

Auckland Council Technical Report

Housing Capacity Modelling Report: Housing Intensification and Resilience (Plan Change 120)

Subject to Partial Withdrawal and Including Proposed Amendments Notified in August 2026

November 2026

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Auckland Council Technical Report. Housing Capacity Modelling Report: Housing Intensification and Resilience (Plan Change 120)

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Executive Summary

This housing capacity assessment was undertaken for the purpose of assessing whether the Auckland Unitary Plan including Plan Change 120, following partial withdrawal and as proposed to be amended,[1] meets the housing capacity requirement in clause 4(1)(a) of Schedule 3C of the Resource Management Act 1991.[2] That is, a minimum housing capacity of 32.5% less than the housing capacity that would have been enabled if Plan Change 78 (as notified) were made operative. The minimum is equivalent to approximately **1.4 million dwellings** of housing capacity.

This report presents the findings of the housing capacity assessment, and key technical details about methodology and approach to this model run.

The results of this housing assessment find that the Auckland Unitary Plan including Plan Change 120 (herein referred to as **'PC120 as amended' or simply 'PC120A' for short**) provides for a total plan-enabled housing capacity of **1,701,286 dwellings**. This is approximately 300,000 dwellings in surplus of the requirement set out in the Resource Management Act 1991 (RMA).[3]

Sites are modelled against the base zoning provisions (without consideration of Precinct provisions[4]) and a subset of key height and bulk affecting Controls and Overlays.

The housing capacity modelling results presented in this report exclude capacity enabled within the City Centre Zone under Plan Change 78: Intensification (PC78). Clause 5(9) of Schedule 3C of the Resource Management Act 1991 prohibits the council from including housing capacity enabled in the City Centre Zone as at 6 June 2025 when calculating housing capacity under the Auckland Unitary Plan including Plan Change 120.

Consequently, City Centre housing capacity falls outside the scope of the statutory test required for this assessment, and has not been included in the modelling results reported here. Any assessment of additional capacity within the operative City Centre Zone relative to the notified City Centre Zone provisions will be undertaken separately when resources are available. This assessment does, however, incorporate the operative PC78 Metropolitan Centre Zone provisions, as publicly notified in March 2026.

This report and the Capacity for Growth Study model have assessed plan-enabled housing capacity only. Any broader aspects of development capacity, such as commercial feasibility, infrastructure readiness, and likely uptake, would be addressed as part of Auckland Council's next Housing and Business Development Capacity Assessment (HBA).

Direct comparisons of outputs of this model run against previous model runs should be undertaken with care, especially on a site-by-site level. Changes to the cadastral pattern and development on sites since

[1] As publicly notified 27th August 2026.
[2] Following amendment of Schedule 3C of the RMA in April 2026.
[3] Derived from the 'baseline' assessment undertaken by Auckland Council (2025) – derived from 'baseline PC78' plan-enabled capacity of 2,073,946 dwellings, minus 32.5%. See section 1.1 on statutory context.
[4] A qualitative assessment of the impact of Precincts relative to base zoning is being undertaken by others and will be made available in due course.

the last assessment and report for Plan Change 120 as notified means differences between the model runs may be the result of factors other than changes in zoning or planning provisions.[5] For strategic or policy analysis, results are best interpreted at higher geographic scales. Aggregated outputs provide a more appropriate basis for understanding relative distributional patterns than site-level results. This is especially important given that not all plan provisions are able to or have been modelled, and given that each model run is responding to a static snapshot of Auckland's form at a particular point in time.

	Modelled housing capacity (dwellings)			
	Auckland Unitary Plan, including PC120 following partial withdrawal and as proposed to be amended (August 2026)	**Plan Change 120 as notified** (November 2025)	**Numerical difference**	**Percentage difference**
Gross housing capacity – Residential zones	1,547,182	1,897,556	-350,374	-18.46%
Existing rateable dwellings – Residential zones	509,531	502,444	7,087	1.41%
Net housing capacity – Residential zones	1,149,073	1,487,830	-338,757	-22.77%
Housing capacity from Business zones	552,213	581,878	-29,665	-5.10%
Total housing capacity	**1,701,286**	**2,069,708**	**-368,422**	**-17.80%**

Summary of housing capacity modelling results

[5] See section 4.8 for technical guidance on interpreting results.

Glossary

Abbreviation	Description
AUP(OIP)	Auckland Unitary Plan (Operative in Part)
CfGS	Capacity for Growth Study
Ha	Hectare
HBA	Housing and Business Development Capacity Assessment
HIRB	Height in Relation to Boundary
NPS-UD	National Policy Statement on Urban Development 2020 (updated May 2022)
PC78	Plan Change 78: Intensification to Auckland Unitary Plan Operative in Part
PC120	Plan Change 120: Housing Intensification and Resilience to Auckland Unitary Plan Operative in Part, as notified in November 2025
PC120A	Auckland Unitary Plan, including Plan Change 120 (subject to partial withdrawal, and as proposed to be amended), as notified in August 2026
PEC	Plan-Enabled Capacity
RDA	Restricted Discretionary Activity
RMA	Resource Management Act 1991
SA2	Statistical Area 2 (StatsNZ geography)
WC	Walkable Catchment

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1. Introduction

This housing capacity assessment was undertaken for the purpose of assessing whether the Auckland Unitary Plan including Plan Change 120, following partial withdrawal and as proposed to be amended[6] meets the housing capacity requirement in clause 4(1)(a) of Schedule 3C of the Resource Management Act 1991.[7]

The assessment was completed using a Capacity for Growth Study (CfGS) model run undertaken in October 2026 and applies the same capacity modelling methodology used to establish the statutory housing capacity minimum requirement.

This report presents the results of that assessment and the key assumptions, methods, and limitations that underpin the modelling. The version of the Auckland Unitary Plan assessed in this report, being the Auckland Unitary Plan incorporating Plan Change 120 following partial withdrawal and the proposed amendments publicly notified on 27 August 2026, is referred to throughout as **'PC120 as amended'** or **'PC120A'** for short.

This report is best read in conjunction with Auckland Council's 2025 Housing Capacity Modelling Report, as it is part of the ongoing Plan Change 120 (PC120) process.

1.1. Statutory context

In April 2026, the Government amended the RMA to reduce the minimum housing capacity required under the Auckland Unitary Plan to approximately 1.4 million dwellings. The amendments to the RMA provided the Council with the ability to partially withdraw PC120, and to propose amendments to PC120. The amendments to the RMA required the Council to provide public notice of its decision and to provide an opportunity for submissions to be made on PC120, including on the proposed amendments. The Council's decision was publicly notified on 27 August 2026.

The changes enabled the council to propose amendments to PC120 through a bespoke process. The amendments to the RMA provided the council with the ability to partially withdraw PC120, and to propose amendments to PC120. The amendments to the RMA required the council to provide public notice of its decision and to provide an opportunity for submissions to be made on PC120, including on the proposed amendments. The council's decision was publicly notified on 27 August 2026.

The amended housing capacity minimum requirement is provided for in clause 4(1)(a) of Schedule 3C of the RMA:

> "(1) Auckland Council must amend the Auckland Unitary Plan to —
>
> (a) provide a minimum housing capacity of 32.5% less than the housing capacity that would have been enabled if Plan Change 78 (as notified) were made operative"

[6] As publicly notified 27th August 2026.
[7] Following amendment of Schedule 3C of the RMA in April 2026.

The 1.4 million housing capacity requirement is derived from council's previous plan-enabled capacity assessment for Plan Change 78 minus 32.5%, i.e., 2,073,946 minus 32.5%, or approximately 1.4 million dwellings (2 s.f.).[8]

The amendment to clause 5 of the RMA in April 2026 also requires Auckland Council to use the same methodology for capacity modelling as was used for calculating that housing capacity under Plan Change 78:

> "For the purpose of calculating the housing capacity that Plan Change 120 enables and the housing capacity that clause 4 requires, Auckland Council must use the same capacity modelling methodology it applied when calculating the housing capacity that Plan Change 78 (as notified) would have enabled if it were made operative."[9]

The following is an extract from the PC120 Explanatory Note on PC120 and Proposed Amendments, as published 27th August 2026.

> **"The Council's decision to propose amendments to, and partially withdraw, PC120 involves some changes to how and where intensification is proposed to be enabled, including:**
>
> - Reducing enabled building heights in walkable catchments that are generally beyond 10 kilometres from the city centre.
> - Withdrawing proposed Terrace Housing and Apartment Buildings Zone from frequent transit corridors generally beyond 10 kilometres from the city centre.
> - Withdrawing additional Terrace Housing and Apartment Buildings Zone proposed through PC120 from around local centres.
> - Retaining existing Auckland Unitary Plan zoning across many suburban areas. Changes to zone rules are still proposed to many sites that are 'whited out' in the PC120 amendment viewer, and some residential zoning changes are still proposed (those not 'whited out')."

In areas where partial withdrawal of PC120 has occurred, the proposed amendments map viewer publicly notified showed a 'whiteout'. This indicates that the council no longer proposes to rezone these properties (i.e., no proposed spatial mapping changes). However, sites within the whiteout area may still be subject to proposed changes to zoning from what was notified in November 2025 (via reversion to operative Auckland Unitary Plan zoning), natural hazards provisions, or other Auckland-wide proposed changes.

Sites in the whiteout area retain their zoning spatial distribution under the Auckland Unitary Plan, including their operative overlays and precincts, where relevant.[10] Within this report, the terms 'withdrawal area' and 'whiteout area' are used interchangeably. How this has been considered within the capacity modelling process is detailed in section 4.1.

[8] 2 significant figures (s.f.). The calculated value is approximately 1.4 million dwellings when rounded to two significant figures.
[9] Clause 5(8) of Schedule 3C of the RMA.
[10] Information Sheet #26: What is Partial Withdrawal? August 2026.

The City Centre provisions under Plan Change 78 (PC78) were made operative on 6 June 2025, and the Metropolitan Centre Zone provisions of this same plan change were made operative on 8 May 2026. The remainder of PC78 was withdrawn on 9 October 2025, including withdrawal of the Medium Density Residential Standards. PC120 was publicly notified on 3 November 2025. After Government changes to the RMA in April 2026, council publicly notified partial withdrawal of and proposed amendments to PC120 on 27 August 2026.

1.2 Context of this model in relation to other types of capacity assessments

Figure 1 below shows the various types of capacity modelling and assessments that are undertaken as part of the HBA process, and illustrates the type of capacity assessment on which this report is focused.

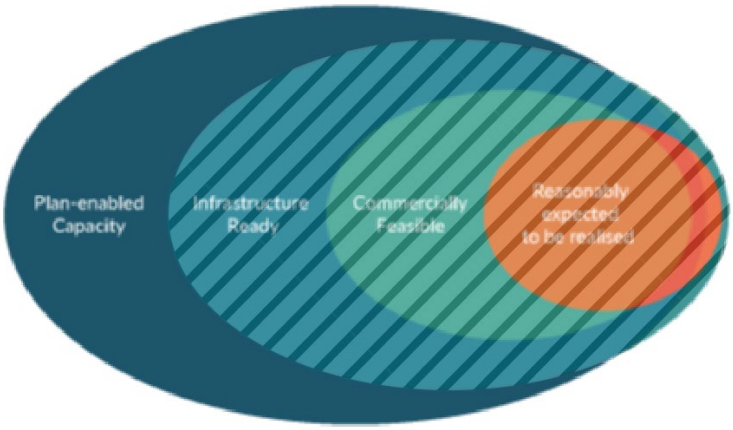


Figure 1: Plan-enabled capacity assessment, the diagonal lines represent the capacity tests that are out of scope for this assessment (illustration adapted Auckland Council, 2025)

The type of capacity assessment used to assess 'housing capacity' as defined in Schedule 3C of the RMA is the plan-enabled capacity assessment. As per clause 1(1) of Schedule 3C, 'housing capacity':

> "in relation to the Auckland Unitary Plan or Christchurch district plan, means the housing that the plan enables as a permitted activity, controlled activity, or restricted discretionary activity"

In order to inform the capacity requirements of the PC78 withdrawal process, replacement with PC120, and PC120 proposed amendments, this 'housing capacity' has been determined using the same plan-enabled capacity assessment methodology: the Capacity for Growth Study.

Housing capacity was modelled using this same methodology, to compare any replacement plan or proposed amendments against the statutory requirements for minimum housing capacity which are set out in Schedule 3C of the RMA. This is as required by clause 5(8) of Schedule 3C of the RMA.

The minimum housing capacity figure is itself set by our prior determination of the housing capacity under Plan Change 78 as notified would have provided, if it were made operative, less 32.5%. This equates to approximately 1.4 million dwellings.

Due to time constraints and the specific requirements of the legislation, as yet only the plan-enabled capacity assessment from the full suite of capacity assessments is able to be carried out (as illustrated

in Figure 1 above), noting the complexity of and resource requirements for further types of capacity assessment, and the pace at which changes to requirements have occurred.

2. Housing capacity assessment results

2.1 Introduction to plan-enabled capacity results

This section presents the housing capacity enabled by the Auckland Unitary Plan as amended by Plan Change 120, assessed in accordance with the statutory requirements of Schedule 3C of the Resource Management Act 1991.

The results quantify the housing capacity enabled by the planning framework and are intended to assess whether the Auckland Unitary Plan, as amended by PC120, enables the minimum level of housing capacity required by legislation. The assessment measures plan-enabled capacity, being the theoretical capacity that could be accommodated under the relevant planning provisions, if all opportunities were taken up to their plan-enabled extent.

Results are presented at a range of spatial scales and geographic aggregations, including regional, Local Board area, and by zoning. The outputs are most appropriately interpreted at these broader scales, and should not be relied upon for site-specific development assessments. As with any model, the results are subject to the assumptions and limitations described in section 4. Unless otherwise stated, all results presented in this section are based on the key modelling assumptions set out in section 4, including the exclusion of the City Centre Zone, the use of operative Plan Change 78 provisions within Metropolitan Centre Zones, and the application of standardised assumptions for residential development potential.

The analysis is a regional model and very *precise* in terms of the parameters used but is potentially *inaccurate* in terms of finer details and nuance below the base zone level and for considering the impacts of provisions that are not modelled explicitly. **We recommend aggregation** for strategic analysis and spatial consideration rather than use at a site level, especially for end purposes where site-specific modelling/analysis considering context, details, and non-base zone or unmodelled provisions is important.

Plan-enabled capacity is calculated at the site level and is able to be reported against almost any larger spatial definition, categorisation, or combination (e.g., capacity on sites in a particular Walkable Catchment, larger than a certain size, within a certain distance of a specific bus stop).

Given that over 400,000 CfGS sites have been assessed, for the purposes of this report, we have presented the key high-level results. Raw outputs that informed these results are provided to accompany this report, and can be found at www.knowledgeauckland.org.nz.

All figures are subject to the assumptions and limitations listed in more detail above (and also in section 4), which include but are not limited to:

- Base zoning, with height-affecting Overlays considered (no Precinct provisions, no other Overlays unless noted),
- 50% residential floorspace apportionment in Business zones where both residential and business activities are provided for,

- 120m² dwelling size assumption for converting plan-enabled floorspace to dwellings in Residential and Business zones,
- City Centre Zone is excluded, and
- Metropolitan Centre Zones and rear site access widths have been modelled using the now-operative provisions.

The following sections describe the results of total plan-enabled housing capacity, its distribution across Auckland, and the contribution of different zones and location to the overall capacity result.

2.2 Total plan-enabled housing capacity

The housing capacity assessment estimates the additional dwelling capacity enabled by the PC120 as amended provisions across Residential and eligible Business zones. Capacity is expressed as **a net dwelling yield**, representing the *additional dwellings* that could be accommodated beyond the existing level of development.

To derive a 'net' dwelling yield, the existing dwellings on any given site have been subtracted from the 'gross' dwellings yield on a site-to-site basis. Where the calculated capacity on a site is less than the existing number of dwellings on that site, the 'net' dwelling yield is set to zero – indicating that there will not be any de-growth, but instead that there is no additional capacity for further growth beyond the existing level of development on that site.

A similar approach has been applied to determine the dwelling yield from respective Business zones where business and residential activity is provided for. The 'net' business floorspace capacity in metres squared (m²) resultant on each site was split on a 50/50 basis, to allocate 50% of the 'net' business floorspaces as dwellings (considering 120m² floorspace as the average dwelling size, as detailed in section 4.5).

Table 1 below sets out a summary of the total net yield calculated in both Residential and Business[11] zones. The results of the modelling show that the net yield for Residential zones under 'PC120 as amended' provisions is 1,149,073 dwellings (equivalent to 67.54% of the regional housing capacity under 'PC120 as amended').

Furthermore, the yield generated from business floorspace (after applying a 50/50 split) within eligible Business zones provides an additional 552,213 dwellings (32.46% of the regional housing capacity under 'PC120 as amended'). Overall, the total plan-enabled net dwelling yield across both the Residential and Business zones as modelled for 'PC120 as amended' equates to 1,701,286 dwellings.

[11] Excluding the City Centre Zone, and only in Business zones where residential activity is provided for.

Table 1: Summary total of housing capacity (AUP including PC120, subject to partial withdrawal and proposed amendments)

	Net plan-enabled housing capacity (dwellings)	**Percentage**
Net yield – Residential zones	1,149,073	67.54%
Net yield from Business floorspace (50/50 split)	552,213	32.46%
Total net yield (Business & Residential zones)	**1,701,286**	**100.00%**

2.3 Total housing capacity from Residential and Business zones (combined), by Local Board area

Table 2 and Figure 2 present the combined net dwelling yields across both Residential and Business zones by Local Board area under the 'AUP including PC120 as amended' model (also referred to as 'PC120 as amended' or 'PC120A' in this report). Overall, the PC120A model enables a regional total of 1,701,286 net dwellings.

Of this total capacity, Residential zones contribute 1,149,073 dwellings, while eligible Business zones account for the remaining 552,213 plan-enabled dwellings. Please note that in Business zones where dwellings are either Non-Complying or Prohibited activities[12] (such as in the Business Park Zone, General Business Zone, Heavy Industry Zone, and Light Industry Zone), the housing capacity enabled is zero.

The distribution of housing capacity varies significantly across the region, with the Henderson-Massey Local Board area enabling the highest overall capacity of 170,178 dwellings (10% of the regional total). Other significant contributors to the regional total include the Local Board areas of Howick with 142,247 dwellings (8.35%), Albert-Eden with 138,353 dwellings (8.12%), and Franklin with 129,248 dwellings (7.6%). Conversely, the Waitākere Ranges and Rodney Local Board areas corresponded to a lower proportion of the regional total, enabling 29,485 (1.73%) and 38,220 (2.25%) total dwellings respectively.

When considering Residential zones only, the Henderson-Massey Local Board area has the highest enabled capacity with a net yield of 118,794 dwellings (10.34%), followed by the Howick Local Board area with 108,298 dwellings (9.42%) and the Albert-Eden Local Board area with 98,781 dwellings (8.6%).

The lowest regional share of residential plan-enabled capacity is located in the Rodney Local Board area with 21,417 dwellings (1.86%), the Waitākere Ranges Local Board area with 25,247 dwellings (2.2%), and the Waitematā Local Board area with 23,939 dwellings (2.08%). For eligible Business zones, the highest dwelling capacity is reported in the Franklin Local Board area, which enables 64,572 dwellings (11.69%). This is followed by the Local Board areas of Henderson-Massey with 51,384 dwellings (9.31%), Ōtara-Papatoetoe with 48,754 dwellings (8.83%), and Upper Harbour with 48,068 dwellings (8.7%). The

[12] And therefore not considered as part of 'housing capacity' as defined in clause 1(1) of Schedule 3C of the RMA.

lowest Business zone dwelling yields are observed in the Local Board areas of the Waitākere Ranges with 4,238 dwellings (0.77%), Manurewa with 7,149 dwellings (1.29%), Puketāpapa with 8,466 dwellings (1.53%), and Kaipātiki with 8,547 dwellings (1.55%).

