017). Processes of gentrification and displacement mean that possible adverse impacts of housing intensification will vary across the city.

The social equity implications of housing intensification have been raised as a concern by community groups in public consultation on PC14, particularly those serving Christchurch's Inner City East (ICE) where some of the city's most deprived communities are located. These groups see the ICE of Ōtautahi-Christchurch as an important location for affordable housing due to its accessibility to services, and good access to the central city. However, a number of submissions on PC14 expressed concerns around the potential impacts of intensification policies on ICE communities. Te Whare Roimata, a community organisation that works with ICE and Urban Māori communities, argues that while housing intensification that is already underway in the ICE may have increased the city's supply of housing, it has limited housing choice for low-income earners who are consequently forced to either compete for available affordable housing, or leave their neighbourhood and hence their support networks (i.e., become displaced). It is in this context that Te Whare Roimata concludes the benefits of housing intensification are not equally shared amongst the city's residents. Therefore, if developers are not incentivised to build affordable housing, the market-led planning approach underpinning PC14 may not improve the choice and affordability of housing for the city's most vulnerable residents.

5.3 Health and wellbeing

1.1.1 Physical health

Research has demonstrated a link between urban form and public health (Giles-Corti, Ryan, & Forster, 2012). While a more dispersed development pattern has been associated with lower levels of physical activity and higher prevalence of obesity and hypertension (Ewing, Schmid, Killingsworth, Zlot, & Raudenbush, 2003), higher-density environments have the potential to better enable and encourage walking, active transport and physical activity (Cervero & Kockelman, 1997; McCormack & Shiell, 2011). Saville-Smith's (2017) study found 37% of householders in high-density, mixed-use neighbourhoods and 23% of householders in medium-density, mixed-use

neighbourhoods walk or cycle to their place of work or study compared to just 12% of those in both medium-density, non-mixed use neighbourhoods and low-density, non-mixed use neighbourhoods. Indeed, increased land-use mix has been associated with a reduced likelihood of obesity, regardless of gender or ethnicity (Frank, Andresen, & Schmid, 2004). This suggests that the physical health benefits of a more compact urban form are largely dependent on ‘good planning’ (Kent & Daley, 2015; Forsyth, Oakes, Schmitz, & Hearst, 2007) and well-functioning urban environments. Mixed-use neighbourhoods have shorter distances and more direct routes between destinations (i.e., work, home, school), and are interspersed with shops, services, schools and green spaces (Kent & Daley, 2015). In addition, active transport options must be safe, comfortable and accessible; higher-density housing must be built in close proximity to public transport networks, jobs, schools, shops, services, open space and active transport infrastructure; and green spaces must be well-maintained (Kent & Daley, 2015). Research has also identified some negative physical health impacts of higher-density living. These include respiratory conditions, cardiovascular mortality and cancer resulting from increased exposure to pollution (related to traffic congestion) and poor indoor air quality (Udell, Daley, Johnson, & Tolley, 2014; O'Neill & Fokkema, 2017). At the time of writing, there is scant research documenting the direct physical health impacts of medium-density living environments specifically.

5.3.1 Emotional reactions and place-based attachments

Research demonstrates a link between the built environment and people’s social, emotional and subjective wellbeing (Mouratidis, 2020; Mouratidis, 2021; Woolcock, Gleeson, & Rand, 2010; Roberts, Sadler, & Chapman, 2019). With regards to housing intensification, research has shown the process to evoke insecurity, fear, anger and sadness over lost homes or changes in place identities (Skrede & Andersen, 2022). Resistance to housing intensification is more complex than ‘NIMBY-ism’ (Not In My Backyard), a concept popularised by the media (Opit, Carroll, & Witten, 2020), which reduces opposition to narrow-mindedness, self-interest, and ignorance (Devine-Wright, 2009). Research suggests that local opposition is instead a form of place-protective action that residents take when housing intensification threatens emotional attachments and place-related identities (Devine-Wright, 2009). Another factor to consider is that homeownership is generally the most significant asset for households and is therefore associated with a strong defence of its value, resulting in homeowners being likely to have concerns around land-use changes (Navarrete-Hernandez, Mace, Karlsson, Holman, & Alberto Zorloni, 2021). Australian research has documented the resistance of owner occupiers in densifying areas to what they see as a threat to local amenity and liveability (McCrea & Walters, 2012), to their attachments to ‘home’ (Cook, Taylor, & Hurley, 2013), and to the generation of symbolic capital in the form of the heritage and character of the local area (Walters & McCrea, 2013).

