

Te Aroturukitanga o te
Mahere ā-Wae ki Tāmaki
Makaurau

**Auckland
Unitary Plan
Section 35
Monitoring:**

B2.3 A quality
built environment

July 2022

Technical Report





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Technical Report

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Executive summary

The Auckland Unitary Plan (AUP) became operative in part in November 2016. This report considers how effective and efficient the objectives, policies, rules and other methods of the AUP have been in meeting the outcomes intended by the Regional Policy Statement – Chapter B2.3 A Quality Built Environment.

This monitoring work will contribute to our knowledge base – what is working in the plan and where there may be challenges. This knowledge will help to inform future plan changes and fulfill the policy cycle. Additionally, this report will address the Section 35(2)(b) plan monitoring requirements of the Resource Management Act 1991 (RMA).

Auckland's growth

Auckland's growing population increases demand for housing, employment, business, infrastructure, social facilities and services. Growth needs to be provided for in a way that enhances the quality of life for Aucklanders and their communities.

The regional policy statement B2.3 A Quality Built Environment incorporates the expectations of The Auckland Plan and Auckland Unitary Plan (AUP) for quality development across all types and scales of development – be it site, street, block, neighbourhood or city. It provides a framework for the role of the built environment to support people's lives - their health, safety, well-being, choices, accessibility and travel. The policy statement also recognises the need to innovate, maximise resources, provide efficient infrastructure and adapt to climate change. These are particularly important considerations for residential development which is the predominant form of development in Auckland. As new residential developments increase in number, scale and density, they have a greater influence on the city's built environment.

The monitoring for the B2.3 A Quality Built Environment topic focuses on the quality of residential developments in the more intensive residential zones - Mixed Housing Suburban (MHS), Mixed Housing Urban (MHU) and Terrace Housing and Apartment (THAB) zones. It also looks at the quality of residential developments in Business – Mixed Use zones. Residential development is where the highest proportion of constructed developments are occurring and creating rapid and visible changes to Auckland's built environment. The speed and quantum of new residential development from council consenting through to the completed development enabled a broad housing sample from across suburban and urban areas to be selected within the three-year monitoring period – 2018-2020.

The monitoring evaluated aspects of other regional policy statements - B2.1 Urban Growth and Form and B2.4 Residential Growth topic. This included the extent of intensification to achieve a quality compact urban form as well as attractive, healthy and safe housing with a range of choices to meet the diversity of Aucklanders needs.

The residential sample selected from the three residential zones looked at 130 developments comprising at least four dwellings on a site, with some over 150 dwellings. This produced a combined total of 2,339 dwellings from across the Auckland urban region. These developments were either completed or in the construction phase to qualify for the monitoring sample. There were 33 residential developments in the Business – Mixed Use sample which could produce 1,665 dwellings when built. The majority of these developments had not been completed during the monitoring phase. Development in business zones (which includes our centres) tend to be larger-scale and have longer timeframes between design, consenting and construction. For this reason, they were not included in this monitoring analysis, but will be included in the next monitoring programme.

The research findings from the monitoring help determine whether the AUP has enabled quality outcomes for residential development across the city. The analysis takes an aggregated approach because assessing residential developments is complex. To do this, the analysis looked at over 50 aspects of each housing development as no one measure can conclusively determine whether quality has been achieved. The monitoring attempts to subjectively evaluate quality by quantifying terms such as 'attractive' used by the AUP into assessing design elements such as 'variation in roof forms and 'modulation of building façades'. Site visits to completed developments also focused on aspects which contribute to well-designed housing rather than the style of a development. The approach enabled specific standards or in some cases the lack of standards, to be identified and provide direction for recommended changes to the AUP. The analysis helped determine the AUP's effectiveness as well as identify trends, opportunities and issues across different housing types, densities and zones.

The effects from recent Government legislation - the National Policy Statement – Urban Development 2020 and the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 are not considered in the monitoring analysis. These were issued after the monitoring began and the purpose of the monitoring is to evaluate the effectiveness and efficiency of the Auckland Unitary Plan over the 2018-2020 period. However, the Government's new requirements have a significant influence on the validity, scope and timeframes of some recommendations in the monitoring report. This includes the national Medium Density Residential Standards which limit the scope of potential changes to address AUP issues identified through the monitoring. Those recommendations that are affected, may be investigated and progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded from further changes because they are superseded or limited by legislation.

Six themes with twelve performance indicators were developed to evaluate the AUP's effectiveness and efficiency. For each indicator, a series of measures were applied to determine whether the developments were achieving quality outcomes anticipated by the plan's objectives, policies and standards. Site visits to nearly 50 residential developments provided further opportunities to consider the quality of housing at the site, street and neighbourhood scale.

Theme 1: The quality of site development, built form, appearance and setting

Theme 1 analyses site development, built form, appearance and relationship to the street and adjacent sites. The B2.3 A Quality built environment objectives and policies for this theme seek to ensure development responds to its site and surrounds as well as through the form and appearance of buildings.

The analysis looked at how developments manage the intrinsic qualities and physical characteristics of the site, topography and setting. Most sites were already modified when they were developed for previous buildings, although not necessarily to the extent required by new intensive development. Some large-scale developments were able to retain intrinsic landscape features such as streams or vegetation. Earthworks created flat building platforms to provide for different housing types. This sometimes improved privacy, outlook and reduced the visual dominance of the development within the site or on adjacent sites. Conversely, deep cuts and significant retaining walls in some cases, negatively affected on-site amenity by reducing natural light into dwellings and shading outdoor living space.

To assess the quality of buildings in terms of appearance, form and scale of development in the residential zones, the analysis focussed on elements of design that contribute to well-designed housing. This included the appearance of dwellings when viewed from the street and how a development responds to adjacent sites. Consideration was given to the privacy, dominance and shading effects on existing dwelling as well as the redevelopment potential for future higher density housing on adjacent sites. Site observations were also valuable for assessing quality in the completed development

The findings showed that the AUP is variable in terms of managing the form and appearance of more intensive residential development. Development responses to the unlimited density provisions and

standards that manage the building envelope (such as height and height in relation to boundary) had a significant influence on outcomes.

The generic set of residential standards that apply to standalone houses as well as terraces and apartments are inadequate for complex medium to large scale developments. This can be compounded by Auckland's existing subdivision pattern of long, narrow sites which were initially developed for standalone houses – not high-density housing. Accommodating greater building lengths and heights on narrow sites can limit the ability for apartments and terrace housing to achieve appropriate building forms and scale for their site or location. This can cause shading, privacy and dominance effects of adjacent sites which can influence existing uses as well as future redevelopment potential of those sites.

Theme 2: Building Auckland's planned built form with more intensive housing

This theme investigates the range of housing types and the amount of residential development to accommodate the city's growing and diverse population. It also looks at land use efficiency and the implications of higher density development to address the RPS B2.1. growth issues. The types and density of multi-unit developments with four or more dwellings being built in the more intensive residential zones were analysed. These influence the planned suburban and urban built character of the street and neighbourhood.

The findings showed that there was a largely even split across housing types in the sample from MHS, MHU and THAB zones. The types identified were standalone houses, duplex/town houses, terraces, apartments, and some developments had a mixture of all of the types. The AUP residential zone descriptions and provisions have been effective in enabling a range of housing types to support the intensification anticipated for each zone. The amount of new residential development in some areas is starting to produce street environments that allude to the future planned form of Auckland.

The AUP has been effective in achieving intensification at levels promoted through the zoning principles and standards to reinforce the hierarchy of centres and corridors. The analysis showed a broad transition of increasing density through the MHS, MHU, THAB and Business – Mixed zones. There is a clearer transition of increasing building bulk as a consequence of the amount of building coverage rather than height. Some sites were underdeveloped – usually with less height than the zone enabled due to site constraints or other factors. While the zone standards broadly achieve the intensification enabled by the zone objectives in terms of housing types, they are less effective in achieving the planned character through height and site spaciousness.

The analysis looked at whether the AUP is encouraging efficient use of land and resources. The number of dwellings per site facilitated through the land use led subdivision consent (that enables unlimited density) was assessed. The findings showed that 130 developments in the residential zone sample produced 2,339 new dwellings. Collectively, the new developments replaced approximately 275 existing dwellings across the sample. Seventy per cent of developments were for between 4-15 dwellings per site, 20 per cent were for 16-40 dwellings per site and 10 per cent were for developments with 40 – 150 or more dwellings. This shows that the unlimited density provisions in the AUP have been very effective. In the Business – Mixed Use zone, consents for 33 developments – primarily apartments, would produce a theoretical number of 1,655 dwellings.

Zone provisions, unlimited density and increasing height/building coverage is enabling higher density development with smaller site sizes. However, site functionality and quality can be compromised if sites become too small. This includes the quality of outdoor living spaces, solar access, privacy, landscaping, provision for rubbish bins, clotheslines and so on. Higher density developments do not inherently produce

poor outcomes. Issues can arise from not appropriately addressing the unique interrelationship of housing types, amount of housing and site conditions.

Theme 3: Supporting the health, safety and wellbeing of residents

Aspects of residential developments that influence people's health, safety and wellbeing was the focus for this theme. This includes growth that enhances the quality of life for individuals and communities. The analysis looked at how the AUP residential provisions support housing that is safe, has sunlight, functions well and is pleasant to live in. Specific standards were monitored from the residential zone provisions that contribute to the regional policy statement objectives focusing on the health and safety of people and communities.

The analysis looked at whether the AUP requirement for outlook spaces from primary living areas and to a lesser degree, other habitable rooms in dwellings in the residential zones were achieving quality outcomes. The focus on primary living area outlook reflects an assumption that residents will spend longer periods of time in this space which will have a greater effect on the quality of their day-to-day lives - including their health and wellbeing.

The outlook space requirement for principal living areas and habitable rooms in the AUP is an effective and efficient method for ensuring daylight, pleasant outlook and a degree of privacy. Seventy per cent of developments in both the residential zones and the Business – Mixed Use zone samples complied with the AUP standards for size and dimensions. Those developments that did not comply, often infringed the standard for just a small number of their dwellings.

Analysis showed that compliance with the AUP standards can still result in potential issues with the outlook spaces from principal living areas. Those with outlook spaces facing the street were sometimes interrupted by fences that reduced the sense of spaciousness. In some cases, structures such as sheds, utilities, or shading from high retaining walls reduced the quality and functionality of outlook spaces. Other issues arise from principal living area outlooks facing towards adjoining sites (this applied to approximately one third of the sample in the residential zones) and could compromise privacy for both properties. This was most evident when principal living area outlooks were above ground level – especially if there were balconies. Primary living areas with outlook spaces over driveways or car parking areas also produced poorer quality outlook for residents. The monitoring showed that the location of the outlook is not as effectively managed by the AUP as it could be.

The analysis also looked at the quality of outdoor living spaces to support the health, safety and wellbeing of residents. The purpose of the outdoor living area is to provide spaces for people to enjoy the outdoor environment within their properties. The analysis showed that most developments complied with the outdoor living space requirements for either 20m² for a ground level space or 8m² for a balcony. Most developments in the sample provided ground level outdoor living spaces. However, outdoor living spaces in many developments were cluttered with rubbish bins, hot water cylinders, rainwater tanks and other housing infrastructure which affected the quality and functionality of the space. The amount of outdoor living space required by the AUP standard is not adequate to accommodate this additional household infrastructure such as rainwater tanks.

Primary outdoor living spaces in the form of balconies were prevalent in higher density THAB and Business – Mixed Use zones where there were more apartments. Balcony sizes were assessed for functionality based on the number of bedrooms to gauge the number of likely users. The majority of balconies in the residential zones complied with the standard. In the Business – Mixed Use zone, where the AUP does not require any outdoor living space, 95 per cent of residential developments did provide outdoor living spaces for the majority of dwellings. The analysis showed 15 per cent of balconies in the residential zones were inadequate sizes, and approximately 30 per cent were inadequate in the Business – Mixed Use zone.

The AUP requires sunlight to outdoor living spaces at the equinox but not in mid-winter when residents most need sunlight for their health and wellbeing. Up to a quarter of primary outdoor living areas in the residential sample could have sunlight compromised during mid-winter. Observations from site visits also highlighted potential privacy issues (visual and acoustic) arising from the configuration and location of outdoor living spaces facing towards adjacent sites. Privacy was a more significant issue when balconies at upper levels faced towards and overlooked adjacent sites. The monitoring indicates that the AUP could be more effective at ensuring outdoor living spaces are providing for quality spaces to support the health and wellbeing of residents.

Theme 4: Providing choice through a diversity of housing

Theme 4 focuses on whether developments provide choice for Aucklanders to meet their housing needs. A range of housing sizes and types are critical to a well-functioning city with a diverse population and urban fabric that allow communities to change in place. The analysis considered the types and variety of houses that are being built in developments. Many developments had a mix of different house types and sizes which for larger developments, contribute to a sense of community.

The monitoring shows that the AUP is effective and efficient in delivering a diversity of housing for Aucklanders. The plan provisions enable a wide range of housing types and dwelling sizes. The findings show an even split across all developments between housing types of standalone houses, duplexes/terrace houses, apartments, and a mixture of these in the sample. The zone influenced the predominance of a particular housing type - there were more apartments in the THAB zone.

There was a broad range of dwelling sizes and numbers of bedrooms – often with a mix of different sized dwellings in a development to provide more choice. Across the monitoring sample, there was a good spread of dwelling sizes from one to five bedrooms. In most developments, the dwelling sizes well exceed the AUP's minimum standards.

Another aspect of the analysis was the ability of housing to meet changing needs of residents. An important consideration is whether people can access and live in their house if they experience a temporary mobility impairment through an illness or accident for example. Residential intensification is producing more dwellings that are two or more storeys high which can exacerbate this situation. Enabling people to live in their homes on the ground level (or an accessible level such as lift-accessed apartments) during a period of limited mobility rather than needing to find alternative accommodation can improve recovery and wellbeing. Each dwelling was assessed for its ability to provide a habitable room (that fits a bed) and toilet and handbasin, on the ground floor or a fully accessible level.

An important consideration is whether people can access and live in their house if there are temporary limitations to their physical capabilities, such as an accident. Residential intensification is producing more dwellings that are two or more storeys high which could exacerbate this situation. The analysis show that new dwellings are generally adaptable to the changing needs of residents despite the AUP not requiring this. Most developments could provide for temporary changes in residents' mobility needs by avoiding steps between the street and dwelling front door, and with a minimal step over the entry threshold. Eighty per cent of dwellings in the sample had a habitable room, toilet and hand basin at ground level or an accessible floor (such as a lift accessed apartment).

Theme 5: Responding to climate change and environmental sustainability

This theme focuses on aspects of residential development that may help reduce the effects of climate change and contribute to environmental sustainability. Limiting the amount of impervious surfaces,

managing stormwater better, providing quality landscaping and managing waste in residential developments can reduce the impact of residential intensification on the environment.

The analysis looked at ways development can minimise environmental effects caused by stormwater in the residential zones. This includes the management of stormwater runoff and supporting water quality where it enters natural environments such as coasts and streams. Collecting on-site rainwater is another way that stormwater run-off can be reduced and has the added benefit of providing water for gardens or other outdoor uses. The findings showed that approximately a third of the sample in the residential zones did not comply with the maximum impervious area standards. In many cases this enabled a site-specific response to be pursued to satisfy the purpose of the standard. This was more prevalent in the higher density zones of MHU and THAB. Nearly half the developments had rainwater tanks to provide for exterior household use or as detention devices to manage on-site stormwater. Without clear evidence of the cumulative effects of more intensive residential development, it is not possible in this monitoring analysis to evaluate whether the plan is effective or efficient.

Quality landscaping supports biodiversity and provides privacy, shade, shelter, food sources, improves amenity. It is important for reducing stormwater run-off, reducing contaminants (air and water), carbon absorption and the reducing the urban heat effect to support climate change resilience.

The monitoring showed the AUP is not sufficiently effective or efficient in achieving quality landscape areas in residential developments. Approximately 35 per cent of the residential zone developments in the sample did not comply with the landscaping requirement – the majority of which infringed it by up to five per cent. The extent of low compliance with the landscape area standard reflects a similar level of infringement for the maximum impervious surface standard. In many cases, alternative solutions may have been proposed to meet the purpose of the standard but it is unclear whether this could undermine the anticipated landscape outcomes. This could be an issue in terms of managing stormwater and in the MHS zone where landscape is considered an attribute to the site and neighbourhood character. The amount of landscape area and the quality of landscaping is also fundamental for achieving biodiversity and climate change resilience in the urban environment.

Site observations showed many sites were poorly landscaped and lacked the amount of planting shown in the consented landscape plans. This suggests shortcomings in monitoring and compliance to ensure approved landscape plans are properly implemented. There were also issues around the types of landscaping (particularly lack of trees or planting for future mature trees) and the lack of thought for the ongoing maintenance of sites – especially terrace housing.

Effective waste management is an essential part of well-functioning sites and urban environments. The provision of waste storage, its visibility within the site and how on-site waste management and provision of waste-collection and recycling facilities impact the functions of the site and surrounding urban environment were all assessed. The majority of developments showed some consideration for on-site waste management although site observations in the residential zones showed that these often weren't sufficient to address effects on the functionality of outdoor living spaces, site access, on-street amenity and pedestrian safety.

Theme 6: Supporting safe access and travel choice

Theme 6 analyses the safety and functionality of site access and circulation for pedestrians and vehicles. It also looks at the safety issues and opportunities of new developments on public streets and places. Pedestrian safety within a site is a particular concern given the high incidence of driveway accidents involving pedestrians (particularly children).

The findings showed that 65 per cent of developments with 10 or more parking spaces in the residential zone sample provided a separated footpath. Only a quarter of those developments that had footpaths were separated from the driveway by a kerb or other physical barriers. Most chose to use an alternative material or colour on a level flush with the driveway. Only half the footpaths (of those developments that had them) were designed to avoid the reversing space of cars.

The majority of developments avoided having front doors opening directly onto a driveway. Some forms of parking such as centralised communal parking areas are not adequately designed for pedestrian safety within the site. This suggests that the AUP is not managing on-site pedestrian safety effectively or efficiently, with respect to pedestrian access and circulation.

Most developments fronting streets optimised passive surveillance with windows or/and balconies overlooking the street. Seventy per cent of developments in the residential sample had up to half their dwellings overlooking the street. Most front doors for street facing dwellings were visible or partially visible from the street. This demonstrates that the AUP is effective and efficient in ensuring that dwellings in residential zones are well-designed to provide passive surveillance of the street to make neighbourhoods safer.

Conclusion

The broad scope and complexity of the monitoring for the B2.3 A Quality Built Environment topic has meant it is challenging to draw a single conclusion on the performance of the AUP in achieving the B2.3 A Quality Built Environment objectives and policies. Notwithstanding this, the monitoring has provided some overall trends and observations.

Successes

Analysis has shown that the AUP is both effective and efficient in many aspects of development in the residential and the Business – Mixed Use zones. These mainly relate to:

- residential intensification at levels promoted through the zoning principles and zone standards support AUP and Auckland Plan growth objectives
- residential developments and zones progressively intensify towards centres and transport corridors, reinforcing the AUP hierarchy of centres and corridors
- enabling sites to maximise housing yield with unlimited density provisions enabled through the land use led subdivision consenting process
- enabling a wide range of housing types and sizes to meet the diverse needs of Aucklanders
- achieving good form, design and function in many developments across all suburban and urban residential areas of Auckland, regardless of location, socio-economic, market or other external factors
- achieving good quality street frontage appearance for most developments in the residential zones.

Issues

The analysis also revealed potential issues and emerging trends where the AUP is less effective or efficient. These mainly relate to:

- managing the effects (e.g. shading, privacy, dominance) of new development on adjacent sites, which could affect the existing and the future re-development potential of these sites
- the pressure of high-density residential developments compromising site amenity and functionality
- recognising complexities and uniqueness of housing types – currently a single generic set of standards is applied to all housing types whether it's a standalone house or an apartment building
- issues with building form, scale and bulk relative to site conditions (eg. size, dimensions) to accommodate more intensive terrace housing and apartment developments

- type and scale of earthworks producing poor site amenity and functionality in some developments
- insufficient standards to address climate change at a site-specific level – particularly the need for better stormwater management and quality landscaping
- Inadequate waste management within the site and street environment
- managing the safety of pedestrians within sites and the street.

The above conclusions should be considered in conjunction with the specific conclusions and recommendations for each indicator in the report.

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Abbreviations in this report include:

Abbreviation	Meaning
AUP	Auckland Unitary Plan (Operative in Part)
the council	Auckland Council
RMA	Resource Management Act 1991
RPS	Regional Policy Statement
resource consents database	Plans and Places resource consent decision tracking database
compliance database	Resource consent compliance and monitoring database
building consents database	Building consent decisions database
AT	Auckland Transport
Watercare	Watercare Services Limited
council-controlled organisation	CCO
MHS	Residential - Mixed Housing Suburban (zone)
MHU	Residential - Mixed Housing Urban (zone)
THAB	Residential - Terrace Housing and Apartment Building (zone)
IHP	Independent Hearings Panel (for the Auckland Unitary Plan)
HIRB	Height in Relation to Boundary (planning standard)
AHIRB	Alternative Height in Relation to Boundary (planning standard)

Introduction

This report considers how effective and efficient the objectives, policies, rules and other methods of the AUP have been in meeting the outcomes intended by the Regional Policy Statement – B2.3 Quality built environment. The monitoring is in accordance with 35(2)(b) of the RMA.

Section 35(2)(b) specifies that monitoring results are published every five years. The AUP became operative in part in November 2016 and will have been operative in part for five years in November 2021.

The research findings seek to tell a story of what the AUP is achieving and where challenges may be. Monitoring is a key link in the policy development lifecycle providing data and the evidence base for taking appropriate action where necessary.

The terms ‘effectiveness’ and ‘efficiency’ are not explicitly defined in the RMA. For the purposes of this monitoring report the terms are generally interpreted as¹:

Effectiveness is the contribution that the provisions make towards achieving the objective, and how successful they are likely to be in solving the problem they were designed to address when compared with alternatives. The difficulty when assessing effectiveness is to be able to answer the question ‘how do we know that implementing the policy, rule or method led or contributed to the outcome?’

Efficiency is an assessment of whether the provisions will be likely to achieve the objectives at the lowest total cost to all or achieves the highest net benefit relative to cost to all.

The steps undertaken in this monitoring work are briefly summarised in Figure 1.

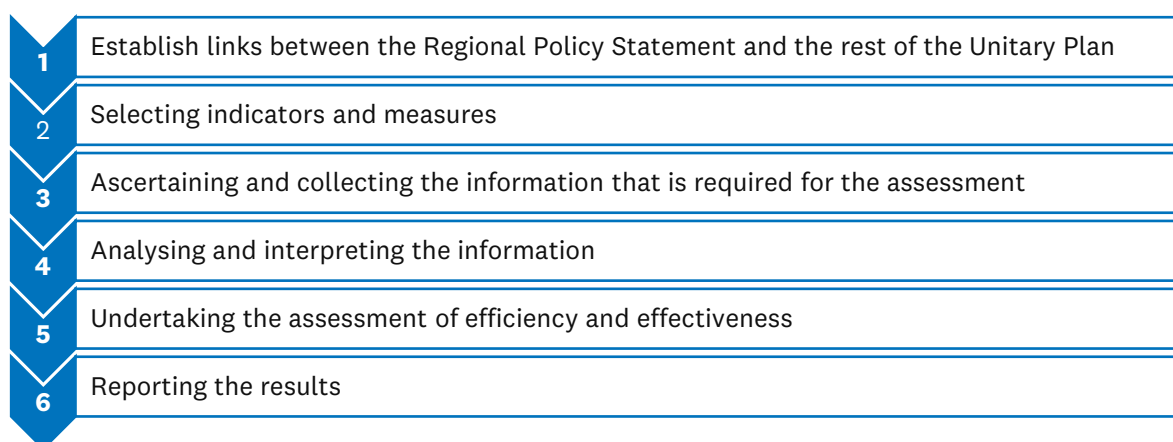


Figure 1 Steps in the monitoring process

¹ Auckland Unitary Plan Monitoring Strategy 2018

RPS Chapter B2 Urban Growth and Form overview

Auckland's growing population increases demand for housing, employment, business, infrastructure, social facilities and services. Growth needs to be provided for in a way that enhances the quality of life for individuals and communities. It must also support integrated planning of land use, infrastructure and development, and optimise the efficient use of the existing urban area. New growth needs to enhance the quality of the environment, both natural and built.

The B2.2 Urban Growth and Form chapter has a wide scope. It seeks a quality compact urban form that enables a higher-quality urban environment. B2.3 Quality built environment sets the parameters around how it will be delivered at every scale. B2.4 Residential Growth focuses on the quality, efficiency and amount of housing to be delivered. B2.5 Commercial and Industrial Growth concentrates on employment areas and the role of centres.

The regional policy statement for B2.3 A quality built environment has a broad reach – seeking quality outcomes across all scales of development – site, street, block, neighbourhood and city. It sets a framework for considering the role of the built environment in supporting people's health, safety, well-being, choices, accessibility and travel. It also recognises the need to innovate, maximise resources, infrastructure efficiency and adapt to climate change. These are particularly important considerations for residential development which is the predominant form of development in Auckland.

The regional policy statement objectives are:

B2.3 A quality built environment

- (1) A quality built environment where subdivision, use and development do all of the following:
 - (a) respond to the intrinsic qualities and physical characteristics of the site and area, including its setting;
 - (b) reinforce the hierarchy of centres and corridors;
 - (c) contribute to a diverse mix of choice and opportunity for people and communities;
 - (d) maximise resource and infrastructure efficiency;
 - (e) are capable of adapting to changing needs; and
 - (f) respond and adapt to the effects of climate change.
- (2) Innovative design to address environmental effects is encouraged.
- (3) The health and safety of people and communities are promoted.

Refer to Appendix A for the full policy statement objectives and policies.

The built environment in Auckland's urban area is heavily influenced by the activities which they contain. This informs that building type, form and scale of business, industrial and residential development. Business development tends to be concentrated in centres and along transport corridors with a wide variation in scale and form. Auckland's city centre provides the most visibly intense version of the city's built form with some tower heights over 150m that are occupied by business and residential activities. In contrast, industrial development is characterised by large floor-

plates and lower heights concentrated around transport corridors – including the airport and ports. Residential development predominates Auckland’s wider urban-scape and is particularly concentrated as apartments in the centres and along transport corridors. Change has been rapid in some residential zones since the AUP became operative in 2016.

As new residential developments increase in number, scale and intensity, they have a greater influence on the city’s form at every scale. Quality housing also has an essential role in providing for the health, safety and wellbeing of residents. For these reasons, monitoring of the effectiveness and efficiency of B2.3 Quality built environment concentrates on individual housing development in residential zones where rapid growth is occurring.

Future S.35 monitoring will look at development in business zones which tend to follow longer timeframes between design, consenting and construction. The influence of development on the site, neighbourhoods and wider area is best assessed when they are completed. At this stage of AUP implementation, there has been adequate residential development completed to undertake a robust assessment of whether quality built form outcomes are being achieved.

The research findings from the monitoring will help determine whether the AUP has enabled quality outcomes for residential development across the city with regards to health, safety, wellbeing, choice, functionality, design of built form and the amenity of the site. It also assesses how well new residential developments respond to the site, street, neighbourhood and area to gauge whether the future planned form anticipated for the various zones is being achieved. The monitoring does not seek to review the individual performance of planning rules and instead, focuses on the collective outcomes they produce in the built environment.

Auckland’s growing population increases demand for housing, employment, business, infrastructure, social facilities and services. AUP Chapter B2.1. Urban Growth and Form sets out eight key issues. Growth needs to be provided for in a way that does all of the following:

- enhances the quality of life for individuals and communities
- supports integrated planning of land use, infrastructure and development
- optimises the efficient use of the existing urban areas
- encourages the efficient use of existing social facilities and provides for new social facilities
- enables provision and use of infrastructure in a way that is efficient, effective and timely
- maintains and enhances the quality of the environment, both natural and built
- maintains opportunities for rural production
- enables Mana Whenua to participate and their culture and values to be recognised and provided for.

The RPS2.3 Quality Built Environment monitoring evaluates how effectively and efficiently the plan is addressing these issues. The focus of this monitoring topic is on achieving ‘higher-quality urban environment’ through the evaluation of a residential development sample across four specified zones (see below).

Other S.35 monitoring topics address different aspects of urban growth. As this is an assessment of the AUP effectiveness and efficiency, the monitoring is closely but not explicitly aligned with the residential provisions in the plan. This focus provided consistency in the data collection while enabling the influence of external factors to surface. For example, apartment development was more concentrated in areas with good public transport, access to goods, services and community facilities. This correlated with the AUP zoning provisions which enabled more intensive development to occur

in these locations. References to similar, concurrent or future monitoring topics are identified in this report where relevant.

Connections with other parts of the plan

This topic has close connections with three other sections of the RPS. The relevant sections are:

- B2.2 Urban growth and form
- B2.4 Residential growth
- B3.3 Transport

Refer to Appendix D for the objectives relevant to this topic in chapters B2.2 Urban growth and form, B2.3 A quality built environment, B2.4 Residential growth and B3 Transport.

These sections are particularly relevant as they influence the policy direction in B2.3 Quality built environment. The monitoring results from this topic are necessary to present a high-level analysis on which parts of B2.2.2 and B2.4 require further investigation.

Lower tier objectives, policies and provisions are also relevant to monitoring for B2.3 A quality built environment in terms of residential development. The zones relevant to this monitoring are:

- Residential - Mixed Housing Suburban zone (MHS)
- Residential - Mixed Housing Urban zone (MHU)
- Residential - Terrace Housing and Apartment Building zone (THAB)
- Business - Mixed Use zone (BMU)

The plan provisions for each zone influence the scale, form and quality of the built environment. The performance of individual standards in zones are not the subject of the monitoring. However, the purpose statements of some standards specify the outcomes sought and these informed the indicators. This approach enables an assessment of the collective effect of packages of residential zone standards and other provisions.

Auckland context

The Auckland Plan 2050 identifies 'Homes and Places' as one of the key outcomes for Auckland. The outcome is for 'Aucklanders to live in secure, healthy and affordable homes, and have access to a range of easily accessible public places.'

There are currently about 540,000 dwellings in Auckland. These are made up of stand-alone houses, duplex/townhouses, terraced housing and an increasing number of apartments. The Auckland Plan highlights the need for more good quality housing to be built, and to ensure that a range of housing types, sizes and price points are built across the region. This includes for individuals, couples, groups (such as flatters) and families. Warm, dry, quality housing is a key determinant of a healthy community - a healthy home is a core foundation for positive health and wellbeing. Conversely, poorly designed residential developments can have negative effects on the quality and functionality of dwellings and neighbourhoods.

This monitoring focusses on the quality of residential developments and provides a 'short snapshot' across urban Auckland. The monitoring sample includes developments with four or more dwellings that were consented after April 2018 and primarily constructed before December 2020 in the higher density residential zones. This includes Residential - Mixed Housing Suburban (MHS), Residential -

Mixed Housing Urban (MHU), Residential - Terrace Housing and Apartment Building (THAB), and Business - Mixed Use zones.

In addition to the implementation of the Unitary Plan provisions, there are many other factors that influence the quality, location, development and construction of housing in Auckland. Many of these are beyond the control of the AUP. This includes the selection of location, building typology, scale, materials, style and other externalities such as:

- market demand, trends and preferences
- population changes – demographics, growth, employment etc
- development funding
- mortgage lending – amount, restrictions on types of housing, the ability to buy off plans, timeframes for unconditional borrowing, restrictions on progress payments associated with new builds, etc
- insurance
- construction industry – skills, capacity, and competency
- construction costs – and the impact that significant rises have on housing choice, affordability, location and transport costs
- supply chains
- taxation penalties and incentives
- legislation such as the Building Code and Unit Titles Act 2010.
- Provision of and funding for infrastructure – water supply, waste-water, stormwater, power supply, street networks and public transport provision.

Determining the degree of influence these externalities may have on the quality of housing outcomes is a challenge. A limitation of the monitoring programme is understanding to what extent the quality of housing is a consequence of the AUP provisions or/and a result of market and cultural influences around housing typology, development economics and build capacity.

The AUP seeks to accommodate growth in Auckland through a quality compact urban form. RPS B2 Urban Growth identifies this approach as enabling the following:

- (a) a higher-quality urban environment
- (b) greater productivity and economic growth
- (c) better use of existing infrastructure and efficient provision of new infrastructure
- (d) improved and more effective public transport
- (e) greater social and cultural vitality
- (f) better maintenance of rural character and rural productivity; and (g) reduced adverse environmental effects.

As noted above, the focus of this monitoring topic is to evaluate how residential development contributes to Auckland's goal of achieving a higher-quality urban environment.

Indicators

Indicators and measures have been developed to assess the progress toward achieving the RPS's objectives and outcomes.

An **indicator** (for the purposes of this report) is a qualitative or quantitative gauge that displays degrees of progress to determine whether or not the AUP is moving in the right direction toward meeting its objectives. An indicator should be used to assess the condition of the environment, to identify changes to that condition, to diagnose problems and then to guide future changes to objectives, policies or methods (via plan change or plan review).

A **measure** is the selected information that enables evaluation of the indicator. Methods of measurement will differ depending on the indicator.

The indicators developed for this topic have been shaped by limitations. It was not possible to develop a set of indicators which encompassed all facets of the topic – this is due to constraints on time, resource, and data availability.

Development of the indicators and measures took into account the following:

- the B2.3 objectives and policies
- the relevant B2.2 and B2.4 objectives and policies
- provisions in the MHS, MHU, THAB and Business – Mixed use zones
- overlaps in the coverage of the objectives
- data availability
- the need for both quantitative and qualitative assessments
- emerging issues identified by planners, urban designers, councillors, local boards, public concern (correspondence, media)
- time and other resource constraints.

Evaluating quality

The research findings from the monitoring help determine whether the AUP has enabled quality outcomes for residential development across the city. The analysis takes an aggregated approach because assessing residential developments is complex. To do this, the analysis looked at over 50 aspects of each housing development as no one measure can conclusively determine whether quality has been achieved. The monitoring attempts to subjectively evaluate quality by quantifying terms such as 'attractive' used by the AUP into assessing design elements such as 'variation in roof forms and 'modulation of building façades'. Site visits to completed developments also focused on aspects which contribute to well-designed housing rather than the style of a development. The approach enabled specific standards or in some cases the lack of standards, to be identified and provide direction for recommended changes to the AUP. The analysis helped determine the AUP's effectiveness as well as identify trends, opportunities and issues across different housing types, densities and zones.

Determining housing quality requires the evaluation of various aspects of a development. A range of key factors were developed from the AUP RPS B2.3 and residential zone objectives, policies, standards, purpose statements and assessment criteria to evaluate residential quality. They individually and collectively influence the quality of housing and neighbourhoods including:

- onsite amenity
- building scale, housing typology
- appearance
- functionality – dwelling size, outdoor living
- health and wellbeing – outlook, solar access
- safety – access to and within the site, passive surveillance
- level of intensification
- street and neighbourhood interface.

Designing indicators and measures to produce statistical outputs enabled trends to emerge and issues to be quantified. These may show the effects of AUP residential provisions, how they are implemented or the influence of other conditions and pressures. This includes externalities such as market preferences (developers and buyers), the emergence of new construction and landscaping materials, changes to legislation etc.

Twelve indicators were developed. Most of the indicators relate to more than one B2.3 objective and some also respond to other RPS growth topics. This is summarised in a matrix set out in Appendix 4.

Themes

The indicators and the respective objectives and policies have been arranged into six themes as follows:

Theme 1: The quality of site development, built form, appearance and setting

Theme 2: Building Auckland's planned built form with more intensive housing

Theme 3: Supporting the health, safety and wellbeing of residents

Theme 4: Providing choice through a diversity of housing

Theme 5: Responding to climate change and environmental sustainability

Theme 6: Supporting safe access and travel choice

B2.3 indicators and measures

Chapter B11 Monitoring and environmental results anticipated

Chapter B11 in the AUP sets out the monitoring and environmental results anticipated (ERA) of a regional policy statement. B11 is not exhaustive, an ERA is not listed for every objective in the RPS. Chapter B11 explains:

Environmental results anticipated identify the outcomes expected as a result of implementing the policies and methods in the regional policy statement and provide the basis for monitoring the efficiency and effectiveness of those policies and methods as required by section 35 of the Resource Management Act 1991.

Environmental results anticipated are not additional objectives, policies or rules: they are indicators to be used when assessing progress towards achieving the objectives in the regional policy statement. These indicators should be used:

- to assess the condition of the environment
- to identify changes to that condition

- to diagnose the causes of environmental problems
- to guide future changes to objectives, policies and methods.

In the absence of prescribed AUP indicators for this topic in chapter B11, the RPS B2.3 objectives and policies inform the following indicators. The measures for each indicator are specified in Section 4 of this report.

Table 1

Reference	Primary objective:	Indicators
B.2.3.1(1)(a)	<i>A quality built environment where subdivision, use and development do all of the following: (a) respond to the intrinsic qualities and physical characteristics of the site and area, including its setting;</i>	Indicator 1 – Extent that developments respond to the physical characteristics of sites Indicator 2 – Extent that developments respond to the intrinsic qualities of the area and setting through the form and appearance of buildings
B.2.3.1(1)(b) & (d)	<i>A quality built environment where subdivision, use and development do all of the following: (b) reinforce the hierarchy of centres and corridors; (d) maximise resource and infrastructure efficiency;</i>	Indicator 3 – Building the planned built form with intensification reinforcing the hierarchy of centres and corridors Indicator 4 – Maximising land and building resources and infrastructure efficiency
B.2.3.1(3)	<i>The health and safety of people and communities are promoted.</i>	Indicator 5 – The extent that the health and wellbeing of residents is supported by living spaces with quality outlooks, privacy and sunlight. Indicator 6 – The extent that the health, safety and wellbeing of residents is supported by quality outdoor living spaces
B.2.3.1(1)(c) & (e)	<i>A quality built environment where subdivision, use and development do all of the following: (c) contribute to a diverse mix of choice and opportunity for people and communities;</i>	Indicator 7 – Diverse mix of housing choice for people and a range of built form to suit changing needs

	<i>(e) are capable of adapting to changing needs;</i>	
<i>B.2.3.1(1)(f) B2.3.1(2)</i>	<i>A quality built environment where subdivision, use and development do all of the following: (f) respond and adapt to the effects of climate change Innovative design to address environmental effects is encouraged.</i>	Indicator 8 – Managing stormwater to mitigate adverse environmental effects Indicator 9 – Quality of landscaping to address the effects of subdivision and climate change Indicator 10 – Location and appearance of on-site waste management
<i>B.2.3.1(3)</i>	<i>The health and safety of people and communities are promoted.</i>	Indicator 11 – Safe access to residential developments Indicator 12 – Promoting safety and travel choice on-site and in the movement network – people and vehicles

Data and information

Monitoring Sample

The monitoring sample included multi-dwelling medium (4-9 dwellings) and large-scale (10 or more dwellings) developments. Medium and large scale developments are the focus for monitoring because issues concerning quality, scale and effects on the environment have been raised by council staff, councillors, local boards and the public. The developments are in the MHS, MHU and THAB residential zones and residential developments in the Business – Mixed Use zone. This enabled analysis of residential developments consented under different sets of provisions – residential and business.

Residential zones sample

Samples of residential developments were selected from the three relevant residential zones. The effects of change are most evident in these zones because they have no density controls and allow for a significant amount of residential intensity to occur. For this analysis all the sample developments were approved through resource and building consent processes under the AUP. The residential zone provisions in the AUP became fully operative on the 6th April 2018. The samples of residential developments reviewed were selected from the period April 2018 – December 2020.

Figure 1 shows a map with the locations of the selected developments in these residential zones. In January 2020, Plan Change 16 to the AUP modified the standards for Outdoor Living Space (H64.6.13, H5.6.13, H6.6.13). In particular, it removed the standard requiring the primary outdoor living space to be directly accessible from the living areas. The plan change enabled outdoor spaces to be accessed from any room in the dwelling – including from a garage. The monitoring included a measure to evaluate the effects of this plan change.