Table 2: Combined net dwelling yields, by Local Board area

Local Board area	**Residential Zones**		**Business Zones**		**Total**	
	Net plan-enabled capacity (dwellings)	*Percentage of regional total*	**Net plan-enabled capacity** (dwellings)	*Percentage of regional total*	**Net plan-enabled capacity** (dwellings)	*Percentage of regional total*
Albert-Eden	98,781	*8.60%*	39,572	*7.17%*	138,353	*8.13%*
Devonport-Takapuna	42,191	*3.67%*	24,173	*4.38%*	66,364	*3.90%*
Franklin	64,676	*5.63%*	64,572	*11.69%*	129,248	*7.60%*
Henderson-Massey	118,794	*10.34%*	51,384	*9.31%*	170,178	*10.00%*
Hibiscus and Bays	43,442	*3.78%*	19,490	*3.53%*	62,932	*3.70%*
Howick	108,298	*9.42%*	33,949	*6.15%*	142,247	*8.36%*
Kaipātiki	63,647	*5.54%*	8,547	*1.55%*	72,194	*4.24%*
Māngere-Ōtāhuhu	46,214	*4.02%*	19,564	*3.54%*	65,778	*3.87%*
Manurewa	56,864	*4.95%*	7,149	*1.29%*	64,013	*3.76%*
Maungakiekie-Tāmaki	77,346	*6.73%*	44,690	*8.09%*	122,036	*7.17%*
Ōrākei	72,656	*6.32%*	21,100	*3.82%*	93,756	*5.51%*
Ōtara-Papatoetoe	64,140	*5.58%*	48,754	*8.83%*	112,894	*6.64%*
Papakura	65,032	*5.66%*	15,523	*2.81%*	80,555	*4.73%*
Puketāpapa	40,774	*3.55%*	8,466	*1.53%*	49,240	*2.89%*
Rodney	21,417	*1.86%*	16,803	*3.04%*	38,220	*2.25%*
Upper Harbour	35,138	*3.06%*	48,068	*8.70%*	83,206	*4.89%*
Waitākere Ranges	25,247	*2.20%*	4,238	*0.77%*	29,485	*1.73%*
Waitematā	23,939	*2.08%*	46,433	*8.41%*	70,372	*4.14%*
Whau	80,477	*7.00%*	29,738	*5.39%*	110,215	*6.48%*
Total	**1,149,073**	*100.00%*	**552,213**	*100.00%*	**1,701,286**	*100.00%*

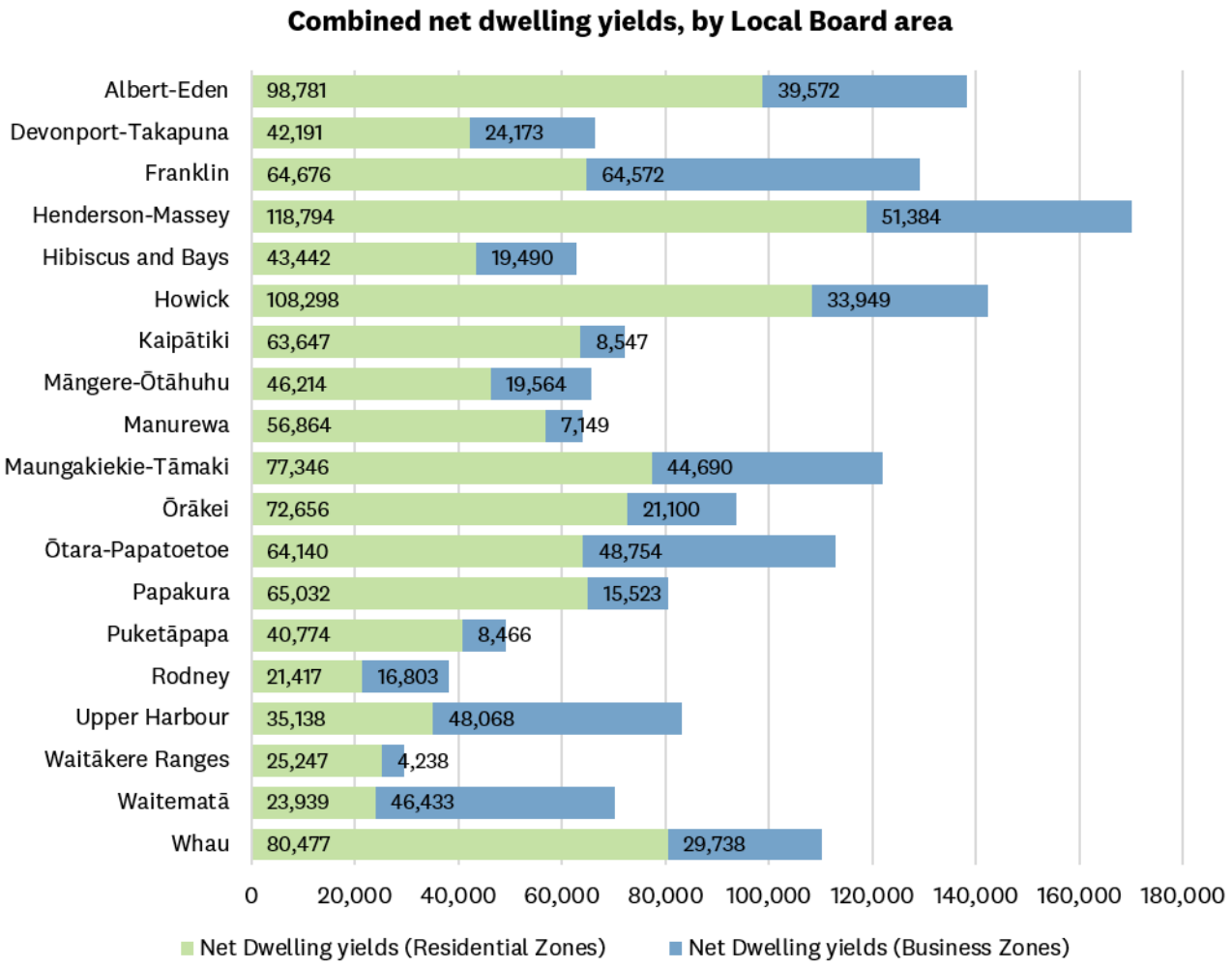


Figure 2: Combined net dwelling yields, by Local Board area (as shown in Table 2)

2.4 Total modelled site area from Residential and Business zones, by Local Board area

Table 3 below provides the results of the modelled site area in hectares across all Local Board areas. It is important to note that the modelled site area presented here is not equivalent to the total land area of a Local Board. This area is calculated strictly using eligible modelling candidate sites, which act as the basic unit of the model derived from participating parcel boundaries. Consequently, non-participatory parcels such as roads and land outside of eligible Business and Residential zones are excluded from this site area calculation.

Regionally, the modelling encompasses a total site area of 47,103.85 hectares. This footprint is composed of 38,058.94 hectares of Residential zoned sites and 9,044.90 hectares of Business zoned sites. In terms of overall distribution, the Franklin Local Board area contains the largest total modelled site area at 5,042.75 hectares, representing 10.71% of the regional total. Other Local Board areas with relatively extensive modelled site areas include Hibiscus and Bays with 4,081.59 hectares and Howick with 3,904.24 hectares. In contrast, Waitematā and Puketāpapa have the smallest total modelled footprints, accounting for 819.51 hectares and 1,193.15 hectares, respectively.

Looking exclusively at Residential zones in each Local Board area, Franklin constitutes the largest sum of site area with 3,916.12 hectares, followed closely by Hibiscus and Bays with 3,749.65 hectares, Rodney with 3,347.19 hectares, and Howick with 3,198.52 hectares. Waitematā contains the smallest total Residential-zoned site area, comprising only 601.05 hectares.

The distribution of modelled Business zone site areas follows a slightly different pattern. The Local Board area of Maungakiekie-Tāmaki constitutes the largest site area of eligible Business zones at 1,131.00 hectares, representing 12.50% of the regional business total. This is closely followed by the Local Board areas of Franklin with 1,126.63 hectares, and Ōtara-Papatoetoe with 940.15 hectares. The smallest sum of modelled Business-zoned site areas are located in the Waitākere Ranges Local Board area with 48.87 hectares, and the Puketāpapa Local Board area with 105.52 hectares.

Table 3: Modelled site area, by Local Board area

Local Board area	Residential Zones		Business Zones		Total	
	Modelled site area (hectares)	*Percentage of regional total*	**Modelled site area** (hectares)	*Percentage of regional total*	**Modelled site area** (hectares)	*Percentage of regional total*
Albert-Eden	1,641.61	*4.31%*	219.94	*2.43%*	1,861.55	*3.95%*
Devonport-Takapuna	1,225.45	*3.22%*	116.53	*1.29%*	1,341.99	*2.85%*
Franklin	3,916.12	*10.29%*	1,126.63	*12.46%*	5,042.75	*10.71%*
Henderson-Massey	2,910.66	*7.65%*	520.66	*5.76%*	3,431.33	*7.28%*
Hibiscus and Bays	3,749.65	*9.85%*	331.94	*3.67%*	4,081.59	*8.67%*
Howick	3,198.52	*8.40%*	705.72	*7.80%*	3,904.24	*8.29%*
Kaipātiki	1,963.58	*5.16%*	255.40	*2.82%*	2,218.98	*4.71%*
Māngere-Ōtāhuhu	1,273.02	*3.34%*	785.58	*8.69%*	2,058.61	*4.37%*
Manurewa	1,635.08	*4.30%*	620.31	*6.86%*	2,255.39	*4.79%*
Maungakiekie-Tāmaki	1,303.46	*3.42%*	1,131.00	*12.50%*	2,434.46	*5.17%*
Ōrākei	1,853.80	*4.87%*	132.51	*1.46%*	1,986.31	*4.22%*
Ōtara-Papatoetoe	1,340.27	*3.52%*	940.15	*10.39%*	2,280.41	*4.84%*
Papakura	1,691.58	*4.44%*	398.97	*4.41%*	2,090.55	*4.44%*
Puketāpapa	1,087.63	*2.86%*	105.52	*1.17%*	1,193.15	*2.53%*
Rodney	3,347.19	*8.79%*	389.05	*4.30%*	3,736.24	*7.93%*
Upper Harbour	1,959.39	*5.15%*	668.12	*7.39%*	2,627.51	*5.58%*
Waitākere Ranges	1,790.86	*4.71%*	48.87	*0.54%*	1,839.72	*3.91%*
Waitematā	601.05	*1.58%*	218.46	*2.42%*	819.51	*1.74%*
Whau	1,570.00	*4.13%*	329.54	*3.64%*	1,899.55	*4.03%*
Total	**38,058.94**	*100%*	**9,044.90**	*100%*	**47,103.85**	*100%*

2.5 Average plan-enabled density in Residential and Business zones, by Local Board area

Building upon the net dwelling yields (as shown in Table 2) and modelled site areas (as shown in Table 4), Table 5 presents the average plan-enabled net density[13] (expressed in dwellings per hectare) across each Local Board.

Please note that Table 4 shown below is a subset of Table 3 presented above, presenting the sum of site areas, **excluding** Business zones where dwellings are either a Non-Compliant or Prohibited activity.

[13] Net density refers to the additional density (on top of existing developed density on sites) enabled by PC120A. I.e., the net plan-enabled capacity in dwellings, per hectare.

Therefore, the 'Residential modelled site area' column in both the tables is same, however the 'Business modelled site area' and 'Total modelled site area' columns are different.

The density estimation results shown in Table 5 have used Table 4, instead of Table 3, as the source of the modelled site area in calculations. It also worth mentioning that the density could vary depending on how business floorspace is split between business and residential uses. A different ratio than what has been considered in this study (i.e., a 50/50 split) can lead to a different density estimation. However, the relative order of the local boards will remain unchanged irrespective of the ratio applied, provided that ratio is held constant.

The net dwelling density shown in Table 5 is calculated as follows:

$$\frac{Total\ net\ dwelling\ capacity\ (dwellings)}{Total\ modelled\ site\ area\ (hectares)}$$

Table 5 shows that regionally, the PC120A provisions enable an average net combined[14] density of 42.13 dwellings per hectare. When split by zone type, eligible Business zones generally allow for a much higher intensity of development, averaging 237.90 dwellings per hectare, compared to an average of 30.19 dwellings per hectare in Residential zones.

The density metrics shows a distinct spatial contrast when compared to the absolute yield and area figures discussed previously. For example, while the Waitematā Local Board area is calculated as having the smallest total modelled site area in the region, it accommodates the highest combined average net plan-enabled density at 85.95 dwellings per hectare. This is driven largely by a relatively high Business zone density of 213.27 dwellings per hectare. Similarly, the Maungakiekie-Tāmaki Local Board area, which accounts for 7.17% of regional net dwelling capacity, but constitutes only 3.72% of the region's eligible site area, achieves the second-highest combined density of 81.25 dwellings per hectare.

Conversely, Local Board areas with large amount of eligible land mass do not necessarily translate to high densities. For instance, the Franklin Local Board area, despite having the largest total modelled site area and enabling substantial Business zone dwelling yields, has a relatively low combined average density of 31 dwellings per hectare. The lowest combined average densities are found in the Local Board areas of Rodney with 11 dwellings per hectare, Hibiscus and Bays with 16 dwellings per hectare, and Waitākere Ranges with 16 dwellings per hectare. These low densities directly reflect the lower overall dwelling yields observed for these areas in the preceding results, relative to land area of modelled sites in the respective Local Board area.

[14] Combined net capacity and site area from both Residential and eligible Business zones, across the entire modelled area. All modelling presented in this report also excludes the City Centre Zone, as set out in section 2.1.

Table 4: Site area by Local Board area, after excluding Business zones where residential activity is not plan-enabled

Local Board	**Residential Zones**		**Business Zones**[15]		**Total**	
	Site area (hectares)	*Percentage of regional total*	**Site area** (hectares)	*Percentage of regional total*	**Site area** (hectares)	*Percentage of regional total*
Albert-Eden	1,641.61	*4.31%*	203.26	*8.76%*	1,844.87	*4.57%*
Devonport-Takapuna	1,225.45	*3.22%*	96.93	*4.18%*	1,322.38	*3.27%*
Franklin	3,916.12	*10.29%*	268.32	*11.56%*	4,184.43	*10.36%*
Henderson-Massey	2,910.66	*7.65%*	152.03	*6.55%*	3,062.69	*7.58%*
Hibiscus and Bays	3,749.65	*9.85%*	126.59	*5.45%*	3,876.24	*9.60%*
Howick	3,198.52	*8.40%*	124.83	*5.38%*	3,323.35	*8.23%*
Kaipātiki	1,963.58	*5.16%*	56.61	*2.44%*	2,020.19	*5.00%*
Māngere-Ōtāhuhu	1,273.02	*3.34%*	112.08	*4.83%*	1,385.11	*3.43%*
Manurewa	1,635.08	*4.30%*	35.82	*1.54%*	1,670.91	*4.14%*
Maungakiekie-Tāmaki	1,303.46	*3.42%*	198.58	*8.56%*	1,502.05	*3.72%*
Ōrākei	1,853.80	*4.87%*	80.38	*3.46%*	1,934.18	*4.79%*
Ōtara-Papatoetoe	1,340.27	*3.52%*	142.63	*6.14%*	1,482.89	*3.67%*
Papakura	1,691.58	*4.44%*	69.14	*2.98%*	1,760.72	*4.36%*
Puketāpapa	1,087.63	*2.86%*	44.99	*1.94%*	1,132.63	*2.80%*
Rodney	3,347.19	*8.79%*	112.32	*4.84%*	3,459.50	*8.57%*
Upper Harbour	1,959.39	*5.15%*	169.82	*7.32%*	2,129.21	*5.27%*
Waitākere Ranges	1,790.86	*4.71%*	21.73	*0.94%*	1,812.59	*4.49%*
Waitematā	601.05	*1.58%*	217.72	*9.38%*	818.77	*2.03%*
Whau	1,570.00	*4.13%*	87.40	*3.77%*	1,657.41	*4.10%*
Total	**38,058.94**	*100.00%*	**2,321.18**	*100.00%*	**40,380.12**	*100.00%*

[15] Excluding site areas from Business zones where dwellings are a Non-Compliant or Prohibited activity.

Table 5: Modelled plan-enabled dwelling density (net dwellings/ha), by Local Board area

Local Board area	Average enabled density in Residential zones	Average enabled density in Business zones	Combined average enabled density
Albert-Eden	60.17	194.69	74.99
Devonport-Takapuna	34.43	249.39	50.19
Franklin	16.52	240.66	30.89
Henderson-Massey	40.81	337.99	55.56
Hibiscus and Bays	11.59	153.96	16.24
Howick	33.86	271.96	42.80
Kaipātiki	32.41	150.99	35.74
Māngere-Ōtāhuhu	36.30	174.55	47.49
Manurewa	34.78	199.56	38.31
Maungakiekie-Tāmaki	59.34	225.04	81.25
Ōrākei	39.19	262.51	48.47
Ōtara-Papatoetoe	47.86	341.83	76.13
Papakura	38.44	224.51	45.75
Puketāpapa	37.49	188.16	43.47
Rodney	6.40	149.60	11.05
Upper Harbour	17.93	283.06	39.08
Waitākere Ranges	14.10	195.02	16.27
Waitematā	39.83	213.27	85.95
Whau	51.26	340.25	66.50
Total	**30.19**	**237.90**	**42.13**

2.6 Net dwelling yields by Residential and Business zones

Table 6 presents the breakdown of plan-enabled net dwelling yields across specific PC120A zones, further grouped by their respective zone groups, and proportional contributions of net plan-enabled dwellings.

2.6.1 Plan-enabled dwellings yields from Residential zones

Under the Auckland Unitary Plan, including Plan Change 120 as amended ('PC120A'), the Residential zones were modelled to a total of 1,149,073 net plan-enabled dwellings. This equates to approximately 67.54% of the regional total of net plan-enabled housing capacity.

Within these zones, capacity is heavily concentrated in urban zones enabling medium and higher intensities.[16] The Terrace Housing and Apartment Buildings (THAB) accounts for the largest volume of plan-enabled dwellings, constituting over half (52.85%) of all Residential zone housing capacity. The Mixed Housing Suburban zone contributes 301,866 dwellings of net plan-enabled capacity, which represents 26.27% of the Residential zone total and 17.74% of the overall regional net plan-enabled capacity. This is followed by the Mixed Housing Urban zone, contributing 203,478 dwellings, or 17.71% of the Residential zone total.

Within the THAB zone, the capacity modelling differentiates between the different types of THAB sites, based on the site's location relative to Walkable Catchments and the Height Variation Control.[17] The standard THAB zoning outside of Walkable Catchments ('THAB (6 Storeys)') provides 23.14% of the Residential zone total with 265,900 net plan-enabled dwellings. THAB zoned sites located specifically within Walkable Catchments but without a Height Variation Control ('THAB (6 Storeys WC)') contribute a further 205,379 dwellings (17.87% of residential total). THAB sites in Walkable Catchments and with a 10-storey Height Variation Control enable 84,491 dwellings (7.35%), while those with a 15-storey Height Variation Control enable 52,559 dwellings (4.49%).

Conversely, lower-density zones generate minimal capacity, with the Single House (2.78%), Large Lot (0.20%), and Rural and Coastal Settlement (0.19%) zones combining to represent just 3.17% of the total plan-enabled capacity in Residential zones.

2.6.2 Plan-enabled dwelling yields from Business zones

Eligible Business zones were modelled, and in total, they enable 552,213 net housing capacity, representing 32.46% of the region's overall housing capacity.

This residential capacity in Business zones is predominantly situated within Walkable Catchments (indicated by 'WC' in Table 6). These sites collectively enable 65.29% of all Business zone yields.

The Metropolitan Centre Zone and Mixed Use Zone produce most of the housing capacity amongst the Business zones. Capacity in the Metropolitan Centre Zone is mostly concentrated within the Walkable Catchment extent, which alone accounts for 35.44% of the total Business zone yield (195,698 dwellings) and 11.5% of the regional total, compared to just 0.27% outside the Walkable Catchment extent.[18] The Mixed Use Zone contributes 23.58% of the housing capacity in Business zones within the Walkable Catchment and 14.37% from outside Walkable Catchment, cumulatively constituting 37.95% of the Business zone housing capacity.

The Town Centre Zone supplies 16.11% of the Business zone total, split between 11.02% for outside the Walkable Catchment extent and 5.10% for inside the Walkable Catchment extent. The Local Centre Zone (7.60% of Business zone total) and Neighbourhood Centre Zone (2.62% of Business zone total)

[16] Terrace Housing and Apartment Buildings Zone, Mixed Housing Urban Zone, and Mixed Housing Suburban Zone.
[17] This is because the standards that apply to a site in the THAB zone differ depending on the site's location relative to Walkable Catchments and the Height Variation Control.
[18] This relates to the Manukau Metropolitan Centre Zone. In the data supplied for modelling, the extent of the Metropolitan Centre zoned area extends slightly beyond the spatial extent of the Walkable Catchment.

provide the lowest yields, with both zones seeing the majority of their plan-enabled capacity fall outside of Walkable Catchments.