Fear of ‘what will be built next door’, and the impact this will have on their privacy, sunlight access and wealth (i.e., property values) is common amongst PC14 submitters. Some PC14 submitters also express concern around the potential of MDRS to make all areas of the city ‘the same’ in terms of identity, housing typologies, and loss of trees. This is a valid concern, considering research has shown homogenous housing stock to impact on the adaptability and long-term viability of neighbourhoods (Mitchell, Saville-Smith, & James, 2021). The ‘vibrancy’ and unique character of Ōtautahi-Christchurch under PC14 is called into question by *Life in Christchurch Housing and*

Neighbourhoods survey respondents as well, with some worried about what intensification would mean for the ‘Garden City’ and residents’ ability to grow their own vegetables. When asked which features are important when thinking about the type of neighbourhood they would like to live in, 62% of respondents selected the character of the neighbourhood. This was selected more often than other aspects of a well-functioning urban environment, including access to safe transport options (44%), access to health care and other services (41%), and availability of affordable homes (28%). The blanket application of MDRS through PC14 throughout the city, as previously discussed, will see the market dictate which areas of the city are to be intensified, therefore restricting the ability of local planning authorities to design communities in a way that protects neighbourhood adaptability and viability, as well as residents’ place-related identities and attachments.

Uncertainty about proposed plan changes and intensification policies can also cause stress and social division. Community acceptance or resistance has been shown to be in part dependent on perceptions of the ‘types’ of people who might move into new housing developments (Opit, Carroll, & Witten, 2020). However, community members’ perceptions about proposals can vary over time. An Auckland study found anticipated issues did not materialise; interactions between existing and new neighbours were minimal; and problems with residents of Kāinga Ora developments were less than expected (Opit, Carroll, & Witten, 2020). Research has also found residents’ perceptions of planning approaches, specifically whether they are viewed as fair and transparent, to play a significant role in community acceptance of housing intensification (Dolan, 2018; Ruming, 2014; Davidson, Legacy, Liu, & Darcy, 2016). Mechanisms for community agency in this space include Neighbourhood Plans and Long Term Plans, whereby communities and Councils can work closely together to enable quality urban environments and mitigate potential adverse impacts of higher-density development.

5.3.2 Social conflict, cohesion and connection

Many *Life in Christchurch* survey respondents indicate their desire for a strong sense of community, diverse and cohesive communities, and a wide range of engaged community groups. However, community organisations have expressed concern in PC14 submissions that “pitting the have’s against the have-not’s” is already leading to a shift in power dynamics of ICE neighbourhoods that are experiencing intensification, which brings the potential for tension and conflict around different lifestyles and perspectives. This is echoed by some PC14 submitters and *Life in Christchurch* respondents, who fear MDRS will negatively impact the ability of people to live ‘healthily’ and ‘harmoniously’ next to one another if they do not share the same values and ways of living. This is supported by research that shows social connection in higher-density environments to be primarily among those who consider themselves to be similar at the expense of those ‘othered’ in the process (Cheshire, Fitzgerald, & Liu, 2018). While the master-planning of communities and developments has potential to create opportunities for social connection in the form of shared spaces and communal areas (Mellen & Short, 2023), some PC14 submitters and *Life in Christchurch* survey respondents are concerned MDRS applied through PC14 could negatively impact the quality of residents’ social interactions.

