

**BEFORE INDEPENDENT HEARING COMMISSIONERS
IN CHRISTCHURCH**

TE MAHERE Ā-ROHE I TŪTOHUA MŌ TE TĀONE O ŌTAUTAHI

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the hearing of submissions on Plan Change 14 (Housing and Business Choice) to the Christchurch District Plan

**STATEMENT OF PRIMARY EVIDENCE OF NICOLA HELEN WILLIAMS ON
BEHALF OF CHRISTCHURCH CITY COUNCIL**

URBAN DESIGN

**COMMERCIAL CENTRES – CENTRAL CITY (EXCLUDING CCZ) AND
SUBURBAN**

Dated: 11 August 2023

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EXECUTIVE SUMMARY

1. My full name is **Nicola Helen Williams**. I am employed as a Senior Urban Designer at the Christchurch City Council.
2. I have prepared this statement of evidence on behalf of the Christchurch City Council (the **Council**) in respect of the matters arising from the submissions [and further submissions] on Plan Change 14 to the Christchurch District Plan (the **District Plan; PC14**).
3. The scope of my urban design evidence includes recommendations for the Central City Mixed Use Zone (**CCMUZ**) and the Central City Mixed Use Zone - South Frame (**CCMUZ(SF)**), which I discuss in Part 1 of my evidence.
4. Part 2 includes a discussion and recommendations for the Mixed-Use Zone (Sydenham), the Large Town Centres of Riccarton, Papanui and Hornby, as well as brief recommendations for the Large Local Centres of Church Corner, Merivale and Sydenham given the proposed post-notification increase in height in those centres from 14 metres (Operative) to 22 metres.
5. A summary of the key points relating to **Part 1** is set out below.

CCMUZ

6. I have considered the relativity question of building heights in the adjacent Residential High-Density Precinct (**RHDP**), which wraps around the northern half of the City Centre Zone (**CCZ**). However, in response to submissions and in light of the larger urban blocks and site plots in the CCMUZ and the generally lower level of street and open space amenity in this zone, and to reinforce the primacy and distinctive height limit of the CCZ, I recommend that heights in the following areas of the CCMUZ be lifted from 21 metres to a maximum height of 32 metres:
 - (a) the 40-hectare South City area (see Figure 2 below); and
 - (b) the 7-hectare sites north of Salisbury Street, bound by Madras and Manchester Streets.

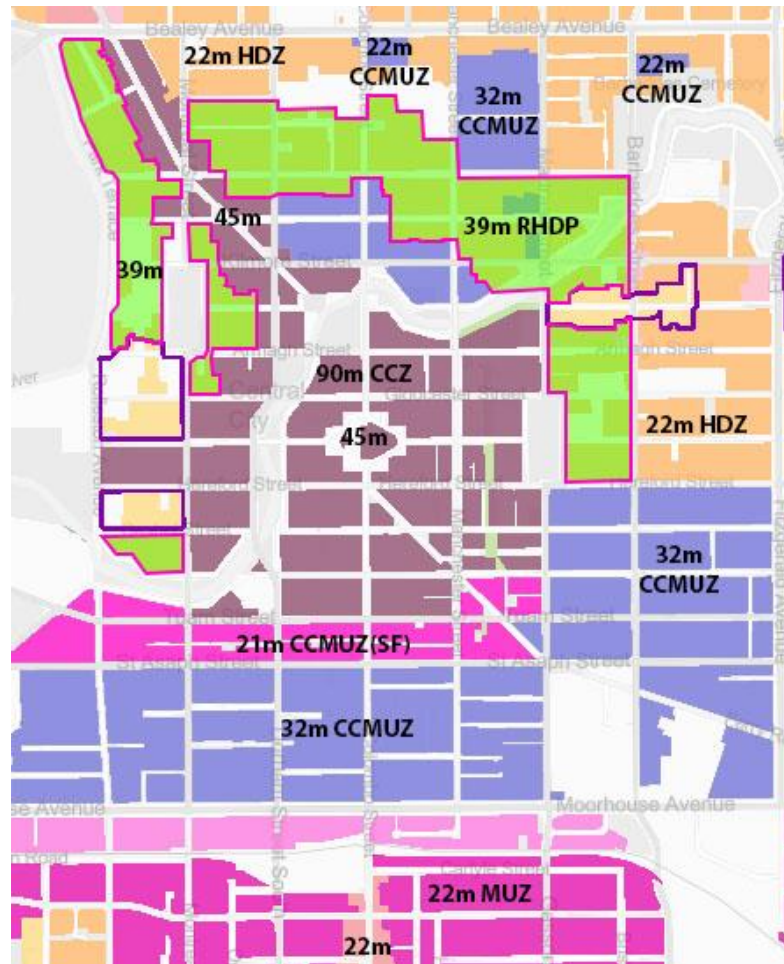


Figure 1– Updated Central City map illustrating the recommended uplift in height in the CCMUZ areas to 32m (purple shade) with the exception of the Bealey Avenue properties, as well as the recommended retention of 21m height limit in the CCMUZ(SF).

7. In elevating these additional areas up to a maximum height of 32 metres, I strongly recommend that the 45-degree setback above the 17m base Road Wall Height (base building) be retained to mitigate a number of solar access and bulk issues arising in these areas in particular, as well as elsewhere throughout the CCMUZ. These include:
 - (a) The often-narrow street widths of east-west sites in the CCMUZ e.g. Aberdeen Street ranges from 8 to 12 metres wide, rather than the typical 20 metres, which makes these streets and sometimes land parcels on the south side more sensitive to being in shadow for longer extents of the year. Please also refer to **Figure 2** which illustrates the width of the streets in the South City Precinct;

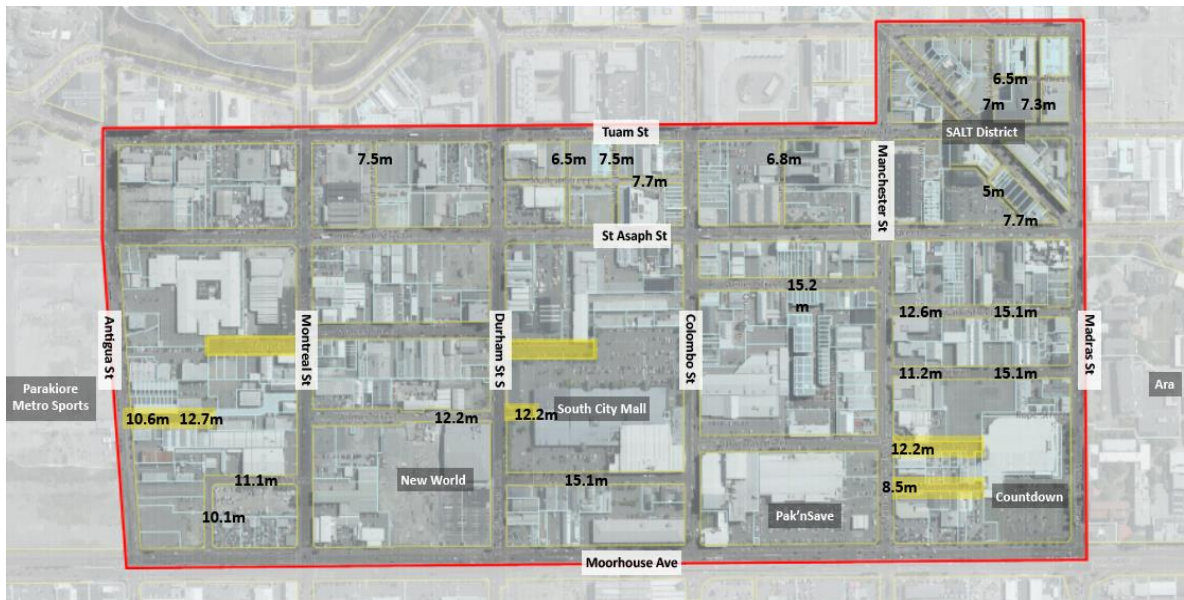


Figure 2 – Street Width Analysis of the 40-hectare South City precinct (CCMUZ & CCMUZ(SF)) between Antigua, Madras, Tuam Streets and Moorhouse Avenue. Numbers in red indicate street width and yellow highlight indicates existing dead-end streets. This results in larger block perimeters (circumference) which in turn reduces the convenience and safety of active modes of transport (see definition of a well-functioning urban environment (**WFUE**)).

- (b) The South City area includes a number of blocks which have dead end streets, resulting in block perimeters of over 800-metres (circumference of all sides). For this area to become a well-functioning urban environment, walkable blocks of 600 metres¹ should be developed to provide convenient access to activities via active transport modes. It is also recommended outside this process that the South City area be identified for the next round of funded Area Planning².
- (c) The current lack of street trees, dominance of carparking and/ or streetscape amenity (i.e. footpaths on one side only) within the CCMUZ. This reduces the experience of walking and using active transport along these streets to move around and may further

¹Create a permeable block layout with block dimensions ranging from 120 m to 240 m long and 60 m to 120 m wide. **Tip:** a block perimeter of around 600 m provides for good pedestrian and vehicular access and an efficient subdivision pattern of the block. Smaller blocks may be appropriate in more intense urban areas. <https://www.planning.vic.gov.au/guides-and-resources/guides/urban-design-guidelines-for-victoria/urban-structure/urban-structure-principles>

² [Area Plans : Christchurch City Council \(ccc.govt.nz\)](https://www.ccc.govt.nz/area-plans)

reinforce a car-use and accommodating cars on redevelopment sites.

- (d) Acknowledgement that CCMUZ sites are larger (often around 1 hectare on the outer edges of the zone), wider and that the development envelope in these areas are generally bulkier given the longer lengths of building along street frontages and near internal boundaries.
 - (e) In responding to submissions requesting the minimum six storey (21m) height be adopted, I recommend retaining the operative height as the building base of 17 metres. However, in terms of coverage, I recommend that sites with no onsite carparking proposed, that the maximum coverage could be increased to 60% (from 50%). This provides greater floor area at lower levels, as well as aligns with the same standard as the high density residential zone (**HRZ**) adjacent.
8. Excluded from the CCMUZ elevation to 32 metres are the following smaller clusters of CCMUZ sites be retained at 21 metres, to align with the comparable lower height areas within the HRZ given their immediate boundaries:
- (a) 400-404 Barbadoes Street (Amuri Park Lane); and
 - (b) Sites on the corner of Bealey Avenue and Colombo Street including:
 - (i) Colombo Street;
 - (ii) 904-918 Colombo Street; and
 - (iii) 148-164 Bealey Avenue.

CCMUZ (South Frame)

9. Pūtahi Whakatetonga, the South Frame,³ includes a highly invested medium-scale urban structure with a highly walkable network of 6-7-metre-wide laneways. The four great yards (Kahikatea, Mollett, Evolution and Innovation) were designed post-quakes as part of the Blueprint to secure solar access for most of the year. Additionally, a co-design

³ [South Frame Laneway Development | Rau Paenga](#)

process with (then) Matapopore⁴ realises the importance of the area through the development of the cultural narrative, and the associated theming of the areas (including native planting, rain gardens) to showcase the significance of each area. The slow shared space design along the Greenway and lanes provides interesting and safer routes for people on foot, cycle and scooter through the South Frame. Overall, the qualities of this area directly align with the outcomes listed in the definition of a Well-Functioning Urban Environment (WFUE)⁵.

10. The South Frame also provides an important open space to offset the CCMUZ uplift in almost all areas to 32 metres. This is important for the southern parts of the Central City (CCMUZ) which often do not have good access to green space or high-quality public space. Additionally, selected areas of High Street in this zone have an operative height of 13-metres, so a 21-metre height is considered an appropriate increase (if managed above road wall heights) for this area.
11. In light of the factors above, as well as in response to submissions, I strongly recommend that the South Frame between Tuam and St Asaph Streets be maintained at its Notified PC14 height of 21 metres (six storeys).
12. The exception to this 21-metre height are the sites within the block bound by Manchester, Lichfield, Madras and Tuam Streets, which do not front High Street as their legal street address. These sites currently exhibit a 28-metre height limit so elevating up to 32 metres is negligible and appropriate, given the proximity to Te Kaha.



Figure 3 - Landscape Plan Matai Common (20m deep) in the CCMUZ(SF), one of the four 'great yards' with sufficient width and

⁴ [Matapopore Charitable Trust |](#)

⁵ [Well-functioning-urban-environments.pdf](#)

corresponding recession planes to provide a high level of sunlight into the yard between mid-winter and the Equinox.



Figures 4 - [left] view east across Matai Common at the Equinox which provides seating at the back of the site for midday sunny sitting. [right] The native landscape palette along the Greenway and active frontage standards onto this east-west route which encourages good passive surveillance, engaging interfaces and active modes of transport.

13. A summary of key issues/points relating to **Part 2** includes:

Sydenham

14. The Sydenham area, either side of Colombo Street, is less than a 1,500m walkable distance from the City Centre Zone, and is effectively a natural extension of the central city. As per the National Policy Statement on Urban Development 2020 (**NPS-UD**) direction to Tier 1 Councils, this area shall increase in height to at least six storeys.
15. A number of submitters request a range of amendments for Sydenham. Kāinga Ora [834] states that the Comprehensive residential development standards are “*overly complicated*”, and that the high-quality residential environment is an “*inappropriately high threshold for a transitioning mixed-use zone*”.
16. I accept that there may be opportunities to further improve the arrangement and structure of the provisions to improve overall readability, however, maintain that the Sydenham brownfield area befits a high-quality living environment given a number of different factors, in comparison to other peri-urban brownfield industrial areas. Sydenham represents a dense urban retrofit process rather than a fresh subdivision approach. Given the limitations in urban block size, amenity and currently reduced contribution to a WFUE, the development transition here requires site layouts that offer ‘high quality living environments’.

17. For clarification, high quality in the context of a 'high quality residential environment' does not refer to the quality of the building, cladding or anything not related to the site layout.
18. Christchurch NZ [760] and NZ Institute of Architects (NZIA) [762] generally support the objectives, policies and provision with minor recommendations. I recommend that almost all the requests by Christchurch NZ [760] be adopted, as well as the NZIA [762] request in relation to a reduction in minimum site size to 1800sqm rather than 1500mm.

Riccarton, Papanui and Hornby

19. In reference to the two large centres of Riccarton and Papanui, I have considered the centre environment and urban structure, as well as the building heights recommended in submissions, and in balancing the hierarchy of the zones in the Central City. My findings include that buildings up to 52-metres in height, as requested by Kāinga Ora [834] and Scentre (NZ) Ltd [260], would likely result in adverse overshadowing issues over large parts of the centres, as well as properties on the southern side. Please also refer to the economic advice relating to strengthening the role, market attractiveness and absorption rate of the City Centre zone in particular.
20. The latitude of Ōtautahi Christchurch is 43.5 degrees which results in a considerably lower sun altitude in comparison to Auckland. This, as well as a generally cooler climate, in combination, results in streets and spaces that are more sensitive to additional height and the overshadowing they create. Buildings up to 52 metres high in large town centres are likely to result in adverse solar impact on streets – particularly those which run east-west in orientation. Given the strong link between sunshine and public life in Christchurch⁶, shadier streets in large town centres could result in detrimental footfall numbers past shops, as well as reduce the attractiveness of choosing to use active modes of transport to centres in particular. In short, Christchurch is far more sensitive to height and 52 metres cannot be well absorbed into Large Local Centres, in my view.

⁶ This is evident on many east-west urban streets where most people walk along the southern footpath to enjoy windows of sunshine on a cooler day.

21. However, the urban structure and walkable environment of Riccarton and Papanui does afford a number of medium- to large sites, as well as those with the potential to assemble, which could, if well managed, accommodate additional height above the operative Plan height of 20 metres or the Notified PC14 height of 22 metres. I have investigated opportunities for these two centres to accommodate a height of up to 32 metres. My findings conclude that additional height up to 32 metres is possible with a recommended 45-degree setback rule from the top of the maximum road wall height of 20 metres.

Hornby

22. The urban structure, pedestrian infrastructure and overall accessibility between land uses in Hornby is currently poorly provided for and does not contribute to the definition of a WFUE. Whilst Hornby is a good strategic location for future quality growth, currently it does not provide the street qualities or accessibility minimums to offset additional height above the Notified PC14 height of 22 metres. I recommend that this centre be identified as an emerging large town centre and that major funding and area planning be directed at this centre.
23. Elevating the height limits in the Town Centre core could limit future good master-planning or re-structuring opportunities to accommodate successive waves of growth in the future. A number of big moves for Hornby are evident to improve the connectivity via active modes of transport. A few of these include investigating alternatives to the underpass tunnel (under the South Island Main Trunk Line) that connects Hornby High and the Hornby Centre with the Hornby Hub; a dedicated pedestrian crossing between the Hornby Hub and DressSmart; and long term, or a Transport Orientated Development hub on the former railway station siding.
24. Lastly, the height of 45-metres as requested by Lend Lease [855] for the Dress Smart site could result in adverse overshadowing impacts on the properties immediately to the south on Golding Street.
25. In summary, I recommend that this Centre retain its Large Town Centre classification, however a height of 26-metres to reduce the impacts of its currently car-centric nature until such time as funded area planning is approved.

INTRODUCTION

26. My name is **Nicola Helen Williams**. I am employed in the position of Senior Urban Designer at the Council, where I have worked for four years.
27. In preparing this evidence I have been asked to review the key submissions which generally request larger scale changes to the areas of the CCMUZ / CCMUZ (SF), and the Town Centres outside of the Central City.
28. The list of submissions reviewed to inform my evidence includes: The Carter Group [814], Catholic Diocese [823], Kāinga Ora [834], Scentre (NZ) Ltd [260], Lendlease Ltd [855], Christchurch NZ [760], NZ Institute of Architects [762] as well as individual submissions from the Atlas Quarter Residents [224.17], Oyster Group [872], Geoffrey Banks [61.23], Claire Higginson [657.2], M Manthei [237.4] and Andrew Hill. [581.1]
29. I am authorised to provide this evidence on behalf of the Council.

QUALIFICATIONS AND EXPERIENCE

30. I am currently employed as a Senior Urban Designer at the Council, a role I have held for 4 years.
31. I hold a Master of Urban Design from The University of Melbourne, and Bachelor of Urban Planning (Hons) from the University of Auckland. I have completed accredited training in CPTED (through Auckland City Council) and am a member of the Urban Design Forum Aotearoa.
32. I have over 23 years' experience in urban design. Prior to the Council, I was employed by Ōtākaro Limited (Christchurch) for a year and was a Principal Specialist Urban Designer at the Auckland Design Office within Auckland Council for approximately eight years. Earlier in my career, I worked in private urban design practices in Australia and the United Kingdom for eight years.
33. In my current role at the Council, I work across the full breadth of its urban design work programme. This includes the development of design concepts and provision of advice for Council projects, policy development, district plan changes, advice on pre application and resource consent proposals, as well as involvement in a range of urban

development projects as part of the post-quake regeneration of the Central City and Suburban Centres. Specifically, these include spatial planning, cultural design integration, and youth, accessibility and safety audits.

34. I was the author of PC14 Section 32: Part 4, Appendix 8 Technical Report – Comprehensive Housing Precinct Urban Design Analysis of Provisions. I was also the contributing author to the PC14 amendments to the CCMUZ provisions and assessment matters. In preparing this evidence, I have also familiarised myself with other aspects of PC14 and have read and considered other urban design related reports by Mr Ray (Central City Zone), Mr Hattam (High Density Zone), and the Boffa Miskell Report "Commercial Centres NPS-UD" dated 28 July 2022 provided as an appendix to PC14 Section 32 Report (Part 1, Appendix 4).
35. Except where I say otherwise in my evidence, I agree with the content and analysis set out in the reports outlined above. I rely on those reports, but do not intend to repeat their content in order to minimise duplication. The reports I refer to can be accessed from the Council's website (<https://ccc.govt.nz/the-council/plans-strategies-policies-and-bylaws/plans/christchurch-district-plan/changes-to-the-district-plan/proposed-changes-to-the-district-plan/pc14/>).

CODE OF CONDUCT

36. While this is a Council hearing, I have read the Code of Conduct for Expert Witnesses (contained in the 2023 Practice Note) and agree to comply with it. Except where I state I rely on the evidence of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.
37. I confirm that, while I am employed by the Council, the Council has agreed to me providing this evidence in accordance with the Code of Conduct.

SCOPE OF EVIDENCE

38. The scope of my urban design evidence relates to the CCMUZ and CCMUZ (SF) commercial zones within the Central City. In association

with the amended built form standards, I recommend additional height in the majority of the CCMUZ from the notified 21 metres (six storeys) to 32 metres (10 storeys). However, for the reasons outlined in my evidence, I recommend that the CCMUZ (South Frame) remain at a maximum permitted height of 21 metres.