Table 6: Net dwelling yields, by PC120A zones

	PC120A zone		Net dwelling yields	*Percentage of zone group total*	Percentage of regional total
Residential Zones	Large Lot		2,291	*0.20%*	0.13%
	Rural and Coastal Settlement		2,191	*0.19%*	0.13%
	Single House		31,918	*2.78%*	1.88%
	Mixed Housing Suburban		301,866	*26.27%*	17.74%
	Mixed Housing Urban		203,478	*17.71%*	11.96%
	THAB (6 Storeys)		265,900	*23.14%*	15.63%
	THAB (6 Storeys WC)		205,379	*17.87%*	12.07%
	THAB (10 Storeys WC)		84,491	*7.35%*	4.97%
	THAB (15 Storeys WC)		51,559	*4.49%*	3.03%
	Residential zones total		**1,149,073**	***100.00%***	**67.54%**
Business Zones	Local Centre Zone	Non-WC	37,708	*6.83%*	2.22%
		WC	4,273	*0.77%*	0.25%
	Neighbourhood Centre Zone	Non-WC	12,285	*2.22%*	0.72%
		WC	2,173	*0.39%*	0.13%
	Town Centre Zone	Non-WC	60,829	*11.02%*	3.58%
		WC	28,155	*5.10%*	1.65%
	Metropolitan Centre Zone	Non-WC	1,509	*0.27%*	0.09%
		WC	195,698	*35.44%*	11.50%
	Mixed Use Zone	Non-WC	79,367	*14.37%*	4.67%
		WC	130,216	*23.58%*	7.65%
	Business zones total		**552,213**	***100.00%***	**32.46%**
TOTAL			**1,701,286**		**100.00%**

2.7 Total modelled site area by Residential and Business zones

Similar to Table 3 which showed modelled total site area by Local Board area, Table 7 outlines the total site area by PC120A Residential and Business zones. The fields ‘Percentage of zone group total’ and

‘Percentage of regional total’ show the percentage of site area share within the zone groups (Business vs Residential) and across the entire region respectively.

Out of the modelled total site area of 47,103.85 hectares, Residential zones cover 38,058.94 hectares of site area, with a spatial footprint predominantly occupied by lower to medium-intensity suburban zone types.[19] The Mixed Housing Suburban Zone constitutes the largest site area total of any individual zone in the region at 13,575.16 hectares, representing 35.67% of the Residential site area total and 28.82% of the overall regional site area footprint. The Single House Zone is the second-largest Residential zone site area at 8,300.70 hectares, making up 21.81% of Residential site area and 17.62% of the total regional site area footprint. The Mixed Housing Urban Zone spans 6,071.13 hectares, contributing 15.95% of Residential zone site area and 12.89% of total site area. Lower-density zones, including Large Lot (2,911.35 hectares) and Rural and Coastal Settlement (1,842.92 hectares), account for 12.49% of the Residential zone site footprint.

The higher-density Terrace Housing and Apartment Buildings Zone (THAB) covers a combined area of 5,357.70 hectares, representing 14.08% of all Residential zone site area. This includes sites outside Walkable Catchments (‘THAB (6 Storeys)’) occupying 2,558.32 hectares, sites within Walkable Catchments but without a Height Variation Control (‘THAB (6 Storeys WC)’) at 1,836.44 hectares, sites within Walkable Catchments with a 10-storey Height Variation Control (‘THAB (10 Storeys WC)’) at 602.84 hectares, and sites within Walkable Catchments with a 15-storey Height Variation Control (‘THAB (15 Storeys WC)’) at 360.10 hectares.

Comparing this spatial distribution with the dwelling yield figures in Table 6 reveals a distinctive density pattern. Though lower and medium-density Mixed Housing Suburban and Single House Zones span over a large amount of the physical site area, the higher-density THAB Zone sites which occupy a compact land footprint supply over half (52.9%) of all plan-enabled housing capacity in Residential zones. The average density estimation by PC120A zone shown in section 2.8 will describe this pattern further.

Business zones account for 9,044.90 hectares across the region, making up 19.20% of total modelled site area. The total Business zone site extent is divided between industrial or predominantly business land uses, and commercial centres, located both within Walkable Catchments (annotated as ‘WC’ in the tables) and outside Walkable Catchments (annotated as ‘non-WC’ in the tables).

Industrial, General Business, and Business Park zoned sites form the predominant physical footprint of Business land outside of centre zonings. These zonings are not considered plan-enabled for housing capacity, because dwellings are either a Non-Complying or Prohibited activity in these zones. Light Industry Zone sites outside of the Walkable Catchments comprises 3,957.32 hectares, with Light Industry within the Walkable Catchments covering 495.98 hectares. Heavy Industry Zone outside Walkable Catchments accounts for 1,745.13 hectares, while Heavy Industry within Walkable Catchments covers 96.43 hectares. The General Business Zone spans 233.96 hectares outside Walkable

[19] Rural and Coastal Settlement Zone, Large Lot Zone, Single House Zone, and Mixed Housing Suburban Zone.

Catchments, and 135.99 hectares within Walkable Catchments. The Business Park Zone comprises 23.56 hectares outside Walkable Catchments, and 35.36 hectares within Walkable Catchments.

For commercial centres and mixed-use sites, the Local Centre Zone consists of 232.64 hectares outside Walkable Catchments and 21.88 hectares within Walkable Catchments. The Town Centre Zone covers 315.47 hectares outside of Walkable Catchments, and 130.72 hectares within Walkable Catchments. The Metropolitan Centre Zone spans 2.61 hectares outside of Walkable Catchments and 412.03 hectares within Walkable Catchments. The Mixed Use Zone covers 481.26 hectares outside the Walkable Catchments and 585.90 hectares in the Walkable Catchments. The Neighbourhood Centre Zone accounts for 129.29 hectares outside the Walkable Catchments and 9.40 hectares inside the Walkable Catchments.

Comparing the site area with respective dwelling yields shown in Table 6 suggests that high-yield commercial and mixed-use zones occupy a relatively smaller portion of the Business-zoned land footprint but enable a significant portion of total Business zone housing capacity. Additionally, the Light Industry Zone outside Walkable Catchments constitutes 43.75% of the total Business zoned site footprint, but dwellings are considered a Non-Complying activity in this zone.

Table 7: Modelled site area (in hectares), by PC120A zones

	PC120A zone		Modelled site area (hectares)	*Percentage of zone group total*	Percentage of regional total
Residential Zones	Large Lot		2911.35	*7.65%*	6.18%
	Rural and Coastal Settlement		1842.92	*4.84%*	3.91%
	Single House		8300.70	*21.81%*	17.62%
	Mixed Housing Suburban		13575.16	*35.67%*	28.82%
	Mixed Housing Urban		6071.13	*15.95%*	12.89%
	THAB (6 Storeys)		2558.32	*6.72%*	5.43%
	THAB (6 Storeys WC)		1836.44	*4.83%*	3.90%
	THAB (10 Storeys WC)		602.84	*1.58%*	1.28%
	THAB (15 Storeys WC)		360.10	*0.95%*	0.76%
	Residential zone total site area		**38,058.94**	***100.00%***	**80.80%**
Business Zones	Light Industry Zone	Non-WC	3,957.32	*43.75%*	8.40%
		WC	495.98	*5.48%*	1.05%
	Heavy Industry Zone	Non-WC	1,745.13	*19.29%*	3.70%
		WC	96.43	*1.07%*	0.20%
	General Business Zone	Non-WC	233.96	*2.59%*	0.50%
		WC	135.99	*1.50%*	0.29%
	Business Park Zone	Non-WC	23.56	*0.26%*	0.05%
		WC	35.36	*0.39%*	0.08%
	Neighbourhood Centre Zone	Non-WC	129.29	*1.43%*	0.27%
		WC	9.40	*0.10%*	0.02%
	Local Centre Zone	Non-WC	232.64	*2.57%*	0.49%
		WC	21.88	*0.24%*	0.05%
	Town Centre Zone	Non-WC	315.47	*3.49%*	0.67%
		WC	130.72	*1.45%*	0.28%
	Metropolitan Centre Zone	Non-WC	2.61	*0.03%*	0.01%
		WC	412.03	*4.56%*	0.87%
	Mixed Use Zone	Non-WC	481.26	*5.32%*	1.02%
		WC	585.90	*6.48%*	1.24%
	Business zone total site area		**9,044.90**	***100.00%***	**19.20%**
TOTAL			**47,103.85**		**100.00%**

2.8 Average plan enabled density in Residential and Business zones

Table 8 details the modelled plan-enabled dwelling density, expressed in dwellings per hectare, across specific PC120A zones. As shown in Table 5, the overall net plan-enabled dwelling density is 42.13 across all zones regionally, but the eligible Business zones allow for a highly concentrated average density of 237.9 dwellings per hectare, significantly higher than the Residential zone average of 30.19 dwellings per hectare.

Within the Residential zones, a clear density gradient aligns with the intensity of the zoning typologies. The highest Residential zone plan-enabled dwelling densities are found within the Terrace Housing and Apartment Buildings (THAB) zones, with the highest density at 143.18 dwellings per hectare for THAB sites in Walkable Catchments with a 15-storey Height Variation Control, and 140.16 dwellings per hectare for sites in Walkable Catchments with a 10-storey Height Variation Control. THAB sites outside of Walkable Catchments, and THAB sites within Walkable Catchments and with no Height Variation Control also provide relatively denser yields of 103.94 and 111.84 dwellings per hectare, respectively. Medium-intensity zones such as the Mixed Housing Urban and Mixed Housing Suburban Zones enable 33.52 and 22.24 dwellings per hectare, respectively. As expected, the lowest Residential zone densities are seen in the Single House (3.85 dwellings per hectare), Large Lot (0.79 dwellings per hectare), and Rural and Coastal Settlement (1.19 dwellings per hectare) zones.

In the eligible Business zones, plan-enabled densities are comparatively higher, particularly within the Metropolitan Centre Zone. Due to a relatively smaller site area total (2.61 ha), the area of Metropolitan Centre zoning outside the Walkable Catchment reaches the highest density in the entire model at 579.24 dwellings per hectare. This would be considered an outlier, and is due to a very specific area of Metropolitan Centre zoning which extends outside the Walkable Catchment extent in Manukau. This is compared to 474.96 dwellings per hectare for the Metropolitan Centre Zone areas within Walkable Catchments.

Other commercial zonings exhibit modelled plan-enabled densities which generally increase when located within Walkable Catchments. For instance, the Neighbourhood Centre Zone increases significantly from 95.02 dwellings per hectare outside Walkable Catchments, to 231.27 dwellings per hectare within Walkable Catchments. Similarly, the Mixed Use Zone increases from 164.92 outside Walkable Catchments, to 222.25 dwellings per hectare in Walkable Catchments. The Local Centre Zone rises from 162.09 outside Walkable Catchments, to 195.31 dwellings per hectare inside Walkable Catchments, and the Town Centre Zone increases from 192.82 dwellings per hectare outside Walkable Catchments to 215.39 dwellings per hectare inside Walkable Catchments.

Table 8: Modelled plan-enabled dwelling density, by PC120A zones

	PC120A zone		Average enabled density (dwellings per hectare)
Residential Zones	Large Lot		0.79
	Rural and Coastal Settlement		1.19
	Single House		3.85
	Mixed Housing Suburban		22.24
	Mixed Housing Urban		33.52
	THAB (6 Storeys)		103.94
	THAB (6 Storeys WC)[20]		111.84
	THAB (10 Storeys WC)		140.16
	THAB (15 Storeys WC)		143.18
	Residential Zone average density		**30.19**
Business Zones[21]	Local Centre Zone	Non-WC	162.09
		WC	195.31
	Neighbourhood Centre Zone	Non-WC	95.02
		WC	231.27
	Town Centre Zone	Non-WC	192.82
		WC	215.39
	Metropolitan Centre Zone	Non-WC	579.24
		WC	474.96
	Mixed Use Zone	Non-WC	164.92
		WC	222.25
	Business Zone average density		**237.90**
Total average dwelling density of modelled sites			**42.13**

2.9 Net dwelling yields by Policy 3D, FTN and WC area

Table 9 breaks down the net plan-enabled dwelling yields and average net plan-enabled density across Residential and Business zones, based on their location relative to three strategic extent categories: Policy 3(d) areas, the Frequent Transit Network (FTN), and Walkable Catchments (WC).

[20] THAB refers to Terrace Housing and Apartment Buildings Zone, WC refers to being within a Walkable Catchment
[21] General Business, Business Park, Light Industry and Heavy Industry Zones are excluded from dwelling density estimation, as dwellings are Non-Complying or Prohibited activities in these zones.

Within the Residential zone group, sites located outside of these three extents enable 37.08% of the regional housing capacity total. However, despite providing this high cumulative volume of plan-enabled capacity, these peripheral locations yield the lowest calculated average density in the model, averaging just 19.25 dwellings per hectare, due to their more expansive physical footprint.

In contrast, Residential-zoned sites located within these three extent categories achieve higher spatial efficiencies. Residential zones located within Walkable Catchments, Policy 3(d) areas, or a combination of both, enable higher densities ranging from nearly 100 to over 106 dwellings per hectare.

This pattern is also observed within the Business zones, which achieve a total average of 237.90 dwellings per hectare. Business zone housing capacity is predominately enabled in these three strategic extents, rather than wider footprints. Business areas located exclusively within Walkable Catchments account for 17.33% of the region's total plan-enabled housing capacity, and have the highest calculated average plan-enabled density in the entire region, exceeding 338 dwellings per hectare. Other Business-zoned sites in the three strategic extents shown, such as Policy 3(d) areas, and areas which are both in Walkable Catchments and Policy 3(d) areas, similarly show higher densities compared to the 157.43 dwellings per hectare enabled outside these extents of interest.

Table 9: Plan enabled net dwellings in key strategic locations

Zone group	**In Policy 3(d) area**	**In Frequent Transit Corridor**	**in Walkable Catchment**	**Net plan-enabled dwelling capacity** (dwellings)	*Percentage of regional total*	**Density** (dwellings / hectare)
Residential Zones	NO	NO	NO	630,752	*37.08%*	19.25
	NO	NO	YES	295,021	*17.34%*	102.92
	YES	NO	NO	100,461	*5.91%*	99.73
	YES	NO	YES	55,266	*3.25%*	106.57
	NO	YES	NO	67,573	*3.97%*	74.83
	Residential zone total			***1,149,073***	***67.54%***	***30.19***
Business Zones	NO	NO	NO	138,354	*8.13%*	157.43
	NO	NO	YES	294,819	*17.33%*	338.58
	YES	NO	NO	53,141	*3.12%*	189.11
	YES	NO	YES	65,696	*3.86%*	227.18
	NO	YES	NO	203	*0.01%*	140.34
	Business zone total			***552,213***	***32.46%***	***237.90***
Residential and Business zone total				**1,701,286**	*100.00%*	**42.13**

2.10 Net dwelling yields by PC120 withdrawal and non-withdrawal extent

The following section includes a breakdown of plan-enabled capacity between the PC120 non-withdrawal areas (where PC120 provisions are retained) and the PC120 withdrawal areas (which reverted to operative AUP). As shown in Table 10, the PC120 withdrawal areas constitute the larger share of the region's total net dwelling capacity at 947,848 dwellings (55.71% of the regional total), across for a total modelled site footprint of 33,430.61 hectares (82.79% of total modelled site area).

As a result, the withdrawal area exhibits a lower average density of 28.35 dwellings per hectare. In contrast, the PC120 non-withdrawal area accounts for nearly half of the region's total housing capacity yield (44.29%, or 753,438 dwellings) on a comparatively smaller footprint of 6,949.51 hectares (17.21% of total land area). This smaller footprint achieves an average density of 108.42 dwellings per hectare, which is nearly four times the calculated plan-enabled dwelling density within the withdrawal extent.

There are also differences in zoning mix between the PC120 withdrawal and non-withdrawal areas. Capacity across the withdrawal areas is driven by extensive lower- and medium-density Residential zonings, most notably the Mixed Housing Suburban and Single House zones, which together cover over 20,500 hectares. These zones generate high total volume through spatial expanse rather than higher density, enabling lower densities between 4 and 22 dwellings per hectare.

On the other hand, the PC120 non-withdrawal area achieves its capacity through the higher-density Terrace Housing and Apartment Buildings Zone (THAB) and Mixed Use Zone within Walkable Catchments, enabling higher housing capacity with average densities ranging from 110 to over 222 dwellings per hectare.

Despite the comparatively lower densities provided for across most the withdrawal area, specific commercial cores within it yield very high density. Most prominently, sites zoned Metropolitan Centre and associated with a Walkable Catchment but within the withdrawal footprint enables an average dwelling density of 474.96 dwellings per hectare.[22]

[22] Within the data supplied for input into modelling, the Metropolitan Centre Zone is within the withdrawal area, while the Walkable Catchments associated with those centres may still be subject to the plan change extent. This is why there are no sites zoned Metropolitan Centre in the non-withdrawal area extent in this table.

Table 10: PEC and plan-enabled dwelling density, by PC120A withdrawal and non-withdrawal extent

Plan extent	**Zone name**	**Net plan-enabled capacity** (dwellings)	***Percentage of regional total capacity***	**Area** (hectares)	***Percentage of regional total modelled area***	**Density** (dwellings per hectare)
'PC120 as amended' (not in withdrawal extent)	Business - Local Centre Zone	3,613	*0.21%*	20.32	*0.05%*	177.81
	Business - Local Centre Zone_WC	4,273	*0.25%*	21.88	*0.05%*	195.31
	Business - Mixed Use Zone	20,536	*1.21%*	117.28	*0.29%*	175.11
	Business - Mixed Use Zone_WC	130,047	*7.64%*	585.35	*1.45%*	222.17
	Business - Neighbourhood Centre Zone	1,808	*0.11%*	11.34	*0.03%*	159.40
	Business - Neighbourhood Centre Zone_WC	2,173	*0.13%*	9.40	*0.02%*	231.27
	Business - Town Centre Zone	38,437	*2.26%*	195.69	*0.48%*	196.42
	Business - Town Centre Zone_WC	28,155	*1.65%*	130.72	*0.32%*	215.39
	Residential - Large Lot Zone	19	*0.00%*	13.78	*0.03%*	1.38
	Residential - Mixed Housing Suburban Zone	8,139	*0.48%*	351.27	*0.87%*	23.17
	Residential - Mixed Housing Urban Zone	8,138	*0.48%*	248.84	*0.62%*	32.70
	Residential - Rural and Coastal Settlement Zone	12	*0.00%*	6.75	*0.02%*	1.78
	Residential - Single House Zone	2,415	*0.14%*	944.66	*2.34%*	2.56
	Residential - THAB 10 Storeys_WC	84,491	*4.97%*	602.84	*1.49%*	140.16
	Residential - THAB 15 Storeys_WC	51,559	*3.03%*	360.10	*0.89%*	143.18
	Residential - THAB 6 Storeys	164,293	*9.66%*	1,493.16	*3.70%*	110.03
	Residential - THAB 6 Storeys_WC	205,330	*12.07%*	1,836.14	*4.55%*	111.83
	Total in PC120 area	**753,438**	***44.29%***	**6,949.51**	***17.21%***	**108.42**
PC120 withdrawal extent (reverted to AUP)	Business - Local Centre Zone	34,095	*2.00%*	212.32	*0.53%*	160.58
	Business - Metropolitan Centre Zone	1,509	*0.09%*	2.61	*0.01%*	579.24
	Business - Metropolitan Centre Zone_WC	195,698	*11.50%*	412.03	*1.02%*	474.96
	Business - Mixed Use Zone	58,831	*3.46%*	363.98	*0.90%*	161.63
	Business - Mixed Use Zone_WC	169	*0.01%*	0.55	*0.00%*	306.02
	Business - Neighbourhood Centre Zone	10,477	*0.62%*	117.94	*0.29%*	88.83
	Business - Town Centre Zone	22,392	*1.32%*	119.78	*0.30%*	186.94
	Residential - Large Lot Zone	2,272	*0.13%*	2,897.57	*7.18%*	0.78
	Residential - Mixed Housing Suburban Zone	293,727	*17.26%*	13,223.89	*32.75%*	22.21
	Residential - Mixed Housing Urban Zone	195,340	*11.48%*	5,822.29	*14.42%*	33.55

Plan extent	Zone name	Net plan-enabled capacity (dwellings)	*Percentage of regional total capacity*	Area (hectares)	*Percentage of regional total modelled area*	Density (dwellings per hectare)
	Residential - Rural and Coastal Settlement Zone	2,179	*0.13%*	1,836.17	*4.55%*	1.19
	Residential - Single House Zone	29,503	*1.73%*	7,356.04	*18.22%*	4.01
	Residential - THAB 6 Storeys	101,607	*5.97%*	1,065.16	*2.64%*	95.39
	Residential - THAB 6 Storeys_WC	49	*0.00%*	0.29	*0.00%*	167.30
	Total in PC120 withdrawal extent	**947,848**	***55.71%***	**33,430.61**	***82.79%***	**28.35**
Total regional		**1,701,286**	*100.00%*	**40,380.12**	*100.00%*	**42.13**

2.11 Net dwelling yields on sites with flood or coastal hazard zoning responses

Table 11 shows the net plan-enabled dwelling capacity and average net dwelling density in potential natural hazard (flood and coastal hazard) areas.

