

Medium Density Housing Research

Additional Case Studies

Christchurch City Council

Technical Report

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1 Introduction

This report has been produced to support the original research carried out in 2020 and summarised in the report *Medium and High Density Housing in Christchurch: Urban Design Review 2020*.

A number of gaps were identified in that research, relating in particular to the Central City due to the variety of development types; as well as to higher density RMD developments which were an emerging typology at the time. Whilst some trends were able to be observed in the sample, it was considered that more examples were needed to confirm how prevalent the issues are.

This research is aimed at providing more evidence to confirm the observations in the original paper.

The sample includes sites in the following zones of the Christchurch District Plan:

- 5 Residential Medium Density (RMD) sites
- 4 Residential Central City (RCC) sites
- 3 Commercial Central City Mixed Use (CCMU) sites

1.1 Methodology

The research uses the same “Urban Scales” methodology as the original study. A site visit was carried out for each site in the sample, and a score allocated to various criteria. For each site, comments were also noted in relation to the points and these form a valuable dataset that highlights issues and allows comparison of how the scores were reached in each case.

The methodology scored each attribute from 1 to 5. A score of 3 indicated a basic standard of urban design, and a score of 4 that a development was “well-considered”. The district plan seeks “high quality” which is more than a basic response and considered to be more akin to a score of 4 than 3. Attributes that do not reach the threshold of a score of 3 indicate that there is a low quality of design.

The assessment matrix is provided in Section 3.2 of the original report.

2 Summary of Findings

2.1 Residential Medium Density Areas

Additional sites were surveyed because it was observed that a 2 storey 2 bedroom townhouse typology was becoming prevalent in the RMD areas, which was not well represented in the sample.

The outcome of the new survey revealed that, for this new typology:

- The newly surveyed RMD sites were consistently at a basic standard, with one site reaching a high standard.
- There was at least a small improvement in all 4 scales compared to the original sample. This appears to be in part due to features of the change in typology (such as centralised car parking, which splits the built form into two blocks, and ground floor living space).
- Both Building and Site scores were significantly higher than previously, across a range of categories. This largely appears to be due to the typology.
- CPTED issues, previously noted as a concern, were much improved, in part due to overlooking public and communal space from kitchens.
- As previously, some street interfaces were affected by confusion over “fronts and backs” – where outdoor living space is in the front setbacks and there is not clear point of entry. Resident’s desire for privacy sometimes resulted in screening of the space.

2.2 Central City Areas

Additional central city types were surveyed to broaden the range of typologies in the original sample. Mixed with the original surveys from 2020, the following trends were evident:

- Overall scores were in line with the 2020 survey, with a basic standard reached on average, but relying on good performance in the Neighbourhood scale (with shortfalls in the Street, Building and in particular the Site scales). This indicates that much of the good outcomes is related to location rather than the development itself.
- There was significant variability in scores between sites, particularly noticeable in the CCMU sample. Outcomes ranged from poor to best-practice.
- In both zones, Street was around the basic level. Developments tended to provide a good sense of enclosure, but did not always create a sense of ownership of the street due to issues of fencing and poor transition space.
- In the RCC zone, site scores were significantly below the basic threshold with problem areas being the quality of accessways and communal space and CPTED issues. This is a continuation of the theme that private amenity is well provided for, but that communal spaces and servicing are neglected.
- There are some particular traits evident in the CCMU zone. These include problems related to internal layouts of houses, and poor resolution of communal areas and in one case, an almost total absence of usable outdoor living space. In this zone, there is more scope for very poor outcomes to eventuate.
- Some particular CPTED issues also arose in the CCMU zone, relating to privacy conflicts, lack of surveillance and very narrow accesses.

2.3 Taller Buildings

Bulkier buildings are unique to the central city and particular issues of integration were identified for these tall buildings. To investigate this, some analysis was carried out in relation to the taller buildings in the sample as a whole. Particular issues identified in this study include:

- Overlooking of neighbours
- Examples of monolithic buildings with poor design mitigation
- A shortfall of outdoor living space

These buildings also provided particular benefits:

- The sense of enclosure of the street and the potential for positive visual interest
- Variety in housing choice.

As for other samples, site layout issues and street issues were areas of under-performance.

3 Residential Medium Density Zone Examples

3.1 Overview

The RMD examples were predominantly 2 bed sites (of the 5 examples, 2 also included 1 or 2 1 bed units). This was to consider the impact of an observed trend: that there has been an increase in the number of 2 bedroom developments over the past 2 years.

	2021 (New Examples)	2020 (Previous Sample)
RMD Average	3.3	3.1
Neighbourhood	3.8	3.7
Street	3.0	2.9
Site	3.2	2.7
Building	3.3	3.1

Urban Scale scoring for the RMD zone, for this study and the 2020 sample

The overall averages for the new 2022 sample are for the most part slightly higher than for the previous one, with the exception of “site” which has shown a marked improvement, reflecting better outcomes in a number of the criteria. Particular improvements are related to CPTED outcomes and to general site layout. This is thought to be related to the typologies used, as well as a potentially greater awareness of street scene issues.