39. Outside of the Central City, I also provide recommendations on the built form standards for the Comprehensive Residential Development pathway for Sydenham (Mixed Use Zone), and the Large Town Centres of Riccarton, Hornby and Papanui.
40. I have not been involved in setting zone boundaries or extents of zoning, however alongside other team members, have provided advice on the logical edge transition between walkable catchments around the large town centres.
41. Lastly, I acknowledge that offering greater zone heights and managing built form standards are one planning tool for enabling greater intensification. However, I register my reservation with this method in isolation from a process of funded Area Planning of identified growth areas.

URBAN HIERARCHY OF CENTRES

42. The urban structure (or “ground”) of the central city, which includes the rectangular grid plan around the civic square, disrupted by the Ōtākaro Avon River, the green squares of Latimer and Cranmer, Hagley Park to the west and the diagonal streets of High and Victoria, remains unchanged.
43. The three-dimensional urban form (or “figure”) of the central city is loosely shaped towards a soft bell-curve which offers the tallest building heights in the City Centre Zone, then steps down to a lower maximum height of for both the CCMUZ and slightly higher heights in the surrounding HRZ, which collectively forms an inner ring around the CCZ. Please refer to Mr Willis’ planning and Mr Ray’s Urban Design evidence for the CCZ zone, as well as Mr Hattam and Mr Kleynbos evidence for the HRZ in the Central City context.

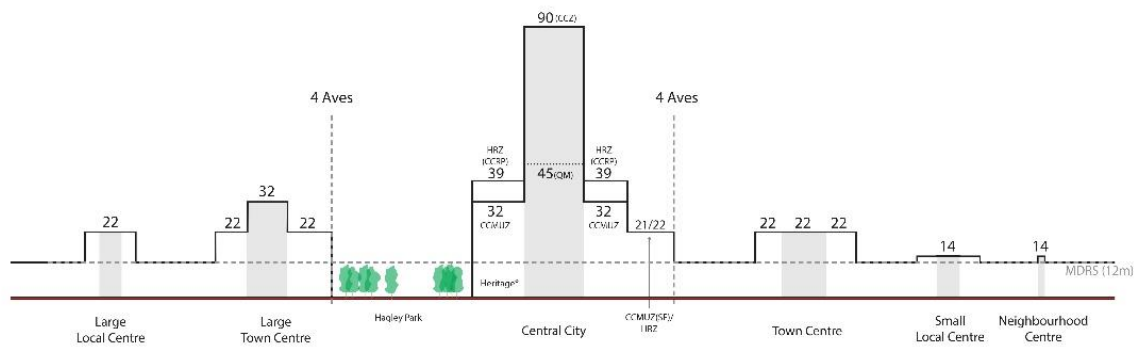


Figure 5 – Diagram illustrating the proposed re-allocation of maximum height between the Central City and the suburban centres.

44. The Central City is supported by a polycentric arrangement of suburban centres which provide a range of complementary activities, whilst also providing for local accessibility for people choosing passenger transport and active transport to meet their daily needs.
45. In the suburban centres, the three key activity areas or Large Town Centres requested to accommodate additional growth:
 - (a) Papanui to the north;
46. Riccarton / Church Corner to the west;
47. Hornby – further west at approximately 10km from the central city.

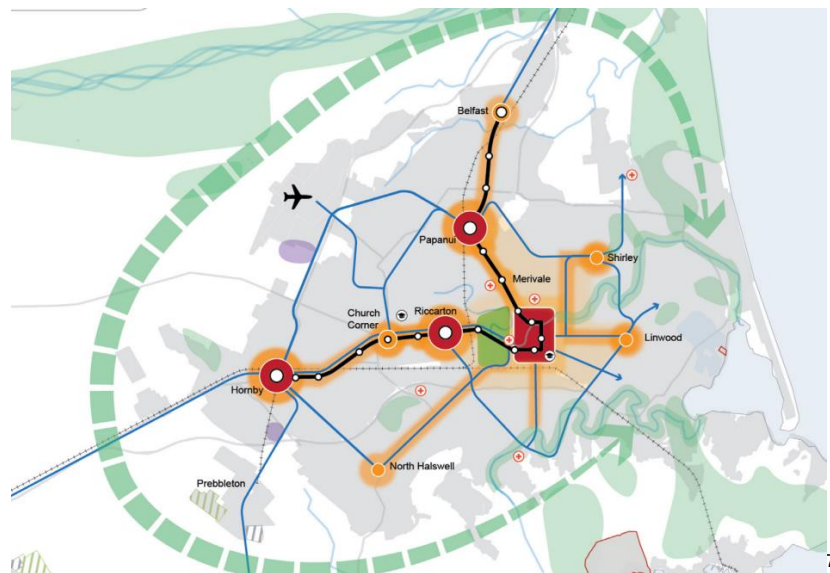


Figure 6 – Greater Christchurch Strategic Plan Reinforcing the concentric centres of Ōtautahi, Christchurch.

⁷ Greater-Christchurch-Spatial-Plan.pdf (greaterchristchurch.org.nz), page 29

48. Providing for additional height in the Central City seeks to stimulate the development of many of the currently undeveloped, often surface carparking sites, as well as provide a greater level of development competitiveness between developing sites just outside the central city. High quality is a key measure of acceptable additional height in the City Centre Zone.
49. However, in the suburban centres, where significant uplift in Sydenham and the three large local centres is anticipated, quality is inseparable from density to guide these areas develop into a WFUE⁸.
50. The NPS-UD also seeks the delivery of WFUEs. Policy 1 of the NPS-UD describes a WFUE as a planned environment that, as a minimum, has or enables a variety of homes that serve the following functions:
- "a. meet the needs, in terms of type, price, and location, of different households;*
 - b. enable Māori to express their cultural traditions and norms;*
 - c. have or enable a variety of sites that are suitable for different business sectors in terms of location and site size;*
 - d. have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport;*
 - e. support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and support reductions in greenhouse gas emissions;*
 - f. are resilient to the likely current and future effects of climate change."*
51. Accompanying guidance produced by the Ministry for the Environment⁹ states that "there are other factors that contribute to the outcomes that councils and other decision-makers may wish to consider alongside those of the NP_UD, such as principles of urban design". In recognising the locational qualities of Christchurch in comparison to the Tier 1 cities

⁸ Suggested other factors: respond positively to the lower sun altitude and cooler winter days of Ōtautahi, Christchurch; and support the vision and design principles of the Christchurch Central Recovery Plan

⁹ Well-functioning-urban-environments.pdf

in the North Island, the following additional factors are recommended for consideration as part of a well-functioning urban environment - urban design:

- I. Respond positively to the lower sun altitude and microclimate of Ōtautahi, Christchurch;*
- II. Support the vision and design principles of the Christchurch Central Recovery Plan (Te Mahere 'Maraka Ōtautahi');*
- III. Realise that quality is an inseparable partner to density.*

52. In summary, whilst there is notable current capacity already in the Central City, effectively doubling in height and capacity in the CCMUZ (from 17 metres to 32 metres in almost all areas of this zone), seeks to strengthen the market attractiveness of redeveloping in the Central City in comparison with suburban sites. However, these areas need to be area planned and designed in a way that gives effect to the local definition outcomes of a WFUE.

PART 1

CENTRAL CITY MIXED USE ZONE (CCMUZ) AND CENTRAL CITY MIXED USE ZONE (SOUTH FRAME) CCMUZ(SF)

Context

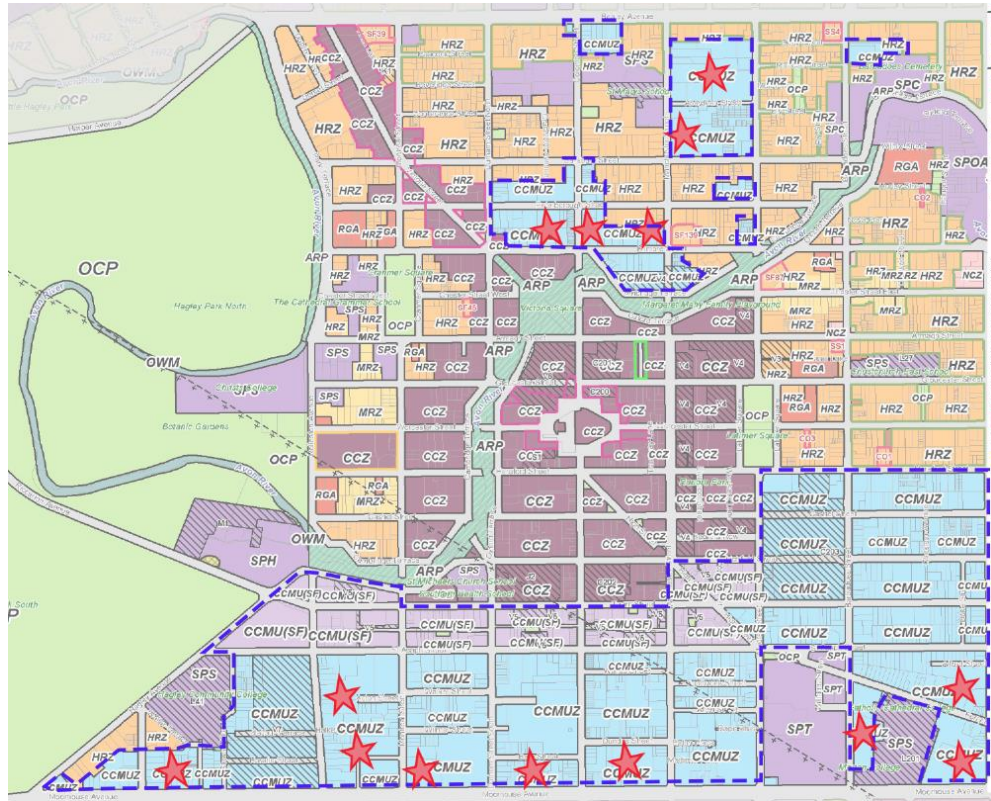


Figure 7 – Zoning map illustrating the extent of CCMUZ/CCMUZ (SF) in blue with dotted outline, plus the extent of undeveloped or under-developed medium -large sized sites indicated with a star.

53. Historically the 1850 Black Map of Christchurch identified the now City Centre Mixed Use Zone (south of St Asaph and east of Barbadoes Street) as “town Reserve”¹⁰. Today the CCMUZ still provides an important buffer zone around the core of the Central City by providing the secondary services¹¹ that support the key retail and entertainment activities, agglomeration of new and existing corporate offices, arts and cultural amenities as well as the important re-emergence of inner city living¹².

¹⁰ [File:Black Map Christchurch 1850.jpg - Wikimedia Commons](#)

¹¹ such as supermarkets, Te Kaha – multi use arena, Parakiore – Metro Sports, mechanics and late-night music venues.

¹² <https://ccc.govt.nz/culture-and-community/central-city-christchurch/live-here/residential-programme-8011>

54. The CCMUZ and CCMUZ(SF) includes approximately 130 hectares of land area (including local roads), which equates to approximately one-third of the area within the Central City¹³. A key issue for this area is the notable number of currently vacant, under-developed or surface carpark sites throughout these zones, which offer outstanding development capacity within the Operative District Plan limits, and significantly through PC14.
55. The CCMUZ sites to the north of Cathedral Square include a number of both undeveloped and under-developed sites. These include the 1.3 hectare Carter Building supplies site at 385 Madras Street, numerous surface car parking areas of half a hectare on Kilmore Street, the vacant Foodstuffs site on the corner of Manchester and Salisbury Streets, and the Avis rental car dealership on Manchester Street. Vacant or single storey commercial activity on medium to large sites north of Salisbury Street in this zone equate to approximately 5 hectares of current redevelopment capacity.
56. Much of the remaining area has redeveloped as commercial or residential i.e. Forte Health and the numerous 2-3 storey terraces throughout the area. Some apartment development is evident along the Cambridge Terrace interface, responding to the added amenity values of the tree lined Ōtākaro Avon River Corridor (**OARC**).
57. The CCMUZ and CCMUZ(SF) along the southern edge of the Central City (sometimes described as the “backwards L” as it wraps around the south-east corner of the Central City) also includes a large extent of under-developed land. This is even when the South City mall, the four supermarkets and their associated car parking areas are excluded. Vacant sites sourced from CCC's vacant site portal calculates that 7.45 hectares or 8.9% of the CCMUZ area is currently vacant. Unlike the northern section of the Central City, these zoning parcels are contiguously located which makes the boundaries easier to manage given the absence of existing residential zones (many of which may include finer grain plots and are more sensitive to additional height).

¹³ The Central City excluding Hagley Park equates to 400-hectares of land, including roads.

58. This southern section of the Central City also includes the location of the Blueprint Anchor projects of Parakiore (Metro Sports) at the western end, and Te Kaha (Multi Use Stadium) to the east, bookending the precinct.
59. Within the South-East Neighbourhood¹⁴ the Welder health and wellness hub¹⁵, and the well-designed Atlas Quarter residential complex adjacent provides a range of high-quality apartments and terraces, a wide landscaped through site link and mixed-use edge to Welles Street. This represents a net density of 133-dwellings per hectare (113 dwellings on an 8,748sqm site)¹⁶.
60. However, some city blocks further west towards Parakiore include large, impermeable areas with long perimeter distances (block circumference) of 940-metres. This is well over the optimum 600-metre¹⁷ block perimeter, and the 800-metre perimeter of new greenfield blocks (ref Residential New Neighbourhood Zone provisions in the Operative District Plan) which encourages walking.
61. In particular, the large and impermeable block of Antigua / St Asaph / Montreal / Moorhouse Avenue which includes dead-end streets, does not provide for safe or convenient access for active modes of transport around and to Parakiore, Metro Sports. Similarly, the South City block between Durham and Colombo is of a similar size and coarse pattern and without dedicated through site pedestrian connections.
62. Structure planning of these super-blocks has not yet been undertaken given the time constraints of this Plan Change, however landowner engagement and public realm improvements of the South-East neighbourhood around Te Kaha the multi-use arena has begun¹⁸.

PC14 Amendments

63. As a result of the different contextual conditions above in different parts of the CCMUZ, PC14 has elevated the height in a number of precincts to 32 metres, and elevated others (South City area) from 17 metres to 21 metres (6-storeys). I have been asked to consider the implications of

¹⁴ [South-East Central Neighbourhood Plan : Christchurch City Council \(ccc.govt.nz\)](https://www.ccc.govt.nz/south-east-central-neighbourhood-plan)

¹⁵ <https://www.stuff.co.nz/the-press/news/104555312/south-town-christchurchs-coolest-neighbourhood-thanks-to-private-development>

¹⁶ RMA 2015/1398

¹⁷ <https://www.urban-design-guidelines.planning.vic.gov.au/guidelines/urban-structure>

¹⁸ <https://www.ccc.govt.nz/culture-and-community/central-city-christchurch/live-here/our-central-neighbourhoods/south-east-neighbourhood/>

elevating the height of this precinct, as well as the rest of the CCMUZ to 39-metres to align with the Central City Residential Precinct which represents the arc around the northern half of the CCZ. However, I recommend that all CCMUZ areas (with the exception of the small few close to Bealey Ave) remain at 32 metres for the following reasons:

- (a) Generally larger plot sizes – often above 1 hectare – which provides for a significantly larger development envelope than more fine grain sites in the HDZ;
64. The general absence of amenity afforded in the southern half of the central city as opposed to those higher amenity residential sites in the north with access to the Ōtākaro Avon River Corridor, Latimer and Cranmer Square and other pocket parks such as moa reserve;
 65. Areas such as South City include large block perimeters (including dead-end streets), and narrower east-west streets which are more sensitive to solar access,
 66. In mediating the height of the CCMUZ(SF) and offering a distinctive step change up to the higher heights in the CCZ.
 67. I maintain that the provisions of a 40m diagonal tower for residential activity and a 45-degree tower setback from the top of the 17-metre road wall height (top of building base) remain recommended to alleviate any adverse built form and shadowing effects up to 32 metres.

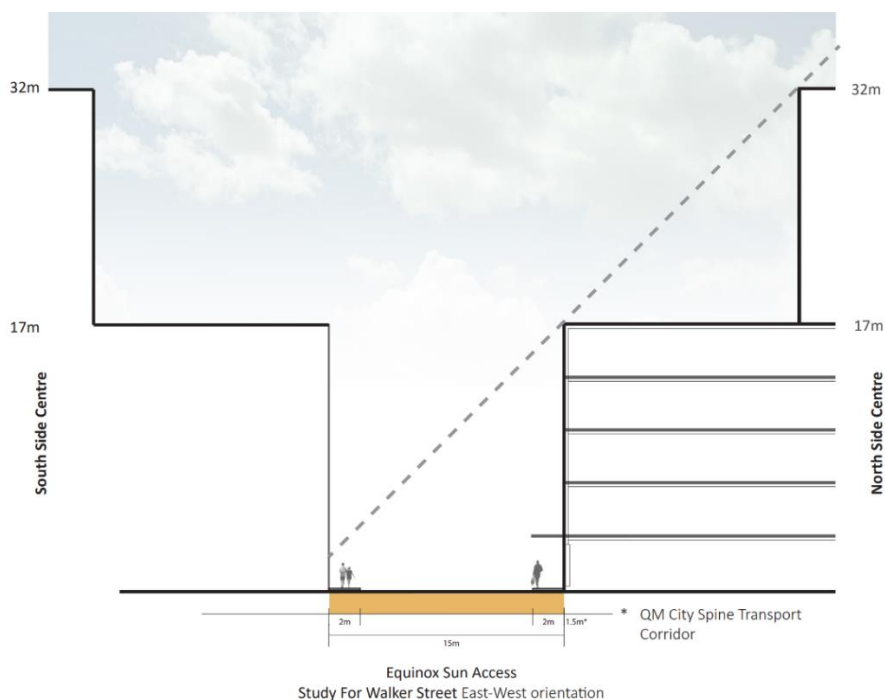


Figure 8 – Cross section illustrating the limited sunlight access into narrower east-west orientation streets in the CCMUZ at the Equinox (March and September) with a 45-degree setback (based on sun altitude of 46.5 degrees at the Equinox) from the top of the road wall height.

Current issues within the CCMUZ

- 68. This zone, under the Operative District Plan, does not offer any guidance on functional and safe site layouts, or good street interfaces or onsite amenity. To address this, PC14 amendments have included a connection to the well-used (and slightly updated) Residential Design Principles (RDPs) for developments of 4+ dwellings. This is consistent with the threshold for review in all other zones with a residential component.
- 69. One example of a poor-functioning site layout which results in safety issues and a compromised street interface is the development at 365 Madras Street (corner of Aberdeen and Madras Streets - RMA/2021/236). The issues here relate to five separate dead-end accessways, some of which have blind corners to front doors (a CPTED issue); and the reduced amenity for residents as the location of private outdoor space along the street edge creates privacy issues for residents; and a compromised street experience for passers-by feel awkward walking past private open space and try not to look in.

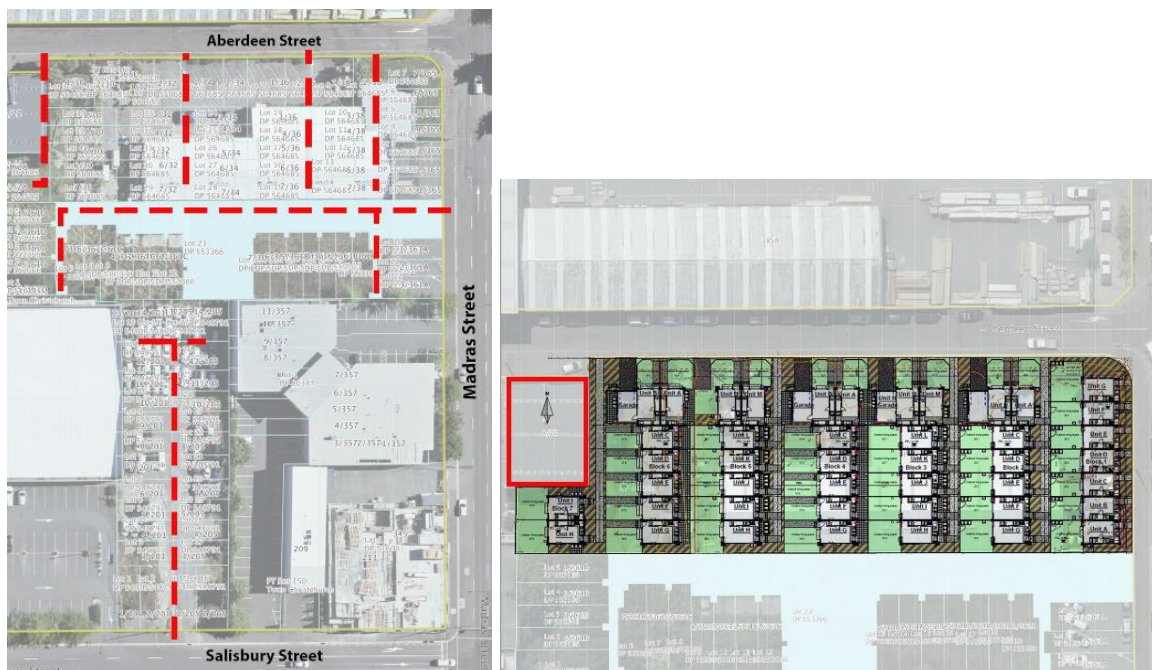


Figure 9 – [left] Combination of site layouts for the eastern end of Salisbury, Madras and Aberdeen Streets illustrating the separate pedestrian accessways which do not always provide for safe, high amenity through site linkage. RMA/2018/2407; RMA/2019/2928.