The plan-enabled capacity modelling methodology does not model the potential impact of either operative or proposed 'Chapter E36. Natural hazards and flooding' provisions on housing capacity. For all sites, a site-specific proposal, including proposed mitigation and specialised risk assessment against Chapter E36 standards, would be required to determine activity status, and this cannot be undertaken by the model, nor can the model pre-empt decisions on resource consent processes.

However, where there is a zoning response proposed in relation to natural hazards and flooding, these will have formed part of the zoning package supplied to be modelled. Therefore, the plan-enabled capacity resulting from those zoning responses has been captured within the modelling.

This zoning response data was generated external to the capacity modelling process, and captures the location of the qualifying matters 'Coastal Hazard' and 'Flooding'. This dataset showing the zoning response to the qualifying matters was used to tag capacity modelling sites in post, to extract that plan-enabled housing capacity which is spatially coincident with a zone response to the qualifying matters of coastal hazard or flooding.[23]

In the PC120 non-withdrawal area, sites which were not subject to a 'Coastal Hazard' or 'Flooding' qualifying matter zoning response tag enabled 736,318 dwellings in plan-enabled capacity. The average plan-enabled dwelling density calculated across these same sites was 116.18 dwellings per hectare.

Where either a 'Coastal Hazard' or 'Flooding' qualifying matter zoning response tag overlaps with a site in the PC120 non-withdrawal area, the calculated enabled net density decreases significantly.

[23] This is not a comprehensive analysis of coastal hazard and flooding qualifying matters in relation to plan-enabled housing capacity. The table and figures shown only indicate where a site overlaps with a zoning response to these two qualifying matters, and aggregates the housing capacity enabled on those sites as modelled.

Calculated density drops to 15.78 dwellings per hectare for sites tagged with a 'Coastal Hazard' zoning response, 38.66 dwellings per hectare for sites tagged with a 'Flooding' zoning response, and 6.35 dwellings per hectare for sites tagged with both a 'Coastal Hazard' and 'Flooding' zoning response.

Average calculated dwelling density of the PC120 non-withdrawal areas which intersect with the 'Flooding' tag remains slightly higher than its counterpart within the withdrawal area. However, this may be driven by the difference in zoning mix between these two extents. Further analysis would be required to understand the impact of the qualifying matter zoning response on plan-enabled housing capacity.

In contrast, the withdrawal extent comprises approximately 2,800 hectares of modelled sites tagged with either one or both 'Coastal Hazard' and 'Flooding' qualifying matters zoning response. These sites enable a total of approximately 45,689 dwellings in housing capacity. In the withdrawal extent, it is understood that the zoning response related to these two qualifying matters involves the withdrawal of the plan change, and subsequent reversion to the operative Auckland Unitary Plan.

Table 11: Net plan-enabled housing capacity and dwelling density on sites tagged with 'Coastal Hazard' or 'Flooding' qualifying matter zoning response

Extent	**Qualifying matter tag**	**Net plan-enabled capacity** (dwellings)	*Percentage of total regional housing capacity total*	**Modelled site area** (hectares)	*Percentage of total regional modelled site area*	**Average density** (dwellings per hectare)
'PC120 as amended' extent (not in withdrawal extent)	Coastal Hazard	3,810	*0.22%*	241.43	*0.60%*	15.78
	Coastal Hazard and Flooding	198	*0.01%*	31.19	*0.08%*	6.35
	Flooding	13,112	*0.77%*	339.20	*0.84%*	38.66
	Outside Flood/Coastal Hazard	736,318	*43.28%*	6,337.69	*15.70%*	116.18
	Total in PC120 non-withdrawal extent	***753,438***	***44.29%***	***6,949.51***	***17.21%***	***108.42***
PC120 withdrawal extent (reverted to AUP)	Coastal Hazard	37,395	*2.20%*	2,400.02	*5.94%*	15.58
	Coastal Hazard and Flooding	1,311	*0.08%*	122.52	*0.30%*	10.70
	Flooding	6,983	*0.41%*	277.67	*0.69%*	25.15
	Outside Flood/Coastal Hazard	902,159	*53.03%*	30,630.41	*75.86%*	29.45
	Total in PC120 withdrawal extent	***947,848***	***55.71%***	***33,430.61***	***82.79%***	***28.35***
Regional total		**1,701,286**	***100%***	**40,380.12**	***100%***	**42.13**

2.12 5ha hexagon maps

Hexagon maps with equally-sized choropleths are a useful way to visualise enabled housing capacity across the region. In these maps, capacity is aggregated from individual sites into 5-hectare hexagonal tiles, allowing spatial patterns of enablement to be seen more clearly at a regional scale. Using regular grid cells to aggregate results helps avoid visual distortions and large-area highlighting effects that can occur with irregularly-sized geographies, such as Statistical Area 2 or Local Board areas. This approach also improves clarity compared to displaying site-level results, making spatial patterns easier to interpret.

Figure 3 shows 'PC120 as amended' Residential and Business zone net dwelling capacity, in line with the assumptions, limitations and the tables above.

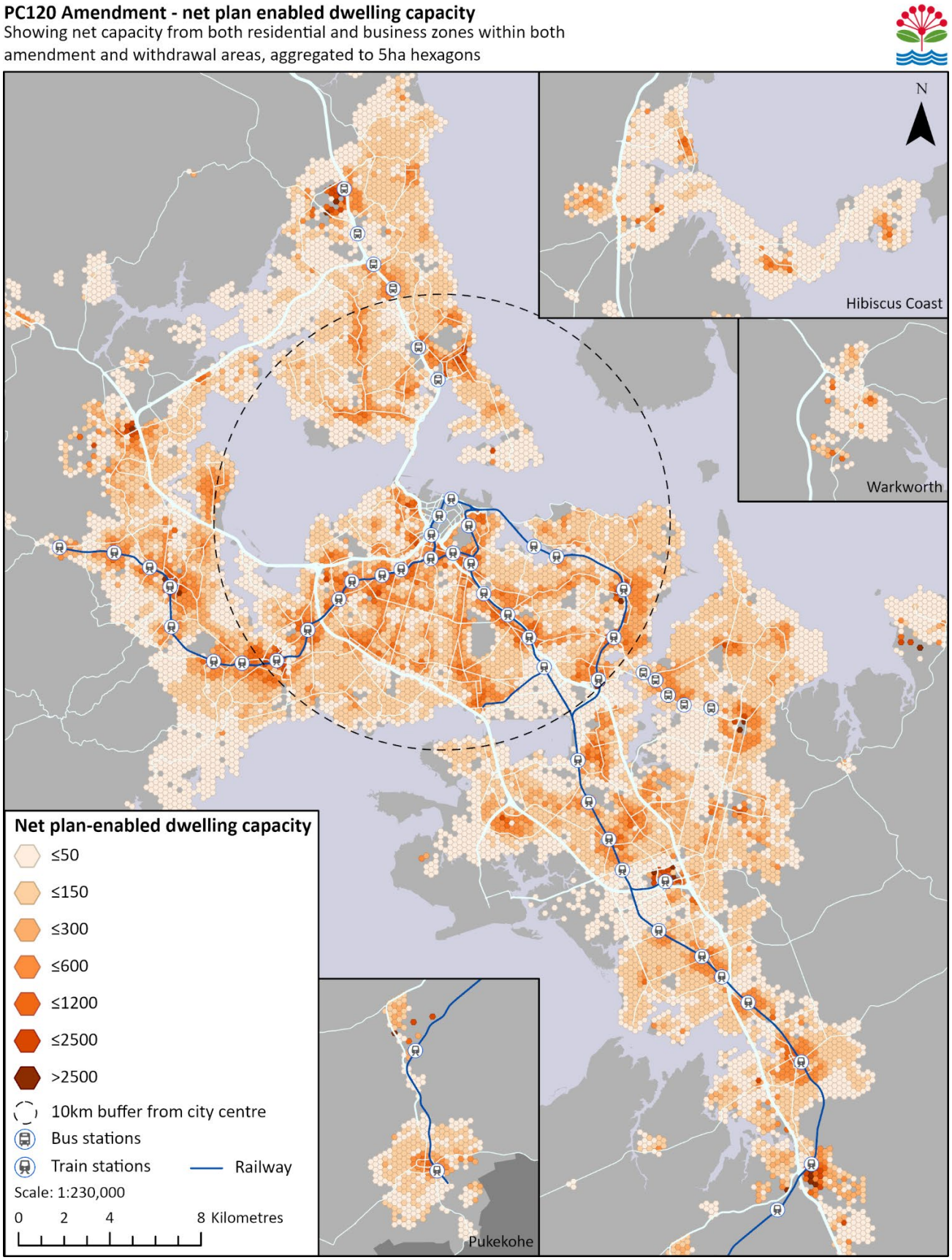


Figure 3: Total PC120 Amendment net plan-enabled housing capacity, aggregated to 5ha hexagons

3. Business capacity assessment results

The following section of the report sets out the plan-enabled floorspace modelled in Business zones, but does not comment on the residential plan-enabled capacity already set out in the previous section. While the main purpose of the capacity assessment was to understand housing capacity, modelled business floorspace is a key driver of calculated housing capacity in Business zones.

Assumptions are applied to the apportionment of business floorspace to business activity and residential activity. This facilitates comparability between different model runs, and avoids introducing matters of feasibility into the plan-enabled capacity assessment. The most direct output of the modelling in Business zones is calculated floorspace in response to the enabled building envelope and any standards which limit the maximum floorspace that can be situated within that envelope.

3.1 Plan-enabled floorspace capacity overall results

Business capacity has been assessed in terms of floorspace capacity (square metres). The 'gross' floorspace represents the total floorspace capacity derived from the model without accounting for any already existing floorspace. Existing floorspace has been extracted from Auckland Council's ratings valuation data. 'Net' business floorspace has been calculated by subtracting the existing floorspace from the gross total floorspace.

As discussed earlier, where Business zone floorspace is also enabled to be used for residential activity (i.e., where dwellings are a Permitted, Controlled, or Restricted Discretionary activity[24]), part of this floorspace is 'apportioned' to residential uses,[25] and the remaining floorspace is reported as 'net floorspace (50/50 split)'. This means 50% of the net floorspace from relevant Business zones has been reported as floorspace for business activity, and the remaining 50% has been translated into dwellings to reflect residential activity, and reported in section 2 above.

Table 12 below illustrates the total gross, existing, net and 50/50 split floorspace capacity modelled under the PC120 provisions. It is worth mentioning that not all business floorspace is equal, and consideration of the capacity here must be carefully examined in context to the zoning. Often, business floorspace is only available for certain activities and uses which are enabled in that specific zone.

Table 12: Summary of total modelled floorspace capacity

	Plan-enabled floorspace (square metres)
Gross business floorspace	471,217,023
Existing floorspace	30,410,386
Net business floorspace	422,095,868
Net floorspace (50/50 split)	355,087,695

[24] As per clause 1 of Schedule 3C of the RMA.
[25] Refer to section 4.7 of this report for more details.

3.2 Plan-enabled net floorspace capacity by Local Board area

Table 12 above outlines the plan-enabled net floorspace capacity in square metres, and Table 13 shows the allocation of this regional figure across all Auckland Local Board areas. Table 13 presents gross floorspace, net floorspace and the adjusted net floorspace capacity after applying a 50/50 split for residential use in eligible Business zones.

Regionally, the model calculates a gross floorspace of 471,217,023 square metres within Business zones. Considering the existing floorspaces (30,410,386 square metres), the total net floorspace capacity is calculated as 422,095,868 square metres.[26] When the 50/50 residential apportionment is applied to applicable zones,[27] the regional net floorspace capacity for business use is adjusted to 355,087,695 square metres.

The distribution of business floorspace capacity varies significantly, with industrial and commercial centres driving the highest net yields and holding the largest share of the regional Business-zoned footprint. The Franklin Local Board area enables the largest net floorspace capacity, with a modelled 54,409,668 square metres of plan-enabled floorspace, which constitutes 12.89% of the total regional net business floorspace capacity. Under the 50/50 split, Franklin's relative share of the region increases to 13.13%, enabling 46,616,143 square metres of net floorspace capacity.

The Maungakiekie-Tāmaki Local Board area is the second-largest contributor, providing 49,388,158 square metres (11.70% of the regional total) of net floorspace capacity, which adjusts to 43,957,198 square metres (12.38% of the region) after 50/50 split. The Ōtara-Papatoetoe Local Board area also supplies a large volume of floorspace, delivering 47,030,718 square metres (11.14% of the total) and 41,155,070 square metres (11.59%) after the residential apportionment. Other Local Board areas exceeding 7% of the regional total net floorspace capacity include Howick (7.77%), Māngere-Ōtāhuhu (7.76%), and Upper Harbour (7.60%).

The Local Board area of Henderson-Massey enables 6.76% of the regional total net floorspace capacity (28,538,658 square metres), Manurewa enables 6.31% (26,628,473 square metres) and Papakura enables 4.42% (18,660,863 square metres). In contrast, more geographically constrained areas or those with a smaller proportion of Business zoning enable a much smaller amount of net floorspace, generally falling below 2% of the regional total. The Waitākere Ranges Local Board area yields the lowest net floorspace capacity at 2,161,976 square metres (0.51% of the regional total), reducing to 1,642,845 square metres (0.46% of the regional total) after the residential apportionment. Other Local Board

[26] Note that when the amount of existing floorspace is greater than the gross modelled floorspace on a site, the 'net' floorspace is capped at zero floorspace capacity (i.e., it does not become a 'negative' floorspace). Additionally, if a Business-zoned site is missing floorspace data in the ratings dataset, a 'net' floorspace cannot confidently be calculated, and even if the site has a non-zero gross capacity modelled, the 'net' floorspace on these sites is considered 'zero'.

[27] Neighbourhood Centre Zone, Local Centre Zone, Town Centre Zone, Metropolitan Centre Zone, and Mixed Use Zone.

areas with lower Business floorspace capacity enablement include Puketāpapa (1.04% of the regional total), Devonport-Takapuna (1.59%), and Ōrākei (1.72%).

The application of the 50/50 residential apportionment in the relevant Business zones highlights zone mix differences between the Local Board areas, shifting the aforementioned regional share of the floorspace enablement particularly in Local Board areas with a greater prevalence of zones enabling mixed uses. The resultant modelled floorspace after this allocation is shown in Figure 4.

For example, the regional share of net floorspace in both the Waitematā and Albert-Eden Local Board areas reduces once the apportionment for residential activity is considered in the relevant zones. In contrast, Local Board areas having larger amount of industrial zoned land (where the residential apportionment does not apply), see an increase in proportional shares of the regional total (such as in the Māngere-Ōtāhuhu and Manurewa Local Board areas). However, despite the residential allocation, the Franklin Local Board area's share of the regional total net business floorspace remain the highest (13.13%), followed by the Local Board areas of Maungakiekie-Tāmaki (12.38%) and Ōtara-Papatoetoe (11.59%).

Table 13: Gross and net floorspace capacity in Business zones, by Local Board area

Local Board area	Gross floorspace		Net floorspace		Net floorspace (business use after 50/50 split)	
	Modelled floorspace (square metres)	**Percentage of regional floorspace**	**Modelled floorspace** (square metres)	Percentage of regional floorspace	**Modelled floorspace** (square metres)	**Percentage of regional floorspace**
Albert-Eden	11,954,733	2.54%	10,408,658	2.47%	5,571,399	1.57%
Devonport-Takapuna	7,740,630	1.64%	6,695,936	1.59%	3,753,476	1.06%
Franklin	56,073,806	11.90%	54,409,668	12.89%	46,616,143	13.13%
Henderson-Massey	31,025,525	6.58%	28,538,658	6.76%	22,339,441	6.29%
Hibiscus and Bays	14,151,943	3.00%	12,985,849	3.08%	10,606,028	2.99%
Howick	36,140,228	7.67%	32,792,638	7.77%	28,689,870	8.08%
Kaipātiki	12,523,377	2.66%	10,090,687	2.39%	9,050,873	2.55%
Māngere-Ōtāhuhu	36,641,840	7.78%	32,760,586	7.76%	30,365,626	8.55%
Manurewa	30,003,187	6.37%	26,628,473	6.31%	25,756,136	7.25%
Maungakiekie-Tāmaki	58,763,290	12.47%	49,388,158	11.70%	43,957,198	12.38%
Ōrākei	7,849,667	1.67%	7,267,365	1.72%	4,705,194	1.33%
Ōtara-Papatoetoe	50,598,864	10.74%	47,030,718	11.14%	41,155,070	11.59%
Papakura	19,901,350	4.22%	18,660,863	4.42%	16,777,904	4.73%
Puketāpapa	4,988,175	1.06%	4,408,260	1.04%	3,366,045	0.95%
Rodney	17,798,848	3.78%	17,148,157	4.06%	15,095,532	4.25%
Upper Harbour	38,467,576	8.16%	32,075,156	7.60%	26,279,897	7.40%
Waitākere Ranges	2,347,628	0.50%	2,161,976	0.51%	1,642,845	0.46%
Waitematā	14,746,122	3.13%	11,396,734	2.70%	5,708,982	1.61%
Whau	19,500,233	4.14%	17,247,327	4.09%	13,650,034	3.84%
Total	**471,217,023**	**100.00%**	**422,095,868**	**100.00%**	**355,087,695**	**100.00%**

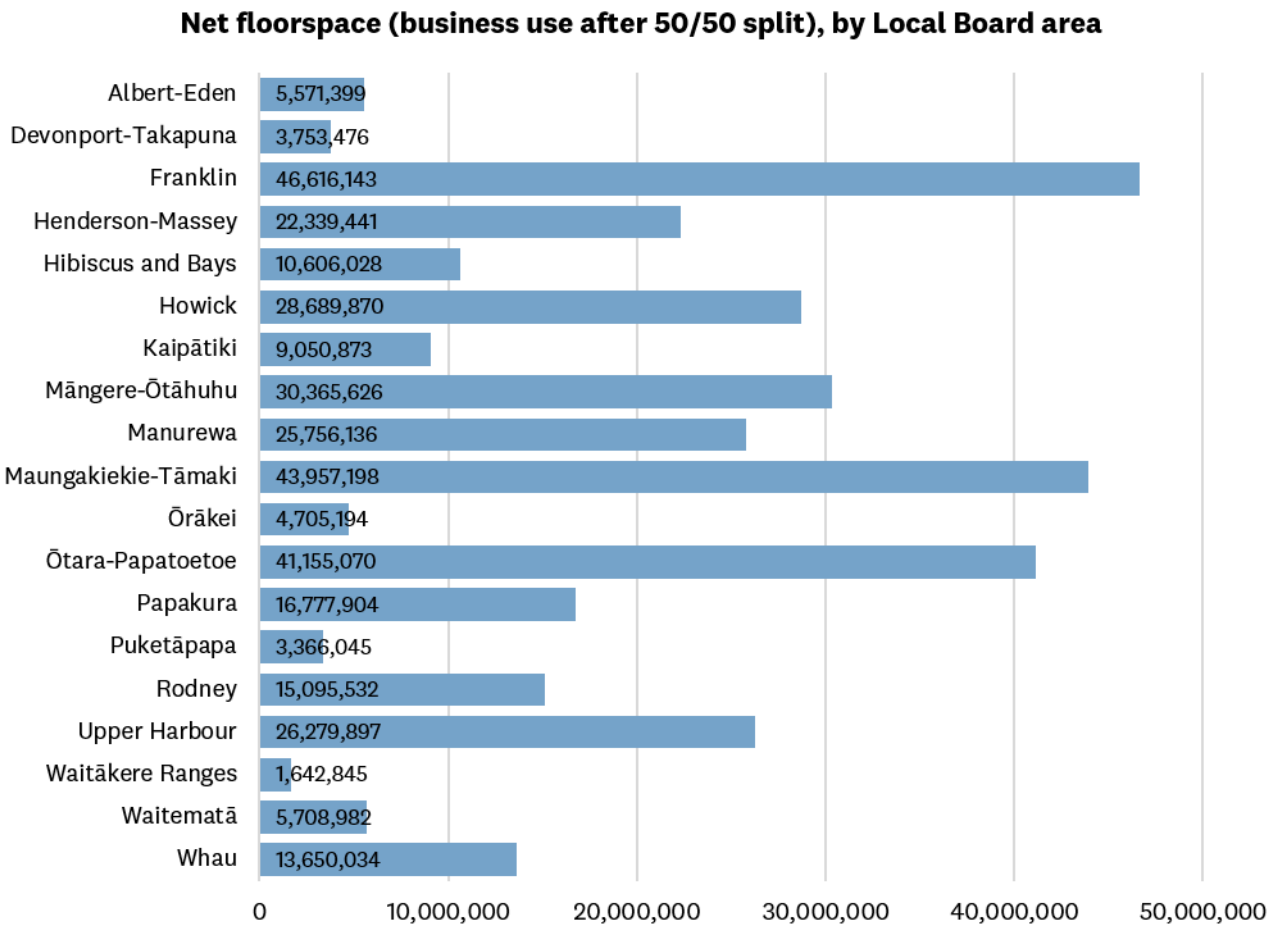


Figure 4: Net floorspace capacity in Business zones after 50/50 residential/business allocation, by Local Board area (as shown in Table 13)

3.3 Average plan-enabled gross floor area ratio (FAR), by Local Board area

Floor area ratio (FAR) is the ratio of a site's plan-enabled floorspace to its physical site area, serving as a key indicator of relative development potential in planning and urban economics. A FAR of less than 1.0 indicates that the total plan-enabled floorspace area is smaller than the site itself, whereas a FAR greater than 1.0 means the plan-enabled floorspace exceeds the physical site area.