Social conflict in higher-density environments does not arise wholly from density or proximity-related factors (i.e., noise, privacy issues). Research shows conflict in higher-density environments to be more likely based on tenure and typically to occur between renters and owner occupiers

(Baker, 2013). Indeed, *Life in Christchurch* survey respondents often criticise the more transient renters in their neighbourhood, particularly with regards to care and maintenance of properties and a perceived lack of participation in the community. Effects of density on social interaction can also depend on gender and employment status of residents, with men and full-time workers more likely to record no social interactions in their neighbourhood than other residents (Van den Berg, Kemperman, & Timmermans, 2014). Another way in which density has been found to influence social cohesion is through the influence of bodies corporate and owners' corporations in multi-unit housing developments. This privatised governance is causing a shift in the nature and extent of neighbour sociality towards one that is depersonalised and structured by rules (Cheshire, Fitzgerald, & Liu, 2018). Research has revealed a strong correlation between elements of residential design and residents' perceptions of their neighbours' behaviour, particularly in terms of anti-social behaviour and activity, in high-density environments (Yau, 2018). Layout, building height and access to the outside in communal areas have been found to reduce resident perceptions of anti-social behaviour severity (Yau, 2018).

Households in high-density, mixed-use and medium-density environments are less likely to find neighbourhoods friendly and less likely to have a sense of attachment to the neighbourhood when compared to those in low-density neighbourhoods (Saville-Smith, 2017). Some research has found a negative relationship between urban density and sense of community (Douglas, 2022); and it is well documented that residents interact less frequently, build fewer relationships, and experience increased feelings of territoriality and social isolation in high-density environments (Mellen & Short, 2023; Mousavinia, 2022; Nguyen, van den Berg, Kemperman, & Mohammadi, 2020). This can be detrimental for residents of higher-density neighbourhoods because social contact is critical for general wellbeing. This is particularly the case for older people, for whom neighbourhood social cohesion has been shown to predict quality of life (Stephens, Szabo, Allen, & Alpass, 2019; Stephens, Allen, Szabo, & Alpass, 2020), physical, mental and social health (Stephens, Szabo, Allen, & Alpass, 2019), and be more strongly related to loneliness than individual and social participation (Stephens, Phillips, Allen, Beagley, & Alpass, 2019). On the other hand, The Healthy Higher Density Living Survey, which aimed to gain insight into the experiences of residents living in the higher-density City of Parramatta, found respondents living in apartment buildings up to three-storeys high to be the more likely than other respondents to report that they had enough social interaction (O'Neill & Fokkema, 2017). This was due to the opportunities for social interactions in communal facilities and building entrances, which points to the role of design in enabling social connection in high-density living environments.

5.4 Environmental aspects

5.4.1 Sunlight

Health and well-being is also impacted by environmental aspects that change as an area is densified. The amount of private open space around buildings is one of the features most impacted through intensification of a site and neighbourhood. This impact is more pronounced when an area transitions from a low-density environment to the enable high-density development. This step change is significant compared to an area that is already developed for medium-density living (dominated by townhouses) and transitioning to apartment typologies.

Research has drawn attention to concerns amongst Christchurch-based planners around the impact of MDRS on the vertical dimension of built form, the most significant being the impact on residents' sunlight access (Austin, 2022). This potential issue is evident when comparing how MDRS will apply in Christchurch and Auckland, with the sun being at a lower angle in the former due to it being at a different latitude to the North Island, resulting in reduced hours of sunlight and lower sun angles. This means that applying the same recession planes in Christchurch would have greater impacts on shading, with the lower angle of the sun meaning that shade is more extensive. A Christchurch study highlighted the extent to which planners perceive vertical aspects of built form to impact the quality of living spaces, with poorly designed medium-density housing in Christchurch posing risks to the quality of living spaces in relation to loss of sunlight (Austin, 2022). Opit, Carroll and Witten's (2020) study found existing residents' concerns around anticipated loss of sunlight to remain after neighbouring medium-density developments were completed. The amount of light entering a home has been found to significantly affect occupants' emotional wellbeing; maximising the amount of natural light entering the home through increased space between dwellings and larger, sun-facing windows has shown to improve emotional wellbeing, particularly for women and young people (Morales-Bravo & Navarrete-Hernandez, 2022). Recognising the importance of ensuring sunlight access in residents' homes, Christchurch City Council is proposing the Sunlight Access Qualifying Matter, which would reduce the recession plane angle to 4 metres at 60 degrees.