[right] – 365 Madras Street RMA/2021/236 Terrace development in the CCMUZ on the corner of Madras and Aberdeen Streets includes four x dead end pedestrian accessways, one of which is a blind corner.



Figure 10 – Photo from Aberdeen Street of the blind corner pedestrian access down to terraces in behind an existing building – citing CPTED issues not currently covered in the CCMUZ. RMA/2021/236



Figure 11 – Cashel Street CCMUZ - Photo of terraced typologies with north facing outdoor space alongside the street edge which results in both compromised privacy and a poor street edge.

70. In comparison, the policy framework around the CCMUZ(SF) promotes safety, amenity, vibrancy, accessibility and attractiveness (15.2.10) with “a high standard of amenity” (15.2.10.1). As a result of this policy direction, as well as the high amenity public realm qualities and connections of the Greenway and four great yards within the South Frame¹⁹, a number of 6-storey apartments²⁰ are currently under construction in the South Frame²¹. Similarly, the Bedford apartments and

¹⁹ <https://www.raupaenga.co.nz/projects/south-frame-laneway-development>

²⁰ 148 [RMA/2022/3727](https://www.raupaenga.co.nz/projects/south-frame-laneway-development) and 150 Tuam Street the Laneway Apartments

²¹ <https://harcourts.net/nz/office/redwood/listing/rd7698-106-150-tuam-street-christchurch-central-canterbury-8011>

recently Manchester Square²² in the East Frame also indicate a shift in demand for apartments in higher amenity areas.



Figure 12– [left] The Laneway Apartments and [Right] Manchester Square currently selling.

71. In summary, the above indicates that with a sound policy framework, built form standards and public realm qualities, that high quality urban outcomes and a well-functioning urban environment that maximises the strategic central city sites, can be achieved.

Submissions

72. A number of submissions, such as those by Carter Group Ltd [814], Kāinga Ora [834], A Hill [582.1] and Oyster Management [872], generally request the height limit of all the CCMUZ and CCMUZ (SF) to be lifted from the Notified 21-metres to 32 metres.
73. In opposition, there are also a number of submissions that request the retention of the existing heights founded in the Recovery Plan, such as the Atlas Quarter Residents [224.17]; maintaining sunlight and privacy being the key attributes for encouraging a permanent residential community back into the Central City [Geoffrey Banks – 61.23]; and greater stepping down from a recommended 90m tall CCZ in the middle of the City Centre, down to 40m between Kilmore and Salisbury and then down further to the four avenues at 20-metres [Manthei – 200 and 237]. Lastly Claire Higgins [657.2] requests maintaining and enhancing landscaped laneways, tree canopy and sunny open spaces and places

²² <https://www.williamscorporation.co.nz/manchester-square-living-for-the-city/>

in central Christchurch, with moderating height and form being a factor to achieve this.

74. Other requests by Carter Group Ltd [814] seeks to remove most of the PC14 amendments to the CCMUZ / CCMUZ(SF) – notably the removal of a review of four + dwellings against the Residential Design Principles, and the removal of the 17-metre street wall height. I maintain these are important standards for effectively doubling the height of the CCMUZ. Elevating the height limit to a minimum of six-storeys seeks to incentivise apartment development, however the road wall height of 17 metres has been retained as a means of retaining solar gain²³ into the numerous east-west streets, many of which are narrower than 20 metres wide.
75. There are a range of submissions both recommending and not recommending additional height in the CCMUZ and CCMUZ(SF). One submission in particular [Carter Group Ltd 814] further recommends the removal of the 17-metre road wall height. This road wall height is currently existing in the Operative District Plan and is based on a 1:1 street ratio for these generally narrower east-west lanes and streets within these zones (often widths of 11-15 metres wide exist here). Narrower east-west streets result in reduced solar access both into the street itself (which is important for contributing to active modes of transport) and often into development sites on the south. Maintaining a 17-metre street wall height is strongly recommended on the grounds of solar access into streets and developments sites, as well as contributing to a well-functioning urban environment. Please also refer to Appendix 1 for a table of responses to submissions by the Carter Group Ltd [814] and Kāinga Ora [834].
76. The submission for the Carter Group Ltd [814] lists a number of requests to the activity table and rules. I have reviewed each of these relevant to an urban design response and provide the following responses in red text in **Appendix 1**.
77. Additionally, the submission Kāinga Ora [834] also cites similar opposition and requests to the following CCMUZ and CCMUZ(SF) rules. I have reviewed and considered the relief sought and provided recommendations in **Appendix 2** at the end of this Evidence. The most

²³ September 21 – March 21 with a sun altitude of 46.5 degrees in Ōtautahi, Christchurch. In comparison, Auckland has a sun altitude of 53.2 degrees.

notable recommendation is the elevation in the height limit for the 21 metre South City precinct, and numerous sites north of Salisbury Street (including the Foodstuffs and Carter building Supplies sites) to 32 metres.

Amended provisions

78. To alleviate any negative outcomes resulting from the maximum height up to 32 metres, it is strongly recommended that the following amendments and additions to the built form standards be adopted:

15.12.1.3 Restricted discretionary activities – RD5a. Council's discretion shall be limited to the following matters: ~~Urban design in the City Centre and Central City Mixed Use Zones – Rule 15.14.2.6.~~ **Rule 15.14.3.35 (Upper floor setbacks, tower dimension and site coverage in the central city) and 15.14.3.36 (Building Height in the Central City Mixed Use Zones).**

15.12.2.7 Minimum setback from the boundary with a residential zone or from an internal boundary

a. The minimum... ~~iii. For residential activities where buildings are above 17 metres in height, the minimum building setback from an internal boundary is 6 metres.~~ **Any required setback above shall contain landscaping for its full width including a minimum of 1 tree for every 10 metres of boundary length, capable of reaching a height at maturity of 8 metres and shall not be less than 1.5 metres at the time of planting.**

15.12.2.10 Building Setbacks

a. The minimum building setback from a road boundary where residential activity is located on the ground floor facing the street shall be 3 metres.

b. The minimum building setback of any building tower from the internal boundary, shall be ~~6 metres~~ **within a 45-degree angle in from the top of the road wall height of 17 metres;**

~~c. Any part of the building tower above 17 metres in height shall be set back 2 m from the front facade of the building base.~~

15.12.2.11 Building tower coverage

a. The maximum building tower coverage shall not exceed 50% of the net site area, *or a 40-metre diagonal dimension for residential or accommodation towers.*

15.13.1.3 Restricted discretionary activities – RD7a. Council's discretion shall be limited to the following matters: ~~City centre zone urban design Rule 15.14.2.6.~~ *Rule 15.14.2.11 and 15.14.3.36.*

PART 2

MIXED USE ZONE (OUT OF CENTRAL CITY)

Context

79. The large local centre of Sydenham and its current light industrial catchment either side of Colombo Street, and between Moorhouse Avenue and Brougham Street, is also located within a 1,500m walkable distance of the City Centre Zone. As such it has been identified as a strategic growth opportunity to accommodate six-storey mixed use / residential development.
80. Post-quakes, Sydenham's recovery was supported by a Suburban Centre Master Plan (15.2.4.3). However, through the NPS-UD, a transformational change to the surrounding catchment is possible through comprehensive redevelopment that supports a WFUE. As described in MfE's Policy 1²⁴, these include:
- a. *have or enable a **variety of homes***
 - b. *have or enable a variety of sites that are suitable for different business sectors*
 - c. *have **good accessibility** for all people between housing, jobs, community services, natural spaces and open spaces, including by way of **public or active transport**;*
 - d. *support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and*
 - e. *support **reductions in green house gas emissions**; and*
 - f. *are resilient to the likely current and future effects of climate change.*

Urban structure and new connections

81. The urban structure of Sydenham includes a relatively permeable grid structure, which has the potential to support active modes of transport and with increased residential activity, better support the local shops and services within the Sydenham centre. However, some of the blocks in the area include a perimeter length that is greater than 800 metres (calculated by the walkable circumference of a block i.e. adding up all four lengths of a block). 800 metres is the maximum perimeter for a new

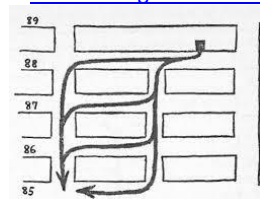
²⁴ <https://environment.govt.nz/assets/Publications/Files/Well-functioning-urban-environments.pdf>

greenfield on the outskirts of the city in the Operative District Plan (Residential New Neighbourhood zone). A best practice maximum walkable perimeter in an urban context is 600 metres^{25 26}.

82. To give effect to the NPS-UD outcomes of a WFUE, specifically outcomes a, c, e, and f (listed above), 12-metre wide north-south Greenways and 8-metre wide east-west pedestrian and cycle connections have been identified for the larger blocks. Please refer to Appendix 15.15.12-13 of the notified commercial chapter.
83. Shorter blocks, which provide a range of choices relating how to a person chooses to move through a neighbourhood, is an important urban element to support safe and interesting streets²⁷. Additionally, a well-functioning distance between intersections can encourage modal choice towards active transport as a more regular street grid can shorten the distance between destinations, improving accessibility. Lastly, there is also the opportunity for connecting with nature via Greenways.
84. Lastly, a 12-metre wide Greenways provide additional space alongside the 3-metre wide shared foot / cycleway for sunny seating areas and swales or low impact urban solutions to mitigate climate change impacts such as flooding. These north-south greenways are recommended on the east side of Sydenham and the Lancaster area, to complement the predominant orientation of the east-west streets on this side of Colombo Street. North-south Greenways also provide a sunnier aspect where new residents and existing commercial business staff could enjoy a sunny spot all year around.
85. In relation to the development process, it is anticipated that these Greenways would provide added amenity to offset six-storey perimeter style apartments and contribute to the high-quality living environment in this current IG context. Whilst I accept that the development tools to

²⁵ <https://www.alliesandmorrison.com/research/the-residential-perimeter-block-principles-problems-and-particularities, and>

²⁶ [Urban Design Guidelines - Urban structure \(planning.vic.gov.au\)](http://Urban Design Guidelines - Urban structure (planning.vic.gov.au))



²⁷ The Need for Small Blocks is the title of Chapter 9 in Jane Jacobs' "The Death and Life of Great American Cities (1961)." The chapter begins with the introduction:

"Most blocks must be short; that is, streets and opportunities to turn corners must be frequent."

secure the greenways may benefit from additional consideration, it is anticipated that sites facing the Greenway would not need to provide another 3-metre landscape front yard given the existing landscape amenity / privacy buffer alongside the Greenway.

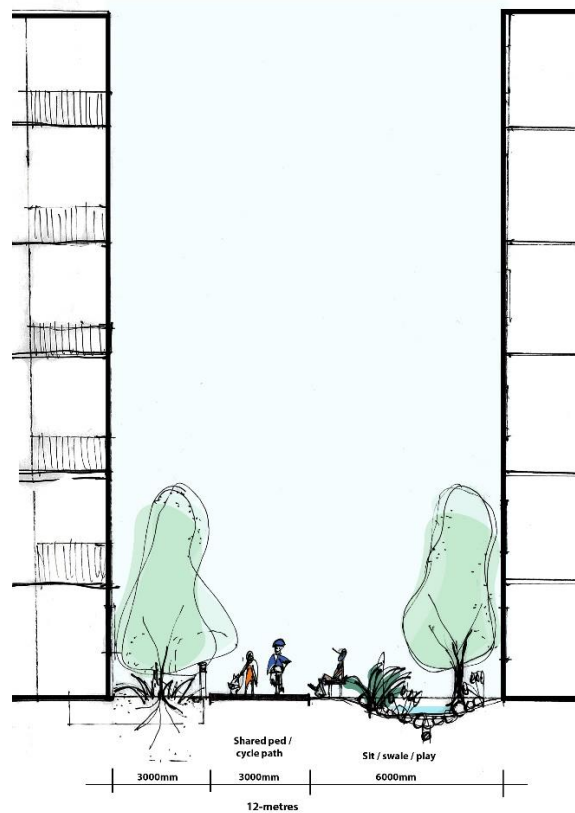


Figure 13 – Indicative cross-section of a 12-metre-wide Greenway

86. The west side of the Sydenham light industrial area includes a predominance of north-south streets which directly connect into the Central City to the north. As such, landscaped pedestrian and cycle connections in east-west orientations have been proposed to provide through site connections through larger blocks and where dead-end streets could be extended to provide safer connections.
87. Given the solar sensitivities of providing sunlight into east – west connections, these spaces are anticipated to be more of a functional connection, rather than a space to sit and enjoy some sunshine. As such it is recommended that these connections only be 6-metres wide and include a 3-m wide shared foot / cycleway with 1.5m of landscape and lighting on each side.

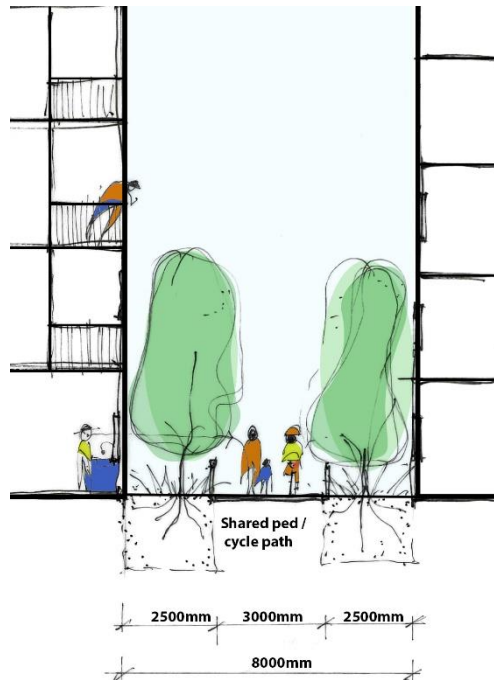


Figure 14 – Cross-section of an 8-metre wide shared ped / cycle connection including a 3-metre wide shared path and 2.5-metre wide landscape areas for shrub and tree planting either side.

Pattern of development / transition to perimeter block

88. The existing industrial pattern of development includes dense and low buildings built right up to the side boundaries and often the back boundaries. The front boundaries are either built right up to the street or set back to provide for customer parking for activities such as paint and panel beaters, mechanics, karate schools, art galleries, bakeries etc. The sites are generally flat and plot depths are typically 50-metres deep and range in width between 17-45 metres. Analysis of a typical east of Colombo and West of Colombo block indicates that whilst some plots are around 20-metre wide, many of these sites are in contiguous ownership.



Figure 15 – Aerial illustrating typical building location on IG zone sites up to side and often rear boundaries which provides an existing pattern of development capable of transitioning to a perimeter block.

Transition to a (hybrid) perimeter style block pattern

89. Street grids are a common spatial organisation for planned urban expansions. The existing industrial built form pattern minimises adverse effects on side boundaries by locating walls (sometimes fire walls) along the side boundaries and facing entrances, window, activity and any acoustic or olfactory nuisances towards the street or internally within sites. Transitioning to a perimeter style of block maintains alleviation of privacy and solar issues (in a residential setting) along the more sensitive long (side) boundaries by building right up to these side boundaries for a certain depth of the site.
90. Analysing the typical 50-metre-deep site, I have established that 60% or 30 metres of total building along the site boundary (in two separate buildings), minimises privacy issues and maintains a sufficient width of void or core area for communal open space and solar access to adjacent sites. Likewise, proposed comprehensive development also includes balconies that face either the street or inwards to the communal open space.

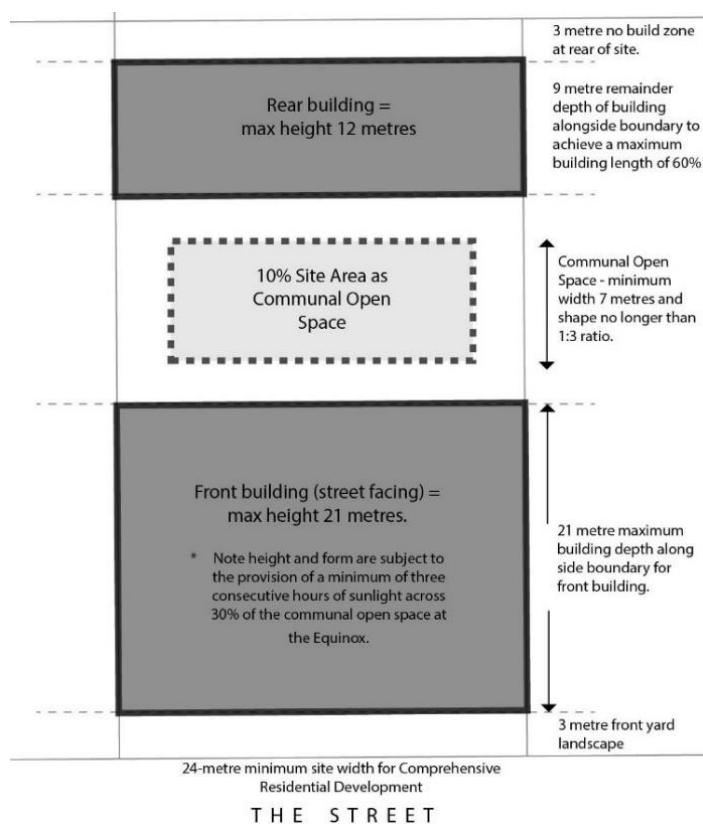


Figure 16 - Bulk and Location summary of the Minimum Standards for Comprehensive Residential Development as illustrated in Appendix

15.15.14 Comprehensive Housing Precinct Bulk and Built Form Standards Diagram (Notified Commercial chapter).

91. Transitioning to a perimeter style block development includes a six-storey built form that strengthens the street edge and to provide for passive surveillance (CPTED / safety) and visual interest. Great street edges and buildings at six storeys which can relate to the street; i.e. at street level, you can see life on balconies and at lower levels, behind a window which provides for an opportunity to see and be seen, as well as a possible wave and hello. Elements of social engagement can create more pleasant street experiences, which in turn, can change modal shift preferences towards public or active modes of transport. Walkable neighbourhoods also contribute to a more vibrant street life and can result in increased dollar spend in local centres.

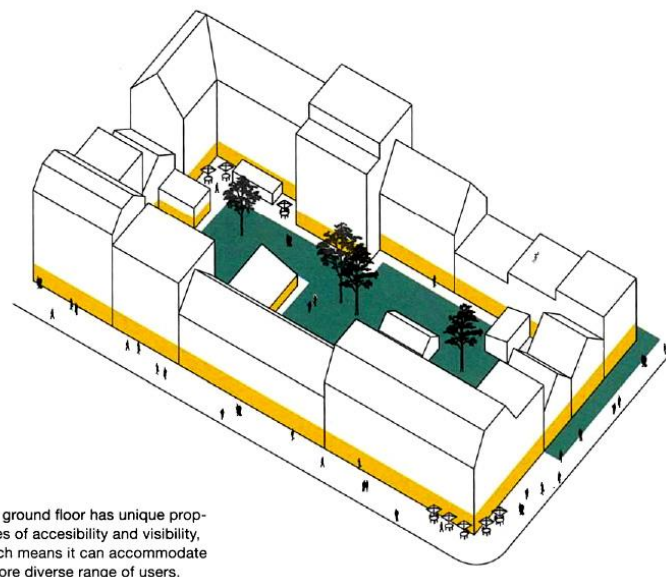


Figure 17 - example of a perimeter block⁸

92. Locating buildings along the street to form central courtyards within is a very popular European model which provides good solar access and cross ventilation for blocks no deeper than 17-18 metres via dual aspect apartments²⁸. The dense-low(ish) block form of perimeter blocks also aligns well with the outcomes of the Recovery Plan, which specifically sought to increase additional sunlight into streets during the equinox and winter in particular to stimulate public life on the street.