In this report, FAR calculations have been applied to Business zones only. This is because the model calculates direct volumetric business floorspace for all Business-zoned sites, while some Residential zones are not modelled volumetrically. Furthermore, unlike plan-enabled dwelling density discussed in section 2.8, where average dwelling density was estimated based on the net dwelling capacity, the FAR estimation in this section considers gross floorspace capacity (without taking into account the already existing floorspace), divided by the total area of all corresponding Business zone sites. Therefore, it illustrates the relationship between the plan-enabled floorspace in response to plan provisions, and site size, regardless of sites' ultimate use (residential activity, business activity, or a combination of both).

Table 14 details this plan-enabled average Business zone FAR across Auckland's Local Board areas. Regionally, the model yields an overall average enabled FAR of 5.21 for these Business zones, indicating

that the gross business floorspace is 5.21 times the amount of the total physical site footprints modelled.

The Waitematā and Devonport-Takapuna Local Board areas have the greatest average FAR of 6.75 and 6.64 respectively, followed by the Local Board areas of Henderson-Massey at 5.96, and Ōrākei and Whau at 5.92 each. The Local Board areas of Upper Harbour (5.76), Albert-Eden (5.44) and Ōtara-Papatoetoe (5.38) also demonstrate a higher plan-enabled intensity, all exceeding an average FAR of 5.0.

Conversely, the Hibiscus and Bays Local Board area holds the lowest average enabled FAR in the region at 4.26. The Rodney Local Board area also shows a comparatively lower average FAR of 4.57. The Local Board areas of Māngere-Ōtāhuhu (4.66), Puketāpapa (4.73) and the Waitākere Ranges (4.80) form the remainder of the lower-tier intensity outputs in this model run.

Table 14: Average plan-enabled gross floor area in Business zones, by Local Board area

Local Board area	**Average plan-enabled gross floor area ratio (FAR)**
Albert-Eden	5.44
Devonport-Takapuna	6.64
Franklin	4.98
Henderson-Massey	5.96
Hibiscus and Bays	4.26
Howick	5.12
Kaipātiki	4.90
Māngere-Ōtāhuhu	4.66
Manurewa	4.84
Maungakiekie-Tāmaki	5.20
Ōrākei	5.92
Ōtara-Papatoetoe	5.38
Papakura	4.99
Puketāpapa	4.73
Rodney	4.57
Upper Harbour	5.76
Waitākere Ranges	4.80
Waitematā	6.75
Whau	5.92
Regional average	**5.21**

3.4 Plan-enabled net floorspace capacity by Business zone

Table 15 below provides the total gross and net floorspace capacity across the PC120 Business zones, along with the remaining floorspace capacity after allocating 50% for residential use from relevant Business zones. A closer look at the gross and net floorspace capacities across different zones show that the Light Industry and Heavy Industry zones enable a large proportion of the region's business floorspace plan-enabled capacity. In these zones, residential activity is not considered plan-enabled, and activities likely require a greater land area than other types of Business zones.

The Metropolitan Centre Zone enables 11.16% of the net regional plan-enabled floorspace capacity within Walkable Catchment areas, compared to a negligible 0.09% outside Walkable Catchments.[28] The Mixed Use Zone similarly enables 7.48% inside Walkable Catchments, and 4.59% outside Walkable Catchments. However, other Business zones reverse this pattern, generally enabling more capacity outside of Walkable Catchments, as seen in the Town Centre Zone (3.51% outside Walkable Catchments versus 1.63% within) and the Local Centre Zone (2.18% outside versus 0.25% within Walkable Catchments). Further analysis could be carried out to further understand the drivers of this difference, but has not been undertaken for this report.

For those Business zones which are subject to the 50/50 apportionment, the enabled floorspace for allocated for business use drops significantly after apportionment. However, the relative proportion of enablement within and outside the Walkable Catchment remains steady.

After 50/50 apportionment, the floorspace capacity enabled within the Metropolitan Centre Zone in Walkable Catchments constitutes 6.63% of the adjusted regional total (23,549,203.90 square metres) compared to 0.05% for outside Walkable Catchments (181,101 square metres). The Mixed Use Zone also maintains the proportional concentration between Walkable Catchment and non-Walkable Catchment site enablement relative to the rest of the region (4.45% in Walkable Catchments and 2.73% outside Walkable Catchments), while other Business zones continue to enable a greater amount of business floorspace outside Walkable Catchments, such as in the Town Centre Zone (2.09% outside Walkable Catchments versus 0.97% inside Walkable Catchments).

[28] This is due to the input Walkable Catchment extent and part of the Manukau Metropolitan Centre Zone extending beyond the catchment boundary.

Table 15: Gross and net business floorspace capacity, by PC120A Business zone

PC120A Business zone		Gross floorspace		Net floorspace		Net floorspace (business use after 50/50 split)	
		Modelled floorspace (square metres)	**Percentage of regional floorspace**	**Modelled floorspace** (square metres)	**Percentage of regional floorspace**	**Modelled floorspace** (50/50 split)[29]	**Percentage of regional floorspace**
Light Industry Zone	Non-WC	182,163,328	38.66%	166,923,483.48	39.55%	166,923,483.48	47.01%
	WC	27,071,383	5.74%	24,820,846.65	5.88%	24,820,846.65	6.99%
Heavy Industry Zone	Non-WC	82,935,079	17.60%	74,320,070.51	17.61%	74,320,070.51	20.93%
	WC	5,456,670	1.16%	4,738,216.42	1.12%	4,738,216.42	1.33%
General Business Zone	Non-WC	8,702,033	1.85%	7,883,097.05	1.87%	7,883,097.05	2.22%
	WC	7,925,644	1.68%	6,776,669.42	1.61%	6,776,669.42	1.91%
Business Park Zone	Non-WC	1,157,261	0.25%	1,066,283.43	0.25%	1,066,283.43	0.30%
	WC	1,765,515	0.37%	1,550,854.15	0.37%	1,550,854.15	0.44%
Neighbourhood Centre Zone	Non-WC	3,499,837	0.74%	3,089,828.39	0.73%	1,544,914.19	0.44%
	WC	582,749	0.12%	535,191.70	0.13%	267,595.85	0.08%
Local Centre Zone	Non-WC	9,947,965	2.11%	9,201,700.01	2.18%	4,600,850.00	1.30%
	WC	1,338,583	0.28%	1,044,734.87	0.25%	522,367.43	0.15%
Town Centre Zone	Non-WC	16,734,605	3.55%	14,825,573.48	3.51%	7,412,786.74	2.09%
	WC	8,127,657	1.72%	6,893,898.43	1.63%	3,446,949.22	0.97%
Metropolitan Centre Zone	Non-WC	369,826	0.08%	362,202.38	0.09%	181,101.19	0.05%
	WC	52,240,014	11.09%	47,098,407.79	11.16%	23,549,203.90	6.63%
Mixed Use Zone	Non-WC	21,844,833	4.64%	19,374,750.96	4.59%	9,687,375.48	2.73%
	WC	39,354,041	8.35%	31,590,058.95	7.48%	15,795,029.47	4.45%
Total		**471,217,023**	**100%**	**422,095,868**	**100%**	**355,087,695**	**100%**

3.5 Average plan-enabled gross Floor Area Ratio (FAR), by Business zone

Table 16 presents the average plan-enabled gross floor area ratio (FAR) across the PC120A Business zones, using the gross floorspace capacity shown in Table 15 and the site areas from Business zones as shown in Table 7. As shown previously, across all Business zones combined, the model yields an average plan-enabled business FAR of 5.21.

The Metropolitan Centre Zone demonstrates the highest density in the model with a gross FAR of 14.20 outside of Walkable Catchments ('non-WC') and 12.68 in Walkable Catchments ('WC').[30] The remaining Business zones show a higher average gross FAR in Walkable Catchment extents compared to outside Walkable Catchment areas. For example, in the Neighbourhood Centre Zone, the gross FAR in Walkable

[29] The 50/50 split applied to only relevant Business zones where both residential and business uses are considered plan-enabled. For all other zones (i.e., Light Industry Zone, Heavy Industry Zone, General Business Zone and Business Park Zone), 100% of the floor space is allocated to business use, therefore both columns in Table 15 have the same floorspace figures.

[30] Refer to footnote 28.

Catchments (6.20) is more than doubled the FAR outside Walkable Catchment (2.71). A similar pattern is seen in the Mixed Use Zone, which shows an FAR of 4.54 outside Walkable Catchments, compared to 6.72 within Walkable Catchments. The FAR in the Town Centre Zone increases from 5.30 outside Walkable Catchments to 6.22 inside Walkable Catchments, while the FAR in the Local Centre Zone increases from 4.28 outside the Walkable Catchment to 6.12 inside Walkable Catchments.

Table 16: Average plan-enabled gross floor area ratio, by Business zone

PC120A Business zone		**Average plan-enabled gross floor area ratio (FAR)**
Light Industry Zone	Non-WC	4.60
	WC	5.46
Heavy Industry Zone	Non-WC	4.75
	WC	5.66
General Business Zone	Non-WC	3.72
	WC	5.83
Business Park Zone	Non-WC	4.91
	WC	4.99
Neighbourhood Centre Zone	Non-WC	2.71
	WC	6.20
Local Centre Zone	Non-WC	4.28
	WC	6.12
Town Centre Zone	Non-WC	5.30
	WC	6.22
Metropolitan Centre Zone	Non-WC	14.20
	WC	12.68
Mixed Use Zone	Non-WC	4.54
	WC	6.72
Regional average		**5.21**

Zones in which residential activity is not plan-enabled show higher gross FAR averages in Walkable Catchments than outside Walkable Catchments. The Light Industry Zone generates an average gross FAR of 4.60 outside Walkable Catchments, increasing to 5.46 within the Walkable Catchments. The Heavy Industry Zone shows a similar pattern, increasing from an average gross FAR of 4.75 outside Walkable Catchment extents to 5.66 inside Walkable Catchment extents. The General Business Zone increases from an average gross FAR of 3.72 outside Walkable Catchments to 5.83 inside Walkable Catchments. However, the Business Park Zone, enables an average gross FAR of 4.91 outside Walkable Catchment extents, and a nearly identical average gross FAR of 4.99 in Walkable Catchment extents.

4. Modelling methods and assumptions

4.1 Partial withdrawal and proposed amendments to PC120: provision of inputs for modelling

Areas which are subject to the partial withdrawal of Plan Change 120 are indicated by a 'white-out' in published planning maps for the partial withdrawal and proposed amendments to Plan Change 120, as notified in August 2026. This withdrawal extent returns to its operative Auckland Unitary Plan zoning spatial distribution, and this is the zoning which is modelled as part of the model run presented in this report.

For areas still on the plan change, the proposed amendments version of zoning spatial application and any amended controls such as Height Variation Controls.

The spatial data above is supplied to the capacity modelling team as a 'flattened' set of inputs for modelling – i.e., the resultant zoning, controls, and overlays each as their own input feature class, ready for input into the modelling process. The capacity modelling team does not author this 'flattened' input, to avoid any issues with translation of the partial withdrawal or proposed amendments into spatial data.

In relation to plan text provisions, this was supplied to the capacity modelling team as a package of plan text to be modelled. Where an amendment to the plan text has been proposed (i.e., from what was notified in November 2025), this has been supplied to us for modelling. It is noted that some proposed amendments do not affect the modelled provisions (e.g., if the proposed amendments are primarily in the objectives and policies, or are to standards which are not modelled). Where proposed plan text has not been amended from what was notified in November 2025, this version of that plan text has instead been supplied for modelling.

Irrespective of a site's location in the withdrawal area or not, the same zone plan text has been applied across every instance of that zone, as advised and instructed for this modelling process. While a site may be in the withdrawal area and will not see a change in the zoning applied from what is currently operative under the Auckland Unitary Plan, the *provisions* applied to that site via the zone's plan text may be proposed to change region-wide.

4.2 Modelling approach

The Capacity for Growth Study (CfGS) methodology is a well-established framework which has been used to model the Auckland Unitary Plan, including PC120 following partial withdrawal and as proposed to be amended in August 2026 (herein referred to as 'PC120A' for short). This same methodology was also used for the 'baseline PC78' housing capacity assessment, and 'PC120 as notified', as reported in October 2025.

Foundational documentation for the CfGS process is available as separate technical reports and can be accessed via Knowledge Auckland.[31] The CfGS process is one of continuous improvement and is established to be responsive to changes in planning rules and requirements. While various nuances and detailed technical elements of the process have been modified over the last decade to reflect changing planning requirements, the core principles remain the same. Furthermore, the same methodology has been employed across the span of the Plan Change 120 process, as required by Schedule 3C of the Resource Management Act 1991.

For lower-intensity zones included in the modelling,[32] a combination of density controls and maximum dwelling provisions are used to calculate housing capacity. These zones are not subject to a volumetric assessment, as the plan provisions modelled already set out a maximum number of dwellings enabled.

For medium to higher-intensity zones included in the modelling,[33] there are no upper bounds provided for in the zone text for the maximum number of dwellings considered to be a Restricted Discretionary activity. The primary drivers of capacity are geometric constraints derived from plan provisions which determine where a building may be located on a site. To model this, a theoretical three-dimensional envelope of enablement is built, through a sequential spatial process: identifying the base zone, identifying setbacks and overlays, generating upper floors, applying planning controls, calculating total floorspace, and finally translating the net or gross yield floorspace into dwellings.

To determine this envelope, the model evaluates individual sites against the PC120A base zoning provisions alongside a subset of key overlays that affect building height and bulk, excluding the consideration of Precinct provisions. Because the planning provisions generally define a three-dimensional shape for development constraints rather than directly prescribing exact dwelling or employment figures, the calculation of total floorspace serves as the primary regulatory output of the model.

The following sections give a high-level overview of the capacity modelling process under CfGS, as well as some practical considerations regarding the conversion of outputs to a 'number of dwellings' figure and the inputs used for the modelling presented in this report.

4.3 High level overview of plan-enabled capacity modelling under the CfGS

Figure 5 below shows the capacity assessment process at a very high level, for higher intensity residential and business development where floorspace is the primary output.

[31] Capacity for Growth Study 2012: Methodology and Assumptions; Capacity for Growth Study 2013: Methodology
[32] Rural and Coastal Settlement, Large Lot, and Single House Zones
[33] Mixed Housing Suburban, Mixed Housing Urban, Terrace Housing and Apartment Buildings, and Business zones (excluding the City Centre Zone).

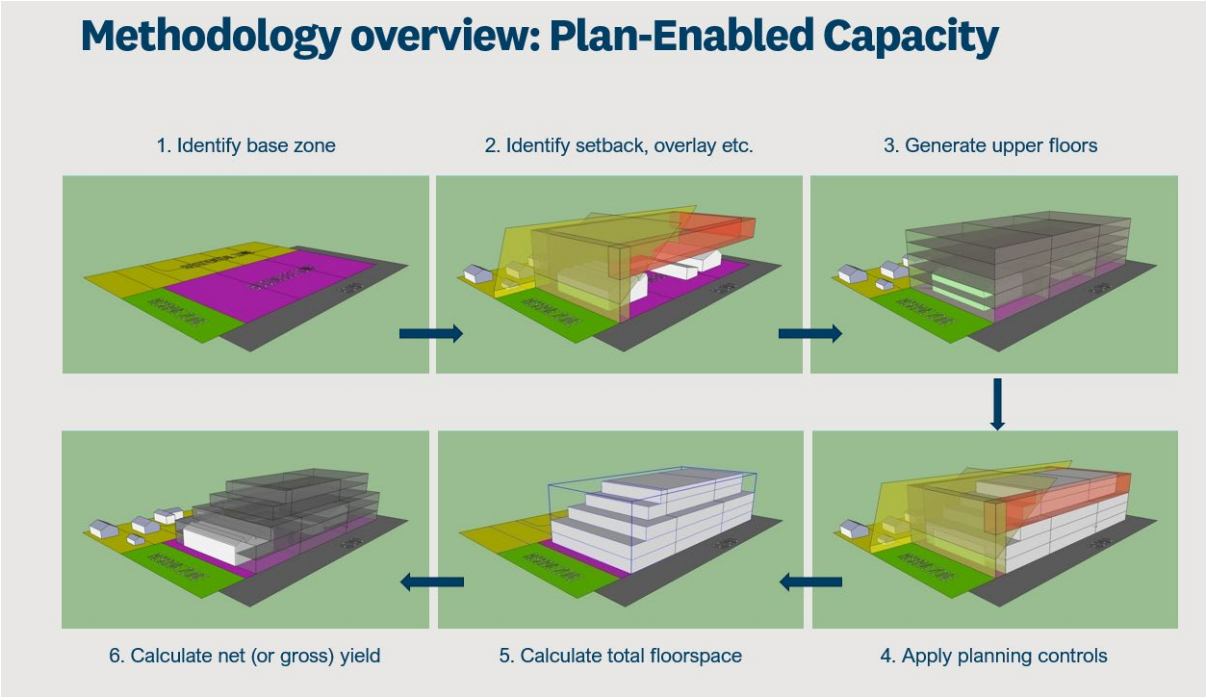


Figure 5: Overview of the Plan-Enabled Capacity modelling methodology

In these zones, the Auckland Unitary Plan, PC78, and PC120 do not directly regulate the number of dwellings or employment. Instead, the rules generally define a three-dimensional shape within which development can occur, subject to a range of requirements and restrictions – this is known as a building envelope as shown in Figure 6 and Figure 7 below.

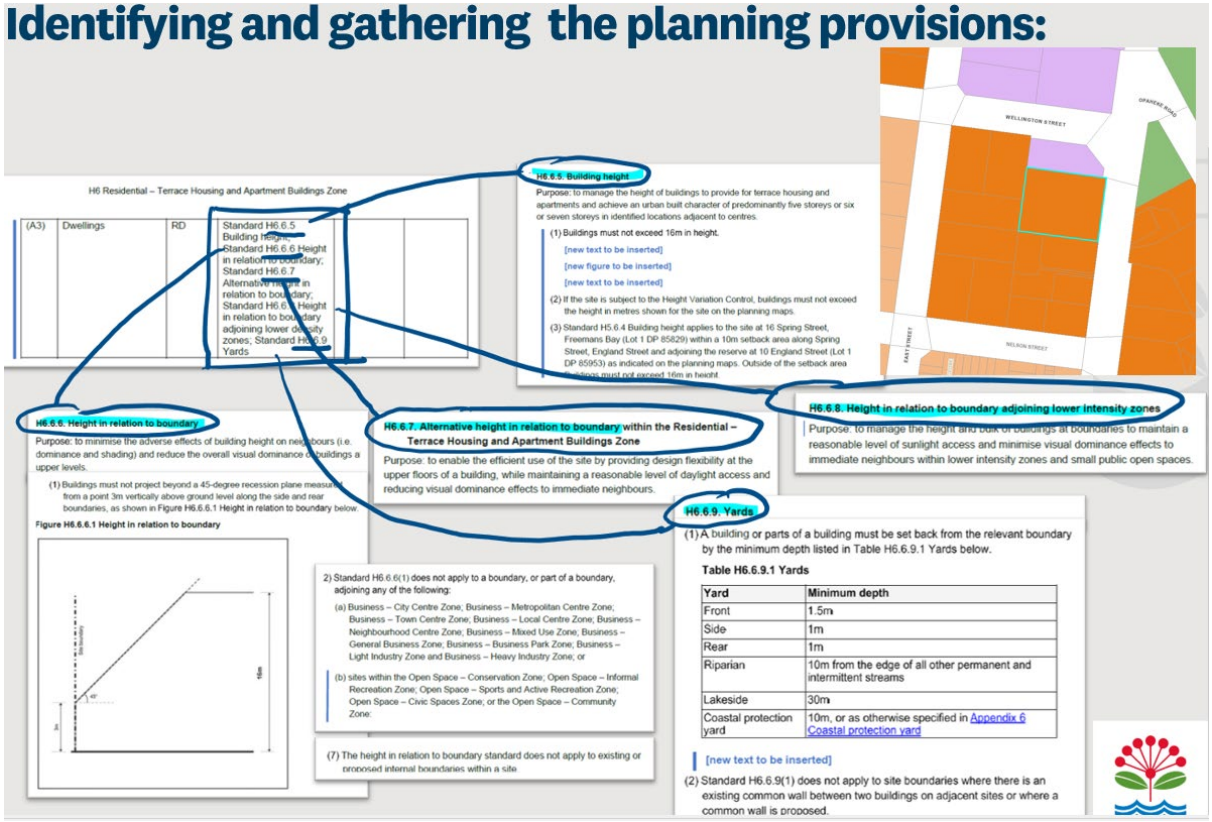


Figure 6: Translating the planning text into parameters[34]

A building envelope starts out as 100% of the site, pushed up to the maximum height in storeys allowed, as shown in Figure 7 below. Maximum effective height is either the zone height or height variation control (where that exists), and then, if required, reduced to the most restrictive of several height affecting Overlays (e.g., viewshafts, sunlight accessibility planes, and height sensitive areas).