5.4.2 Privacy

Privacy plays an important role in the health and wellbeing of residents and impacts on quality of life (Tomah, Ismail, & Abed, 2016). Living in a space that feels private allows occupants to engage in activities that are crucial for health and wellbeing, such as personal, cultural and religious practices, and those that enable occupants to connect with each other (Willems, De Smet, & Heylighen, 2020). Without privacy, a home can feel unsafe and insecure; a private home is a place of retreat and relaxation (Easthope, 2004). Privacy is a key concern for respondents of the *Life in Christchurch Housing and Neighbourhoods* survey. When asked whether there was anything that would make them consider living in a terraced home in the future, privacy between neighbours was the most commonly selected option (after 'nothing'), with 35% indicating privacy would influence their decision. This was also the case when respondents were asked if there was anything that would make them consider living in a low-rise apartment building (31% indicated privacy would be the most influential factor). In Opit, Carroll and Witten's (2020) study of medium-density housing in Auckland, impacts on existing residents' privacy (i.e., new residents of medium-density housing having direct line of sight into neighbouring living spaces) remained a concern after occupation. Research suggests that if high levels of 'spatial flexibility' are embedded in masterplans and home layouts, residents of higher-density housing developments are able to adjust the spatial layout of their home in a way that enhances privacy and ultimately quality of life (Obeidat, Abed, & Gharaibeh, 2022). However, as it stands, PC14 cannot directly influence the privacy of housing developments. If PC14 does not include design guidelines, then the benefits of careful management and design are lessened, and will be solely at the determination of the designer and developer. Cost and feasibility are also key determinants of the quality and layout of a development.

5.4.3 Tree canopy

The impact of housing intensification on the tree canopy of urban landscapes is a pressing environmental issue and has been observed in densified cities worldwide. Trees are critical in urban landscapes for their capacity to regulate temperature, manage stormwater, filter air and provide habitats (Parliamentary Commissioner for the Environment, 2023). In a recent report from the Parliamentary Commissioner for the Environment, trees are described as ‘vital urban infrastructure’ and a key factor in ensuring cities are liveable as the climate changes. While threats to cities of hotter and wetter climates can be combatted through more air-conditioning and stormwater infrastructure, greener urban areas can reduce climate vulnerability in ways that also bring biodiversity, recreational and wellbeing benefits (Parliamentary Commissioner for the Environment, 2023). Both infill development (the conversion of gardens and sections into houses and driveways) and the development of new subdivisions are driving the decline of urban green space. While the Commissioner’s report acknowledges the economic and environmental benefits of intensification, it notes that the predominant style of infill townhouse development is putting pressure on existing networks of urban green space; and lawns are not being replaced with public green space by Councils (Welch, 2023). The report highlights the difficulty of ‘retrofitting’ green space into existing neighbourhoods and the importance of providing nearby public greenspace at the outset in order to make cities both liveable and resilient.

In Ōtautahi-Christchurch, trees serve to reinforce the city’s identity as the Garden City (McDonald, 2023), and *Life in Christchurch* survey results show having gardens and space to grow food is important to residents. Street trees and gardens is the second most important neighbourhood feature for *Life in Christchurch Housing and Neighbourhoods* respondents after safety (Christchurch City Council, 2023). This sentiment has grown stronger since 2020, with 67% rating this as an important feature in 2023 compared to 57% three years previously. Concerns about the impact of housing intensification on the city’s tree canopy is common amongst respondents. Comments not only refer to the tree canopy as being important for aesthetic reasons, but also for shade and ground protection, food security, mental health, and bird and insect life. These concerns come from residents observing and/or anticipating the removal of existing trees for housing developments, as well as those living in newer neighbourhoods that they perceive as lacking trees. A recent report to the Christchurch City Council found Halswell (9.81%), Linwood (8.92%) and Hornby (6.51%) to have the lowest tree canopy cover of all wards in Christchurch (Morgenroth, 2022). Tree cover mapping commissioned by Christchurch City Council found the city’s tree cover to be 14%, which is lower than Auckland (18%) and Wellington (30%) (Christchurch City Council, 2022; RNZ, 2022). In the new Ōtautahi-Christchurch Urban Forest Plan, Christchurch City Council outlines a direction and priority for extending and protecting the city’s tree canopy over the next 50 years (Christchurch City Council, 2023). The Council is also proposing that developers either pay Financial Contributions, which will be put towards tree planting, or plant or retain trees on their site.