²⁸ https://d39d3mj7qio96p.cloudfront.net/media/documents/SR277_7_Building_Energy_End-use_Study_BEES_Year_5_Christchurch_urban_form_and_energy.pdf

93. Lastly, international studies have also documented that a perimeter style block form can maintain the same yield²⁹ if not higher³⁰ yields than tower or slab configurations. This efficient³¹ form of development also limits the potential visual and/or over-shadowing impacts of towers. This “approach provides a lot more housing, but also a lot more shared green space in the centre of the block³². Six storey buildings located along the street edge also maintain a human scale with the street, which provides for a pleasant, safe and engaging experience for passers-by at street level, as well as encourages active modes of transport. Seeing 'life behind the buildings' also assists in the actual and perceived sense of safety of a street, which in turn can foster greater rates of walking and cycling to local destinations.

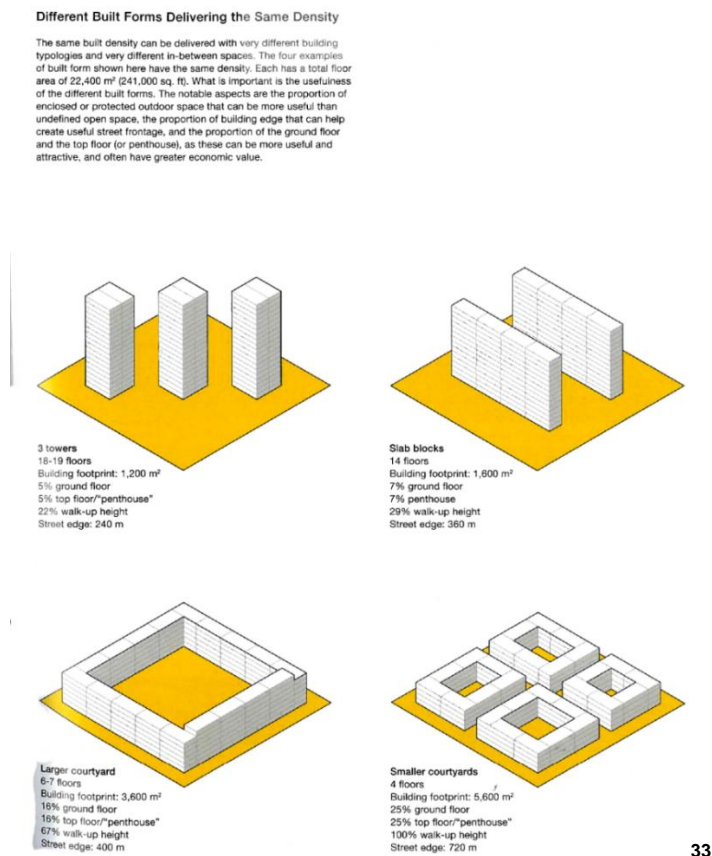


Figure 18 – Different Building Forms Deliver the Same Density

²⁹ Sim, D., 2019, *Soft City – Building Density for Everyday Life*, Page 21.

³⁰ https://www.alliesandmorrison.com/research/the-residential-perimeter-block-principles-problems-and-particularities_and

³¹ [The residential perimeter block: principles, problems and particularities | Allies and Morrison](#) and Sim, D., (2019), *Soft City*, Page x.

³² [Legalising perimeter block housing - Greater Auckland](#)

³³ Sim, D., 2019, *Soft City – Building Density for Everyday Life*, Page 21.

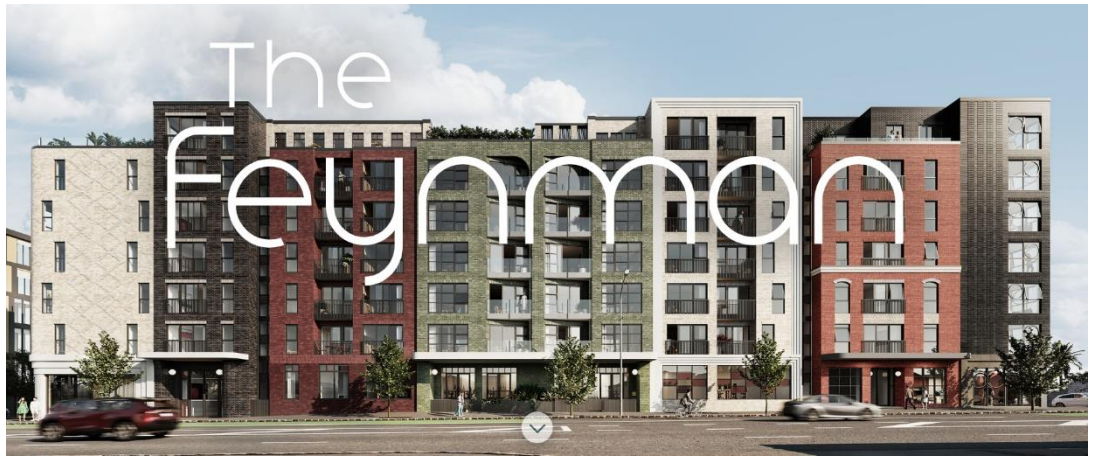


Figure 19 – example of a recent development by Ockham Developments on Great North Road, Grey Lynn of 6 storeys fronting the street.

94. In contrast, taller buildings can be harder to fit into low rise areas and often have negative consequences on well-functioning urban environments in the Ōtautahi Christchurch context such as longer shadows /loss of solar access on streets and development sites on the south side during the equinox and in winter. Additional potential issues of visual bulk on the receiving environment relating to thicker building forms and towers and / or where the architecture is not of an exceptional quality are also possible.
95. A summary of the key site-shaping built form standards that enable comprehensive redevelopment towards a (hybrid) perimeter block include:
 - (a) Minimum site width of 24-metres (which would fit four x 6m wide apartments) and a minimum site size of ~~2,000s~~**1,800sqm**;
 - (b) Maximum front building depth of 18-metres with no side boundaries,
 - (c) 10% communal open space with solar access for 30% of this for 3 hours at the Equinox.
96. Specifically, 10% of the site area allocated to communal open space provides for 200sqm of open space which at a scenario of 8 x 24 metre space, provides a depth to accommodate a number of mature trees to grow to 8-metres in height, as well as sufficient space for activities such as kicking a ball around. This gives direct effect to the NPS – well functioning city Policy 1 direction for greater access to nature and open spaces. This is especially important in this existing industrial context

which currently lacks street trees and onsite amenity for high amenity residential living.

97. Testing of the yield expectations of the suite of built form standards and an uplift in height to 6-storeys, which anticipates a residential form of apartments, balconies and communal open spaces, has resulted in onsite densities upwards of 190 dwellings per hectare.



Figure 20 – Consultant testing of a ‘maximum residential’ scenario on a 25-metre wide site yields 34 dwellings (28 apartments and 6 terraces) with a RDA assessment for breaching the ground floor residential towards the street standard. Site yield is 190-dwellings per hectare.

Submitters

98. Three key submitters have responded to these provisions: Kāinga Ora [834]; Christchurch NZ [760] and the NZ Institute of Architects [762].
99. Kāinga Ora [834] states that the Comprehensive Residential Development provisions are “*overly complicated, unworkable and provide inappropriate mechanisms to manage development and acquire public laneways*”. In reference to the comment regarding “*overly complicated*”, whilst I maintain that the provisions work as a set to provide for a site layout that delivers a high-quality living environment, I accept that there may be opportunities to improve the arrangement or

readability of the Comprehensive Residential Development provisions of 15.10.2.9.

100. In terms of the content of the provisions, and the submitter's concern relating to the "*inappropriate mechanisms to manage development*", I maintain that the provisions provide a sufficient envelope for an owner to determine feasibility through the simple statement of setbacks, minimum dimensions, height and landscaping percentage.
101. In reference to the mechanisms for acquiring the public laneways, I have discussed the rationale for shorter blocks via the Greenways and pedestrian / cycle connections in the paragraphs under Urban Structure and New Connections. I appreciate that the reduced time frame for this Plan Change limited the mechanisms available for acquiring the laneways.
102. In reference to the need for the suggested workability of high-quality living environment in this context, the Sydenham and Lancaster brownfield areas are different to other peri-urban brownfield industrial areas for the following reasons:
 - (a) Brownfield sites in outer suburban areas such as Hornby represent large scale Industrial General sites with common site sizes of between 2-5 hectares. At this scale, these large sites represent large master planning exercises, with the ability to design a new network of streets, spaces and housing blocks that suit the often-preferred terrace housing typology and orientation.
 - (b) In comparison to the clean slate / tabula rasa approach above, areas such as Sydenham have an existing urban structure that needs to be worked within, as well as generally much smaller site sizes i.e. 2000sqm. Site depths are also fixed at 50-metres, and with industrial activities on either side and there are more factors to consider in redeveloping in Sydenham such as solar access, privacy and managing reserve sensitivities.
 - (c) Furthermore, unlike larger brownfield areas where street trees and green open spaces can be identified and developed in the best possible position for residents to access, Sydenham includes very few street trees and only one park – Buchan Reserve. This

quantum of open space and landscape amenity is insufficient on its own to achieve a WFUE.

- (d) Additionally, large brownfield subdivisions on the edge of the city can establish walkable block perimeters of between 600-800 metres. However, in urban Sydenham, where block perimeters should be a maximum of 600 metres, numerous blocks are in the 700's and some in the 800's which limits convenience and therefore the choice to use active modes of transport for everyday trips.
- (e) Lastly, the density jump projected for Sydenham from single storey to a 6-storey perimeter block form (including the potential for a second, smaller back building on typical 50-m deep sites) represents a significant change in comparison to two level suburban brownfield areas. Given density and amenity are inseparable, the amenity prerequisite in Sydenham is correspondingly higher than that required in an outer brownfield subdivision given the greater range of site layout options to secure solar, manage interfaces and secure privacy etc. Densities projected for the average Sydenham site are approximately 250 dwellings per hectare (net density) versus densities at the 5 ha. brownfield site of 22 Amyes Road, Hornby is 55 dwellings per hectare (gross density as includes internal JOAL roads). Consent reference for the latter Amyes Road, two storey terrace development is RMA/2022/2972.

103. Sydenham therefore represents a dense urban retrofit process rather than a fresh subdivision approach. Given the limitations in urban block size and amenity in Sydenham, the development transition here requires a site layout that provides for a 'high quality living environments' to become a WFUE.

104. The three key factors that contribute to a degree of excellence in the site layout:

- (a) a high level of residential privacy;
- (b) great access to sun for most of the year (either via a private balcony, patio or from the communal open space); and

- (c) an exemplar communal open space area which provides for a range of activities (passive and active) as well as a connection to nature / trees.
105. For clarification, high quality in the context of a “high quality residential environment” does not refer to the quality of the building, cladding or anything not related to the site layout.
106. Examples of ‘high quality living environments’ can be found in some of the more recent Ockham Developments in Auckland.



Figure 21 – Bernoulli gardens, whilst only up to 4 storeys provides for the three factors of a high quality living environment.

<https://www.ockham.co.nz/bernoulli-gardens/>



Figure 22 – Big Yard in Berlin is based on a hybrid perimeter block layout and includes a ‘high quality living environment’ which includes solar access, privacy and access to nature. However, the quality of the building itself is not necessarily of a ‘high quality’, yet residents can choose to fit out their apartment or terrace as they choose.

107. In contrast, a 'low quality residential environment' can be observed in some terraces housing developments in the CCMUZ. These developments result in neglected street quality, compromised amenity and privacy and pedestrian safety issues. Good quality seeks to remedy the above issues, however a high-quality residential environment aligns with onsite densities of over 200DPH. As density increases, so must the quality of the onsite amenity to ensure a high degree of liveability.
108. Christchurch NZ [760]. Appendix A of the Christchurch NZ submission is largely supportive of the PC14 changes but make a number of requests for the central city, area south of Moorhouse Avenue (Sydenham MUZ) and a 1-hectare site at 14 Johnson Street with split zoning.
109. In reference to the Christchurch NZ (CNZ) submission [760] - reference identification request items 1-13 relating to objectives and policies – I have reviewed all the requests and consider these amendments improve the readability of the provisions, as well as the linkage to the NPS-UD directions. I recommend that these requests be adopted.
110. CNZ's submission (Appendix 1 - reference identification request item 14) recommends amendments to the minimum standards for Comprehensive Residential Development (15.10.2.9). I support all the minor amendments, however, make the following comments regarding the removal of the minimum standard (h) which requests removing the option of a minimum of 3 storey development for sites on the south side of an east-west street. Whilst I appreciate this simplifies the rule and ensures at least 4-storey buildings should to be developed on either side of a street, this request may result in a number of potential site layout trade-offs for consideration:
- (a) Additional challenges or non-compliances in achieving 3-hours of solar gain into the central courtyard / communal open spaces at the Equinox for liveability;
111. Reconfiguring the communal open space deeper into the site and / or reshaping it north south to achieve sufficient solar access for a high quality living environment. This may in turn limit the size or feasibility of a possible secondary building at the back;
112. Reduced ability for 3-storey walk-ups along the street edge which may contribute less to the diversity of the housing stock.

113. CNZ's Appendix 1 (identification request no. 14) also references standard (j) which requests improved cycle storage as a facility that is integrated within the building; charging points for cycle parking at a rate of 1 per 5 bikes; and visitor parking. I recommend the inclusion of these requests into the minimum standards given they will improve the security and convenience for residents and visitors to bike or scooter as a daily mode choice. This directly improves alignment with the definition of well-functioning environments from an accessibility and greenhouse gas reduction perspective.
114. Lastly, the submission suggests improved wording for the method for acquiring the Greenways and new linkages to create walkable block perimeter of less than 800metres. Council has limited funds for land acquisition of key parcels, even given their strategic merit. Please refer to Mr Lightbody's evidence on this matter.
115. Te Kāhui Whaihanga NZ Institute of Architects (NZIA) [762] requests that the minimum site size be reduced to 1500sqm or 1800sqm at least. I have reviewed the block sizes with contiguous ownership on the western and eastern sides of Colombo Street and can confirm that whilst 66% of these already meet 2000sqm minimum, reducing the min site size to 1800sqm would include 1-2 more sites per block to be developed as an RDA. I recommend accepting the request to change the site area to a minimum of 1800sqm.



Figure 23 – Contiguous ownership of typical block illustrating extent of sites (in yellow) that could meet the minimum 2000sqm site size for comprehensive redevelopment on their own.

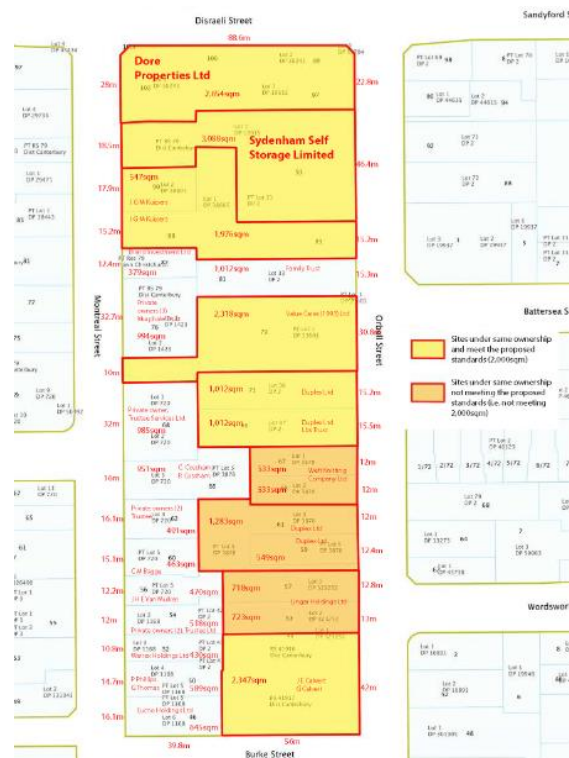


Figure 24 – Contiguous ownership of typical block illustrating extent of sites (in yellow) that could meet the minimum 2000sqm site size for comprehensive redevelopment on their own, and in orange those that meet the street front width of 24-metre but not the min area.

Sydenham summary

116. In response to the submissions received, I agree with almost all of the recommendations from Christchurch NZ and the NZIA. I am open to the re-structuring of the provisions to address the Kāinga Ora [834] recommendations relating to over-complication.
117. Perimeter blocks and internal communal spaces are the best way for Sydenham, with a light industrial character, to transition to six-storeys. The Comprehensive Housing Provisions are a set, and together shape redevelopment towards a site layout that provides for a high-quality living environment.
118. Perimeter blocks and supporting active transport modes also give effect to Kāinga Ora’s own Sustainable Transport Outcomes³⁴, the Ministry for the Environment’s Emissions Reduction Plan relating to “urban areas are

³⁴ <https://kaingaora.govt.nz/assets/About-us/Sustainable-Transport-Outcomes.pdf> “Over the last 70 years, New Zealand’s urban transport system has largely been designed around private motor vehicles. This approach has led to suburban sprawl and high levels of greenhouse gas emissions with 37% of a typical household’s carbon footprint attributed to transport. It has also led to transport poverty, limited access to jobs, physical inactivity and poor road safety outcomes”.

liveable, resilient, supported by high-quality urban design ...³⁵, and also the NPS-UD's definition of well-functioning urban environment, including other factors relating specifically to Ōtautahi Christchurch, such as microclimate, recovery, and design quality.

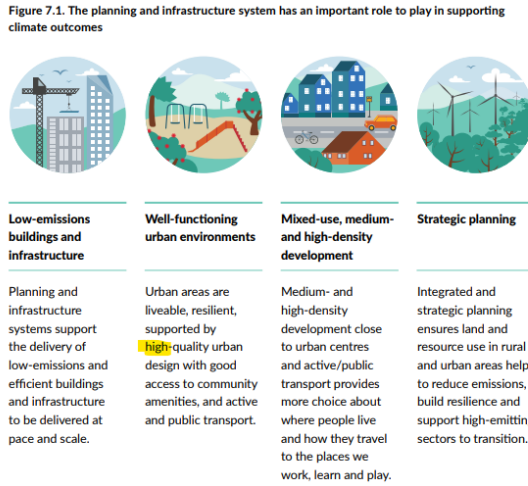


Figure 25 – Ministry for the Environment's Emissions Reduction Plan references high quality urban design with good access to community amenities and public transport.

LARGE TOWN CENTRES

119. The submissions by Kāinga Ora, Scentre Group and Lend Lease recommend that the Large Town Centres of Riccarton, Papanui and Hornby (all Key Activity Centres) become Metropolitan Centres with a height limit of 52 metres (approx. 18 storeys) and that the surrounding residential catchment of 1.2 km be increased in height beyond the 6 storeys minimum to 32 metres.

³⁵ <https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf>

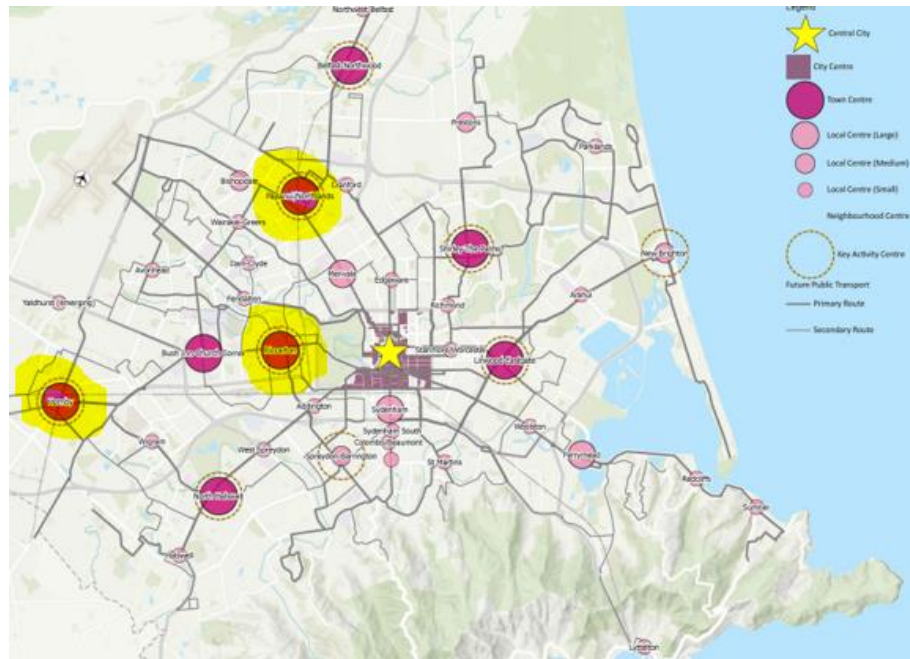


Figure 26 – NPS_UD Recategorisation of the Centres Framework illustrating Riccarton, Papanui and Hornby in yellow outline.