Residential development samples in the THAB, MHU and MHS zones that conformed to the following parameters were selected:

- Residential developments within the Auckland urban area. Smaller towns such as Warkworth, rural and coastal settlements, or other places are not included in the samples.
- Developments must not be within a precinct or an overlay (such as Special Character Areas or the Waitakere Ranges Heritage Area). This is because the planning mechanisms in precincts and overlays generally contain additional provisions responding to unique characteristics. Exclusion of these developments from the sample allows for a 'like-for-like' comparison on how the built environment is shaped by AUP's zone provisions.
- Residential developments with four or more dwellings.
- Residential developments with a Resource Consent and Code of Compliance Certificate (CCC) issued between April 2018 and December 2020. Data set supplied by Auckland Council Research, Investigation and Monitoring Unit (RIMU).
- The short timeframe between consenting and construction potentially restricted the sample range to small to medium scale developments. To address this, larger scale residential developments were selected by the Urban Design Unit. The selection criteria ensured that all developments were for 10 or more dwellings per site,

consented after April 2018 and were in the construction phase in December 2020, and were randomly selected from across Auckland.

As a result, a total of 130 developments were selected for analysis from the residential zones. These came from two sources:

- Research and Evaluation Unit (RIMU): 102 developments were randomly selected from a possible 179 developments which met the parameters. This equates to 57 per cent of the possible sample. Developments were also selected where they formed clusters or a concentration of developments in an area. This enabled the monitoring team to observe the cumulative effects of more intensive development in neighbourhoods. These clusters were from all parts of the city. Refer to figure 3.
- Urban Design Unit: 28 developments were selected on the basis that they were consented after April 2018 and were in the construction phase (most yet to receive CCCs). These provided more large-scale developments in the sample while recognising that such developments take a longer time to complete than the monitoring timeframe allowed.

Developments included brownfield (redeveloped from existing sites) and greenfield sites (newly developed from rural land or sites without previous development) across urban Auckland. The majority of developments in the sample were on brownfield sites.

The residential zone sample of 130 developments comprised of:

- 51 developments in the MHS zone (39 per cent of the sample)
- 56 developments in the MHU zone (44 per cent of the sample)
- 23 developments in the THAB zone (17 per cent of the sample).

Developments in the THAB zone are often larger scale with longer timeframes for consenting and construction than developments in other zones. This meant that fewer developments in the THAB zone qualified for the sample selection.

Figure 1 shows the location and housing typologies of developments in the residential zone that qualified for the sample selection. Those developments that were in clusters were prioritised for selection as these provided an opportunity to see the influence and cumulative effects of new development in streets and neighbourhoods.

The concentration of developments in South Auckland shows a greater amount of development activity. There may also have been market influences such as cheaper land, larger properties, or higher residential demand in these areas.

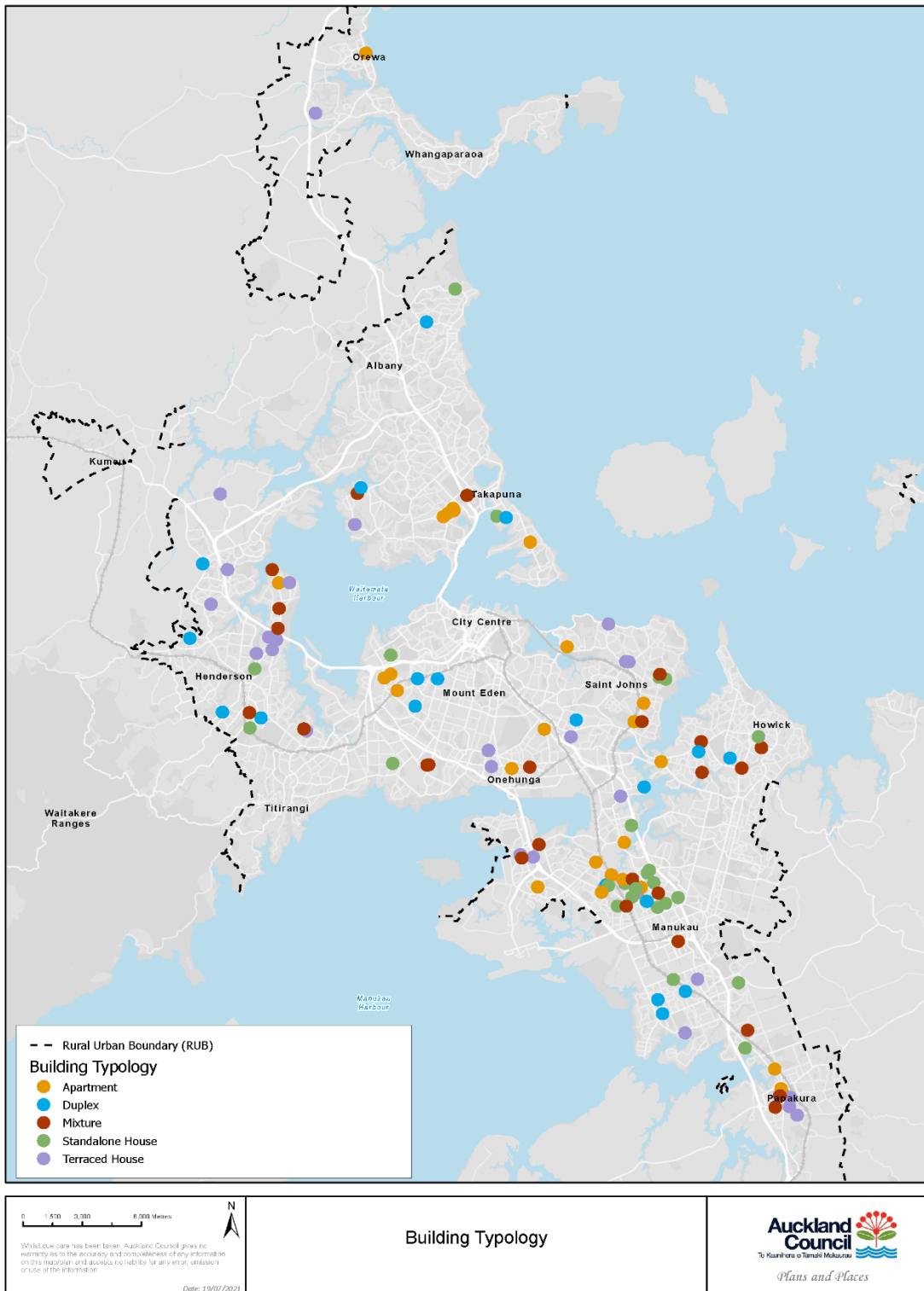


Figure 1 Residential developments that qualified for the sample selection.

The residential zone sample comprised:

- 30% of developments had 4-6 dwellings
- 23% of developments had 7-9 dwellings
- 21% of developments had 10-20 dwellings
- 12% of developments had 21-30 dwellings

- 8% of developments had 31-50 dwellings
- 3% of developments had 51-100 dwellings
- 3% of developments had 101-150+ dwellings

Standards set limits on the extent to which an activity is permitted or may be assessed as a controlled or restricted discretionary activity. Exceedance of a standard normally results in the activity being considered as a more restrictive class of activity. In the residential zones, these exceedances or infringements will be restricted discretionary. Most standards in the residential zones however are 'non-core' standards and so do not require compliance but are assessment matters guided by the AUP's assessment criteria. Specific matters for discretion are set out in the AUP are what the planner is limited to considering when determining the proposal. Outcomes are negotiated through this assessment process.

Consent planners and urban designers often work with developers at the pre-application stage when design decisions are still being considered. However, many developers do not seek pre-application meetings for smaller developments less than 10 dwellings. Once the resource consent application is lodged, the scope for changes becomes very limited.

Planners, urban designers and other specialists undertake a comprehensive assessment of the application against the AUP standards and assessment criteria. In many cases, non-compliance with the standards and additional consents for activities such as earthworks require more consideration and increase the complexity of consenting. The Auckland Urban Design Panel also provides advice on some significant large-scale residential developments.

There are approximately 16-17 standards in the residential zones with five of these set out as 'core' standards to be complied with for developments comprising four or more dwellings in MHS and MHU, and for all dwellings in THAB. Compliance with other standards can be negotiated through the Restricted Discretionary consenting process when applying for consents for four or more dwellings (or for all dwellings in THAB). The core standards for compliance for the MHS, MHU and THAB zones are:

- building height
- height in relation to boundary
- alternative height in relation to boundary
- yards
- THAB and MHU zones only: Height in relation to boundary adjoining lower density zones.

The AUP Independent Hearings Panel limited the number of core standards to encourage a more flexible approach to multi-unit developments. The core standards were selected to manage developments from directly affecting adjoining and nearby sites. Non-compliance with a one or more of these standards can be assessed for public or partial notification of the resource consent. All other development standards were non-core standards and matters for assessment rather than compliance. The core and non-core standards are listed in Appendix D AUP references.

Business - Mixed Use zone sample

The Business – Mixed Use zone was monitored as it is part of the transition towards the more intensive centre zones. Typically, this zone is located along transport corridors and between the THAB zone and centre zones. More height and building bulk is enabled in this zone.

Residential development samples in the Business – Mixed Use zone that conformed to the following parameters were selected:

- Resource consents used for this analysis were filtered to remove any developments which were significantly affected by a plan overlay or precinct. This ensured a more accurate reflection of the outcomes generated by the Business – Mixed Use zone rules.
- Developments which consisted solely of visitor accommodation units were removed from the sample. This is because the design of these were strongly influenced by very specific functional requirements and produced a quite different built form from the wider sample. This did not make these developments useful for comparative analysis. However, developments which included a mixture of permanent dwellings and visitor accommodation units were retained.

This resulted in a final sample of 33 granted resource consents from Business – Mixed Use on sites across the Auckland region, with approval dates ranging from April 2018 to February 2020. Collectively, these consents would produce 1,655 new dwellings when constructed.

The monitoring evaluated whether the Business – Mixed Use provisions were producing quality residential developments with less standards in the AUP than for the residential zones. In the business zones, eight standards manage the building bulk, form and effects. These include building height, height in relation to boundary, building setback at upper floors, maximum tower dimension and tower separation, yards, landscaping (as a buffer to street frontage carparking only), maximum impervious area in the riparian yard, wind, outlook space and minimum dwelling size. These are all standards to be complied with.

Recent Government legislation

The influence of recent Government legislation - the National Policy Statement – Urban Development 2020 and the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 were not considered during the monitoring analysis. The legislation was issued after the monitoring began and the purpose of the monitoring is to evaluate the effectiveness and efficiency of the Auckland Unitary Plan over the 2018-2020 period. However, the Government’s new requirements have a significant influence on the validity, scope and timeframes of some recommendations in the monitoring report. This includes the national Medium Density Residential Standards which limit the scope of potential changes to address AUP issues identified through the monitoring.

Methodology

Section 35 of the Resource Management Act 1991 requires Council to monitor plan processes. The analysis recognises that different council consenting processes including building consents, compliance monitoring and enforcement can influence the end quality of development. The results of this monitoring could show whether the level of quality is influenced by the plan provisions, by the respective council process or a combination of both.

For the purposes of this analysis, the definition of ‘quality’ as defined in the Oxford Dictionary is used:

‘The standard of something as measured against other things of a similar kind: the degree of excellence of something’

This analysis gauges whether the high-level Regional Policy Statement aspirations for a quality built environment are being achieved in various scales of residential development. While the AUP residential provisions are considered in the analysis, it is not intended to be a review of the residential standards. The built form outcomes produced by the AUP provisions and consenting process are the focus of this report.

There were two drivers which set the scope for monitoring:

- The first was whether the current AUP provisions were performing as anticipated.
- The second was to investigate a range of developing issues that are not controlled by the AUP. This additional research goes beyond the S.35 monitoring requirements to consider some of the issues raised by Auckland Council staff, councillors, local boards and the public. Refer to Appendix B. The investigation will help to quantify if these issues were a matter of perception or supported by evidence. Likewise, it can help identify whether there are any relationships with the AUP or other factors such as market pressures. Research on the implications of externalities was limited and most clearly identified through statistical trends that emerged through the monitoring.

However, to consider some issues emerging from either the data or from other sources, the analysis delves deeper in some topics. This includes references to the Proposed Auckland Unitary Plan and the legacy council district plans for the purposes of clarification, context and to inform recommendations. In some cases, this helps provide the context by which the effectiveness and efficiency of the AUP can be assessed.

The monitoring did not interview or survey residents or neighbours on sites adjoining new developments (e.g., to record their preferences and lived experiences of their homes and developments) due to resource limitations. This would provide a more robust assessment of the social, economic, health, safety and well-being aspects of housing provision. It is recommended that this be included in future S.35 monitoring for this topic.

Data collection method

The resource consent documents used to inform the analysis were the decision report, planners report, urban design report and approved plans for each development. For more complex developments, the applicant's Assessment of Effects, engineering reports and other documents were sometimes referred to.

The approved consents have already been assessed against the AUP standards, but this analysis goes further to see whether developments are achieving the wider aspirations of the Regional Policy Statement – B2.3 A quality built environment. Measures were included to help identify good, poor or unintended consequences that were occurring (see also discussions on indicators above). This is to see whether the AUP provisions are delivering what is intended or whether there are other factors such as plan implementation or external influences. While there is a degree of subjectivity in the analysis, it is minimised and identified in the findings.

RPS B2.3 dataset

The categorisation of various aspects of residential development into measures enables the majority of built form design elements to be assessable and measurable. An Excel spreadsheet assessment matrix was used to evaluate each development against the common set of measures. An example is 'whether the principal outdoor living space is orientated for sunlight'. A list of measures is contained in Appendix A.

Two assessment matrices were designed:

- MHS, MHU, THAB residential zone developments – 58 measures.
- Business – Mixed Use zone residential developments – 6 measures.
- Where relevant, residential development in the Business Mixed Use zone was also evaluated using the same measures as the residential zones.

The purpose of the statistical analysis is to provide an aggregation of results across a range of outcomes to evaluate whether residential developments are achieving the RPS B2.3 objectives and policies. It also gives an indication of trends and issues rather than explicit performance results of any particular residential standard or development.

The monitoring also looks at some elements of built form design governed by specific standards that are producing variable outcomes. This helps evaluate whether the AUP and consenting processes are effective and efficient.

The AUP policy framework and standards do not assume that infringing a standard equates to an adverse effect that must be mitigated. In processing consent applications not meeting a standard in the residential zones, an alternative response may be negotiated with the applicant to achieve a similar or better outcome than the standard. This flexibility is a feature of the AUP and the planning process. This is enabled through the Restricted Discretionary consenting process for four or more dwellings in MHS and MHU, or all dwellings in THAB and Business – Mixed Use zones. It facilitates the specific site and development conditions and outcomes to be addressed through a case-by-case basis.

In the S.35 monitoring, the number and extent of non-compliance with the standards as assessment matters were recorded (refer to the explanation of the core standards earlier in this section). This was to gauge the performance of the non-core standards and evaluate planning practice with regards to AUP efficiency.

To record data in the Excel spreadsheet, many of the measures required filtering from prescribed ‘drop-down’ menus. This improved consistency and streamlined data collection. For many measures, a percentage finding was used. These were usually rounded to the nearest 5-10 per cent. Where a variable was measured such as site size, density or dwelling size, the findings are bundled into cohorts or bands for the purpose of clarity and identifying trends. For example, site sizes were recorded in bands – 501-600m²/601-700m²/701-800m² and so on. Each measure was designed to provide the level of detail necessary to assess the performance of the plan.

One of the limitations of the evaluation method was that for most measures, the focus was on the majority of dwellings in a development. The ‘majority’ was set to be representative of ‘at least 70 per cent of dwellings’ within a development or parent site. The parent site refers to the site prior to subdivision or unit titling. Another limitation of the data was that the cumulative effects of non-compliance with multiple standards or measures for a development were not identified. This would have required more in-depth analysis of each development which resources did not allow for.

Specific assessment measures were designed to extract data on the exceptions in a development where this is important. There were also measures that sought to understand the validity or scale of an identified issue. For instance, ‘how many dwellings in the development had south facing outdoor living spaces’ expanded on a measure regarding the ‘proportion of dwellings on a site with east, west or north facing outdoor living spaces’. This provided more accurate statistical data and valuable qualitative information.

Resource consent database

The resource consents database records resource consent decisions through data entry processes in the Plans and Places Department. This database was used to calibrate the RPS B2.3 monitoring data against the rest of urban Auckland. This was to determine whether the findings from the monitoring sample is representative of all residential development across Auckland.

The calibration exercise essentially looked at the remainder of residential developments (1 – 3 dwellings per consent) which met the monitoring parameters (that is, consented between April 2018 Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment | 16

and December 2020, and not affected by an overlay or precinct)². Data was extracted only for the residential zones relevant to this monitoring.

The limitations of this data set were that non-compliance with the core standards are accurately recorded but less so for the non-core standards. This is because the non-core standards are an assessment matter that could be satisfied through mitigation measures to achieve the purpose of a standard. Given that mitigation satisfied the standard, these were not necessarily recorded as non-compliances in this database.

The non-compliance with the Height Limit and Height in Relation to Boundary (HIRB) core standards are used for calibrating the findings in this research. The non-compliance rate for these standards were similar to those seen in the monitoring sample - within 5 per cent . This provides some confidence that the findings in this report are likely to reflect what is happening across residential development in the MHS, MHU and THAB zones.

This calibration method has not been undertaken for developments in the Business – Mixed Use zone as there was insufficient data.

Site visits

An important aspect of the residential monitoring was evaluating the development quality of the finished (or near finished) buildings. Achieving quality building appearance to the street frontage is a key urban design principle and underpins many AUP provisions. This is because the quality of the building design and site (such as landscaping) have a significant influence on the street amenity, character and neighbourhood safety.

The site visits occurred between February – May 2021. On-street reviews were undertaken for 49 developments by teams of planners and urban designers (see areas outlined in black in Figure 2). Site visits to developments in Papakura are not shown as a group in Figure 2 because these were more dispersed. No sites were entered due to lack of landowner permission, however reference to site plans and visibility into some sites was possible. The quality of street frontages are an important aspect of the AUP provisions and could be assessed without entering a site.

Sets of consent plans were taken to each development to provide the team with detailed information on the site layout and internal arrangements of dwellings. It also provided the opportunity to see whether the plans (and imagery) were an accurate depiction of the final development.

Each development was discussed by the team using site visit assessment criteria to ensure consistency and minimise subjectivity. Refer to Appendix C for the site visit assessment form. A concluding qualitative result was agreed by the team for each development. Collectively the results provide a 'snapshot' of development quality across different zones, locations, building scales and typologies. All photos used in the monitoring report were taken during site visits.

No site visits were undertaken to residential developments in the Business-Mixed Use zone due to resource limitations.

Issues and trends

Over the past 2-3 years, Auckland Council staff, politicians, local boards and the public raised issues and identified emerging residential trends. Alongside the S.35 indicators and measures, further measures were developed to see whether these issues or trends were valid and to understand the scale and effects of issues. As discussed in the methodology section of this report, a key limitation

² The methodology and limitations to this data source are set out in greater detail in the overarching monitoring report. Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment | 17

was the lack of resources to conduct resident surveys. This would have revealed residents' lived experiences and attitudes towards perceptions of quality and help quantify what is a reasonable benchmark for 'high quality built environment' in the context of a 'live' housing market.

Appendix B contains the full list of observations and issues raised by councillors, local boards and the public that are summarised below:

- need for a more equitable planning system – s.35, wider concerns
- level of intensification and cumulative effects of higher density developments – S.35
- subdivision and effects of smaller site size – wider concerns
- large number of dwellings per site – S.35
- building height – inconsistent with zone and community expectations – S.35, wider concerns
- increase in building bulk – S.35
- need for quality building design for all housing typologies – S.35
- loss of privacy and access to sunlight – within site and adjoining sites – S.35, wider concerns
- excessive earthworks – S.35
- inadequate landscape area, tree cover and vegetation – S.35
- council consenting processes – S.35.

In many cases, these issues complement the AUP B.1 issues and contribute to the evaluation of the AUP's effectiveness and efficiency. All these issues are considered during the analysis and some guide the intent of recommendations.

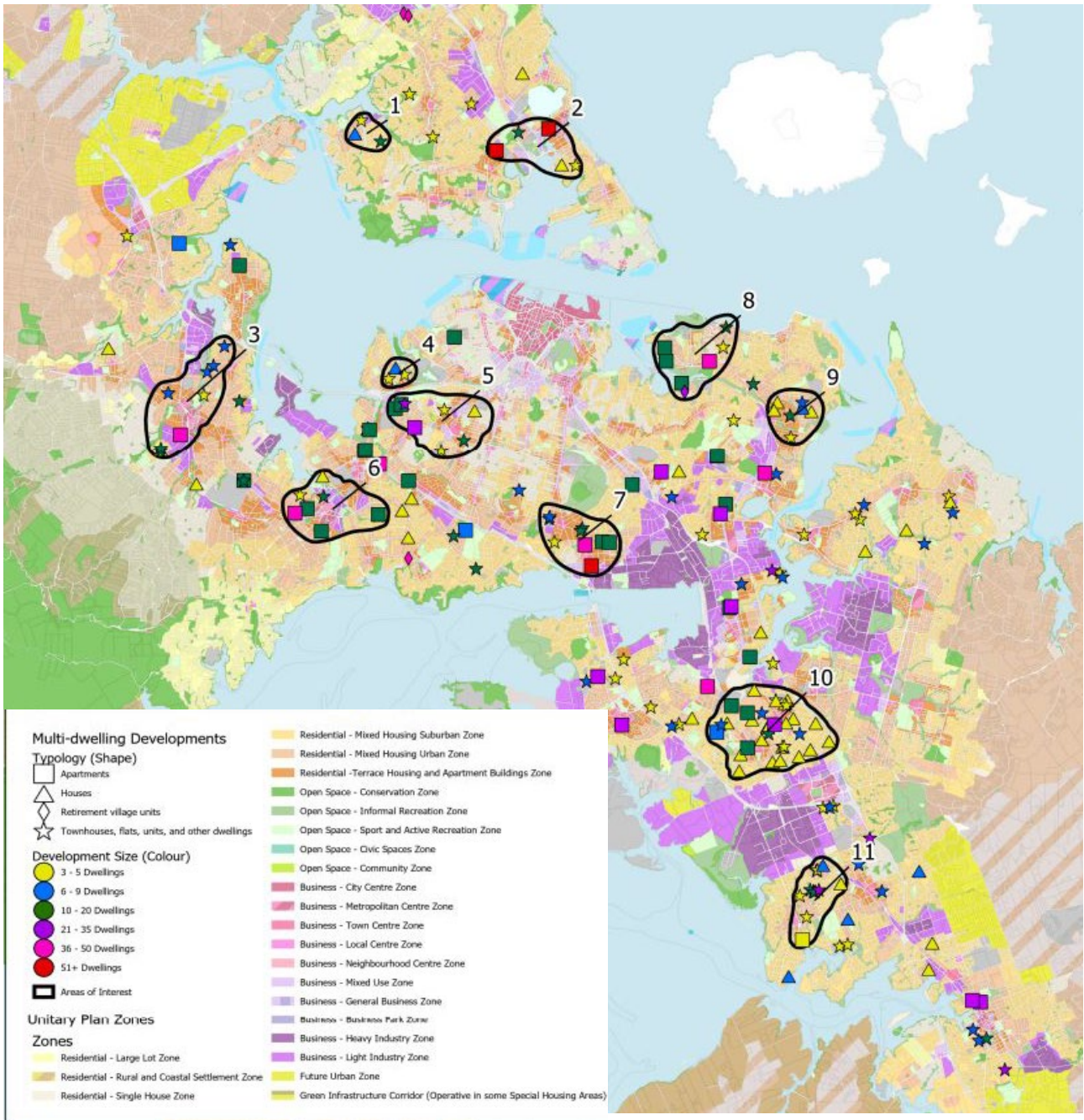


Figure 2. The black loops circle development clusters that were the focus of site visits. The key provides information on the types and size of developments.

Explanations, limitations and caveats

- All references to ‘residential development’ or ‘development’ refer only to the samples unless otherwise stated.
- Residential developments in this analysis are defined as ‘four or more dwellings’ – this aligns with the Restricted Discretionary activity status for the level of development.
- All references to the ‘residential zones’ refer only to the MHS, MHU or THAB zones unless otherwise stated.
- Medium scale developments are defined as 4-9 dwellings and large scale as 10 or more dwellings. This differentiates between the two forms of council processing and the increase in complexity.

- Data in this report is not intended to be scientifically accurate. The purpose of the data is primarily to provide qualitative evidence to evaluate plan effectiveness and efficiency in addressing the B2 Urban Growth and Form issues, achieving the RPS B2.3 and specified B2.4 objectives and policies. In addition to this, the findings also provide evidence on the extent of issues and trends identified through observations.
- Where statistical findings are represented as percentages, they are rounded up or down to the nearest 5 per cent. It should be noted that the rounding up or down of percentages has meant results may total more or less than 100 per cent.
- The data in this report can be referred to for Section 32 reports but should not be relied upon as the sole evidence.
- For references to the ‘majority’ in this report, assume a finding of at least 70 per cent. This threshold was considered to provide a clear indication of an outcome or finding.
- Any reference to the data in this monitoring report for other purposes must also include supporting information regarding the data sources, methodology and these caveats.
- Unless otherwise specified, assume findings are for the residential zones. Specific references are made to Business – Mixed Use zone findings.
- The monitoring report does not consider any implications for the AUP by the introduction of the National Policy Statement on Urban Development 2020.
- This is not independent research. It presents Council’s assessment of the effectiveness and efficiency of the AUP through a specific study topic (RPS 2.3 Quality Built Environment) – as it applies to a Restricted Discretionary residential development sample from four specified zones. Its purpose is to satisfy the RMA S.35 monitoring requirement. It does not consider plan performance from the perspective of the development sector or the lived experiences of residents in these new developments or residents on adjoining sites. This is a recognised limitation of the monitoring report. This could be considered in future monitoring programmes.
- This monitoring report does not include a cost-benefit analysis. Therefore, it is limited on the extent to which it can evaluate plan efficiency for this topic.
- The recommendations in this report do not take into consideration the Government proposal for Medium Density Residential Standards under the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act (December 2021). The monitoring and report had been completed before these standards were proposed in October 2021. The Government’s new provisions have a significant influence on whether some of the recommendations in this monitoring report can be progressed. A review of the viability of recommendations has been undertaken in February 2022. Those recommendations that cannot be progressed are retained in the report but recognised as being superseded by the national Medium Density Residential Standards.

Findings and analysis

This section reports on the data findings, and considers how effective and efficient the objectives, policies, rules and other methods of the AUP have been in meeting the outcomes intended by the Regional Policy Statement. Where appropriate, recommendations are also provided. For the purpose of this analysis, effectiveness and efficiency are defined as:

Effectiveness is the contribution that the provisions make towards achieving the objective, and how successful they are likely to be in solving the problem they were designed to address when compared with alternatives. ‘How do we know that implementing the policy, rule or method led or contributed to the outcome?’

Efficiency is an assessment of whether the provisions will be likely to achieve the objectives at the lowest total cost to all or achieves the highest net benefit relative to cost to all. Benefits and costs can be monetary or non-monetary (aligning with the definition of benefits and costs in section 2 of the RMA). A benefit or cost can be expressed as qualitative or quantitative. It may not be possible to quantify (with confidence) whether a provision is achieving a benefit relative to the cost – if information (or time) is limited. The assessment of efficiency is likely to be tailored to certain provisions. The evaluation of efficiency and effectiveness can be either qualitative, quantitative or monetised depending upon the topic. Topics like amenity values are likely to be better suited to qualitative assessment whereas water quality will be a mix of qualitative and quantitative. The evaluation will be supported by evidence.

Recommendations are proposed for each indicator in response to the findings. To better understand which recommendations are considered a higher priority than others, each recommendation can be flagged as either ‘high’, ‘medium’, ‘low’ or ‘superseded by recent Government legislative amendments’. The Resource Management (Enabling Housing Supply and Other Matters) Amendment Act (Dec 2021) and the National Policy statement – Urban Development (July 2020), require Council to provide more intensive housing and to update the AUP accordingly. The RM Amendment Act includes new Medium Density Residential Standards. While these supersede some recommendations in the monitoring report, the findings may influence those changes required to update the AUP. The prioritisation below highlights those recommendations where a plan change or other initiative may need to be investigated and placed into work programmes.

Delivery timeframe	Action
High	Investigate a plan change as a priority. <i>It is considered that the plan issue should be addressed earlier than plan review stage. The issue has adverse implications on plan outcomes.</i>
Medium	Further investigate at plan review stage (2026) <i>The issue needs to be further investigated, however adverse implications arising from the issue are not seen as critical to achieving intended plan outcomes.</i>
Low	Further monitoring advised. <i>A plan issue may or may not be identified. A greater time period is needed to observe trends in data.</i>
Affected by recent Government legislative changes	Recommendations may be progressed as part of Auckland Council’s response to the National Policy Statement on Urban Development or precluded by the legislation.

All recommendations will need to be tested fully through an RMA Section 32 assessment and be considered alongside recommendations from other topics and the Plans and Places Department work programme. As already noted, recent Government legislation may influence the validity, scope and timeframes for recommendations in this report.

Theme 1: The quality of site development, built form, appearance and setting

Theme 1 analyses site development, built form, appearance and relationship to the street and neighbours. The relevant B2.3 Quality built environment objectives and policies for this theme seek to ensure development responds to its site and surrounds. The relevant B2.4 Residential Growth objective seeks to create residential areas that are ‘attractive’ with ‘quality development that is in keeping with the planned built character of the area’. In short, this theme assesses whether developments can bridge the fabric of existing neighbourhoods as it changes in response to Auckland’s growing needs.

Relevant RPS Objective and Policies	
RPS Objective B2.3.1 (1)	A quality built environment where subdivision, use and development do all of the following: (a) respond to the intrinsic qualities and physical characteristics of the site and area, including its setting;
RPS Policy B2.3.2 (1)	Manage the form and design of subdivision, use and development so that it does all of the following: (a) supports the planned future environment, including its shape, landform, outlook, location and relationship to its surroundings, including landscape and heritage; (b) contributes to the safety of the site, street and neighbourhood; ... (e) meets the functional, and operational needs of the intended use;
RPS Objective B2.4.1 (2)	Residential areas are attractive, healthy and safe with quality development that is in keeping with the planned built character of the area.

This theme uses two indicators:

- Indicator 1 – Extent that developments respond to the physical characteristics of sites
- Indicator 2 – Extent that developments respond to the intrinsic qualities of the area and setting through the form and appearance of buildings

Indicator 1 – Extent that developments respond to the physical characteristics of sites

Measures:

- Number of sites requiring Chapter E Natural resources consents for land disturbance
- Amount of land disturbance – by volume removed
- Extent of site modification – cut, fill, retaining walls

What indicator 1 tells us

This indicator looks at the extent to which the physical characteristics of sites are modified to accommodate new residential development. The extent of earth movements on a site has many variables such as site size relative to development size and typology, modifications to natural topography to enable access or building platforms and so on. This indicator is primarily focussed on the topography of the site, which for the majority of developments had already been modified to accommodate an existing dwelling. A resource consent is required for all earthworks so the monitoring assesses the amount of earthworks. One of the implications of earthworks can be the requirement for retaining walls to stabilise cut faces where soil is removed or to support terraces where new flat areas are created.

The AUP has provisions to manage the adverse effects of land disturbance (including earthworks). It recognises that the cumulative adverse effects from a number of small earthwork sites can be significant as can single large areas of exposed earth. The Chapter E12.2(1) objective requires that 'Land disturbance is undertaken in a manner that protects the safety of people and avoids, remedies or mitigates adverse effects on the environment'.

This indicator and its measures provide an understanding of the scope of earthworks on sites within the residential zone sample. The focus is on the consequential effects of earthworks on the site with regard to the height of retaining walls. This is an issue that has been raised by Auckland Council staff, local boards and the public.

Findings

The analysis looked at the number of sites requiring earthworks. All 130 developments required some form of earthworks – even on level sites. To understand the level of land disturbance, the volume (in cubic metres) of earthworks was measured. This was not measured as a ratio of the site so provides only an indication of earthwork volumes for the sake of comparative analysis. The findings were:

- under 500m³ – 50 per cent of sites
- 500-1000 m³ – 20 per cent of sites
- 1000-25000 m³ – 20 per cent of sites
- over 2500 m³ – 10 per cent of sites.

Although the monitoring has not linked the earthworks specifically to the context of the development site size, collectively they provide an indication of the prevalence and extent of earth movements occurring on development sites. The findings showed that the majority of developments (70 per cent or more) undertook small to medium scale earthworks. The level of modification in and of itself does not necessarily represent positive or negative effects.

Site visit observations showed most developments used concrete slab foundations which require a flat site. Naturally flat sites retained the physical characteristics with most earthworks requiring no more than a surface scrape. Sites with larger volumes of earthworks tended to be sloping so the site preparation needed to create flat building platforms may have affected the site's physical characteristics. This was confirmed by some site visits where sloping sites were heavily modified with retaining walls to accommodate buildings platforms. In other instances, variation in development platforms enabled a range of housing typologies and provided effective visual and physical separation between dwellings within the site or to adjacent sites.

Some large-scale master-planned developments undertook substantial earthworks while also retaining some physical characteristics of the natural site. This included retention of natural stream courses, vegetation and topographical features. These enhanced the quality of the development.

Also investigated was the extent to which developments retained earth to enhance the site or remove the earth from the site. The measure for this was whether developers did ‘cut and fill’ earthworks (retaining the earth within the site), a cut and removal of earth, or brought fill into the site. The findings showed that 85 per cent of developments undertook cut and fill on sites in preparation for developments. Another 15 per cent cut and removed earth and one site brought in fill.

Sites undertaking substantial cut and fill operations often result in the need for retaining walls. The AUP standards only apply to retaining walls for fill – not for the cut walls. Depending on the retaining wall height and its location, these can produce poor quality site conditions – especially where they adjoin outdoor living spaces or block outlooks from habitable rooms. The combination of retaining walls on side boundaries with high fences above can have a significant impact – particularly shading. For example, a retaining wall of 1m with a 1.8m fence would have a combined height of almost 3m. Figure 3 shows the effects of a high retaining wall and fence on outdoor living spaces.

To gauge the scale of retaining walls in developments, their maximum heights were investigated. The findings showed:

- no retaining wall 20 per cent of sites
- less than 0.5m high 15 per cent of sites
- 0.6-1m high 25 per cent of sites
- 1.1-1.5m high 25 per cent of sites
- 1.6-2m high 10 per cent of sites
- 2.1-3m high 5 per cent of sites.

This shows the majority of developments within the samples analysed have some form of retaining wall. Consent plans did not always show boundary fences so it was not possible to see if these would be added above a retaining wall. Site visits provided an opportunity to see the built outcomes and consequences of retaining walls coupled with 1.8m fences – particularly on side boundaries where privacy is a factor. This was the case for a number of sites seen on site visits which created poor quality outdoor living environments and outlook spaces from habitable rooms within new developments. There are currently no provisions within the AUP to assess potential shading and outlook effects from retaining walls or retaining walls combined with boundary fences.



Figure 3: This photo shows a high retaining wall combined with a fence can cause both shading and dominance effects on the amenity of the outdoor living space. However, privacy and dominance effects of the new development on the adjoining site are reduced with the change in level created by the earthworks. This shows there can be positive and negative outcomes from earthworks.

Effectiveness and efficiency of the plan

Most sites were already modified when they were developed for previous buildings. The findings showed that responses to the physical characteristics of the site are often driven by other factors and can affect other outcomes of the development both positive and negative.

Some earthworks contributed to better quality outcomes such as terraced building platforms. These were necessary to enable different housing types or provided visual and/or physical separation to improve privacy and outlooks or reduce dominance effects. This could benefit dwellings within the development site or adjoining sites. Some earthworks also caused outcomes that reduced the quality of the amenity for residents with depths of cut that required significant retaining walls. This caused negative effects such as loss of light into dwellings or sunlight to outdoor living spaces.

Observations from site visits to developments in the residential zones showed some sites also had high fences atop retaining walls – particularly on side or rear boundaries. The potential shading on outdoor living areas and the poor amenity of outlooks from living areas can impact the health and wellbeing of future residents.

Therefore, it is an omission that the AUP does not currently contain provisions to manage or assesses how retaining walls and fencing will interact. Resource Consent plans do not necessarily show the form or combined height of retaining walls and fences. Consents for the quantity of earthworks and site mitigation (including retaining walls) does not require consideration of the onsite effects, and the effects of cut walls.

The AUP's Daylight standard could be modified to apply to the proximity of structures such as the height of retaining walls or the combined height of retaining wall and fences. Alternatively, the Outdoor Living Space standard could consider the height of buildings and structures on adjoining sites or where there is a combined fence and wall.

In conclusion, the AUP is enabling site development efficiencies but in some cases, it can be at the cost of effectiveness in managing how development responds to the physical characteristics of the site – particularly those with significant retaining walls or where these are combined with high fences. This may be in part exacerbated by the issuing of land disturbance consents prior to consideration of land use consents.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be investigated as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To manage the heights of retaining walls or combined retaining walls and fences surrounding outdoor living spaces or affecting outlook spaces consider but not be limited to the following options:

- Update the AUP Fence standard to manage the total height where retaining walls and fences are combined.
OR
- Modify the AUP Daylight standard to apply to the height of retaining walls, and retaining walls with fences where they are built on top. Investigate the scope for:

- applying the standard to retaining walls and fences where relevant, of a specified height where the combined height or height of just the cut or fill retaining wall affects the quality of daylight, sunlight, privacy, amenity, sense of space of the dwelling or where the retaining wall and or fence is at the perimeter of outlook spaces, outdoor living spaces, or if it affects the outlook of living areas and light penetration into habitable rooms.
- outdoor living spaces could be no more than 0.5m – 1.0m below the natural ground level as that is a key indicator of whether it is likely to be enclosed by fences and retaining walls.
- The term ‘height’ in the AUP Daylight standard would need to be redefined to allow the consideration of excavations and cuts into the ground i.e. where the boundary fence is actually at the original ground level and with the wall and outdoor living space excavated out beneath that. For instances, a 2m fence and a 2m wall ‘beneath’ the ground level creating a 4m top-to-bottom effective height. Currently the AUP considers this to be only 2m high.
- identifying an appropriate separation space such as using a built height to special depth ratio (e.g. 2:1) between the façade of the dwelling and the opposing retaining wall/fence. Also
- The Outdoor Living Space standard could consider the height of buildings and structures on adjoining sites or where there is a combined fence and wall exceeding a specified maximum height.
- Consider a standard requiring horizontal stepping of fences and walls.