[34] N.B.: the provisions shown in this figure are indicative only, and do not necessarily correspond to those provisions modelled for PC120A.

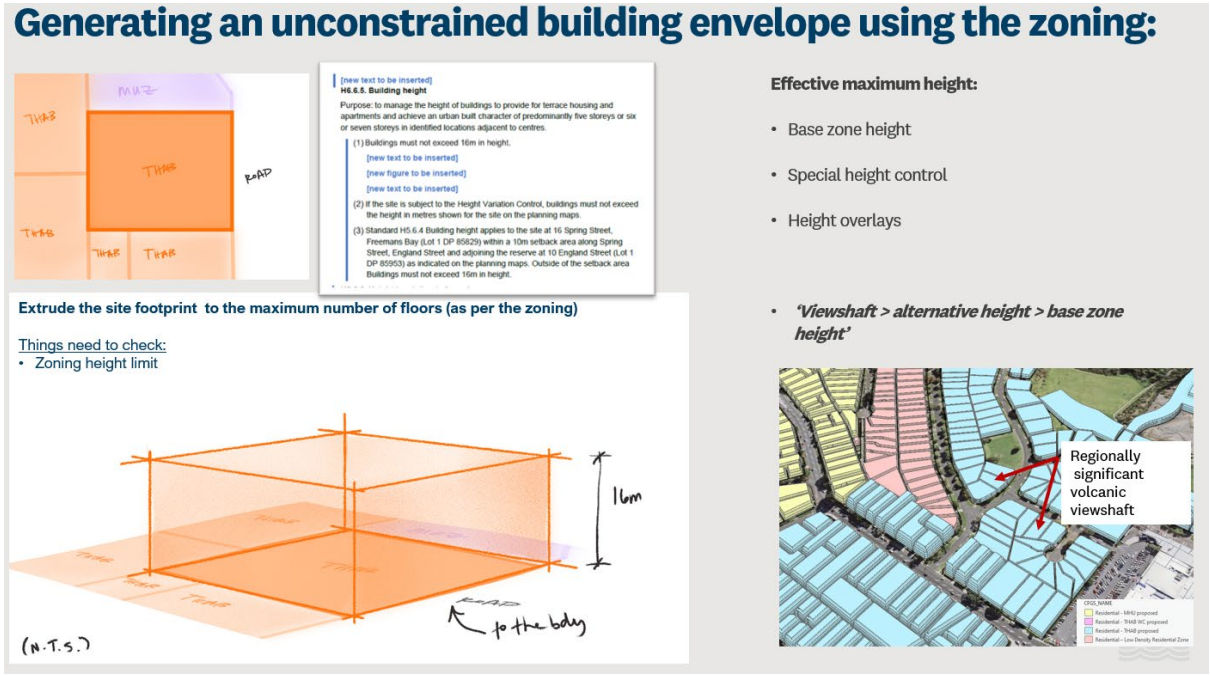


Figure 7: Initiating the building envelope

Other spatial limitations such as upper-level setbacks, yards, height in relation to boundary, and many other rules are input as limitations that 'chop away' at the edges of the maximum stories envelope. This removes areas where a building footprint at each storey is 'not enabled', leaving only the enabled envelope – the space on the site where a building, considered at each possible floor, is allowed to be located. This is shown in Figure 8 and Figure 9 below.

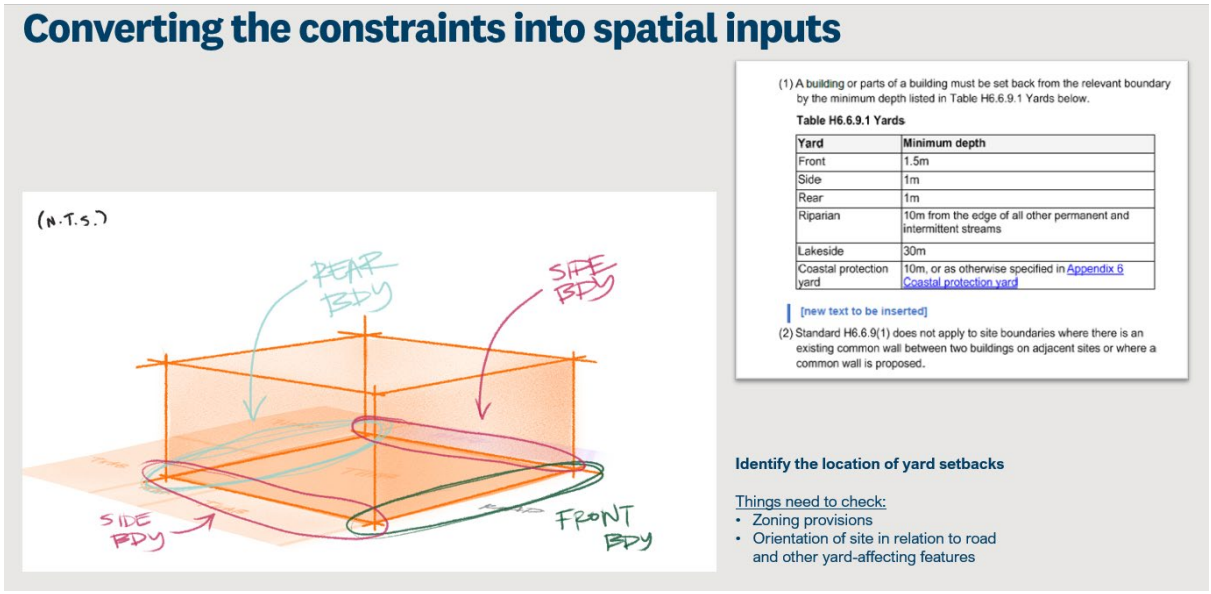


Figure 8: Identifying site boundaries to begin applying standards

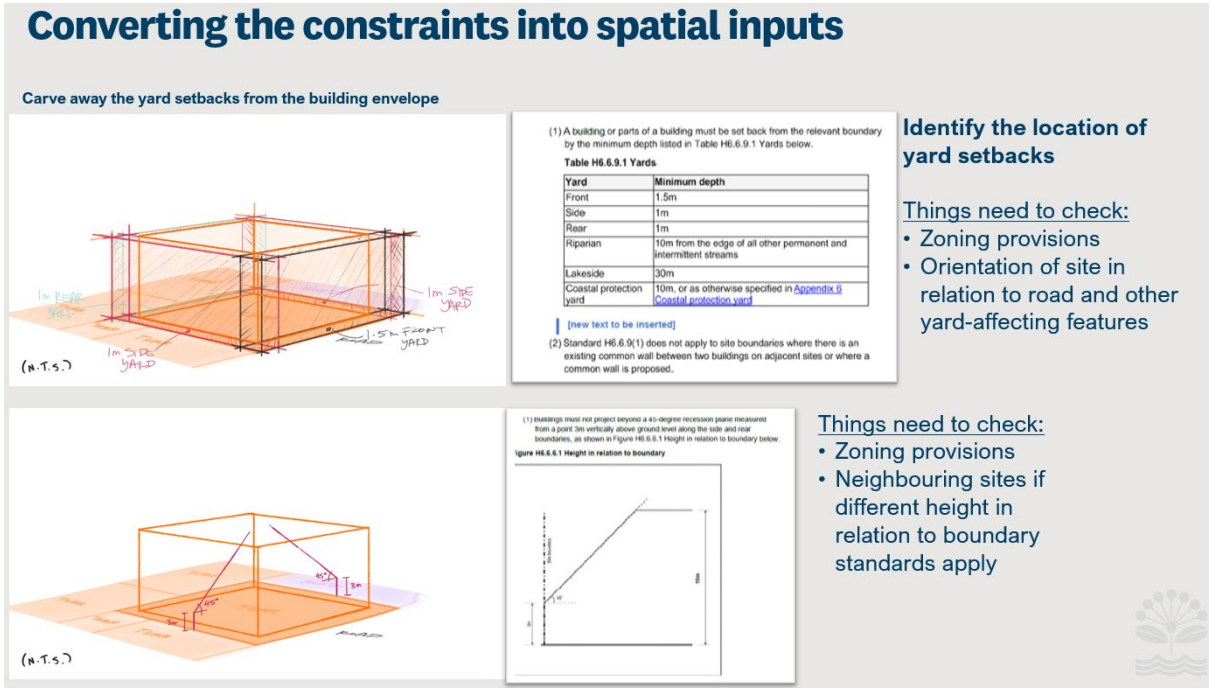


Figure 9: Spatially clipping away the building envelope

This locational envelope is often much larger than the actual plan-enabled building. To ensure we are not mistaking the 'envelope' for enabled 'building floorspace', the envelope at each level is mathematically checked for compliance with 'non-spatial' rule requirements like maximum building coverage, minimum landscaping area, or maximum tower dimensions.

For example, if after considering yards and HIRB requirements, the second storey envelope on a 600m² site is calculated to be 400m², but maximum building coverage is 45%, the enabled floorspace at that level is 600 × 0.45, or 270m² – in this example 67.5% of the envelope can be utilised, indicating some flexibility in where within the envelope that floorspace could be ultimately be located.

Other mathematical checks are made to ensure a given storey floorspace is never greater than any storey below – that smallest lower storey is then used as the maximum floorspace for all storeys above, if required. This is summarised in Figure 10 below.

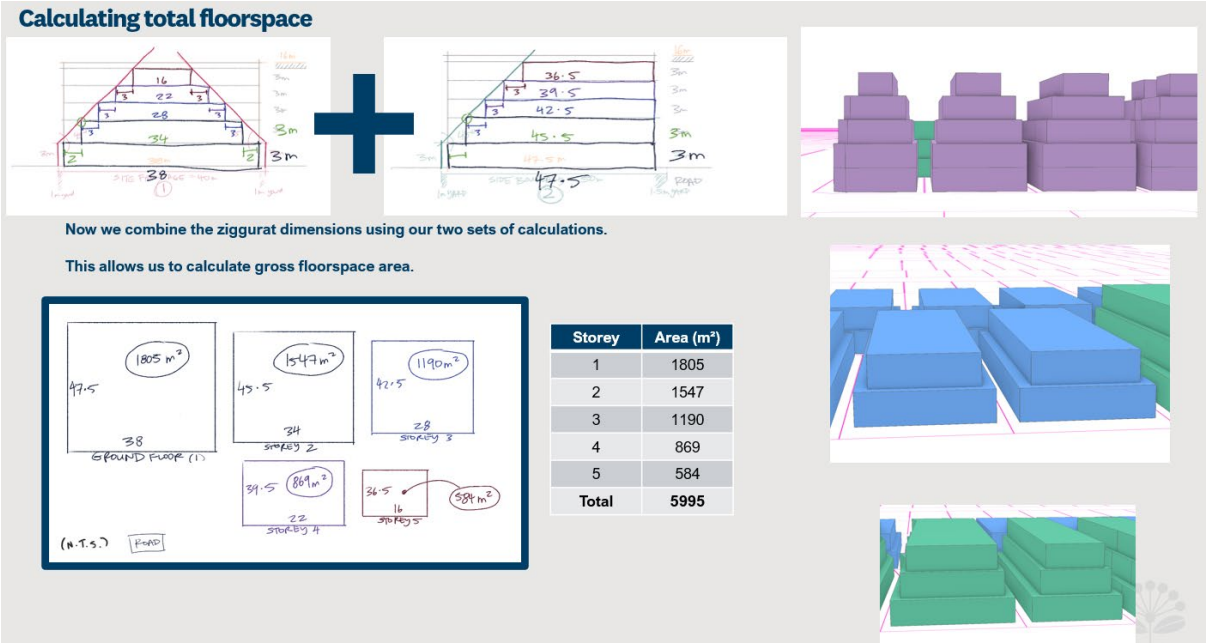


Figure 10: Summation of floor-by-floor modelling to calculate floorspace

Further refinements are made by checking factors such as access or driveway width, which may limit the number of dwellings that can be accessed on a site, as well as any additional specific zone or site requirements. These checks help determine the total floorspace that can be developed. This total floorspace is then converted into a gross redevelopment dwelling capacity using an assumed average dwelling size, which is set above the minimum requirement. Net redevelopment dwelling capacity (the additional dwellings or 'growth' enabled) is calculated as the difference between this enabled gross potential, and the existing dwellings on the site.

4.4 Input cadastral base

The Capacity for Growth Study model utilises an approach that combines Land Information New Zealand (LINZ)[35] parcels and titles, and Auckland Council rates assessment data into the smallest spatial unit (or 'site') where all three are wholly contained.

This modelling methodology is not a dynamic one. It is undertaken on a set of static 'snapshots' to be tested. As time continues, so does on-the-ground development, and real life conditions continue to diverge from the static snapshot captured for this model run. Updated cadastral inputs were therefore utilised as the base for the model run reported here, to ensure that development which occurred since the previously-reported model run could be captured.

The datasets used for site creation in the model run for 'the Auckland Unitary Plan, including Plan Change 120 following partial withdrawal and as proposed to be amended in August 2026' ('PC120A') are as follows:

- LINZ NZ Property Titles: as at 23rd July 2026

[35] Sourced from LINZ Data Service and clipped to the Auckland region.

- LINZ Primary Land Parcels: as at 23rd July 2026
- LINZ Primary Road Parcels: as at 23rd July 2026
- Auckland Council District Valuation Roll Property Footprints: as of July 2026, including latest available regional valuations (effective date of May 2024).

For most 'standard' freehold properties with a single dwelling, these three input property features are the same (1:1:1). However, there are many instances where they are not, and the 'three-way' relationship is much more complex, so the process must accommodate significant variation. The list below highlights some examples:

- A cross-leased site comprises a single parcel, two (or more) titles and two (or more) rate assessments (1:M:M).
- A medium-density housing complex is developed across 3 parcels, containing 14 unit titled units and a common parking and landscaping area (M:M:M).
- An apartment building over 2 parcels, containing a ground floor retail unit and 36 apartments and 50 separately titled carparking spaces and several common areas. The 'site' would be the size of the two parcels but aggregates the 37+ titles and 38+ rate assessments. (M:M:M).
- A rural farming property is made up of 7 parcels ranging in size from 809 square metres to 34.5 hectares, some of which have been amalgamated into three separate titles (one block is separated by a road from the others), but the whole is rated as a single rates assessment (M:M:1).

Information from the three data sources (number of titles, legal descriptions, descriptive data from rates assessment including number of units of use, residential units, and valuation) is aggregated as appropriate and carried over into the new site geometry, for use in later analysis.

This base 'sites' layer is then further processed against the input zoning layers to tag them with their base zoning, as well as any necessary Overlays. Where base zone boundaries split input base sites, these zone boundaries are used to create new 'sites' to enable each uniquely zoned portion of the site to be assessed against the relevant zoning provisions.[36] Allocation of the base site aggregate data to 'sub-site' is undertaken on a 'prorated by area' basis, and new unique IDs are created. This latter step can mean the total number of sites assessed exceeds the number of sites input and can make direct comparison between model runs at fine spatial or categorical scales problematic without careful analysis.

[36] It is noted that this may produce an overly conservative plan-enabled capacity assessment for such a site. The cadastral base was temporally matched as closely as practicable to the cadastre used by the authors and owners of the proposed zoning input into the modelling (cadastral base as at 7 August 2026). This is one measure taken to minimise the prevalence of these 'multi-part' sites. It is also noted that, because of the on-the-ground lag between different stages of subdivision and those changes coming online in datasets, every model run undertaken will have a relatively small proportion of 'incomplete' activity captured midway through development.

4.5 Dwelling size assumption for floorspace conversion

Floorspace is the primary capacity measure output in medium- to higher-density Residential zones and Business zones, because this is primarily what the planning provisions relate to and control in these zones – largely concentrated on controlling the bulk, location and form of buildings, and comparatively very little on what happens within the resulting building envelope.

Most users and uses of the data outputs, however, either prefer or require capacity to be expressed as a number of dwelling units. Therefore, in these zones where floorspace is the factor being controlled by the planning rules and not the number of dwellings, we must 'convert' the floorspace enabled and managed by the plan to a 'dwellings' figure.

However, similar to previously modelled provisions (i.e., AUP, 'baseline PC78' or 'PC120 as notified'), the 'PC120 as amended' provisions do not directly control dwellings, or state how large a dwelling is, or may be in the more intensive zones, other than imposing a minimum dwelling size. This means, other than what is required to be 'at least' the minimum size, dwelling floor area is totally open-ended.[37]

Floorspace could convert to more dwellings if it were used for small units (which only must be at least the minimum size), or fewer units if the dwellings were larger; however, any value within that range is considered 'plan-enabled'. For the purposes of this reporting, a constant 120m² dwelling area has been utilised to convert plan-enabled floorspace to 'reported dwellings', in both Residential and Business zones where residential use is enabled, and a floorspace-to-dwelling conversion is required.

A dwelling area of 120m² has been used for the plan-enabled data supplied to the PC78 hearings process, plan-enabled modelling for the previous two HBAs, and the 'PC120 as notified' version. The Council's feasibility model and other users of the plan-enabled capacity data often take the floorspace envelope and recalculate potential development outcomes only using the floorspace envelope as an upper limit or policy setting. This modelling or testing may result in fewer or more dwellings than plan-enabled capacity (at a site level), as feasibility and take-up estimations are the appropriate method to test and assume different residential apportionment, dwelling sizes and use of envelope (up to the enabled limit) than the more generic assumption used for enabled floorspace conversions. Importantly, this type of capacity assessment is not within the scope of this report and any findings reported herein.

A 20% allowance for internal circulation/common space and a 5% allowance for bicycle storage is applied before the remaining floor space is converted – in effect, each 120m² dwelling requires (or consumes) 150m² of the enabled building's floorspace.[38]

All decimal yields are **rounded down** to their integer (e.g., both 3.01 dwellings and 3.99 dwellings are reported as 3 dwellings). This is because the model estimates capacity by calculating a site's total enabled floorspace envelope and dividing it by a fixed 120m² dwelling size assumption. This

[37] If a maximum dwelling area equal to 'gross site enabled floorspace' was applied, so all 'volumetric' sites have gross capacity of at least 1 dwelling, this could be a theoretical 'minimum' or lower bound. The upper bound would be 100% of dwellings being the minimum dwelling size, which would be 35m² studios. Both scenarios can be dismissed as implausible on a regional basis.

[38] 120m² + (120 × (0.2 + 0.05)) = 150m².

mathematical conversion inherently produces fractional results, which must be rounded to whole numbers because physical dwellings are discrete, indivisible units. Rounding down prevents the artificial overestimation of plan-enabled capacity by ensuring that the final capacity figure strictly represents the actual number of complete, compliant dwellings that can physically fit within the site's spatial constraints.

Where sites are limited by other provisions (such as road access width), the *minimum* of the access width, maximum dwellings and the floorspace based maximum dwellings is reported as site capacity.[39]

In contrast, in zones where density or maximum dwellings per site rules apply (Single House Zone, Large Lot Zone, and Rural and Coastal Settlement Zone), capacity is calculated directly using those density or maximum number of dwelling provisions for dwelling capacity, as the rules controlling building bulk are not necessary to be considered, and floorspace is not calculated and the size or nature of the dwelling(s) or their floor area is not required to be assumed. As enabled floorspace can only be 'converted' to the upper dwelling limit set by the density rules, calculation of the enabled building floorspace in these zones is unnecessary. The driveway width test is also applied, with the minimum of those two values applying as the gross capacity.