Two-bedroom-two-storey units usually have some of these attributes:

- Ground floor living areas and upper floor bedrooms (there is a good balance between ground and first floor accommodation because two bedrooms on the first floor fit easily over ground floor living).
- Due to the above, kitchen windows can easily overlook public space (this reduces adverse privacy impacts whilst achieving engagement and surveillance).
- There is often a central carpark rather than garaging which splits the block in two, avoiding long “sausage blocks”.
- Where there is attached garaging, there are not usually bedrooms above it – meaning that there are breaks in the first floor façade.
- Where there is a central car park, there is often a wide walking access to the rear units, which allows space for planting.

For this analysis, the scores in this zone have not been combined with the previous sample. This is because the new study uses selected examples to fill an identified niche in the research rather than a random selection. The purpose is to identify if the general trends also apply to this new product.

3.2 Analysis by Urban Scales

Neighbourhood

For three of the sites, the developments were observed to be incongruous in areas with with predominantly single housing. This issue was noted in the original study: new developments do not fit into “traditional” areas because of visual dominance and a change in the rhythm of development along the street. Where they were in more established RMD suburbs, the developments fitted with the pattern of development. This is an issue of transition.

More generally, the density was found to be appropriately located and contribute to housing choice.

Street

This attribute was found to be marginally higher for the new (higher density) sample than for the main sample.

Issues with the previous sample were related to the prevalence of fencing, location of entrances and issues around transition space. These were observed in all zones and summarised as “an ill-considered transition between public and private areas”, evident in lower scores for B2 and B4. The new sample recorded improved scores for these categories.

Ref	Outcome	2021 Sample	2020 RMD Av
B1	Creating an appropriate sense of enclosure along the street	3.6	3.0
B2	Fostering a sense of ownership of the street.	2.8	2.5
B3	Activation and articulation of the street façade through openings	2.8	2.8
B4	Property boundaries are well defined and enable views of the street.	3.0	2.7
B5	Building layout and form appropriately responds to the urban context	3.0	3.2
	Overall Score	3.0	2.8

Urban Scale scoring for the RMD zone, for this study and the 2020 sample (Street scale)

Creating a sense of enclosure

The most striking difference between the samples is in B1 (sense of enclosure), where 3 of the sample were regarded as being in the “well-considered” category with a score of 4 in the 2021 sample. This may be in part due to the two-storey scale of the housing, which is enough to create enclosure – the built form was more consistent in the new sample.

Fronts and Backs

One trend that was evident was that there was confusion over fronts and backs of houses, with internally facing front doors and private space at the street. Sometimes screening had been used to block views through transparent fencing, indicating a poor balance between privacy and street engagement.

However, other sites showed some awareness of managing the issue with thoughtfully placed transparent fencing in front of the house (which is less privacy sensitive than the outdoor living area).



Figure 1: Front Outdoor living space has been screened in this example

Site

The RMD sites scored well for site layout averaging over 3.2, indicating more than basic outcomes. This good scoring indicates that site layout is generally well thought through, even if there are some aspects that are not, in some cases.

Scores in the new RMD sample were considerably higher than in 2020 in some categories. C1, C3, C4, C5 and C9 were at least half a point higher), while other categories were quite similar.

Site	Outcome	2021 Average	2020 RMD Average
C1	An integrated and comprehensive approach to the layout of buildings and spaces	3.6	2.7
C2	Provides for housing choice	3.2	3.0
C3	Respectful and responsive design of interfaces and activities relating to neighbouring properties	4	3.1
C4	Comprehensive approach taken to the design and quality of paving, landscaped areas and open space.	3.0	2.2
C5	Reduce opportunities for crime by ensuring an effective layout and provision of other features to maximise safety (including the perception of safety)	3.6	2.7
C6	Appropriate provision and location of private outdoor living spaces	3.4	3.2
C7	Appropriate provision, location and design of communal open space	2.8	2.7
C8	Provide for the safe and efficient movement of pedestrians, cyclists and vehicles	3.2	3.0
C9	A sound car parking strategy is utilised, and the visual impact car parking where provided is minimised.	3.4	2.9
C10	Efficient and effective provision of services and storage areas	3	3.1
C11	Incorporation and promotion of sustainability across the site	2	1.8
	Overall	3.2	2.8

Urban Scale scoring for the RMD zone, for this study and the 2020 sample (Site Scale)

Most sites in the previous study had poor site layout. Particular observations were that:

- Sites had poor CPTED outcomes and privacy issues, due to the location of outdoor living spaces and bedrooms next to public areas.
- Accessways were poorly landscaped and communal space was of poor quality

Private amenity (eg outdoor living spaces and solar access) was well provided for.

Observations made in relation to these improved categories were:

Improved Site Layouts

Category C1 relates to overall site layout, which was almost a whole point higher, a very significant increase, albeit for a small sample size. There was usually a good basic layout with some pedestrian priority and a satisfactory relationship with the accessway. Some sites had outdoor living in front of the house, which reduced the scores somewhat.

Improvements with the way buildings fit with Neighbours

Category C3 is concerned with privacy and the impact on neighbours. For many sites, there was more than one building, usually due to centralised car parking. This avoided the common issues of a long building sideways to the street, dominating views and outlook. Prominent overlooking was also avoided and the scale of building was also not considered overbearing.



