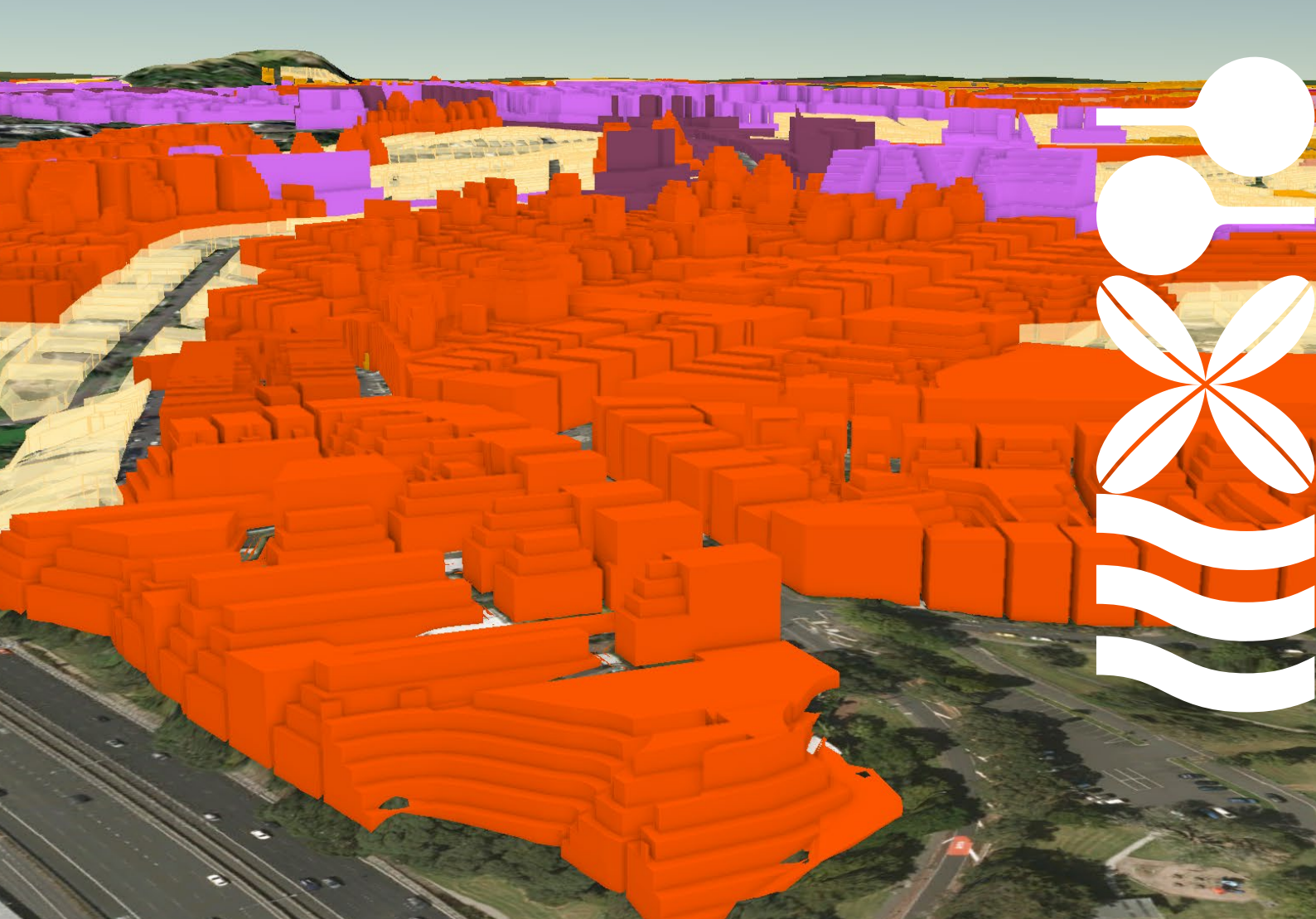




Auckland Council Technical Report

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

October 2025

aucklandcouncil.govt.nz

knowledgeauckland.govt.nz



Recommended citation:

Balderston, K., Alferez, K., Uzzaman, W., & Garlick, P. (2025). Housing Capacity Modelling Report: Housing Intensification and Resilience (Plan Change 120). Auckland Council 2025.

Cover image credits: Kyle Balderston, Screenshot from ArcScene showing modelled 3D building envelopes, looking south-east towards Maungawhau/Mt Eden from Pt Erin.

This report has been reviewed by
Review completed on 30 October 2025 by: Sarah Lomas Position: Manager, Land Use Research and Evaluation
Approved for Auckland Council publication by: Megan Tyler Position: Director Policy, Planning and Governance
Date: 31 October 2025

Auckland Council disclaims any liability whatsoever in connection with any action taken in reliance of this document for any error, deficiency, flaw or omission contained in it.

© 2025 Auckland Council

Results Summary

The housing assessment has compared the **Baseline** (PC78 (as notified) with the Auckland Light Rail Corridor and SHAs modelled as AUP(OIP), and excluding the City Centre Zone) with PC120 (excluding the City Centre zone). The Metropolitan Centre zone has been included in the housing assessment for PC78 (as notified) and PC120, based on the provisions in PC78 (as notified). The housing assessment currently identifies a 0.2 per cent decrease in total housing capacity between the baseline (2,073,946 dwellings) and PC120 (2,069,708 dwellings), meaning there is a **housing capacity deficit of -4,238**.

The modelling results **have not captured housing capacity changes** between PC78 as notified and operative for the **City Centre Zone** and **Metropolitan Centre Zone**. This modelling is being undertaken separately and will be provided in due course.

Results for the **more central urban areas show significant housing capacity increases** under PC120, with Albert-Eden Local Board area (60 per cent increase), Waitematā Local Board area (26 per cent increase), and Maungakiekie-Tāmaki Local Board area (25 per cent increase). This reflects a clear shift toward greater enablement of intensification in well-connected, high-demand locations.

Business zones also contribute substantially to housing capacity increases, particularly in Franklin (176 per cent increase), Albert-Eden (43 per cent increase), and Ōrākei (42 per cent increase) Local Board areas, due to increased potential floorspace in business zones that enable dwellings as well as some rezoning (Franklin).

Redistribution of capacity under PC120 aligns better with demand and accessibility than the Baseline, enabling more housing capacity in walkable catchments and transit-oriented locations, while reducing capacity in less suitable, less accessible, lower demand, and/or hazard-prone areas relative to the baseline.

Source	PC120	Baseline	Numerical Difference	Percentage Difference
Gross dwellings - Residential Zones	1,897,556	2,016,571	-119,015	-5.9%
Existing dwellings - Residential Zones	502,444	502,519	-75	0.0%
Net Dwellings - Residential Zones	1,487,830	1,595,340	-107,510	-6.7%
Dwellings from Business Zones	581,878	478,606	103,272	21.6%
Total Housing Capacity	2,069,708	2,073,946	-4,238	-0.2%

Summary of Housing Capacity Results for the Baseline and Plan Change 120

Executive summary

A plan-enabled capacity assessment has been completed as part of the technical work programme to support the Council's decision to withdraw Plan Change 78: Intensification (PC78) in part, including withdrawal of the Medium Density Residential Standards (MDRS).

The withdrawal of PC78 in part was enabled by changes to the RMA through the **Resource Management (Consenting and Other System Changes) Amendment Act 2025**. The Amendment Act amended the RMA to provide Auckland Council with the ability to withdraw its Intensification Planning Instrument (PC78) and replace it with a new plan change via the **Streamlined Planning Process (SPP)**.

The replacement Plan Change is now called Plan Change 120: Housing Intensification and Resilience (PC120) and is designed to meet the legislative requirements for withdrawing PC78 and continuing to give effect to the National Policy Statement on Urban Development 2020 (NPS-UD).

The new plan change is required to¹:

- Demonstrate **at least the same amount of housing capacity**² that would have been enabled if PC78 (as notified) were made operative, and
- Enable building heights of at least **10 or 15 storeys** within the walkable catchment of specified City Rail Link stations,³ and
- Give effect to Policy 3 of the **National Policy Statement on Urban Development 2020 (NPS-UD)**.

This report covers the technical details of how the 'at least the same amount of housing capacity' assessment has been undertaken, as well as presenting some of the results of the modelling.

Auckland Council now has *greater discretion* over where the capacity previously enabled by the PC78 response is located. This includes the ability to reduce development potential in hazard-prone areas, while still meeting additional intensification requirements in walkable catchments. However, the overall level of capacity cannot be reduced.

Compliance with this requirement will be demonstrated by comparing the outputs of Auckland Council's 'Capacity for Growth model', of 'the baseline' (PC78, excluding the City Centre zone and Auckland Light Rail Corridor and Special Housing Areas (modelled based on AUP(OIP)) and 'the replacement' plan change (PC120)⁴ (excluding the City Centre zone). Modelling is commencing to

¹ Schedule 1, Clause 4 Resource Management (Consenting and Other System Changes) Amendment Act 2025.

² Schedule 3C, Clause 1 Interpretation: "housing capacity, in relation to the Auckland Unitary Plan ..., means the housing that the plan enables as a permitted activity, controlled activity, or restricted discretionary activity".

³ Over and above the 'at least 6 storeys' and other intensification requirements applying to other walkable catchments and zones.

⁴ This is complicated by other recent or pending amendments to the AUP(OIP) via: (1) City Centre Zone having been amended already by PC78 hearings and recommendations that were made operative on 6 June 2025, where modelling is yet to be undertaken, and (2) PC78 Metropolitan Centre Zone hearings which have also completed, but the Council has not yet made decisions on the IHP recommendations so modelling cannot yet be undertaken. Modelling will be completed to compared PC78 as notified with PC78 as operative for the City Centre and Metropolitan Centre zones in due course.

compare PC78 as notified with PC78 as operative for the City Centre zone. Further modelling will be required to compare PC78 as notified with PC78 as operative for the Metropolitan Centre zone, once the Council has made decisions on the IHP recommendations and the provisions have become operative.

By evaluating the plan-enabled capacity of two different ‘plans’ with quite different planning provisions using the same May 2025 cadastral base and applying otherwise consistent assumptions to both outputs, any differences in those outputs can be attributed, as far as possible, to variations in zoning patterns, spatial coverage, and the specific rules or provisions within each zone under each of those ‘plans’.

The two ‘plans’ compared are:

“the Baseline” being Plan Change 78 as notified on 18 August 2022 within the then urban environment, excluding the City Centre zone, and with the Auckland Light Rail Corridor (ALR) and Special Housing Areas (SHA) (white out areas) modelled based on the AUP(OIP), as these areas were not included in the mapping for PC78.

“the replacement” being Plan Change 120, a draft plan change covering the current live zoned urban environment (which includes plan changes made operative between 18 August 2022 and 22 August 2025), excluding the City Centre zone.

Sites are assessed against the base zoning provisions (without consideration of Precincts⁵) and a subset of key height and bulk affecting overlays. Earlier versions of the replacement plan change have also been assessed as it was developed and iterated, including a full 13 June version as well as various tests and estimations, so the model's interim outputs have enabled planners and decision makers to refine their policy approaches based on the likely impact on housing capacity.