High priority

- Grant resource consents for land disturbances at the same time as land use consents. The separation of bulk earthworks from the activity which the earthworks are required for, prevents any ability to influence the scale of earthworks and hinders ability to change building designs when platforms have already been established. *Medium priority*
- Investigate a new standard in the AUP Chapter E12 Land disturbance – District.
For instance, a new E12 standard could be developed and applied in conjunction with updated AUP Outlook standards for all zones and the Outdoor Living Space standard for residential zones District. This could support outlook and outdoor living spaces to achieve good quality outcomes (daylight, sunlight, privacy, spaciousness, quality amenity) where adjoined by retaining walls and fences constructed on top of them. *Medium priority*
- investigate the application of a maximum retaining wall height or/and length where negative effects on the built form or site amenity can be identified. *Medium priority*

To manage land disturbance outcomes more effectively in residential developments, undertake further research to consider the following:

- Investigate whether there is a causal link between the scale of earthworks and the application of the rolling height limit. *Low priority*

Indicator 2 – Extent that developments respond to the intrinsic qualities of the area and setting through the form and appearance of buildings

Measures for residential zones and Business – Mixed Use zone

Built form:

- Site size and shape (influence of frontage width)
- Height and extent of non-compliance (by zone)
- Number of storeys (by zone)

- Building coverage and extent of non-compliance (by zone)
- Number of Height in Relation to Boundary (HIRB) non-compliances

Appearance and response to surroundings:

- Variation in roof form or roof ridgeline
- Variation in façade/s – modulation with recessions and protrusions
- Continuous building length
- The percentage of dwellings within a development that had the primary living outlook facing towards adjoining sites
- Whether windows and balconies were located and offset to avoid direct views into adjacent dwellings and private outdoor spaces
- Whether dwellings respond positively to the street – including orientation, façade treatment and minimal garage or carpark dominance

What indicator 2 tells us

In addition to delivering on the RPS 2.3 Quality built environment objectives, this indicator addresses RPS Issues B2.1. where growth seeks to:

- (1) enhance the quality of life for individuals and communities
- (6) maintain and enhance the quality of the environment, both natural and built

The monitoring also evaluated aspects of B2.4 Residential growth topic. This included the extent of intensification to achieve a quality compact urban form as well as attractive, healthy and safe housing with a range of choices to meet the diversity of Aucklanders needs.

The ‘built form’ aspect of this indicator provides an insight into the design, form and scale of development in the residential zones. Data on site size was not collected for the Business – Mixed Use zone sample.

Auckland’s existing residential areas are historically very large urban blocks. Consequently, there are at least as many rear sites as there are front sites (often there are more rear sites than fronts). Many rear sites are also larger and include more marginal land. The strong focus on residential developments fronting streets and public open spaces results in less consideration for rear sites developments where there may be negligible or modest effects on streets.

This can be contrasted with new greenfield residential subdivisions where blocks are often smaller and where rear lots are far less prevalent. Most sites get the guaranteed spatial amenity and rhythm of street widths for outlook. This also helps limit how long building rows can get.

The design, form and scale of development is dictated by a combination of factors including the site size and shape, building coverage, height limit and the height in relation to the boundary. Collectively these create the envelope within which buildings can be constructed.

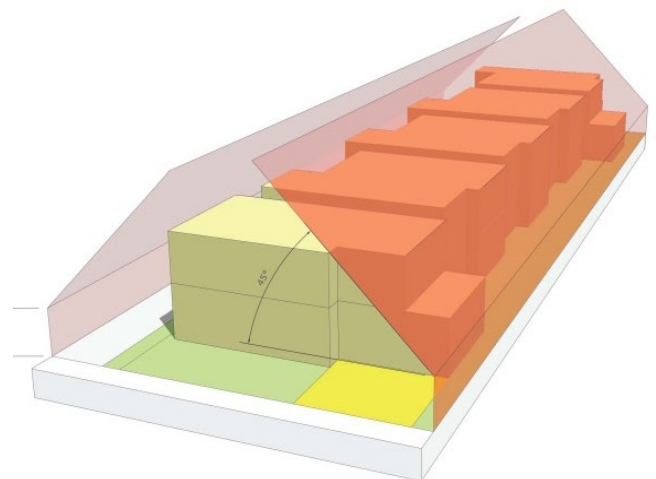


Figure 4 illustrates the building envelope for an 18m wide x 60m deep site with an 8m height limit using the Height in relation to boundary (HIRB) standard in the MHS zone. In the residential zones, the building coverage and height limits progressively increase with the THAB zone supporting more intensive development near centres and transport corridors.

Figure 4 Diagram shows a building envelope using the HIRB (red) applied to a site with an 18m width – illustrates how building bulk at upper floors is managed by this standard.

The second aspect of the indicator considers the appearance of development. To minimise subjectivity in the assessment of appearance, the measures focus on elements of design (as opposed to the *stylistic aesthetics* of a development) that contribute to well-designed housing. These elements draw from Council's Auckland Design Manual which provide guidance on best practice housing design. Site observations were also valuable for assessing the quality of development.

The third aspect of this indicator considers how well building design responds to the surroundings. This includes:

- the appearance of building form when viewed from the street
- how a development responds to adjoining sites – considering the existing dwelling and the potential form of future higher density developments should that site be redeveloped. Visual privacy between sites was a key aspect of this.

Findings

Site width, size and shape

In residential zones, Auckland's subdivision pattern is characterised by long narrow sites. Another common site form are rear sites accessed down driveways.

The size and shape of sites influences the amount and form of multi-dwelling development. An Auckland Council GIS analysis of site widths in the residential zones showed the most common site width is between 15-20m and a shape factor is usually a dimension ratio of 2.5:1 or 3:1. This means that a site with a frontage width of 18m will have a depth of around 45m.

Findings from the monitoring sample showed the most common site sizes were:

- 600-800m² – accounting for 10 per cent of developments
- 800-1100m² – accounting for 40 per cent of developments.
- 3000-4000m² – accounting for 10 per cent of developments

The remaining 40 per cent of site sizes not accounted for above, were disparate and ranged widely from 500m² – 25,000m².

There were very few rear sites in the residential sample. One of the issues with rear sites or buildings at the rear of sites is many of the standards and assessment criteria influencing quality design are focussed on buildings positively contributing to streets. Without a street frontage, these design criteria do not apply to developments on rear sites so the AUP assessment for quality can be lower than on front sites.

Although information on site amalgamation was not specifically collected, observations when reviewing the data showed that most of the parent sites analysed were individual lots, typically with one house. The AUP has no influence on site amalgamation. Large scale developers sometimes amalgamated sites. Within the sample:

- 70% of developments were single sites
- 10% of developments were two amalgamated sites
- 10% of developments were 3-4 amalgamated sites
- 10% of developments were multiple amalgamated sites or large-scale sites with multiple houses in a single land parcel ownership (the majority of these were Kainga Ora developments – turning low density state housing neighbourhoods into comprehensive medium-density housing).

Site width is also a key determinant on the type and amount of housing, access and orientation of dwellings. The most common site widths in the sample were:

- 15-18m site width – 35 per cent of developments
- 19-25m site width – 25 per cent of developments.
- 30-40m in nearly 15 per cent of developments – many of these were corner sites.



Figure 5: The limited width of this site influenced the number of street facing dwellings and the site arrangement of buildings around vehicle access and parking areas. The central driveway is the primary access to rear carparking and a row of terraces at the rear of the site.

On narrow sites, building to the full height limit in the MHU and THAB zones is often constrained by the height in relation to boundary (HIRB) standard. This is a significant issue in the THAB zone and for apartment developments seeking more height on narrow sites.

Wider sites give developers more design flexibility, the ability to concentrate height in the centre of the site, away from side boundaries and limit the risk of limited notification. These sites are sought after by developers – particularly in THAB zones.³

Corner sites are popular for more intensive residential development. The AUP height in relation to boundary standard does not apply to street frontages so taller buildings can be built towards the two street boundaries. Nearly 30 per cent of developments in the sample were located on street corners. Observations from site visits confirmed that corner sites were popular locations for apartments and terraces.

³ July 2021 *Herald-One Roof* article. <https://www.oneroof.co.nz/news/39711>

Built form

Height

Height is another key determinant of built form. This is a core standard for developments with four dwellings or more and for all dwellings in the THAB zone. The AUP sets height limits in metres rather than storeys. This enables more design flexibility which may include more floors to use the site more efficiently – particularly on sloping sites. Conversely, the zone descriptions refer to building height by the number of storeys because this is how most people experience height. The flexibility enabled by using meters can result in the number of storeys varying within the height limits.

The monitoring looked at both height in metres and storeys. The three residential zones also allow for 1m extra roof height to encourage better design (and avoid flat roofs).

Translating the AUP height limits to storeys generally produces two storeys within the 8m height limit in the MHS zone, three storeys within the 11m height limit in the MHU and up to five storeys within the 16m height limit in THAB. In the Business – Mixed Use zone 6-7 storeys are possible within the 18m height limit.

The combined findings across the three residential zones showed 3 per cent of developments in the sample were one storey, 65 per cent were two storeys and 30 per cent were three storeys. Only 2 per cent of developments in these zones were between 4-6 storeys. This contrasts with the Business – Mixed Use zone where more height and less restrictive height to boundary standards enabled 60 per cent of developments to achieve 4-6 storeys (up to 18m)

The key findings by zone were:

- MHS – 90 per cent of developments were two storeys or 8m.
- MHU – 60 per cent of developments were two storeys (8m) and 35 per cent were three storeys or 11m.
- THAB – 25 per cent of developments were two storeys (8m), 60 per cent were three storeys (11m) and 10 per cent were between 4-6 storeys (up to 18m)
- Business – Mixed Use – 30 per cent of developments were 2-3 storeys (11m); 60 per cent of developments were 4-6 storeys (up to 18m); 10 per cent of developments were 7-11 storeys (up to 35m).

These findings show the majority of developments are 2-3 storeys in all the residential zones. This reflects the dominance of terrace housing and ‘walk-up’ apartment building typologies (typically three floors). This contrasts with the Business – Mixed Use zone where the majority of developments are taller apartment buildings with lift access. As a result, there is no ‘clear’ delineation in terms of built form, especially with regards to height, between the residential zones. This suggests that the current provisions (in combination with how the development sector is responding to them) are delivering developments which are largely similar irrespective of zoning. The limitations of the reporting programme means that it does not examine how the development sector responds to the provisions – which is another key factor.

Less than 10 per cent of developments in the residential zones did not comply with the height limit and most were for less than 1m. Data from the resource consents database showed this finding is consistent with the 5 per cent of height standard non-compliance seen in commensurate developments across Auckland. This shows that height limits were largely complied with in all residential zones.

This could be for two reasons. The first is that the activity status of infringing the height and the HIRB standards mean that as core standards, they must be complied with or may be subject to notification depending on the effects of the non-compliance. The second is building height trends observed from findings across the different residential zones suggest that the relationship between site width and HIRB standards (see below) has a stronger influence on building height than the height limit itself.

In the Business – Mixed Use zone, height is measured differently to the residential zones. In this zone, 18m is the occupiable building height plus an additional 2m unoccupiable building height for roof forms that enables design flexibility. The habitation of this additional ‘unoccupiable height’, is often contentious in applications for developments in this zone. Around 20 per cent of developments in this zone infringed the height standard by up to 1m. Another 20 per cent of developments infringed the height limit by more than 2m to accommodate more floors. Most of these were located near the city centre or metropolitan centres where greater height is enabled.

There are other issues worthy of further investigation regarding height in the Business – Mixed Use zone. For instance, the costs and delay associated with limited notification can affect a developer’s decision to not infringe height, even if it was of a typology or scale that was attractive to the market. . Another issue is around the time and costs of larger scale development. Additional height may be necessary to achieve a viable development but the uncertainty of notification is too great a risk. It is indicative of a very sensitive market where there are very fine margins.

Height in relation to boundary standards

The AUP ‘height in relation to boundary’ standard (HIRB) is a core standard that must be complied with for developments of four dwellings or more. The purpose of the standard in the MHS and MHU zones is to manage the height and bulk of buildings at boundaries to maintain a reasonable level of sunlight access and minimise adverse visual dominance effects to adjoining sites.

In the THAB zone, the purpose of the standard is to minimise the adverse effects of building height on adjoining sites (i.e. dominance and shading) and reduce the overall visual dominance of buildings at upper levels. There are two issues concerning the HIRB and Alternative Height in relation to Boundary (AHIRB) standards. The first is the extent of non-compliance with the HIRB and the use of the AHIRB. The second is the performance of the HIRB standard to minimise dominance and shading effects (THAB) and maintain sunlight access to immediate neighbours (MHS/MHU). The findings showed 60 per cent of developments (across all three residential zones) in the sample, did not comply with the HIRB standard. Analysis of the council’s resource consents database showed this finding is consistent with 55 per cent non-compliance with the HIRB standard seen in commensurate residential developments across wider Auckland. While the quantum of non-compliance is significant, the extent of infringements for each site was not considered significant in consenting processes. It is likely that developers want to avoid notification and therefore comply with the HIRB standards where possible. Small variances are likely to be considered low risk when the consent is sought.

The AHIRB standard allows for more generous building scale for the first 20m from the street boundary. The purpose of the AHIRB, is to enable the efficient use of the site by providing design flexibility where a building is located close to the street frontage, while maintaining a reasonable level of sunlight in the MHS and MHU zones and a reasonable level of daylight access in the THAB zone. The findings showed that 85 per cent of developments complied with this standard. This indicates that the standard is effective at encouraging building bulk towards the front of the site.

The second issue is the performance of the HIRB and AHIRB as standards for managing effects (such as visual dominance, loss of privacy and shading or loss of daylight) on adjoining sites in residential zones. Members of the public have raised concerns regarding the effects of new development on

sunlight access to neighbouring sites. Winter sun was considered the most important for residents' health and energy efficiency (e.g., lighting, passive heating of dwellings and drying washing outside). Access to sun is also important for dwellings within development sites.

The MHS and MHU zone assessment criteria for the AHIRB standard consider shading at the equinox for four hours of sunlight to be retained between the hours of 9am – 4pm for varying proportions of the outdoor space on the adjoining site. In the THAB zone, a 'reasonable' amount of daylight access to the immediate neighbours is stated in the purpose statement for the AHIRB standard but there are no parameters for assessing it. Without this, new developments in the THAB zone may not sufficiently mitigate effects to the same extent as the other residential zones. Any changes to the standard would also need to consider its application to developments on sloping sites.

In terms of the performance of the standard, observations from the analysis of shading diagrams in some developments showed that sunlight admission to adjoining sites was more restricted in mid-winter by new developments (buildings or structures) than at the equinox. An analysis of 2-3 storey or 8-11m developments on sites with narrow widths of less than 20m showed that non-compliance was minor for 2-3 storey buildings at the equinox. However, if those same developments were assessed against the winter solstice, the effects on adjoining sites would be more significant. At the equinox the 4pm afternoon sun angle (at 30 degrees) is equivalent to the sun angle at noon on the winter solstice. Shading on outdoor living spaces can also be caused by high fences.

The diagrams below show the difference in shading effects on the adjoining site and on dwellings within the site between a complying 3 storey building (11m) in the THAB zone at the 22 Sept equinox and 22 June winter solstice. The AUP does not have assessment criteria regarding shading of adjoining sites in the THAB zone.

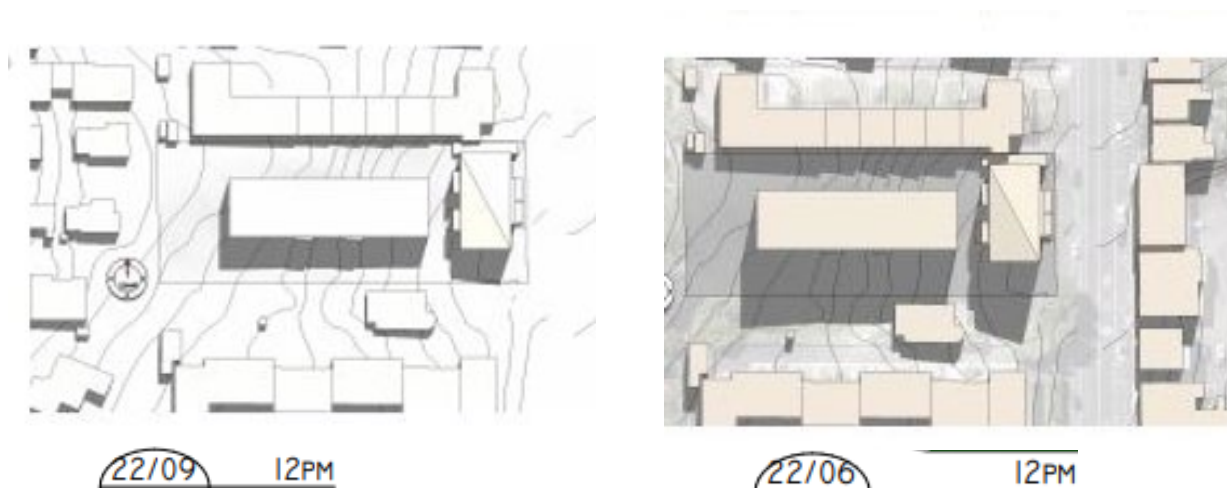


Figure 6 The shadow diagrams for this HIRB complying three storey apartment building in the THAB zone show the extent of shadow on the adjoining site at the equinox (22 Sept) and winter solstice (22 June).

Some of the legacy district plans had provisions requiring assessment for mid-winter sun for dwellings within the site. For example, the Waitākere District Plan design guidelines for apartments specified the following⁴:

⁴ <http://www.aucklandcity.govt.nz/council/documents/districtplanwaitakere/text/text/urbandesignrules.pdf>

“habitable rooms and outdoor spaces allow for solar admission and sun access during the shortest winter day (As a guide habitable rooms for at least 70 percent of the units should receive sun access for a minimum of three hours between 9 am and 3 pm on the winter solstice (June 21);”

Other legacy district plans in the Auckland region (e.g. Manukau, Auckland, Waitākere) used ‘recession planes’ with angles tailored to different boundary orientations (north, east, west, south) of development sites. These were designed to manage dominance and shading effects of new development on adjacent sites. The AUP’s HIRB and AHIRB standards do not have the flexibility of these methods to respond to this level of site condition.

In the Business – Mixed Use zone, the HIRB standard was not applicable to 60 per cent of the residential developments. This is because it is only applied where a site abuts a residential zone. Of those development sites subject to the HIRB standard, 35 per cent complied with it and 5 per cent infringed it. This zone relies primarily on a setback standard that steps the building 6m away from the side and rear boundary when above 27m in height.

Building coverage

The purpose of the building coverage standards is to manage the extent of buildings on a site to achieve the planned suburban (MHS, MHU) or urban (THAB) character of buildings surrounded by open space to varying degrees according to a zone’s intensity. Building coverage is a key standard that governs the bulk of buildings – in combination with the height and HIRB/AHIRB standards.

The diagram below shows the relative differences in building coverage between residential zones. Most legacy district plans applied a maximum 35% building coverage to suburban zones. This is the same as the AUP Single House zone.



Figure 7. This diagram shows the percentage of building coverage (black area) for each residential zone applied to a theoretical 600m² site with an 18m site width and 33m site depth (space around the building is shown by the grey area). This illustrates the relative difference in building to open space ratio between the zones enabled through the building coverage standard.

Building coverage in the AUP is measured using the net site area. The AUP standards for the maximum building coverage vary according to zone (MHS 40 per cent of net site, MHU 45 per cent of net site, THAB 50 per cent of net site).

The findings on the building coverage standard are summarised for each zone below:

Zone	Findings
MHS	<ul style="list-style-type: none"> • 65 percent of developments complied with the 40 percent building coverage standard • 15 percent infringed the standard by up to 5 percent. • 20 percent infringed the standard by between 5-10 percent.
MHU	<ul style="list-style-type: none"> • 75 percent of developments complied with the 45 percent building coverage standard • 5 percent infringed the standard by up to 5 percent. • 10 percent infringed the standard by between 5-10 percent • 5 percent infringed the standard by between 11-15 percent.
THAB	<ul style="list-style-type: none"> • 65 percent of developments complied with the 50 percent building coverage standard • 5 percent infringed the standard by up to 5 percent. • 20 percent infringed the standard by between 5-10 percent. • 10 percent infringed the standard by between 11-20 percent.

The findings for the residential zone sample show that non-compliance with the building coverage is increasing the size of buildings relative to surrounding open space. Non-compliance of 5 percent or more would create building scales commensurate with more intensive residential zones. Although the effects of not meeting the quantitative specification for this standard were not considered significant, the cumulative effects of larger scale buildings and less surrounding open space have the potential to influence the planned built form of the residential zones.

There are no specific requirements in the AUP directing where the building bulk is located within the site. However, the HIRB and yard standards usually ensure there are setbacks from boundaries. Buildings can also be designed with central courtyards or other building forms that create the appearance of bulkier building form while still complying with the standard. This shows that building bulk is not always caused by greater building coverage.

Building coverage is not a core standard for 4 or more dwellings so mitigation can be negotiated. Non-compliance with the building coverage standards enables bigger floor plates with consequently bulkier buildings relative to open space – especially where height limits are more generous. This can exacerbate the cumulative effects of larger scale buildings on planned built form as noted above.

Infringements to the building coverage standard that encroach on the amount of private open space can affect compliance with other standards. For instance, a reduction in open space could compromise the amount of outlook space or outdoor living areas. The AUP is not effective at managing the effects of consequential encroachment by building coverage on landscape area and site amenity. However, infringements to landscape area or outdoor living space is considered under separate assessments and can address issues caused by a reduction in open space.

The effects of progressive increase in building coverage towards the higher density residential zones could have a significant influence on the character of an area with buildings that are bulkier with less surrounding open space than in the past. By way of comparison, under the legacy district plans, most residential areas in Auckland applied 35 per cent building coverage to a defined net site area for each residential zone.

Further to this, the 35% building coverage standard in legacy district plans was in relation to a set net site area e.g. a 500m² vacant lot, with most plans requiring a minimum site size. Now the coverage is in relation to a parent site through the land-use led approach in the AUP, which after subdivision and the creation of child sites results in much higher building coverages. This is discussed further below.

The lower ratio of built area to open space enabled in the past (which still characterise most existing neighbourhoods) can appear a stark contrast to developments with 40-50 per cent building coverage enabled by the AUP.

The findings show that the zone standards in the AUP can be said to be efficient in terms of enabling land use, scale and density. Neighbourhood character will continue to evolve and align more closely with the zone descriptions as more intensive development in the form of terrace housing and apartments occur.

The Business – Mixed Use zone does not have a building coverage standard. Side yards and other standards that manage the developable site area and are only applied where sites abut residential zones.

Building coverage per site following subdivision

The outcomes from the land-use led subdivision approach enabled by the AUP were evaluated to understand the extent to which a zone's building coverage standard would still apply to the newly created sites. In this analysis, the 'parent' site refers to the total site prior to subdivision and a 'child' site is the product of the subdivision of the parent site. Most calculations for assessing standards in resource consents are applied to the parent site, which would include for example, space set aside for public roads or jointly owned access lots created following subdivision. These may be for the 'gross' site – the total site or the 'net' site.

For a resource consent in the residential zones, building coverage is calculated using the net site area of the parent site. This is done prior to subdivision into smaller 'child' sites following completion of the development. Those developments which exceeded building coverage tended to produce subdivided sites which also exceeded the zone standard. The findings showed building coverages for some subdivided 'child' sites were between 60-70 per cent of the site. This was particularly evident in mid-terrace dwellings. The amount of net site building coverage per dwelling indicates the level of intensity that some developments are achieving.

To evaluate the extent of this, the child site with the highest building coverage for each development was recorded. The child site with the highest building coverage was typically mid-block in a row of terraces. This evaluation was not applied to apartments as these are unit titled with a common share of the parent site (a third of MHU developments and half the THAB developments were exempt).

The key findings were:

Zone	Findings
MHS	<ul style="list-style-type: none"> • 95 percent of developments had at least one subdivided ‘child’ site that exceeded the maximum 40 percent building coverage for that zone. • Following subdivision, building coverages ranged from 41 percent to 95 per cent for a child site. • The most prevalent (65 per cent of the sample) had child sites with building coverages between 41 percent – 60 percent. This is greater than the maximum building coverage for the MHU and THAB zones.
MHU	<ul style="list-style-type: none"> • 90 per cent of developments had at least one subdivided site that exceeded the maximum 45 per cent building coverage for that zone. • Following subdivision, building coverages ranged from 46 per cent to 55 per cent for a child site. • The most prevalent (65 per cent of the sample) had child sites with building coverages between 46 per cent – 60 per cent of the site.
THAB	<ul style="list-style-type: none"> • 40 per cent of developments had at least one subdivided site that exceeded the maximum 50 per cent building coverage for that zone. • Following subdivision, building coverage ranged from 51 per cent to 70 per cent of the site for a child site.

This demonstrates the effectiveness of the plan to enable intensification and provides data on the size of sites following subdivision. Infringements to some standards may have implications for the functionality of dwellings on smaller sites.

Appearance

The AUP relies on assessment criteria rather than standards for building appearance. These include attractiveness and safety of the street and visual dominance. For four or more dwellings there are specific matters of discretion including building intensity, scale, location, form and appearance. Auckland Council also provides design guidance in several forms. Developments with more than 20 dwellings are assessed by specialists including urban designers. Large scale developments may be reviewed by the Auckland Urban Design Panel who are a group of industry experts who provide independent advice to developers. Council’s Auckland Design Manual also provides design guidance.

The monitoring analysis of developments in the residential zones considered a range of features that contribute to the appearance of buildings, reduce visual dominance effects on adjoining residential sites, and create attractive and safe streets. These are:

- Variation in façade/s – modulation with recessions and protrusions
- Variation in roof form or roof ridgeline
- Continuous building length

The variation in façade design using modulation with recessions and protrusions to create more visual interest was evident in 80 per cent of developments. A further 15 per cent of developments had partial variation in façade design.



Figure 8: This apartment development shows good variation in façade design and roof modulation.

The findings showed that 60 per cent of developments had variations in the roof form or roof ridgeline and 25 per cent had partial variations. This is particularly desirable in terrace or townhouse developments. The remaining 15 per cent of developments had no variation in roof form but the majority of these were apartment buildings.

Continuous building length can be extensive in multi-dwelling developments of terraces and to a lesser extent, apartments. This can create large-scale wall-like buildings which, if lacking appropriate design elements, can result in overly dominant building forms, a non-human scale environment and undermine the future planned quality of built form anticipated for a zone in the AUP. There are no standards specifying how long a building can be.

The findings show:

- 50 per cent of developments had building lengths of 20m or less
- 25 per cent had building lengths between 21-30m and
- 15 per cent had lengths between 31-40m.
- 10 per cent of building lengths were greater than 40m and one of these was over 60m.



Figure 9: This 11 dwelling terrace housing development on a 809m² site in the THAB zone has a site width of 15m and 54m depth. There is no on-site parking, so a footpath provides access to dwellings and the majority of terraces face the adjoining site. There are three buildings of different lengths - 6.5m, 21.4m, 17m with two spaces of 1m and 1.4m between the three buildings.

The findings reflect the residential monitoring sample which had approximately 50% of developments as smaller scale developments of 4-9 dwellings. Larger scale developments were more likely to have longer building lengths. Building lengths greater than 40m (i.e. measured perpendicular to the street, which occurs frequently given Auckland's historic site dimensions) can influence privacy, dominance and shading effects on adjoining sites and neighbourhood character. The significant length of some buildings highlights one of the problems with developing on long narrow sites, with the average Auckland site length being 45 metres. This is particularly evident with terrace housing developments. Excessive building length can be a greater issue for terrace housing than apartment developments as the latter can achieve yield via height.



Figure 10: A wide street frontage enables rows of terraces to face the street with individual entrances and landscaping. Short building lengths and spaces between buildings enable daylight to more rooms within dwellings.

Different measures were used to evaluate appearance in the Business – Mixed Use zone. Visual dominance created by the bulk and height of apartment buildings was analysed in terms of façade quality from all aspects. These were evaluated using the following criteria – the presence of façade modulation, arrangement of windows, balconies and architectural elements. There are effective assessment criteria in the Business – Mixed Use zone. Refer to Appendix D.

Based on the inclusion of these elements, the analysis showed that 50 per cent of buildings were considered to have attractive facades on all four sides. This is important as the scale of apartment buildings means they are visible from a multitude of public and private viewpoints. The remaining 50 per cent of developments were considered to be partly designed to be viewed from a multitude of viewpoints and included two or three facades with windows, façade modulation or attractive wall treatments.

Specialist reports by council’s urban designers were extracted from consent files to determine whether there was support for developments in the Business – Mixed Use zone. Not all developments underwent this level of scrutiny due to the limitations on resourcing. Auckland Council’s Urban Design Panel provided another level of scrutiny – usually for the largest or more significant developments.

A challenge for the AUP and the planning process is the separation of personal preferences when controlling for building appearance. The AUP uses subjective terms like “attractive” which are difficult to define as it can be highly personal. A more objective and neutral assessment such as “visual interest” “variation” or standards governing continuous surface planes (i.e. mandating modulation) might be more effective. Even with refinements to the AUP, there will continue to be uncertainty on what constitutes a quality appearance through the design, application and consenting process.

Response to surroundings

Ensuring a good level of privacy for dwellings within a site as well as those on adjoining sites is a concern for many residents in the residential zones. The RPS qualifies the 'intended use' and 'planned built character' which may suggest that change is to be expected with more intensification. The residential provisions such as yards, HIRB and Outlook Space are intended to manage the effects of new development on the privacy of adjoining sites. The consenting process evaluates the specific site and adjoining site conditions and the proposed development design to determine whether reasonable privacy is being achieved. The orientation and location of windows and location of outdoor living space are assessed.

Many developments on long narrow sites result in living areas being designed with outlooks that face towards adjoining sites on the side boundaries (and often over driveways too). While they comply with the AUP Outlook Space standard, this can create a sense of privacy loss on the adjoining site. This can affect visual and acoustic privacy. The analysis looked at the percentage of dwellings within a development that had the primary living outlook facing towards adjoining sites.

The findings showed that half of the developments analysed had between 50 per cent to 100 per cent of their dwellings facing adjoining sites. A quarter of all developments were designed to avoid living area outlooks facing adjoining sites.



Figure 11: This development has four dwellings with the principal living area and outdoor living space in the form of a balcony at the first level, overlooking their driveway and facing the adjoining site.

The AUP Outlook Space standard requires dwellings in the residential zones to have a reasonable standard of visual privacy between habitable rooms of different buildings, on the same or adjoining sites. To assess whether building designs were providing adequate privacy, the analysis looked at whether windows and balconies avoided direct views into adjoining dwellings and private outdoor spaces. The AUP has assessment criteria to assess the extent to which the height, bulk and location of the development maintains a reasonable standard of sunlight access, privacy and minimises visual dominance to adjoining sites. The assessment criteria for the AHIRB looks at the extent to which

direct overlooking of a neighbour's habitable room windows and outdoor living space is minimised to maintain a reasonable standard of privacy, including through the design and location of habitable room windows, balconies or terraces, setbacks, or screening.

The monitoring investigated some of the effects of new development on adjoining sites such as privacy. The findings showed that 75 per cent of developments designed the majority of dwellings to avoid direct views from windows into adjacent dwellings and their private outdoor spaces. A further 20 per cent partially achieved this outcome. This was better achieved when the principal living area, outlook space and outdoor living spaces were at ground level. It was more challenging to retain privacy between dwellings and adjoining sites when the principal living area, outlook space and outdoor living area in the form of a balcony were at the first floor or above. When balconies face side boundaries, there can be privacy issues if the balcony is too close to the boundary. This is because mitigation is more challenging to achieve compared to ground level indoor and outdoor living spaces where a fence or landscaping can provide privacy.

The quality of a building's appearance from the street contributes to the amenity of the neighbourhood. The analysis looked at whether dwellings responded positively to the street – including orientation, façade treatment and minimal garage or carpark dominance.

The findings showed that 70 per cent of residential zone developments had dwellings with facades fronting the street and with minimal garages or carparking visible. This contributed to a more attractive street environment. A further 20 per cent partially achieved this outcome.

Comprehensive evaluation of built form quality - from site visits

Site visits to 49 developments in the MHS, MHU and THAB zones provided the opportunity to evaluate whether quality developments anticipated by resource consents were actually being delivered. Developments were appraised from the street against a set of site criteria that aligned with the monitoring indicators and measures. Site visits were undertaken by a team of planners and urban designers. Refer to Appendix C for site appraisal criteria. This method relied primarily on observations and group discussions to determine whether the combined form, scale and appearance of a building were demonstrating quality outcomes appropriate for the site, neighbourhood and zone.

The ratings spanned from 'very good' to 'unanticipated outcomes'. Unanticipated outcomes signalled that there were other issues, such as site conditions, topography, and orientation that affected the overall quality of the development.

- MHS zone – 60 per cent of developments were rated as 'good', 35 per cent were rated as average
- MHU zone – 45 per cent were rated as 'good' or 'very good', 40 per cent were rated as average
- THAB zone – 35 per cent of developments were rated as 'good' or 'very good', 20 per cent were rated as average



Figure 12: These photos show residential zone developments from site visits that were assessed as being good or very good (they are not shown in any particular order).

All developments visited had some merit but those that were considered below par and displayed unanticipated outcomes were primarily in the MHU zone (15 per cent of developments) and the THAB zone (35 per cent of developments). In these zones, there were often issues around site conditions (site proportion, topography, orientation), intensity of development (housing typologies at scales that were incompatible with the site) and effects (privacy, shading, dominance) on dwellings within the site, on adjoining sites or the street interface.

The findings showed that more intensive zones had a greater disparity in the quality of developments. In the MHU and THAB zone, there were issues regarding the intensity of development, scale and proximity of development fronting the street, effects on adjoining sites or the street interface.

There were no site visits to Business – Mixed Use zone developments due to resourcing constraints.

Effectiveness and efficiency of the plan

The extent to which the AUP ‘maintains and enhances the quality of the environment, both natural and built’ (RPS B2.1. Urban Growth and Form issue (6)) is variable. The analysis considered how the site characteristics influence built form and the standards which collectively manage building bulk in the three residential zones. It also looks at the appearance of residential development. The plan Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment | 43

varies in its effectiveness to achieve quality built outcomes with different standards and development conditions.

In the residential zones, the application of a generic set of residential standards to multiple housing typologies in varying scales to Auckland's existing subdivision pattern of long narrow sites or rear sites is limiting the plan's effectiveness. Site width, shape, size and slope have become key determinants of quality outcomes in many developments, particularly in zones where there is a no density approach to development.

One of the challenges is the extent to which standards can be applied to achieve quality outcomes on long narrow sites, rear sites or sloping sites. Site characteristics can exacerbate issues with excessive building length, the ability to achieve height limits with the restrictions of the HIRB standards and effects on neighbouring sites. The design of apartments and terrace housing or medium and large-scale developments within the constraints of the city's subdivision pattern maybe more effective with standards tailored for these housing typologies.

Height and height in relation to boundary

The findings have shown that there is general compliance with the height limit as well as building heights in the sample - being generally consistent with the zone descriptions. Specifying height limits in metres can enable an extra storey in response to site conditions (such as slopes) and more design flexibility. However, the discrepancy between building height being measured in metres and the zone descriptions referring to height in storeys is potentially leading to confusion as sometimes site conditions (such as slopes) can enable an extra storey within the height limit.

The Height in Relation to Boundary (HIRB) standard aims to manage the effects of dominance and shading on adjoining sites. There is less compliance with the HIRB standard indicating that either this development standard is less effective or there could be market pressures to achieve greater development potential. The findings showed 60 per cent of developments in the sample (across all the MHS, MHU and THAB residential zones) infringed the HIRB.

This finding was calibrated against commensurate developments across Auckland in the council's Resource Consent Database. The extent of non-compliance with the HIRB standard from the monitoring sample (60%) are consistent with the findings from council's Auckland-wide database (55%). The likely cause of non-compliance is the challenge of achieving the permitted height with housing typologies that are poorly suited to the constraints of Auckland's typically narrow long sites. This occurs particularly in developments of three storeys or higher in the MHU and THAB zones. In many cases, the infringements were small. This is probably because non-compliance with the HIRB standard is subject to notification.

The extent to which the AUP manages shading, daylight or dominance effects on adjoining sites through the HIRB standard is limited. The standard does not have the dexterity of the rules, methods or assessment criteria that were in the legacy district plans to respond to different site conditions or compass orientation. Furthermore, MHS and MHU zone assessment criteria apply to the sun's equinox rather than the winter solstice when sun is at its lowest angle. In the THAB zone, daylight access and reducing visual dominance effects to immediate neighbours are the only consideration - not shading effects. Due to the scale of new development in the residential zones, inadequate management of the effects on adjoining sites could impact on existing dwellings as well as reduce their viability for future quality redevelopment. This can affect the health, safety and wellbeing of residents living in sites within new residential developments as well as those in adjoining sites.

Appearance

This monitoring uses a number of architectural design elements to objectively evaluate the appearance of developments. Elements include modulation of building facades, variation in rooflines and the dominance of carparking. The majority of developments included variation in the façade design to create more visual interest. Most also had some form of variation in rooflines. Site visits confirmed that the majority of residential developments were achieving average to good outcomes in their appearance – particularly when viewed from the street.

The length of buildings was investigated because terraces and apartments can create large-scale wall-like buildings. This can affect adjoining sites and influence neighbourhood character. The Proposed Auckland Unitary Plan (PAUP) proposed a standard to limit building length to manage the length of buildings along side and/or rear boundaries and the separation between buildings on the same site. The purpose of the standard was to visually integrate the building into the surrounding neighbourhood. This standard was not included in the AUP.

This analysis has shown that 25 per cent of developments have continuous building lengths greater than 40m. Limiting building length can alleviate the effects on privacy, dominance and shading on adjoining sites.

Site visits evaluated developments from the street against a set of site assessment criteria by a team of planners and urban designers. The findings showed that the majority of developments in the MHS and MHU zones were producing average to good or very good outcomes to demonstrate the AUP's effectiveness particularly regarding street frontages. Those developments that were considered below par and displayed unanticipated outcomes were primarily in the MHU zone (15 per cent of developments) and the THAB zone (35 per cent of developments). In these zones, the effects of building length were often exacerbated by issues around site conditions (site proportion, topography, orientation), intensity of development (housing typologies at scales that were incompatible for the site). In some cases, the effects of long and continuous building lengths (such as privacy, shade, dominance) on adjoining sites or the street interface were more apparent in developments with more height and greater numbers of dwellings.

Responding to surrounds

This section reflects on whether new developments in the residential zones are 'enhancing the quality of life for individuals and communities' (RPS B2.1 issue (1)). To do this, the monitoring looked at how developments responded to surroundings. This included adjoining sites and the street. Site visits enabled developments to be comprehensively evaluated, taking into consideration their appearance and interface between adjoining sites and the street.

The AUP's core standards for the MHS, MHU and THAB zone developments of four or more dwellings (e.g., height, HIRB, yards) are subject to notification tests. These core standards were selected by the IHP for this purpose. However, the monitoring has shown that with the level of intensification occurring, these standards are not always managing the effects on adjoining sites as efficiently as the legacy district plans. This may in part be due to the limitations of the AUP core standards which to be effective in managing effects on neighbouring sites, need to include other standards in the assessment. These are not identified as 'core' standards in the AUP. For instance, in assessing the HIRB, sunlight access to adjoining sites could be a core part of the assessment of effects in the MHS and MHU zones. The AUP measures shading at the equinox rather than the winter solstice when living areas most need the sun.

The IHP limited the number and scope of core standards to minimise possible constraints on enabling development. The findings for the residential zones showed that half of developments in the sample had between 50 to 100 per cent of their dwellings facing adjoining sites. The majority of dwellings were designed to avoid direct views from principal living area windows into adjoining dwellings and private outdoor spaces. This was usually achieved by locating the principal living area outlook and outdoor living space at ground level with a perimeter fence. Where these were located at the first floor or higher and included a balcony, privacy to adjoining sites was more difficult to achieve. Habitable rooms (such as bedrooms) often overlooked adjoining sites from upper floors of dwellings.

The quality of a building's appearance from the street contributes to the amenity of the neighbourhood. The analysis looked at whether dwellings responded positively to the street – including orientation, façade treatment and minimal garage or carpark dominance. Seventy per cent of developments had attractively designed facades fronting the street with minimal garages or carparking visible. A further 20 per cent partially achieved this outcome.

The residential zones in the AUP have a set of common standards for the majority of residential development regardless of site conditions, scale and development typologies. The effective application of AUP standards becomes more challenging when applied to medium to large scale residential developments with typologies such as terrace housing and apartments that require additional considerations to respond well to Auckland's existing subdivision pattern – which was premised on a single standalone house with a garden.

It can be a challenge to achieve quality outcomes if the site size and configuration of the site, scale of development and housing typology are not compatible. These factors, combined with the intensity and scale of development enabled by the AUP's unlimited density provisions do not always produce quality outcomes.