Figure 2: A common typology is two buildings with central car parking

Better CPTED related Outcomes

For category C5, (CPTED) there was a big improvement in an area that was noted as being of concern. The examples had a high frequency of doors and often overlooked spaces through kitchen windows. In all cases bedrooms were upstairs and kitchens faced the accessways. Several examples had relatively generous planting in front of the houses to provide separation and protect internal privacy. Direct sightlines were also noted as a positive. This is a very positive finding, which may reflect improved implementation of the District Plan, or may simply be due to the typology. In all, 4 of the 5 sites had a well-considered outcome.

Better Car-Parking but Landscaping still variable

Category C9 concerns car parking, which was generally well managed, either in garages or centralised car parking areas which were not visually prominent. Parking was usually provided in a sensitive manner in these examples. Communal landscaping (category C4) was another of the main issues previously identified and results were better than previous, but still below the basic threshold. Performance was highly variable and there was a shortage of provision in some cases.

Sustainability still not well provided

The main category where there is site-layout underperformance is sustainability (about which the district plan has little to say).

Building

This category is made up of three distinct sets of outcomes: Appearance related matters (category D1-D5), Functional outcomes (category D6-D10) and Sustainability and Innovation (category D11

and D12). In the RMD zone, matters were generally met quite well except for sustainability and innovation.

Scores for the new 2022 examples were somewhat higher than for the previous study. This was due to appearance related matters averaging 3.6 as opposed to 3.3 in the 2020 study; whilst Functional outcomes were identical at 3.5.

For appearance related matters, performance was variable with 2 examples scoring almost 4, and others achieving around 3 or less.

Good Site Layout resulted in good built outcomes.

In part, the good scores were driven by the form of developments as previously discussed under “Site” (generally not in a single run and so the roofline and building line were broken into two or more buildings). One good example with a long terrace broke it into two blocks at first floor by stepping a unit down (ie inserting a single storey studio unit into the centre of the row). Sometimes the buildings were quite blocky, but the larger (longer) building was usually at the rear.



Figure 3: This development consisted of several smaller buildings (duplexes)

There was generally a good amount of glazing and detailing. Rather than the detailing being used to try and cover site layout issues as for the previous examples, the site layout in these cases was generally satisfactory.

For functional outcomes, storage emerged as a shortcoming in some cases, likely due to the lack of a garage (and nothing being provided to make up for it).

Sub Category	Building	Outcome	2021 RMD Average	2020 RMD Average
Appearance Related	D1	A visually interesting and cohesive approach to the building form	3.6	3.05
	D2	Variation and steps in the building line	4	3.4
	D3	Sufficient breaks in the roofline	3.8	3.4
	D4	Designing to a domestic scale	3.6	3.2
	D5	Use high quality materials	3.2	3.3
Functional	D6	Coordinated internal/ external relationship	3.8	3.4
	D7	Provision of adequate storage	3	3.75
	D8	Logical and efficient layout	3.6	3.5

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	D9	Protecting privacy and minimising overlooking	3.4	3.1
	D10	Enabling of natural ventilation, solar gain and daylight penetration	3.6	3.65
Innovation and Sustainability	D11	Promotes energy efficiency and incorporates sustainability features	2	1.55
	D12	Demonstrates innovation and creativity in build design, form and function	2	1.35
		Overall	3.3	3.1

Urban Scale scoring for the RMD zone, for this study and the 2020 sample (Building Scale)

3 Central City Examples

3.1 Overview

The purpose of this part of the study is to augment the sample size of the 2020 study. It was noted that there was a shortage of examples in the central city given the variety of typologies. As a result, the new examples have been combined with data from the previous study.

The study has included four higher density RCC examples to augment the previous sample, as well as three randomly selected CCMU developments.

Unlike the 2020 study, this study also breaks down the two central city zones. The more “hands-off” approach in the CCMU does have the potential for poor outcomes to eventuate and the question is whether this is happening.

	RCC Combined (Both Samples)	CCMU Combined (Both Samples)	Central City Combined	Central City 2021	Central City 2020	RCC 2020
Average	3.0	3.1	3.0	3.0	3.1	2.9
Neighbourhood	3.5	3.6	3.5	3.6	3.5	3.4
Street	2.9	3.3	3.0	3.0	3.0	2.8
Site	2.7	2.7	2.7	2.5	2.8	2.7
Building	2.8	3.0	2.8	2.8	2.8	2.7

Urban Scale scoring in the Central City, for this study and the 2020 sample

As a whole, the results are not greatly different to the previous sample except that site layout has not scored so highly. This appears to be due to lower scores in the CCMU sample which are discussed later in this section.

There is also not much difference between the headline scores of the two zones. However, scores in the CCMU zone are much more variable, indicating a potential for poor quality outcomes. This is shown in the chart below, although it is notable that RCC also records a range of outcomes.