This report and the Capacity for Growth model have assessed housing capacity only. However, other aspects of development capacity, such as infrastructure readiness, commercial feasibility, and the likely uptake, are also important and will require further investigation. This is particularly relevant given the significant shifts in housing capacity identified in areas closer to the city centre and other high-demand locations. Due to these changes, it is reasonable to anticipate changes to *feasible and reasonably expected to be realised capacity* from that enabled by PC78, noting both PC78 and PC120 are significantly more enabling than the AUP(OIP). These broader aspects of development capacity will be addressed as part of Auckland Council’s next Housing and Business Development Capacity Assessment (HBA).

Development Infrastructure is not necessarily currently designed, planned or financed to accommodate all of these changes, though in many cases, existing and planned infrastructure are either ‘intensification ready’ or planning and design are intensification aware. Infrastructure planning is a long-term and expensive process involving considerable public (and private) investment, as well as coordination and integration efforts. *Infrastructure readiness* will be an issue for further consideration going forward, but is out of scope for the purpose of this report. Most infrastructure is based around a

⁵ 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.

network, whether Auckland-wide or a sub-regional area. Network considerations are critical when considering infrastructure investment and prioritisation to enable growth.

Addressing any infrastructure gap will require ongoing collaboration with providers and funders, supported by a clearer understanding of how development uptake may shift. We expect to see increased activity in newly upzoned areas where opportunities now better align with demand, as well as potential slowdowns in other areas that may not grow as much as previously anticipated, reflecting both subtle and significant shifts in development patterns driven by these newly enabled locations.

Housing capacity is a necessary starting point for this analysis. It is intended that the modelling and data described in this summary report provide a launching point for further informed and evidence-based discussions as this process proceeds.

To aid in this objective, reports and results data will be made available on www.knowledgeauckland.org.nz in due course.

Glossary

Abbreviation	Description
ALR	Auckland Light Rail
AUP(OIP)	Auckland Unitary Plan (Operative in Part)
CfGS	Capacity for Growth Study
DVR	District Valuation Roll (Rates Database)
FUZ	Future Urban Zone
HASHA	Housing Accords and Special Housing Areas Act 2013
HBA	Housing and Business Development Capacity Assessment
HCA	Housing Capacity Assessment
HIRB	Height in Relation to Boundary
MCZ	Metropolitan Centre Zone
MDRS	Medium Density Residential Standards
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
PEC	Plan-Enabled Capacity
RDA	Restricted Discretionary Activity
RMA	Resource Management Act 1991
SA2	Statistical Area 2 (Stats NZ geography)
SCA	Special Character Area
SHA	Special Housing Areas, established under the Housing Accords and Special Housing Areas Act 2013
WC	Walkable Catchment

Table of Contents

Housing Capacity Modelling Report: Housing Intensification and Resilience (Plan Change 120)	1
Results Summary	3
Executive summary.....	4
Glossary.....	7
Table of Contents.....	8
1. Introduction.....	10
1.1 PC120: Housing Intensification and Resilience Plan Change	10
1.1.1 Statutory context.....	10
1.1.2 Context of this model and changes since 2023 Housing and Business Development Capacity Assessment (HBA).....	11
1.1.3 Differences to 2023 HBA Plan-Enabled Capacity figures.....	12
2. Housing capacity assessment results	13
2.1 Plan-Enabled Capacity results	13
2.2 Total Plan-Enabled Housing Capacity	13
2.2 Total housing capacity from PC120 Residential and Business zones (combined), by Local Board..	14
2.3 Net housing capacity from Residential Zones by Local Board.....	15
2.4 Total dwelling yields from Business Zones by Local Boards	16
2.5 Net dwelling yields by PC120 residential zone	17
2.6 Net dwelling yields by PC120 Business Zones.....	19
2.7 5ha hexagon maps	20
3. Business capacity assessment results	24
3.1 Plan-enabled floorspace capacity overall results	24
3.2 Plan-enabled net floorspace capacity by Local Board	25
3.3 Plan-enabled net floorspace capacity by Business Zone	26
3.4 Plan-enabled net floorspace capacity for business use by Local Board	27
3.5 Plan-enabled net floorspace capacity for business use by Business Zone	28
4. Results Analysis	30
4.1 Effective Heights.....	30
4.2 Floor Area Ratios	35
4.3 Concentration (Distance to City Centre).....	39
4.4 Relative Accessibility (Framework for Urban Access).....	41
4.5 Demand (Land Values).....	44

5.	Inputs and assumptions.....	47
5.1	Assumptions: Common to both plans.....	47
5.1.1	Cadastral base	47
5.1.2	Other common assumptions	49
5.1.3	Other data and assumptions	55
5.2	Assumptions: The Baseline (PC78 + Auckland Light Rail Corridor and Special Housing Areas.....	56
5.3	Assumptions: The Replacement - PC120: Housing Intensification and Resilience	60
5.4	Notes on the treatment of the Metropolitan Centre Zone in Replacement	63
5.5	Notes on the treatment of the City Centre Zone in both Baseline and Replacement.....	63
5.6	Differences in spatial extent and quantum of sites between Baseline and Replacement modelling	65
6.	Modelling methods	68
6.1	Introduction	68
6.2	High level overview of Plan-Enabled Capacity modelling under CfGS	68
6.3	Floorspace vs Dwellings	72
6.3.1	Converting from Floorspace to Dwellings	74
6.4	Input data	74
6.4.1	Input data: Baseline	74
6.4.2	Input data: PC120	75
7.	Concluding remarks.....	75
8.	References.....	77
	Appendix 1: Look-up tables	78

1. Introduction

1.1 PC120: Housing Intensification and Resilience Plan Change

1.1.1 Statutory context

“PC78 was Auckland Council’s intensification planning instrument (IPI), which was required under the RMA to give effect to policies 3 and 4 of the National Policy Statement on Urban Development 2020 (NPS-UD), and to incorporate the Medium Density Residential Standards (MDRS) into relevant residential zones, generally allowing development of three dwellings of up to three storeys per site in relevant residential zones without resource consent. Prior to August 2025, the RMA did not allow for an IPI to be withdrawn.

In August 2025, the Government amended the Resource Management Act 1991 (RMA) to enable the Council to withdraw PC78 in part. The RMA included requirements that must be met if PC78 were withdrawn. The Council has developed PC120 to meet the listed requirements. PC120 proposes to enable intensification around centres and transport nodes, and improve Auckland’s resilience to natural hazards.

PC120 addresses government requirements to enable urban development in and around centres and transport nodes, enabling:

- *At least as much housing capacity across Auckland as was to be enabled by PC78*
- *Building heights and densities within and around smaller centres which reflect the level of commercial and community activity these centres offer*
- *Building heights of at least 6-storeys within Walkable Catchments of the edge of the City Centre zone and the edge of the Metropolitan Centre zones and rapid transit stops (train and busway stations) and*
- *Building heights of at least 10- and 15-storeys in the Walkable Catchments around certain train stations listed in the RMA”.*⁶

These heights and densities, for the most part, are required be enabled unless a justifiable reason such as a qualifying matter applies to a site, which makes that level of development inappropriate.

PC78 was withdrawn in part from 5pm on 9 October 2025, including withdrawal of the MDRS.

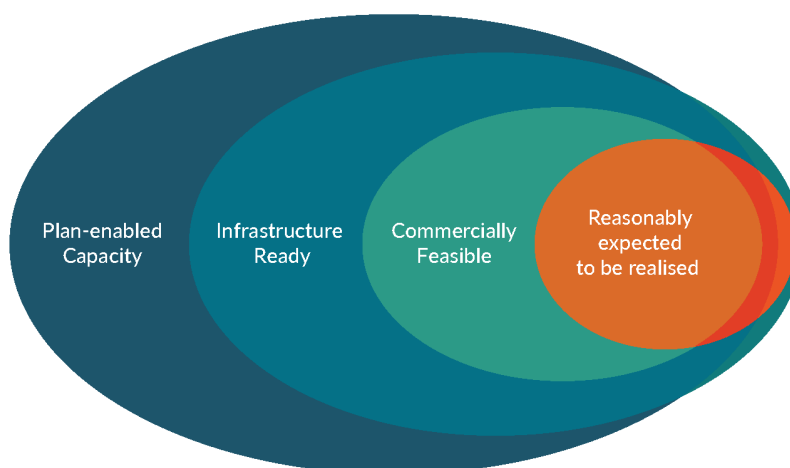
In addition to housing supply, PC120 strengthens provisions that manage natural hazard risks. Areas potentially affected by flooding, coastal erosion or coastal inundation now and in the future are targeted with stronger rules and other planning measures. This approach is to improve Auckland’s resilience to large storm events, following the storms in early 2023, which resulted in widespread flooding, landslips, and coastal inundation across the Auckland region.

⁶ Standard text from Proposed PC120 Information Sheets, currently unpublished.

1.1.2 Context of this model and changes since 2023 Housing and Business Development Capacity Assessment (HBA)

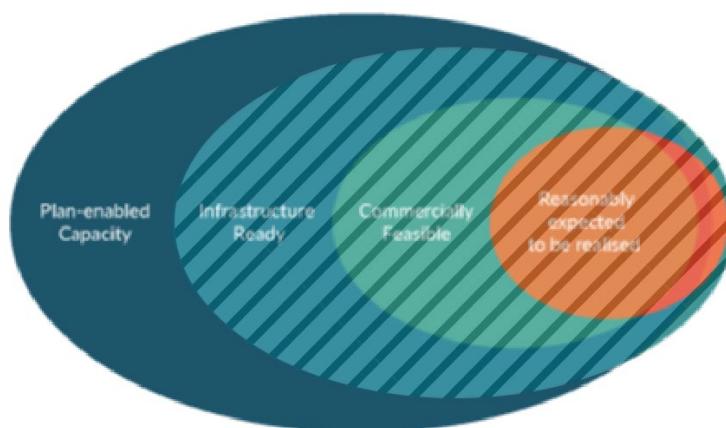
The 2023 HBA was carried out as required by the NPS-UD and comprised various levels of development capacity assessment. Figure 1 below shows the various types of capacity modelling and assessments that are undertaken as part of the HBA process.

Figure 1: Types of capacity modelling (Ministry for the Environment, 2020a)



In order to inform the capacity requirements of the PC78 withdrawal process, housing capacity will be determined using a Plan-Enabled Capacity assessment approach to compare the Baseline (PC78 as notified in 2022) against any replacement plan.

Figure 2: Plan-enabled capacity assessment (illustration adapted Auckland Council, 2025)



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 was able to be carried out (illustrated in the Figure 2 above), noting the complexity of and resource requirements for further types of capacity assessment. Further tests would need to be undertaken as part of the next HBA.

The intention and purpose of the Plan-Enabled Capacity assessments as part of the PC78 withdrawal process differ from that undertaken for the HBA. In this case, the model is being used to assess the impact of planning rules, under both the baseline and the replacement plan, on Plan-Enabled Capacity. The analysis assumes no future changes and holds all other variables constant where possible, to ensure comparability.