120. I have been asked by Council to assess the potential for each centre to accommodate additional height requested by the submitters in association with other mechanisms and controls to manage effects and work towards good urban outcomes / well-functioning urban environment.
121. In preparing this assessment, Boffa Miskell Limited have provided Technical Advice for the S32 analysis on the attributes of all centres categories, entitled Commercial Centres Urban Design and Built Form Descriptors³⁶. These descriptors have been translated into an Assessment in Appendix 4 which provides a framework for assessing the current attributes for each Centre.

Qualifying Matters

122. All three of these Large Town Centres are located along the City Spine Transport Corridor which requires a 1.5-metre building setback from roads that are 24-metres or narrower as per rule 15.4.2.10. Riccarton Road and Main North Road, Papanui are 20-metres wide so this additional setback will apply in these main streets. Main South Road in

³⁶ "Section32 Appendices 1 Technical report Commercial Centres Urban Design and Built Form Descriptors https://ccc.govt.nz/assets/Documents/Consultation/2022/09-September/S32-Part-4-Commercial-Distri_Industrial-Chapter-16-FINAL.PDF Page 384

Hornby is 30-metres wide so this road boundary setback will not apply here.

123. Other relevant QMs for Riccarton include the expanded Noise Influence Area sought by the CIAL submission, which covers much of the Centre and residential areas immediately to the north and south. The Riccarton Bush Interface QM also applies to the residential area north of the Riccarton Town Centre zone. Development capacity in this strategic location may be constrained by these two QMs. In comparison to Hornby and Papanui, Riccarton has the greatest potential to accommodate growth given the high numbers of bus routes that confluence here, and the relatively permeable street grid around the Westfield Mall.

Riccarton

Context



Figure 27 – Urban analysis of Riccarton illustrating the proximity to Riccarton Bush, sensitive residential boundaries between the Town Centre retail (pink) and the residential areas behind; and the indication of new / repaired north-south streets through the 8-hectare mall to improve the urban structure and connectivity throughout the wider Centre.



Figure 28 – Views east along Riccarton Road. [left] Just past the McDonalds on the corner of Matipo Street; and [right] mid-block between Division and Clarence Streets.

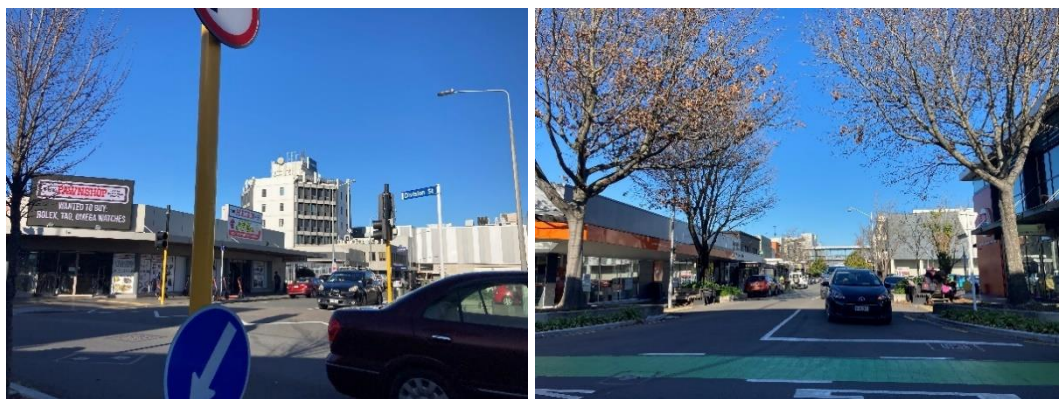


Figure 29 – [left] The “Harcourts Building” (88 Division Street) is 6 storeys and approx. 22-metre tall. Being the tallest building in the area it accommodates a host of telecommunication infrastructure on its roof top. [right] View south down Rotherham Street which even with the single level air-bridge across between the two sides of the Westfield Mall, provides a good amenity secondary main street to Riccarton Road.



Figure 30 – [left] View south down Clarence Street of the Westfield (Hoyts) car parking deck at a height of approx. 22 metres. [right] Almost complete Kainga Ora older persons apartments (3 storeys) at 219-225 Riccarton Road [RMA/2021/2866], adjacent to Shand Crescent reserve.

124. Riccarton is located 3 kilometres west of Cathedral Square and 1 kilometre west of Deans Avenue, the western edge of the Central City alongside Hagley Park.
125. The urban structure of Riccarton includes the Riccarton Road Main Street (east-west orientation) with the large Westfield Shopping Mall set in behind. Riccarton Road (between Matipo to Harakeke Streets) has recently benefitted from a streetscape upgrade post a major stormwater capacity upgrade, which provides a rebalancing of modes towards better provision of people on foot, bike and a bus priority lane.
126. In terms of public realm amenity, the recently upgraded corners of Riccarton Road and Rotherham (south side) and Rimu and Kauri Streets (north sides) provide good amenity kerb “buildouts” which include sheltered seating areas with tree canopies.
127. The scale of buildings along Riccarton Road includes a mix of 1-3 level buildings, cafes, restaurants, secondary services, retail outlets and the Metro Bus indoor hub. The Harcourts Building just off the main street is the tallest at six storeys (22-metres) and fits acceptably within its larger format backdrop.
128. A total of eight bus routes currently connects into Riccarton as a major bus hub. This includes the Orbiter Bus loop which connects the middle ring shopping centres around the city.
129. The Westfield Shopping Mall accommodates an 8-hectare block between Matipo and Rotherham Streets, and a 1.3Ha site on the eastern side of Rotherham Street which accommodate the Hoyts Cinema and associated carpark.
130. Historically, Division Street, located between Riccarton Road and Blenheim Road, has been divided to accommodate the large floor plate of the mall at construction. This creates a block perimeter (circumference) of 1,300-metres. This is more than double the best practice walkable circumference of 600-metres³⁷ which provides choice and convenience for a range of active transport modes. Thus whilst the mall in itself is a very popular destination and major retail and entertainment hub for the area, walkability to, through and around the

³⁷ <https://www.urban-design-guidelines.planning.vic.gov.au/guidelines/urban-structure>

mall is limited from the surrounding residential catchment. This has impacts on the Centre's contribution to providing for a well-functioning urban environment.

131. I have furthered the work of the Boffa Miskell list of Urban and Built Form Attributes to form an analysis table between the three key centres, illustrated in Appendix 4. Riccarton results in some alignment with the factors of a Metropolitan Centre, but most of a Town Centre (large).

Submissions

132. Kāinga Ora [834] and Scentre NZ Limited (formerly known as the Westfield Group) [260] are two key submitters for this Centre. They recommend lifting the height limit in the Riccarton Centre to respectively 52 and 50-metres, as well as recommend that Riccarton become a Metropolitan Centre.

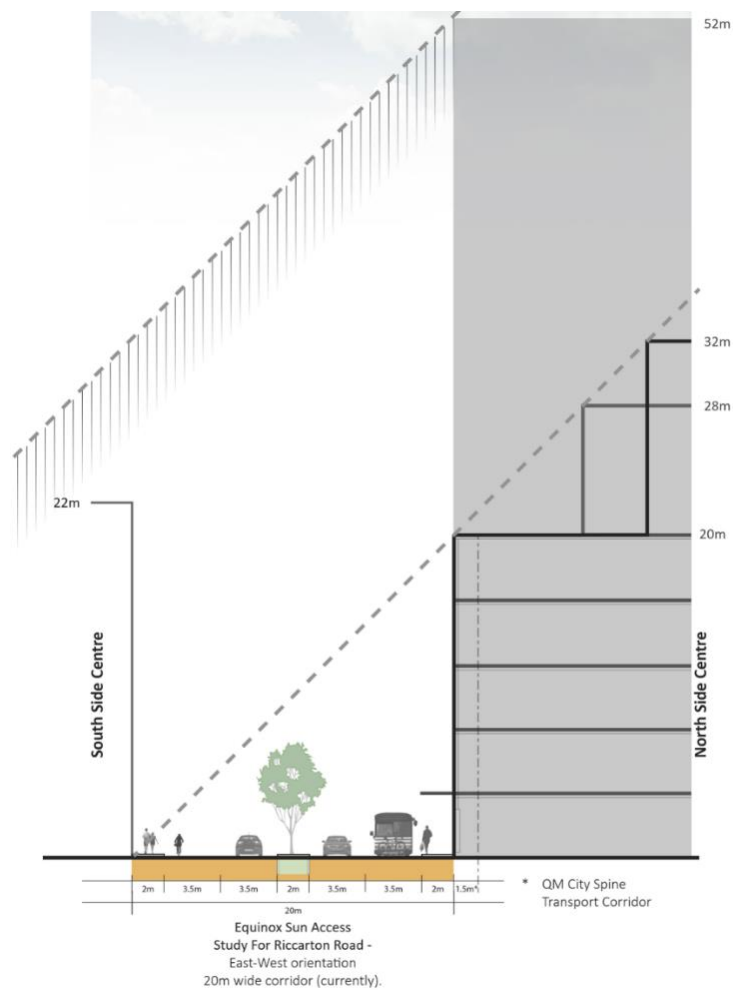


Figure 31 – Cross section of Riccarton Road illustrating the Equinox shadows created on the street and adjacent properties resulting from a 52-metre high building in the Christchurch microclimate / context.

133. I acknowledge that height and built form standards are one planning tool for enabling and managing increased density and intensity around centres. However, Riccarton will need area planning improvements to meet the outcomes and definition of a well-functioning urban environment (link to MfE) that is capable of accommodating additional height and capacity. Specifically, improvements in the urban structure in and around the Westfield mall site to improve pedestrian connectivity and accessibility in, around and through the centre is a pre-requisite to good growth.
134. Taller buildings over 8-storeys can have a greater adverse impact on streets and surrounding buildings than lower-rise buildings. These issues likely include:
 - (a) Reduced solar access into the street which could create dark and colder streets for a longer duration of the year. In turn this would likely discourage active modes of transport and incidental spend from walking past a shopfront;
135. A potentially windy streetscape if no setbacks are applied at the right height to manage down draft;
136. A reduction in human or lower-scaled buildings. Lower scales are important as they can provide a human dimension to streets where life can be seen behind buildings, and conversely people can be seen on the street. "Eyes on the street" is a basic safety / CPTED principle which is important for people to feel safe whilst making multiple stops in centres;
137. Visual bulk of a tower from a larger receiving environment (typically residential areas) depending on the thickness of the tower, the spacing between the towers and the level of architectural excellence.
138. Larger sites over 1 hectare inherently have the potential to accommodate greater height in the centre of their sites given the ability for deep setbacks which can visually absorb taller towers. Comprehensive master planning of these sites is essential to ensure new roads, streets or lanes can access taller height located in the middle of the site (to mitigate the effects listed above).
139. However, retrofitting an apartment tower in the middle of the Westfield Mall for example may result in access, safety and convenience issues for

residents walking down a long corridor to access an internal lift core. Therefore, street edge opportunities for additional height have been explored. I have considered what effects would arise from the heights and density requested by the submitters and give my opinion on appropriate controls to manage bulk for the Centre.

140. In terms of the smaller and medium sized sites along Riccarton Road, I have modelled the impact of a 52-metre-tall building on the 35-40m deep sites on the north side of Riccarton Road. As illustrated below, even with a 4-metre setback from the street wall height of 18 metres, the extent of a tower this tall would cast long shadows across not only the road but also sites on the south side of the street.
141. In response to the issues above, I consider 50-52-metres is an unacceptable height limit for the streets within the Riccarton Town Centre.
142. Whilst there is currently the opportunity in the Operative Plan and the Notified version to develop residential apartments (above the ground floor) up to five storeys, I consider that additional height could be accommodated on larger or corner sites in this zone (such as McDonalds on Matipo and Riccarton Road and the Clarence Street corners), away from more sensitive residential zone boundaries.
143. Note additional height for carparking activities would not be supported from a visual amenity perspective, given the challenge of mitigating open grille carparking decks.
144. Larger sites include those with areas greater than 2,000sqm and a minimum 24-metre road frontage. Other rules to manage effects such as solar access into streets include a maximum street wall height of either 18 metres or 20 metres, pending the adoption of the QM City Spine Transport Corridor. Additional height over the Notified 20 metres would need to be set back on a 45-degree angle (all the way up) to allow sunlight onto the southern side of Riccarton Road and Dilworth Streets (east-west streets) in particular at the Equinox.
145. Managing additional height over and above a 20-metre street wall height is also fundamental for winter solar access onto residential properties to the west, south and eastern sides of the Large Town Centre Boundary. For residential areas on the northern side i.e. north of Riccarton Road,

the impacts may be visual rather than physical. Thus, additional height over that notified would likely need to be set back at least 8-metres from the street edge to achieve good solar access into both surrounding streets and properties.

146. Managing bulk above a 20-metre podium on both sides of the street also creates a human scale where streets feel comfortable at a building height to street width ratio (also known as an enclosure ratio) of approximately 1:1 is established.

Additional built form standards to control buildings to a maximum height of 32-metres (10 storeys) in Riccarton and Papanui.

147. As per Mr Lightbody's request, I have developed the following built form standards to alleviate the adverse effects of additional height up to 32-metres (approximately 10 storeys) in the Riccarton Centre.
148. These standards have been assembled from both the CCZ and the Comprehensive Residential Housing pathway in the Mixed-Use Zone to aid in consistency given this maximum height limit and hierarchy between these two zones. The proposed additional and amended built form standards that would need to be provided for in rule 15.4.2 to mitigate adverse effects of a 32-metre height include:

(a) 15.4.2.1 Urban Design

b. Maintain the Certification threshold at the Operative height of 20-metres;

c. RDA

- ADD 15.14.2.15 - Outdoor living space for residential activity of 4 units or more

- ADD 14.15.1 - Residential Design Principles

15.4.2.2 Maximum building height – Recommend splitting Riccarton / Church Corner and Papanui to one line = 32m and Hornby in a second line = 22m.

NEW 15.4.2.11 - Minimum Tower setback. Any building above the 20-metre road wall height, shall be setback on a 45-degree angle from each edge of the building base.

New 15.4.2.12 - Minimum tower dimension and separation. Any tower over the 20 metre road wall height shall be a maximum of a 40-metre diagonal dimension. Separation between multiple towers on a contiguous site shall be a minimum of 18 metres.

NEW 15.4.2.12 - Road Wall Height = 20 metres (operative DP)

Papanui

Context

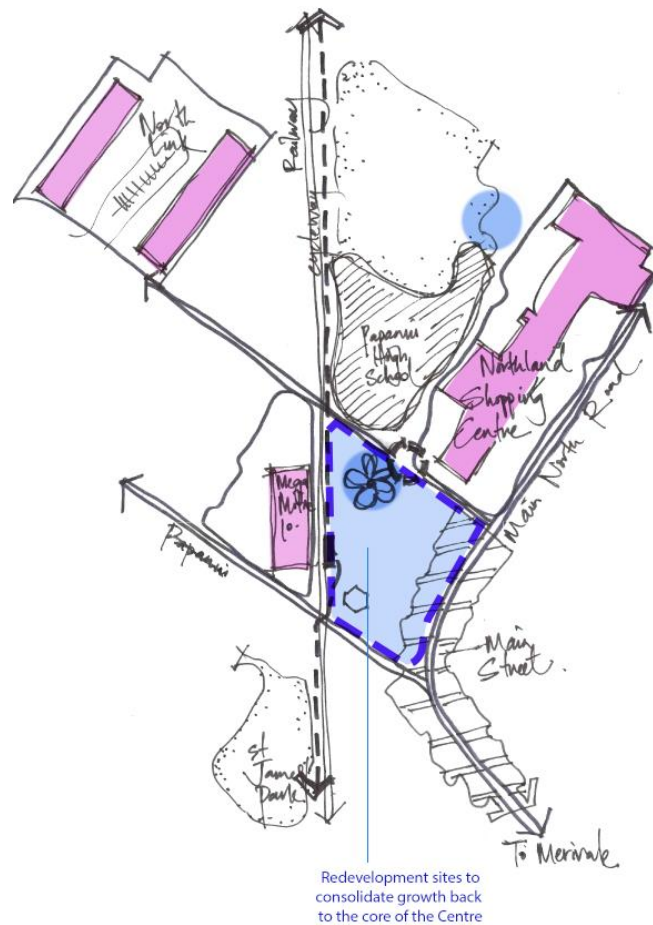


Figure 32 – Urban analysis and potential of Papanui illustrating the fragmented location of the three large format retail areas and the 5Ha. Redevelopment area on the corner of Harewood and Main North Road.

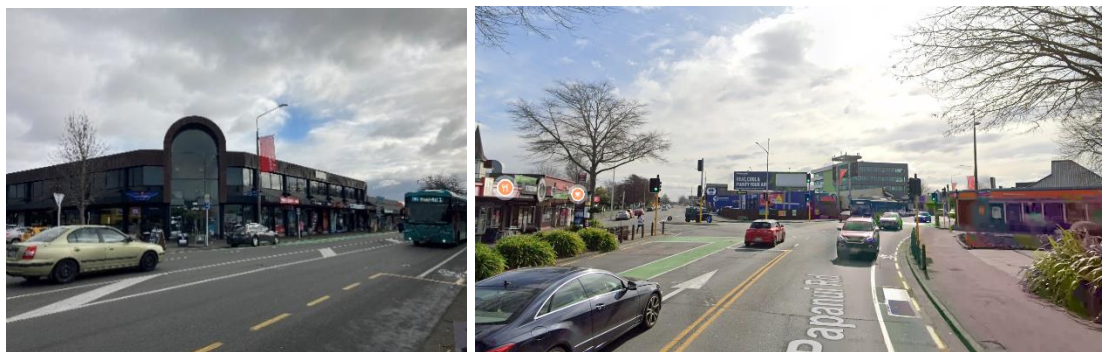


Figure 33 [left] -A relatively new building with some positive architectural interest marks the corner of Bellvue Avenue and Papanui Road, near the heart of the Town Centre. [Right] – View further north of the undeveloped sites at the intersection of Harewood and Papanui Road as it merges into Main South Road.



Figure 34 – New office development along Langdons Road between Northlands Mall and the new Northlinks Shopping Centre. [Right] – View north-east from the entrance of the Papanui Library towards the roundabout that accesses the back of the Northlands Mall (Langdons Road and Sisson Drive).



Figure 35 – The recently completed NorthLink Shopping Centre includes two rows of large format retail shopping which sides onto Langdons Road and is located either side of a large central carpark area.

149. Papanui is located 5 kilometres north of Cathedral Square in the Central City and includes a sense of arrival via the intersection of Papanui Road / Main North Road (peeling off to the east) and Harewood Road to the west. The Christchurch Railway Cycleway³⁸ also runs north along the central western side of Papanui, providing a dedicated off-road cycleway from Riccarton, Fendalton to Papanui and up to Northcote. It links numerous High Schools along the line and is therefore a popular route for students. In its heyday up until 1956, the Main North Train Line ran five³⁹ passenger services a day and from 1880-1930, the Papanui Station was also an interchange between passenger rail and the tram along Harewood Road. The station building still exists and is currently tenanted by a Korean restaurant.

³⁸ [Christchurch Railway Cycleway - Wikipedia](#)

³⁹ [Papanui railway station - Wikipedia](#)

150. The Town Centre Zone includes The Northlands Mall, Main North Road and the northern end of Papanui Road. The Main North Road end of the 'high street' opposite Northlands Mall appears to have lost much of its civic function and quality. Many everyday services have been absorbed into the mall, and NZ Post services are in a space shared by the Papanui Service Centre and Papanui Library. Overall, the remaining services along the 'high street' opposite the Northlands Mall (such as the pub, some banks, age concern, tattoo shops, the Police, and op shops) do not in combination with the car-parking edges around the mall, create a pleasant, walkable centre.
151. Recently the dynamic may change again with the construction of North Links Shopping Centre only 500 metres up Langdons Road from the edge of Northlands Mall. This large format retail with full visibility and convenience of surface carparking offers the likes of K Mart, Briscoes, Noel Leeming and Torpedo 7.
152. Further south-west off Harewood Road and on the western boundary of the railway line is a Mega Mitre 10 store and associated carparking. This additional Large Format Retail (**LFR**) anchor creates a very fragmented and inefficient urban structure because it is distinctly and separately located away from both Northlands Mall and North Links Shopping Centre. Customers typically drive between the three separate retail clusters or given the challenging traffic during the weekends, may perform separate car trips on different days.
153. In the centre of the three retail clusters is the relatively small Papanui Library which also includes the local Council service centre and recently the NZ Post shop. Over the roundabout from the Papanui Library is Papanui High School and on its northern boundary is Graham Condon (public) Pools. Whilst as the crow flies these civic uses are located within close proximity to each other, in reality Sisson Drive which connects them is dominated by cars (Sisson Drive includes all the entry / exits to the numerous carparking areas at the back of Northlands Mall), and the roundabout between them, offers very limited and poor safety pedestrian crossing opportunities. Additionally, there are no sunny civic spaces to sit, and the general experience of walking around the centre is not pleasant. These factors reinforce the modal choice for moving around the centre by car rather than active modes.