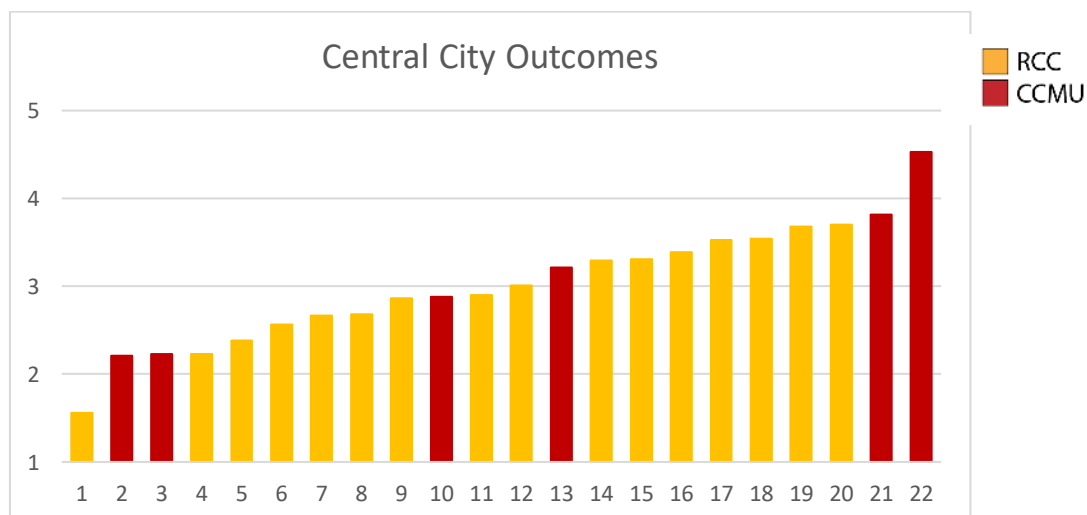


Figure 1: Overall scores for RCC and CCMU zone examples

3.2 Residential Central City

This analysis relates to the combined scores for all RCC sites. More detailed analysis is provided in Section 4 (Tall Apartment Buildings), because these were a focus of the sample.

The sample demonstrates that the sites were generally complimentary at the neighbourhood scale, but did not have a good street interface or function well at the building scale. The site scale recorded the lowest scores due to poorly conceived communal spaces and servicing, combined with intensive overlooking of neighbours in some cases. Some of these issues are more prevalent in taller buildings, which are considered separately.

	RCC Combined
Average	3.0
Neighbourhood	3.5
Street	2.9
Site	2.7
Building	2.8

Urban Scale scoring for the RCC zone, Combined Samples

Neighbourhood

Scores are consistently high in this scale due to the facilities available in the central city. One issue noted, however, was that there was often an integration issue because buildings were bulky and often very visible in the existing surroundings. This is a result of the scale of building and discussed further in the next section.

Street

Combined scores are marginally short of the basic threshold. The reasons previously described, to do with the location of outdoor living spaces, privacy issues and the lack of a public interface for development continue to be observed. These are reflected in low scores in the B2 and B3 categories.

Ref	Outcome	Combined Average
B1	Creating an appropriate sense of enclosure along the street	3.4
B2	Fostering a sense of ownership of the street.	2.5
B3	Activation and articulation of the street façade through openings	2.6
B4	Property boundaries are well defined and enable views of the street.	2.9
B5	Building layout and form appropriately responds to the urban context	3.0
	Overall Score	2.9

Urban Scale scoring for the RCC zone (Street Scale)

Site

Combined scores are in line with what was seen in 2020 and significantly below the basic threshold. Problem areas are categories C3 (neighbouring amenity), C5 (CPTED) and C4 and C7, which relate to the quality of accessways and communal space.

Site	Outcome	Combined Average
C1	An integrated and comprehensive approach to the layout of buildings and spaces	2.9
C2	Provides for housing choice	3
C3	Respectful and responsive design of interfaces and activities relating to neighbouring properties	2.5
C4	Comprehensive approach taken to the design and quality of paving, landscaped areas and open space.	2.3
C5	Reduce opportunities for crime by ensuring an effective layout and provision of other features to maximise safety (including the perception of safety)	2.6
C6	Appropriate provision and location of private outdoor living spaces	3.1
C7	Appropriate provision, location and design of communal open space	2.3
C8	Provide for the safe and efficient movement of pedestrians, cyclists and vehicles	3.3
C9	A sound car parking strategy is utilised, and the visual impact car parking where provided is minimised.	2.9
C10	Efficient and effective provision of services and storage areas	2.8
C11	Incorporation and promotion of sustainability across the site	2
	Overall	2.7

Urban Scale scoring for the RCC zone (Street Scale)

The first of these is due to overlooking and loss of outlook, from large buildings built along the boundaries, usually perpendicular to the street. This is an issue with the shape of sites and the predominant “sausage block” development, the impacts of which increase with height – for example several rows of balconies overlooking neighbours. These contrast with the lower scale RMD zone that recorded good outcomes in relation to this matter.



Four storey development built lengthways on a narrow section creates issues of overlooking and enclosure for neighbours

The second issue (CPTED) was highlighted in the previous study and was due to the lack of a functional relationship between the houses and public or communal areas, in many cases. Whilst there was often surveillance and engagement via windows, a shortage of separation between the public and private realm lead to screening. There was also a lack of a sense of ownership of public or communal space.

The remaining two issues are a continuation of the theme that private amenity is well provided for, but that communal spaces and servicing are neglected, likely because these are of less direct interest to buyers of individual units.

Building

The overall scores were marginally below the basic threshold and the sample as a whole. The driver of this was the five appearance related outcomes, which were mostly below the threshold. Larger developments were seen as being monolithic. The low score for category D3 is symptomatic of the issue of bulky buildings.

Functional outcomes were similar to the wider sample, as were sustainability outcomes.