The zone standards in the MHS, MHU and THAB zones enable intensive medium to large scale development. However, this can be difficult to achieve when the standard for building coverage (and other elements such as driveways) leave inadequate space on the site to provide for landscaping of a scale to provide privacy or increased setbacks from boundaries. The AUP is achieving efficiencies by maximising building bulk through building height, HIRB, and building coverage at scales that reflect the zone intensities. However, the level of non-compliance with the other standards has the potential to offset these gains with the loss of privacy and other effects on adjoining sites.

The spaciousness of sites and streets in the more intensive residential zones has become progressively reduced as the scale of developments increase. While this is not in of itself a positive or negative effect, issues arise when developments occur without consideration of the effects of shading, loss of privacy and adequate quality landscaping or well-designed building frontages to the street. Cumulatively, these matters can potentially result in negative outcomes for residents on adjoining sites and the neighbourhood.

The recommendations seek to respond to the issues and achieve better outcomes to achieve the RPS objectives. The cumulative effect of small non-compliances with multiple standards is unknown. While each infringed standard may be mitigated and therefore deemed to comply or the effects are considered minor, there is concern regarding the extent to which the amount of mitigation across multiple sites potentially undermines the effectiveness of the package of AUP residential provisions

The following recommendations also draw from findings in other sections of the monitoring report. This is because very few standards are applied in isolation to the wider package of provisions.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

General plan improvements

To address the level of non-compliance with standards in the residential zones, undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Review and consider increasing the number and scope of standards that are subject to notification for four or more dwellings to emphasise and prioritise their compliance in developments. **Medium priority**
- Strengthen residential objectives, policies, matters of discretion and assessment criteria to ensure clarity and align with outcomes sought by purpose statements and standards. **Medium priority**
- Update the current notification rules for the residential zones to enable use in conjunction with earthworks and other incidental activities that need to be undertaken to enable most residential developments. Currently the non-notification clauses are not an incentive because they are unable to be used in most cases. **Medium priority**
- Review standards to ensure the purpose statements are being delivered by the standard. Where necessary, either the standard or the purpose statements should be updated. **Medium priority**
- The statutory weight of the 'purpose' statements for each standard should be made explicit in the AUP to give them the same weight as policies. **Medium density**
- Review some AUP definitions to update in order to respond to issues, new contexts, technologies and conditions, expand scope, clarify meanings, application and/or intent. **Medium priority**
- Further research is needed on the effects of development of terrace and apartment typologies on sites where site width, proportion and size are problematic. **Medium priority**
- A cost benefit analysis is required to determine the appropriateness of the existing standards in the AUP e.g., setbacks, design and appearance of side walls and possible standards that could be added such as managing the length of the building on such sites. **Medium density**
- Publication of practice notes, guidelines and guidance to provide clarification on aspects of the AUP and encourage quality built environment outcomes. **Medium priority**

To address poor quality terrace housing and apartment developments, undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Two sets of standards – one for apartments and one for terraces. This could apply to buildings of 2 storeys or higher. It could include standards for building separation controls, design of side/party walls, height relative to street width, setbacks or HIRB, yard controls, minimum site width, outlook provisions, outdoor living, waste management requirements. **Affected by recent Government legislative changes**

- The application of the terrace and apartment standards for developments could apply to MHS, MHU and THAB zones – residential and business mixed use zone. ***Affected by recent Government legislative changes***

To address issues arising from historical site dimensions with building typologies enabled through the residential zones, further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Require a minimum site width applied at the site frontage for developments of three storeys or higher to achieve a better ratio of built form to the site and street – for all housing typologies. ***Affected by recent Government legislative changes***
- Apply a building shape factor based on a ratio of built form width to height to achieve better proportioned buildings – particularly on street frontages. This could encourage more attached dwellings in areas with greater height limits and reduce the predominance of buildings that are out of scale with their site and surroundings. ***Affected by recent Government legislative changes***

Height

To determine whether height should be the main distinction between zones, review the zone objectives, policies, and description. Undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Refer to metres and possible number of storeys in the zone description or update the standard to explicitly indicate that another storey is possible within the height limit – including the additional allowance for a 1m roof form. ***Affected by recent Government legislative changes***
- Update the height standard to indicate the flexibility enabled by the rolling height or/and extra 1m roof allowance (both enable an extra floor). ***Affected by recent Government legislative changes***
- Update assessment criteria to more accurately evaluate the visual dominance of developments seeking an extra storey above the height limit. This is to ensure development is mitigated through approaches such as design, response to topography, extent of excavation, building setbacks, existing or proposed landscaping / tree planting. ***Medium priority***
- Limit earthworks (through land disturbance consents) that enable additional building height to be achieved to the extent that the majority (or maximum proportion) of the site (and dwellings) are below natural ground level. ***Medium priority***
- Retain the rolling height measurement but add parameters to manage the scope of its application. ***Medium priority***

Building in relation to boundary

To manage the effects of bulk and high building coverage in the residential zones, undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Update assessment of the HIRB and AHIRB in MHS and MHU zones using the winter-solstice (not equinox) for solar access to assess shading on adjoining properties and specify period of the day or the number of hours of sunlight should be achieved to dwellings within the site and on adjoining sites. Shading diagrams would become a special information requirement for the zone. ***Affected by recent Government legislative changes***

- Replace the AHIRB with other standards that force street facing buildings and avoids windows and balconies overlooking adjoining sites with strong design controls to minimise the scale and avoid blank featureless side walls. *Affected by recent Government legislative changes*
- Look at a new standards to replace AHIRB for apartments or in the THAB zone depending on site width and shape and orientation. *Affected by recent Government legislative changes*
- Update the Business Mixed Use zone provisions with building and yard setbacks from the boundary. *Medium priority*
- Reconsider the THAB setback provisions to minimise the adverse effects of building height on adjoining sites (such as dominance and shading) and reduce the overall visual dominance of buildings at upper levels. *Affected by recent Government legislative changes*

Building coverage

To reduce the extent of non-compliance with building coverage in the residential zones, undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Investigate the cumulative effects of widespread non-compliance with building coverage. This includes environmental, functional, visual and amenity effects on-site within the development site, the ‘child’ site, on adjoining sites and at a neighbourhood scale. *Affected by recent Government legislative changes*
- Building coverage should be a core standard – it has a fundamental influence on building bulk, impervious surfaces, landscape area and building proportion relative to the site, street and zone character. *Affected by recent Government legislative changes*

Building length

To manage the extent of building length in the residential zones, undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Develop a new standard to provide for a maximum limit on continuous building length. Further investigation is necessary to establish the length. The following options could be considered:
 - a maximum building length for multi-dwelling developments with a separation of a specified amount between buildings to provide adequate visual separation.
 - apply a building length ratio (e.g. relative to the site length and width).
 - limit the maximum number of dwellings in a block of terraces with a specified separation distance between blocks to provide adequate visual separation.
 - Consider different building lengths for 1-3 storeys compared to 4+ storeys as taller buildings have greater impacts. For instance, 1-3 storey building lengths could be acceptable at 40m, but for 4+ storey buildings length/depth could be limited at 20m to manage their bulk, massing, dominance and shading effects.

Affected by recent Government legislative changes

Theme 2: Building Auckland's planned built form with more intensive housing

Theme 2 investigates the range of housing typologies and the quantum of residential development to accommodate the city's growing and diverse population. It also looks at land use efficiency and the implications of higher density development. The B2.1. issues most relevant to this theme, seek to:

- (1) enhances the quality of life for individuals and communities
- (2) support integrated planning of land use, infrastructure and development
- (3) optimise the efficient use of the existing urban area
- (5) enable provision and use of infrastructure in a way that is efficient, effective and timely
- (6) maintain and enhances the quality of the environment, both natural and built

Relevant RPS Objective and Policies	
RPS Objective B2.3.1 (1)	A quality built environment where subdivision, use and development do all of the following: (b) reinforce the hierarchy of centres and corridors; (d) maximise resource and infrastructure efficiency;
RPS Policy B2.3.2 (1)	Manage the form and design of subdivision, use and development so that it does all of the following: (a) supports the planned future environment, including its shape, landform, outlook, location and relationship to its surroundings, including landscape and heritage;
RPS Objective B2.4.1 (1)	Residential intensification supports a quality compact urban form
RPS Objective B2.4.1 (2)	Residential areas are attractive, healthy and safe with quality development that is in keeping with the planned built character of the area.

Two indicators consider the type of housing being built, the level of intensification and whether development is contributing to the planned built character anticipated for each zone.

- Indicator 3 – Building the planned built form with intensification reinforcing the hierarchy of centres and corridors
- Indicator 4 – Maximising land and building resources and infrastructure efficiency

Indicator 3 – Building the planned built form with intensification reinforcing the hierarchy of centres and corridors

Measures

- Building typologies – by zone
- Number of dwellings per consent (pre-subdivision)
- Whether development is consistent with the planned built character anticipated for its zone

What indicator 3 tells us

This indicator looks at the types of multi-unit developments with four or more dwellings being built in each of the zones. It also looks at the intensity of development. These influence the planned built character of the neighbourhoods. The monitoring considered five residential development typologies:

- Standalone houses
- Terraces (three or more attached dwellings)
- Duplex/townhouses (two attached dwellings)
- Apartments
- Mix of typologies in different versions (apartments and terraces, terraces and duplexes, terraces and standalone houses, duplexes and standalone houses, and terraces, duplexes and standalone houses).

This indicator also investigates the number of dwellings per site enabled by the AUP through its unlimited density provisions to the extent it affects the built form (see indicator 4 below for density in terms of number of dwellings). Neighbourhoods are changing through an increase in apartments and terraces in medium and large-scale developments.

Each residential zone has a description of the planned suburban or urban built character anticipated. The MHS, MHU and THAB anticipate higher density housing. Refer to Appendix D for the zone descriptions.

The monitoring provides a snapshot of the type and density of residential development occurring in the more intensive residential zones. The amount of new residential development in these more intensive zones is starting to produce street environments that allude to the future planned form of Auckland.

Indicator 4 is linked to indicator 3, it looks at whether the AUP provisions are effective in producing housing that uses land, resources and infrastructure efficiently. The focus is on the level of intensification and considers some of the factors that can restrict yields for residential site development. As identified in Theme 1, two factors that have a fundamental influence on the type and amount of housing are the site size and width at the street.

Findings

Building typologies by zone

Analysis of the sample from the MHS, MHU and THAB zones showed there was an even split across the five development typologies investigated. This shows there is a good range of housing typologies to meet the diverse needs of Aucklanders. The AUP zone descriptions specify the types of housing anticipated for each zone, so this was also analysed. It should be noted that lower density

developments of 1-3 dwellings were not included in the sample. Therefore, the comparative analysis is based on the types of medium to high density housing for each zone.

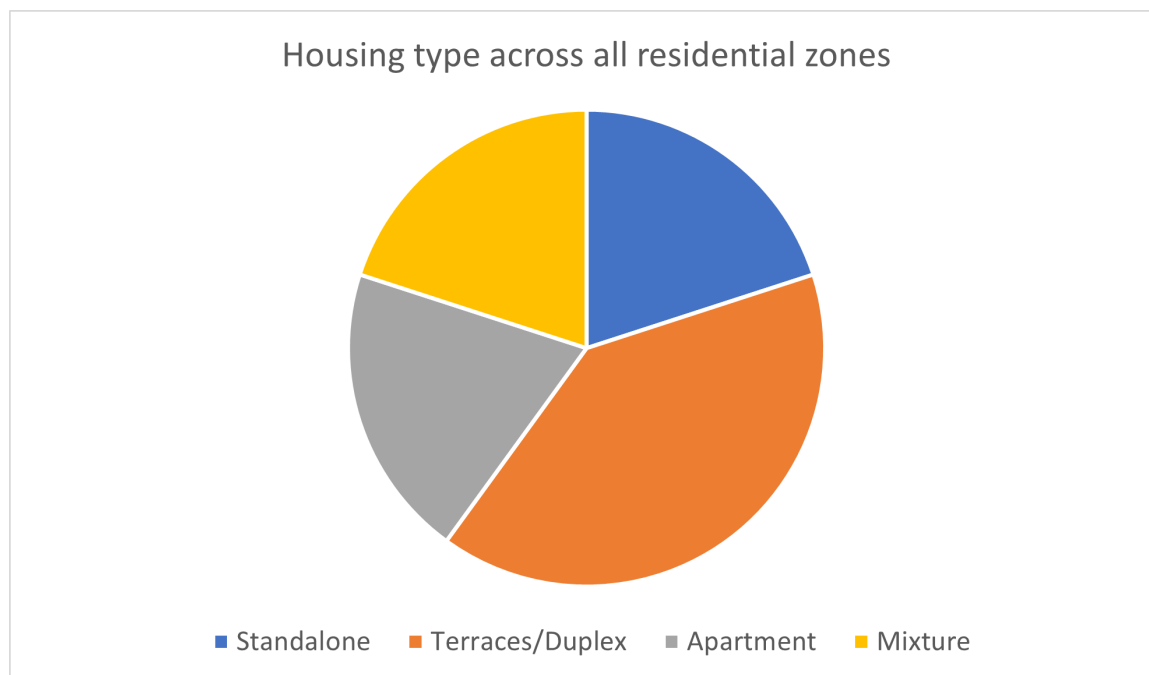


Figure 13: Prevalence of different housing typologies in the residential zone sample.

In the Mixed Housing Suburban zone, the AUP anticipates a suburban built character with standalone houses and attached housing (townhouses, terraces or apartments). The findings confirmed that the MHS zone was the location for the majority of standalone housing – accounting for 30 per cent of all residential developments in the zone sample. There were generally between 4-6 standalone houses on parent sites which had previously accommodated a single house. In this zone, around 20 per cent of developments comprised of duplex/townhouses, 20 per cent were terrace housing and 20 per cent were a mix of housing typologies. Apartments were less common in this zone, accounting for less than 10 per cent of developments.

The MHU and THAB zones are anticipated to have an urban built form with more intensive housing and the findings generally support this.

In the MHU zone, the AUP anticipates fewer standalone dwellings and more terrace and apartment development. In this zone nearly 25 per cent of developments were terraces and 25 per cent were apartments. Less intensive developments with duplexes/townhouses accounted for around 15 per cent and standalone houses were about the same (15 per cent). The remainder – 20 per cent of developments were a mix of housing typologies.

The AUP's most intensive residential zone, THAB had the largest number of apartments, accounting for nearly 50 per cent of developments in the sample. Around 20 per cent of developments had terraces and a further 10 per cent were a mix of apartments and terraces. Just 10 per cent of developments had only duplexes/townhouses but another 10 per cent had a mix of terraces and duplexes. Less than 5 per cent of developments were for standalone housing.

In the Business – Mixed Use zone, the AUP anticipates a mix of apartments and commercial buildings. The majority (80 per cent) of developments in the sample were for apartments. A new building typology emerged with some apartment developments also incorporating terrace housing for the first Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment | 52

1-2 floors of the building with direct access to the street. Other developments had a mix of apartment and terrace housing blocks. Around 10 per cent of developments were for terraces alone.

These findings show that the housing typologies are consistent with the AUP zone descriptions for each zone.

Planned suburban or urban built character

The monitoring relied on site visits to evaluate the planned suburban or urban built character in the three residential zones. The observations from site visits are discussed and issues identified in this section.

There were similarities in the housing typologies irrespective of zone. For instance, most terraced housing was based on 4-5m wide terraced houses and these were 2 storeys for 2 -3 bedroom units, or three storeys for 3-4 bedrooms. This suggests that the form of this typology is influenced by market demand and price point sought by the developer. There was more variance with the form of apartments.

Regardless of zone, most developments were in locations currently characterised by 1-2 storey housing on spacious landscaped sites. The majority of sites were in brownfield areas. This often presented a stark contrast to new intensive developments with two or more storeys for building typologies such as terraces or apartments. The MHS, MHU and THAB zones allow between 5 -15 per cent additional building coverage above the allowances under the legacy district plans. The spatial relationship between the built form and site size created tensions between existing and new development in some zones. One of the challenges of the monitoring was envisioning new developments within neighbourhoods of buildings of a similar scale and type in the future.

The MHS zone anticipates predominantly two storey developments that retain some of the spatial qualities that characterise suburban neighbourhoods. Most developments were two storey with at least one or two dwellings fronting the street at a scale and form anticipated by that zone. Quite a few site visit locations already had several intensive developments which provided a better understanding of the planned built character in the area.

Observations in the MHS zone, showed two storey dwellings were generally consistent with the current local neighbourhood character. This character will change as more intensive development occurs. The intensity of site development in terms of the number of dwellings on the parent site sometimes brought a new scale to these neighbourhoods. The spatial qualities that would typically be achieved through landscaped outdoor living areas or front gardens was often limited. Some developments relied on driveways and parking areas to achieve a 'sense of space'. Other developments were designed with limited consideration for a similar scaled development on the adjoining site in future.

The type and form of residential developments in the MHU zone anticipates predominantly three storey terraces and apartments. In this zone, new development was a mix of two and three storey buildings. Site size and width was a likely determinant of whether a building was capable of being constructed to three storeys. Larger sites and corner sites usually achieved three storeys in this zone.

The THAB zone anticipates 5-7 storey buildings. As with the MHU zone, larger sites or corner sites were popular locations for developments of this scale. Developments on corner sites were less constrained by the HIRB and other AUP standards. This is because the HIRB does not apply to street edge site boundaries and developments can also benefit from using the street space for locating the dwelling principal outlook space standard (6m).

Visualising the future planned built form from the AUP zone descriptions can be a challenge. On the site visits it was more difficult to envision the future planned form of the MHU and THAB zones which anticipate greater heights and densities. This was especially difficult where a new development of terraces or apartments of three or more storeys were located in areas of predominantly single storey standalone housing.

Site visits provided opportunities to see whether new development had begun to change the local low density character to the planned built character anticipated for a zone. This was particularly evident where there was cumulative new development MHU zone in Mt Albert (Figure 14).



Figure 14 Photo shows the AUP planned built form with terraces and apartments in the MHU zone.

In both the MHU and THAB zones, the spatial quality of sites became progressively reduced by the scale of developments experienced in these locations and zones. There is only a 5 per cent difference in the building coverage between each of the zones but the additional bulk as well as height, more intensive building typologies and building proximity to the street resulted in a marked visual difference – especially with cumulative development.

In the Business – Mixed Use zone, 85 per cent of the developments were consistent with the future planned character. The remaining 15 per cent of developments were deemed to be partially consistent with the zone. Of the 15 per cent, developments tended to be under-developed with either lower heights or/and were terraces rather than apartments.

Effectiveness and efficiency of the plan

The B.2.3.1 Objectives 1(b) seek to reinforce the hierarchy of centres and corridors; and (d) maximise resource and infrastructure efficiency. The RPS B2.1 issue regarding growth that (1) enhances the quality of life for individuals and communities; and (6) maintains and enhances the quality of the environment, both natural and built is more challenging to achieve.

The AUP zone descriptions have been effective in specifying the types of housing anticipated for each zone. The monitoring shows there is a wide range of housing options to meet the diverse needs of Aucklanders.

The AUP has been effective in achieving residential intensification at levels promoted through the zoning principles and zone standards to reinforce the hierarchy of centres and corridors. The analysis showed the lowest densities were in the MHS zone with a clear transition of intensity through the MHU and THAB zones to the highest density in the Business MU zone. This also achieves the B2.4.1(1) objective seeking residential intensification to support a quality compact urban form. There is a general trend in developments in the MHS, MHU and THAB zones of increasing building bulk (as expressed through building coverage), but less clearly with height, with most developments at 2-3 storeys. While the zone standards broadly achieve the intensification enabled by the zone objectives in terms of typology i.e. terraces and apartments, they are less effective in achieving the planned character through height and spaciousness.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To better define the character distinctions between the MHS, MHU and THAB zones, undertake further research and cost benefit analysis to determine the appropriateness for inclusion for a plan change in the AUP review. The scope of research could consider but not be limited to the following options:

- Update the residential zone descriptions (MHS, MHU, THAB) to reflect the built form outcomes enabled by the standards. **Affected by recent Government legislative changes**

Indicator 4 – Maximising land and building resources and infrastructure efficiency

Measures

- Number of dwellings per development
- Gross site size post- subdivision

What indicator 4 tells us

This indicator expands on the findings in Indicator 3 with measures that evaluate the AUP effectiveness in encouraging efficient use of land. The measures looked at the number of dwellings per site and then focuses on theoretical density as expressed by the number of dwellings and the size of net sites created through the land use led subdivision consent. Apartments were not analysed because there are unit titles with a common share of the land and not usually subdivided. This indicator looks at whether the AUP B2.1 expectation that growth:

(2) supports integrated planning of land use, infrastructure and development

(3) optimises the efficient use of the existing urban area

Findings

Number of dwellings per development

The AUP allows for almost unlimited dwelling density within the MHS, MHU, THAB and Business MU zones. It is constrained by the building envelope (established by the height, HIRB and yards) and by the minimum dwelling size standards. The developer determines the appropriate number of dwellings dependent on a range of factors such as economic viability, site characteristics and compliance with the AUP standards.

The Proposed Auckland Unitary Plan (PAUP) allowed unlimited density in the THAB zone and set parameters around unlimited density in the MHU zone and reduced density in the MHS zone. These provisions allowed considerably more intensification than many of the legacy district plans. To do this in the MHS and MHU zones, a set of parameters stipulated minimum site sizes and widths to manage development effectively on Auckland's typically narrow site subdivision pattern. For example, in the THAB zone rules required a minimum parent site size (1200m²) and a minimum site width (20m) and shape. In the MHS zone, higher densities were enabled with a minimum post-subdivision site size of 200m². These parameters were included in the PAUP to mitigate the effects on adjacent sites and achieve built quality outcomes

The Independent Hearings Panel extracted the core AUP standards (height, HIRB, etc) for managing the effects of unlimited density – from the PAUP standards⁵. However, those standards that managed the form and scale of density (and unlimited density) were not included in the AUP residential standards. These would have undermined the intent of the 'unlimited density' provisions and the IHP were satisfied that the core standards could manage effects on adjoining sites.

The number of dwellings for each consent prior to any post-development subdivision was investigated to gauge the level of intensification. To encourage comprehensive developments, the AUP enables developers to seek a land use resource consent for buildings prior to or at the same time as a subdivision consent.

The benefits of this are the land use effects and built form volume (established primarily through standards for height, building coverage and height in relation to boundary or alternative height in relation to boundary) is established, regardless of how many dwellings are contained within the building envelope. This allows council to assess all these effects rather than take a more precautionary approach when assessing a vacant site subdivision where the specifics of volume and land use effects of a future development are unknown.

Standalone houses, duplex/townhouses and terrace housing are subdivided from the parent site into smaller separate 'child' sites. Apartments are usually unit titled because they have a common share of the land.

To identify the level of density per site, the number of dwellings were recorded for each development. The key findings were:

- 30 per cent of development sites: 4-6 dwellings
- 25 per cent of development sites: 7-9 dwellings
- 15 per cent of development sites: 10-15 dwellings
- 20 per cent of development sites: 16-40 dwellings

⁵ <https://unitaryplan.aucklandcouncil.govt.nz/Images/Printable%20PDFs%20-%20September/Part%203%20-%20Rules/Chapter%20I/1%201%20Residential.pdf>

- 5 per cent of development sites: 41-100 dwellings
- 5 per cent of development sites: 100+ dwellings.

There are several possible reasons for a predominance of medium-scale developments in the findings. The residential sample covered a three-year timeframe (April 2018 – December 2020) so developments needed to be consented and constructed within this period. Smaller developments don't usually have the complexity of large-scale developments so are faster to consent and build.

Another reason may be that developers can achieve viable development yields with the AUP unlimited density provisions in a timely manner on a typical Auckland 800-1100m² site. Large scale developments usually take longer with more complex site arrangements (including site amalgamations), infrastructure provision and multiple housing typologies. These projects often take more than three years to gain planning consents and complete the development.

In the Business - Mixed Use zone, the majority of developments were for apartments which achieve higher dwelling numbers per site than other typologies. The key findings were:

- 40 per cent of developments: 4-20 dwellings
- 20 per cent of developments: 21-40 dwellings
- 30 per cent of developments: 80 dwellings or more.

The Business – Mixed Use zone had larger site sizes. This appears to be a major determinant influencing the prevalence of apartment buildings with high numbers of dwellings. All the developments with 100 dwellings or more were located in close proximity to either a Metropolitan Centre (specifically Newmarket and Manukau) or the City Centre.

In terms of land use efficiency, 130 developments with a wide range of housing typologies in the residential zone sample produced a total of 2,339 dwellings. These replaced a total of 274 dwellings which were removed to make way for new development on sites. This produces an average of 8 new dwellings for every dwelling replaced. The majority of these dwellings have been built or are in the construction phase during the monitoring period.

In the Business - Mixed Use zone the calculations are more theoretical as many are yet to be constructed. There were consents for 33 developments – primarily apartments, which could produce 1,655 dwellings. Assuming an average of 1.5 dwellings per site prior to redevelopment, this would mean that 50 dwellings were replaced by 1,655 dwellings. This produces an average of 33 new dwellings for every dwelling replaced.

This demonstrates the effectiveness and efficiency of the AUP standards – and specifically the unlimited density provisions enabled for 4 or more dwellings.

Post subdivision site size

The absence of density standards enable multiple dwellings to be built on a parent site and subsequently subdivided into smaller sites. The monitoring investigated the size of sites following subdivision to evaluate land use efficiency of those developments that are not apartments in the three residential zones. The size of sites also showed the differential between the AUP subdivision standards for the minimum vacant site size which is 300m² in the MHU zone and 400m² in the MHS zone. The THAB zone has a minimum vacant lot subdivision size of 1200m² to disincentivise fragmentation of larger sites without a planned comprehensive residential development. Once subdivided, vacant sites must comply with the AUP standards for building coverage, height, maximum impervious surfaces, etc for the respective zone. As discussed above, the AUP envisions two pathways to subdivision: creating vacant site(s), or land use led.

The Business – Mixed Use zone incentivises subdivision in accordance with an approved land use resource consent (complying with Standard E38.9.2.1). In contrast with the residential zones, a vacant lot subdivision can be 200m² in this zone. The majority of developments in the Business – Mixed Use zone sample were for apartments which were unit titled and did not create new sites under the plan definition.

The calculation used for the analysis took the total area for the parent site (including driveways) and divided it by the number of dwellings. Apartments were excluded from this analysis because they share a communal land area. While this is somewhat simplistic, it gives an indication of how small site sizes can become under the AUP. For each development, the smallest site size was recorded. It should be noted, these are not actual section sizes as areas in common ownership such as driveways or communal parking were not considered. Site sizes were recorded in 25m² bands for example 50m²-75m² for ease of comparative analysis.

The findings show the spectrum of possible subdivided site sizes ranged between 50-300m² with the most prevalent site size between 150-200m². The smallest sites were calculated between 50-75m². Only one site exceeded 300m². Most terrace developments had a number of mid-terrace sites that were consistently smaller than either the end of terrace sites or street facing sites. Below is a more detailed breakdown of the site sizes that developments are subdividing to:

- 20 per cent of developments subdivided at least one site to between 50-100m²
- 20 per cent of developments subdivided at least one site to between 101-150m²
- 30 per cent of developments subdivided at least one site to between 151-200m²
- 25 per cent of developments subdivided at least one site to between 201-250m²
- 5 per cent of developments subdivided at least one site to between 251-300m²

Small sites are a product of the AUP unlimited density provisions and can be effective in providing large numbers of dwellings using land very efficiently. Issues arise if the effects of intensification cannot be sufficiently managed within the site and significantly affect adjoining sites, street environment or neighbourhood. For instance, the child sites created from the subdivision of a parent site often don't comply with building coverage or landscape areas. This reduces the ability to provide for viable trees/biodiversity/climate change mitigation across an area.

The ability of developers to apply for a subdivision consent concurrently with the land use resource consent is a feature of the AUP. The objectives and policies in the E38 Subdivision chapter set the framework for this form of subdivision. It is designed to incentivise comprehensive and intensive development. Another subdivision method creates 'vacant lots' and is similar to the legacy district plan subdivision rules – it does not incentivise density. This method enables the level of intensification anticipated in Auckland Plan growth models and enables the AUP unlimited density provisions.

Effectiveness and efficiency of the plan

The RPS B2.3 objectives, policies and B2.1 issues seek an integrated approach to development to achieve efficient use of resources and infrastructure in existing urban areas. The findings showed that 130 developments in the residential zone sample produced 2,339 new dwellings. Seventy per cent of developments were for between 4-15 dwellings per site, 20 per cent were for 16-40 dwellings per site and 10 per cent were for developments with over 40 dwellings. Some of these had over 150 dwellings. The new developments replaced approximately 275 existing dwellings across the sample. To illustrate how effective the AUP has been in enabling housing growth, this calculates out to an

‘average’ of 17 dwellings per site in this sample. In the Business – Mixed Use zone, consents for 33 developments – primarily apartments, would produce a theoretical number of 1,655 dwellings.

Across the total monitoring sample, most developments replaced 1-2 houses and some large-scale developments replaced more. In effect, this means that around 350 dwellings were replaced with nearly 4,000 dwellings. This demonstrates that the AUP’s standards, unlimited density and land use led subdivision consenting process is highly effective and efficient in supporting the Auckland Plan and AUP growth objectives. Unlimited density is a key factor in the scale of developments being seen on some sites and the desire to infringe many controls slightly to provide an additional unit can be a strong incentive for some developers. This can sometimes be to the detriment of on-site amenity such as outlook which can also affect adjoining sites.

Land use efficiencies are being achieved where zone provisions enable higher density development such as apartments or intensive terrace housing with small site sizes. Site functionality can be compromised if sites become too small. This includes communal or private space for outdoor living areas, landscaping for trees and biodiversity, rubbish bins, clotheslines, rainwater tanks, gas bottles and so on.

Objective B2.4.1 (2) seeks residential areas that are attractive, healthy and safe with quality development that is in keeping with the planned built character of the area. The absence of density provisions and the land use led subdivision is producing very small sites – particularly for terrace development in the residential zones. This is creating a number of issues including the following.

- Sites are becoming so small that they can be functionality compromised (particularly around private outdoor living spaces, no space for trees or biodiversity).
- Amenity, solar access, privacy (visual and acoustic) and other factors that contribute to quality housing and the health and safety of residents within sites as well as adjoining sites are being compromised for housing yield in some developments. This is evidenced by the large number of dwellings per site and the level of non-compliance with building coverage, landscape area and HIRB and other standards).
- There is a minimum size for the subdivision of a vacant site and a minimum dwelling size but no minimum size for a site established through the land use led consenting process.

These issues suggest that Objective B2.4.1 (2) and the RPS B2.1(1) Issue requiring the plan to manage growth to enhance the quality of life for individuals and communities may not be achieved as well as it could be with this level of intensification. Higher intensity developments do not inherently produce poor outcomes. Issues can arise from not appropriately addressing the unique consequences of several factors – housing typologies, yield and site conditions. This appears to be resulting in a yield-led response rather than the design-led response intended by the AUP. It will require a rebalancing of efficiencies to achieve both growth and quality development. The poor outcomes identified with these issues detract from the positive outcomes of the enabling aspects of the AUP to achieve growth.

The density standards ensured that there was open space available for a number of uses but this is not expressed as standards. Enabling unlimited density has highlighted that specifying outdoor service areas and other requirements like trees or sheds are important and need to be provided for in the standards.

Many of the issues regarding quality are addressed by recommendations in other themes in this report. The recommendations below are specific to the indicators in this theme and address the form and size of sites and subdivision.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To address the prevalence of very small site sizes as a consequence of land use led subdivision and unlimited density provisions in the MHS, MHU and THAB zones, undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Investigate the cumulative effects of small site sizes created by land use led subdivision. This includes environmental, climate change, functional, visual and amenity effects, effects on within the site and adjoining sites. **Medium priority**
- Investigate a minimum net site size for any post-subdivision/child site created by the land-use led subdivision consenting process. This could be based on the minimum size necessary for site functionality and climate change and could include:
 - A minimum subdivision size specified for each housing typology to respond to the spatial qualities required to support good urban design, provide for household needs, provide for trees and mitigate effects.
And/or
 - A minimum subdivision size specified for each zone to enable stronger spatial distinctions between zone character.
And/or
 - Consider minimum site widths or sizes based on the optimum response to climate change objectives – including the application of landscape and maximum impervious area standards to the post-subdivision/child site.
 - Process developments with any post-subdivision sites below a specified minimum net site size as a discretionary activity.

Medium priority

- Monitor the cumulative effects of intensification to determine whether effects are adequately managed within the site, adjoining sites and street. **Medium priority**

Theme 3: Supporting the health, safety and wellbeing of residents

Health and safety is a broad topic. It includes housing people well in homes that are dry, warm, safe and well-functioning. It also relates to hazard and engineering standards. Many of these aspects are prescribed by the NZ Building Code. This theme focuses on various aspects of residential developments that influence people's health, safety and wellbeing. This theme also addresses the B2.1(1) issue that seeks growth that enhances the quality of life for individuals and communities. The monitoring looked at specific standards in the residential zone provisions that contribute to the Regional Policy Statement objectives focusing on the health and safety of people and communities. In addition to this, Theme 6 also refers to pedestrian safety on driveways.

This theme analyses the size, orientation and quality of outlooks from principal living areas and outdoor living spaces. The analysis also included measures that go beyond the scope of the AUP to determine whether residential developments were providing good quality primary living areas in dwellings. For instance, measures of 'quality' included convenient access to outdoor living spaces from the dwelling, the type of outlook from the main window and whether it is orientated for sunlight. Collectively, these measures provide an indication of whether the residential zone standards are encouraging developments that support the health, safety and wellbeing of residents.

Relevant RPS Objective and Policies	
RPS Objective B2.3.1(3)	The health and safety of people and communities are promoted.
RPS Policy B2.3.2 (2)	Encourage subdivision, use and development to be designed to promote the health, safety and well-being of people and communities by all of the following: (a) providing access for people of all ages and abilities; (b) enabling walking, cycling and public transport and minimising vehicle movements; (e) meets the functional, and operational needs of the intended use;
RPS Policy B2.3.2 (4)	Balance the main functions of streets as places for people and as routes for the movement of vehicles.

This theme has two indicators:

- Indicator 5 – The extent that the health and wellbeing of residents is supported by living spaces with quality outlooks, privacy and sunlight.
- Indicator 6 – The extent that the health, safety and wellbeing of residents is supported by quality outdoor living spaces

Indicator 5 – The extent that the health and wellbeing of residents is supported by living spaces with quality outlooks, privacy and sunlight.

Measures for residential zones:

- Extent of compliance with the 6m x 4m principal living outlook space AUP standard.
- Extent of primary living space outlook non-compliance

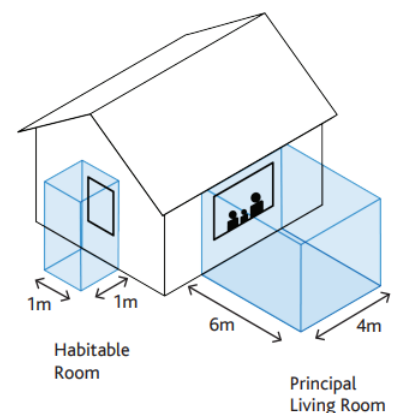
- Number of habitable rooms per dwelling complying with 1m outlook standard
- Number of habitable rooms without direct access to daylight, sunlight and natural ventilation
- Location of the primary living outlook space – street, carpark/driveway/adjoining site
- The proportion of dwellings in a development with principal living overlook spaces towards the street
- Where the principal living space overlooks the street, what is the distance between primary glazing and the street boundary
- The percentage of dwellings with privacy measures between the living outlook space and street
- Percentage of dwellings with principal living outlook space overlooking a driveway or carpark area
- Percentage of dwellings with principal living outlook space overlapping with any outlook from other dwellings within the site
- Proportion of dwellings in a development with a north, east or west oriented principal living outlook space
- Proportion of dwellings in a development with a south oriented principal living outlook space

Measures for the Business – Mixed Use zone:

- Extent of compliance with the principal living outlook space AUP standard.
- Extent of primary living space outlook non-compliance

What indicator 5 tells us

The AUP has standards and assessment criteria that set the parameters for building outlook in the MHS, MHU, THAB residential zones and Business – Mixed Use zone. The purpose of the outlook requirement is to ensure a reasonable standard of visual privacy between habitable rooms of different buildings on the same or adjoining sites. It can also do this in combination with the daylight standard to manage visual dominance effects within a site by ensuring that habitable rooms have an outlook and sense of space.



In the residential zones, the outlook space is measured from the centre of the largest window in the primary living area for a 6m depth and 4m width as shown in the diagram. The outlook space for a master bedroom is 3m and for a habitable room it is 1m x 1m in the residential zones. In the Business – Mixed Use zone, the outlook space for the principal living area is the same as the residential zones but for all other habitable rooms it is 3m.

The focus of the monitoring was to explore whether these provisions were achieving quality outcomes for the primary living area and to a lesser degree, habitable rooms. The focus on primary living outlook reflects an assumption that residents will spend longer periods of time in the primary living area and will have a larger effect on the quality of their day-to-day lives.

The monitoring programme consider the following parameters as contributing to a ‘quality outlook’:

- the amount of outlook space

- Compliance with the outlook space standard for primary living spaces in MHS, MHU, THAB and Business – Mixed Use zone
- Compliance with the outlook space standard for habitable rooms in the MHS, MHU and THAB zones
- the location of the outlook and what it overlooked
- privacy for the occupants of the dwelling
- solar orientation.

Analysis of outlook spaces must also recognise the standards' roles in acting as a building separation control.⁶ While the main purpose of the outlook standard is to ensure privacy, it also helps to mitigate building dominance in the absence of a building separation standard.

Findings

Amount of principal living area outlook space

In residential zones, the key findings showed that the majority of developments complied with the AUP requirement for a 6m x 4m outlook space from the principal living area. The effects are evaluated (using assessment criteria) for developments of four or more dwellings where the outlook space extends over an adjoining site or overlaps with the outlook from another dwelling. If the outlook extends over the street or a driveway within the site, it is not an infringement. The level of compliance with the standard and observations from site visits indicate the dimensions – including the 6m depth – are achieving quality outcomes for dwellings. Privacy and a sense of space are successfully achieved where the outlook space is fully contained within the site.



Figure 15: The 6m x 4m principal living outlook space depth and the 20m² outdoor living space orientated for sunlight are located together to create a spacious and healthy living area in this development.

⁶ Graeme McIndoe EIC before the AUPiHP, 9 September 2015
Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment

The findings showed that across all the zones, 70 per cent of developments complied with the principal living area outlook standards. Developments with **all their** dwellings complying with the principal living area outlook standard are as follows:

- 80 per cent compliance in the MHS zone
- 60 per cent compliance in the MHU zone
- 65 per cent compliance in the THAB zone

In the 30 per cent that did not have full compliance, some developments had only one dwelling infringe the standard while others had a significant proportion of dwellings infringe it.

Further analysis into the proportion of dwellings in those developments that had poor compliance was undertaken. There was a notably large group of developments that had only 20-40 per cent of their dwellings complying with the outlook standard – the rest infringed the standard. By zone, the findings showed:

- MHS – 10 per cent of developments had only 30-40 per cent of dwellings with outlooks that complied with the standard
- MHU – 15 per cent of developments had only 30-40 per cent of dwellings with outlooks that complied with the standard
- THAB – 10 per cent of developments had only 20 per cent of dwellings with outlooks that complied the standard

This lower level of compliance in some developments may be due to the outlook standard not being a core standard for four or more dwellings. Further investigations also showed a link between non-compliance increasing as the site widths became narrow in the MHU and THAB zones.