4.6 Treatment of large sites (>10,000m²)

The CfGS model, and the planning settings it reflects (in this case, 'PC120A') are designed around and optimised for managing outcomes on 'typically-sized' urban sites that are already built and serviced or being redeveloped.

Large sites provide opportunities that are not well-represented by this approach – large sites enable 'neighbourhood' scale development opportunities. In addition, they are typically relatively underdeveloped or used for non-residential uses, and so may not have the necessary 'neighbourhood' infrastructure of a scale appropriate for residential or business redevelopment.

Large sites are considered closer to greenfield sites in the way that new infrastructure, roads and public open space will be carved out from the developable area, and potentially multiple sites or developments will (or could) occur on the newly created lots to create the new neighbourhood. On smaller sites, the assumption is that these requirements are met or are provided 'elsewhere' in the already established neighbourhood. Sites smaller than 1 hectare are, in effect, the created lots from previous subdivision of large sites.

The determination and treatment of large Residential zoned sites in the urban environment is undertaken using the following approaches, shown in Table 17 below, noting the threshold for 'large site' is 1 hectare (10,000m²).

[39] On these sites, reported capacity could be different if a different dwelling size resulted in a maximum floorspace yield that was less than the access width.

Table 17: Modelling approaches for site areas below and above 10,000 square metres

Zone	Site area < 10,000m²	Site area ≥ 10,000m²
Mixed Housing Suburban Zone	Standard Volumetric Approach	Site area less 25%, divided by 300m² (33 dwellings per hectare)
Mixed Housing Urban Zone		
Terrace Housing and Apartment Buildings Zone		
All other Residential zones	Standard Density Approach. Site area divided by Vacant Site Subdivision areas, using additional zone-specific limitations as appropriate.	Site area less 25%, divided by Vacant Site Subdivision required areas, using additional zone-specific limitations as appropriate.

As shown in Figure 11 below, sites larger than 1 hectare are quite rare, making up only 0.6% of sites by count, but representing 20.14% of the total residential zoning by site area. These larger sites provide 9.08% of overall capacity under the PC120A provisions.

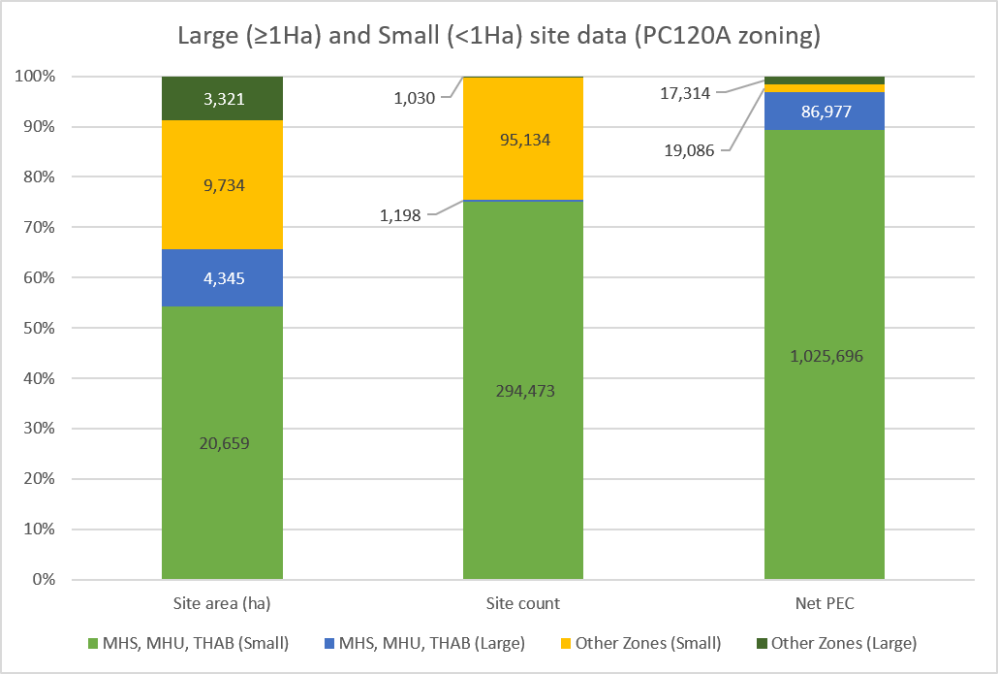


Figure 11: PC120A-based zoning, showing large and small site and zone split proportions

4.7 Residential apportionment in centres and mixed-use Business zones

In Centres and Business zones which provide for both residential and business activities, not only is there significant flexibility or enablement in terms of how large (or small[40]) a dwelling may be, but also in how much of the enabled space could be used for residential activity. Because it is not specified either way in the plan (both business and residential uses are enabled, leaving it to developers or future users to determine based on preferences and market conditions), the residential split is enabled to vary between none at all (0%) and all of it (100%), depending on the zone.[41]

Even with a fixed dwelling size, variation in the apportionment of floorspace to residential will drive variation in output capacity. Varying the dwelling size on top of that will provide even more variability, and all of these potential outcomes are plan-enabled.

Therefore, to be consistent with our previously modelled process, we have used a 50% residential apportionment across all Business zones where mixed uses (residential and business use in the same building or zone) is enabled – this is, more or less, the 'average' of the plan-enabled possibility of 'anywhere between 0% and 100%'. This is shown in Table 18 below.

Considerations of how floorspace might ultimately be used (between residential and non-residential activities), how large or small dwellings might be, and probably more outcome-affecting, how much enabled floorspace in total might be consumed at all, are in our view, more appropriately considered as part of commercial feasibility or take-up assessments rather than being introduced prematurely into measures of plan-enabled capacity.

While other apportionments are of course entirely possible, and indeed likely, because this analysis is comparative (and housing capacity isn't absolute in any case), keeping things simple and enabling simple and fair 'like-for-like' comparisons is considered more important than 'accuracy'.

[40] Subject only to minimum size requirements.
[41] Some Centre zones have constraints on residential use on the ground floor but are otherwise silent.

Table 18: Dwelling size and residential apportionment assumption summary

Zones	Floorspace apportionment to residential use	Dwelling Size for residential floorspace conversion	Other matters
Residential 'Lower Density' **(R&CS, LL, SH)**	N/A (100% assumed)	N/A Density or maximum dwelling limits apply	Access width
Residential 'Medium to Higher Density' **(MHS, MHU, THAB)**	N/A (100% assumed)	120m² + circulation/common (20%) and bicycle storage (5%)	Access width requirements may mean that on sites with less than 7.5m of road frontage, floorspace based yields are not enabled. The maximum dwellings from the access width requirements will apply.
Business **(Centres, and Mixed Use)**	50% on floors where residential enabled, 0% on floors* where it isn't *(*Residential use is not enabled on the ground floor in some centre zones).*	*120m² + circulation/common (20%) and bicycle storage (5%)	Access width requirements do not apply for redevelopment in Business zones.
Business **(Light and Heavy Industrial, General Business and Business Park)**	N/A (0%)	N/A Residential activities are not plan-enabled	N/A

4.8 Technical guidance on interpreting results

The widely-accepted Capacity for Growth Study (CfGS) methodology, developed at Auckland Council, is the same core methodology employed for the 2023 HBA and previous HBAs undertaken for the Auckland region by council.

Some process improvements have occurred since the last HBA was undertaken, and form a continuous part of the lifespan of the CfGS where resourcing allows. These include fine-tuning various aspects of

the process, improvement of the quality of the methodology, and modelling aspects of the plan which were not previously modelled. However, the core methodology has been kept constant between the 'baseline PC78', 'PC120 as notified', and 'PC120 as amended' model runs, to allow for greater comparability where practicable.[42]

It is noted, however, that the modelling process is in itself a process of continuous improvement; this leads to a varying degree of comparability between model runs. The previous 2025 report presented two model runs ('baseline PC78' and 'PC120 as notified') where the cadastre and ratings valuation inputs were held constant, while the planning inputs were the only variable factor. This allowed for a high degree of comparability between the two plan settings, where changes in capacity could be more directly attributed to changes in planning settings.

In contrast, the 'PC120 as amended' model run covered by this report incorporates updated input data for cadastre and ratings valuations.[43] This allows us to respond to the current state of the physical built environment, and minimise potential incompatibilities with other input data such as proposed zoning layers. It also reflects the degree of uptake which will have occurred in the interim between the two model runs, and allows for a better understanding of where opportunities may have already been acted upon. Additional updates have also been made to incorporate known changes between the provisional assumptions on which the previous model run was based, versus the notified plan text.

These factors decrease the overall comparability of the outputs of this model run against previous iterations of the modelling, as changes to capacity may now also be attributable to changes in the base cadastre and ratings inputs or other factors, and are no longer limited to changes in planning settings alone. On the other hand, they allow us to capture assumptions and inputs which are closer to the current state than if those inputs were held constant at a historical timestamp.

This type of capacity modelling is based on a static 'point-in-time' snapshot of what is otherwise a dynamic real-world environment. As time passes, on-the-ground conditions continue to diverge from the cadastral assumptions which have been modelled. Updating the cadastral base for this model run allows us to incorporate changes which have occurred on the ground into the model's assumptions.

The modelling team receives planning data inputs on which the modelling process is to be based, and these are incorporated into the process as supplied. Proposed plan text was also supplied for this run, which the modelling team 'translated' into geometric and logic parameters within the model. Cross-checks and validation were carried out with planners, to ensure the standards supplied had been correctly parameterised.

There are also noted limitations recognised in the comparison of the 'PC120 as notified' and 'PC120 as amended' modelling:

[42] Subclause 5(8) of Schedule 3C of the RMA requires council to use this same modelling methodology when calculating the housing capacity minimum requirement, and the housing capacity which PC120 enables.
[43] As at July 2026.

- **Provisional rules and parameters, versus full plan text:** Modelling of 'PC120 as notified' was undertaken on provisional inputs (i.e., not on the notified plan text, which was not yet available for the modelling process at the time). Differences between these provisional parameters and the plan text have been identified, including slightly different front yard setbacks in both the Mixed Housing Urban and Mixed Housing Suburban zones, the interaction of Business Park Zones and open space zones, and upper-level setback provisions in the Business Park and centre zones. These have now been updated for this 'PC120 as amended' model run, to reflect the plan text as it was notified. To minimise the impact of these changes within comparative analyses of the 'PC120 as notified' model run against subsequent iterations, the 'PC120 as notified' run would need to be undertaken with the updates as per the notified plan text.
- **Auckland Museum Viewshaft relativity to datum:** There was a technical discrepancy within the input data as supplied to model the effects of the Auckland Museum Viewshaft on effective heights. This involved the use of height limitation contours relative to datum, rather than relative to ground level as supplied for other height overlays, thereby over-estimating the potential heights which can be achieved within the affected areas. This issue was existing in the previous 'baseline PC78' and 'PC120 as notified' modelling published in October 2025. For the 'baseline PC78' model run, this had minimal impact on capacity results, as Height Variation Controls were more restrictive than the viewshaft, but latter runs where this was not the case highlighted the issue. This has been corrected within the 'PC120 as amended' model run, and the approach has therefore changed between the 'PC120 as notified' iteration and this latest iteration. This limits comparability between this model run and previous runs specifically within the extent of the viewshaft.
- **Other plan changes becoming operative:** The Metropolitan Centre Zone in 'PC120 as notified' was modelled based on the notified PC78 zone provisions. This has been updated in 'PC120 as amended' to reflect the now-operative version of the zone standards, which became operative on 8th May 2026, in-between the two model runs. Similarly, minimum access width standards under PC79 were made operative on 8th May 2026, and these operative provisions were incorporated into the 'PC120 as amended' modelling as shown in Table 19. The extent of modelled sites and zones for the PC120A run were based on the inputs supplied for modelling. Live-zoned areas and sites rezoned by plan changes made operative since PC78 was notified in August 2022 will have been included in this PC120A run. The cut-off date for inclusion is 25 August 2025.[44]

[44] This is the same cut-off date as the dataset supplied for the 'PC120 as notified' model run previously carried out.

Table 19: Access width requirements in Residential zones,[45] operative in the Auckland Unitary Plan as of May 2026

Access width x (in metres)	**Maximum dwellings serviceable[46]**
$x < 3.0$	1
$3.0 \leq x < 3.5$	5
$3.5 \leq x < 6.9$	10
$x \geq 7.5$	Not limited by access width requirements of E38.8.1.2.1, as these are not 'rear sites'[47]

The capacity modelling process assesses the planning provisions as provided in relation to plan-enabled capacity only. Therefore, the findings within this report must not be taken as a discussion or analysis on the merits of any proposed planning provisions or approaches. Results presented in this report may be used to inform other qualitative analyses, but do not in themselves constitute such an analysis. Comparison between results from different model runs should be carried out with the above nuances in mind regarding comparability, and it is recommended these types of comparisons be undertaken **aggregated to higher geographies**.

4.9 Key assumptions

For the most part, any other assumptions are employed for the purpose of speed and simplicity (to deliver timely modelling results and to constrain the model to meaningful outputs), and to ensure that certain variables are treated consistently for better comparability across model runs. The assumptions used include, but are not limited to, the following:

- Assessment is at **base zone** level (i.e., not considering Precinct or zone-like Overlay provisions such as Special Character Areas).
- For a provision to be modelled, **a 'parameter' needs to exist**. Rules that do not or cannot be directly related to numerical parameters cannot be modelled (without someone providing a numerical parameter to represent them).
- Under the NPS-UD, we are required to model plan-enabled capacity up to and including **Restricted Discretionary activities (RDAs)**. In some cases, there is a known limit for what could be classified as an RDA, and so we model up to that level.
    - In other cases, however, a breach of a standard may be deemed as an RDA, but there is no stated upper or outer limit for that breach.

[45] As per 'Table E38.8.1.2.1 Access to rear sites' in Auckland Unitary Plan chapter 'E38. Subdivision – Urban'.
[46] From a capacity perspective this is used to limit the potential for additional dwellings to a figure not exceeding the limitation, and does not imply removal of any existing dwellings. For example, if a site with a road frontage of 3.2m already has 3 dwellings, capacity is reported as 0 (i.e. no more dwellings can be added), rather than the site having a potential of -2 dwellings.
[47] The definition of a rear site (as per Auckland Unitary Plan chapter J1) is "A site with frontage of less than 7.5m to a legal road or private road".

  - For example, a permitted height limit is stated, but breaching this limit is an RDA with no measurable numeric upper limit stated within the plan text.
  - Modelling an infinite non-compliance with the standard is neither practical nor meaningful. Therefore, we use the Permitted standard, despite in theory any height beyond that which is Permitted being 'plan-enabled' as an RDA.
  - In the example given, while a height value could be adopted within the modelling which breaches the Permitted standard and is considered an RDA, in itself this value would likely vary based on site and context. This would require a degree of discretion within the modelling which in itself requires defensibility, and begins to prematurely introduce matters of feasibility and/or 'planning discretion' on a widespread scale within the plan-enabled capacity model.
- **A subset of Controls and Overlays** relating to height has been included to modify base zone height, including Height Variation Controls, Maunga Viewshafts, Height and Building Sensitive Areas, Public Views, and Ridgeline Protection Overlays.
- The modelling undertaken for this report relates to the intensification aspects of the proposed PC120A. We understand that the proposed changes to **'Chapter E36. Natural hazards and flooding'** of PC120A apply region wide. The provisions within this chapter are not modelled directly – this would require site-specific risk mitigation proposals and specialist assessment on a site level in order to determine the activity status. We cannot pre-empt any decisions on resource consent applications or potential proposals; therefore we cannot model the standards within chapter E36, and they are considered out of scope for plan-enabled capacity modelling.
  - However, if there has been **a zoning response proposed in relation to natural hazards and flooding**, these will have been part of the 'zoning' package that was supplied as an input to the modelling process. Therefore, these zoning responses will have been modelled.
- No **filtering** of modelled sites for existing uses, designations, potential hazards or implausibility of development occurring[48] has been undertaken.
- The look-up tables used as the basis for key modelled zone provisions and interactions has been attached in 'Appendix 1: Look-up tables'.
- *Commercial Feasibility, Infrastructure Readiness* and *Likely to be Realised* capacity analysis (or take-up forecasting) are **separate processes** that are best undertaken separately and informed by plan-enabled capacity analysis, but plan-enabled capacity is not in and of itself any of these.

The intensification provisions of PC120A does not apply to:

- The City Centre Zone: Provisions for the City Centre under PC78 were made operative in June 2025. The amount of housing capacity that the operative City Centre provisions will contribute beyond that enabled under the notified City Centre provisions has not yet been determined at the time of writing.

[48] For example, school sites – there is a logical disconnect between the constant push in submissions from the Ministry of Education to have school sites 'upzoned' as much as possible, alongside an active asset recycling and disposal process, and a perception that school sites won't or can't ever be developed for housing.

- As for previous ‘baseline PC78’ and ‘PC120 as notified’, PC120A modelling does not apply to:
  - Future Urban Zone
  - All Rural Zones
  - All Special Purpose Zones
  - Hauraki Gulf Islands (these are covered by the Auckland Council District Plan: Hauraki Gulf Islands Section)
  - All other zones in the AUP(OIP), such as Open Space, Coastal and Transport, which for the most part are considered ‘undevelopable’.

6. Concluding remarks

The objective of this modelling report was to assess whether the Auckland Unitary Plan including Plan Change 120, following partial withdrawal and proposed amendments ('PC120 as amended'), delivers a minimum housing capacity of approximately 1.4 million dwellings. Housing capacity is that capacity which the plan enables as a permitted activity, controlled activity, or restricted discretionary activity, as provided for in clause 1(1) of Schedule 3C of the Resource Management Act (RMA). This was required to be modelled using the same methodology as was used for calculating housing capacity under Plan Change 78 (PC78), as required by clause 5(8) of Schedule 3C of the RMA.

The amended statutory minimum housing capacity requirement was established following April 2026 changes to the RMA, which reduced this requirement to 32.5% less than the capacity that would have been enabled if PC78 as notified were made operative. This equates to approximately 1.4 million dwellings, as derived from the October 2025 modelling undertaken for 'baseline PC78'.

Using Auckland Council's Capacity for Growth Study (CfGS) methodology, the modelling has quantified a theoretical plan-enabled capacity under 'PC120 as amended' provisions, including operative AUP zoning in areas where PC120 has been proposed to be withdrawn. Other types of capacity assessment are out of scope for the purpose of this report. The capacity assessment included Residential and Business zones across the urban environment (excluding the City Centre Zone).

Key findings

- **Total net housing capacity** across both Residential and Business zones under the 'PC120 as amended' model run is calculated as 1,701,286 dwellings. This exceeds the RMA statutory requirement under clause 4(1) of Schedule 3C of the RMA to enable at least 1.4 million homes in the Auckland Unitary Plan.
- **Residential zones** yield 1,149,073 net dwellings. This capacity is mostly concentrated in medium and higher-density zonings, with the Terrace Housing and Apartment Buildings (THAB) enabling over half (52.85%) of all Residential zone capacity.
- **Business zones** enable the remaining 552,213 dwellings of net housing capacity. Of this capacity, 65.29% is situated within Walkable Catchments.

Capacity modelling to identify the final housing capacity for the City Centre Zone is planned to be undertaken separately following Council decisions, and those outcomes will be provided in due course as they become available.

The modelling methods used and described in this report provide a robust, repeatable, and transparent evidence base to inform decision-making. It also establishes a foundation for further feasibility, infrastructure, and uptake assessments that will be critical to understanding how plan-enabled capacity translates into real-world development outcomes.

7. References

Auckland Council (2014). *Capacity for Growth Study (CfGS) methodology*. Retrieved from https://knowledgeauckland.org.nz/publications/capacity-for-growth-study-2013-proposed-auckland-unitary-plan-methodology-part-1/

Auckland Council (2022). *Plan Change 78: Intensification to Auckland Unitary Plan (Operative in Part)*. https://unitaryplan.aucklandcouncil.govt.nz

Auckland Council (2023). *Housing and business development capacity assessment for the Auckland region: National Policy Statement on Urban Development 2020*. ME Consulting, Market Economics, Commute Transportation Consultants, Kyle Balderston, Chad Hu, Maribeth Todd, Krystal Alferez, Tim Guo. https://www.knowledgeauckland.org.nz/publications/housing-and-business-development-capacity-assessment-for-the-auckland-region-national-policy-statement-on-urban-development-2020/

Auckland Council (2025). *Housing Capacity Modelling Report: Housing Intensification and Resilience (Plan Change 120).* https://knowledgeauckland.org.nz/publications/technical-report-housing-capacity-modelling-report-housing-intensification-and-resilience-plan-change-120/

Auckland Council (2026). *Rates assessment data*. Effective property valuation date: May 2024.