Sub -Category	Building	Outcome	Combined Score
Appearance Related	D1	A visually interesting and cohesive approach to the building form	2.7
	D2	Variation and steps in the building line	2.7
	D3	Sufficient breaks in the roofline	2.3
	D4	Designing to a domestic scale	2.8
	D5	Use high quality materials	3.1
Functional	D6	Coordinated internal/ external relationship	3.1
	D7	Provision of adequate storage	3.3
	D8	Logical and efficient layout	3.4
	D9	Protecting privacy and minimising overlooking	2.8
	D10	Enabling of natural ventilation, solar gain and daylight penetration	3.6
Innovation and Sustainability	D11	Promotes energy efficiency and incorporates sustainability features	1.8
	D12	Demonstrates innovation and creativity in build design, form and function	1.6
		Overall	2.8

Urban Scale scoring for the RCC zone (Building Scale)

3.3 Commercial Central City Mixed Use

The sample size for this zone is six developments. This is not a large size, but is sufficient to see emerging trends in the zone and identify any particular problem areas.

Whilst the average urban scale scores are similar (or indeed higher) than the RCC, there is a lot of variability in the sample, indicating potential for poor quality development. Overall scores range from 2.1 (amongst the lowest in the entire sample) to 4.5 (the highest). There were 2 inadequate developments, 2 basic and 2 well-conceived or better. This indicates some validity in the concern that CCMU allows for poor quality to be constructed. To a significant extent, the results have been skewed by one high performing site.

There are some particular traits evident in the zone that are not necessarily evident in RCC. These include problems related to internal layouts of houses, and poor resolution of communal areas and

in one case, an almost total absence of usable outdoor living space. In this zone, there is more scope for very poor outcomes to eventuate. By contrast, there was one very good example with innovative layout.

Neighbourhood

Scores are consistently high in this scale due in part to the facilities available in the central city. Observations were that there is consistent appropriate scale but sometimes poor quality street interface due to inward looking sites. Sites in this sample are generally better positioned for residential development than the CCMU as a whole (often at the edge of the zone, opposite existing residential).

Street

CCMU sites had a combined score of 3.3 for category B3, which is comfortably meeting the “basic” threshold. However, there was considerable variability, including 2 developments that rated inadequate. These low-performing sites did enclose the street, but were rated at most inadequate for all other measures. Issues with poor street interface were evident, along with some poor detailed resolution. The units had quite a commercial appearance in one case, although the area was clearly predominantly residential and becoming more so. The zoning does not reflect the transition to residential which is apparent in this particular area.

Ref	Outcome	Combined Average
B1	Creating an appropriate sense of enclosure along the street	3.8
B2	Fostering a sense of ownership of the street.	3.2
B3	Activation and articulation of the street façade through openings	3.3
B4	Property boundaries are well defined and enable views of the street.	3.5
B5	Building layout and form appropriately responds to the urban context	2.8
	Overall Score	3.6

Urban Scale scoring for the CCMU zone (Site Scale)

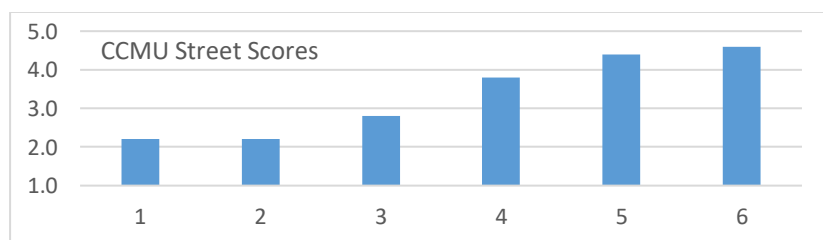


Figure 2: There is a variable range of street outcomes in the CCMU zone



Above: Two storey housing encloses the street, but with outdoor living space at the street front which has created a lack of privacy and led to screening

Site

Site layout results were generally not good for CCMU. Results ranged from “poor” site layout to “well-considered”, but generally fell well below the basic threshold, including two scores below 2. Scores were low for category C1, indicating that site layout was not well conceived or integrated, and for category C5 (CPTED), for which no site received more than a basic score.

Developments did generally have a good relationship with neighbours, reflecting the generally low scale of development in the zone.

Site	Outcome	Combined Average
C1	An integrated and comprehensive approach to the layout of buildings and spaces	2.2
C2	Provides for housing choice	2.8
C3	Respectful and responsive design of interfaces and activities relating to neighbouring properties	3.5
C4	Comprehensive approach taken to the design and quality of paving, landscaped areas and open space.	2.7
C5	Reduce opportunities for crime by ensuring an effective layout and provision of other features to maximise safety (including the perception of safety)	2.2
C6	Appropriate provision and location of private outdoor living spaces	2.8
C7	Appropriate provision, location and design of communal open space	2.5
C8	Provide for the safe and efficient movement of pedestrians, cyclists and vehicles	3.2
C9	A sound car parking strategy is utilised, and the visual impact car parking where provided is minimised.	2.8
C10	Efficient and effective provision of services and storage areas	2.5
C11	Incorporation and promotion of sustainability across the site	2.2
	Overall	2.7