Extent of non-compliance with the principal living area outlook space

The extent of non-compliance with the 6m depth dimension across all residential zones in the sample were:

- 45 per cent infringed by 1m or less
- 40 per cent infringed by 1.1-2m
- 10 per cent infringed by 2.1-3m
- 5 per cent infringed by 3.1-4m

In context, a reduction of 1-2m represents a loss of 15-30 per cent of a dwelling's outlook space. The findings show that up to 55 per cent of developments of four or more dwelling are resulting in noticeable reductions in outlook space. The extent and location of infringements may suggest that the outlook space dimensions were close to the minimum of a viable standard within the tight constraints of typical site dimensions – particularly for terrace housing.

Site location of infringements to principal living area outlook space

The principal living outlook space is measured from the centre of the largest window in the living room. An investigation into where non-compliance was occurring in the residential zones was of interest. The findings showed that 30 per cent of developments had principal living area outlook space areas shown across adjoining sites. The extent of outlook space non-compliance across adjoining sites were:

- 45 per cent infringed the standard by 1m or less

- 40 per cent infringed the standard by 1.1 -2m
- 15 per cent infringed the standard by 2.1 – 4m

Where there was non-compliance of the standard resulting in outlook spaces across adjoining sites, these were often limited to a few dwellings. In most cases, the non-compliance occurred at ground level and the effects were mitigated with a fence or other privacy measure. However, this form of mitigation does not reduce the physical proximity of the dwelling to the site boundary or the dwelling on the adjoining site.

The AUP standard requires that outlook spaces from dwellings cannot overlap to avoid a loss of privacy. The findings showed that 90 per cent of developments were designed to avoid any overlap in outlook from principal living areas.

Issues with complying principal living area outlook space

Observations from site visits and consented plans showed a number of unanticipated outcomes from complying outlook standards.

- Principal living area outlook spaces that extended across streets were truncated by fences – some of which may have been subsequently installed after consent, affecting sense of spaciousness. The dwellings were often located close to the street due to the opportunity to extend outlook space into public space – another factor compromising privacy in some developments.
- The extent of overlooking of adjoining properties with a loss of privacy to both sites was evident from principal living areas and habitable rooms on the upper floors of buildings.
- Some dwellings had the primary living area windows (from which the 6m outlook space measurement was taken) set deep into the dwelling space but the building façade or balcony balustrade were close (e.g. 3.5m) to the boundary. The outlook standard has been a useful tool for managing spaciousness and privacy to and from adjoining sites, particularly when outdoor living spaces and outlook are on the ground floor. However, when outlook and outdoor living spaces are above the ground floor, the occupants of a new dwelling are able to overlook the adjacent site from above, and when standing at the edge of the balcony are closer to the boundary. The photo above illustrates this. The issue is that there is no outlook control related to outdoor living spaces where it is above ground. This is a common occurrence given Auckland’s typically long and narrow sites. The outlook standard does not adequately manage the orientation of long buildings with living rooms and balconies directly facing neighbours rather than being contained on-site.
- Structures such as fences or sheds reduce the sense of spaciousness of principal living area outlook spaces – particularly when co-located with outdoor living spaces. These structures were often not shown on consenting plans.



Figure 17. This development has dwellings with the principal living outlook spaces and outdoor living area in the form of a balcony at the first level overlooking their driveway towards adjoining sites – poor quality outlook and reduced privacy for residents and neighbours.

Habitable room outlook

In residential zones, the AUP standard requires a minimum 3m from the master bedroom and 1m outlook from habitable rooms (such as bedrooms). The standard's purpose in combination with the daylight control, is to manage visual dominance effects within a site by ensuring that habitable rooms have an outlook and sense of space.

The monitoring programme looked at the number of habitable rooms in a dwelling that infringed the 1m standard. The findings showed 90 per cent of developments complied with the 1m outlook spaces from habitable rooms. In the few cases where the distance was less than 1m, it only applied to one habitable room in the dwelling.

Observations from site visits showed that complying outlooks from some habitable rooms did not achieve an outlook or sense of space due to the presence of high retaining walls, fences or buildings. A change to the AUP daylight standard to include building separation between structures such as retaining walls and fences could achieve better quality outlook. This is a recommendation for indicator 1.

In the Business – Mixed Use zone, the outlook space requirement is one of only three residential-specific standards. The outlook space from the principal living area is the same as the residential zones – 6m x 4m and is also measured from the centre of the largest window. Habitable rooms in this zone require a 3m outlook space.

There are several possible reasons for the lack of compliance with the outlook standard in the residential zones. The first is it is not an AUP core standard for the residential zones (for all dwellings in THAB, and 4 of more dwellings in MHS and MHU) so without the risk of notification, developers may not consider this a priority in the design of dwellings. Another is that the number of dwellings on a site may compromise the amount of space available to accommodate outlook space. Conversely, minor non-compliance may provide better overall outcomes in some circumstances. For example, by allowing a building to be placed in a way that provides better connection to the street frontage, avoiding shading on a sensitive part of an adjoining site etc.

The findings for the Business – Mixed Use zone showed 70 per cent of developments complied with the Outlook Space standard. Non-compliance with the outlook space standard for principal living areas were:

- 5 per cent of developments infringed the depth requirement by up to 1m
- 15 per cent infringed it by between 1m and 2m
- 10 per cent infringed it by between 2m and 3m.

The 3m outlook space standard in the Business – Mixed Use zone reflects the higher densities and more intensive typologies such as apartment buildings. Therefore, the 3m outlook space is applied to provide adequate privacy, ventilation, daylight and sense of space. This amount of outlook is appropriate to avoid privacy effects between adjoining sites if developed to the same intensity in the future. The 3m outlook space from habitable rooms was complied with in 55 per cent of developments and infringed by 45 per cent of developments. Non-compliance was considered minor.

To increase the number of bedrooms in dwellings, some developments (particularly apartments) were internalising habitable rooms which resulted in no exterior windows or natural ventilation. Some were intended as for purposes other than a bedroom but there was a risk that they could be used for that purpose. There is more potential for this in the Business – Mixed Use zone due to the large number of apartments. Monitoring showed less than 5 per cent of dwellings with this form of

habitable room occurred in the residential zones while this could apply to around 20 per cent of habitable rooms in the Business – Mixed Use zone. Assessing habitable rooms in apartments was complicated by labelling rooms as a study or media room – many with ensuites and wardrobes suggesting possible use as a bedroom. Ventilation and daylight access are managed by the NZ Building Code.

Location of principal living area outlook space

The AUP outlook standard does not specify where the principal living area outlook space should face. However, the quality of the outlook is influenced by the location of the principal living space outlook. The monitoring looked at various locations for principal living area outlook spaces to ascertain the range and quality of outlooks in developments. The data includes all outlooks, regardless of non-compliance.

In the residential zones, the location of principal living area outlook spaces were:

- 65 per cent of developments had the majority of outlook spaces across a ground level outdoor living space
- 20 per cent of developments had the majority of outlook spaces across balconies
- 10 per cent of developments had the majority of outlook spaces across driveways or parking areas
- 5 per cent of developments had the majority of outlook spaces across the street.

The location of principal living outlook spaces in the Business – Mixed Use zone was analysed differently to the residential zones. This is because the majority of developments were apartments and there was a greater range of outlooks from dwellings on each façade.

The findings showed the variety of outlook spaces from principal living areas as a proportion of the number of developments analysed. By way of example – 90 per cent of residential developments in the Business – Mixed Use zone sample had some dwellings with the principal living area outlook across the street. The range of outlooks are as follows (if a development includes at least one dwelling, it was allocated to the location category, hence results add up to more than 100 per cent):

- Towards the street – 90 per cent
- Driveways – 60 per cent
- Balconies – 55 per cent
- Ground level landscaping – 45 per cent
- Ground level communal space – 30 per cent
- Ground Level outdoor living space – 30 per cent
- Towards neighbouring property – 25 per cent
- Towards a railway line or motorway – 10 per cent
- Rainwater tanks or communal rubbish bins – 10 per cent

Principal living area outlook space across driveways and carparks

The AUP does not stipulate the aspect for the principal living outlook space so outlook across a driveway or parking area complies with the standard. In the residential zones, the findings showed that 10 per cent of developments had the majority of principal living area outlook spaces across driveways. There were also many developments that had a proportion of their dwelling outlook spaces across driveways or parking areas.

Where the principal living outlook space was on the first level or higher, they were often co-located with balconies (that were the principal outdoor living spaces) in both terrace housing and apartments. And in many cases, these were over driveways. Outlooks over driveways often occur because the driveway widths on large sites are 6m and the width to enable a vehicle to turn into a garage is also 6m. Both scenarios correlate with the required living area outlook space 6m depth dimension. This often achieves the most efficient spatial arrangement for the development.

A detailed analysis shows:

- 15 per cent of developments had between 30-50 per cent of dwelling outlooks across driveways or parking areas.
- 15 per cent of developments had between 60-80 per cent of dwelling outlooks across a driveway or parking area
- 5 per cent of developments had 100 per cent of dwelling outlooks across a driveway or parking area.

Observations from site visits in the residential zones showed that principal living area outlook spaces were often linked with primary outdoor living spaces on balconies on the first level or higher. In this scenario, the outlook space correlates with the 6m width driveway space. The outdoor living standard requirement for sunlight to south facing outdoor living spaces in this scenario causes driveways to be located in the sunniest site locations (which would have been better suited to ground level outdoor living spaces). This illustrates just one way the requirements of other standards can complicate the ability to achieve quality outcomes. The image below shows this a common scenario.



Figure 18. This three storey terrace development shows the outdoor living spaces (in the form of a balcony on the first level) and principal outdoor living space taking advantage of the driveway space to meet the AUP standards. The AUP requirement for sunlight to outdoor living spaces plus the requirement for a 6m outlook space from the living area has caused the 6+m wide driveway to be located in the central core of the development. The outlook spaces and outdoor living spaces (balcony) of each terrace block face each other across the driveway which can affect privacy.

In the Business – Mixed Use zone, around 40 per cent of developments avoided outlook spaces from principal living rooms facing driveways or carparks altogether. Of those developments with outlooks across driveways or carparking:

- 50 per cent had up to a quarter of their dwellings with this outlook
- 10 per cent of developments had between three-quarters to all their dwellings with outlook spaces across driveways or carparks.

Driveways and carparks offer a low-quality outlook from the principal living room for those developments. This is because these areas are usually barren concrete expanses, some with parked cars blocking the outlook as well as vehicle movements creating air pollution and noise. Privacy into living areas can also be compromised with inadequate separation from driveway activity.

Principal living area outlook space across a street

In the residential zones primary living area outlook space can extend across the street space without infringement to the standard. The proximity of the outlook to the street creates the presence of large windows or glazed doors which in turn have a significant influence on the appearance of dwellings. There are both positive and negative outcomes of large windows overlooking the street. Firstly, the positive outcomes for the neighbourhood are that large windows usually contribute to an attractive façade and increase passive surveillance to improve pedestrian safety on the street. The unintended consequence of large street facing windows can be residents' desire for privacy (and sometimes security).

Around 50 per cent of all developments had between 1-3 dwellings on the site that overlooked the street. Approximately 40 per cent of these dwellings had 4m or greater separation between the principal living space window and the street, and 20 per cent had less than 4m separation. Analysis of plans showed that many street facing dwellings had some form of privacy measure such as shutters, landscaping or fences.



Figure 19. In this terrace development, the AUP outlook standard enables the principal living area outlook space to extend over the street boundary into the street space. The photo shows terraces with a 4m outlook space from the ground level living room within the site and a further 2 metres beyond the fence, extending into the street space. The close proximity to the street can affect privacy with residents sometimes choosing to draw their blinds or use other privacy measures. A benefit of the close proximity of the internal and outdoor living areas to the street is it can feel safer for pedestrians, knowing residents may be close by.

Observations from site visits showed that dwellings with smaller distances from the street often resulted in drawn blinds or higher fences which can compromise the attractiveness of the street

frontage and passive surveillance benefits. Council has standards for fence height but these were not always complied with. Similarly, residents may subsequently erect high fences or change from semi-permeable to fully opaque fencing, after the statutory consenting process. Mitigation measures such as fences can truncate the outlook space and increase the physical proximity of the dwelling to the street boundary, exacerbating privacy issues.

Orientation for sunlight

There is no AUP requirement for the principal living outlook space in the residential and Business Mixed Use zones to be orientated to receive sunlight. However, sunny living spaces are generally considered an essential aspect of healthy homes. On the importance of staying warm and healthy in winter, the Ministry of Social Development recommends the following⁷:

Open windows and curtains on sunny days and close them when the sun goes down to trap heat in your home. Trim any trees that prevent sun entering your house.

The Ministry of Health promotes healthy homes through its 'Healthy Homes Initiative'. The Ministry identifies health issues with cold, damp homes⁸:

Cold, damp, crowded homes can increase the risk of respiratory issues and other preventable health conditions, such as rheumatic fever and skin infections. There is strong evidence, nationally and internationally, of improved health outcomes resulting from warmer and drier homes.

Improving housing is also an equity issue, with Māori and Pacific families being over-represented in low-income households in areas of poorer quality and crowded housing.

Ensuring living areas in dwellings have access to sunlight to be warm through passively heating homes and to support a range of health benefits. It also supports climate change objectives to reduce reliance on energy use for heating, clothes driers, etc.

In the residential zones, the monitoring looked at whether the outlook spaces for principal living areas were orientated to receive sunlight for at least part of the day in midwinter. The analysis estimated the potential for sun, based on the proportion of dwellings in a development with principal living outlook spaces with a northern, eastern or western orientation. The results showed:

- 75 per cent of developments orientated all their living areas for sunlight.
- 15 per cent of developments had most (80-90 per cent) of their living areas orientated for sunlight
- 10 per cent of developments had 70 per cent or fewer living areas orientated for sunlight.

Those developments that had some living areas facing south generally minimised that number to less than 20 per cent of the dwellings. While some sites will create south facing dwellings due to practicalities of development, around 5 per cent of developments had the majority of their dwellings with living areas facing south.

One of the reasons why the majority of principal living areas receive sunlight could be market desirability. Another possibility is that most principal living areas directly access the outdoor living space. The AUP requires the outdoor living space to have solar access for a specified period measured from the equinox. The co-location of these spaces has additional benefits for solar access to the primary internal living spaces. There is a risk that when adjoining sites are developed with a

⁷ <https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/brochures/keeping-warm-healthy.html>

⁸ <https://www.health.govt.nz/our-work/preventative-health-wellness/healthy-homes-initiative>

similar form and intensity, the location of new buildings could cause shadowing on outdoor living areas and outlook spaces on these developments.

Effectiveness and efficiency of the plan

The incorporation of a specified outlook space for principal living areas and habitable rooms in the AUP is an effective and efficient method for securing quality living outcomes for 70 per cent of developments in both the residential zone and the Business – Mixed Use zone samples. While this is a generally positive finding, one third of developments had dwellings that did not comply with the standard.

The analysis also showed that dwellings complying with the standard were not exempt from poor quality outlook spaces. This included principal living area outlook spaces across driveways or parking areas. Those with outlook spaces facing the street were often truncated by fences with residents seeking privacy which in turn compromises the privacy and sense of space envisioned by the purpose of the standard. Principal living area outlook spaces facing adjoining sites – particularly above ground level – can compromise the privacy (visual and acoustic) for the adjacent dwelling and neighbours (existing and future). It is important to note that the effects associated with outlook as experienced by residents on the site (i.e. not effects on adjacent neighbours) is difficult to accurately measure without surveys (which were beyond the scope of this monitoring).

Modifications to the principal outlook standard could achieve the following:

- Ensure the level of spaciousness signalled by the AUP is not compromised – even a small reduction in dimension has a significant effect on the spaciousness of the outlook
- Better quality of outlook spaces from principal living areas
- Improve privacy of street facing principal living area outlook spaces
- Improve privacy between principal living area outlook spaces and the adjoining site
- Integrate the principal living outlook space with the ground floor outdoor living space through alignment of dimensions
- Orientation of principal living area outlook for solar access. This needs to be considered in light of an adjoining site being developed with a similar built form and intensity.
- Prevent structures such as fences that encroach on principal living area outlook spaces in complying or infringing developments.
- Outlook spaces could be orientated towards the front or back of the site to avoid overlooking adjoining sites.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes – Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To improve the quality of outlook spaces in the MHS, MHU and THAB zones, undertake further research and cost benefit analysis. The scope of research could consider, but not limited to, the following:

- Require the outlook standard to be a core standard where it is not already. *Affected by recent Government legislative changes*
- Outlook spaces could be orientated towards the front or back of the site to avoid overlooking adjoining sites. *Medium priority*
- Align the outlook living space with 6 x 4m dimensions and 6m minimum depth with an increased ground level outdoor living space of 24m². An exclusion for apartments may be necessary where ground level conditions differ to other housing typologies. *Affected by recent Government legislative changes*
- Clarify the statutory weight of purpose statements to be equivalent to policies and include explicit reference to this weighting in the AUP. Refine policies for clarity and more consistent alignment with standards as these are used for assessing consents. *Affected by recent Government legislative changes*

To address issues concerning privacy and a sense of spaciousness principal living area outlook space standard in the MHS, MHU and THAB zones, undertake further research and cost benefit analysis.

The scope of this research could consider but not be limited to the following options:

- Retain the method of measurement from the centre of the largest window in principal living area but where the window is set back from the primary façade, require measurement from the building façade or balcony edge (to be determined). This is to achieve privacy between dwellings and the adjacent sites and retain a sense of spaciousness where the outlook is compromised by being measured from windows set into the building. The purpose statement would also need to be updated to recognise its additional purpose of achieving better privacy between sites.

Or

- Principal living area outlook space above ground level facing towards adjoining sites could have specified minimum yard separation (e.g., 5m) between façade of the building or balcony balustrade (whichever is closer) and the boundary. This would replace the outlook measure from the largest area of glazing for this circumstance.

Or

- Review the dimensions to determine whether a change (including an increase) may achieve better outcomes such as spaciousness and privacy as envisioned in the purpose of the standard. *Affected by recent Government legislative changes*

To improve the quality and functionality of the principal living area outlook space in the MHS, MHU and THAB zones, undertake further research and cost benefit analysis. The scope this of research could consider, but not limited to, the following options:

- Update the principal living area outlook space standard to:
 - Exclude outlooks over driveways, private ways or parking areas for the first three levels of a building (this includes ground level but above this, the negative effects of driveways are mitigated with greater separation and more expansive outlooks). *Affected by recent Government legislative changes*
- Or
 - Require a design response where driveways are designed with similar characteristics to streets with setback from the driveway edge, landscaping/trees and other qualities to improve privacy, a sense of space and amenity. *Affected by recent Government legislative changes*
- Co-locate principal outlook space with outdoor living spaces where at ground level (for housing typologies excluding apartments). Consider aligning the dimensions of the principal living area

outlook space with the outdoor living space - 6 x 4m (24m²). *Affected by recent Government legislative changes*

- Limit the number of dwellings (as a percentage) in a development with south facing principal living space outlook. *Affected by recent Government legislative changes*
- Require a specified amount of area in the principal living area outlook space to be devoid of structures or household infrastructure (align with same requirement for outdoor living space). *Affected by recent Government legislative changes*
- For separation between buildings or structures, update and apply the daylight standard in conjunction with the outlook standard to ensure appropriate building separation. This could reduce shading and improve privacy on between dwellings. This standard could be updated to include retaining walls and structures such as fences. *Medium priority*
- The AUP currently require greater setbacks for south facing outdoor spaces. This principle could be applied to all outlook spaces. *Affected by recent Government legislative changes*

To improve compliance and the quality of the principal living area outlook space in the Business – Mixed Use zone, undertake further research and cost benefit analysis. The scope of this research could consider but not be limited to the following options:

- Replacing the zone’s existing Outlook space standard with the Outlook space standard used in the City Centre and Metropolitan Centre zones. The key differences with the Outlook space standards in those zones are that:
 - the Outlook space applies not from the glazing but from the ‘face of the building’, so you can’t reduce the distance of a building to a boundary by recessing the glazing within the face of the building. Notably, the standard explicitly states that the outlook space does not apply from the room’s window (H8.6.32(4)) *Medium priority*
- For principal living room outlook space progressively increase the outlook space depth as the building height rises – as follows:
 - 6m outlook space depth at heights 0-10m,
 - 10m outlook space depth at heights 10-16m, and so on.

This will ensure adequate daylight to those dwellings at the lower storeys and could encourage buildings to face the street. This also futureproofs the quality of outlook space in dwellings from adjoining sites if they are developed to the same intensity. *Medium priority*

Indicator 6 – The extent that the health, safety and wellbeing of residents is supported by quality outdoor living spaces

Measures

- Form of primary outdoor living space – ground level space, balcony etc.
- The adequacy of balcony size where they are the primary outdoor spaces – relative to the number of bedrooms.
- Degree of non-compliance (m²) to the size of the primary outdoor living space.
- Access to outdoor living space.
- Outdoor living space orientated for sunlight.
- Whether outdoor living spaces were overshadowed by buildings or structures such as fences at noon in mid-winter.
- Structures in the primary outdoor living space.

What indicator 6 tells us

The AUP requires residential developments in the MHS, MHU and THAB zones to provide a primary outdoor living space in the form of a ground floor area or balcony with minimum dimensions. The purpose of the outdoor living area is to provide spaces for people to enjoy the outdoor environment within their homes. The AUP requires dwellings to have a space that is of a functional size and dimension with access to sunlight and is accessible from the dwelling. It must also be separated from vehicle access and manoeuvring areas. The standards specify the following.

- The dimensions for the ground floor outdoor living space are 20m² with a minimum dimension of 4m. This can be split between a balcony and ground floor outdoor living space.
- For a studio or one bedroom dwelling, 5m² and a minimum dimension of 1.8m is required for a balcony.
- For two bedroom or larger dwellings, 8m² with a minimum dimension of 1.8m is required.
- Dwellings can internalise the area (5m²) that would have been used for an outdoor living space.

A range of factors were used to determine the elements that comprised a 'quality' outdoor living space. These included:

- type and size,
- how residents access their primary outdoor living space,
- the functionality of the space,
- amount of overshadowing.

There is no AUP requirement for an outdoor living space for residential developments in the Business – Mixed Use zone. However, many developments did provide outdoor living spaces, so these follow the residential zone analysis.

Findings

Type and size of outdoor living spaces

In the residential zones, 80 per cent of dwellings have ground level open spaces – usually in the form of a garden or courtyard. Balconies were the primary outdoor living space for approximately 20 per cent of developments – mainly in the more intensive MHU and THAB zones.

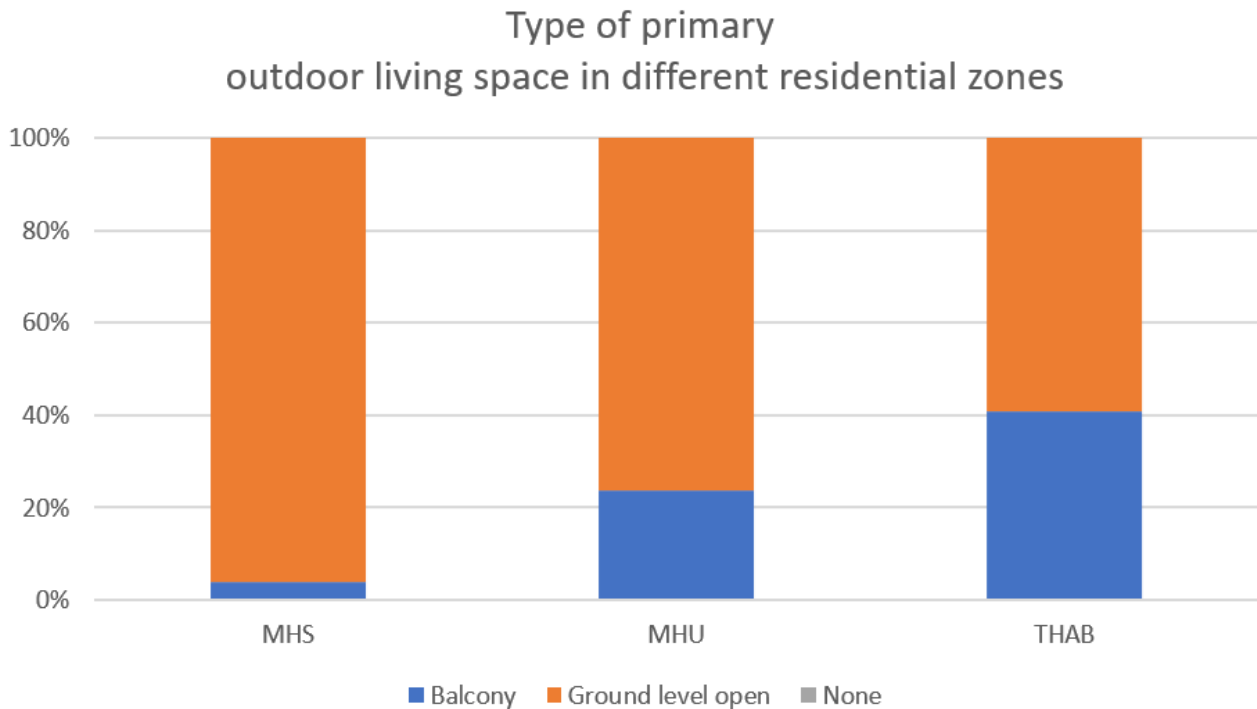


Figure 20. This graph shows the types of primary outdoor living spaces for each residential zone. Those zones with more apartment buildings have a greater proportion of balconies for the primary outdoor living space.

For ground level primary outdoor living spaces, the findings showed:

- 80 per cent of developments complied with the standard
- 10 per cent infringed the size although most were for a shortfall of less than 5m²
- 10 per cent of developments infringed the dimensions.

For balconies that are the primary outdoor living spaces in dwellings with two or more bedrooms, the findings showed:

- 25 per cent of developments infringed the minimum area although the majority of balconies were no less than 6m² in size.
- 35 per cent of developments provided more than the minimum size with balconies with most around 10m².

Balcony sizes were also evaluated for their functionality. This was based on the number of bedrooms to gauge the number of occupants potentially using the space. The findings showed:

- 50 per cent the balconies were considered an adequate size
- 30 per cent were considered a generous size
- 15 per cent were judged to be inadequate.

In the Business – Mixed Use zone, where the AUP does not require any outdoor living space, 95 per cent of residential developments did provide outdoor living spaces for the majority of dwellings. These were in the form of:

- 80 per cent had balconies
- 10 per cent had ground level outdoor living spaces
- 5 per cent had sunrooms (usually these were semi-enclosed glazed spaces)

The large number of balconies in the Business – Mixed Use zone residential developments is consistent with the predominant apartment typology. To evaluate whether balconies were adequately sized, the minimum balcony standards in the residential zones were applied as they represent a balance between ensuring positive residential amenity and helping to achieve intensification anticipated by the AUP (for example there are no balcony requirements in the Business – Mixed Use zone).

The findings showed that 70 per cent of balconies in the Business – Mixed Use zone sample were of an appropriate size and proportion for the size of dwelling. The remainder were considered too small, or the proportions and shape limited their functionality. The majority (90 per cent) of developments had outdoor living spaces accessed from the living room and 5 per cent of developments had outdoor living spaces accessed from the kitchen. In addition to private outdoor living spaces in the Business – Mixed Use zone, around 20 per cent of developments also provided communal outdoor living spaces.

Access

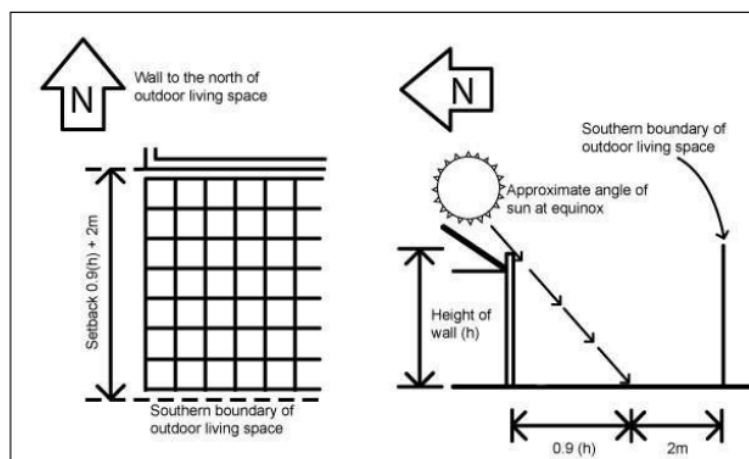
Between 2016 and 2019, the AUP outdoor living standard in the residential zones also required outdoor living spaces to be accessed directly from the primary living areas. In the sample, nearly 90 per cent of outdoor living spaces were accessed from the primary living areas in dwellings.

In January 2020, Plan Change 16 removed the requirement for direct access between the primary living area and the outdoor living space. The findings showed the emergence of access to outdoor living spaces from dining rooms, kitchens, bedrooms and halls. More recent observations (beyond the data collection period) show access to outdoor living spaces from garages and other spaces such as laundries is becoming more common. The disconnection between primary indoor and outdoor living spaces reduces the functionality and amenity of both spaces. This is because the sense of space, use and enjoyment, access to sunlight and daylight in living areas to create an ‘indoor-outdoor flow’ relies on a direct access to the outdoor living space in the form of a balcony or ground level space.

Sunlight

The AUP requires sunlight to the primary outdoor living spaces for south facing units to be considered for consents. The diagram is extracted from the residential standards.

Where outdoor living space is provided at ground level and is located south of any building located on the same site, the southern boundary of that space must be separated from any wall or building by at least $2m + 0.9(h)$, where (h) is the height of the wall or building. For the purpose of this standard south is defined as between 135 and 225 degrees.



Beyond this, the AUP focuses on minimising external effects of development on adjoining sites. Standards only address whether a proposal will affect sunlight access to the outdoor living space of a neighbouring property.

The AUP standards currently require only *daylight* access for living areas and bedrooms in new developments between buildings on the same site and is managed together with the outlook provisions. The distinction between daylight and sunlight is important because they affect the quality of residents' health, safety and wellbeing. Daylight and solar access have many benefits including vitamin D for health, passive heating for the dwelling, reduction in the use artificial lighting, heating and the need for clothes driers, supports plant growth and mental health and well-being.

The monitoring looked at whether dwellings were orientated for sunlight. The findings showed that 90 per cent of developments had the majority (70% or more) of dwellings with principal living spaces orientated towards the north, east or west. However, many developments had a few dwellings with outdoor living spaces that were either orientated to the south or would become overshadowed by buildings or structures in mid-winter. This was particularly evident where outdoor living areas were surrounded by 1.8m fences sitting atop high retaining walls. While cognisant of the realities of having some south facing dwellings, observations reveal there are instances where such overshadowing effects could have been avoided or mitigated.

Further analysis looking at whether structures or buildings could overshadow even a portion of outdoor living spaces in developments at noon in mid-winter. This is the coldest time of year when indoor and outdoor living spaces most need the sun to provide passive heating, enable washing to dry outside (to avoid dampness inside), reduce energy use with less lighting requirements during the day and support residents wellbeing. The equinox – currently used for AUP sunlight assessments is a time of year with plenty of sunlight and daylight so it is not achieving the outcomes needed to support residents health or reduce the effects of climate change by reducing energy use. It should be noted that these findings were estimated as very few consent plans included shadow diagrams.

The proportion of dwellings across all developments in the residential zone sample with primary ground level outdoor living space likely to be overshadowed by buildings or structures at the noon winter equinox were:

- 70 per cent of dwellings had all outdoor living spaces designed to avoid overshadowing
- 15 per cent of dwellings lost up to half the sunlight to outdoor spaces due to overshadowing
- 10 per cent of dwellings lost more than half the sunlight to outdoor spaces due to overshadowing.

This shows that a quarter of outdoor living areas in the sample could have compromised sunlight access in winter. The analysis did not consider the effects of new development on adjoining sites at the winter solstice.

Overall, the findings suggest that the outdoor living space requirements for sunlight are succeeding to the extent that it is ensuring access through the orientation of outdoor living spaces for most dwellings for at least half the year (spring, summer and autumn between equinoxes) in new developments.

An additional benefit of sunny outdoor living spaces was that most principal living spaces were connected to their primary outdoor living area and consequently would also receive sunlight. This is not necessarily the case for the outdoor living areas in sites in the THAB zone. This is because there are no assessment criteria for assessing sunlight on outdoor living areas of adjoining sites.

Function of primary outdoor living spaces

Primary outdoor living spaces were assessed for their functionality. The purpose of the primary outdoor space is for the occupants to use it for living. The Outdoor Living Space standards in the residential zones seek to ensure that they are of a functional size and dimension, have access to sunlight, and are accessible from the dwelling. The AUP requirements for these spaces did not factor in space for utilities like rubbish bins, hot water cylinders, heat pump units, water tanks, sheds, etc. Collectively, these items can take up a large portion of the area leaving no space for the area's intended purpose of providing for outdoor living. Typical dimensions are set out in the table below.

Typical dimensions of common utilities

Utilities	Area required (m ²)
Refuse, recycling and food waste bins (council collection)	1.4m²
Rainwater tank	2000L = 1.8m² - 2.5m² 2500L = 2.4m² 3000L = 3.85m² 6000L = 3.5m² 7000L = 3.24m²
Hot-water cylinder	0.24m²
Storage shed	2.3m²
Drop-down washing line	2.86m²
Total (and per cent if everything is located within a 20m² outdoor living space)	8.6m² (43 per cent) - 10.65m² (53 per cent)

Consent plans were analysed to see whether structures such as water tanks and storage sheds were shown within the primary outdoor living space. Around 5 per cent of dwellings had at least one structure and 15 per cent had 2-3 structures occupying the outdoor living spaces at ground level. Many structures such as storage sheds and water tanks are added by new owners after the development is completed. There are no restrictions on this. The effect of such additions is a reduction in the size and dimensions of the primary outdoor living space compromising the purpose for this AUP standard.

Observations from site visits were that a sense of spaciousness was more evident when the outdoor living area was co-located with the principal living outlook. This generally created a better sense of spaciousness. Site visit observations also showed these spaces can become consumed with additional household infrastructure – particularly rubbish bins, hot water tanks, heat pump units, sheds and water tanks. This reinforced the potential issue associated with the unintended consequences of reducing the functionality of outdoor living spaces ‘by a thousand cuts’. Collectively, this changes the function of the outdoor living space to a service court.

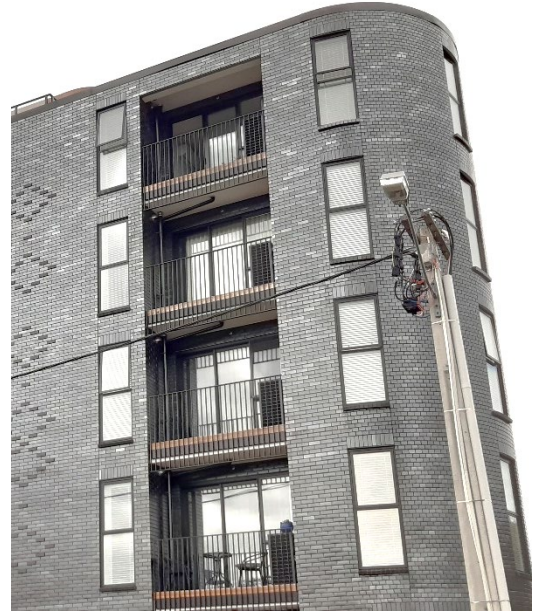


Figure 21: The useable space of the ground floor outdoor living area is reduced by the presence of a heat pump, shed and water tank. In this site, the items are screened. The useable space on the balcony in the apartment building is reduced by the external heat pump unit.

This issue is difficult to control during resource consents as plans may not necessarily reveal the level of encroachment on outdoor living spaces. Many of these items also appeared to have been added by residents following completion.

A potential effect of the continuing trend of reduced private outdoor living space functionality is additional pressures on our parks and open spaces to accommodate family needs for outdoor living spaces. Conversely, compromises in primary outdoor living space may produce more desirable outcomes in terms of typology and site layout. For example, for apartments, the requirement is for a 20m² ground floor outdoor living area, while in the same development a 5m² balcony is deemed appropriate. This discrepancy demonstrates how a single package of residential standards in the MHS, MHU and THAB zones is designed to apply to a range of different housing typologies. The standards are primarily focussed on provision for standalone houses, townhouses and terraces. However, they also provide for apartments which can have different requirements in terms of access, functionality, safety, and amenity.

Privacy

Another observation from site visits was the location of outdoor living spaces and the way it influenced the level of privacy – for the occupants and in some cases, adjacent sites. Sites with multiple dwellings with outdoor living spaces abutting adjacent sites often reduced privacy on those sites – especially when outdoor living areas were balconies at higher levels. This is exacerbated by long blocks of attached terrace houses or apartments abutting a site with a single dwelling. While visual mitigation may be achieved with a 1.8m fence, acoustic mitigation is less achievable – particularly for balconies at upper levels. In circumstances where the outdoor living spaces from multiple dwellings occurs, the acoustic effects on adjacent sites can be cumulative. Perceived visual dominance and level of privacy are most evident when a development is the first site to intensify under the AUP standards. Higher intensity typologies and densities were most jarring when juxtaposed against traditional single house suburban development, even if the zone outcomes envisioned such changes.



Figure 22: Three storey apartment development with complying outdoor living areas in the form of balconies and ground level courtyards facing the boundary may affect privacy on the adjoining site.

Street interface

Where outdoor living spaces fronted streets, most developments had fences. Some complied with the AUP fence standard but many did not – and may have been constructed by residents seeking more privacy following completion. The dominance of high fencing had the effect of significantly reducing the quality of the public realm by cutting off the connection of the street with developments. Conversely, those developments with a height separation between the public footpath and the outdoor living space achieved good connectivity to the street while maintaining privacy by avoiding the blank façade effects of high fencing. These observations reveal the importance of considering the realities of post-consent use in affecting the public realm (and sense of place); the issue of privacy is intrinsically linked with how a development will mature in the context of the wider urban fabric.



Figure 23. This development shows how privacy is achieved for the ground level apartments when there is a height separation and landscaping between the primary outdoor living area and the public footpath.

Sustainability

The type of landscaping influenced the quality of outdoor living spaces in terms of visual attractiveness as well as functionality (i.e. maintenance considerations). While many plans showed landscaped, well-planted outdoor living spaces, observations from site visits revealed many were areas of grass, artificial lawn, paving or combination of these. Those with grass were often not mown as most occupiers would not own a lawnmower for such a small area or have a place to store it. Some developments anticipated the burden outdoor spaces could put on residents, ensuring well-designed, planted landscaping that required minimal maintenance.

Effectiveness and efficiency of the plan

The performance of primary outdoor living spaces shows a trend that the AUP is not performing as well as it could for the health and wellbeing of residents. Particularly, the effects from utilities (heat pump units, hot water cylinders, sheds, water tanks or other items) constraining the amount of private space for children to play and residents to use for passive recreation, gardening or other uses. The AUP requires sunlight to outdoor living spaces at the equinox but not in mid-winter when residents most need sunlight for their health (eg., vitamin D) and wellbeing.

The AUP seeks to provide outdoor living areas as spaces for people to enjoy the outdoor environment within their homes. The findings and observations show that there is still a noticeable amount of development with low quality primary outdoor living spaces. This mainly relates to:

- utilities and structures locating in primary outdoor living spaces at ground floor or on balconies, significantly affecting their functionality
- where outdoor spaces are located on a street frontage there can be tension between privacy and high fencing to primary windows/sliding doors, which can compromise the quality of the public realm
- 15 per cent of balconies in the residential zone sample are too small or with proportions/shapes limiting their functionality and 30 per cent in the Business – Mixed Use sample were inadequate.

- access to primary outdoor living spaces from assortment of rooms, reducing functionality of both spaces
- 25 per cent of primary outdoor living spaces could have compromised sunlight access during mid-winter in the residential zone sample
- cumulative effects where multiple primary outdoor living spaces facing the same adjoining site can reduce that development's privacy and privacy of the adjoining site
- the effects of overshadowing in mid-winter by new developments on adjoining sites can compromise the quality and functionality of outdoor living spaces.