6 Conclusion

6.1 Summary of social effects of housing intensification

The intensification policies of PC14 that will give effect to Policy 3 of the NPS-UD have the capacity to increase housing supply, which could ease housing supply constraints and price pressure. More generally, PC14 will help bring about a more compact urban form, mitigating the effects of its historically more dispersed development pattern and low density (i.e., reliance on private vehicles, use of productive land), and enabling better access to amenities and services. While the benefits of housing intensification are evident, there is a need to consider the possible social impacts of intensification that is not ‘done well’ (Muir, 2022), especially from within the unique context of Ōtautahi-Christchurch.

A lack of targeted investment and development in areas suited to intensification could result in growth occurring outside of walkable catchments of public transport and main centres and unwittingly direct it toward areas that do not have sufficient infrastructure capacity. Central government has also directed the removal of minimum carparking requirements while simultaneously restricting the ability of Councils to direct development into areas that have good access to infrastructure and services. A lack of targeted investment could see residents throughout the city face connectivity and accessibility issues, and further increase the financial pressure on Councils to provide infrastructure and services. This is of particular concern in the context of an ageing Ōtautahi-Christchurch population as well as within the wider context of mounting pressures on local government to continue to meet the expectations of residents in a difficult economic environment.

By increasing housing supply and subsequently reducing the cost of housing, the intensification policies of PC14 could have positive social equity effects. However, research suggests that this is largely dependent on the extent to which the market can provide a diversity of housing typologies suited to a range of social groups. Both within Aotearoa New Zealand and internationally, commentators have expressed concern that housing intensification policies, while ultimately increasing housing supply, might not do this for all and could negatively impact housing choice for society’s most vulnerable groups. The production of affordable and suitable housing is critical. Moreover, processes of gentrification and displacement have been linked to the deregulation of housing supply in international studies and are becoming a cause of concern amongst community groups serving Ōtautahi-Christchurch’s more vulnerable communities in the ICE. Research suggests that without local area planning or targeted investment, housing intensification policies will not have the positive social equity effects that NPS-UD intends in all communities and across all areas of the city.

Housing intensification is a contentious issue; through PC14 submissions and the *Life in Christchurch* survey series, Ōtautahi-Christchurch residents are exhibiting the complex resistance to housing intensification put forward in the literature. While many appreciate the city’s need for more affordable housing options, the impact that intensification policies could have on their privacy, sunlight access and wealth (i.e., property values) are a cause of great concern. More complex than ‘NIMBY-ism’, which defines resistance in self-interested terms, resistance to housing intensification is a form of place-protective action taken to preserve emotional attachments and

place-related identities. Ōtautahi-Christchurch has the added complexity of being a post-earthquake city that has experienced the loss of many heritage buildings and whose long-term residents are uncomfortable with high-rise buildings. The city has long been known as the ‘Garden City’, and residents pride themselves on their gardens and ability to grow their own food. Research has indeed shown housing intensification to evoke fear, anxiety and insecurity over changes in place identities. However, research has also shown anticipated effects to be less than real effects, and the extent to which planning processes are seen as trustworthy and transparent play a key role in community acceptance of housing intensification.

In general, higher-density living is associated with a reduced sense of community and poorer social cohesion when compared to low-density living, although it is important to note that research into medium-density environments specifically is lacking. Ōtautahi-Christchurch has an aging population and gaps in services that mitigate social isolation in older people have already been identified. In the wider population, social conflict between neighbours in higher-density environments has been shown to be based on differences such as tenure rather than typical proximity-related factors (i.e., noise, privacy); and social connections are likely to be formed on the basis of perceived similarities at the expense of those ‘othered’ in the process. Indeed, some *Life in Christchurch* survey respondents and PC14 submitters are fearful that MDRS will negatively impact their ability to get on with their neighbours and their ability to choose where to live on the basis of shared values and lifestyles. On the other hand, diversity is understood by many to be an important and desirable community feature.