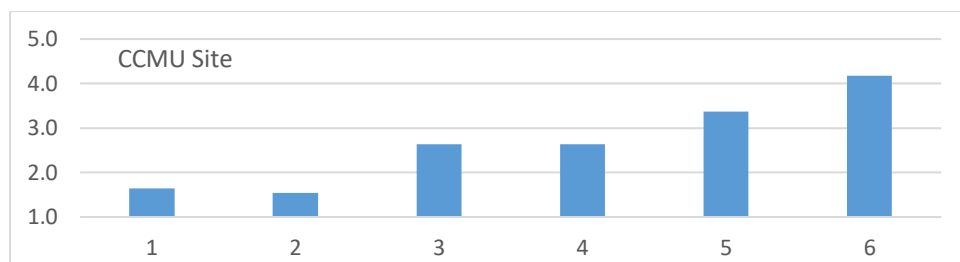


Figure 3: Range of site outcomes in the CCMU zone

The CPTED issues were:

- a lack of surveillance within the sites, communal spaces that lacked ownership and purpose
- a lack of privacy that is likely to discourage surveillance (curtains were often closed). In two cases, ranchsliders overlooked car parks, in one with no separation from passers-by at all.
- The car-free sites usually had narrow accessways with little space for passing or avoidance.

Other low scores were for categories C4 and C7, which relate to the quality of communal areas. Where there was centralised car parking, the car parks were poorly landscaped, vehicle dominated and communal spaces were not useful, due to narrow dimensions and poor location at the margins of the site.



Vehicle dominated accessway

Storage was often not provided, and sometimes not in a practical fashion, for instance bins were located at the front of car parks and bike storage was in between buildings with little surveillance. Again, these functions were relegated to the margins of the site.

Building

Scores were an average of 3 over the scale, although this disguises some of the variability in the CCMU zone. The overall results indicate a basic standard on the appearance and function sub-criteria on average. However, more detailed look at the data reveals that only 2 sites recorded this basic standard, indicating that this apparently satisfactory performance is not usually achieved.

Sub Category	-	Building	Outcome	Combined Score
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Appearance Related	D1	A visually interesting and cohesive approach to the building form	3.5
	D2	Variation and steps in the building line	3.0
	D3	Sufficient breaks in the roofline	3.3
	D4	Designing to a domestic scale	3.5
	D5	Use high quality materials	3.3
Functional	D6	Coordinated internal/ external relationship	3.5
	D7	Provision of adequate storage	2.7
	D8	Logical and efficient layout	3.3
	D9	Protecting privacy and minimising overlooking	2.8
	D10	Enabling of natural ventilation, solar gain and daylight penetration	3.7
Innovation and Sustainability	D11	Promotes energy efficiency and incorporates sustainability features	2.2
	D12	Demonstrates innovation and creativity in build design, form and function	1.5
		Overall	3.0

A Basic Standard of Appearance

The appearance criteria were usually met to a basic extent, with category D2 (variation and steps in the building line) recording the lowest score. Note that in contrast to RCC, there was only 1 apartment building in the survey.

Shortage of Storage and Privacy

Of the functional criteria, categories D7 and D9 were not usually well met (storage and privacy). Internal storage is not generally well provided. Some units had external storage (sheds) in visually intrusive locations in front of the units. One development provided leasable storage cupboards, which is a higher quality and practical solution.

Poor management of privacy was in part due to the views into apartments from communal and public space without adequate separation or planting. These privacy issues were sometimes reflected in poor scores for category D8, where unusual layouts had been employed (including one example where houses were accessed through the bedrooms), as well as the more common front and back issue where entrances are internalised.

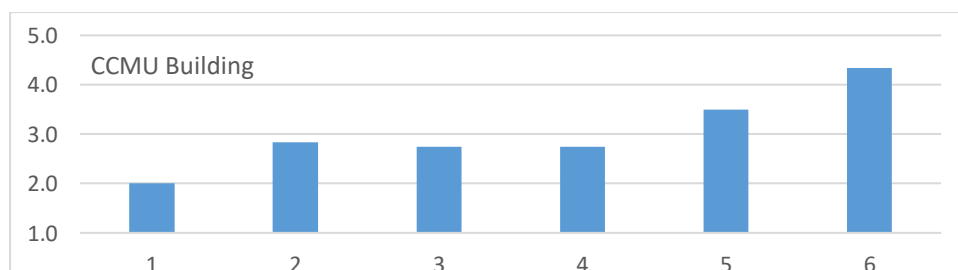


Figure 4: Range of building outcomes in the CCMU zone

4 Taller Apartment Buildings

4.1 Overview

The additional case studies provide a more meaningful sample of taller buildings and the issues that have occurred with recent examples. Combined together, the surveys have six sites and the scores and comment have been analysed as a separate dataset below.

These sites were all of horizontally divided apartment buildings of at least 3 stories.

Overall, these examples have an average score of 3.1 which indicates that a basic standard has been achieved on average. However, a deeper look at the data indicates that there are some pervasive problems and also some buildings that did not perform well, indicating that the Plan is not providing consistent performance.

Tall Building Average	3.1
Neighbourhood	3.8
Street	3.2
Site	2.6
Building	2.8

Urban Scale scoring for taller buildings (Combined)

The taller buildings exhibited many of the same issues that were evident in the wider sample. These include:

- Issues with street interface, due to the location of outdoor living space at the front, and insufficient consideration of privacy in general.
- Poor CPTED outcomes
- Site planning issues that prioritise vehicle access, with much better results where separate access is provided

Some issues were evident that were not identified in the wider sample. These include:

- Overlooking of neighbours
- Examples of monolithic buildings with poor mitigation
- A shortfall of outdoor living space

Particular benefits were:

- The sense of enclosure of the street and the potential for positive visual interest
- Variety in housing choice.