1.1.3 Differences to 2023 HBA Plan-Enabled Capacity figures

The Baseline figures reported for this assessment will differ to those previously published as part of the 2023 HBA.

Due to the age of the base cadastral dataset and assumptions used for the 2023 HBA, the Plan-Enabled Capacity modelling needed to be carried out again to respond to the current state of the built physical environment. The widely accepted Capacity for Growth Study (CfGS) methodology, developed at Auckland Council, is the same core methodology employed for the 2023 HBA was used for this assessment. Updated input data, which reflects the current state of the cadastre and latest ratings and valuations, were incorporated into the model run to respond to the current state of the physical built environment. This has an impact on the Plan-Enabled Capacity maximum envelope of development.

As some time has elapsed since the 2023 HBA modelling was undertaken, there have also been several process improvements built into the CfGS modelling system. This has allowed fine-tuning various aspects of the modelling approach, improving the quality of the methodology, and modelling aspects of the plan which were previously not modelled.

For the Baseline model run, the Auckland Light Rail corridor and the Special Housing Area precincts were modelled based on the Auckland Unitary Plan (Operative in Part) provisions (and not the PC78 provisions) as they were not mapped as part of PC78 and were identified as “white-out” areas of PC78’s urban environment in the PC78 maps. Therefore, the Baseline figures reported as part of this process will differ from the 2023 HBA figures – this is due to cadastral changes and take-up (a result of development, change, and growth in the region), as well as process improvements which continuously occur as part of the lifespan of the CfGS.

2. Housing capacity assessment results

2.1 Plan-Enabled Capacity results

Plan-Enabled Housing Capacity is calculated at the site level, and therefore 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).

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.

Given that over 400,000 CfGS sites have been assessed, for the purposes of this report, we have presented only a few key, high-level results.

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

- Base zoning, with height-affecting Overlays considered (no Precincts, 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 have been modelled using the notified PC78 provisions (and further modelling will be undertaken once the Metropolitan Centre zone provisions are made operative following the Council making decisions on the IHP recommendations for PC78).

2.2 Total Plan-Enabled Housing Capacity

Table 1 below compares PC120 with the Baseline (PC78 with AUP(OIP) in ALR corridor and SHAs) and shows the numeric and percentage differences. Baseline provisions have further been broken down by AUP(OIP) provisions for ALC and SHA areas, and PC78 provisions for the rest of the urban environment as at notification.

To derive a 'net' dwelling yield, the existing dwellings on any given site have been subtracted from the 'gross' dwelling yield on a site-to-site basis in both model runs. 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 degrowth, 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 (m²) resultant from each model was split on a 50/50 basis, to allocate 50 per cent of the 'net' business floorspace as dwellings (considering 120m² floorspace as the average dwelling size, as explained in section 5.1.2.1).

The results of the modelling in Table 1 below shows that the net yield for residential zones under PC120 provisions is 1,487,830 dwellings, versus a Baseline total of 1,595,340 dwellings. This is a decline of 107,510 dwellings, or 6.74 per cent, from the respective Residential zones.

In contrast, yield from business floorspace (after 50/50 split) in eligible Business zones shows an increase from a Baseline yield of 478,606 dwellings to 581,878 dwellings under PC120. This is a marked increase of 103,272 dwellings, or 21.58 per cent.

Overall, the total plan-enabled dwelling yield across both Residential and Business zones decreases only 0.20 per cent relative to the Baseline.

Table 1: Summary total of residential yields

	PC120	Baseline			Difference	
		AUP	PC78	Total	Dwellings	Percentage
Net yield - Residential zones	1,487,830	88,339	1,507,001	1,595,340	-107,510	-6.74%
Yield from business floorspace [50/50 split]	581,878	36,887	441,719	478,606	103,272	21.58%
Total net yield (Business & Residential zones)	2,069,708	125,226	1,948,720	2,073,946	-4,238	-0.20%

2.2 Total housing capacity from PC120 Residential and Business zones (combined), by Local Board

Table 2 below reports the combined net dwelling yields (Residential plus Business zones) by Local Board under PC120 versus the Baseline. Overall, PC120 delivers 2,069,708 dwellings compared with 2,073,946 dwellings under the Baseline, a shortfall of 4,238 dwellings, or 0.20 per cent.

However, this small overall difference masks significant, redistributive shifts in capacity across individual Local Boards, with some boards seeing substantial increases and others experiencing large declines. The largest gains are seen in central boards, with Albert-Eden showing a 60 per cent increase (58,556 dwellings), followed by Waitematā (26 per cent increase), and Maungakiekie-Tāmaki (25 per cent increase).

Conversely, several boards show a significant capacity decline. The largest percentage losses are in the Hibiscus and Bays (30 per cent decrease), Manurewa (20 per cent decrease), and Papakura (19 per cent

decrease), with Hibiscus and Bays accounting for the single largest numerical loss of over 46,000 dwellings.

This indicates that the PC120 scenario substantially increases density and capacity in certain core areas compared to other areas in the region.

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

Local Board	Net dwelling yields		Difference	
	PC120	Baseline	Dwellings	Percentage
Albert-Eden	156,013	97,457	58,556	60%
Devonport-Takapuna	79,918	78,795	1,123	1%
Franklin	136,222	119,301	16,921	14%
Henderson-Massey	201,602	214,831	-13,229	-6%
Hibiscus and Bays	109,820	155,844	-46,024	-30%
Howick	189,401	204,867	-15,466	-8%
Kaipātiki	89,545	96,058	-6,513	-7%
Māngere-Ōtāhuhu	81,290	79,652	1,638	2%
Manurewa	82,068	102,412	-20,344	-20%
Maungakiekie-Tāmaki	135,520	108,742	26,778	25%
Ōrākei	114,552	98,751	15,801	16%
Ōtara-Papatoetoe	136,848	140,685	-3,837	-3%
Papakura	92,354	113,828	-21,474	-19%
Puketāpapa	61,046	51,553	9,493	18%
Rodney	43,502	51,577	-8,075	-16%
Upper Harbour	120,536	131,311	-10,775	-8%
Waitākere Ranges	34,924	44,195	-9,271	-21%
Waitematā	79,881	63,366	16,515	26%
Whau	124,666	120,721	3,945	3%
Total	2,069,708	2,073,946	-4,238	-0.20%

2.3 Net housing capacity from Residential Zones by Local Board

Table 3 below presents the net dwelling yields from only residential zones across various Auckland Local Boards, comparing the PC120 scenario with the Baseline figure. In total, the PC120 model yields 1,487,830 dwellings, which is 107,510 less than the Baseline of 1,595,340, representing an overall -7 per cent difference.

Similar to the result presented above, Albert-Eden shows the largest positive difference, yielding 46,529 more dwellings under PC120 than the Baseline, a 67 per cent increase. Other large positive differences are observed in Waitematā (+7,219, +33 per cent) and Maungakiekie-Tāmaki (+20,709, +30 per cent).

Conversely, Franklin and Hibiscus and Bays show the largest negative differences. Franklin has a decrease of 24,025 dwellings, a -25 per cent difference, while Hibiscus and Bays has the largest numerical drop of 46,576, equating to a -34 per cent difference. Several other boards, including Papakura and Upper Harbour, also show decreases of -21% to -24%. The Local Boards of Māngere-Ōtāhuhu and Whau show the smallest percentage differences, at -3% and +2% respectively.

Table 3: Net dwelling yields from Residential zones, by Local Board area

Local Board	Net dwelling yields		Difference	
	PC120	Baseline	Dwellings	Percentage
Albert-Eden	116,257	69,728	46,529	67%
Devonport-Takapuna	55,173	57,529	-2,356	-4%
Franklin	72,009	96,034	-24,025	-25%
Henderson-Massey	149,018	165,114	-16,096	-10%
Hibiscus and Bays	90,411	136,987	-46,576	-34%
Howick	155,323	172,622	-17,299	-10%
Kaipātiki	80,507	88,930	-8,423	-9%
Māngere-Ōtāhuhu	59,100	60,699	-1,599	-3%
Manurewa	74,799	96,264	-21,465	-22%
Maungakiekie-Tāmaki	90,712	70,003	20,709	30%
Ōrākei	93,360	83,871	9,489	11%
Ōtara-Papatoetoe	85,046	93,176	-8,130	-9%
Papakura	76,732	96,793	-20,061	-21%
Puketāpapa	52,589	45,117	7,472	17%
Rodney	26,499	34,548	-8,049	-23%
Upper Harbour	56,499	73,656	-17,157	-23%
Waitākere Ranges	30,796	40,331	-9,535	-24%
Waitematā	29,285	22,066	7,219	33%
Whau	93,715	91,872	1,843	2%
Total	1,487,830	1,595,340	-107,510	-7%

2.4 Total dwelling yields from Business Zones by Local Boards

Table 4 details below the dwelling yields from respective Business zones where both residential and business activities are provided for. Similar to the Residential zone data presented above, it compares the PC120 scenario with the Baseline. Overall, the dwelling yield from these eligible Business zones is significantly higher under the PC120 scenario, totalling 581,878 compared to the Baseline of 478,606, which is a net increase of 103,272 dwellings or +22%.

The most significant increase is seen in Franklin, which shows a difference of 40,946 dwellings, representing a 176% increase over the Baseline. Other boards with notable percentage increases include Albert-Eden (+43%), Ōrākei (+42%), and Puketāpapa (+31%). In terms of sheer numbers, the largest absolute increases are in Franklin (+40,946), Waitemata (+9,296), and Upper Harbour (+6,382). The increase in Franklin is largely due to the inclusion of sites zoned as “Metropolitan Centre Zone” in PC120, whereas those sites were previously FUZ in PC78 and therefore excluded from the Baseline. Papakura is the only Local Board to show a decrease, with -1,413 dwellings, a -8% difference. Rodney shows a negligible change, with only -26 dwellings, or 0%.

Table 4: Net dwelling yields from Business zones, by Local Board area

Local Board	Net dwelling yields		Difference	
	PC120	Baseline	Dwellings	Percentage
Albert-Eden	39,756	27,729	12,027	43%
Devonport-Takapuna	24,745	21,266	3,479	16%
Franklin	64,213	23,267	40,946	176%
Henderson-Massey	52,584	49,717	2,867	6%
Hibiscus and Bays	19,409	18,857	552	3%
Howick	34,078	32,245	1,833	6%
Kaipātiki	9,038	7,128	1,910	27%
Māngere-Ōtāhuhu	22,190	18,953	3,237	17%
Manurewa	7,269	6,148	1,121	18%
Maungakiekie-Tāmaki	44,808	38,739	6,069	16%
Ōrākei	21,192	14,880	6,312	42%
Ōtara-Papatoetoe	51,802	47,509	4,293	9%
Papakura	15,622	17,035	-1,413	-8%
Puketāpapa	8,457	6,436	2,021	31%
Rodney	17,003	17,029	-26	0%
Upper Harbour	64,037	57,655	6,382	11%
Waitākere Ranges	4,128	3,864	264	7%
Waitemata	50,596	41,300	9,296	23%
Whau	30,951	28,849	2,102	7%
Total	581,878	478,606	103,272	22%

2.5 Net dwelling yields by PC120 residential zone

Like the local board level results explained above, zone-based tables use the left-hand column as a spatial definition to aggregate site-level results and compare the capacity in those defined locations under both PC120 and the Baseline. For example, while the Baseline didn’t have Terrace Housing and Apartment Buildings (THAB) 15 Storey, the table shows the capacity from those sites located in areas

defined by PC120's THAB 15 Storey extent, under PC120 zone and rules, and the capacity from those same sites under the Baseline zones and rules, whatever those zones or rules may have been. Importantly, this allows the overall change within each PC120 zone to be compared with what was previously zoned in those areas.