Common concerns amongst *Life in Christchurch* survey respondents and PC14 submitters relate to the impacts housing intensification will have on their physical environment, namely their sunlight access and privacy, and the city’s tree canopy. Research shows all three elements to be important for health and wellbeing. The amount of sunlight entering a home has a significant effect on occupants’ emotional wellbeing, which is important to consider in the context of Ōtautahi-Christchurch’s low sun angles. Sunlight access may also impact on the ability of the city’s residents to grow their own food and maintain their gardens, both valued practices in the ‘Garden City’. The privacy of a person’s home also plays a critical role in their health and wellbeing and is a key concern for respondents of the *Life in Christchurch Housing and Neighbourhoods* survey. Research shows this concern to endure for neighbours after nearby medium-density developments are occupied. The city’s tree canopy is perhaps the most pressing concern, however, due to its multi-faceted role in reinforcing the city’s identity, reducing climate vulnerability and supporting residents’ wellbeing. Protecting the tree canopy whilst increasing housing supply is a priority for the Council, which is proposing developers pay Financial Contributions towards mitigating the loss of the tree canopy (otherwise they must retain or plant trees on their site).

6.2 Recommended future pathways

Whilst Councils have a range of tools available to facilitate quality urban environments, those having the most tangible impact involve increased infrastructure investment and neighbourhood improvements. These actions sit outside of the District Plan, principally requiring decisions under the Long Term Plan. Local Councils can have a leading role in supporting local area planning and community engagement processes, particularly for those areas proposed and expected to face the greatest transition to higher-density living. Addressing social issues involves a multi-faceted and

cross-organisational approach, particularly across Crown agencies. An important next step will be to engage on this report with the community and key stakeholders, particularly those with the tools and mechanisms available to address social impacts and achieve positive tangible outcomes (beyond just setting policy direction).

The upzoning of urban residential areas and subsequent building of medium and high-density housing have been promoted as an antidote for Aotearoa New Zealand's housing affordability crisis and a way of compacting its cities in order to decrease the environmental impacts of its growing urban populations. However, affordable housing advocates are beginning to question the premise that accelerating market-based housing supply alone will bring more equitable housing options for all. The ability of intensification to enhance housing affordability for all is dependent on a combination of factors beyond increasing supply, including market demand, local context and housing typologies. Overall, the intended benefits of housing intensification could be achieved through a diversity of building typologies and price points being made available in sustainable locations.

However, if housing intensification is not 'done well' (Muir, 2022) through engagement with communities, involvement of local planning authorities, and targeted and equitable investment, it could exacerbate the social issues related to intensification identified in this review. These include increased financial pressure on Councils to provide additional services and infrastructure (including green streets and open spaces) in an already uncertain and difficult economic environment; reduced accessibility and connectivity for residents of intensified areas outside of walkable catchments; displacement of Ōtautahi-Christchurch's most vulnerable residents; reduced sunlight access and privacy of homes, and removal of trees that provide vital urban infrastructure in the context of climate change. These possible detrimental effects are largely related to the quality of the urban environment. Therefore, while the benefits of intensification are overall greater than an alternative of continued unmet housing needs and a more dispersed urban form, local area planning and investment, and on-going but more locally focussed community engagement, will be of the utmost importance to ensure the social sustainability of housing and liveability of Ōtautahi-Christchurch.

On-going research and monitoring of urban environments, as well as aligning urban and social indicators to track changing community perceptions and preferences, is equally important for building the evidence base for change and action. Working with housing developers and providers will also be increasingly important, particularly to test housing typologies that might better meet demand and help realise the full benefits of intensification. This will ideally result in a smoother transitioning of existing neighbourhoods to denser but quality living environments that are pleasant and safe to reside within.

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