As for other samples, site layout issues were a notable under-performance. Interestingly, scores for street related matters were higher than for the site average.

4.2 Urban Scale Analysis

Some comments on the individual scales are as follows:

Neighbourhood

It is not surprising that the neighbourhood score was quite high as all the examples were in the Central City and have access to a wide range of amenities.

Street

The street score was heavily influenced by the “creating a sense of enclosure” score (4.3) which was influenced by the scale of building. This was seen as positive for the context because of the greater scale of building, which encloses the street at a scale more appropriate to an urban area (generally with a ratio of around 1:2).

Points of weakness were creating a sense of ownership (category B2) and “property boundaries are well defined and enable views of the street” (category B4). The taller buildings have the same issues as the wider sample, with some buildings being inward looking, or with outdoor living space and fencing at the street front.

Site

Site layout scores were very variable with high scores in some categories and low in others. There was also a difference in scores between buildings.

Notable trends were that:

- parking in higher density developments is associated with low amenity communal space and poor quality pedestrian access. This seems to be due to the competition for space on the ground plane, with planting and amenity being sacrificed. Where there was a separate pedestrian access, results tended to be better.
- Some developments, those built lengthways down a deep block, were observed to be efficient in terms of layout, but at the expense of public and communal areas.
- Most developments overlooked neighbours and created privacy issues. There was usually too much outlook concentrated to one side.
- There were poor outcomes in relation to CPTED due to poor design of internal spaces (for instance entrapment spaces were common and there was often little overlooking of internal areas). Street interfaces were often problematic for the same reasons as observed more generally (privacy conflicts).
- Outdoor living space was often under-provided and was not usually compensated by adequate communal space.
- Housing choice is noted as being a benefit of apartments because they generally provide a range of options (eg 1 and 2 beds).



This building demonstrates visual interest and good materiality (but does overlook neighbours)

Building

The building scale is marked by variability, indicating that good design is perhaps not required (but sometimes provided because it is valued by some market segments).

Particular observations were:

- Some bulky buildings used tack-on features to try and create some visual interest but this was not successful. Partly as a result of this, some buildings were regarded as monolithic and clumsy.
- Sometimes breezeways created an awkward interface because of the difficulty of glazing next to them (fire rating). One building has bedrooms without external glazing.

Appendix 1: Individual Property Scores

RMD zone Examples

48 Ward Street

A development of 10 two bedroom units and 2 one bedroom units in Addington. The development consists of two units beside the street, a central car park and a rear terrace. It also includes a separate walking access from the street.



Scoring Summary	
Neighbourhood	4.0
Street	2.8
Site	3.5
Building	3.9
Total	3.5

68 Barbour Street

A development of 8 two bedroom units in Charleston. The development consists of two units beside the street, a central car park and a rear terrace. It also includes a separate walking access from the street.



Scoring Summary	
Neighbourhood	3.3
Street	3.0
Site	3.0
Building	2.9
Total	3.1

9 Bolton Avenue

A development of 5 two bedroom units and 1 one bedroom units in Spreydon. The development consists of a single terrace of units, some with garages and an additional parking space at the front.



Scoring Summary	
Neighbourhood	3.3
Street	3.2
Site	3.3
Building	3.0
Total	3.2

70 Bishop Street

A single building containing seven two bedroom units with garages in Edgeware.



Scoring Summary	
Neighbourhood	3.7
Street	2.6
Site	2.5
Building	2.9
Total	2.9

554 Madras Street

Seven units in St Albans, built over two original sites and centred around a landscaped car-park, and adjacent to a stream. The development consists of three duplexes and a single unit. Two of the units are adjacent to the street. One has a front door facing it and another has outdoor living space in the setback.



Scoring Summary	
Neighbourhood	4.7
Street	3.6
Site	3.9
Building	3.8
Total	4.0

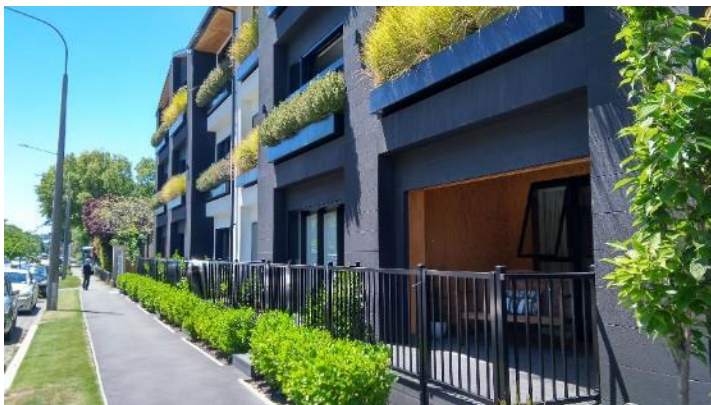
RCC Zone Examples

466 Hagley Avenue

30 units in two blocks, one of which overlooks Hagley Park. There is a central shared communal space. Units in the Selwyn Block (not facing the park) do not have an outdoor living space – instead there is a Juliet Balcony and they are larger than the minimum size (for one bed units). Access to upper floor apartments is via a breezeway. The Selwyn Block units do have a large area of glazing facing the site next door.