Table 5 below provides a breakdown of the net dwelling yields, grouping the figures as per the PC120 Residential zone classes. The most significant shifts reflect the re-zoning under PC120. Zones associated with lower-density housing show significant decreases: Single House yields dropped by 89,192 dwellings (-78%), and Mixed Housing Suburban saw the largest numerical drop of 165,527 dwellings (-51%). The Mixed Housing Urban zone also shows a decrease of 94,769 dwellings (-14%).

Conversely, higher-intensity zones show substantial increases: THAB (15 Storeys WC) saw its yield double (+100%), adding 46,602 dwellings. THAB (10 Storeys WC) increased by 60,235 dwellings (+67%), and THAB (6 Storeys) gained the largest increase of 130,091 dwellings (+63%). These figures clearly illustrate the shift in dwelling capacity away from lower-density zones toward higher-density THAB zones under the PC120 scenario.

Table 5: Net dwelling yields, by PC120 Residential zones

PC120 Residential Zones	Net dwelling yields		Difference	
	PC120	Baseline	Dwellings	Percentage
Large Lot	2,295	2,413	-118	-5%
Rural and Coastal Settlement	2,093	2,075	18	1%
Single House	24,957	114,149	-89,192	-78%
Mixed Housing Suburban	158,825	324,352	-165,527	-51%
Mixed Housing Urban	584,693	679,462	-94,769	-14%
THAB (6 Storeys)	338,048	207,957	130,091	63%
THAB (6 Storeys WC) ⁷	132,912	124,357	8,555	7%
THAB (10 Storeys WC)	150,693	90,458	60,235	67%
THAB (15 Storeys WC)	93,314	46,712	46,602	100%
Outside PC120 Extent ⁸	0	3,405	-3,405	-100%
Total	1,487,830	1,595,340	-107,510	-7%

⁷ THAB refers to Terrace Housing and Apartment Buildings Zone, WC refers to being within a Walkable Catchment

⁸ Sites that were within the spatial extent of the Baseline, but not within the spatial extent of PC120. See Figure 23 and section 5.6. Note: there are also sites that were within the PC120 extent, but not within the Baseline – these were also due to geometric issues in input data as well as limitations in maintaining fidelity in the spatial overlay between Baseline and PC120. These sites are not reported separately in the table, as their capacity relative to PC120 is recognised by the modelling as zero.

2.6 Net dwelling yields by PC120 Business Zones

Table 6 below shows the net dwelling yields, focusing on the dwelling capacity within various PC120 Business zones. The Baseline figures refer to results from sites within the area defined by the PC120 zone, irrespective of their PC78 zone. For PC120, Business zones are split into portions inside and outside of Walkable Catchments, reflecting that sometimes different minimum heights and other provisions that may apply.⁹

Nearly all PC120 Business zone areas show a positive increase in dwelling yields under the PC120 scenario, reflecting increased capacity for residential development in these Business zones from greater floorspace enablement. The most significant increases are observed in the Business - Mixed Use Zone (within a WC), which gains the largest number of dwellings at 51,683, resulting in a substantial +52% increase. The Business - Mixed Use Zone (outside of WC) also shows a significant increase of 15,200 dwellings, or +23%.

Of the Centre zones, the Local Centre Zone shows a considerable proportional increase of +28% (+8,605 dwellings), and the Neighbourhood Centre Zone (WC) increases by +25%. These figures demonstrate that PC120 significantly enables dwelling capacity across most Business zones where dwellings are permitted, especially in the Mixed Use and Local Centre zones.

Table 6: Net dwelling yield, by PC120 Business zones

PC120 Business Zones		Net dwelling yields		Difference	
		PC120	Baseline	Dwellings	Percentage
Local Centre Zone	Non-WC	39,160	30,555	8,605	28%
	WC	4,858	4,083	775	19%
Neighbourhood Centre Zone	Non-WC	12,156	11,423	733	6%
	WC	2,027	1,620	407	25%
Town Centre Zone	Non-WC	61,115	55,974	5,141	9%
	WC	29,037	25,796	3,241	13%
Metropolitan Centre Zone	Non-WC	1,365	1,509	-144	-10%
	WC	198,155	177,590	20,565	12%
Mixed Use Zone	Non-WC	82,501	67,301	15,200	23%
	WC	151,504	99,821	51,683	52%
Outside PC120 Extent¹⁰		0	2,934	-2,934	-100%
Total		581,878	478,606	103,272	22%

⁹ Within the modelling, this is also the case for the PC78 portions of the Baseline.

¹⁰ Per Footnote 8.

2.7 5ha hexagon maps

Hexagon maps 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 SA2s or Local Board areas. This approach also improves clarity compared to displaying site-level results, making spatial patterns easier to interpret.

All maps show Residential and Business zone net dwelling capacity, in line with the assumptions, limitations and tables above.

Figure 3 shows Baseline capacity, Figure 4 shows PC120, and Figure 5 shows the numerical difference between them, with blues showing increasing loss of capacity and reds showing increasing gains relative to the Baseline.

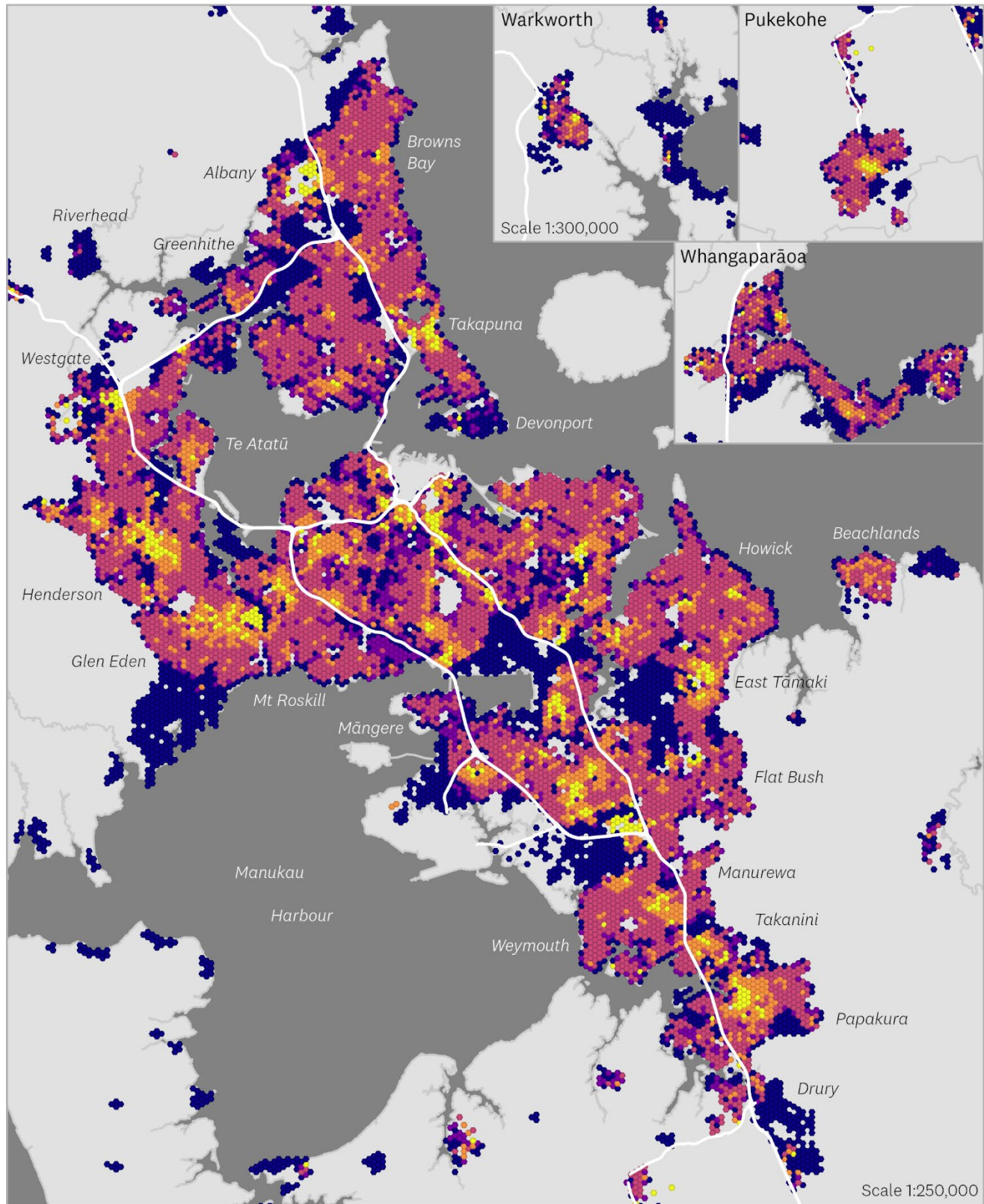
PC120 shows an increase in capacity from relative ‘upzoning’ in Walkable Catchments and more accessible locations, offset by relative ‘downzoning’ reductions in less accessible and hazard-prone locations.

Further analysis or mapping against these variables and others is possible using the site-level results against any other spatial or categorical definition.