154. Overall, the current state of the centre does not exhibit the characteristics of a well-functioning urban environment. The LFT retail drift outwards has dispersed rather than consolidated the activities within this Large Town Centre.
155. The attributes table in Appendix 4 shows some attributes partially align with the Metropolitan Centre descriptors, but most do not.

Submissions

156. Kāinga Ora requests a height limit increase from 22 to 52 metres in the Town Centre Zone. In response to submissions, I have been asked to investigate a taller height than the notified 22 metres.
157. As I have briefly touched on previously, Centres such as Papanui would benefit from a well-funded area planning process to attempt to reconnect or reduce the walkable distance between the dispersed activities, to create a well-functioning urban centre. Given the current WFUE limitations in Papanui, I consider that a rules package on its own is unlikely to result in the block permeability improvements such as safe, attractive and engaging new laneways to encourage use of active modes of transport.
158. However, I acknowledge this RMA process and consider that signalling to the market and investment arms in Council that this Centre has the potential (with the recommended built form standard additions and amendments) to accommodate additional growth in this area.
159. In looking at the block structure of the Town Centre area south of Northlands Mall and east of the railway line, the Papanui Library area and blocks back to the corner of Harewood and Main North Road are considerably under-developed, bar one 5 storey office block on Winston Avenue. Additional height could be accommodated in this area within a future master planning process alongside this which sought to achieve a more permeable block / street structure.
160. Given the large scale of the Northlands Mall site, this land parcel could also accommodate additional height in the middle of its site, however given its relatively impermeable block structure (which I accept is a successful model for malls to minimise customer leakage), it is strongly recommended that any additional height above 22 metre be conditional upon a public, open air through site laneway through the middle to

connect Graham Condon Pools and Papanui High to the buses along Main North Road.

161. In summary, alongside the recommended area planning requirements, I recommend the following amendments and additions to the Built Form Standards to alleviate adverse effects up to 32 metres. Please note, these are the same as the Riccarton Town Centre:

(b) 15.4.2.1 Urban Design

b. Maintain the Certification threshold at the Operative height of 20-metres;

c. RDA

- ADD 15.14.2.15 - Outdoor living space for residential activity of 4 units or more

- ADD 14.15.1 - Residential Design Principles

15.4.2.2 Maximum building height – Recommend splitting Riccarton / Church Corner and Papanui to one line = 32m and Hornby in a second line = 22m.

NEW 15.4.2.11 - Minimum Tower setback. Any building above the 20-metre road wall height, shall be setback on a 45-degree angle from each edge of the building base.

New 15.4.2.12 - Minimum tower dimension and separation. Any tower over the 20 metre road wall height shall be a maximum of a 40-metre diagonal dimension. Separation between multiple towers on a contiguous site shall be a minimum of 18 metres.

NEW 15.4.2.12 - Road Wall Height = 20 metres (operative DP)

Hornby
Context

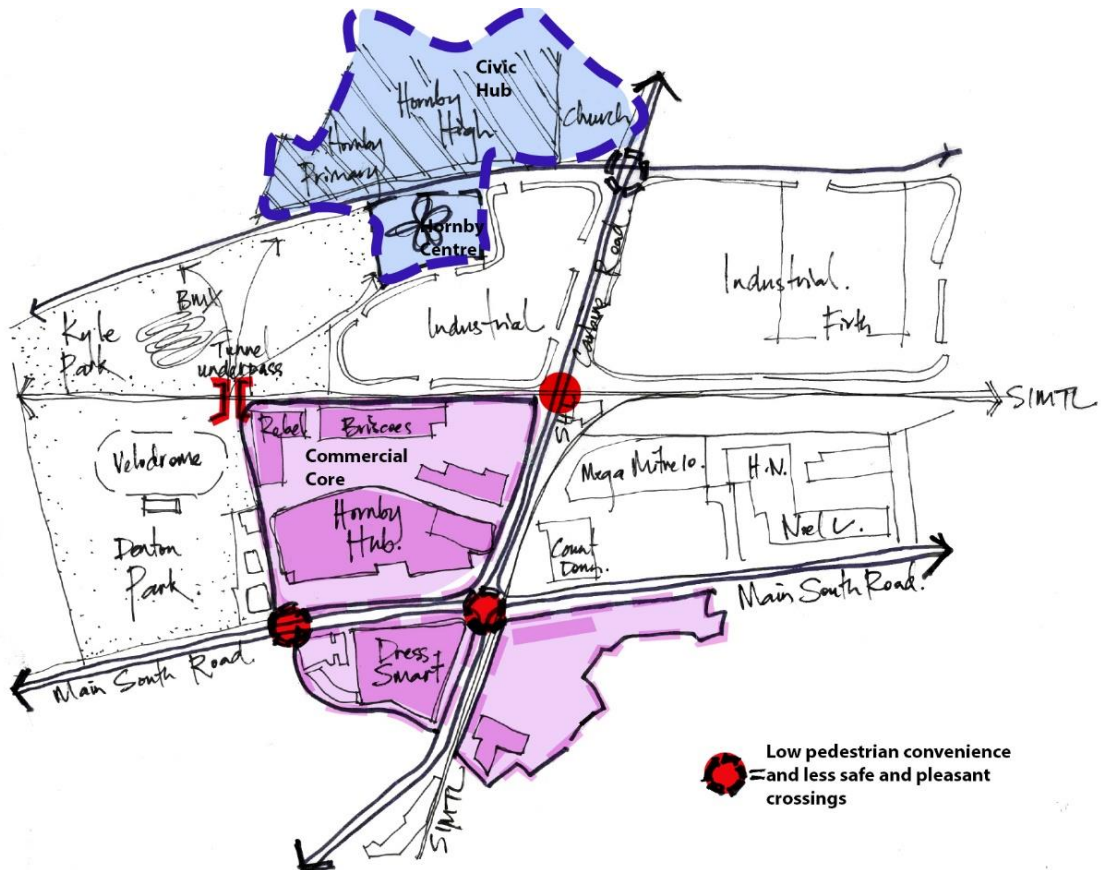


Figure 36 –The Centre is physically divided into a number of separate clusters: North of the east-west running NIMTL: Kyle Park, Velodrome, Council’s new Matakiki Hornby Centre⁴⁰ (service centre / pools and library complex); South of the railway line: Hornby Hub shopping and LFR: Mitre 10 mega, supermarkets etc and South of Main South Road: Dress Smart, secondary retail and residential area.

⁴⁰ <https://ccc.govt.nz/the-council/future-projects/major-facilities/matatikihornbycentre>



Figure 37 – aerial view facing East over the Hornby Hub and associated large format retail on the left and Dress Smart (right). Visibility and access to carparking dominates the amenity of the Centre.



Figure 38 – [top] View west along Main South Road at the intersection of SH1 / Carbine Road which marks the introduction to the Hornby Hub retail area. [above] – The wide intersection of Main South Road and Carbine Road also includes a railway line and a “free left turn” which makes crossing between

Dress Smart, the Hornby Hub and the surrounding residential catchment physically challenging given no priority on the free left turn.



Figure 39 – View north of the Hornby Hub on the North side of Main South Road. Opportunities to cross the road are limited and challenging given the wide 30-metre width, 3-4 lanes of traffic each way and a free left turn for cars without a zebra crossing results in long wait times for pedestrians.

162. Hornby is located on the outskirts of Christchurch approximately 9 kilometres west of the Central City. This distance is almost equidistant again to the Rolleston Town Centre in the Selwyn District further west.
163. The urban structure of Hornby includes large land parcels separated into quadrants by the two wide Major Arterial Roads of Main South Road and Carbine Road/SH1, which intersect at crossroads. These crossroads effectively divide the Centre into quarters. Carbine Road is further widened by accommodating a railway spur line off the South Island Main Trunk Line (SIMTL). The still functional SIMTL is located to the north of The Hub and dissects Denton Park / The Hub with the new Matatiki⁴¹ Hornby Centre an / Kyle Park and Hornby High School to the north.
164. Only two railway crossing exist at grade, and these are a kilometre apart which creates a very impermeable walkable centre. There is an underpass tunnel at the northern end of Denton Park over to Kyle Park and Hornby High School, however whilst recently painted by local street artists, offers inherent safety issues after hours given the lack of passive surveillance from any adjacent business or residential land uses. Furthermore, the wide arterial roads are difficult to cross given the free left turns, do not include signalised crossings on all 'legs', and incur long wait times for people on foot.

⁴¹ <https://ccc.govt.nz/the-council/future-projects/major-facilities/matatikihornbycentre>

165. The low quality of the street level environment i.e. large carpark and blank wall interfaces to footpaths, indirect pedestrian crossings over Main North Road, an absence of street trees for amenity and shade and complete absence of cycling infrastructure.
166. In summary the urban structure and block perimeters currently in Hornby are large and impermeable. The physical limitations of the wide roads / highways and railway line create physical barriers to safe, accessible and convenient movement on foot. The limited signalised crossings and free left turns do not provide an 800m pedestrian catchment that equates to a typical equivalent for a 10-minute walk in Hornby.
167. Furthermore, the quality of the walking experience is loud (traffic volumes) and currently unpleasant, given the footpaths are often flanked by surface carparking, often large blank or inactive walls and a canopies and continuous lines of street trees for weather protection and amenity respectively. Lastly, the ziz-zag pathway across Main North Road between the entrances of Dress Smart and the Hornby Hub does not include any signalised crossing function or zebra crossing, so again pedestrians must wait until there is a gap in the multiple lanes of traffic to cross this main street in two tranches. These factors reinforce the convenience of driving between destinations over active modes of transport.

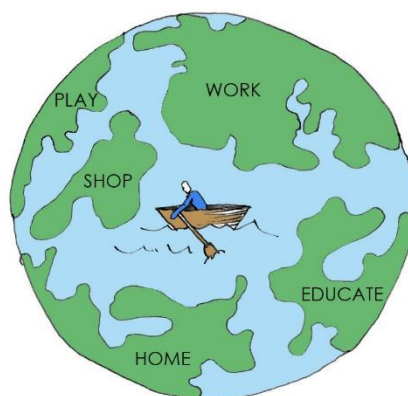


Figure 40 – Image indicating the extent to which the land uses in Hornby are currently separated by physical barriers, resulting in (in this case) a car-centric centre.

168. In comparison to Riccarton, and to a lesser extent Papanui, the large distances between land uses in Hornby, and the physical barriers to movement throughout the Centre cumulatively results in a smaller

residential catchment (within a 10-minute walkable distance of the Centre. Overall, the Centre currently does not include many attributes or outcomes of a well-functioning urban environment.

169. The attribute assessment snapshot below (see Appendix 3) illustrates that Hornby currently has a “low alignment” with the attributes of a Metropolitan Centre. That is not to say that it cannot become an emerging Metro centre, but that its urban structure currently does not provide the accessibility, amenity or functional attributes required to accommodate a significantly taller scale of buildings on its own.

Submissions

170. Alongside Kāinga Ora’s submission for elevating the Centre’s status to a Metropolitan Centre and providing for a 52-metre height limit, Lend Lease who own Dress Smart have also requested that Hornby become a Metropolitan Centre, but with a height of 45 metres. Neither submitter mentions what type of activity(s) might be financially leasable or sellable at these heights.
171. Given the urban structure inadequacies currently in Hornby, I do not consider that additional height above 22 metres can be developed in isolation without the necessary land-use transport integration improvements. For example:
- (a) A dedicated signalised crossing at Main South Road between the two entrances to the mall;
 - (b) As an alternative to the underpass tunnel alongside Denton Park, a safer and direct crossing over the railway to provide a connection between Kyle Park, Hornby High School, and the Hornby Centre, with the Town Centre.
 - (c) To encourage active modes of transport, streetscape improvements with large-scale tree planting to increase Hornby’s low tree canopy cover (6%) could increase the uptake of walking in the area.
172. Without a well-functioning Long-Term Plan for Hornby, elevating the development heights for the Hornby Hub and the Dress Smart site up to 52 / 45-metres respectively could exacerbate connectivity issues between the difference land uses around the Centre. Accentuating the

core without good lateral connections or accessibility between land uses does not meet the outcomes of a WFUE.

173. However, I do consider that the Hornby Hub site at 2 ha could, if redeveloped comprehensively with quality new street connections, accommodate additional height up to 32 metres (10 storeys) in the centre of the site given the ability to absorb larger massing. However, possible consequences of this include reinforcing the car-based nature of the centre. Without comprehensive area planning, this in turn could further compromise active transport movement to and around the centre, as well as reduce the contribution to greenhouse gas emissions.
174. The Lend Lease submission [855] for DressSmart has proposed a set of Metropolitan centre rules which appears to align with that prepared for the City Centre Zone in the Central City. The CCZ is a different context and offers different urban block, grain size / plot sizes (200-2000sqm), walkability and development envelopes. The CCZ also offers a high-quality public realm area which can offset higher densities. Whilst I appreciate the request to propose a rule set, I do not consider that such an enabling envelope is appropriate for this site in Hornby given the road hierarchy and low-quality pedestrian environment currently reinforces a car-centric model for the centre. Heightening the development activity on these TCZ sites could further reinforce the car-dominated nature of the centre, further removing it from the objective of a well-functioning urban environment capable of accommodating significant growth over the next 10+years.
175. Specifically, the Dress Smart site at 1.2 hectares is large and backs onto Golding Ave to the south. This residential area has been identified as HDZ, so in enabling apartments at the ground floor, it is critical that solar access into this street and these sites to the south is prioritised. Given the unusual shape of the site, specific modelling of a development envelope would need to be undertaken to ensure winter solar access into Golding Avenue was maintained.

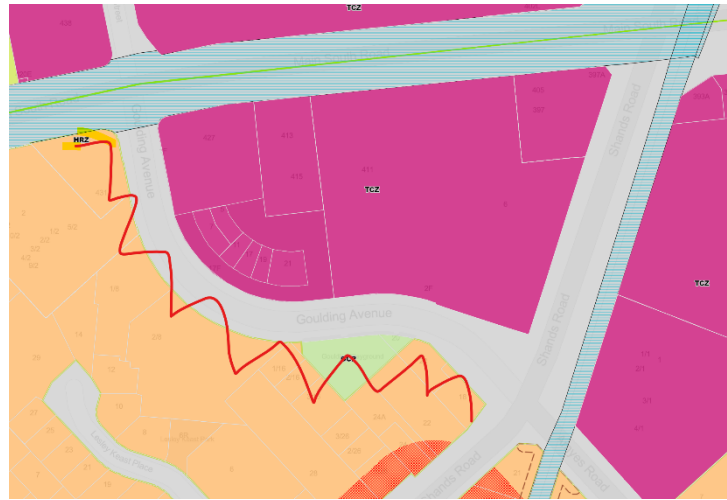


Figure 41 – shape and location of the dress mart site in relation to the residential area on the southern side of the site (more sensitive to solar issues)

176. In summary, Hornby is currently distinctively different in terms of its urban structure, street level qualities and commercial core size in comparison to Papanui and Riccarton. In my opinion, it cannot yet be offered the same enablement of height up to 32 metres as is recommended for the other two large town centres. Given Hornby's core commercial area sits between that of Shirley town centre (a 22m centre) and Papanui / Riccarton (a recommended 32m centre), I recommend that the maximum height limit for Hornby should be 26-metres until a comprehensive plan change or area planning that transitions the area into a WFUE is approved. 26 metres allows for seven, generous commercial and / or mixed use levels, whilst still retaining its place within the Centres hierarchy of a Large Town Centre.

TOWN CENTRES, LARGE LOCAL CENTRES, LOCAL AND NEIGHBOURHOOD CENTRES

177. Kāinga Ora requests that the large local centres of Merivale, Sydenham and Church Corner be elevated in height from 20-metres to 22 metres. In principle, I support this request given that 22 metres provides greater flexibility to develop more functional commercial ceiling heights in a six-storey building.
178. In terms of possible adverse shadowing effects from an increase in height, I have reviewed the street orientation and width of each of the main streets for each town and local centre. All the streets in the town

centres are slightly wider than 20-metres so can accommodate an uplift to 22 metres without adverse solar issues on the southern footpath.

179. Similarly, Merivale and Sydenham large local centres are generally aligned in a north-south orientation so solar issues in the Christchurch latitude of lower sun altitude, is not an issue. Riccarton Road in Church Corner however, which runs east west similar to the Riccarton Large Town Centre, is a 20-metre-wide road. As such building on the northern side of the street boundary up to 22 metres is likely to cast shadows over the full road corridor (including footpath) at the Equinox.
180. However, given this Centre is located on the MRT route, if the additional 1.5m road setback QM is enabled, this setback could offset the need for an upper-level setback above 20-metres to facilitate solar access onto the southern side of Riccarton Road. This is an important factor of a WFUE given the experience of waiting in the sun for passenger transport is a positive outcome for encouraging the use of active modes of transport.
181. In terms of Neighbourhood Centre, I also support the increase in height from 12 to 14 metres as again this provides greater commercial flexibility for 3.5metre finished floor levels (**FFLs**) above a 4 metre FFL ground floor commercial / retail level.

CONCLUSION

PART 1 – CCMUZ / CCMUZ (SF)

182. In response to submissions, enhancing the primacy of the central city through a competitive development scale advantage, I recommend that all CCMUZ areas (except those at the far north of the Central City⁴² the maximum height of the CCMUZ be increased to 32-metres subject to a 45-degree setback measured from the top of the 17-metre base building.
183. However, to balance this uplift and support the significant level of investment and public realm qualities (including access to nature and open space) of the South Frame, I maintain that the CCMUZ(SF) should remain at a 21-metre height limit. Specifically, this seeks to maintain solar access into the 7-metre-wide Greenway, as well as the four 'great yards' of Evolution Square. Furthermore, this CCMUZ(SF) zone and

⁴² CCMUZ sites on the corner of Bealey and Colombo Street, as well as 400-404 Barbadoes Street.

public realm (Open space Community Parks Zone) in combination provide an essential breathing space and connection to nature for adjacent businesses and residents to enjoy given the lack of street qualities or pocket parks in the CCMUZ along the southern edge of the Central City i.e. the South City precinct as recommended for the next wave of area planning.

PART 2 – Suburban Centres, including Mixed Use Zone (Sydenham)

184. In relation to the Sydenham MUZ - Comprehensive Housing Precinct, I support almost all the requests by Christchurch NZ [760] and in relation to the NZIA [762], support the requested reduction in the minimum size area to 1800sqm, based on the maintained ability to still achieve a high-quality site layout and living environment on this size site.
185. In relation to Kāinga Ora concerns relating to complexity, I accept that some finessing of the structure of the provisions may improve the readability. However, I strongly maintain that the Objective and Policy framework, and specifically that relating to a 'high-quality living environment' is necessary for enabling this currently lower amenity, brownfield urban retrofit area to transitioning to a safe and well-functioning urban environment with six-storey residential development.
186. In reference to the three Large Town Centres (KAC's) of Hornby, Riccarton and Papanui, I find that numerous sites in Riccarton and Papanui have potential to accommodate good growth on specific TCZ sites up to 32-metres with the recommended amendments to the Built Form Standards. Conversely, Hornby currently exhibits a poor urban structure and low-quality pedestrian network and quality which does not provide for a well-functioning urban environment. As such I recommend that the height limit for Hornby TC be maintained at 22-metres until a well-funded Council plan change or area plan be adopted to improve the structure and accessibility of the Centre. As such, I consider this centre to be a transitional large town centre.

187. Numerous examples of a Council and Council Controlled Organisations (CCOs) in Auckland have demonstrated the public and private benefit of coordinating good growth that encourages active modes of transport.

Some examples include:

- (a) Eke Panuku's transformation of Wynyard Quarter and Manukau⁴³; and
- (b) The Merchant Quarter within the New Lynn Urban Plan prepared by Waitakere City Council (pre amalgamations) focussed on transport orientated development and the establishment of a finer grain network of streets and quality public realm to offset new mixed use, podium – tower developments.