Scoring Summary	
Neighbourhood	3.7
Street	4.0
Site	3.0
Building	2.8
Total	3.4



272 Barbadoes Street

A five storey apartment complex in two buildings with 32 units in all. The smaller building sits in front of a car parking area and there is a separate pedestrian entrance into the main building. There is no communal space and upper floor units have balconies of around 12m².



Scoring Summary	
Neighbourhood	4.3
Street	3.8
Site	2.9
Building	3.0
Total	3.4



269 Kilmore Street

A complex of one bedroom apartments with a central internal corridor. The complex is car-free and each of the units has around 16m² of private outdoor living space. Units are two storey with a townhouse-style layout, but accessed internally.



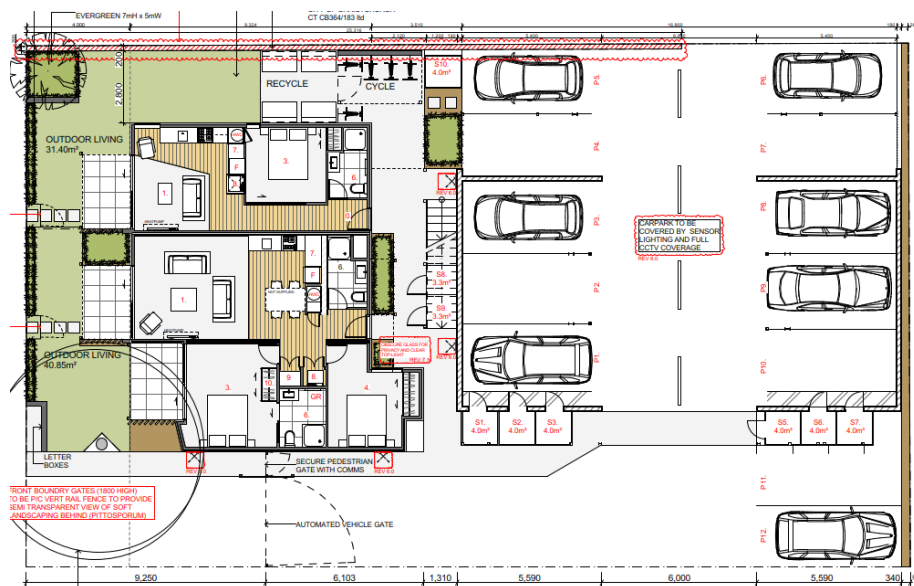
Scoring Summary	
Neighbourhood	4.0
Street	2.8
Site	3.4
Building	3.0
Total	3.3

36 Cranmer Square

A four storey apartment complex in the central city facing Cranmer Square. The complex has a smaller front building facing the square, and a larger building facing the internal boundaries. Access to the rear building is from a breezeway and via the driveway. Parking is located behind the front building but underneath the rear one.



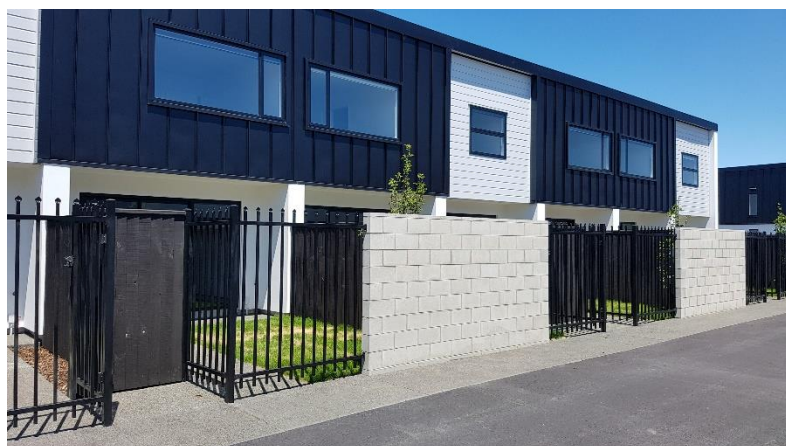
Scoring Summary	
Neighbourhood	3.7
Street	2.6
Site	2.1
Building	2.7
Total	2.8



CCMU Zone Examples

361 Madras Street

A two storey townhouse complex in the CCMU zone at the north of the city. The area is transitioning to residential use but the property to the north was industrial at the time of construction. This has led to an unusual site layout where the access is on the north side of the development and the houses are accessed through the outdoor living space. There is a central carpark and a small communal outdoor space at the rear of the site.



Scoring Summary	
Neighbourhood	3.0
Street	2.2
Site	1.6
Building	2.0
Total	2.2

201-205 Salisbury Street

A two and three storey townhouse complex in the CCMU zone at the north of the city, adjacent to an established large format retail site. A large consolidated site was developed with two adjacent rows of houses on separate accessways. Two sets of duplexes front the street, with rows of housing behind, divided into a number of blocks with some varied articulation.



Scoring Summary	
Neighbourhood	4.0
Street	4.0
Site	3.4
Building	3.5
Total	3.7

290 Hereford Street

19 3 bedroom units in the central city, in 4 blocks with a central car park. Each has a small outdoor living area at the front facing the street or car park. Some communal space present in the car park corners.



Scoring Summary	
Neighbourhood	2.3
Street	2.6
Site	1.5
Building	2.8
Total	2.3