Figure 3: Total Baseline (PC78 and AUP(OIP)) net plan-enabled housing capacity, aggregated to 5ha hexagons

Total PC78 Baseline net plan-enabled capacity

Showing Baseline (PC78 & AUP(OIP)) net capacity from both residential and business zones (excluding City Centre), aggregated to 5ha hexagons



Lower net capacity Higher net capacity

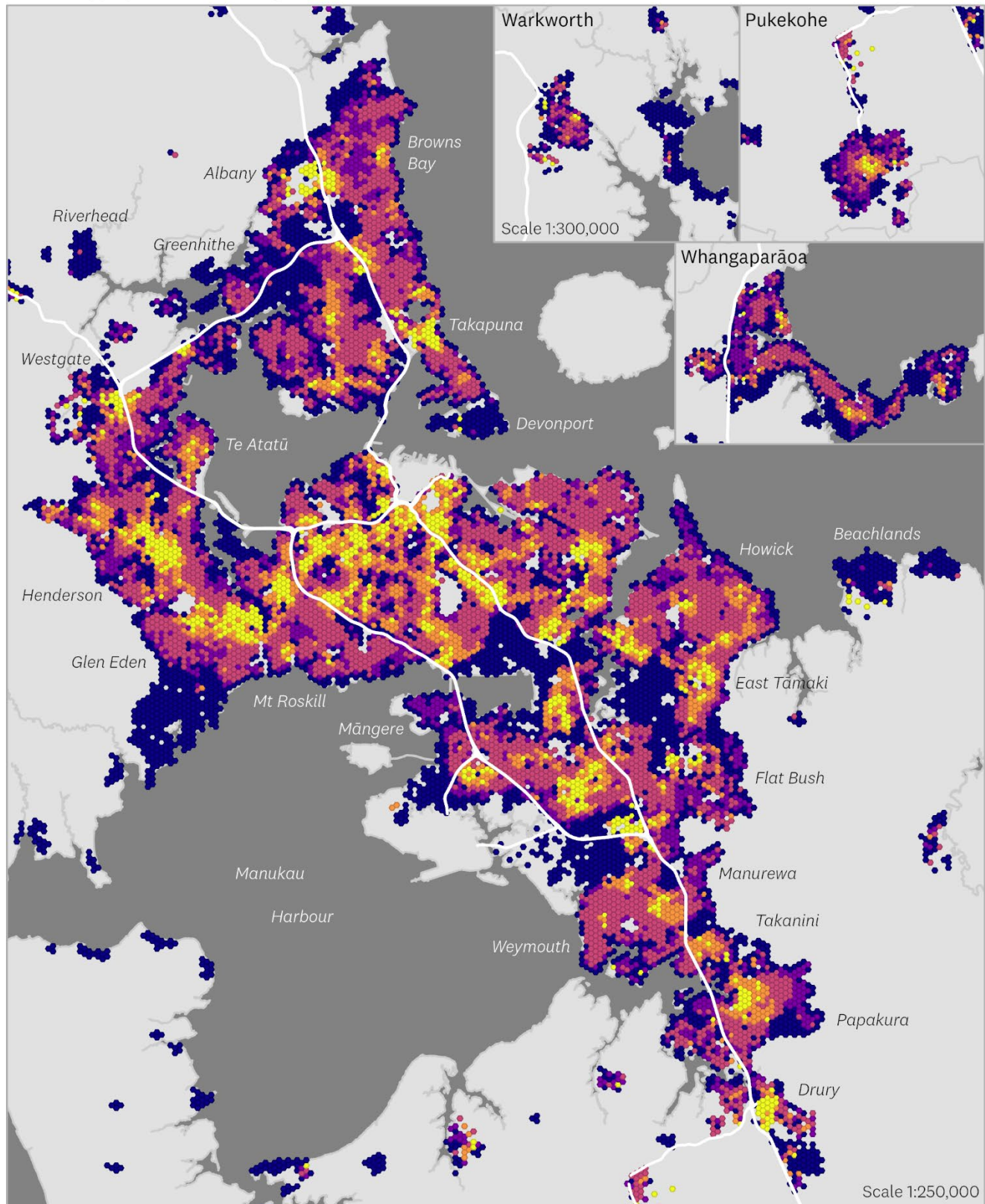
Strategic Advice
and Research

SARU

Figure 4: Total PC120 net plan-enabled housing capacity, aggregated to 5ha hexagons

Total PC120 net plan-enabled capacity

Showing net capacity from both residential and business zones (excluding City Centre), aggregated to 5ha hexagons



Lower net capacity Higher net capacity

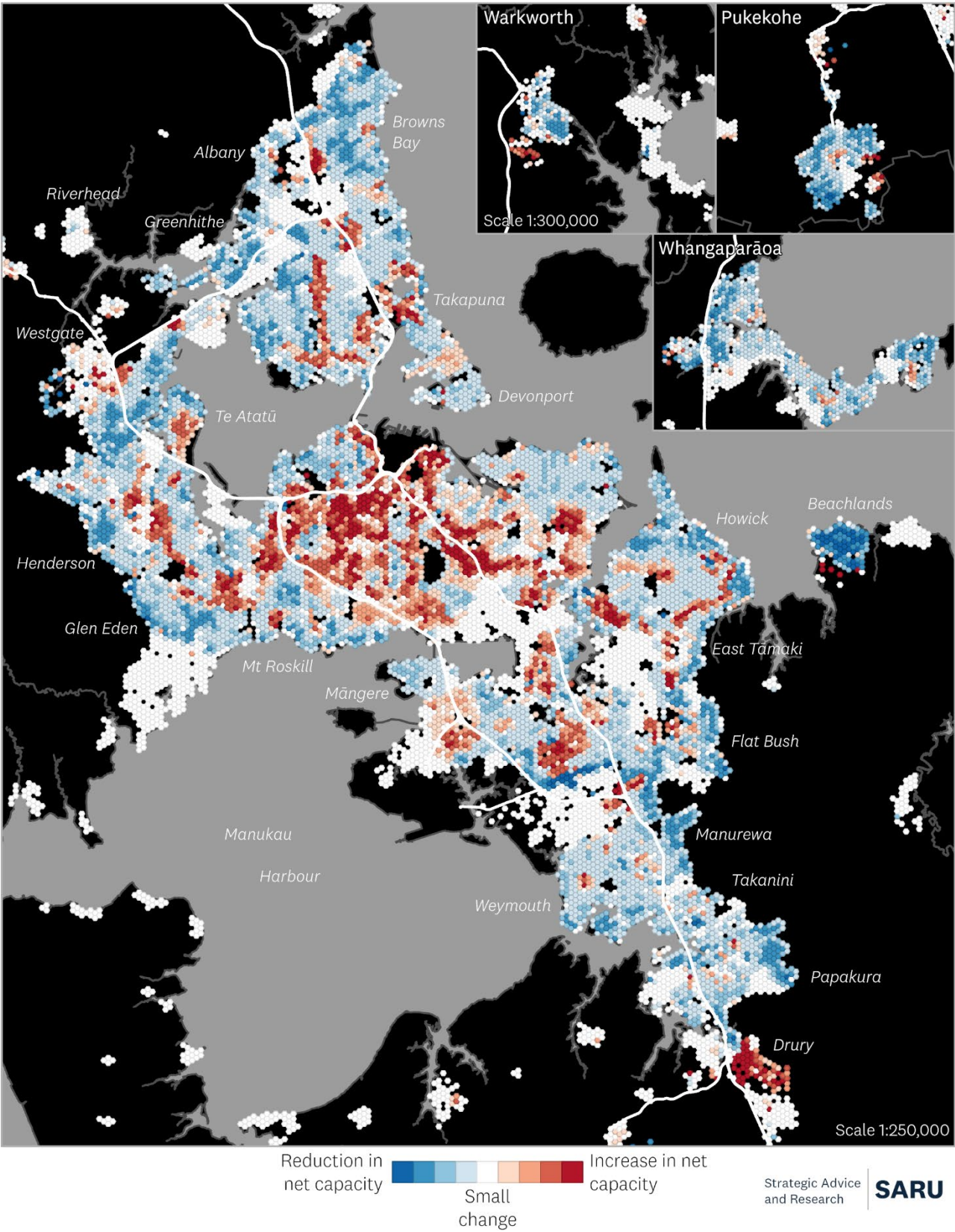
Strategic Advice
and Research

SARU

Figure 5: Difference in net plan-enabled housing capacity between Baseline and PC120, aggregated to 5ha hexagons

Difference in plan-enabled capacity between PC120 and PC78 baseline

Showing net capacity reduction or increase from both residential and business zones (excluding City Centre), aggregated to 5ha hexagons



3. Business capacity assessment results

3.1 Plan-enabled floorspace capacity overall results

Business capacity has been assessed in terms of floorspace capacity (square metres) in both the Baseline and PC120 model runs. The figures below represent various floorspace capacities and compare the two model outputs side by side.

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 rating/valuation data. ‘Net’ business floorspace has been calculated by subtracting the existing floorspace from the gross total floorspace.

Where Business zone floorspace is also enabled to be used for residential uses (i.e., where dwellings are permitted), this floorspace is ‘apportioned’ to residential uses (refer to the assumptions described in section 5.1.2.3), 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, and the remaining 50% has been converted to dwellings and reported in the residential section above.

Table 7 below illustrates the total gross, existing, net and 50/50 split floorspace capacity compared between the PC120 and the Baseline. This summary table also provides a breakdown of the Baseline floorspace capacity by areas where AUP(OIP) provisions were applied (i.e., Auckland Light Rail Corridor and Special Housing Areas), as well as where PC78 provisions were applied (excluding the City Centre Zone).

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. For example, in Centre zones, retail and office activities are generally enabled without constraint, but they may be more restricted in Industrial zones.

Table 7: Summary of total floorspace capacity (square metres)

	PC120	Baseline			Difference	
		AUP	PC78	Total	m ²	Percentage
Gross Business Floor Space	473,201,998	14,161,515	430,962,166	445,123,681	28,078,317	6.31%
Existing Floorspace	30,011,698	1,917,884	28,150,847	30,068,731	-57,033	-0.19%
Net Business Floorspace	431,006,649	11,876,660	391,590,780	403,467,440	27,539,209	6.83%
Net Floorspace [50/50 split]	360,448,624	7,331,560	337,978,271	345,309,831	15,138,794	4.38%

3.2 Plan-enabled net floorspace capacity by Local Board

Table 8 below shows the net floorspace capacity (subtracting existing floorspace from the gross floorspace capacity) in square metres, and compares the differences across all the Local Board areas in Auckland. In some Local Board areas, such as Manurewa and Papakura, the net floorspace capacity has slightly reduced under the PC120 model run compared to the Baseline. However, in the majority of Local Board areas, the net floorspace capacity has increased. Overall, there is a 7% increase in the net floorspace capacity across all of the Local Board areas.

Table 8: Net floorspace capacity (square metres) by Local Board area

Local Board	Net Floorspace Capacity (m ²)		Difference	
	PC120	Baseline	m ²	Percentage
Albert-Eden	10,448,780	7,472,525	2,976,255	40%
Devonport-Takapuna	6,836,042	5,916,753	919,289	16%
Franklin	54,378,104	43,029,636	11,348,468	26%
Henderson-Massey	28,780,206	28,859,557	-79,351	0%
Hibiscus and Bays	12,958,621	12,859,233	99,388	1%
Howick	32,749,101	32,013,168	735,933	2%
Kaipātiki	10,148,583	9,637,452	511,131	5%
Māngere-Ōtāhuhu	33,382,859	33,112,045	270,815	1%
Manurewa	26,740,396	26,947,473	-207,077	-1%
Maungakiekie-Tāmaki	50,244,588	49,375,010	869,578	2%
Ōrākei	7,272,488	5,760,956	1,511,532	26%
Ōtara-Papatoetoe	48,220,944	47,602,389	618,554	1%
Papakura	18,690,951	19,135,771	-444,820	-2%
Puketāpapa	4,417,470	3,922,288	495,182	13%
Rodney	17,218,302	16,171,572	1,046,730	6%
Upper Harbour	36,512,333	32,420,168	4,092,165	13%
Waitākere Ranges	2,127,515	2,066,093	61,422	3%
Waitematā	12,388,917	10,155,637	2,233,280	22%
Whau	17,490,450	17,009,715	480,735	3%
Total	431,006,649	403,467,440	27,539,209	7%

3.3 Plan-enabled net floorspace capacity by Business Zone

Table 9 below shows the net floorspace capacity distributed across the PC120 Business zones and compares the figures with the Baseline.