The AUP identifies primary outdoor living space as a key component of delivering high-quality built environments. Findings from the monitoring program reveal that the performance of developments consented under the AUP's current provisions fall short of its own aspirational goals. This suggests that planning intervention is needed.

The majority of apartment developments in the Business – Mixed Use zone provided balconies for dwellings. While this is not a standard, this indicates the strong market preference for outdoor living spaces. This supports the health and wellbeing of residents.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To improve the functionality and quality of primary outdoor living spaces, undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Co-location of outlook with outdoor living spaces where at ground level. **High priority**
- Require outdoor living spaces to be directly accessible from the principal living space at any level. **High priority**
- Limit the percentage of dwellings in a development with a south facing aspect. **Superseded by Medium Density Residential Standards**
- Do not allow fences or retaining walls within the primary outdoor living space. **Medium priority**
- Require the location of hot water cylinders, rubbish bins, rain tanks, sheds, heat pump units, etc to be shown on consent plans – including screening of some items. **Medium priority**
- Increase the size of ground level outdoor living space (eg. 24m²) to accommodate additional dwelling infrastructure such as hot water cylinders, rubbish bins, rain tanks, sheds, clotheslines, heat pump units, etc. These items should be located to ensure a specified area (e.g. 20m²) of living space without structures. **Superseded by Medium Density Residential Standards**
- Require co-location of utilities and services in communal areas in apartments to avoid impacting the functionality of communal or private outdoor living, while recognising the unique characteristics of the apartment typology. **Medium priority**

- Specify the number of hours of sunshine at the winter solstice to the outdoor living space and require shadow diagrams in plans to ensure buildings and structures do not overshadow these spaces in mid-winter. ***Superseded by Medium Density Residential Standards***

To manage the effects of primary outdoor living on adjoining properties, undertake further research and cost benefit analysis. The scope of research could consider but not be limited to the following options:

- Where outdoor living spaces with balconies are above ground level, require balconies to face over the street or into the site or to the rear of the site to avoid overlooking adjacent sites. This could apply to all zones including the BMU zone. ***Affected by recent Government legislative changes***

OR

- Where balconies face towards an adjoining site, a yard space of a specified depth (e.g. 6m) be applied between the edge of the balcony and the side boundary to manage visual and acoustic privacy between the dwelling and the adjacent site. This could apply to all zones including the BMU. ***Superseded by Medium Density Residential Standards***
- Specify the number of hours of sunshine at the winter solstice to the outdoor living spaces of adjoining sites and require shadow diagrams in plans to ensure buildings and structures do not overshadow in mid-winter. ***Superseded by Medium Density Residential Standards***

Improve the consistency of ground floor outdoor living space requirements to be the same as outdoor living spaces provided above ground floor in apartment typologies. Undertake further research and cost benefit analysis. The scope of research could consider but be not limited to the following options:

- Align ground floor outdoor living space and balcony requirements for apartment typologies (8m²). ***Affected by recent Government legislative changes***
- The Outdoor Living Space requirement could be a set amount per dwelling, with discretion for that to be provided in one area with the unit, in a separate on-site open space (possibly communal), or a mix. For instance, for apartment buildings with balconies there would be a need for communal space or facilities somewhere. That would give the standard greater technical rigor and legitimacy. ***Affected by recent Government legislative changes***

OR

- The Outdoor Living Space for ground floor units should be brought into line with above ground units, and other standards like outlook / landscaping used to create greenery around the ground level. ***Affected by recent Government legislative changes***
- Include an Outdoor Living Space standard for residential units in the Business - Mixed Use zone to support the health and wellbeing of residents. This zone provides for the most intensive housing outcomes of all the zones being monitored. ***Medium priority***

Theme 4: Providing choice through a diversity of housing

Theme 4 focuses on whether development provides choice for all Aucklanders to meet their housing needs. A range of housing sizes and typologies are critical to a well-functioning city that encourages a diverse population and urban fabric that allow communities to change in place. This theme responds to the B2.1(1) Issue seeking growth that enhances the quality of life for individuals and communities.

Relevant RPS Objective and Policies	
RPS Objective B2.3.1(1)	A quality built environment where subdivision, use and development do all of the following: (c) contribute to a diverse mix of choice and opportunity for people and communities; (e) are capable of adapting to changing needs;
RPS Policy B2.3.2 (2)	Encourage subdivision, use and development to be designed to promote the health, safety and well-being of people and communities by all of the following: (a) Providing access for people of all ages and abilities
RPS Policy B2.3.2 (3)	Enable a range of built forms to support choice and meet the needs of Auckland’s diverse population.
RPS Objective B2.4.1 (4)	An increase in housing capacity and the range of housing choice which meets the varied needs and lifestyles of Auckland’s diverse and growing population.

This theme applies one indicator:

- Indicator 7 Diverse mix of housing choice for people and a range of built form to suit changing needs

Indicator 7 Diverse mix of housing choice for people and a range of built form to suit changing needs

Measures

- Building typologies – predominant typologies for development site
- Dwelling sizes – predominant size for development
- Dwelling bedroom numbers – predominant size for development
- Percentage of dwellings in a development that have no steps or one step between dwelling front door/garage thresholds and street
- Whether there is a habitable room (that fits a bed) and toilet with hand basin at ground level or accessible level for the majority of dwellings in a development

What indicator 7 tells us

The analysis considers the types of houses that are being built in medium to large scale developments. This includes standalone houses, duplex/townhouses, terraces and apartments to meet the needs of a diverse population. Medium scale developments were defined as having 4-9 dwellings and large scale as 10 or more dwellings – some developments in the sample had over 100 dwellings.

Another aspect of the analysis was the ability of housing to meet changing needs of residents. An important consideration is whether people can access and live in their house if they experience a temporary mobility impairment through an illness or accident for example. Residential intensification is producing more dwellings that are two or more storeys high which can exacerbate this situation. Enabling people to live in their homes on the ground level (or an accessible level such as lift-accessed apartments) during a period of limited mobility rather than needing to find alternative accommodation can improve recovery and wellbeing. Each dwelling was assessed for its ability to provide a habitable room (that fits a bed) and toilet and handbasin, on the ground floor or a fully accessible level.

It is important that people can age in place or stay and recover in their homes in the event of a mobility impairment. Dwellings were assessed for the number of steps between the street and the front door or garage threshold. Enabling people to live in their homes on the ground level (or an accessible level such as lift-accessed apartments) during a period of limited mobility rather than needing to find alternative accommodation can improve recovery and wellbeing. Each dwelling was assessed for its ability to provide a habitable room (that fits a bed) and toilet and handbasin, on the ground floor.

Findings

Housing typologies

The AUP does not provide guidance on housing typologies – rather it is primarily market led. Similarly, the AUP does not have specific standards tailored for different housing typologies in the residential zones. Apartments, terraces, duplex/townhouses and standalone dwellings are developed from the same package of standards and evaluated using the same assessment criteria.

The analysis showed that there was an even split between the typologies – developments with standalone houses, duplexes/townhouses, terraces, apartments or a mix of typologies within an individual development. Each category accounted for around 20 per cent of the housing stock analysed. This shows there is a good variety of residential options to accommodate the diverse housing needs of Aucklanders.

The findings suggests that there is a trend for more apartments (as a ratio of development) in the more intense residential zones. However, terrace housing/duplexes are consistently popular across all zones which may either reflect market demands or what the building sector is able to deliver.

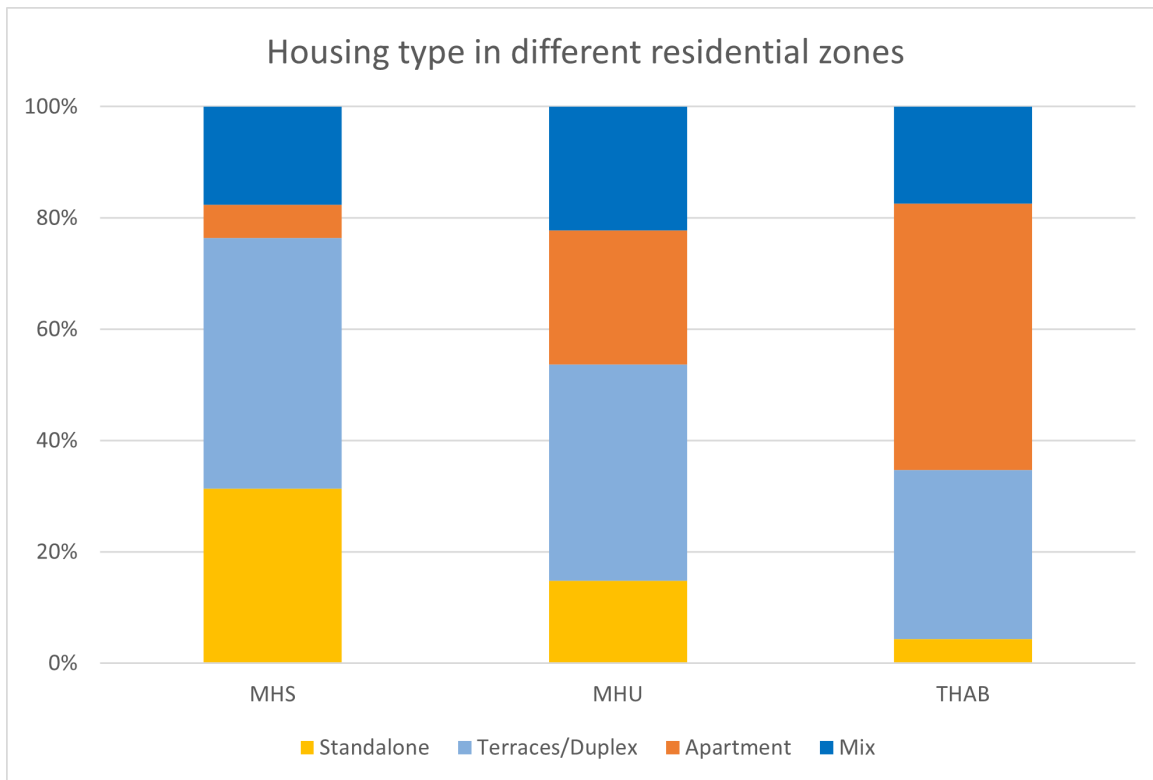


Figure 24 Housing type in residential zones Would be better to use colour in this graph it is difficult to see the different layers here.

Dwelling sizes

The AUP has standards for minimum dwelling sizes in the residential and business zones to ensure they are functional and of sufficient size to cater for, the day to day needs of residents. The size of dwellings is a major factor in providing housing choice for Aucklanders. This includes family housing as well as smaller homes. Social housing (primarily Kainga Ora developments) was also included in the analysis.

The number of bedrooms is another major contributing factor for housing choice. The analysis also looked at the predominance of one, two, three or more bedrooms in developments to see whether there was an adequate range of housing for a diversity of needs.

Dwellings of 30m² for a studio and 45m² for a one bedroom or larger dwelling were the minimum sizes for residential zones and the Business Mixed Use zone in the AUP. In the analysis, dwelling sizes were varied in some developments so the dwelling size for the majority (70 per cent or more) was recorded.

In the residential zones, the findings showed that over 90 per cent of dwellings were at least 50m². Less than 1 per cent of developments had dwellings that were 30-40m² and only 5 per cent had sizes between 41-50m².

A summary of the notable findings shows:

- 10 per cent of developments had the majority of dwellings sized between 61-70m²,
- 20 per cent of developments had the majority of dwellings sized between 71-80m²
- 10 per cent of developments had the majority of dwellings sized between 81-90m².
- 20 per cent of developments had the majority of dwellings sized between 151-200m².

Dwelling size (predominant on development) across all residential zones

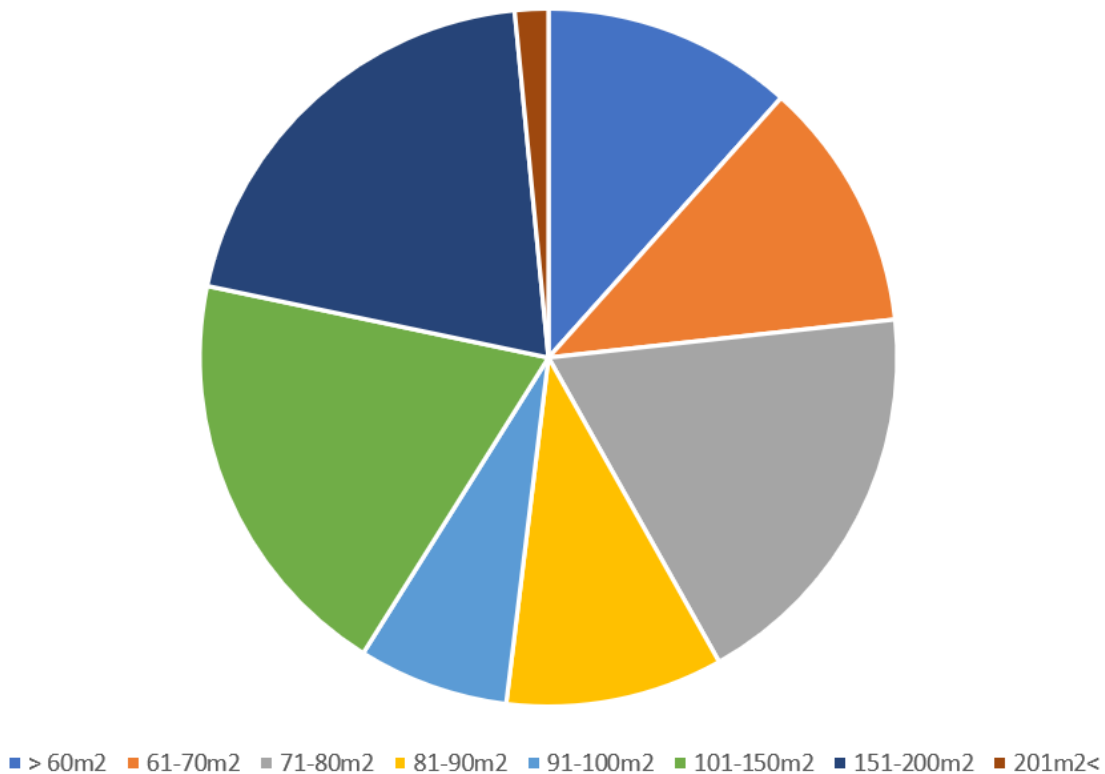


Figure 25 Dwelling size across all developments in the residential zone sample

Beyond a minimum size for studios and one-bedroom dwellings, the AUP does not specify housing size for developments. Likewise, it does not require specific housing typologies. The monitoring investigated the range of dwelling sizes to cater for the diverse needs of Aucklanders. The measures for this analysis were the size of dwellings and the number of bedrooms. Recognising that many developments had a mix of bedroom numbers, these were specifically recorded.

Only 5 per cent of developments consisted primarily of one bedroom or studio dwellings. In contrast, 25 per cent of developments had a predominance of two-bedroom dwellings and around 10 per cent of developments had a mix of one and two-bedroom dwellings. This reflects the prevalence of two-bedroom dwellings in apartments and terrace housing. The majority of apartments were sized between 61-70m² and the majority of dwellings in terraces were between 71-80m². At an Auckland-wide scale which has traditionally been dominated by three bedroom homes on single sites, this level of one and two bedroom homes improves housing choice to support the diversity of residents needs.

Around 20% of developments had a mix of 2, 3 or 4 bedroom dwellings to cater for a range of family sizes. Three-bedroom dwellings accounted for 10 per cent of housing and 4-5 bedroom dwellings accounted for 30 per cent. This reflects the prevalence of developments with larger standalone and duplex/townhouse dwellings in the sample. The findings suggests that a substantial amount of housing for families, including multi-generational families remains market attractive.

The analysis also included 28 Kainga Ora residential developments providing social housing. The majority of these were large scale developments ranging from a mix of duplexes/townhouses and

terraces to apartment buildings. They also included a range of housing sizes to cater for individuals as well as range of family sizes.

The data was recorded slightly differently for dwelling sizes in the Business – Mixed Use zone. The size of dwellings is one of only three residential-specific standards for this zone. Therefore, more detail was sought on the correlation between dwelling size and the number of bedrooms. The findings showed:

- Studios ranged between 27-38m² (two developments only)
- One bedroom dwelling sizes ranged between 38 -80m² with 70 per cent of dwellings sized between 45-60m²
- Two bedroom dwelling sizes ranged between 56-118m² with 60 per cent of dwellings sized between 50-70m² and 30 per cent between 71-90m²
- Three or more bedroom dwelling sizes ranged between 90-253m² with 45 per cent of dwellings sized between 95-120m² and 30 per cent between 121-170m².

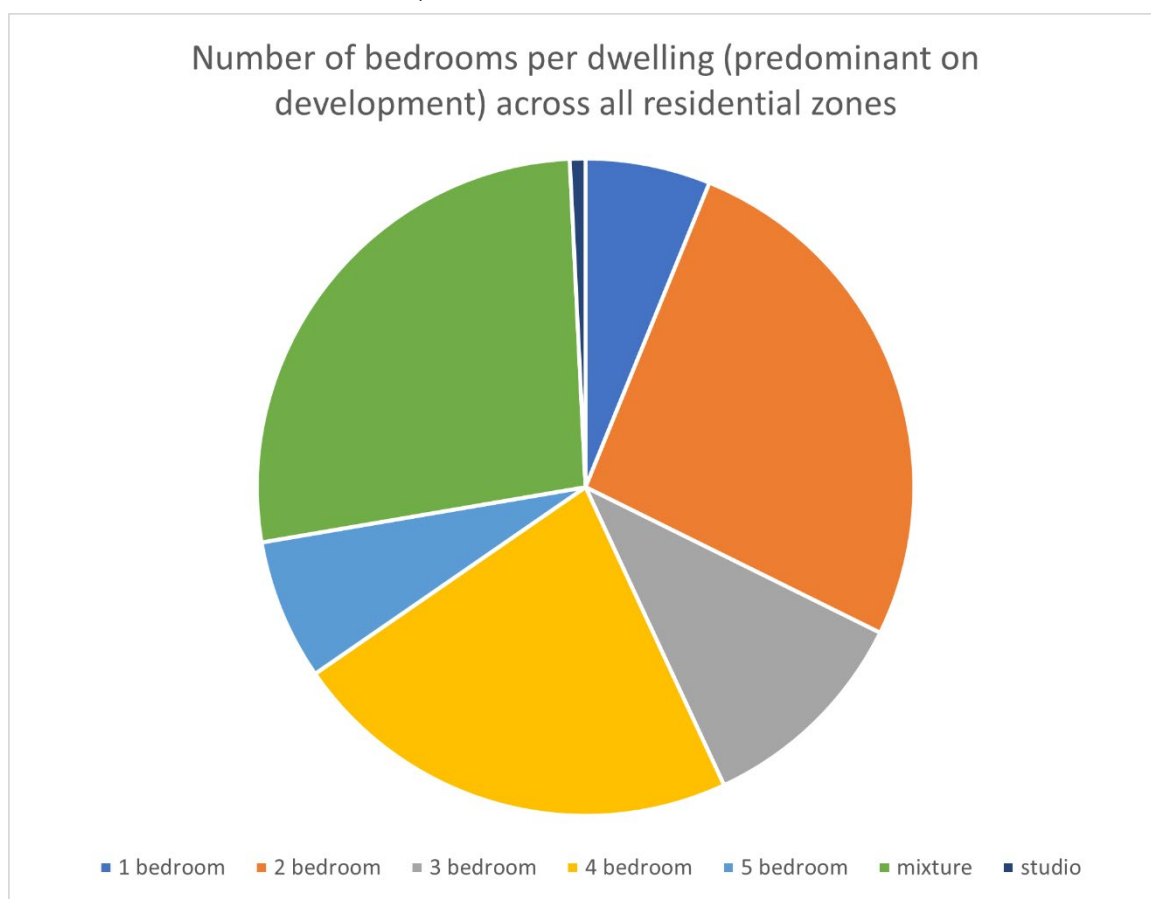


Figure 26 – Bedroom(s) per dwelling in developments in the residential zone sample

In the Business – Mixed Use zone, a potential limitation of the findings on the number of bedrooms shown on plans didn't always align with the number of rooms that could actually be used as bedrooms. This was most evident in apartment developments with some including windowless, 'bedroom-sized' rooms that were labelled as offices or media rooms. Some of these rooms also include features such as large wardrobes, which appear to enhance the likelihood that they will serve as bedrooms instead of the function they are labelled as on the plans. This posed issues for calculating dwelling sizes as an apartment might appear to be a relatively large one-bedroom

apartment, but if it included an ‘office’ that could actually function as a bedroom then it would be a relatively small two-bedroom apartment.

A possible contributing reason for the majority of dwellings being well in excess of the AUP minimum standards is that the commercial lending banks prefer to lend on dwellings that are at least 45m² in size.⁹ In 2017, BNZ stated it would not lend for apartments less than 65m². This kind of lending policy can have flow-on effects into the building design.¹⁰ In July 2021 ANZ announced a change to its lending arrangements for apartments.¹¹ Under its new rules, customers only need a 20 per cent deposit for freehold apartments that are 38m² or larger. Previously, any apartments smaller than 45m² required a 50 per cent deposit.

In July 2021 *Stuff.co.nz* also reported that ‘Between 2001 and 2021, Auckland two-bedroom apartments of 50sqm to 79sqm increased in value by 157 per cent, compared to a 527 per cent increase in two-bedroom houses.’¹² This shows the potential market influences on building size and typologies.

Beyond being a regulator of housing, the AUP has no additional influence over housing supply or affordability. The monitoring does not attempt to provide in-depth analysis of the relationship between market viability and the characteristic of housing stock being delivered via the AUP rules (e.g. what sort of housing the AUP is preventing).

Preparing for changing needs

There are no provisions in the AUP for universal access homes although this had been a requirement in the Proposed Auckland Unitary Plan. While the analysis did not record the provision of universal access homes, site observations showed that very few developers provided these – Kainga Ora being the most visible in this provision.

The AUP does not require residential developments to provide a habitable bedroom, toilet and handbasin at ground level or an accessible level in dwellings. Except for apartments, the majority of new housing is 2-3 storey so internal stairs are a fundamental aspect of their design and can limit access to living facilities if they are above ground level (or without an accessible lift in the case of apartments). The AUP does not prescribe the number of steps between the street and dwellings. This analysis will examine the potential effects on accessibility emerging from the AUP’s policy position.

Steps and stairs can be problematic for residents if they have impaired mobility for any period of time. Level access between the house and street enables residents to have easy and safe access into their homes – not only for potential health reasons but also for parents with prams and small children.

The analysis looked at the percentage of dwellings within a development that avoided steps or had one step between the street and the dwelling front door (or via the garage). This could at least enable a person with limited temporary mobility (not necessarily a wheelchair) to access their home. In some cases, a mobility impaired resident may need assistance from others for help with the threshold step, but at least it would be possible for them to return to their home.

The findings showed that:

⁹ <https://www.edgemortgages.co.nz/home-investment-loans/buying-an-apartment/>

¹⁰ <https://www.stuff.co.nz/business/92709350/banks-make-buyers-jump-through-hoops>

¹¹ <https://www.stuff.co.nz/business/money/300347395/anz-move-fantastic-news-for-firsthome-buyers-broker-says>

¹² Ibid

- 45 per cent of developments of 4 or more dwellings had designed all their dwellings either without steps or no more than one step into the home,
- 20 per cent of developments had at least half their dwellings,
- 10 per cent had a third of their dwellings with either no steps or one step between the street and front door threshold,
- 20 per cent of developments were less accessible with more than one step into all the dwellings.

Overall, this is a positive result given there is no AUP requirement to minimise steps. A possible reason for the large number of more accessible dwellings is the majority of multi-unit developments tend to be constructed with concrete slab floors which require a minimal step rise from external concrete paths and driveways that connect to the street.

Around 70 per cent of dwellings provided this level of accommodation. This is very positive given the large amount of multi-storey housing being built in Auckland. This means that most people would be able to recover in their home from a temporary illness, injury or other form of incapacity that restricts mobility. It provides the basic infrastructure for short-term needs. With this, washing and food preparation arrangements are available for healthcare providers to support people in their homes. Very few developments in the sample included one or two universally designed housing for people with disabilities.

The RPS seeks ‘development capable of adapting to changing needs to provide for people and communities’. There is scope for the AUP to actively encourage the design of housing to be more adaptable to residents’ changing needs. This includes people with temporary or permanent health impairments or disabilities, families, the young and elderly. For example, avoiding or minimising steps between the street and front door threshold, requiring a toilet, handbasin and habitable room that is accessible from the front door, including minimum widths for halls and doorways are just some ways housing can be more adaptable to residents’ changing needs. It is cost-effective to design these elements into new housing but expensive to retrofit. The evidence suggests the market is already providing some elements that support adaptable living which shows economic and market viability. Adaptable housing will help deliver on RPS B2.3 objectives that support health, safety and wellbeing of residents and liveable communities.

In the Business – Mixed Use zone, the majority of the developments were apartment buildings where every unit was accessible via lifts. Most of the terraced housing developments in this zone had step free access to the front door and the walk-up apartments had step-free access for ground level dwellings.

This enabled a high level of accessibility. The findings across all housing typologies in the Business – Mixed Use zone showed:

- 80 per cent of developments, had step-free or single-step access between the street and dwelling front door,
- 10 per cent of the developments had dwellings with more than one step between the street and dwelling front door,
- 80 per cent of developments had a habitable room and toilet.

Effectiveness and efficiency of the plan

A range of housing sizes and typologies with good accessibility are key to providing choice for Auckland's diverse population needs. The findings show that the B2.3 objectives, and B2.1(1) issue which seeks growth that enhances the quality of life for individuals and communities, is being successfully addressed through the range of housing being consented. This enables residents to stay in their neighbourhoods and access appropriate housing to cater for their personal circumstances.

The AUP is effective and efficient in delivering a diversity of housing for Aucklanders. The plan provisions enable a wide range of housing types – typology, dwelling size and number of bedrooms. In most developments, the dwelling sizes well exceed the AUP's minimum standards. External factors such as the trading banks' lending criteria appear to be influencing market desirability for two bedroom and larger dwellings.

The findings show that Auckland's housing stock is generally providing for changing needs of residents despite the lack of direction in the AUP. The majority of developments analysed could provide for temporary changes in residents' mobility needs. However, the AUP could provide more direction for the design of housing to adapt to residents changing needs to support health, safety and wellbeing objectives. Inclusion of more universally designed housing for people of all ages and abilities should also be considered. The New Zealand Building Act 2004 does not provide guidance or require this form of housing in residential developments.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To increase diverse housing choice, undertake further research to provide understanding of the relationship between market viability and AUP residential provisions. This would inform other potential plan changes to residential provisions emerging from this report's recommendations. The research scope should consider but not be limited to the following option:

- Contribute to the work programme on the implementation of the National Policy Statement on Urban Development. **High priority**

To improve the delivery of providing access for all people and dwellings capable of adapting to changing needs undertake further research and cost benefit analysis to determine the appropriateness for further planning intervention. The scope this of research could consider, but not limited to, the following

- Investigate potential AUP provisions to encourage dwellings be designed to be adaptable to changes in circumstances for residents of all ages and abilities. **Medium priority**

Continue to work with the Ministry of Business, Innovation and Employment to develop and implement the "Building access for all" work programme. **Medium priority**

Theme 5: Responding to climate change and environmental sustainability

This theme focuses on aspects of residential development that may help reduce the effects of climate change and contribute to environmental sustainability. Limiting the amount of impervious surfaces, managing stormwater better, provide quality landscaping and managing waste in residential developments can reduce the impact of residential intensification on the wider environment. Quality landscaping includes planting and trees for shade, carbon absorption and supporting biodiversity. Landscaping can also provide privacy, shelter or food sources, improve amenity, reduce urban heat and stormwater run-off. Some AUP standards such as the amount of impervious surface and landscaping influence the design of residential developments.

RPS Chapter B2.1. recognises that growth needs to be provided for in a way that maintains and enhances the quality of the environment, both natural and built (issue 6).

RPS Chapter B10.1 seeks to manage environmental risk and the effects of climate change. It recognises that the way the region manages land use in response to climate change will determine the resilience of Auckland’s economy, environment, and communities in the future.

Auckland Council declared a climate emergency in June 2019 and have been working in partnership with mana whenua, businesses, industry, NGOs, communities, and government to finalise an action plan. The city has adopted a climate plan, Te Tāruke-ā-Tāwhiri which aims to cut emissions in half by 2030.

Auckland Council’s Climate Change Action Plan promotes the following actions that are relevant to this theme.

- Action Area N3: Implement nature-based solutions in planning. Landscaping is important in achieving this – supporting the growth of vegetation in built environments.
- Action Area N2: Grow and protect our rural and urban ngahere (forest).
- Action area N5: Advocate for land use practices that deliver healthy, resilient soils.

Relevant RPS Objective and Policies	
RPS Objective B2.3.1(1)	A quality built environment where subdivision, use and development do all of the following: (f) respond and adapt to the effects of climate change
RPS Objective B2.3.1(2)	Innovative design to address environmental effects is encouraged.
RPS Policy B2.3.2 (2)	Encourage subdivision, use and development to be designed to promote the health, safety and well-being of people and communities by all of the following: (c) minimising the adverse effects of discharges of contaminants from land use activities (including transport effects) and subdivision.
RPS Policy B2.3.2 (5)	Mitigate the adverse environmental effects of subdivision, use and development through appropriate design including energy and water efficiency and waste minimisation.

This theme applies three indicators:

- Indicator 8 – Managing stormwater to mitigate adverse environmental effects
- Indicator 9 – Quality of landscaping to address the effects of increased density and climate change
- Indicator 10 – Location and appearance of on-site rubbish management

Indicator 8 – Managing stormwater to mitigate adverse environmental effects

Measures for the residential zones

- Total impervious area for developments
- Extent of maximum impervious area standard non-compliance

Measures for the residential zones and Business – Mixed Use zone

- Whether there are rainwater tanks shown on site plans

What indicator 8 tells us

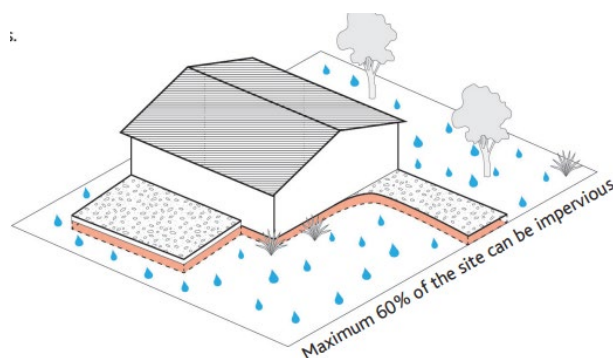
This indicator and its measures collectively provide information on how the development will minimise environmental effects caused by stormwater in the residential zones. This includes the management of stormwater runoff and supporting water quality where it enters natural environments such as coasts and streams. The Business-Mixed Use zone has an impervious surface standard that applies only to riparian yards and was not included in the monitoring. Collecting on-site rainwater is another way that stormwater run-off can be reduced and has the added benefit of providing water for gardens or other outdoor uses.

Provision of stormwater methods is linked to engineering and infrastructure standards. There are cumulative trade-offs and risks with on-site attenuation. For instance, residents need to collectively maintain their facilities. A related issue is the use of permeable pavers for access and manoeuvring spaces to help achieve compliance, but that over time these settle and may no longer achieve the permeability intended.

Findings

Impervious surfaces

In the residential zones, the AUP has a standard that specifies a maximum impervious surface area of 60 per cent for a site in MHS and MHU; and 70 per cent in the THAB zone. This includes the area of building coverage. It is calculated for the total (gross) site of the parent site. The diagram shows the impervious surface area for a site in the MHS zone.



This is a core standard for residential developments of 1-3 dwellings but not for four or more dwellings. Assessment criteria are applied to negotiate outcomes that ensure adverse effects on water quality, quantity and amenity values are avoided or mitigated. The AUP states the purpose of the standard is to manage the amount of stormwater runoff generated by a development, particularly Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment | 93

in relation to the capacity of the stormwater network and potential flood risks. This standard reinforces the building coverage and landscaped area standards. It also seeks to support the functioning of riparian yards, lakeside yards and coastal yards and water quality and ecology.

The findings showed that 65 per cent of developments complied with the maximum impervious area standard across the three residential zones. However, over a third of developments – primarily in the higher density residential zones exceeded the standard. The infringements were:

Zone	Infringement
MHS	<ul style="list-style-type: none"> 20 per cent of developments infringed the standard – most by up to 5 per cent.
MHU	<ul style="list-style-type: none"> 30 per cent of developments infringed the standard by up to 5 per cent 10 per cent infringed it by 5-10 per cent.
THAB	<ul style="list-style-type: none"> 20 per cent of developments infringed the standard.

The cumulative effects of non-compliance with the maximum impervious surface area standard over the wider Auckland region are unknown. Notwithstanding, this can create potential effects which contribute to climate change and other environmental risks, including

- Impact on flood hazards
- Loss of connection with ground water systems
- Increased runoff in both pipes and as over land flow
- Stream and coastal erosion
- Urban heat island effects
- Loss of evapotranspiration rates.

Further monitoring under the guidance of Auckland Council Healthy Waters, Infrastructure and Environmental Services would provide evidence of the cumulative effects of intensification – particularly in the MHU and THAB zones.

Rainwater tanks

Recent droughts (at time of writing) in Auckland have highlighted the opportunities from collecting rainwater on-site for exterior household uses. Along with rainwater detention tanks, rainwater tanks for external household use are also being installed to reduce non-compliance with the maximum impervious surface standard and manage stormwater. The analysis looked at site plans to see whether developments are providing these in response to the market demand for an additional water resource and/or as stormwater management measures.

To date, there is no AUP standard requiring the installation of rainwater tanks or to show water tanks on drawings. In specific cases, rainwater tanks may be required to mitigate particular site conditions to address stormwater issues. While tanks can be installed at a later date by the owner, the findings showed that nearly 45 per cent of developments had water tanks for at



Figure 27. An example of a narrow rainwater tank integrated with the building and permeable landscaping.

least some if not all their dwellings. These were less evident in apartment developments. Auckland Council is currently preparing a plan change to make installing a rain tank easier. In the Business – Mixed Use zone, only one development had rainwater tanks.

Effectiveness and efficiency of the plan

The findings showed that a third of the sample across the three residential zones infringed the maximum impervious surface area standard. Non-compliance was more significant in the MHU and THAB zones where maximum impervious surface areas are greater. Providing rainwater collection tanks is one method for reducing the impact of stormwater run-off. The cumulative effects of non-compliance and whether alternative solutions are effective are unknown. The negative effects could have implications for climate change and the natural and built environment. Without clear evidence of the cumulative effects of more intensive residential development, it is not possible to evaluate whether the plan is effective or efficient.

Nearly half of developments showed rainwater tanks for at least some dwellings to collect rainwater. Rainwater tanks are used to being installed for exterior household uses. In some cases, they were being installed as mitigation measures to offset non-compliance with the maximum impervious surface area standard. Planning practice is being effective by encouraging the use of rainwater tanks as a mitigation measure which has the additional benefit of supplementing Auckland's water supply at the local level.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To give effect to council's Emergency Climate Change response and to address the stormwater effects of intensification – particularly in medium to large scale developments – undertake further research and cost benefit analysis. This work could consider but not be limited to the following options:

- Require the maximum impervious surface area to be a core standard for four dwellings or more. **Affected by recent Government legislative changes**
- Modify the proportion of maximum impervious surface area relative to site area. **Affected by recent Government legislative changes**
- Explore other solutions to avoid non-compliance with the standard. **Affected by recent Government legislative changes**

To support the installation of on-site rainwater tanks, the Plan Change 54 Enable Rainwater Tank Installation is finalised. **High priority**

Indicator 9 – Quality of landscaping to address the effects of increased density and climate change

Measures

- Non-compliance with the landscaped area standard
- Provision of landscape plans
- Presence of at least one tree (2m+ height) proposed in the landscape plan

What indicator 9 tells us

Landscaping of sites contributes to the ecology, reduces stormwater runoff and contributes to the site and neighbourhood character and amenity. It is also important for flooding abatement, reducing contaminant load and the urban heat effect. Softer planted landscaping and trees have an impact on reducing heat absorption and refraction.

This indicator looked at whether landscape plans were included with the consent plans and whether there was non-compliance with the AUP landscape area requirements. The monitoring did not look at tree removal prior to development.

In addition to this, the landscape plans were assessed for the presence of at least one tree proposed that would grow to over 2m. Trees support birdlife, provide shade in summer to reduce heat in the urban environment, absorb carbon and help mitigate the visual effects of more intensive housing.

The site visits provided a valuable opportunity to see the quality of landscaping and whether landscape plans had been implemented to the standard envisaged.

There is no landscaping requirement in the Business – Mixed Use zone apart from a landscape buffer if parking is provided at the front of the site. No monitoring was undertaken on this topic.

Findings

Landscape area

The purpose of the landscape area standard is to provide for quality living environments consistent with the planned urban built character of buildings surrounded by open space. It also creates a landscaped urban streetscape character. The minimum landscape area in the MHS zone is 40 per cent of the net site area, the MHU zone is 35 per cent, and the THAB zone is 30 per cent of the net site. The analysis assessed non-compliance with the total landscape area for a site – not areas explicit to front yards. The purpose of the landscape area could be updated to support biodiversity and climate change objectives given increasing residential intensities. The landscape definition also needs updating.

Nearly 35 per cent of all developments across all zones in the analysis infringed the landscaping standard. Of those 35% that infringed the standard, the extent of infringements by zone showed the following:

- 55 per cent of developments infringed the 40 per cent net site landscape area standard in the MHS zone. The majority infringed the standard by between 1- 5 per cent.
- 40 per cent of developments infringed the 35 per cent net site landscape area standard in the MHU zone. The majority infringed the standard by between 1- 5 per cent.
- 45 per cent of developments infringed the 30 per cent net site landscape area standard in the THAB zone. The majority infringed the standard by between 1- 5 per cent.

The extent of non-compliance with the landscape area standard reflects a similar level of infringement for the maximum impervious surface standard. Non-compliance of between 1-5 per cent reduction in the landscaped area in the residential zones could undermine the anticipated landscape

outcomes– especially in the MHS zone where landscape is considered an attribute to the character. The amount of landscape area and the quality of landscaping is also fundamental for achieving climate change objectives in suburban and urban areas.

The cumulative effects of this degree of non-compliance is not likely to achieve the purpose of the standard. Together with the bulk and location findings (refer to Indicator 1), this suggests a trend where maximisation of a site’s development potential is reducing the AUP’s intention of having distinct planned built character for the each of the residential zones.

There is no requirement for landscape area in the Business - Mixed Use zone. This could be a consideration for residential development to support climate change objectives.

Landscape plans

While the AUP does not require them, landscape plans with resource consent applications are encouraged. Around 90 per cent of developments analysed included landscape plans. Landscape plans can be a valuable resource for compliance, monitoring and enforcement of the landscape standard.

Landscape quality

To measure the ‘quality’ of landscaping and its value to contribute to climate change objectives, each site was assessed on whether a tree with potential growth of 2m on the parent site was provided (including in outdoor living spaces).. Trees are often sized for their location so the measure enabled flexibility. This is not a requirement of the AUP. The AUP relies on Chapter J Definitions (definition for ‘Landscaped area’) to provide guidance on landscaping. The AUP currently define ‘Landscaped area’ as:

In relation to any site, means any part of that site not less than 5m² in area which is grassed and planted in trees, shrubs, or ground cover plants and may include:

1. One or more of the features in (a) (b) or (c) where the total land area occupied does not collectively cover more than 25 per cent of the landscaped area:
 - a. ornamental pools
 - b. areas paved with open jointed slabs, bricks or gobi or similar blocks where the maximum dimension of any one paver does not exceed 650mm
 - c. terraces or uncovered timber decks where no part of such terrace or deck exceeds more than 1m in height above the ground immediately below
2. non-permeable pathways not exceeding 1.5m in width
3. permeable artificial lawn in the residential zones, except:
 - a. that permeable artificial lawn must not cover more than 50 per cent of the landscaped area of the front yard
 - b. Permeable artificial lawn must:
 - be permeable
 - resembles grass in colour including a mix of natural looking green tones
 - have piles that are a minimum 30mm pile height, straight cut (not looped pile), and of a density and form that resembles grass
 - is resistant to ultra violet degradation, weathering and ageing during its normal service life
 - is recyclable.
4. Any part of a landscaped area may be situated over an underground structure with adequate soil depth and drainage.