Land Information New Zealand (2026). *Land Titles and Parcels datasets*. Retrieved July 23, 2026, from https://www.linz.govt.nz

Ministry for the Environment (2020a). *Guidance on Housing and Business Development Capacity Assessments (HBAs) under the National Policy Statement on Urban Development.* https://environment.govt.nz

Ministry for the Environment (2020b). *National Policy Statement on Urban Development (NPS-UD)*. https://environment.govt.nz

New Zealand Government (2025). *Resource Management (Consenting and Other System Changes) Amendment Act (2025)*. https://legislation.govt.nz

New Zealand Government (2026). *Resource Management Act (1991), as at April 2026.* https://legislation.govt.nz

Appendix 1: Look-up tables

Residential Basezone Look-up Table

CFGS_UID	CFGS_NAME	MODEL_TYPE	ASSESSMENT_TYPE	NOTES	ZONE_HEIGHT	ZONE_STOREYS	AHCO_IMPACT	SECOND_DWELLING_PERMITTED	MHU_PERMITTED	VSS_PARCEL_AREA_MIN_QUALIFIER	VSS_PARCEL_AREA_MIN_INFILL	VSS_ACCESS_WIDTH_MIN_1	VSS_ACCESS_WIDTH_MIN_2_5
ZN_2_23	Residential - Large Lot Zone	Residential	Density		8	2	Constraint	0	1	8000	4000	3	3.5
ZN_2_20	Residential - Rural and Coastal Settlement Zone	Residential	Density		8	2	Constraint	1	1	5000	2500	3	3.5
ZN_2_19	Residential - Single House Zone	Residential	Density		8	2	Constraint	1	1	1200	600	3	3.5
ZN_2_18	Residential - Mixed Housing Suburban Zone	Residential	Volume		8	2	Constraint	1	0	800	400	3	3.5
ZN_2_60	Residential - Mixed Housing Urban Zone	Residential	Volume		11	3	Constraint	1	0	600	300	3	3.5
ZN_2_8	Residential - THAB 6 Storeys	Residential	Volume	THAB 6 which is not located in WC	22	6	Constraint OR Bonus	1	0	2400	1200	3	3.5
ZN_99_8	Residential - THAB 6 Storeys_WC	Residential	Volume	Within WC AND HCVO = 6 (22m), other height limitations may reduce	22	6	Constraint OR Bonus	1	0	2400	1200	3	3.5
ZN_99_9	Residential - THAB 10 Storeys_WC	Residential	Volume	Within WC AND HCVO = 10 (34.5m), other height limitations may reduce	34.5	10	Constraint OR Bonus	1	0	2400	1200	3	3.5
ZN_99_10	Residential - THAB 15 Storeys_WC	Residential	Volume	Within WC AND HCVO = 15 (50m), other height limitations may reduce	50	15	Constraint OR Bonus	1	0	2400	1200	3	3.5

Residential Basezone Look-up Table

VSS_ACCESS_WIDTH_MIN_6_10	VSS_SITESHAPEFACTOR_MINDIM	VSS_SITESHAPEFACTOR_MINAREA	VSS_SITESHAPEFACTOR_MINDIMSQ	FRONT_YARD_SETBACK	SIDE_YARDS_SETBACK	REAR_YARDS_SETBACK	VE_REARANDSIDE_YARDS_SETBACK	HIRB_VERTICAL_HEIGHT	HIRB_ANGLE_DEG	ALT_HIRB_VERTICAL_HEIGHT	ALT_HIRB_ANGLE	ALT_HIRB_VAR	ALTERNATIVE HIRB_VAR_NOTE
6.5	8,15	120	11	10	6	6							
6.5	8,15	120	11	5	1	1		2.5	45				Does NOT apply from Any Business, Open Space (<2000). Far Side o
6.5	8,15	120	11	3	1	1		2.5	45				Not apply when Common Wall exists or is proposed. Does NOT appl
6.5	8,15	120	11	3	1	1	0	2.5	45	3.6	73.3	20	ALT_HIRB_VAR contains distance from site frontage to which the alt
6.5	8,15	120	11	2.5	1	1	0	3.0	45	3.6	73.3	*20*	ALT_HIRB_VAR contains distance from site frontage to which the alt
6.5	15,20	300	17.3	1.5	1	1	0	8.0	60	20.0	60	*21.5*	*Front HIRB for 21.5m / ALT_HIRB applies after 21.5m and rear sites. HIRB does not apply when Common Wall exists or is proposed to any Business, Open Space zone. Measured from far side of any entrance strip. Note HIRB standards for adjoining lower intensity zones for development outside Walkable Catchments.*
6.5	15,20	300	17.3	1.5	1	1		8.0	60	20.0	60	*21.5*	*Front HIRB for 21.5m / ALT_HIRB applies after 21.5m and rear sites. HIRB does not apply when Common Wall exists or is proposed to any Business, Open Space zone. Measured from far side of any entrance strip.*
6.5	15,20	300	17.3	1.5	1	1		20.0	60				
6.5	15,20	300	17.3	1.5	1	1		20.0	60				

Residential Basezone Look-up Table

BUILDING_MAXPC_COVERAGE	BUILDING_MAXPC_COVERAGE_NET	BUILDING_MAXM2_COVERAGE	ISA_MAXPC_COVERAGE	ISA_MAXM2_COVERAGE	PSEUDO_CODE	VAR_1	VAR_2	VAR_3	VAR_4	VAR_5	VAR_6
0.2	Yes	400	0.35	1400							120
0.2	Yes	400	0.35	1400							120
0.35	Yes		0.6			0.4					120
0.4	Yes		0.6			0.4	1.0	6.9	45		120
0.45	Yes		0.6			0.35	1.0	6.9	45	2.5	120
0.5	Yes		0.7			0.3			45	2.5	120
0.5	Yes		0.7			0.3					120
0.5	Yes		0.7			0.3	22.0	6.0	38.0	18.0	120
0.5	Yes		0.7			0.3	22.0	6.0	38.0	18.0	120

Residential Basezone Look-up Table

VAR_METADATA
VAR_1: , VAR_2: VAR_3: VAR_4: VAR_5: , VAR_6: Assumed regional average dwelling floor area
VAR_1: , VAR_2: VAR_3: VAR_4: VAR_5: , VAR_6: Assumed regional average dwelling floor area
VAR_1: Minimum Landscape Area, VAR_2:, VAR_3: VAR_4: VAR_5: , VAR_6: Assumed regional average dwelling floor area
VAR_1: Minimum Landscape Area, VAR_2: Horizontal Inset from boundary for Alternative HIRB Height and Angle, VAR_3: ALT_HIRB upper angle height. VAR_4: Upper HIRB angle VAR_5: , VAR_6: Assumed regional average dwelling floor area
VAR_1: Minimum Landscape Area, VAR_2: Horizontal Inset from vertical plane for lower HIRB angle. VAR_3: Height of upper HIRB angle. VAR_4: Upper HIRB
VAR_1: Minimum Landscape Area, VAR_2: , VAR_3: VAR_4: Lower Intensity Zone HIRB Angle. VAR_5: Lower Intensity Zone HIRB Height , VAR_6: Assumed regional average dwelling floor area
VAR_1: Minimum Landscape Area, VAR_2: , VAR_3: VAR_4: VAR_5: , VAR_6: Assumed regional average dwelling floor area
VAR_1: Minimum Landscape Area, VAR_2: Vertical Height where Var 3 4 and 5 apply, VAR_3: Upper Level Setback from all boundaries above VAR_3, VAR_4: Maximum Tower Diagonal Dimension for towers above VAR_3, VAR_5: Upper Level Setback from Sensitive Zones above VAR-3, VAR_6: Assumed regional average dwelling floor area
VAR_1: Minimum Landscape Area, VAR_2: Vertical Height where Var 3 4 and 5 apply, VAR_3: Upper Level Setback from all boundaries above VAR_3, VAR_4: Maximum Tower Diagonal Dimension for towers above VAR_3, VAR_5: Upper Level Setback from Sensitive Zones above VAR-3, VAR_6: Assumed regional average dwelling floor area

Business Basezone Look-up Table

CFGS_UID	CFGS_NAME	MODEL_TYPE	ASSESSMENT_TYPE	ASSESSMENT_SUBTYPE	NOTES
ZN_3_1	Business - Business Park Zone	Business	Commercial	Business Park	
ZN_3_5	Business - Heavy Industry Zone	Business	Industrial	Heavy Industry	
ZN_3_7	Business - Local Centre Zone	Business	Commercial	Local Centre	
ZN_3_10	Business - Metropolitan Centre Zone	Business	Commercial	Metropolitan Centre	
ZN_3_12	Business - Mixed Use Zone	Business	Commercial	Mixed Use	
ZN_3_17	Business - Light Industry Zone	Business	Industrial	Light Industry	
ZN_3_22	Business - Town Centre Zone	Business	Commercial	Town Centre	Height from HVCO and other height affecting overlays. 22m used as standard outside WC only to initialise attribute in case of missing HVCO.
ZN_3_35	Business - City Centre Zone	Business	Commercial	City Centre	Height from HVCO and other height affecting overlays/precincts/controls
ZN_3_44	Business - Neighbourhood Centre Zone	Business	Commercial	Neighbourhood Centre	
ZN_3_49	Business - General Business Zone	Business	Commercial	General Business	
ZN_98_1	Business - Mixed Use Zone_WC	Business	Commercial	Mixed Use	Height from HVCO and other height affecting overlays
ZN_98_2	Business - Metropolitan Centre Zone_WC	Business	Commercial	Metropolitan Centre	Height from HVCO and other height affecting overlays
ZN_98_3	Business - Town Centre Zone_WC	Business	Commercial	Town Centre	Height from HVCO and other height affecting overlays
ZN_98_4	Business - Local Centre Zone_WC	Business	Commercial	Local Centre	Height from HVCO and other height affecting overlays
ZN_98_5	Business - Neighbourhood Centre Zone_WC	Business	Commercial	Neighbourhood Centre	Height from HVCO and other height affecting overlays
ZN_98_6	Business - Business Park Zone_WC	Business	Commercial	Business Park	Height from HVCO and other height affecting overlays
ZN_98_7	Business - General Business Zone_WC	Business	Commercial	General Business	Height from HVCO and other height affecting overlays
ZN_98_8	Business - Heavy Industry Zone_WC	Business	Industrial	Heavy Industry	Height from HVCO and other height affecting overlays
ZN_98_9	Business - Light Industry Zone_WC	Business	Industrial	Light Industry	Height from HVCO and other height affecting overlays

Business Basezone Look-up Table

ZONE_HEIGHT	ZONE_STOREYS	PSEUDO_CODE	VAR_1	VAR_2	VAR_3	VAR_4	VAR_5	VAR_6	VAR_METADATA
22	6								VAR_1,VAR_2: Height control range, VAR_3: Min setback, VAR_4:, VAR_5:, VAR_6: Max building coverage
20	5								
18	5								
72.5	20								
18	5								
20	5								
22	6								
13	3								
16.5	4								
22	6								
72.5	20								
22	6								
22	6								
22	6								
22	6								
22	6								
22	6								
22	6								

Ziggurat source/destination Look-up Table

	zig_dest_code	zig1_dest	zig2_dest	zig3_dest	zig4_dest	zig5_dest	zig6_dest	zig7_dest	zig8_dest
zig_src_code	**zig_src_name \ zig_dest_name**	ALLEXCLIND_METRO_WC_DEST	INDUSTRY_DEST	MU_TC_DEST	TC_DEST	BP_LC_MU_TC_NC_GB_DEST	METROCENTRE_30m_DEST	BP_LC_NC_GB_DEST	MU_GB_WC_DEST
zig1_src	POS_SPL_RES_SRC		1						
zig2_src	POS_SRC			1					
zig3_src	SPL_SRC					1			
zig4_src	METRO_SRC						1		
zig5_src	THAB_SRC					1			
zig6_src	SH_MHS_SRC					1			
zig7_src	MHU_SRC					1			
zig8_src	MU_GB_SRC				1				
zig9_src	POS_BP_LC_NC_GB_SRC							1	
zig10_src	ALLEXCIND_METRO_WC_SRC	1							
zig11_src	MHS_SRC								1

Ziggurat parameters Look-up Table

zig_src_code	zig_src_name	env_bdy_height	env_angle	storey_height	storey_count_unaffected	buffer_interval_start	buffer_interval	storey_max_zig
zig1_src	POS_SPL_RES_SRC	6	35	3.6	1	1.71	5.14	20
zig2_src	POS_SRC	8.5	45	3.6	2	2.30	3.60	20
zig3_src	SPL_SRC	6	45	3.6	1	1.20	3.60	20
zig4_src	METRO_WC_SRC	19	60	3.6	5	1.50	2.08	20
zig5_src	THAB_SRC	8	60	3.6	2	1.62	2.08	20
zig6_src	SH_MHS_SRC	2.5	45	3.6	0	1.10	3.60	20
zig7_src	MHU_SRC	3	45	3.6	0	0.60	3.60	20
zig8_src	MU_GB_SRC	8	60	3.6	2	1.62	2.08	20
zig9_src	POS_LC_NC_GB_SRC	4.5	45	3.6	1	2.70	3.60	20
zig10_src	ALLEXCIND_METRO_WC_SRC	20	60	3.6	5	0.92	2.08	20
zig11_src	MHS_SRC	20	60	3.6	5	0.92	2.08	20

Business Height in Relation to Boundary Look-up Table

Desitnation_ZONE_UID	Destinatio_ Zone_Name	Notes	ZN_1_31 Public Open Space - Conservation	ZN_1_32 Public Open Space - Informal Recreation	ZN_1_33 Public Open Space - Sport and Active Recreation	ZN_1_34 Public Open Space - Community	ZN_1_62 Public Open Space - Civic Spaces	ZN_2_8 Terrace Housing and Apartment Buildings	ZN_2_18 Mixed Housing Suburban	ZN_2_19 Single House	ZN_2_20 Rural and Coastal Settlement	ZN_2_23 Large Lot	ZN_2_60 Mixed Housing Urban	ZN_3_1 Business Park	ZN_3_5 Heavy Industry	ZN_3_7 Local Centre	ZN_3_10 Metropolitan Centre	ZN_3_12 Mixed Use	ZN_3_17 Light Industry	ZN_3_22 Town Centre
	Angle (degrees), Height (metres)																			
ZN_1_31	Public Open Space - Conservation																			
ZN_1_32	Public Open Space - Informal Recreation																			
ZN_1_33	Public Open Space - Sport and Active Recreation																			
ZN_1_34	Public Open Space - Community																			
ZN_1_62	Public Open Space - Civic Spaces																			
ZN_2_8	Terrace Housing and Apartment Buildings	THAB outside WC. OS <2000m2 only.	45, 2.5	45, 2.5	45, 2.5	45, 2.5	45, 2.5		45, 2.5	45, 2.5			(73.3, 3.0 (inset 1.0)) + (45, 6.9)							
ZN_99_8 /	Terrace Housing and Apartment Buildings_WC	THAB inside WC																		
ZN_2_18	Mixed Housing Suburban																			
ZN_2_19	Single House																			
ZN_2_20	Rural and Coastal settlement																			
ZN_2_23	Large Lot																			
ZN_2_60	Mixed Housing Urban	OS <2000m2 only	45, 2.5	45, 2.5	45, 2.5	45, 2.5	45, 2.5		45, 2.5	45, 2.5										
ZN_3_1	Business Park		45, 4.5	45, 4.5	45, 4.5	45, 4.5	45, 4.5	60, 8.0	45, 2.5	45, 2.5			45, 3.0							
ZN_98_6	Business Park_WC		60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0		60, 20.0			60, 20.0							
ZN_3_5	Heavy Industry		35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0							
ZN_3_7	Local Centre		45, 4.5	45, 4.5	45, 4.5	45, 4.5	45, 4.5	60, 8.0	45, 2.5	45, 2.5			45, 3.0							
ZN_98_4	Local Centre_WC		60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0		60, 20.0			60, 20.0							
ZN_3_10	Metropolitan Centre		60, 19.0	60, 19.0	60, 19.0	60, 19.0	60, 19.0	60, 19.0		60, 19.0			60, 19.0					60, 19.0		
ZN_98_2	Metropolitan Centre_WC		60, 19.0	60, 19.0	60, 19.0	60, 19.0	60, 19.0	60, 19.0		60, 19.0			60, 19.0					60, 19.0		
ZN_3_12	Mixed Use		45, 8.5	45, 8.5	45, 8.5	45, 8.5	45, 8.5	60, 8.0	45, 2.5	45, 2.5			45, 3.0							
ZN_98_1	Mixed Use_WC		60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0			60, 20.0							
ZN_3_17	Light Industry		35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0	35, 6.0							
ZN_3_22	Town Centre		45, 8.5	45, 8.5	45, 8.5	45, 8.5	45, 8.5	60, 8.0	45, 2.5	45, 2.5			45, 3.0					60, 8.0		
ZN_98_3	Town Centre_WC		60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0		60, 20.0			60, 20.0							
ZN_3_35	City Centre	Internal to Precinct (in Height Limitations Layer)																		
ZN_3_44	Neighbourhood Centre		45, 4.5	45, 4.5	45, 4.5	45, 4.5	45, 4.5	60, 8.0	45, 2.5	45, 2.5			45, 3.0							
ZN_98_5	Neighbourhood Centre_WC		60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0		60, 20.0			60, 20.0							
ZN_3_49	General Business		45, 4.5	45, 4.5	45, 4.5	45, 4.5	45, 4.5	60, 8.0	45, 2.5	45, 2.5			45, 3.0							
ZN_98_7	General Business_WC		60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0	60, 20.0			60, 20.0							
ZN_4_3	Countryside Living																			
ZN_4_11	Mixed Rural																			
ZN_4_15	Rural Conservation																			
ZN_4_16	Rural Production																			
ZN_4_46	Rural Coastal																			
ZN_4_68	Waitakere Ranges Foothills																			
ZN_4_69	Waitakere Ranges																			
ZN_5_30	General Coastal Marine [rcp]																			
ZN_5_37	Minor Port [rcp/dp]																			
ZN_5_39	Defence [rcp/dp]																			
ZN_5_40	Marina [rcp/dp]																			
ZN_5_41	Mooring [rcp]																			
ZN_5_45	Ferry Terminal [rcp/dp]																			
ZN_5_59	Coastal Transition																			
ZN_6_51	Quarry																			
ZN_6_52	Maori Purpose																			
ZN_6_53	Cemetery																			
ZN_6_54	Major Recreation Facility																			
ZN_6_55	Healthcare Facility																			
ZN_6_56	Airport																			
ZN_6_58	Retirement Village																			
ZN_6_63	School																			
ZN_6_64	Tertiary Education																			
ZN_7_25	Water [i]																			
ZN_7_26	Strategic Transport Corridor																			
ZN_7_27	Road [i]																			
ZN_7_43	Hauraki Gulf Islands																			
ZN_8_4	Future Urban																			
ZN_8_61	Green Infrastructure Corridor																			

Business Height in Relation to Boundary Look-up Table

ZN_3_35	ZN_3_44	ZN_3_49	ZN_4_3	ZN_4_11	ZN_4_15	ZN_4_16	ZN_4_46	ZN_4_68	ZN_4_69	ZN_5_30	ZN_5_37	ZN_5_39	ZN_5_40	ZN_5_41	ZN_5_45	ZN_5_59	ZN_6_51	ZN_6_52	ZN_6_53	ZN_6_54	ZN_6_55	ZN_6_56	ZN_6_58	ZN_6_63
City Centre	Neighbourhood Centre	General Business	Countryside Living	Mixed Rural	Rural Conservation	Rural Production	Rural Coastal	Waitakere Ranges Foothills	Waitakere Ranges	General Coastal Marine [rcp]	Minor Port [rcp/dp]	Defence [rcp/dp]	Marina [rcp/dp]	Mooring [rcp]	Ferry Terminal [rcp/dp]	Coastal Transition	Quarry	Maori Purpose	Cemetery	Major Recreation Facility	Healthcare Facility	Airport	Retirement Village	School
																		45, 6.0 60, 20.0 35, 6.0 45, 6.0 60, 20.0						45, 6.0 60, 20.0 35, 6.0 45, 6.0 60, 20.0
		60, 19.0																60, 19.0						60, 19.0
		60, 19.0																60, 19.0						60, 19.0
																		45, 6.0 60, 20.0 35, 6.0 45, 6.0 60, 20.0						45, 6.0 60, 20.0 35, 6.0 45, 6.0 60, 20.0
		60, 8.0																						
																		45, 6.0 60, 20.0 45, 6.0 60, 20.0						45, 6.0 60, 20.0 45, 6.0 60, 20.0

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