It is important to note that the zones in the first column correspond to the PC120 Business zone, and not the Baseline Business zone. The table is not a zone-to-zone comparison, but simply illustrates the cumulative floorspace capacity from sites according to their PC120 Business zoning. The table indicates that for some sites that are zoned, for example, as Heavy Industry under the PC120 provisions, the cumulative net floorspace capacity in those locations is about 1% less than the capacity of those same sites under the Baseline provisions.

Most sites under the PC120 provisions have seen an overall increase in floorspace capacity. Sites that are zoned as Business Park Zone (within Walkable Catchments) under PC120 have seen a higher increase (58%), followed by sites zoned as Mixed Use Zone (Walkable Catchment) and Local Centre Zone (51% and 28% respectively). Overall, there is a 7% increase in the net floorspace as mentioned previously.

Table 9: Net floorspace capacity (square metres), by PC120 Business zone

PC120 Business Zones		Net Floorspace Capacity (m ²)		Difference	
		PC120	Baseline	m ²	Percentage
Light Industry Zone	Non-WC	166,846,731	164,141,027	2,705,704	2%
	WC	24,760,126	24,125,507	634,619	3%
Heavy Industry Zone	Non-WC	75,472,072	76,113,409	-641,337	-1%
	WC	4,741,050	4,715,242	25,808	1%
General Business Zone	Non-WC	7,905,861	7,465,734	440,127	6%
	WC	7,206,469	7,163,035	43,434	1%
Business Park Zone	Non-WC	1,073,501	896,585	176,917	20%
	WC	1,884,788	1,190,275	694,513	58%
Neighbourhood Centre Zone	Non-WC	3,051,859	2,875,282	176,577	6%
	WC	499,871	402,694	97,177	24%
Local Centre Zone	Non-WC	9,548,486	7,481,257	2,067,229	28%
	WC	1,184,169	998,765	185,404	19%
Town Centre Zone	Non-WC	14,894,112	13,658,939	1,235,173	9%
	WC	7,105,199	6,330,757	774,442	12%
Metropolitan Centre Zone	Non-WC	327,668	362,203	-34,536	-10%
	WC	47,688,634	42,750,872	4,937,762	12%
Mixed Use Zone	Non-WC	20,127,452	16,499,243	3,628,210	22%
	WC	36,688,599	24,276,085	12,412,515	51%
Outside PC120 Zones		0	2,020,529	-2,020,529	-100%
Total		431,006,649	403,467,440	27,539,209	7%

3.4 Plan-enabled net floorspace capacity for business use by Local Board

Table 10 below is similar to Table 9 in all respects, except that the net floorspace capacity shown in Table 10 is *after* accounting for the net floorspace for residential use (50/50 split) from relevant PC120 Business zones.¹¹ The highest net floorspace capacity difference, after accounting for residential use, is observed in Albert-Eden Local Board area (38% increase), followed by Waitemata and Ōrākei (22% and 19% respectively).

A slight reduction in net floorspace capacity from the Baseline to PC120 is also observed in Henderson-Massey (-2%), Papakura (-2%) and Manurewa (-1%) Local Board areas. Overall, there is a 4% increase in net floorspace capacity after accounting for residential use across the region from the Baseline to PC120.

¹¹ I.e., those Business zones which provide for both residential and business activity.

Table 10: Net floorspace capacity in square metres (50/50 split), by Local Board area

Local Board	Net Floorspace Capacity (50/50 split)		Difference	
	PC120	Baseline	m ²	Percentage
Albert-Eden	5,588,129	4,054,730	1,533,399	38%
Devonport-Takapuna	3,825,978	3,323,024	502,954	15%
Franklin	46,626,971	40,197,943	6,429,028	16%
Henderson-Massey	22,438,845	22,861,911	-423,066	-2%
Hibiscus and Bays	10,588,885	10,555,717	33,168	0%
Howick	28,631,712	28,115,565	516,146	2%
Kaipātiki	9,050,195	8,769,259	280,936	3%
Māngere-Ōtāhuhu	30,671,857	30,789,706	-117,849	0%
Manurewa	25,854,313	26,196,053	-341,740	-1%
Maungakiekie-Tāmaki	44,799,910	44,656,285	143,625	0%
Ōrākei	4,699,957	3,947,481	752,476	19%
Ōtara-Papatoetoe	41,980,069	41,875,035	105,034	0%
Papakura	16,796,825	17,071,307	-274,482	-2%
Puketāpapa	3,377,040	3,125,362	251,678	8%
Rodney	15,142,290	14,094,460	1,047,830	7%
Upper Harbour	28,802,344	25,477,816	3,324,529	13%
Waitākere Ranges	1,621,264	1,591,744	29,520	2%
Waitematā	6,204,325	5,088,165	1,116,160	22%
Whau	13,747,717	13,518,268	229,449	2%
Total	360,448,624	345,309,831	15,138,794	4%

3.5 Plan-enabled net floorspace capacity for business use by Business Zone

Table 11 below compares the net floorspace capacity (50/50 split) under the PC120 and Baseline scenarios, and groups the results by PC120 Business zones, similar to Table 5. Please note that the 50/50 split of floorspace between dwellings and business has only been applied to Business zones where dwellings are permitted (e.g., Local Centre Zone, Neighbourhood Centre Zone, Town Centre Zone, Mixed Use Zone, Metropolitan Centre Zone, etc.). For all other zones, such as Light Industry Zones, Heavy Industry Zones, etc., the entire net floorspace capacity is reported in the following table as no floorspace has been set aside for residential use (e.g., dwellings are a non-complying activity in the Light Industry zone and a prohibited activity in the Heavy Industry zone).

Overall, the PC120 scenario shows a significant increase in total Plan-Enabled Business Capacity, increasing floorspace by 15,138,794m², or 4%, from the Baseline's 345.3 million m² to 360.4 million m² under PC120. This change is driven primarily by substantial capacity increases in specific zones,

particularly those within the Walkable Catchments (WC). Apart from Business Park Zone (WC), which has the largest floorspace increase (as shown in the Net Floorspace Capacity table in section 3.3), other areas of uplift are observed in sites zoned as Mixed Use Zone (WC) at 51%, Local Centre Zone at 28%, Neighbourhood Centre Zone (WC) at 24%, and Mixed Use Zone at 22% under the PC120 provisions. Industrial zones generally saw small increases, with the Light Industry Zone outside Walkable Catchment gaining 2% and inside Walkable Catchment gaining 3%.

Table 11: Net floorspace capacity in square metres (50/50 split), by PC120 Business zone

PC120 Business Zones		Net Floorspace Capacity (50/50 split)		Difference	
		PC120	Baseline	m ²	Percentage
Light Industry Zone	Non-WC	166,846,731	164,141,027	2,705,704	2%
	WC	24,760,126	24,125,507	634,619	3%
Heavy Industry Zone	Non-WC	75,472,072	76,113,409	-641,337	-1%
	WC	4,741,050	4,715,242	25,808	1%
General Business Zone	Non-WC	7,905,861	7,465,734	440,127	6%
	WC	7,206,469	7,163,035	43,434	1%
Business Park Zone	Non-WC	1,073,501	896,585	176,917	20%
	WC	1,884,788	1,190,275	694,513	58%
Neighbourhood Centre Zone	Non-WC	1,525,930	1,437,641	88,289	6%
	WC	249,936	201,347	48,589	24%
Local Centre Zone	Non-WC	4,774,243	3,740,628	1,033,615	28%
	WC	592,084	499,382	92,702	19%
Town Centre Zone	Non-WC	7,447,056	6,829,469	617,586	9%
	WC	3,552,600	3,165,378	387,221	12%
Metropolitan Centre Zone	Non-WC	163,834	181,102	-17,268	-10%
	WC	23,844,317	21,375,436	2,468,881	12%
Mixed Use Zone	Non-WC	10,063,726	8,262,703	1,801,024	22%
	WC	18,344,300	12,138,042	6,206,257	51%
Outside PC120 Zones		0	1,667,887	-1,667,887	-100%
Total		360,448,624	345,309,831	15,138,794	4%

4. Results Analysis

This section presents selected high-level analyses based on some of the outputs of the modelling. Many other potential insights are possible.

We highlight changes in two key drivers of housing and business capacity between the two scenarios, based on the interaction of all the provisions modelled, showing:

- **effective height in storeys** and
- **floor area ratio (FAR).**

We also update previously presented measures of changes in the **locational distribution of capacity** between the two plans. These include analyses of:

- **Relative concentration**, using proximity to the City Centre as a proxy for centrality and underlying demand;
- **Relative accessibility**; using the Public Transport and Walking measure from the Framework for Urban Access, and
- **Unadjusted 2024 land values**, used as a proxy for underlying locational demand.

4.1 Effective Heights

‘Effective Heights’ are the calculated result of modelling, indicating the number of storeys actually able to be achieved on the site, considering all of the parameters modelled. This measure is always equal to or less than the maximum height enabled

Changes in effective height are a key indicator that planning provisions as a whole are enabling additional storeys, which in turn provide greater floorspace, and subsequently more dwelling capacity. Changes in the minimum height in particular locations (e.g. Walkable Catchments around certain CRL Stations) are also a key component of the legislative requirements to withdraw PC78 and notify PC120.

Effective Height is derived through a multistage process. It begins with calculating the ‘zone’ enabled height, which is the maximum number of storeys a building could be built to, considering the combination of zone height and height variation control (‘_effective_zone_height’), and then height-affecting overlays (various Viewshafts, Height Sensitive Areas and other considerations). This is the number of storeys to which the model clones the site footprint to initiate the building envelope, and the controlling height affecting feature is maintained as an attribute for later analysis if required.

Secondly, the model checks each of these storeys against site-level constraints such as yards, height in relation to boundaries, upper-level setbacks, minimum tower dimensions, building coverage and various other provisions depending on the zone, clipping the cloned storeys as required. Any storeys under 30m² are excluded (as this is smaller than the minimum enabled dwelling size).

The resulting number of storeys able to be built on the site is then recorded in the attribute ‘_storey_max_effective’.

The three maps shown below indicate the effective height modelled under the baseline, PC120 and the difference between them,¹² illustrating the change in effective storeys achieved across Auckland. The spatial patterns in these maps clearly reflect a strategy of targeted intensification.

Notably, the greatest increases in effective enabled building height (shown in red, ranging from +4 to +13 storeys in Figure 8) are heavily concentrated in the inner suburbs and along key transport corridors. This "up-zoning" is greatest in areas like Mt Roskill, Māngere, Manurewa, and parts of Henderson.

In contrast, the map also highlights areas of reduced height or "down-zoning," with the largest decreases in height (blue, -4 to -13 storeys in Figure 8) clustered in middle and outer suburban areas, most notably in Howick, Flat Bush, and parts of the North Shore, though widespread no or -1 storey change reflects the difference between widespread MHU and MDRS (3 stories) and the replacement MHU (3 storey) and MHS (2 storey) zones.

This visible spatial shift reflects the PC120 policy approach: channelling the greater height and density into centres and transit routes while pulling it back from hazard-prone areas, environmentally sensitive and less accessible locations.

¹² These maps only show data where both scenarios have a valid comparison site and effective height value.