Figure 42 – The transformational-led Merchant Quarter includes approx. 50 metres in height, is located adjacent to the redeveloped and trenched New Lynn Station ⁴⁴

188. In summary, the commercial provisions have been aligned to strengthen the hierarchy of commercial areas and centres between the Central City and the suburban centres. The provisions and recommendations also given effect to the NPS-UD and in particular the list of defined outcomes within a well-functioning urban environment. Lastly, the focus on solar access and active modes of travel also supports the Christchurch City Council's targets of achieving net zero greenhouse emissions by 2045

⁴³ <https://www.ekepanuku.co.nz/news/tapping-into-local-talent-to-guide-transformation-in-manukau/>

⁴⁴ <https://architecturenow.co.nz/articles/merchant-quarter/>
<https://at.govt.nz/projects-roadworks/new-lynn-transit-oriented-development/the-merchant-quarter/>

(with separate targets for methane), and to halve emissions by 2030, from 2016-17 levels.

Date: 11 August 2023

Nicola Williams

APPENDIX 1 - CCMUZ / CCMUZ(SF) RESPONSES BY THE CARTER GROUP [814]

Rule	Carter Group Ltd request	Recommendation <i>(additions indicated in bold and italics)</i>
Chapter 15 objectives and policies		
15.2.8.1 (CCMUZ usability and adaptability)	<p>Oppose subclauses (a)(iv)-(vi) on the grounds that they do not reflect operational and functional requirements of activities and buildings within the CCMUZ.</p> <p>If intended to apply only to residential developments, then draft them to make this explicit.</p>	<p>Accept in part. Commercial vs Residential entrances often need to be separate for fire (cells) reasons. I recommend amending (a)(iv) as below: “providing a dedicated pedestrian access for residential each activity within a development, directly accessed from the street or other publicly accessible space”.</p> <p>Retain (a)(v) providing sufficient setbacks and glazing at the street frontage’ as this clause provides for a range of uses over time, including the conversion from commercial to residential.</p> <p>(a)(vi) – recommend retention to provide for opportunities for activation (level of engagement and passive surveillance) of the street to encourage walkable central city streets.</p>
15.2.8.2 (CCMUZ amenity and effects)	Oppose subclause (a)(v) on the basis that ‘locating outdoor service space	Recommend adding in the following word to (a)(v) ‘Locating outdoor service space and car parking <u>directly</u> away from street

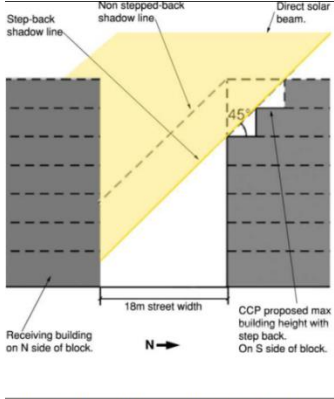
	<p>and car parking away from street frontages and entrances to buildings' may not always be practicable or desirable.</p> <p>Oppose sub-clause (a)(viii) on the basis that urban design assessments impose unnecessary time, cost and uncertainty for developments. Prefer to use the built form standards.</p>	<p>frontages and entrances to buildings.</p> <p>Recommend retaining clause (a)(viii) for consistency with other zones. Urban design assessments currently apply to other zones where residential activity of 4+ units are permitted. This includes the City Centre Zone, CCMUZ(SF), MDRZ, HDZ and Town and Local Centres. Urban design assessments are important in that they can improve the overall site layout (safety, privacy, sunlight amenity and access to nature) and built form relationship to the street. This is especially important given the recommended uplift in height for all CCMUZ sites 32-metres.</p> <p>Monitoring carried out on CCC, entitled Medium Density Housing Research, across different zones indicates that the zones where residential design principles apply consistently achieve better outcomes. Please refer to the urban design evidence by Mr Hattam).</p> <p>Additionally, the Certification Process provides an alternative pathway for applicants to engage their own urban designer (from Council's Certifier list) to provide an assessment as part of the resource consent process.</p>
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Chapter 15 – Commercial Central City Mixed Use Zone Provisions:

<p>15.12.1.1 P16 (CCMUZ residential activity)</p>	<p>The proposed amendments introduce additional design standards (re: street setback, glazing and outlook space requirements).</p> <p>Such changes are not necessary or appropriate for the purposes of promoting intensification and they impose additional consenting requirements with associated implications in terms of time, cost, and uncertainty.</p> <p>Accordingly, these amendments should be deleted.</p>	<p>Recommend retention of these amendments. Given the uplift in height in all sites to 32-metres and with this the opportunity for higher density apartments, the inclusion of provisions relating to 10% communal outdoor living space and outlook metrics, are considered fundamental onsite amenities needed to offset higher density forms of living i.e. by providing sufficient levels of onsite amenity and privacy. 20% glazing towards the street and public spaces is also recommended to remain to provide good access to sunlight or daylight for anticipated apartments in particular. Given the recommended height uplift, I would further recommend that all tower elevations provide a minimum of 20% glazing to provide for visually coherent and attractive towers. Overall, these provisions are also comparable to other zones anticipating higher density residential living.</p>
<p>Rule 15.12.1.3 RD2 - RD6 (CCMUZ-RDA consent requirement)</p>	<p>The changes proposed to this rule are not necessary or appropriate for the purposes of promoting intensification and they impose additional consenting</p>	<p>RD2 includes additional matters of discretion for built form standards (15.14.3)</p> <p>Recommend retention of all matters of discretion given that taller buildings, especially towers up to 32-metres are generally more difficult to manage than six-storey buildings</p>

	<p>requirements with associated implications in terms of time, cost, and uncertainty.</p> <p>Accordingly, these amendments should be deleted.</p>	<p>in terms of bulk, massing, blank walls and modulation etc. To alleviate the adverse solar and visual effects, it is strongly recommended that all standards be retained in this transitioning mixed-use area with often narrower east-west streets that are more sensitive to bulk and solar issues.</p> <p>In particular the retention of RD4 – Residential Design Principles 14.15.1 offers consistency with other zones of 4 residential units or more.</p> <p>Additionally, the minimum 20% glazing rule is still relevant for apartments and commercial developments and should apply on all elevations to maintain architectural coherency given taller buildings are experienced by wider / larger public viewing audiences.</p> <p>RD5 – Urban Design in the Central City and CCMUZ – Rule 15.14.2.6 given the need to improve the level safety / CPTED of residential developments in this zone, as well as the relationship with the street in particular.</p> <p>RD6 – City Spine Transport Corridor to be retained as this is only</p>
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		relevant for a selection of sites on Manchester Street north of the Ōtākaro Avon River in this CCMUZ.
Rule 15.12.2.1 (Landscaping and trees)	Oppose increase in landscaping requirements from 5% to 10%	Recommend retention. As the density and intensity of sites goes up, and recently in this zone in all areas up to 32-metres, so too does the correlation of onsite amenity. Thus, an increase in onsite landscaping from 5% to 10% provides for both space for mature trees at sensible separation distances, as well as green space that is not in the shadow of the mature trees. This links to the WFUE outcome of access to nature ⁴⁶ .
Rule 15.12.2.2	Oppose variable heights and maximum building base are 'inadequate and inappropriate'	Accept this request. I have reconsidered the heights in this zone and now recommend a maximum height of all CCMUZ sites (aside from those listed in the body of this evidence close to Bealey Avenue) of 32-metres subject to additional built form standards to manage the solar and visual impacts of a tower at this height. Specifically, the recommended recession plane from the top of the road wall height of 17 metres of 45-degrees alleviates solar issues on the more sensitive narrower east-west

		<p>streets⁴⁵ in the CCMUZ, as well as given the lower sun altitude in Ōtautahi Christchurch of 46.5- degrees ⁴⁷.</p>  <p>Figure 4: CCP Intended Effect of Step-backs on Solar Access to the Urban Canyon</p> <p>46</p>
<p>Rule 15.12.2.9 (Minimum number of floors)</p>	<p>Oppose 3 levels minimum</p> <p><i>The minimum number of floors for any building above ground level shall be two.</i></p>	<p>Clarification that the definition of 'ground level' means <i>“the natural ground level”</i> so my interpretation of the definition is that only a minimum of two levels need be built.</p>
<p>Rule 15.12.2.10 (Building Setbacks)</p>	<p><i>“Imposing new, additional rules regulating the design of buildings in a manner that may not be functional, efficient, economically viable and which may constrain the realisation of the central city intensification is at odds with the NPS-UD...”</i></p>	<p>Recommended amendment. Please refer to the amended rule to alleviate a 32-metre-tall tower which includes a 45-degree angle measured from the top of the 17-metre base building.</p>

⁴⁵ i.e. 15m for Welles and Bath Street and 11m for St David Street; Halkett Street, and 8-12 metres for Aberdeen Street.

⁴⁶ https://d39d3mi7qio96p.cloudfront.net/media/documents/SR277_7_Building_Energy_End-use_Study_BEES_Year_5_Christchurch_urban_form_and_energy.pdf

<p>Rule 15.12.2.11 (Building tower coverage)</p>	<p><i>“Imposing new, additional rules regulating the design of buildings in a manner that may not be functional, efficient, economically viable and which may constrain the realisation of the central city intensification is at odds with the NPS-UD...”</i></p>	<p>Recommended amendment. Given the recommended elevated height now to 32-metres, it is recommended that a tower dimension of a 40-metres diagonal be substituted for this rule given the visual bulk issues that would likely result from a 50% tower coverage of say a 1-hectare site size (which is not an uncommon size in this CCMUZ).</p>
<p>Rule 15.12.2.12 (glazing)</p>	<p><i>“Imposing new, additional rules regulating the design of buildings in a manner that may not be functional, efficient, economically viable and which may constrain the realisation of the central city intensification is at odds with the NPS-UD...”</i></p>	<p>Retain. Single-aspect apartments accessed off an internal core, rely on external facade access to daylight / sunlight. A minimum 20% provides sufficient access to sunlight to permeate into a single aspect apartment.</p>
<p>Chapter 15 – Commercial Central City (South Frame) Mixed Use Zone Provisions:</p>		
<p>Rule 15.13.1.1 P13</p>	<p>Oppose 20sqm of outdoor living space for residential units with a ground floor habitable space; 10% communal open space (with 6metre diameter; 8sqm</p>	<p>Retain. See consistency with CCMUZ and other parts of the Central City, as well as amenity requirements to offset significant uplift in height and development envelope, as well as good urban outcomes – amenity as part of NPS definition of well-functioning. i.e. as density doubles so too</p>

	balcony and 1.8m depth	does onsite amenity to provide for liveability.
Rule 15.13.1.3 (actually 3) RD5	Oppose Max building height (below 32m) Minimum floor levels Upper floor setback Glazing	Retain 21-m height limit. Refer to previous discussion in my evidence for a rationale on retaining the South Frame height. Retain. Refer to previous clarification on the definition of this wording. Min floors at 2 storeys is included in the Plan Change so no issue. Retain upper floor setback maintains current street wall height of 17 metres which seeks to provide Equinox sunlight into streets. Glazing – refer previous comment in Rule 15.12.2.12
Rule 15.13.2.1 (height)	Oppose building heights lower than 32 metres	Retain. Refer to previous discussion within body of Evidence relating to CCMUZ(SF).
Rule 15.13.2.8 (Minimum number of floors)	Oppose 3. Request 2.	Refer to previous clarification.
Rule 15.13.2.11 (Building tower coverage)	Oppose 50% of the net site area above 17 metres.	Amend this rule to a 40- metre diameter dimension to manage bulk of towers up to 32- metres in height.
Rule 15.13.2.12	Oppose Min 20% of each	Refer to previous comment relating to

(glazing)	floor with clear glazing.	retention of minimum 20%.
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APPENDIX 2 - CCMUZ / CCMUZ(SF) RESPONSES BY KĀINGA ORA [834]

Rule	Submitter request / relief sought	Response (<i>additions indicated in bold and italics</i>)
Chapter 15 – Commercial Central City Mixed Use Zone Provisions:		
15.12.1.1 P16 (a)(iii) (CCMUZ storage screening)	Delete direction that outdoor screening shall not be located between the front façade of the building and the street boundary as is manages through 15.12.2.5.	Accept duplication of this rule. Please refer to Mrs Gardiner's evidence.
15.12.1.1 P16 (c)(iii) (CCMUZ Communal outdoor living space)	Requirement seen as excessive within this context as these areas are not necessarily mutually exclusive.	Retain. Refer to previous response in Carter submission above.
15.12.1.1 P16 (j) (CCMUZ residential activity 50% GFA)	This requirement seen as excessive within this context as higher density residential activity should be encouraged with standards of outdoor and communal living space being used to provide appropriate levels of amenity.	Amend site coverage to 55% if no private carparking is provided with the exception of minimum accessible parking spaces required under the Transport chapter. This aligns with the provisions of the adjacent HDZ.
Rule 15.12.1.3 RD2 – RD4 (CCMUZ- RDA consent requirement)	Additional matters of discretion associated with upper floor setback and glazing are unnecessary and not the more appropriate provisions. Delete clauses (b) – OLS for residential activity of 4 units or more – 15.14.2.15 and (c) glazing 15.14.3.37	Retain. Refer to previous response in Carter submission above.


Rule 15.12.2.1 (Landscaping and trees)	The proposed landscaping requirements are excessive” and “inappropriately reduce development opportunities”.	Retain. Refer to previous response in Carter submission above.
Rule 15.12.2.2	Support 32m height as appropriately enabling within a proximate distance to the City Centre zone. The restrictions in height are unnecessary, and there is an absence of clarity in the definition of ‘Building Base’.	Retain. Refer to previous response in Carter submission above.
Rule 15.12.2.7 (Minimum setback from the boundary)	Oppose as unnecessary and unduly constraining.	Retain. I consider that ii.a is actually enabling as offers zero lot boundaries (no side setbacks) if buildings are located close to the street.
Rule 15.12.2.9 (Minimum number of floors)	Oppose 3 floors – recommend stay with two levels as provides for a wide variety of uses, not all of which are appropriate to multi-storey buildings and may well be appropriate in a mixed-use environment.	Clarification. Refer to previous response in Carter submission above.
Rule 15.12.2.10 (Building Setbacks)	Requirements between internal setbacks and tower setbacks are unnecessary. Recommend deleting (b) and (c).	Retain. Refer to previous response in Carter submission above.
Rule 15.12.2.11 (Building tower coverage 50% net site area)	Considered unnecessary and would inappropriately disenable development capacity	Amend rule. Refer to previous response in Carter submission above.

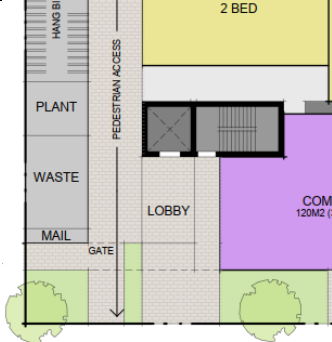
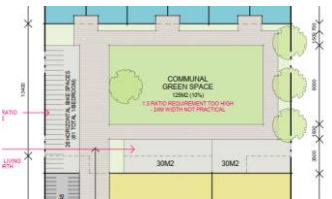
	for no sound RM purpose.	
Rule 15.12.2.12 (glazing)	Considered unnecessary and would inappropriately disenable development capacity for no sound RM purpose.	Retain. Refer to previous response in Carter submission above.
Chapter 15 – Commercial Central City (South Frame) Mixed Use Zone Provisions:		
Rule 15.13.1.1 P13 (a)(iii) (d) iii (f-j)	Oppose 20sqm of outdoor living space for residential units with a ground floor habitable space; 10% communal open space (with 6metre diameter; 8sqm balcony and 1.8m depth	Retain. 20sqm of GF OLS ensures any terraced housing have a functional space for outdoor amenity. In addition, this space offers ground floor apartments a sufficiently sized patio which can be designed to mitigate privacy issues from pedestrians at street level. 6 metre minimum dimension for COLS provides a width for two medium sized trees to grow to maturity. Increase from 1.5- to 1.8-metre-deep balcony provides width for a small table and two chairs and a narrow circulation space around. Well-functioning amenity.
Rule 15.13.1.3 RD4	Assessment matters for Glazing and Outdoor Space and excessive and appropriate matters contained within Provision 15.14.2.10. Delete (b) glazing and (c) outlook	Retain. Refer to previous response in Carter submission above.
Rule 15.13.1.3 RD5	Upper floor setbacks and glazing are excessive. Delete (l) and (m)	Retain. Refer to previous response in Carter submission above.

Rule 15.13.2.1 (height)	Oppose building heights lower than 32 metres. Amend rule so all heights 32m. Retain clause (b).	Amend. Refer to previous response relating to increased heights in the CCMUZ.
Rule 15.13.2.4(f) (street scene, landscaping and trees)	4sqm tree canopy area is excessive.	Ref to CCC tree canopy spaces in Canopy Guidance. 4sqm is a 2-metre x 2-metre square area considered necessary for tree root grown and soil volume for moisture / nutrients to support a mature sized tree.
Rule 15.13.2.10 (Building tower setbacks)	Considered unnecessary and would reduce development capacity for no sound RM purpose. Delete	Retain. Refer to previous response in Carter submission above.
Rule 15.13.2.11 (Building tower coverage)	Considered unnecessary and would reduce development capacity for no sound RM purpose. Delete	Retain. Refer to previous response in Carter submission above.
Rule 15.13.2.12 (glazing)	Considered unnecessary and would reduce development capacity for no sound RM purpose. Delete	Retain. Refer to previous response in Carter submission above.

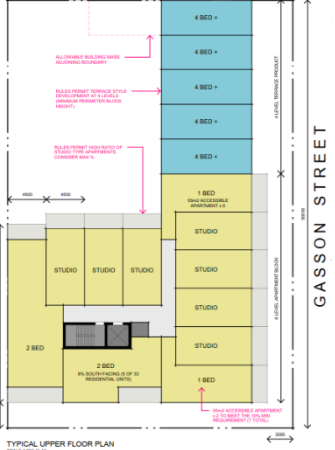
**APPENDIX 3 - MUZ - MINIMUM BUILT FROM STANDARDS FOR THE
COMPREHENSIVE HOUSING PRECINCT**

Standard	Rationale																																					
Streetscene and perimeter block development		Graphic																																				
<p>a. A site of no less than 2,000m² with a minimum road boundary width of 24 metres.</p>	<p>Wider sites and zero lot line boundaries allow apartments to actively front the street.</p> <p>24-metre-wide sites provide sufficient space for approximately four x 6-metre-wide single aspect apartments fronting the street, and a row of walk-up apartments or terraced houses within a rear building.</p> <p>A 2,000sqm minimum site size provides for a communal open space of 200sqm (10%), sufficient to meet the needs of a higher intensity living. This includes space for mature trees, a range of spaces for passive and active recreation, as well as a partially sunny outdoor spaces between the Equinoxes. A minimum 2,000sqm site size also provides for the ancillary activities needed to make compact living work such as communal bin areas, secure bike areas, including electric bike and scooters as well as small quantities of mobility / car share parking and manoeuvring.</p>	<div style="border: 1px solid black; padding: 5px;"> <p align="center">DEVELOPMENT ANALYSIS</p> <table border="0"> <tr> <td>SITE AREA</td> <td align="right">1250m²</td> </tr> <tr> <td>STREET FRONTAGE</td> <td align="right">25m</td> </tr> <tr> <td>10% COMMUNAL OPEN SPACE</td> <td align="right">125m²</td> </tr> <tr> <td>3M FRONT YARD LANDSCAPE</td> <td align="right">75m²</td> </tr> <tr> <td>ONSITE PARKING / MANOUEVRING</td> <td align="right">-</td> </tr> <tr> <td>NET DEVELOPMENT AREA</td> <td align="right">1050m²</td> </tr> </table> <p>YIELD SUMMARY</p> <table border="0"> <tr> <td colspan="2">STREET EDGE BUILDING</td> </tr> <tr> <td>GFL1</td> <td align="right">3 APARTMENTS</td> </tr> <tr> <td>L2</td> <td align="right">5 APARTMENTS</td> </tr> <tr> <td>L3</td> <td align="right">5 APARTMENTS</td> </tr> <tr> <td>L4</td> <td align="right">5 APARTMENTS</td> </tr> <tr> <td>L5</td> <td align="right">5 APARTMENTS</td> </tr> <tr> <td>L6</td> <td align="right">5 APARTMENTS</td> </tr> <tr> <td colspan="2">INTERNAL/REAR BUILDING</td> </tr> <tr> <td>3 LEVEL</td> <td align="right">6 TERRACES</td> </tr> <tr> <td>TOTAL APATMENTS</td> <td align="right">28 APARTMENTS (82%)</td> </tr> <tr> <td>TOTAL TERRACES WITH PRIVATE OS</td> <td align="right">6 TERRACES (18%)</td> </tr> <tr> <td>TOTAL YIELD</td> <td align="right">34 UNITS</td> </tr> </table> </div>	SITE AREA	1250m ²	STREET FRONTAGE	25m	10% COMMUNAL OPEN SPACE	125m ²	3M FRONT YARD LANDSCAPE	75m ²	ONSITE PARKING / MANOUEVRING	-	NET DEVELOPMENT AREA	1050m²	STREET EDGE BUILDING		GFL1	3 APARTMENTS	L2	5 APARTMENTS	L3	5 APARTMENTS	L4	5 APARTMENTS	L5	5 APARTMENTS	L6	5 APARTMENTS	INTERNAL/REAR BUILDING		3 LEVEL	6 TERRACES	TOTAL APATMENTS	28 APARTMENTS (82%)	TOTAL TERRACES WITH PRIVATE OS	6 TERRACES (18%)	TOTAL YIELD	34 UNITS
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<p>b. Buildings shall be located across the full extent of the site frontage adjacent to the street, except if/where needed to provide for access.</p>	<p>Buildings along the full street frontage, with the exception of access and any fire requirements for particularly deep sites, results in apartments fronting the street</p>	<div style="border: 1px solid black; padding: 5px;"> <p align="center">KINGSLEY STREET</p> </div>																																				