Excludes any area which:

- falls within the definition of building coverage;

- is part of a non-permeable pathway that is greater than 1.5m in width;
- is used for the parking, manoeuvring or loading of motor vehicles.



Figure 28: Observations from site visits showed poor quality landscaping and ongoing maintenance was an issue for many developments.



Figure 29 This development has a well-designed landscape with low maintenance native planting with a variety of small plants and trees that will mature and enhance the outlook spaces and outdoor living spaces of the dwellings as well as the street frontage.

Findings showed that 75 per cent of developments with landscape plans proposed a tree with potential growth of 2m or taller. Observations from site visits revealed that many sites were poorly landscaped and lacked the level of planting shown in the landscape plans. Although developments

were only viewed from the street, not many trees capable of growth over 2m appeared to have been planted or had survived much beyond the completion date. Many developments did not have space within the site or front yard to plant a tree of this scale.

Another observation from site visits was the prevalence of grass for outdoor living spaces in terrace housing which could not be maintained without a lawnmower. On these sites, storage for gardening equipment would compromise the amount of outdoor living space. Some had used artificial turf or paved the entire outdoor living space to deal with the maintenance issue. It was not known whether this was undertaken by the residents at a later date. This suggests that the design process (and analysing any future planning solutions) must consider and address the issue of practicality and maintenance.

Effectiveness and efficiency of the plan

The monitoring showed the AUP is not sufficiently effective or efficient in achieving quality landscaping. The landscape area standard was infringed by 35 per cent of residential developments in the sample. Non-compliance of between 1-5 per cent in each of the zones is likely to undermine the spatial landscape qualities promoted for each zone – especially in the MHS zone. The amount of landscape area and the quality of landscaping is fundamental for achieving climate change objectives in suburban and urban areas. These findings suggest that the purpose statement and definition for the landscaped area standard is limited and should be expanded to include provisions to support biodiversity and climate change objectives.

Observations from site visits showed there was either a lack of implementation or poor implementation and maintenance of landscape plans. There were also issues around the types of landscaping and the lack of thought for the ongoing maintenance of sites – especially terrace housing.

Recommendations on landscape outcomes will ensure site and planned character is consistent with the zone descriptions. Increasing the private and public tree cover will mitigate the effects of building dominance, reduce heat, provide shade to public footpaths, and collectively provide ecological corridors for birdlife. It will also reduce carbon and pollution between the street and living spaces creating healthier homes.

The Business - Mixed Use zone does not have a landscape standard. This recognises the diversity of uses in the zone where it would be inappropriate to require landscaping. However, there could be an opportunity to introduce a standard for residential developments in this more intensive urban zone. A priority will be providing on-site amenity, improving air quality and biodiversity as well as supporting climate change objectives at a site and neighbourhood scale.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To address the lack of quality in landscaping and planting, undertake further research and cost benefit analysis to support council's Emergency Climate Change response. The scope of this research could consider but not be limited to the following options:

- Require landscape area to be a core standard to provide a strategic response to climate change action (as well as enhancing streetscapes and the public realm). ***Affected by recent Government legislative changes***
- Require a landscape plan and future maintenance plan for developments of four or more dwellings. This includes landscape areas with planting designed to be easily maintained by occupants to ensure sustainability. ***High priority***
- Include an ongoing maintenance arrangement on titles for subdivision through a land use consent with body corporate or residents' associations committing to the future management of common landscape areas. ***Medium priority***
- Investigate expanding the depth of front yards in the MHS, MHU and THAB zones to increase the amount of landscaped area in the front yard from in all residential zones. This is to enable space for the planting of trees and shrubs (including a specification for deep soil). ***Affected by recent Government legislative changes***
- Review the definition to achieve quality landscaped spaces. This would include measures to support biodiversity and climate change objectives. It should also provide clarity on what qualifies and what does not qualify as landscaping for inclusion in the quantum and minimum dimension of landscape space set out in the standard. ***High priority***
- Provide incentives to encourage developers to retain existing mature trees on redevelopment sites. ***Medium priority***
- Specify the dimensions of outdoor living spaces and yards to be of a size that can accommodate mature trees. ***Affected by recent Government legislative changes***
- Require at least one tree planted in deep soil on the parent site of at least 4m-6m height and allow a diameter of at least 4m to provide viable natural habitats, visual amenity and contribute to climate change objectives – improved air quality, shade to reduce heat island effects and carbon absorption. ***Affected by recent Government legislative changes***

OR

- Include requirements in the standard for inclusion of a tree of a size appropriate for the site with deep soil for each dwelling or group of trees on the parent site. ***Affected by recent Government legislative changes***
- Consider a landscape area standard in the Business - Mixed Use zone. This would be for residential development only. This would improve amenity, biodiversity and reduce heat island effects and improve air quality to support climate change objectives at a site and neighbourhood scale. ***Medium priority***

To mitigate the effects of inadequate landscaping, undertake further research and cost benefit analysis. The scope of this research could consider the following options:

- The AUP definition of landscaping needs updating to incorporate measures to support biodiversity, amenity and climate change initiatives. Other updates include reducing the amount of hard landscaping in favour of more soft landscaping and a requirement for deep soil to support plant growth. The permeable artificial lawn could be limited as a ratio of the primary Outdoor Living Space. ***Affected by recent Government legislative changes***

To ensure landscape plans are implemented, improve council planning practice – compliance monitoring and enforcement:

- Increase enforcement on the implementation of landscape plans at completion of developments. Undertake ongoing monitoring to ensure owners comply with consents. This includes retaining trees as specified on plans. *High priority*
- Landscape monitoring conditions and costs could be extended to for longer (e.g., 5 years) – especially for large scale developments. *Medium – high priority*

To increase the amount of tree cover using non-regulatory methods, council explore feasibility of the following:

- Auckland Council could supply every new dwelling with a tree capable of 2m or more mature height as part of the Mayor’s 1 million trees programme. *Medium priority*
- Auckland Council and Auckland Transport could plant more street trees and maintain grass berms in higher density residential areas. *Medium priority*

Indicator 10 – Location and appearance of on-site waste management

Measures

- Is there a designated location for rubbish bins
- Is the rubbish bin screened

What indicator 10 tells us

Waste management contributes to council’s broader objectives with regard to waste minimisation, emissions, net carbon, congestion, and other targets. These are contained in the Waste Minimisation Plan, Climate Action Plan, and C40 Cities Climate Leadership Group. Construction and demolition waste as major contributors of waste to landfill, as well as sustainable design and construction are all issues for the development sector. Only two aspects of domestic waste were addressed in the monitoring programme.

Effective waste management is also an essential part of well-functioning sites and urban environments. The monitoring focussed on the provision of waste storage and its visibility within the site to determine the quality of on-site waste management.

Managing household waste efficiently and effectively within sites, for collection and to meet waste reduction objectives is essential for multi-dwelling residential developments. The amount of waste storage – whether it’s in individual rubbish bins or a combined collection, is a significant factor in addressing council objectives with regard to amenity, waste reduction, and traffic congestion, amongst others. Poor on-site waste management can negatively affect hygiene and safety, building appearance and pedestrian movement on public footpaths on collection days.

The AUP uses assessment criteria in the residential zones that require the necessary waste collection and recycling facilities. These are to be in locations conveniently accessible and screened from streets and public open spaces.

The monitoring applied two measures to assess how well developments in the residential zone sample were managing rubbish within sites.

There is a waste bylaw that applies to 10 or more dwellings. The Auckland Design Manual provides guidance through a Design Element for Waste and a practice note. Ongoing monitoring will be necessary to determine whether recent initiatives are effective at managing waste – storage and collection.

Monitoring developments from consenting through to completion provided the opportunity to assess the amount of house removal occurring – either through demolition or transportation of dwellings to other sites. This provided some insight on potential construction and demolition waste being produced as part of the development process.

Findings

The analysis showed that 70 per cent of developments had a designated area for rubbish shown on plans. This included locations next to dwellings, designated area for groups of bins or a communal bin for the development. Of these, 65 per cent were shown to be screened from view on the plans. This demonstrates a moderate level of effectiveness of the Waste Minimisation Bylaw which applies to 10 or more dwellings and the sole assessment criteria in the residential provisions.

Site visits were an opportunity to see some well managed on-site waste collection areas. Conversely, those developments without any rubbish management were often dominated by the presence of multiple rubbish bins alongside front doors that were visible from the street. Another issue identified during site visits was the propensity to locate rubbish bins in primary outdoor living spaces where there could be hygiene and safety issues. The amount of space associated with waste storage consumed the limited space and eroded the quality and safety of outdoor living areas (refer to diagram showing area needed for total waste bin storage).

Total Waste Bin Storage Area (1.4m²)

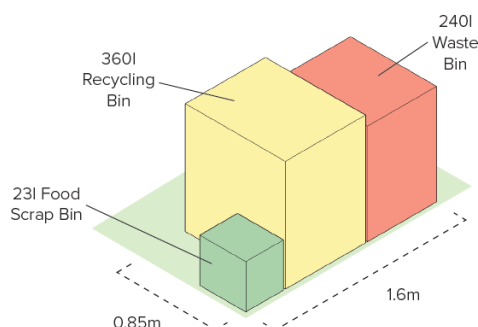


Figure 30. A lack of on-site space for storing waste bins can block pedestrian walkways and clutter property entrances, creating adverse health, safety and amenity issues. Waste management collection is becoming a significant issue for multi-dwelling developments. Kerbside collections consume footpaths, forcing pedestrians onto the road.

Although not assessed specifically, site visit observations showed kerbside space issues for multi-dwelling developments. The number of waste bins were located on footpaths and obstructed pedestrian movement. This was exacerbated for rear site developments which did not have adequate site frontage and kerb space to locate bins for collection.

In the Business – Mixed Use zone, 80 per cent of developments provided for waste and recycling collection in a manner that was well screened from the street and functional for residents.

Construction and demolition waste are also major contributors of waste to landfill. The monitoring showed that approximately 270 houses were removed from sites in the residential zone sample to accommodate new development although some of these may have been relocated to other sites. Less than five sites from the sample of 130 developments in the residential zones retained existing dwellings alongside new development. Removed dwellings would have either been demolished or transported to other sites for re-use. Further monitoring and analysis would provide a better understanding of the amount of demolition waste.

Effectiveness and efficiency of the plan

Waste management is a significant issue both in terms of on-site storage, residents' access and the method of waste collection. It is also significant in terms of service, value for money, and meeting waste reduction objectives. The AUP is not sufficiently effective in providing standards needed to address the management of on-site waste or collections. The current reliance on a sole assessment criteria applying to developments of 4 or more dwellings is not effective. Council's Waste Management and Minimisation Bylaw 2019 and the NZ Building Code G15 – Solid Waste provide some rules and a strategic framework for managing waste. However, this needs to be complemented with appropriate management for the type, scale and location of the development. It should also require on-site bin storage space as well as access and space for either private or public collections (on-site or street kerb).

Inadequate space for on-site waste storage can result in the following issues:

- more collections than may be needed (noting once a week collection can require two-three trucks - one for rubbish, one for recyclables, one for food scraps)
- more inconvenience for residents
- more cost to residents
- more impact on amenity and safety with on-site collection with rubbish trucks close to dwellings and sharing pedestrian access ways.

There are amenity, space, hygiene, safety and operational aspects of waste management that affect the quality and functionality of residential developments. Consent plans and observations from site visits showed that there is insufficient consideration for waste management in many developments. There is also a disparity between commitments to waste management in resource consents and lack of implementation of access and facilities on site. This can be compounded with the increase in scale of developments. The management of waste affects both private and public health environments.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part

of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To improve waste management to benefit functional, operational, urban design, environmental and health outcomes in residential and business zone developments undertake further research and cost benefit analysis to determine the appropriateness of the issue for inclusion for a plan change in the next 1-2 years. The scope could consider, but not limited to, the following.

- Undertake further investigations based on issues experienced by Auckland Council's Solid Waste Planning unit. *High priority*
- Develop a new standard for managing residential waste on all residential zone sites – including but not limited to bin storage location, screening, hygiene, access and collection of waste bins. The standard should also include a minimum separation distance between dwellings and communal waste storage areas for hygiene safety (including odour). There should be consideration for how rubbish would be collected within the site using private collections or on street public collections (including for rear sites), and public street kerb space for council streetside collections relative to the scale of development. Responsibility for waste management by residents through consent conditions would assist with compliance. Monitoring and enforcement provisions may also assist with compliance.
Affected by recent Government legislative changes
- Require a waste management plan for sites of four dwellings or more in residential zones and all residential developments in the Business – Mixed Use zone. This would specify but not be limited to bin storage space requirements, access, location, hygiene (eg a minimum separation distance between dwellings and communal waste storage), screening, collection of rubbish bins. Plans would also show how rubbish would be collected. This could be for private waste collections on-site or on the street or council streetside collections with consideration for public street kerb space relative to the scale of development. *High priority*
- Investigate new or improve other tools such as bylaws, greater use of council's practice guidance notes for waste management, training, compliance etc for managing waste in multi-dwelling developments. *High priority*
- Undertake further monitoring of residential construction and demolition waste which are major contributors of waste to landfill. *Medium priority*

Theme 6: Supporting safe access and travel choice

Theme 6 analyses the safety and functionality of site access and circulation for pedestrians and vehicles. It also looks at the safety issues and opportunities of new developments on public streets and places. The AUP recognises that growth needs to be provided for in a way that:

- (1) enhances the quality of life for individuals and communities; and
- (2) supports integrated planning of land use, infrastructure and development.

The relevant B2.3 Quality built environment objectives and policies for this theme seek developments that enhances the health and safety of people and communities. The policies focus on ways developments promote walking, cycling and public transport, and minimise vehicle movements. This theme assesses whether developments have achieved the balance between safe sites and streets for people and achieve the functional requirements of vehicles.

The monitoring looked at the MHS, MHU and THAB zones for Indicators 11 and 12; and partially looked at the Business – Mixed Use zone for Indicator 12. Data was collected on the type or parking because this affected vehicle circulation and was an important factor in determining the relationship between a development and the street. The number of car parks for each development was not assessed because it was not considered an indication of quality housing or urban environments.

Relevant RPS Objective and Policies	
RPS Objective B2.3.1(3)	The health and safety of people and communities are promoted.
RPS Policy B2.3.2 (2)	Encourage subdivision, use and development to be designed to promote the health, safety and well-being of people and communities by all of the following: (a) providing access for people of all ages and abilities; (b) enabling walking, cycling and public transport and minimising vehicle movements; (e) meets the functional, and operational needs of the intended use;
RPS Policy B2.3.2 (4)	Balance the main functions of streets as places for people and as routes for the movement of vehicles

There are two indicators for this theme.

- Indicator 11 pedestrian safety within the residential developments.
- Indicator 12 pedestrian safety in the movement network

Indicator 11 – Pedestrian safety within residential developments

Measures for developments in the residential zones

- Separate footpath between the street and the dwellings (including alongside driveway)
- Footpath width

- Whether footpaths are located in the reversing space of cars
- Dwelling front door opens directly onto private way or parking

Measures for developments in the residential zones and Business – Mixed Use zone

- Type of vehicle parking

What indicator 11 tells us

Indicator 11 focuses on the safety of pedestrian access between the dwelling and the street in the residential zones. Pedestrian safety is a particular concern given the high incidence of driveway accidents involving pedestrians (particularly children). The vehicle access and parking arrangements influence the site layout, access to dwellings and level of pedestrian safety.

A separate footpath between the street and the dwellings (including alongside the driveway or private way) provides greater safety for pedestrians than a driveway shared with vehicles. The quality of the footpath is important. Where footpaths were provided, these were either the same surface and level as the driveway or separated with a raised footpath and kerb or of separated by landscaping. The width of the footpath is also a factor in its safety. Footpaths less than 1m wide are generally too narrow, especially if a parent is walking with a child or if people need to pass each other.

Another measure recorded the type of car parking provided as this can influence pedestrian safety. The monitoring assessed whether footpaths were located in the reversing space of cars – particularly when manoeuvring out of parking areas. Some developments had dwelling front doors opening directly onto driveways or parking areas.

Findings

Pedestrian safety within residential developments

The AUP Chapter E27 Transport does not require a separate footpath from the driveway where it serves less than 10 parking spaces in the residential zones (E27.6.4.3.2). Along with a minimum width of 3.5m, the standard E27.6.5. specifies:

- (1) The design and location of the proposed facility shall provide connections to existing pedestrian and cycling routes and facilities.
- (2) The width of the path is designed to accommodate the anticipated number and type of users.
- (3) The surface of the path is designed to safely provide for the anticipated number and type of users.

For developments with 10 or more parking spaces, driveways are required to have two-way movements, be a minimum 5.5m width and include a 1.0m pedestrian access for rear sites which may be located within the formed driveway. In the Business – Mixed Use zone, the width is 1.5m for footpaths with 10 or more parking spaces. The definition for landscaping restricts the width of non-permeable pathways (such as concreted paths) within the site to 1.5m.

The findings showed that 35 per cent of developments in the residential zone sample did not have a separated footpath. In these developments, the footpath was an assumed shared space with the driveway and for many, provided the only access to some dwellings. The findings are tempered by two factors in the monitoring – the large number (50 per cent) of developments in the sample with less than 10 dwellings and the minimal parking provisions for these developments – commonly one

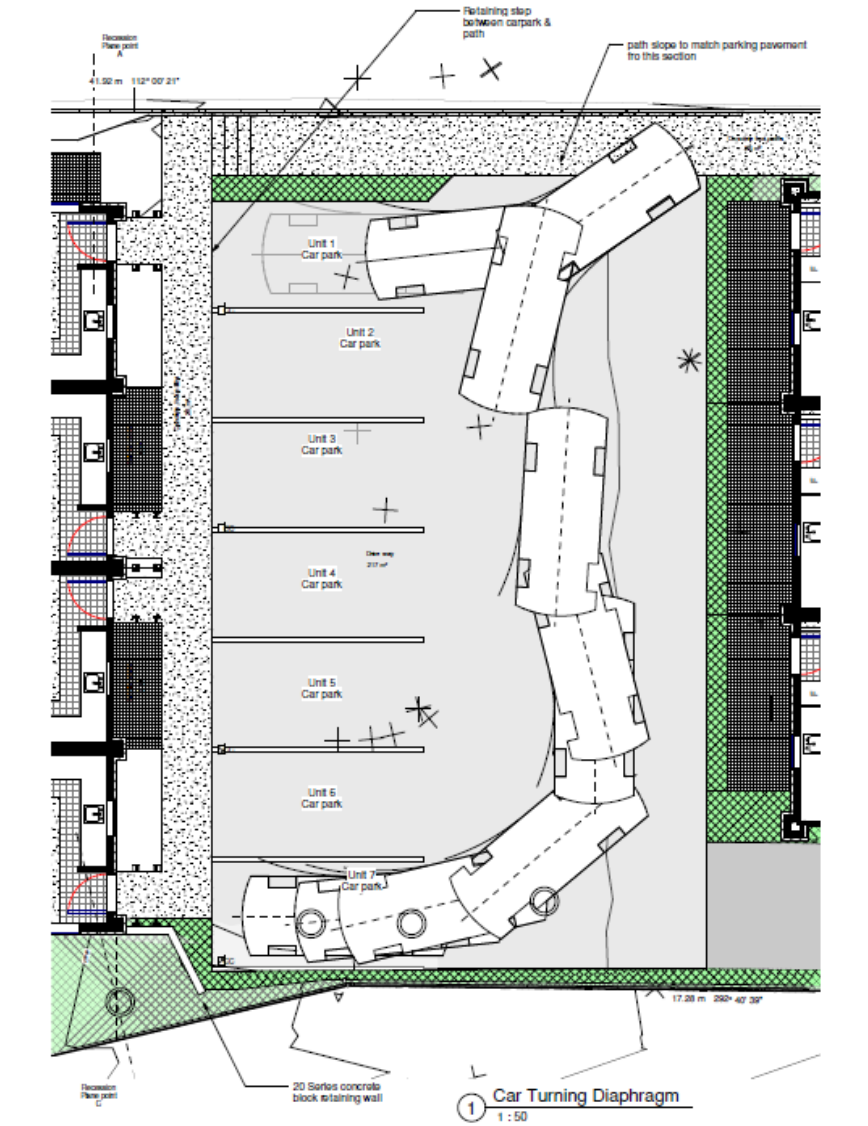
per dwelling. Many of these developments would have fallen below the 10 parking space threshold for the AUP requirement for a footpath.

The findings showed 65 per cent of developments contain footpaths separated from the driveway for access between the street and the front doors of dwellings. Of these, one quarter had a well-separated formed footpath that was raised with a kerb or a landscaped buffer from the driveway. The remainder shared the same driveway level but used a change of surface (colour or material such as paving) to denote the footpath zone. The width varied:

- 10 per cent of developments had footpaths less than 1m wide
- 45 per cent were 1m wide
- 45 per cent were over 1m wide.

The results of the investigation into footpaths located in the potential reversing space of cars was concerning. The findings showed:

- 45 per cent of footpaths were located in the reversing space of cars
- 5 per cent of footpaths were partially located in the reversing space of cars
- 50 per cent of footpaths were designed to avoid the reversing space of cars



There are no standards or guidance in the AUP to prevent this problem. The diagram illustrates how one development in the sample proposed manoeuvring space that compromises the safety of pedestrians on the footpath.

The types of parking provided for residential developments can also influence pedestrian safety. The monitoring recorded the parking typology that applied to the majority of the development. Monitoring in the MHS, MHU and THAB zones showed:

- 40 per cent of residential developments had parking integrated within individual dwellings such as an internal garage or an attached carport.
- 15 per cent had individual parking pads (usually adjoining to the dwelling)
- 30 per cent of residential developments had communal parking areas

- 10 per cent had a mix of parking types (typically some dwellings with garages and an area of communal parking for others)
- 2 per cent had underground car parks
- 4 per cent had no car parking.

Monitoring in the Business – Mixed Use zone showed

- 20 per cent had no parking
- 35 per cent had underground or enclosed basement parking
- 20 per cent ground level communal parking
- 20 per cent had a mix of parking types

The findings showed a diversity of carpark provision with developers responding to market and site conditions. The removal of internal garages from the dwelling generally resulted in designs that used the site more efficiently and internal layouts enabled ground floor living areas to be better connected to outdoor living spaces.

The increasing number of developments with communal car parks was significant. It also signals the increase in more complex pedestrian movement within the site as people access their vehicles – often carrying goods or managing children between their vehicle and their home.

Site visits provided the opportunity to assess the effectiveness of footpaths within sites in the residential zones. Those footpaths that were level with driveways, relying on a change of colour or surface quality did not provide the same level of pedestrian safety as those with a formed and raised footpath with a kerb.



Figure 31. Development with front doors opening directly onto a communal parking area and vehicle manoeuvring space. The designated footpath area (dark grey paving adjacent to the dwelling on left), directs pedestrians into the reversing space of cars enroute to the front doors of dwellings.

Dwelling front doors that open directly onto driveways or parking can also pose risks to pedestrian safety – particularly children. This measure was applied to developments where **any** of the dwellings had front doors opening onto driveways or parking areas. There are no standards or assessment criteria in the AUP to manage this. The findings showed that:

- 20 per cent of developments had one or more dwellings with front doors opening onto a driveway or carpark.
- 80 per cent of developments were designed to avoid dwellings with front doors opening onto a driveway or carpark.

The majority of developments avoided designing dwellings with front doors opening directly onto a driveway which suggests this is not onerous for developers. This probably recognises the safety concerns for residents and their visitors. There are significant safety and amenity benefits for dwellings to be designed to avoid this.

Effectiveness and efficiency of the plan

The plan is not adequately managing on-site pedestrian safety effectively or efficiently. This is with respect to pedestrian access and circulation within the site. In addition to this, a number of developments had front doors opening directly onto driveways or parking areas that could risk pedestrian safety.

The analysis showed there are safety issues for pedestrian access in developments with parking for four or more dwellings. Some forms of parking such as centralised communal parking areas are not adequately designed for pedestrian safety within the site. These often fell below the AUP threshold (based on the number of car parks) requiring a footpath.

The width and design of pedestrian accessways was variable. Nearly half of developments provided the minimum footpath width of 1m required by the plan. However, 45 per cent provided footpaths greater than 1m width which suggests that this is not necessarily onerous for the developer.

The quality and design of footpaths was also variable with most complying with the plan standard and incorporating a footpath zone within the same surface as the driveway. The form of footpath influenced pedestrian safety – particularly where they were located adjoining to vehicle manoeuvring spaces. Observations from consent plans and site visits showed these footpaths did not provide the same level of pedestrian safety as a raised footpath with a kerb (like a typical public street footpath) or a landscaped buffer from the driveway.

The findings showed 20 per cent of developments have one or more dwelling with front doors opening directly onto a driveway or parking area. This is a safety concern for residents and their visitors. Given the majority of developments avoided this, it suggests that it is not onerous for developers to achieve better safety and amenity benefits for residents.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To improve pedestrian safety on access ways into developments, continue with the proposed plan change for private way and driveway access, undertake further research and cost benefit analysis. The scope could consider but not be limited to the following:

- addressing pedestrian safety for developments of four or more dwellings with car parking (of any scale or type) ***Affected by recent Government legislative changes***
- require a safe separate raised footpath (with kerb) of a specified width with adequate space for two people to pass (e.g. 1.5-1.8m). ***Affected by recent Government legislative changes***
- avoid dwellings with front doors opening directly onto a driveway or parking areas. ***Medium priority***

To improve consistency between different sections of the AUP in the Transport Chapter specifications and landscape definition for non-permeable footpath widths, undertake further research and cost benefit analysis to determine the appropriateness for inclusion for a plan change. The scope of research could consider but not be limited to the following options:

- Additional criteria in the transport provisions to:
 - Address site access or transport limitations which can require substantially more on-site vehicle access and manoeuvring space. ***Affected by recent Government legislative changes***
 - Assess whether it is a rear site or a front site - the safety issues are different for these site conditions. Pedestrian access and amenity into multi-unit rear sites need to be reviewed to prioritise pedestrian safety. ***Affected by recent Government legislative changes***

Indicator 12 – Pedestrian safety in the movement network

Measures for the residential zones:

- Number of vehicle driveways into site
- Number of dwellings served by vehicle private ways or driveways
- Front doors or entry porches visible or access (e.g. paths) visible from the street
- Dwellings with passive surveillance from a habitable room window at any level overlooking the street

Measures for the Business – Mixed Use zone:

- Ground floor activities
- Amount of ground floor glazing estimated to evaluate the quality of the street frontage

What Indicator 12 tells us

The interface between dwellings and the street is key to achieving positive experiences in the public realm – particularly around legibility (such as finding the front door) and making streets safer. This includes providing passive surveillance with windows, balconies or outdoor living areas that overlook the street, using crime prevention through environmental design (CPTED) principles.

This indicator looks at the effects of the development on pedestrian safety in the public street environment. The number of dwellings served by a driveway and types of parking provided

information on the potential volume and type of vehicle movements on a private way (such as owner access as well as visitors, couriers etc.).

All vehicles cross the footpath at the street kerb to access driveways so understanding the potential vehicle movements can inform possible future safety measures. This would be in addition to the AUP provisions for driveway sightlines and standards for vehicle crossings over public footpaths.

The number of vehicles crossing the public footpath is a risk for pedestrian safety. The potential number of vehicle movements to and from a development can provide an insight into the amount of additional traffic generated by intensification within in our neighbourhoods. The monitoring looked at the MHS, MHU and THAB zones and used the number of vehicle crossings for each development and the number of dwellings these serve as measures to consider pedestrian safety on the street and the effects of development in the movement network.

The presence of front doors or visibility of their access via a path was a measure used to evaluate the legibility of dwellings for a visitor. This is another aspect of residential design that enhances a development's connection to the street environment and community.

Findings

Vehicle crossings over public footpaths

Chapter E27 Transport provides for one vehicle crossing per 25m of frontage or part frontage (E27.6.4.2.1). This applies whether there is a footpath or berm. The findings for residential developments in the MHS, MHU and THAB zones showed:

- 80 per cent of residential developments had one vehicle crossing
- 5 per cent had two crossings
- 5 per cent had 3-6 crossings
- 10 per cent did not have any vehicle crossings

This shows that more intensive residential developments are producing the same number of vehicle crossings as typical single dwelling development would. This is a positive outcome as public footpaths are not fragmented by multiple vehicle accessways. However, the number of vehicles served by a vehicle crossing can be significant. The findings show:

- 60 per cent of developments had a driveway serving 4-10 dwellings
- 20 per cent had a driveway serving 11-20 dwellings
- 10 per cent had a driveway serving 21-30 dwellings
- 5 per cent had driveway(s) serving 31-50 dwellings
- 5 per cent had driveway(s) serving 51-100+ dwellings

There is potential for a significant number of traffic movements on driveways over public footpaths – particularly when considering deliveries and other commercial activities in addition to residents' vehicle movements. Analysis of crash data for pedestrians, cycles and vehicles resulting from increased vehicle movements on driveways would need to be undertaken to identify the extent of safety issues.

Passive surveillance of the street

Passive surveillance by dwellings overlooking the street is an important aspect of personal safety for pedestrians. To measure this, the percentage of dwellings in a development with passive surveillance

from a habitable room window at any level overlooking the street was recorded. Those developments on rear sites without street frontages were excluded from the assessment.

- 70 per cent of developments had up to half their dwellings overlooking the street – although most commonly it applied to one third of dwellings overlooking the street. This reflects Auckland’s typical narrow sites which enable two or three dwellings to face the street.
- 15 per cent of developments had between 60-90 per cent of dwellings overlooking the street
- 15 per cent of developments had all the dwellings overlooking the street. These tended to be in large comprehensive terrace developments designed to face the street.
- The most common room in dwellings to overlook the street were living areas (65 per cent), bedrooms (20 per cent) and kitchens (15 per cent).

Visible access to front doors makes streets feel safer by giving pedestrians a sense that help is accessible if needed. It also makes it easy for visitors to access the dwelling. The number of developments with street facing dwellings with visible front doors, entry porches or pathways to the front door visible from the street were recorded. The findings for the residential zones showed that:

- 70 per cent of front doors or access to them in street facing dwellings were visible,
- 20 per cent were partially visible,
- 5 per cent were not,
- 5 per cent were rear sites so this measure could not be applied.

In the Business – Mixed Use zone, residential developments had 70 per cent of front doors visible and 30 per cent partially visible. Many of these developments were apartments so this would have been a visible single-entry door or porch.

In the Business – Mixed Use zone, the building and street interface is quite different with both commercial and residential activities possible. These activities have quite different requirements for the street interface. There are no AUP standards for street frontages in this zone. However, the AUP does restrict discretion when assessing resource consents to ‘the extent of glazing provided on walls fronting public streets and public spaces and the benefits it provides in terms of:

- i. the attractiveness and pleasantness of the public space and the amenity for people using or passing through that space
- ii. the degree of visibility that it provides between the public space and the building interior
- iii. the opportunities for passive surveillance of the street from the ground floor of buildings.’

This provides an indication of how the AUP is seeking a quality street amenity that is safe for pedestrians.

The findings show:

- For ground floor activities:
 - 40 per cent of developments had commercial uses on the ground floor
 - 60 per cent of developments had dwellings on the ground floor. In business zones where there are no front yard setbacks.
- The amount of ground floor glazing was estimated to evaluate the quality of the street frontage – including pedestrian safety on public streets:
 - 55 per cent of developments, approximately half the street-level façade consisted of glazing.
 - 30 per cent of developments had approximately three-quarters of the façade glazed,

- 20 per cent of developments, had around one quarter of the façade glazed.

The amount of glazing at ground level reflects the extent of residential activity and the challenges associated with privacy.

Effectiveness and efficiency of the plan

The interface between the street and dwellings provides both safety and amenity benefits. More intensive housing increases the number of residents, pedestrians and vehicles. Providing for the safety of pedestrians with issues such as increased vehicle activity and the desire for privacy in residential developments is a challenge.

The findings for the residential zone sample showed that for most developments, the level of intensification did not increase the number of vehicle crossings compared to the number that existed prior to development. Only 10 per cent of developments in the sample had two or more vehicle crossings. This shows the AUP transport chapter provisions which seek to minimise the number of vehicle crossings across a public footpath, are effective and efficient.

Although the number of vehicle crossings are very economical, the potential number of traffic movements (e.g. resident vehicles, deliveries and other commercial activities) using driveways pose more of a risk to pedestrians on public footpaths and pedestrians entering sites. Analysis of crash data would be necessary to identify whether there are safety issues.

As discussed above, all developments fronting streets were designed to optimise passive surveillance with windows or/and balconies overlooking the street. Most front doors for street facing dwellings were visible or partially visible from the street. This demonstrates that the AUP is effective and efficient in ensuring that dwellings in residential zones are well-designed to provide passive surveillance of the street.

In the Business – Mixed Use zone, the building and street interface is influenced by the presence of commercial and/or residential activities – particularly at the ground floor. Approximately 60 per cent of developments in the sample had residential activity on the ground floor and the remainder had commercial activity. The range of ground floor activities possible in this zone makes the visibility of front doors to apartment buildings essential for residents and visitors. The findings showed that front doors (or porches) were either fully or partially visible.

While there are no standards for street frontages in this zone, the AUP assesses the extent, attractiveness and passive surveillance from windows fronting public streets and public spaces. The amount of ground floor glazing was estimated to evaluate the quality of the street frontage – including pedestrian safety on public streets.

The findings showed that most residential developments have at least a quarter of the street-level façade as windows. Only 30 per cent had the majority of ground floor facades glazed and these were ground floor commercial activities. The amount of glazing at ground level reflects the extent of residential activity in developments and the challenges associated with privacy. The plan is less effective achieving ground level passive surveillance in residential development in this zone.

Recommendations

High priority – Investigate a plan change as a priority.

Medium priority – Further investigate at plan review stage (2026)

Low priority – Further monitoring advised.

Affected by recent Government legislative changes - Recommendations may be progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation.

To improve the ground floor interface between residential development and the street in the Business – Mixed Use zone, investigate a range of design solutions including glazing at ground floor level that achieves privacy for residents while maintaining passive surveillance of the street.

- Undertake further research to provide design guidance for inclusion in the Auckland Design Manual and the next review of the AUP. *Medium priority*

To determine whether driveways and private ways serving four or more dwellings are creating traffic levels on vehicle crossings over public footpaths pose a safety risk to pedestrians. *Affected by recent Government legislative changes*

Conclusion

The regional policy statement for B2.3 Quality built environment has a broad reach – seeking quality outcomes across all scales and types of development – site, street, block, neighbourhood and city. It sets a framework for considering the role of the built environment in supporting people’s health, safety, well-being, choices, accessibility and travel. It also recognises the need to innovate, maximise resources, have efficient infrastructure and adapt to climate change. These are particularly important considerations for residential development which is the predominant form of development in Auckland.

The findings from the monitoring have helped determine the extent that the AUP has enabled these outcomes. It has also identified trends and issues that could be addressed through the Unitary Plan. The monitoring assessed how well new residential developments respond to the site, street, neighbourhood and area to gauge whether the future built form anticipated for the various zones is being achieved. Although not central to the review, the individual performance of planning rules has been necessary in part, to understand or address monitoring outcomes, emerging issues and trends.

The wide scope and depth of the monitoring for this topic has meant it is challenging to draw a single conclusion on the performance of the AUP to achieve the B2.3 Quality Built Environment objectives and policies. The breadth of the analysis produced specific conclusions and recommendations for each indicator. These complement the overall conclusions in this section of the report. The conclusions for each indicator can be referred to for more detail – including recommendations, when reading the overall conclusion.

This overall conclusion identifies those areas where the AUP is achieving exceptionally and is most effective and efficient. It also highlights some significant issues and emerging trends. These are not necessarily all shortcomings of the AUP. Some are potentially caused by a lack of regulation or intervention by the AUP or other statutory or non-statutory methods.

Auckland Unitary Plan successes

The monitoring analysis has shown that the AUP is both effective and efficient in many aspects of development in the residential and the Business – Mixed Use zones. The main successes of the plan are:

- **Supporting growth**

The AUP and planning practices have been effective in achieving residential intensification at levels promoted through the zoning principles and zone standards to reinforce the hierarchy of centres and corridors. Analysis of the sample showed the lowest densities were in the MHS zone with a clear transition of intensity through the MHU and THAB zones to the highest density in the Business – Mixed Use zone. This also achieves the B2.4.1 (1) growth objective seeking residential intensification to support a quality compact urban form¹³.

In terms of land use efficiency, 130 developments in the residential zone sample produced 2,339 new dwellings. Seventy per cent of developments were for between 4-15 dwellings per site, 20 per cent were for 16-40 dwellings per site and 10 per cent were for developments with over 40 dwellings. Some of these had over 150 dwellings in a single development. The new developments replaced approximately 275 existing dwellings across the sample.

The majority of these dwellings in the residential zone sample have been built or in the construction phase during the monitoring period. This demonstrates the effectiveness and efficiency of the AUP standards – and specifically the unlimited density provisions enabled for 4 or more dwellings.

In the Business - Mixed Use zone the calculations are theoretical as many are yet to be constructed. There were consents for 33 developments – primarily apartments, which could produce 1,655 dwellings when built.

As a combined theoretical calculation, this shows that the 163 developments in the monitoring samples from both the residential and Business-Mixed Use zone replaced approximately 300-350 dwellings with almost 4,000 dwellings.

- **Reinforcing centres and transport corridors**

The monitoring has shown that the density of residential developments progressively increases towards centres and transport corridors. The findings from the monitoring sample showed lower density residential occurred furthest from centres and the highest densities were closest to centres and transport corridors. The lowest density zone in the assessment was the MHS zone, with findings showing a predominance of standalone houses, townhouses/duplexes and terraces. Terrace housing and small-scale apartments were more prevalent in the MHU zone. In the THAB zone, there were more large-scale terrace and apartment developments. And in the Business – Mixed Use zone (closest to centres and on transport corridors), most residential development was for apartments. In this zone, they were at greater scales than the other zones. This shows the zone descriptions for the future planned built form, policies, objectives and standards are effectively and efficiently influencing the location of residential density.

¹³ Note that this conclusion is in the context of the AUP rules in enabling development on sites. This topic does not comment on the spatial allocation of zones and the appropriateness of intensity.

- **Unlimited density provisions enable sites to maximise yield.**

The AUP's unlimited density provisions combined with the land use led subdivision consenting process have been very effective in enabling sites to maximise housing yield. The findings showed that 55 per cent of developments in the residential zone sample constructed between 4-9 dwellings per site, 15 per cent of developments constructed 10-15 dwellings per site and 25 per cent developed 16 or more dwellings per site.

In the Business – Mixed Use zone, the majority of developments were for apartments on larger sites where higher dwelling numbers per site were achieved than the residential zones. The findings showed that 40 per cent of developments had 4-20 dwellings, 20 per cent of developments: 21-40 dwellings and 30 per cent of developments: 80 dwellings or more.

This shows that intensive housing is occurring at every scale of residential development throughout Auckland.

- **Provide housing choice with a wide range of options to meet the diversity of Aucklanders changing needs**

Analysis of the sample from the MHS, MHU and THAB zones showed there was an even split across the five residential housing typologies investigated. These were standalone houses, terraces, apartments and developments which had a mix of housing typologies.