Figure 6: PC78 Baseline maximum effective storeys

PC78 Baseline maximum effective storeys

Showing maximum effective storeys from both residential and business zones, excluding City Centre

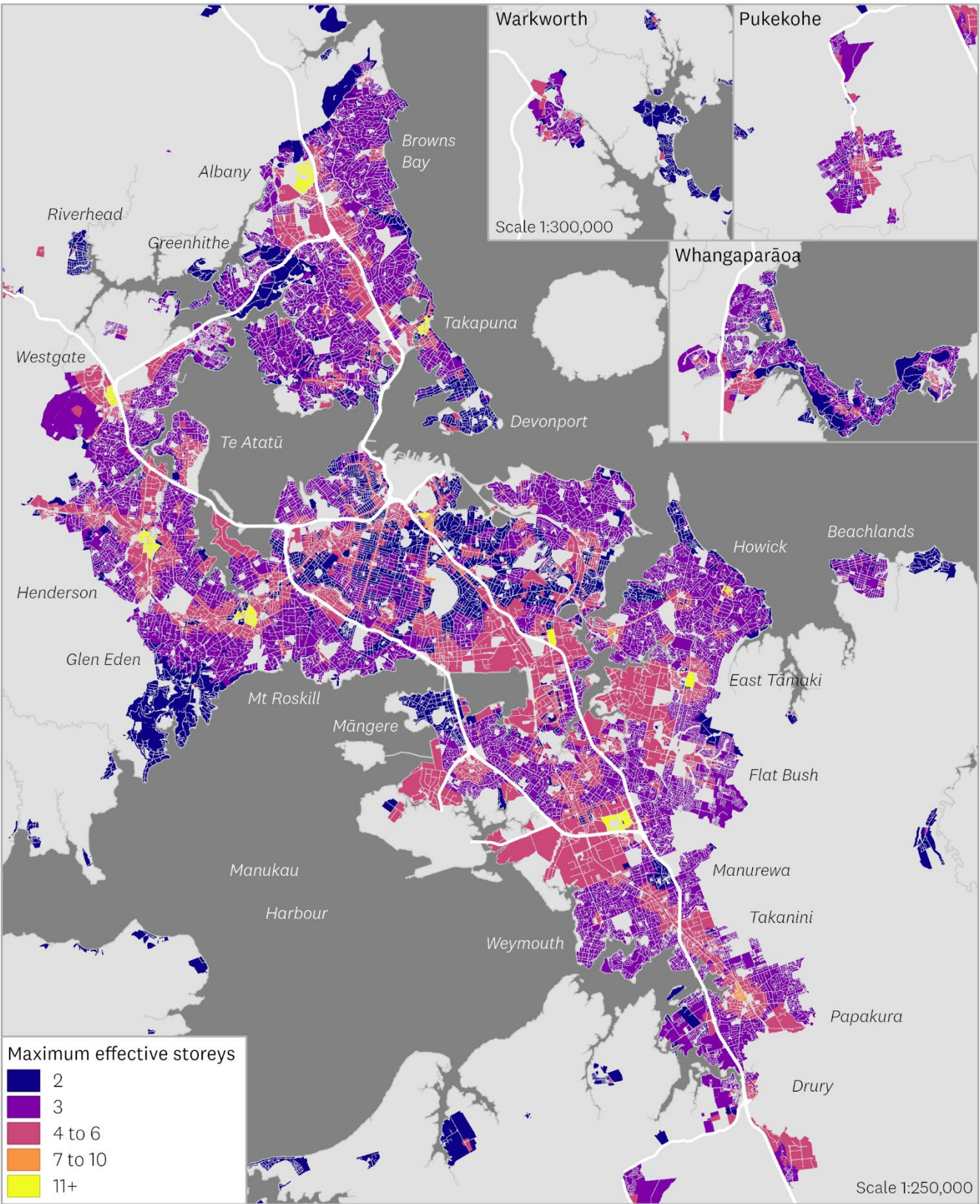
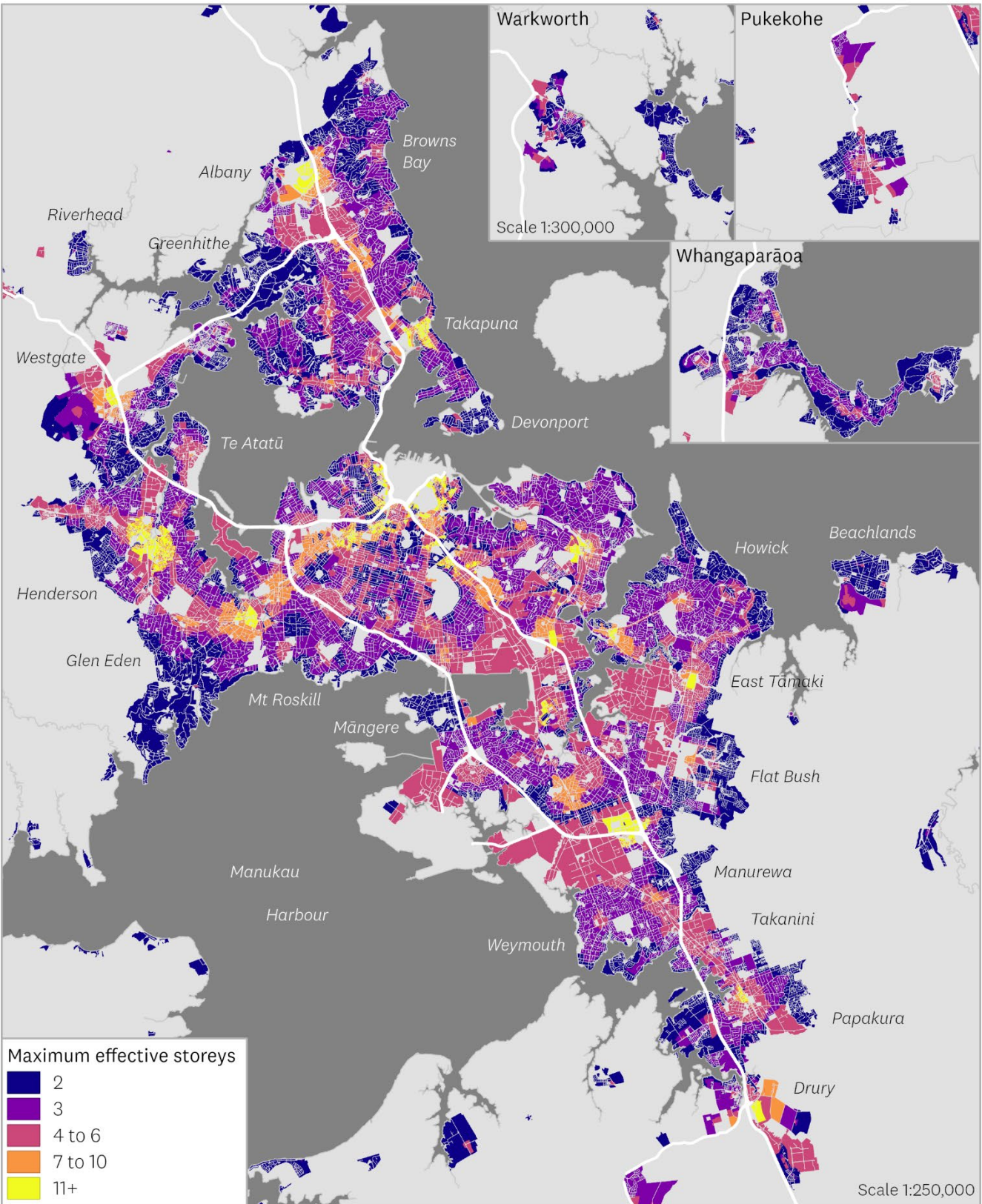


Figure 7: PC120 maximum effective storeys

PC120 maximum effective storeys

Showing maximum effective storeys from both residential and business zones, excluding City Centre



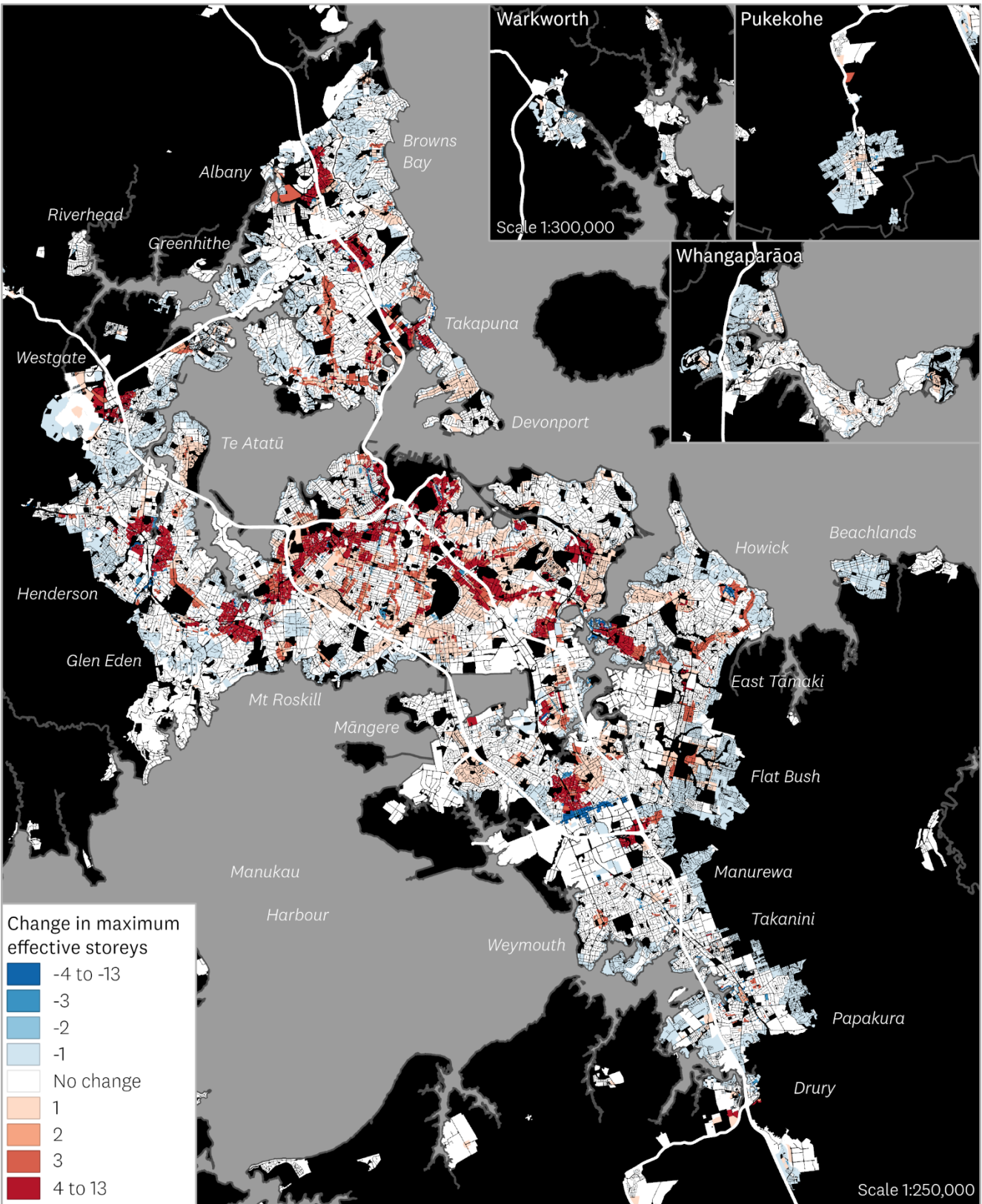
Strategic Advice
and Research

SARU

Figure 8: Difference in maximum effective storeys between PC78 Baseline and PC120

Difference in maximum effective storeys between PC120 and PC78 Baseline

Showing the change in maximum effective storeys between PC78 Baseline and PC120 from residential and business zones, excluding City Centre



4.2 Floor Area Ratios

Floor area ratio (FAR) is the ratio of a site's enabled floorspace to its site area. It is widely used in planning and urban economics as a key indicator of both absolute and relative development potential.