	<p>with balconies and windows.</p> <p>This supports passive surveillance opportunities via 'eyes on the street', as well as create a more pleasant streetscape to contribute to reduced GHG emissions through a more walkable neighbourhood.</p>	
<p><i>c. The minimum building setback from an internal boundary shall be:</i></p> <ul style="list-style-type: none"> <i>i. no setback for the first 24-metres measured from the road boundary, and up to a maximum length of 60% of the site depth; and</i> <i>ii. 4 metres in depth for the remainder of the internal boundaries.</i> 	<p>Allowing for a 3-metre front yard setback, 21 metres is a workable length of building along the side boundaries that can accommodate two rows of single aspect apartments (either side of the core / corridor) and balconies, as a maximum yield option.</p> <p>A maximum building length of 60% along the side boundary allows for 40% sunlight access into the core of the site, as well as the front and back interfaces. 60% building length also enables a secondary, smaller rear building at the back of the site to develop to its full width, maximising yield and diversity of typology.</p>	 <p>The diagram shows a site plan for Kingsley Street. The street is at the top. A horizontal dimension line indicates a length of 19750. A vertical dimension line on the left indicates a depth of 3805. The site is divided into several zones: a purple 'COMMERCIAL' zone at the front left, a grey 'LOBBY' zone, a grey 'WASTE' zone, and a grey 'MAIL' zone. A 'GATE' is located between the lobby and waste zones. Green areas represent landscaping or setbacks. A small '32' is noted near the waste zone.</p>

<p><i>d. All internal site shared pedestrian accessways, shall have a minimum width of 3 metres including planting. The width for pedestrian access shall be clear of any fencing, storage or servicing, except security gates, where necessary.</i></p>	<p>A minimum 3-metre wide pedestrian accessway provides for safe passing widths between two people along a long accessway. All bins, sheds and services need to be outside of these 3 metres so that sufficient space for safe passing, landscaping and lighting can be provided. This also ensures safe sightlines (CPTED consideration) through to the backs of the sites, where a second building may be located at the rear of the site.</p> <p>Note - this width may also need to be slightly wider subject to FENZ requirement for site depths over 70 metres.</p>	 <p>GROUND FLOOR PLAN</p>
<p><i>e. Buildings fronting a street shall include at least 20% glazing on each floor of the building.</i></p>	<p>20% provides good opportunities for visual interest (life behind the building), daylight / sunlight access and passive surveillance. This rule is consistent with other zones including the MDRZ.</p>	<p>20% requirement was for consistency with the national legislation directions. I further consider 15% to be sufficient, subject to the extent of this minimum on all floor levels, eye level visibility with sill heights no higher than 1200 and minimum glazing dimensions.</p>
<p><i>f. A minimum distance of 12 metres shall separate any front and rear buildings on the site by at least 12 metres, except for accessory buildings less than 2.5m in height, which must be located at least 1</i></p>	<p>At least 12 metres between buildings provides for a minimum 7 metres wide communal open space, plus a 1.5metre wide footpath each site, as well as a minimum 1-metre min privacy (landscape and</p>	

<p>metre from any other building.</p>	<p>lighting) buffer alongside interfaces to ground level terraces and apartments.</p>	
<p>g. At least 50% of the ground floor of the built development shall be living area.</p>	<p>This standard seeks to discourage extensive at grade car parking which can impact onsite amenity. It also discourages extensive leasable commercial space which would ideally be located in local centres. Maximising living areas gives effect to the NPS to enable strategic urban areas to maximise housing opportunities.</p>	
<p>Housing diversity</p>		
<p>h. Apartments adjacent to the street shall be provided, including:</p> <ul style="list-style-type: none"> - to a minimum of 4 storeys in height; or to a minimum of 3 storeys for sites located on the south side of a street. <p>Apartments shall form at least 50% of the total building footprint.</p>	<p>Locating the main and tallest building closest to the street, and enabling up to 6 storeys, transitions sites towards a perimeter block form of development. The minimum 4 storey height directs developers to focus on apartment developments for the front building. This assists in increasing the density and housing diversity of the site, in comparison with the numbers achieved on the same space for terraced housing.</p> <p>For sites located on the immediate south side of an east-west street, testing indicated that 3 hours of consecutive sun between September 21 to March 21 could not be achieved over 30% of the communal open space with 4 or more storeys. Thus, a lower minimum height has been introduced to enable buildings on these sites to provide for the duration of</p>	

	<p>sunlight onto the communal open space, to provide a high level of onsite amenity.</p> <p>No Ōtautahi guidance is available for communal open space sunlight access. The Auckland Design Manual uses the NSW Apartment Design Guide as a reference. A metric of three hours is based on the New South Wales Apartment Design Guide⁴⁷, as well as an analysis of the way the sun tracks across 30% centralised communal spaces in Ōtautahi Christchurch. This standard provides a sunny space for residents to sit for approximately an hour (duration of a good read and a meal) before shadows fall across them.</p>	
<p><i>i. Apartments shall comprise at least 50% of the building footprint.</i></p>	<p>Well-designed apartment typologies are the highest and greatest residential use of these sites. The requested standard therefore seeks to maximise this typology by directing developers and designers to include apartments for the majority of the building footprint. The assumption with ‘footprint’ is that apartment numbers will go up notably given the minimum number of floors required for this typology. This is in comparison to a fewer number of terraces or walk-up apartments, or a hybrid of both assumed for</p>	 <p>The diagram is a 'TYPICAL UPPER FLOOR PLAN' showing a building footprint. On the right side, a vertical double-headed arrow is labeled 'GASSON STREET'. On the bottom side, a vertical double-headed arrow is labeled 'GARDEN STREET'. The plan shows several apartment units: a top row of five units labeled '4 BED +', a middle row of five units labeled '1 BED', and a bottom row of units including 'STUDIO', '2 BED', and '1 BED'. A central area is labeled '2 BED IN COMMONS (A UP TO 10 PERSONS ONLY)'. Red arrows point to specific areas with labels: 'ALLOWABLE BUILDING LINE (ACCESSIBLE SIDEWALK)', 'MAXIMUM TERRACE WIDTH (MINIMUM 1.8M WIDE)', and 'MAXIMUM TERRACE WIDTH (MINIMUM 1.8M WIDE)'. Dimensions of 6000 and 1000 are indicated on the left and bottom edges.</p>

⁴⁷ <https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/apartment-design-guide-2015-07.pdf?la=en>
10. <https://ourauckland.aucklandcouncil.govt.nz/news/2019/05/lack-of-accessible-housing-a-key-issue-for-disability-advisory-panel/#:~:text=%E2%80%9COnly%20around%20five%20per%20cent,issues%20for%20disabled%20New%20Zealanders.%E2%80%9D>

	any read buildings at the back of the site.	
<i>j. Enclosed and lockable cycle storage shall be provided at a minimum rate of 1 space per bedroom and located adjacent to the communal open space.</i>	In responding to the objectives and policies around reducing greenhouse gas emissions, sufficient space for accommodating everyday active transport modes is to be provided. It also recognises that 'car lite' or car free development in this very accessible location will likely generate a greater demand for bicycles and micro-mobility, requiring sufficient space for their storage and charging.	
<i>k. A minimum of 10% accessible residential units shall be provided in all apartment buildings.</i>	<p><i>"With around 24 per cent of people living with a disability, access to housing is at the heart of issues for disabled New Zealanders."</i></p> <p>In responding to nationwide statistics, and that accessible housing also provides for the ageing population, the standard includes a minimum of 10% of apartments with a lift core shall be provided for universally accessible apartments.</p> <p>Architectural testing resulted in the size of a single bedroom accessible apartment being similar to a typical well-designed apartment, so there was no discernible loss of yield as a result.</p>	

	<p>Additionally, the flat topography of Ōtautahi Christchurch here in Sydenham, renders an accessible journey from the street to the front door. Thus, it is considered that there are only few physical or economic barriers to providing for a diversity of housing here.</p>	
<p><i>I. The maximum onsite car parking ratio shall be 0.1 across the Comprehensive Residential Development. Car parking onsite shall only be provided for in the following circumstances:</i></p> <p><i>imum of two car g spaces for a ntial car share e;</i></p> <p><i>ii. A maximum of one space per accessible unit</i></p>	<p>In Christchurch, <i>“The transport sector contributes 54% of our district’s greenhouse gas emissions, with 36% coming from road transport”⁴⁸.</i></p> <p>Initial testing of an onsite parking ratio of 0.25 resulted in the extensive occupation of the ground plane with parking and manoeuvring space. The effect of this was a poor-quality interface to the communal open space with no interesting or active frontage to support a comfortable invitation to use the space. There is also little passive surveillance from the ground level to the communal outdoor living space, as well as along the journey in from the street, past the parking to the rear of the site. This is a key CPTED / safety consideration.</p> <p>In terms of the use of space on the ground plane, testing found it was difficult to also accommodate all the ancillary services such bike storage areas and</p>	

⁴⁸ [Otautahi-Christchurch-Climate-Resilience-Strategy.pdf \(ccc.govt.nz\)](https://ccc.govt.nz/assets/Uploads/Otautahi-Christchurch-Climate-Resilience-Strategy.pdf)

	<p>communal bins given the space required for car parking and manoeuvring (approx. 20sqm per typical car parking space).</p> <p>As a result, onsite parking for the purposes of private cars has been discouraged. This is offset by the opportunity for car-share parking spaces available for residents, as well as accessible spaces which could be tied by consent notice to the accessible apartments. Overall, this standard supports the planned growth and intensification outcomes sought for this zone and recognising the existing and future accessibility of this location by walking, cycling and public transport.</p>	
<p>Outdoor living space (private and communal)</p>		
<p><i>m. At least 10% of the site must be provided for communal outdoor living space and include:</i></p> <p><i>imum dimension of</i></p> <p><i>es;</i></p> <p><i>of no longer than</i></p> <p><i>iii. include trees capable of maturing to 8 metres at a rate of 1 per 100sqm of open space.</i></p>	<p>10% of communal outdoor living space has been identified in the case study analysis as the minimum metric to achieve a number of onsite amenities. These include the provision of mature trees capable of growing to 8 metres tall, sufficient space between buildings for sunlight and privacy, a range of spaces for active and passive recreation to cater for a range of residents' (including children's) leisure preferences. As previously noted, these amenities are highly important for more compact living options and particularly any south facing apartments.</p>	

	<p>A minimum communal open space of 7 metres side provides for mature trees to spread their canopies, as well as provide usable width for outdoor seating in the sun (southern edge of the space).</p> <p>A shape factor or ratio of no longer than 1:3 has also been tested against a range of site sizes and found to provide for good flexibility in the design and usability of the space.</p>	
<p><i>n. Buildings shall demonstrate three consecutive hours of sunshine across 30% of the communal outdoor living space at the Equinox is provided.</i></p>	<p>Testing determined that rear buildings taller than 12 metres did not offer good solar gain into private patios and the communal open space.</p> <p>Three consecutive hours of sunshine at the equinox (providing for a span between September 23 to March 21) provides for a window near the middle of the day when the sun is warmest – an important consideration in Ōtautahi Christchurch.</p>	
<p><i>o. Each residential unit shall be provided with an outdoor living space with a minimum area and dimension as set out in the following table, located immediately outside and accessible from an internal living area of the residential unit.</i></p> <ul style="list-style-type: none"> <i>Any residential unit with a habitable room located at ground floor level = 16sqm and a 4m dimension</i> 	<p>The dimensions of ground floor courtyards have been increased slightly from the Medium Density Residential Zone (MDRZ) 3 metre dimension to a 4-metre dimension to improve the usability of the area for outdoor dining and manoeuvring around tables and chairs, perimeter landscaping as well as space available for a mature tree in natural ground.</p>	

<ul style="list-style-type: none"> Any unit with habitable room located above ground = 8sqm and a 1.8m dimension. 	<p>Please note that this zone is not constrained by the MDRS directions, however the 8sqm and 1.8m depth for balconies, which is consistent with other zones, is considered appropriate given the ‘top up’ amenity space offered by the communal outdoor open space.</p>	
<p>p. Any ground floor outdoor living space shall not be located adjacent to the street.</p>	<p>For the purposes of ground floor apartments on sites located on the southern side of the street, locating outdoor living spaces adjacent the street typically results in solid fencing around them to establish a good level of privacy for residents.</p> <p>As such, solid fencing can compromise the ability to provide for passive surveillance and the actual and perceived safety of the street, via the minimum now accepted 15% minimum glazing standard.</p>	
<p>Residential Amenity</p>		
<p>q. Sites adjacent to a Medium Density Residential Zone, shall adopt the following recession planes 3 metres and</p> <ul style="list-style-type: none"> - 60 degrees on the northern boundary; - 55 east / west boundary; <p>and</p> <ul style="list-style-type: none"> - 50 degrees on the southern boundary. 	<p>Some MDRZ sites exist on the south and west interfaces of the Comprehensive Housing Precinct which may be adversely impacted by a zero-lot building up to 21 metres on the north or eastern side of the boundary. The requested alternative MDRS standards have therefore been applied here.</p>	
<p>r. The activity shall have a minimum net floor area</p>	<p>Standard provisions with other residential zones have</p>	

<p><i>excluding lobby and/or reception area per unit of:</i></p> <ul style="list-style-type: none"> <i>i. Studio 35m²</i> <i>ii. 1 bedroom 45m²</i> <i>iii. 2 bedrooms 60m²</i> <i>iv. 3 or more bedroom 90m²</i> 	<p>been applied for consistency.</p>	
<p><i>s. Each residential unit shall have an outlook space from habitable room windows, oriented over land within the development site or a street or public space, with:</i></p> <ul style="list-style-type: none"> <i>i. a minimum dimension 4 metres in depth and 4 metres in width, for a living area.</i> <i>ii. a minimum dimension 3 metres in depth and 3 metres in width, for a bedroom.</i> 	<p>These standards align with the outdoor space dimensions for ground floor habitable rooms, the 3-metre landscaped street setback and the communal outdoor living spaces between buildings in other relevant zones.</p>	
<p><i>t. Any bedroom shall be designed and constructed to achieve an external to internal noise reduction of not less than 35 dB</i> $D_{tr,2m,nTw} + C_{tr}$.</p>	<p>Noise levels as per the Medium Density Residential Zone and consistency for similar land uses.</p>	
Outdoor storage and service space		
<p><i>u. Each residential unit shall be provided with:</i></p> <ul style="list-style-type: none"> <i>i. a dedicated washing line area that is screened from public view, and</i> <i>ii. a single, indoor storage space of 4m³ with a minimum dimension of 1 metre.</i> 	<p>4 metres³ provides for an internal space of approximate dimensions of 1 metre deep, 2.7 metres tall and 1.5 metres long. In encouraging people to adopt compact forms of living, sufficient space for sports equipment, and prams etc is needed.</p>	
<p><i>v. A communal waste management area, shall be provided. These areas shall not be located between the</i></p>	<p>Commercial and privately managed bin collection is more efficient on space than numerous individual</p>	

<i>road boundary and any building, adjacent to outdoor living spaces can be screened from the floor level.</i>	bins per unit. This also results in a tidier and more accessible footpath as collection days as there are no bins on the street as such.	
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APPENDIX 4 – ATTRIBUTES ASSESSMENT OF EACH LARGE TOWN CENTRE

Riccarton: Urban and Built Form Attributes		NPS-UD Centre 'Type'		Ms Williams' urban assessment			
Attribute category	Attributes* *Scale of attributes may vary depending on the Centre 'Type' context	Metropolitan Centre	Large Town Centre				
Built form							
	Scale and design complexity ↑ City Centre Neighbourhood Centre	1 High density residential typologies (greater than 6 storeys)					
		2 High density commercial typologies (greater than 6 storeys)					
		3 Maximised building heights					
		4 Large scaled civic buildings					
		5 Vertical mixed use					
		6 Quality façade materials and architectural detailing					
		7 Larger format store integrated into mix-used buildings					
		8 Highest built forms within wider urban context					
		9 Large blocks with through block pedestrian links					
		10 Activated building edges to enhance public realm					
		11 Uniqueness of architectural character and landscape elements					
		12 Medium scaled comm. building at the centre (up to 6 storeys)					
		13 Human scaled architectural elements					
		14 High to medium density residential typologies (4 to 6+ storeys)					
		15 Neighbourhood scaled civic buildings					
		16 Fine grained walkable blocks					
		17 Larger format store integrated within main street					
		18 Range of res.typologies decrease as further from the centre					
		19 Local shops of a fine grain					
		20 Medium density residential typologies (2-4 storeys)					
21 Small pocket of commercial shops							

LEGEND	
High alignment	
Partial alignment	
Low alignment	
Open to interpretation ?	

Riccarton – some alignment with a Metropolitan Centre, but most attributes have low alignment.

Papanui: Urban and Built Form Attributes		NPS-UD Centre 'Type'		Ms Williams' urban assessment			
Attribute category	Attributes* *Scale of attributes may vary depending on the Centre 'Type' context	Metropolitan Centre	Large Town Centre				
Built form							
	Scale and design complexity ↑ City Centre Neighbourhood Centre	1 High density residential typologies (greater than 6 storeys)					
		2 High density commercial typologies (greater than 6 storeys)					
		3 Maximised building heights					
		4 Large scaled civic buildings					
		5 Vertical mixed use					
		6 Quality façade materials and architectural detailing					
		7 Larger format store integrated into mix-used buildings					
		8 Highest built forms within wider urban context					
		9 Large blocks with through block pedestrian links					
		10 Activated building edges to enhance public realm					
		11 Uniqueness of architectural character and landscape elements					
		12 Medium scaled comm. building at the centre (up to 6 storeys)					
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		18 Range of res.typologies decrease as further from the centre					
		19 Local shops of a fine grain					
		20 Medium density residential typologies (2-4 storeys)					
21 Small pocket of commercial shops							

LEGEND	
High alignment	
Partial alignment	
Low alignment	
Open to interpretation ?	

Papanui – some alignment with a Metropolitan Centre, but most attributes have low alignment.

Hornby: Urban and Built Form Attributes		NPS-UD Centres 'Type'		Ms Williams' urban assessment			
Attribute category	Attributes* *Scale of attributes may vary depending on the Centre 'Type' context	Metropolitan Centre	Large Town Centre				
Built form							
	Scale and design complexity ↑ City Centre Neighbourhood Centre	1 High density residential typologies (greater than 6 storeys)					
		2 High density commercial typologies (greater than 6 storeys)					
		3 Maximised building heights					
		4 Large scaled civic buildings					
		5 Vertical mixed use					
		6 Quality façade materials and architectural detailing					
		7 Larger format store integrated into mix-used buildings					
		8 Highest built forms within wider urban context					
		9 Large blocks with through block pedestrian links					
		10 Activated building edges to enhance public realm					
		11 Uniqueness of architectural character and landscape elements					
		12 Medium scaled comm. building at the centre (up to 6 storeys)					
		13 Human scaled architectural elements					
		14 High to medium density residential typologies (4 to 6+ storeys)					
		15 Neighbourhood scaled civic buildings					
		16 Fine grained walkable blocks					
		17 Larger format store integrated within main street					
		18 Range of res.typologies decrease as further from the centre					
		19 Local shops of a fine grain					
		20 Medium density residential typologies (2-4 storeys)					
21 Small pocket of commercial shops							

LEGEND	
High alignment	
Partial alignment	
Low alignment	
Open to interpretation ?	

Hornby – There are no attributes that currently align with factors that make up a Metropolitan centre.