The size of dwellings (square meterage and number of bedrooms) influences the ability of Auckland's new housing to provide for single people as well as large or multi-generational families or groups. In the residential zones, the findings showed that over 90 per cent of dwellings were 50m² or more. Only 5 per cent of developments had dwellings that were smaller than 50m². In contrast, 20 per cent of developments were for larger dwellings between 151-200m² to cater for families

In the residential zones, only 5 per cent of developments consisted primarily of one bedroom or studio dwellings. although around 10 per cent of developments had a mix of one and two-bedroom dwellings. There were 25 per cent of developments with a predominance of two-bedroom dwellings. This reflects the prevalence of two-bedroom dwellings in apartments and terrace housing. Three-bedroom dwellings accounted for 10 per cent of housing and 4-5 bedroom dwellings accounted for 30 per cent.

These findings show there is a good range of housing typologies and sizes to meet the diverse needs of Aucklanders.

- **AUP provisions can achieve good quality of development – form, design and function**

The monitoring has shown that successful developments are achieved when a range of factors such as site conditions (site size and dimensions, topography), design, scale and type of residential development are appropriate for the site and surroundings. In addition to this, the residential zones include standards for outlook spaces, outdoor living areas, landscape areas and protect daylight into dwellings to support well-functioning living environments. The site visits showed that many developments have successfully applied these standards to produce well designed quality housing. These developments have demonstrated what is possible and show how effective the AUP can be.

- **Good quality street frontage appearance for most developments in the residential zones**

The AUP relies on assessment criteria to influence building appearance. In addition to this, council provides design guidance in several forms. Developments with more than 10 dwellings are assessed by specialists including urban designers. Large scale developments may be reviewed by the Auckland Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment | 117

Urban Design Panel who are a group of industry experts who provide independent advice to developers. Council's Auckland Design Manual also provides comprehensive design guidance.

The monitoring used a number of architectural design elements to objectively evaluate the appearance of developments from the street. These included modulation of building facades, variation in rooflines and the dominance of carparking. The majority of developments included variation in the façade design to create more visual interest. Most also had some form of variation in rooflines.

Site visits evaluated developments from the street against a set of site assessment criteria. The visits confirmed that the majority of residential developments are achieving average to good outcomes in their appearance when viewed from the street. The majority of developments visited in the MHS and MHU zones were producing average to good or very good outcomes.

This positive outcome indicates that the plan's residential standards can be effective and efficient if applied appropriately. The challenge will be to achieve quality outcomes for all residential developments within constraints such as site size, dimensions and topography.

- **Good quality developments are evident in all Auckland areas**

The monitoring showed good quality developments in all areas of Auckland – regardless of land values, location or socio-economic factors. This shows the AUP residential provisions can be applied effectively and efficiently to produce good quality outcomes on any site, in any area and in any property market.

Auckland Unitary Plan issues

The monitoring has identified a number of issues with the Plan or emerging trends that are not managed by the plan. Many of these were assessed further with site visits to some developments. Each indicator in the report included a series of recommendations to improve the quality of residential development – many directed at specific standards or detailed aspects of development design and functionality. The issues in this overall conclusion draw from these to provide some key directions for improving the AUP.

- **Need for a balanced planning framework that manages the effects of new development on existing and future residential development potential**

The AUP standards that manage effects on adjoining sites are height, height in relation to boundary and yards in the MHS, MHU and THAB zones. These standards differ from other AUP residential standards in that they are subject to notification tests where the standards are infringed. This provides the opportunity for an adjoining property or in some cases, the public to submit a response on a proposed development. These standards manage effects including sunlight and daylight access, privacy and dominance of new development on adjoining sites. This can affect the function of existing development or limit the future potential of the site for redevelopment at a more intensive scale.

Other standards which are not subject to notification tests for four or more dwellings, can affect privacy, sunlight, daylight, dominance or amenity on adjacent sites such as the location and form of the principal living area outlook space and outdoor living areas. These standards collectively influence the quality and functionality of existing development and the potential for future development on those sites.

The monitoring showed that with the level of intensification occurring, these standards are not always managing the effects on adjoining sites as effectively as some legacy district plans. For Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment | 118

instance, the AUP requires the amount of sunlight to adjoining sites to be assessed at the equinox (spring/autumn) rather than the winter solstice – when sun is most needed. This reduces the quality of life for residents and site functionality on adjoining sites – especially during winter when sun access is valued most for passive heating, health and wellbeing.

Another issue was the loss of privacy to adjoining sites. The findings for the residential zones showed that half of developments in the sample had between 50 to 100 per cent of their dwellings facing adjoining sites. These developments complied with the AUP standards but it can be challenging to mitigate the visual and acoustic effects of this level of intensification – especially where principal living area outlook spaces and outdoor living balconies are located at the first level or higher. This can affect the functionality, amenity and future development opportunity of adjoining sites.

- **Yield-led plan – large number of dwellings per site and very small sites post subdivision**

A major success of the AUP has been supporting the growth in housing supply. However, this has changed the focus from being a ‘outcomes-led’ plan to one that is yield focussed. This is evident by the number of dwellings on parent sites and consequentially, small site subdivisions that follow. Sites are becoming so small that functionality and amenity can be compromised (particularly around private outdoor living spaces and outlook spaces). This is more evident where there is non-compliance with outlook space or outdoor living space standards. There is also little margin to cater for any changes that a property owner may undertake in future that may increase the site’s impervious surfaces with a shed or shelter structure for instance.

Amenity, sunlight access, privacy (visual and acoustic) and other factors that contribute to quality housing and the health and safety of residents within sites as well as adjoining sites are being compromised in favour of housing yield in some developments. This is evidenced by the large number of dwellings per site and the level of non-compliance for building coverage, HIRB and other standards.

- **Tailored standards needed for terrace housing and apartment buildings**

The AUP has a generic set of residential standards in the MHS, MHU and THAB zones that are applied to standalone housing, townhouses/duplexes, terraces and apartments. These are quite disparate housing typologies - especially at larger scales. The AUP standards could be improved to support quality design outcomes with the complexity of medium to large scale terraces and apartment typologies. The scale and complexity of developments require greater management than the current standards provide. This includes the location, size, functionality and quality of outlook spaces and outdoor living areas. Waste management and safe functional pedestrian and vehicle access are important factors that need to be addressed more effectively by the AUP – particularly for medium and large-scale terrace and apartment developments. New or updated standards are also needed to effectively manage the bulk and scale of terrace and apartment development within the constraints of Auckland’s typically small, narrow and deep sites. A more tailored set of standards could achieve better outcomes for terrace and apartment developments in the MHS, MHU, THAB and Business – Mixed Use zones.

- **Issues with building scale and bulk relative to a site and limited sense of space**

It can be a challenge to achieve a quality outcome if the site conditions, scale of development and housing typology are not compatible. There are issues regarding the bulk of buildings relative to a site which in turn, constrains the sense of spaciousness. This is at both a site and neighbourhood scale. The zone descriptions anticipate greater spaciousness in the MHS zone, which is progressively reduced towards the MHU, THAB and Business Mixed Use zones. The monitoring identified a high Auckland Unitary Plan RMA Section 35 Monitoring – B2.3 A quality built environment | 119

degree of non-compliance with building coverage and the HIRB standards. There is evidence that the AUP and planning practice are challenged by development pressures for more development. This contributes to the lack of differentiation between zones.

The height, HIRB and building coverage standards manage the bulk and scale of buildings. Height was generally complied with. However, the findings showed 60 per cent of developments (across all three residential zones) in the sample, infringed the HIRB. Although not as significant, the extent of non-compliance with building coverage was 35 per cent in MHS, 20 per cent in MHU and 35 per cent in the THAB zone. Over one third of developments in the THAB zone infringed the standard and some by up to 20 per cent. Non-compliance with the standards enable larger, bulkier buildings that may cause negative effects within the site and on adjoining sites. Non-compliance with the building coverage can have consequential effects on the ability of a development to comply with AUP requirements for landscaping or impervious surfaces. Observations from site visits showed the inadequacy of space for quality landscaping.

The size and dimensions of sites (such as width) can have an effect on the form and type of housing developed on sites. This may have an effect on the orientation and length of buildings. The findings showed that rows of terraces and apartment buildings can create large-scale wall-like buildings that penetrate deep into sites. Building length is not regulated by the AUP. Excessive building length can affect the quality of development within a site, adjoining sites and influence neighbourhood character. The analysis showed that 25 per cent of developments in the residential sample have continuous building lengths greater than 40m. Limiting building length in multi-dwelling developments can improve built form quality within the site allowing more daylight and sunlight to dwellings. It can also alleviate negative effects on privacy, dominance and shading within the site and on adjoining sites. The form and scale of new development can have a negative effect on how the adjoining site can be intensified in future.

The Government's recent legislation – National Policy Statement – Urban Development and the Resource Management (Enabling Housing and Other Matters) Act. This legislation mandates Council to increase residential intensification. The Government requires council to update the AUP with more intensive residential standards. This limits the opportunity to modify the AUP residential standards in response to some findings from the monitoring.

- **Scale of earthworks producing poor outcomes – outlook, outdoor living, landscaping**

The consequences of earthworks can achieve positive and negative outcomes in the residential zones sample. The AUP land disturbance standard is enabling site development efficiencies. However, in some cases, the extent of earthworks results in high retaining walls which can affect the quality of outlook spaces and outdoor living areas.

Observations from site visits to developments in the residential zones showed some sites also had high fences atop retaining walls – particularly on side or rear boundaries. Excavation on some sites, had resulted in developments sunk well below the natural ground level to enable an additional storey on the house, but remain within the zone height limit (measured using the rolling height, not the finished ground level). This can produce 'below ground' living environments with limited daylight, sunlight, sense of space and privacy.

- **Insufficient standards to address climate change – need for quality landscaping**

The purpose of landscape area AUP standard in the residential zones is to provide for quality living environments consistent with the planned urban built character of buildings surrounded by open space. Landscaping is a valuable residential zone standard that can help address the Climate

Emergency declared by Auckland Council in 2019. However, the findings showed nearly 35 per cent of all developments across all residential zones in the analysis infringed the landscaping standard.

The extent of non-compliance with the landscape area standard reflects a similar level of infringement for the maximum impervious surface standard. Non-compliance of between 1-5 per cent reduction in the landscaped area for developments in each of the zones is likely to undermine purpose of the standard and limit effectiveness in the climate change response. The amount of landscape area and the quality of landscaping is fundamental for achieving climate change objectives in suburban and urban areas.

The cumulative effects of this extent of non-compliance is not likely to achieve the purpose of the standard at a site or neighbourhood scale. Together with the bulk and location findings (refer to Indicator 1), this suggests a trend where maximisation of a site's development potential is reducing the AUP's intention of having distinct planned built character for the each of the residential zones.

The landscape purpose and standard needs updating to incorporate climate change and biodiversity objectives. This includes appropriate soil conditions to enable planting of trees and long-term maintenance plans – particularly in medium to large-scale developments.

- **Inadequate residential waste management within the site and street environment**

Waste management is a significant issue both in terms of on-site storage, residents' access and the method of waste collection. It is also significant in terms of service, value for money, and meeting waste reduction objectives in response to environmental sustainability and climate change commitments. Without standards, the AUP is not effective at managing residential waste.

There are space, hygiene, safety, amenity and operational aspects of waste management that affect the quality and functionality of residential developments. Consent plans and observations from site visits showed that there is insufficient consideration for waste management in many developments. There is also a disparity between commitments to waste management in resource consents and lack of implementation of access and facilities on site. This can be compounded with the increase in scale of developments. The management of waste affects both private and public health environments.

- **Safety of pedestrians within sites**

The interface between the street and dwellings provides both safety and amenity benefits. More intensive housing increases the number of residents, pedestrians and vehicles. Providing for the safety of pedestrians with issues such as increased vehicle activity and the desire for privacy in residential developments is a challenge.

The plan is not adequately managing on-site pedestrian safety effectively or efficiently. This is with respect to pedestrian access and circulation within the site. The findings showed the width and design of pedestrian accessways was variable. Nearly half of developments provided the minimum footpath width of 1m required by the plan. However, 45 per cent provided footpaths greater than 1m width which suggests that greater widths are not necessarily onerous for the developer. Footpath widths of at least 1.5m are necessary to enable two people to safely pass each other.

The quality and design of footpaths was also variable with most complying with the plan standard and incorporating a footpath zone within the same surface as the driveway. The form of footpath influenced pedestrian safety – particularly where they were located adjoining vehicle manoeuvring spaces. Observations from consent plans and site visits showed these footpaths did not provide the same level of pedestrian safety as a raised footpath with a kerb (like a typical public street footpath) or a landscaped buffer from the driveway.

In addition to this, a number of developments had front doors opening directly onto driveways or parking areas that could risk pedestrian safety. The findings showed 20 per cent of developments have one or more dwelling with front doors opening directly onto a driveway or parking area. This is a safety concern for residents and their visitors. Given the majority of developments avoided this, it suggests that it is not onerous for developers to achieve better safety and amenity benefits for residents.

Future S.35 monitoring

The monitoring did not interview or survey residents to understand their preferences and the lived experiences of their homes, developments and neighbourhoods. This would provide a more robust assessment of the social, economic, health, safety and well-being aspects of housing provision. It is recommended that this be included in future S.35 monitoring for this topic.

Next steps

This S.35 monitoring report has been prepared to satisfy the requirements of the Resource Management Act. The report will be submitted to the Ministry for the Environment in 2022.

The findings from the monitoring will inform future plan changes. Some recommendations are affected by recent Government legislative changes and may be either investigated and progressed as part of Auckland Council's response to the National Policy Statement on Urban Development or precluded by the legislation. Many recommendations will contribute to the full AUP review in future. There are also opportunities to influence planning practice as well as non-statutory methods such as planning and design guidance.

The monitoring report aims to provide some explanations and context for issues raised by the local boards and the public. It includes information from some legacy district plans and the Auckland Unitary Plan Independent Hearing Panel Reports. This provides the background context from which the AUP faces the challenge of accommodating residential growth with quality development to transition Auckland towards a more compact urban form with a quality built environment.

Appendix A: Indicators and measures

Relevant RPS Objective	Theme	Indicator	Measures
B2.3.1(1)(a) B2.4.1(2)	Theme 1: The quality of site development, built form, appearance and setting	1 – Extent that developments respond to the physical characteristics of sites	<ul style="list-style-type: none"> • Number of sites requiring Chapter E Natural resources consents for land disturbance • Amount of land disturbance – by volume removed • Extent of site modification – cut, fill, retaining walls
		2 – Extent that developments respond to the intrinsic qualities of the area and setting through the form and appearance of buildings	<p>Built form</p> <ul style="list-style-type: none"> • Site size and shape (influence of frontage width) • Height and extent of Non-compliance (by zone) • Number of storeys (by zone) • Building coverage and extent of Non-compliance (by zone) • Number of Height In Relation to Boundary (HIRB) Non-compliances <p>Appearance and response to surroundings</p> <ul style="list-style-type: none"> • Variation in roof form or ridgeline • Variation in façade/s – modulation with recessions and protrusions • Continuous building length • The percentage of dwellings within a development that had the primary living outlook facing towards adjoining sites • Whether windows and balconies were located and offset to avoid direct views into adjacent dwellings and private outdoor spaces • Whether dwellings respond positively to the street – including orientation, façade treatment and minimal garage or carpark dominance
B2.3.1(1)(b) & (d) B2.4.1(1)(2)	Theme 2: Building Auckland's planned built form with	3 – Building the planned built form with intensification reinforcing the hierarchy of centres and corridors	<ul style="list-style-type: none"> • Building typologies – by zone • Number of dwellings per consent (pre-subdivision)

	more intensive housing		<ul style="list-style-type: none"> Whether development is consistent with the planned built character anticipated for its zone
		4 – Maximising land and building resources and infrastructure efficiency	<ul style="list-style-type: none"> Number of dwellings per development Gross site size post- subdivision Number of dwellings removed prior to development
B2.3.1(3)	Theme 3: Supporting the health, safety and wellbeing of residents	5 – The extent that the health and wellbeing of residents is supported by living spaces with quality outlooks, privacy and sunlight.	<p>Measures for residential zones:</p> <ul style="list-style-type: none"> Extent of compliance with the 6 x 4m principal living outlook space AUP standard. Extent of primary living space outlook Non-compliance Number of habitable rooms per dwelling complying with 1m outlook standard Number of habitable rooms without direct access to daylight or natural ventilation Location of the primary living outlook space – street, carpark/driveway/adjoining site The proportion of dwellings in a development with principal living overlook spaces towards the street Where the principal living space overlooks the street, what is the distance between primary glazing and the street boundary The percentage of dwellings with privacy measures between the living outlook space and street Percentage of dwellings with principal living outlook space overlooking a driveway or carpark area Percentage of dwellings with principal living outlook space overlapping with any outlook from other dwellings within the site Proportion of dwellings in a development with a north, east or west oriented principal living outlook space Proportion of dwellings in a development with a south oriented principal living outlook space <p>Measures for the Business – Mixed Use zone:</p> <ul style="list-style-type: none"> Extent of compliance with the principal living outlook space AUP standard.

			<ul style="list-style-type: none"> Extent of primary living space outlook Non-compliance
		6 – The extent that the health, safety and wellbeing of residents is supported by quality outdoor living spaces	<ul style="list-style-type: none"> Form of primary outdoor living space – ground level space, balcony etc The adequacy of balcony size where they are the primary outdoor spaces – relative to the number of bedrooms. Amount of infringement (m²) to the size of the primary outdoor living space Access to outdoor living space Outdoor living space orientated for sunlight Whether outdoor living spaces were overshadowed by buildings or structures such as fences at noon in mid-winter. Structures in the primary outdoor living space
B2.3.1(1)(c) & (e) B2.4.1(4)	Theme 4: Providing choice through a diversity of housing	7 – Diverse mix of housing choice for people and a range of built form to suit changing needs	<ul style="list-style-type: none"> Building typologies – predominant typologies for development site Dwelling sizes – (predominant size for development) Dwelling bedroom numbers (predominant size for development) Percentage of dwellings in a development that have no steps or one step between dwelling front door/garage thresholds and street <p>Whether there is a habitable room (that fits a bed) and toilet with hand basin at ground level or accessible level for the majority of dwellings in a development</p>
B2.3.1(1)(f) & B2.3.1(2)	Theme 5: Responding to climate change and environmental sustainability	8 – Managing stormwater to mitigate adverse environmental effects	<p>Measures for the residential zones</p> <ul style="list-style-type: none"> Total impervious area for developments Extent of maximum impervious area standard Non-compliance <p>Measures for the residential zones and Business – Mixed Use zone</p> <ul style="list-style-type: none"> Whether there are rainwater tanks shown on site plans
		9 – Quality of landscaping to address the effects increased density and climate change	<ul style="list-style-type: none"> Infringements to landscaped area standard Provision of landscape plans Presence of at least one tree (2m+ height) proposed in the landscape plan
		10 – Location and appearance of on-	<ul style="list-style-type: none"> Is there a designated location for rubbish bins?

		site rubbish management	<ul style="list-style-type: none"> Is the rubbish bin screened
B2.3.1(3)	Theme 6: Supporting safe access and travel choice	11 – Pedestrian safety within residential developments	<p>Measures for residential zones</p> <ul style="list-style-type: none"> Separate footpath between the street and the dwellings (including alongside driveway) Footpath width Whether footpaths are located in the reversing space of cars Dwelling front door opens directly onto private way or parking <p>Measures for residential zones and Business – Mixed Use zone</p> <ul style="list-style-type: none"> Type of vehicle parking
		12 – Pedestrian safety in the movement network	<p>Measures for the residential zones:</p> <ul style="list-style-type: none"> Number of vehicle driveways into site Number of dwellings served by vehicle private ways or driveways Front doors or entry porches visible or access (e.g. paths) visible from the street Dwellings with passive surveillance from a habitable room window at any level overlooking the street <p>Measures for the Business – Mixed Use zone:</p> <ul style="list-style-type: none"> Ground floor activities Amount of ground floor glazing estimated to evaluate the quality of the street frontage

Appendix B: Issues raised by councillors, local boards and the public

The following issues are drawn from a range of sources and summarised.

Need for an equitable planning system

- Planning is a legally ordered spatial arrangement that aims to treat every property owner fairly.
- Loopholes and opportunities for short cuts need to be eliminated where this creates disadvantage for neighbours and other developers.

Level of intensification

- Auckland has moved from 9-10 dwellings per hectare to 70-100 per hectare to meet demands of smaller households, less maintenance and capital costs. Three storey walk-up apartments are meeting this need. Concerns about quality e.g. ventilation and outlook.
- Developments with standalone houses are taking advantage of the land use led subdivision consenting process. This produces disproportionately large dwellings on very small sites. Small yards are contributing to the loss of garden space due to intensity of development and undermining the inherent qualities of the single house typology. This typology achieves only 25 houses per hectare so does not make intensive use of land or provide the level of intensity anticipated.
- Spatial planning is creating overly close housing with reduced privacy and meaningless separation and space.
- Standalone housing will not achieve the density needed to meet Auckland's growth objectives.
- Call a halt to over-compressed developments and achieve future housing informed by examples of high-quality high-density housing.
- Apply a density ceiling that relates to house-types for site areas to reset the parameters for intensification on small sites and enable sustainable development.
- Proximity and scale of intensive development (e.g. 5 storey apartment building) adjoining to a property with an existing single house causing significant effects
- Medium to large scale development in residential zones is occurring on sites adjoining to existing properties that were designed using lower density legacy planning provisions. These provisions did not anticipate the level of density or consider the effects of this scale of development.

Cumulative effects of higher density developments

- Concern regarding the cumulative impacts of higher density developments on adjoining sites, neighbourhoods and communities.
- A major issue is the effect of the precedents this level of intensification sets for future development when neighbouring properties claim the same rights.

Subdivision and effects of smaller site size

- The AUP allows a landuse consent and subdivision consent to be processed concurrently which enables smaller site sizes than the AUP vacant lot subdivision. The order in which these are processed produces different outcomes.
- The concurrent processing of landuse with subdivision consents enables and accepts that post-subdivision, the newly created site and dwelling will not comply with the key development standards. These are listed as building coverage, HIRB, maximum impervious area, minimum landscape area, provision of outdoor living space. In some cases non-compliance is significant.
- The site sizes are too small to achieve the outcomes sought in the zone descriptions.

Large number of dwellings per site

- The quality outcomes sought for permitted development (3 or more dwellings) specified in the zone description cannot necessarily be achieved with greater numbers of dwellings on a site. *“Up to three dwellings are permitted as of right subject to compliance with the standards. This is to ensure a quality outcome for adjoining sites and the neighbourhood, as well as residents within the development site.* There is concern that Resource consents for four or more dwellings are not achieving the quality outcomes sought in the zone description.
- The intensity of development (number of dwellings per site) can be inconsistent with what is anticipated for the zone.
- Review standards that enable multiple large standalone houses to be constructed on small sites or parent sites that when subdivided, have insufficient space for a proportional amount of outdoor living area and adequate building separation for the building size.

Building height – inconsistent with zone description

- Inconsistency between the number of storeys able to be built within the height limit and zone descriptions

Increase in building bulk

- Lack of compliance with the building coverage standard – for the parent site and post subdivision.
- Non-compliance with maximum building coverage results in developments that are too intense of the receiving environment. Further non-compliance with the HIRB results in developments of considerable scale, bulk and dominance.
- Lack of compliance results in gross overdevelopment and imposes significant effects on neighbouring properties and the broader receiving environment.

Need for quality building form and design – recognising different housing typologies

- Loss of privacy – within site and adjoining sites
- The form and design of housing fronting streets – especially for three storey dwellings is producing poor quality outcomes e.g. two 3-storey townhouses in Ruawai Rd in Mt Wellington which was the subject of a Herald article

- Need for adequate number and proportioned windows to create genuine connection to courtyards and the outside.
- Need to design fencing to achieve acoustic, visual and olfactory privacy in outdoor living areas to avoid occupational and community stress.
- Make outdoor living areas at least a size that is equivalent to an outside living room with an aspect ratio to suit social gatherings.
- Balconies should be larger sized and not cluttered with air conditioning units with exposed conduits.
- Interior planning controls that create visual distance in the long axis between front and back courtyards to compensate for the potential narrowness of some of housing so that there is a sense of size at least in one direction.
- Encourage housing typologies such as three-storey walk up apartments that are well designed and contribute to intensification objectives.
- Discourage standalone dwellings on sites too small to provide sufficient space for quality outlooks, privacy and outdoor living space.
- Multi-storey apartment buildings presenting large blank concrete walls to adjoining sites – amenity effects.

Loss of privacy on adjoining sites

- The effect of the multi-dwelling residential development on the privacy, sunlight access, dominance effects and loss of amenity on adjoining sites can be significant.
- Loss of privacy due to increasing density and dwelling sizes – outlooks from windows as well as proximity to neighbours.
- Privacy has been a defining characteristics of New Zealand housing.
- Privacy was traditionally achieved by sufficient space around standalone houses but this is now being compromised with small site sizes.

Loss of solar access on adjoining sites due to overshadowing

- Large scale developments can cause significant shading effects on adjoining sites – this can affect the health, safety, well-being and functionality of these sites for occupants of existing development. This includes the inability to dry washing outside, loss of solar heating of internal rooms

Excessive earthworks

- Excavation below ground is a method being used by developers to achieve height limits on sites that would not otherwise be achieved using the original ground level or within the HIRB standards.

Inadequate landscape area, tree cover and vegetation

- Auckland needs a natural environment with a quantum of trees, gardens and grass to sustain ecosystems and provide shade. It needs a landscape to cool the heat island and soft ground to absorb rainfall. Most of the provision comes from private property.
- Gardens are becoming too small to be useable.
- Sites are too small to enable quality outdoor living spaces – reducing quality of life for residents.
- More landscape space is required around dwellings – side, front and back yards.

Council consenting processes

- More notification required where the effects of both the construction and finished development will affect neighbours.
- Compliance with standards essential to ensure a quality outcome for adjoining sites and the neighbourhood as well as residents within the development site.
- Clear guidance to developers and applicants on the quality outcomes sought for each residential zone.
- Provide residents with comfort and protection that development will proceed in a controlled and managed way, within a framework of well-known and well-understood planning rules.

Appendix C: Quality Built Environment monitoring – site visit appraisal form

Street Frontage Assessments

Address:

Date of visit:

Building typology (describe):

Zone:

Date of Code of Compliance Certificate:

This assessment sheet includes both subjective and objective comments made during the site visit. Each development is discussed using the following parameters by a group of planners and urban designers at each site. The purpose of the site visits is to ascertain whether the anticipated outcomes from the Auckland Unitary Plan are being achieved in the actual built form.

Consider the following:

Zone character (as perceived from the street)

Does the height and bulk of buildings seem appropriate for the site and anticipated outcome for the zone when viewed from the street (consider site width, building dominance, spaces between buildings, front yard setback, proximity to adjoining buildings/sites)?

- Is the development at an appropriate intensity for the site size and conditions, location and zone OR Is it overdeveloped/underdeveloped (consider typology and number of dwellings if perceptible)?
- In light of the above, is the development consistent with the AUP zone description (spaciousness/height/density)? Consider from the following perspectives:
 - Integration with existing neighbourhood?
 - Demonstrates anticipated future form?

Site and building design

Site layout/design		Other comments
Is site contour a factor in the development?	YES / NO	
If the site has a street frontage, are there dwellings orientated towards the street?	YES / NO	
Does the design of the driveway contribute positively to the development (consider the number of driveways, location, width and material. Whether it dominates street frontage in relation to the scale of the development)	YES / NO	
Consider private ways (if applicable):	Is there...	

	1. Separate pedestrian path Y/N 2. Landscaping Y/N 3. Lighting Y/N 4. Safety features Y/N 5. Passive surveillance Y/N Is it lane-style/driveway style (choose one) Any other comments:	
Does the provision for parking/access for cars dictate the layout of the site?	YES / NO	
Is parking visible from the street?	YES / NO	
Are rubbish bins or other domestic infrastructure located in the front yards?	YES / NO	
Is outdoor living is located on the street frontage?	YES / NO	
If outdoor living is located on the street frontage, does it provide enough privacy?	YES / NO Specify how if necessary:	
In light of the above, does the development respond well to the site shape or other site constraints (including effects from internal layout)? YES / NO Provide other comments if applicable)		
Building design		
Does the size and arrangement of doors, windows and other architectural features facing the street present a positive frontage?	YES / NO	
Is the façade modulated?	YES / NO	
Are there any other architectural features?	Specify:	
What are the building materials?	Specify:	
Is there diversity in design or/and layout within the development?	YES / NO	
Are there adverse effects of Primary Outlook from living areas overlooking driveways?	YES / NO Specify if necessary:	
Is there a front door/gate and path visible from the street?	YES / NO	

If there are garage doors – do they dominate the façade?	YES / NO	
Is it evident whether the development has dominance/shading or privacy effects on adjoining sites (consider now and when those sites are developed in future)?	YES / NO	
In light of the above, is the building design appropriate for the site (including effects from internal layout)? YES / NO		
Provide other comments if applicable)		
Landscaping		
Are there any large trees on the site?	YES / NO	
Is the landscaping well maintained?	YES / NO	
Is the amount of landscaping mainly just grass?	YES / NO	

4. Additional comments on the development if visible beyond the street frontage?
(this includes location and visibility of waste bins)

Community safety

5. Does the development provide passive surveillance (presence of occupants, ears or eyes on the street day and night)?
6. Are curtains/blinds, fences, hedges or other structures obscuring the connection with the street? Yes/No

Overall assessment – based on the assessment of the development as viewed from the street, do we (collectively) consider the overall quality of the development as:

very good/ good / average/ producing unanticipated outcomes

Any other comments:

Appendix D: AUP references

Relevant AUP references

RPS B2. Tāhuhu whakaruruhau ā-taone - Urban growth and form

B2.2. Urban growth and form B2.2.1.

Objectives

(1) A quality compact urban form that enables all of the following:

- (a) a higher-quality urban environment;
- (b) greater productivity and economic growth;
- (c) better use of existing infrastructure and efficient provision of new infrastructure;
- (d) improved and more effective public transport;
- (e) greater social and cultural vitality;
- (f) better maintenance of rural character and rural productivity; and (g) reduced adverse environmental effects

2) Urban growth is primarily accommodated within the urban area 2016 (as identified in Appendix 1A).

(3) Sufficient development capacity and land supply is provided to accommodate residential, commercial, industrial growth and social facilities to support growth.

4) Urbanisation is contained within the Rural Urban Boundary, towns, and rural and coastal towns and villages.

(5) The development of land within the Rural Urban Boundary, towns, and rural and coastal towns and villages is integrated with the provision of appropriate infrastructure.

B2.3 A quality built environment

Objectives:

(1) A quality built environment where subdivision, use and development do all of the following:

- (a) respond to the intrinsic qualities and physical characteristics of the site and area, including its setting;
- (b) reinforce the hierarchy of centres and corridors;
- (c) contribute to a diverse mix of choice and opportunity for people and communities;
- (d) maximise resource and infrastructure efficiency;
- (e) are capable of adapting to changing needs; and
- (f) respond and adapt to the effects of climate change.

(2) Innovative design to address environmental effects is encouraged.

(3) The health and safety of people and communities are promoted.

Policies

(1) Manage the form and design of subdivision, use and development so that it does all of the following:

(a) supports the planned future environment, including its shape, landform, outlook, location and relationship to its surroundings, including landscape and heritage;

(b) contributes to the safety of the site, street and neighbourhood;

(c) develops street networks and block patterns that provide good access and enable a range of travel options;

(d) achieves a high level of amenity and safety for pedestrians and cyclists;

(e) meets the functional, and operational needs of the intended use; and

(f) allows for change and enables innovative design and adaptive re-use.

(2) Encourage subdivision, use and development to be designed to promote the health, safety and well-being of people and communities by all of the following:

(a) providing access for people of all ages and abilities

(b) enabling walking, cycling and public transport and minimising vehicle movements; and

(c) minimising the adverse effects of discharges of contaminants from land use activities (including transport effects) and subdivision.

(3) Enable a range of built forms to support choice and meet the needs of Auckland's diverse population.

(4) Balance the main functions of streets as places for people and as routes for the movement of vehicles.

(5) Mitigate the adverse environmental effects of subdivision, use and development through appropriate design including energy and water efficiency and waste minimisation

B2.4. Residential growth

B2.4.1. Objectives

(1) Residential intensification supports a quality compact urban form.

(2) Residential areas are attractive, healthy and safe with quality development that is in keeping with the planned built character of the area.

(3) Land within and adjacent to centres and corridors or in close proximity to public transport and social facilities (including open space) or employment opportunities is the primary focus for residential intensification.

(4) An increase in housing capacity and the range of housing choice which meets the varied needs and lifestyles of Auckland's diverse and growing population.

(5) Non-residential activities are provided in residential areas to support the needs of people and communities.

(6) Sufficient, feasible development capacity for housing is provided, in accordance with Objectives 1 to 4 above, to meet the targets in Table B2.4.1 below:

Table B2.4.1: Minimum Dwelling Targets

Table B2.4.1: Minimum Dwelling Targets

Term	Short to Medium 1 - 10 years (2016 – 2026)	Long 11 - 30 years (2027 – 2046)	Total 1 – 30 years (2016 – 2046)
Minimum Target (number of dwellings)	189,800	218,500	408,300

Source: Development Strategy, Assessing Demand, Auckland Plan 2050.

B3.3 Transport

B3.3.1. Objectives

- (1) Effective, efficient and safe transport that:
- (a) supports the movement of people, goods and services;
 - (b) integrates with and supports a quality compact urban form;
 - (c) enables growth;
 - (d) avoids, remedies or mitigates adverse effects on the quality of the environment and amenity values and the health and safety of people and communities; and
 - (e) facilitates transport choices, recognises different trip characteristics and enables accessibility and mobility for all sectors of the community.

Relevant AUP Zone descriptions and core standards

Zone descriptions

Residential – Mixed Housing Suburban Zone

The Residential – Mixed Housing Suburban Zone is the most widespread residential zone covering many established suburbs and some greenfield areas. Much of the existing development in the zone is characterised by one or two storey, mainly standalone buildings, set back from site boundaries with landscaped gardens.

The zone enables intensification, while retaining a suburban built character.

Development within the zone will generally be two storey detached and attached housing in a variety of types and sizes to provide housing choice. The height of permitted buildings is the main difference between this zone and the Residential – Mixed Housing Urban Zone which generally provides for three storey predominately attached dwellings.

Up to three dwellings are permitted as of right subject to compliance with the standards. This is to ensure a quality outcome for adjoining sites and the neighbourhood, as well as residents within the development site.

Resource consent is required for four or more dwellings and for other specified buildings in order to:

- achieve the planned suburban built character of the zone;
- achieve attractive and safe streets and public open spaces;
- manage the effects of development on neighbouring sites, including visual amenity, privacy and access to daylight and sunlight; and
- achieve high quality on-site living environments.

The resource consent requirements enable the design and layout of the development to be assessed; recognising that the need to achieve a quality design is increasingly important as the scale of development increases.

Residential – Mixed Housing Urban Zone

The Residential – Mixed Housing Urban Zone is a reasonably high-intensity zone enabling a greater intensity of development than previously provided for.

Over time, the appearance of neighbourhoods within this zone will change, with development typically up to three storeys in a variety of sizes and forms, including detached dwellings, terrace housing and low-rise apartments. This supports increasing the capacity and choice of housing within neighbourhoods as well as promoting walkable neighbourhoods, fostering a sense of community and increasing the vitality of centres.

Up to three dwellings are permitted as of right subject to compliance with the standards. This is to ensure a quality outcome for adjoining site and the neighbourhood, as well as residents within the development site.

Resource consent is required for four or more dwellings and for other specified buildings in order to:

- achieve the planned urban built character of the zone;
- achieve attractive and safe streets and public open spaces;
- manage the effects of development on adjoining neighbouring sites, including visual amenity, privacy and access to daylight and sunlight; and
- achieve high quality on-site living environments.

The resource consent requirements enable the design and layout of the development to be assessed; recognising that the need to achieve quality design is important as the scale of development increases.

Residential – Terrace Housing and Apartments Zone

The Residential – Terrace Housing and Apartment Buildings Zone is a high-intensity zone enabling a greater intensity of development than previously provided for. This zone provides for urban residential living in the form of terrace housing and apartments. The zone is predominantly located around metropolitan, town and local centres and the public transport network to support the highest levels of intensification.

The purpose of the zone is to make efficient use of land and infrastructure, increase the capacity of housing and ensure that residents have convenient access to services, employment, education facilities, retail and entertainment opportunities, public open space and public transport. This will promote walkable neighbourhoods and increase the vitality of centres.

The zone provides for the greatest density, height and scale of development of all the residential zones. Buildings are enabled up to five, six or seven storeys in identified Height Variation Control areas, depending on the scale of the adjoining centre, to achieve a transition in height from the centre to lower scale residential zones. This form of development will, over time, result in a change from a suburban to urban built character with a high degree of visual change.

Standards are applied to all buildings and resource consent is required for all dwellings and for other specified buildings and activities in order to:

- achieve the planned urban built character of the zone;
- achieve attractive and safe streets and public open spaces;
- manage the effects of development on adjoining sites, including visual amenity, privacy and access to daylight and sunlight; and
- achieve high quality on-site living environments.

The resource consent requirements enable the design and layout of the development to be assessed; recognising that the need to achieve a quality design is increasingly important as the scale of development increases.

This zone also provides for a range of non-residential activities so that residents have convenient access to these activities and services while maintaining the urban residential character of these areas

Business – Mixed Use Zone

The Business – Mixed Use Zone is typically located around centres and along corridors served by public transport. It acts as a transition area, in terms of scale and activity, between residential areas and the Business – City Centre Zone, Business – Metropolitan Centre Zone and Business – Town Centre Zone. It also applies to areas where there is a need for a compatible mix of residential and employment activities.

The zone provides for residential activity as well as predominantly smaller scale commercial activity that does not cumulatively affect the function, role and amenity of centres. The zone does not specifically require a mix of uses on individual sites or within areas.

There is a range of possible building heights depending on the context. Provisions typically enable heights up to four storeys. Greater height may be enabled in areas close to the city centre, metropolitan centres and larger town centres.

Some street frontages within the zone are subject to a General Commercial Frontage Control.

New development within the zone requires resource consent in order to ensure that it is designed to a high standard which enhances the quality of streets within the area and public open spaces.

Business - Mixed Use zone

H13.1. Zone description The Business – Mixed Use Zone is typically located around centres and along corridors served by public transport. It acts as a transition area, in terms of scale and activity, between residential areas and the Business – City Centre Zone, Business – Metropolitan Centre Zone and Business – Town Centre Zone. It also applies to areas where there is a need for a compatible mix of residential and employment activities. The zone provides for residential activity as well as predominantly smaller scale commercial activity that does not cumulatively affect the function, role and amenity of centres. The zone does not specifically require a mix of uses on individual sites or within areas. There is a range of possible building heights depending on the context. Provisions typically enable heights up to four storeys. Greater height may be enabled in areas close to the city centre, metropolitan centres and larger town centres. Some street frontages within the zone are subject to a General Commercial Frontage Control. New development within the zone requires resource consent in order to ensure that it is designed to a high standard which enhances the quality of streets within the area and public open spaces.

Core standards for residential zones

These are resource consent standards that developments are expected to comply with.

MHS

Residential development – 4 dwellings or more

Standard H4.6.4 Building height; Standard H4.6.5 Height in relation to boundary; Standard H4.6.6 Alternative height in relation to boundary; Standard H4.6.7 Yards

MHU

Residential development – 4 dwellings or more

Standard H5.6.4 Building height; Standard H5.6.5 Height in relation to boundary; Standard H5.6.6 Alternative height in relation to boundary; Standard H5.6.7 Height in relation to boundary adjoining lower intensity zones; Standard H5.6.8 Yards

THAB

Dwellings

Standard H6.6.5 Building height; Standard H6.6.6 Height in relation to boundary; Standard H6.6.7 Alternative height in relation to boundary; Standard H6.6.8 Height in relation to boundary adjoining lower density zones; Standard H6.6.9 Yards

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