- A **FAR less than 1** indicates that the total floor area enabled on the site is less than the site area. For example, a low-density residential site with a maximum building coverage of 30% and a two-storey height limit would have a FAR no greater than 0.6.
- A **FAR greater than 1** means the enabled floor area exceeds the site area. For instance, a centre-zoned site with no coverage limits and a five-storey height limit could have a FAR of up to 5.0.

In zones where floorspace is the primary calculated variable (all Business zones, and Residential zones with density greater than or equal to Mixed Housing Suburban), this is a direct output of the volumetric floorspace based modelling process, considering nuances and constraints from various rules and provisions. For lower density zones (Single House/Low Density Residential and below), for the purposes of the following maps, we have derived an indicative FAR based on:

$$\frac{(\text{site area} \times \text{building coverage percentage}^{13}) \times \text{effective storeys}}{\text{site area}}$$

While this isn't quite as precise as the floorspace-based modelling, given these zones are two storeys with low coverage limits, we are comfortable with the calculation, particularly for comparative mapping.

The three maps shown below show the FAR modelled or derived under the Baseline, PC120 and the difference between them.¹⁴

Illustrating the spatial redirection of development capacity in Auckland, these maps show a clear shift towards intensification focussed closer to the inner city and along major transit corridors (red/deep red in Figure 11). The most significant increases in Floor Area Ratio (FAR) are clustered around areas like Mt Roskill, Māngere, Manurewa, and parts of Henderson, indicating a policy-driven concentration of widespread opportunities for dense housing in these more accessible locations.

Conversely, the map shows substantial reduction of FAR (down-zoning) in the middle and outer suburbs (blue/deep blue in Figure 11), particularly in coastal and middle-ring areas like Howick, Flat Bush, and parts of Devonport/Takapuna. This divergence visually confirms the PC120 strategy of consolidating capacity around existing infrastructure and centres, while concurrently limiting development in specified lower-density and/or hazard-prone areas.

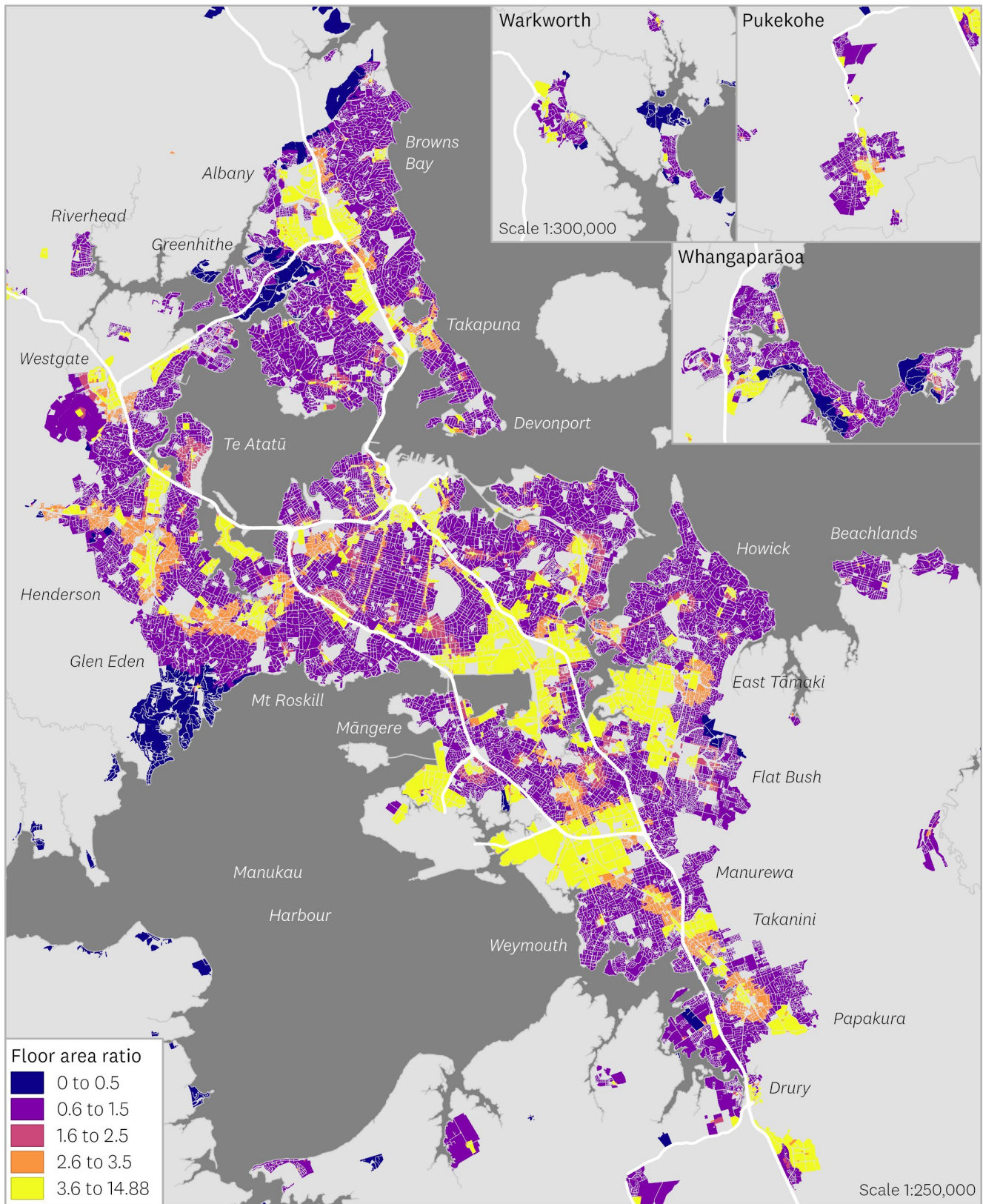
¹³ Where a maximum coverage in m² is also stated and the percentage coverage approach exceeds this maximum value, FAR is calculated as *(maximum coverage area in m² × effective storeys) ÷ site area*.

¹⁴ These maps only show data where both scenarios have a valid comparison site and value.

Figure 9: PC78 Baseline floor area ratio

PC78 Baseline floor area ratio

Showing floor area ratio from both residential and business zones, excluding City Centre



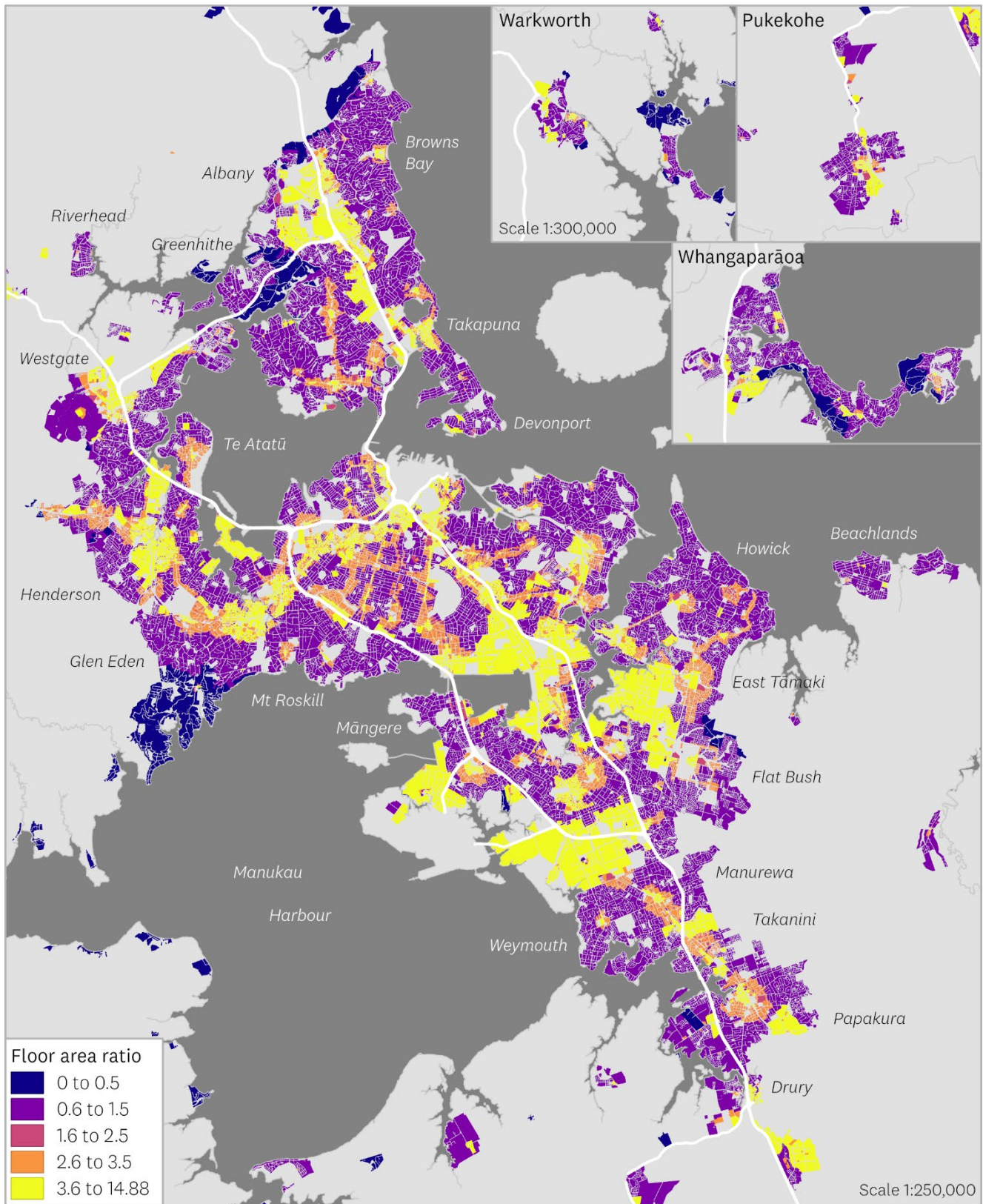
Strategic Advice
and Research

SARU

Figure 10: PC120 floor area ratio

PC120 floor area ratio

Showing floor area ratio from both residential and business zones, excluding City Centre



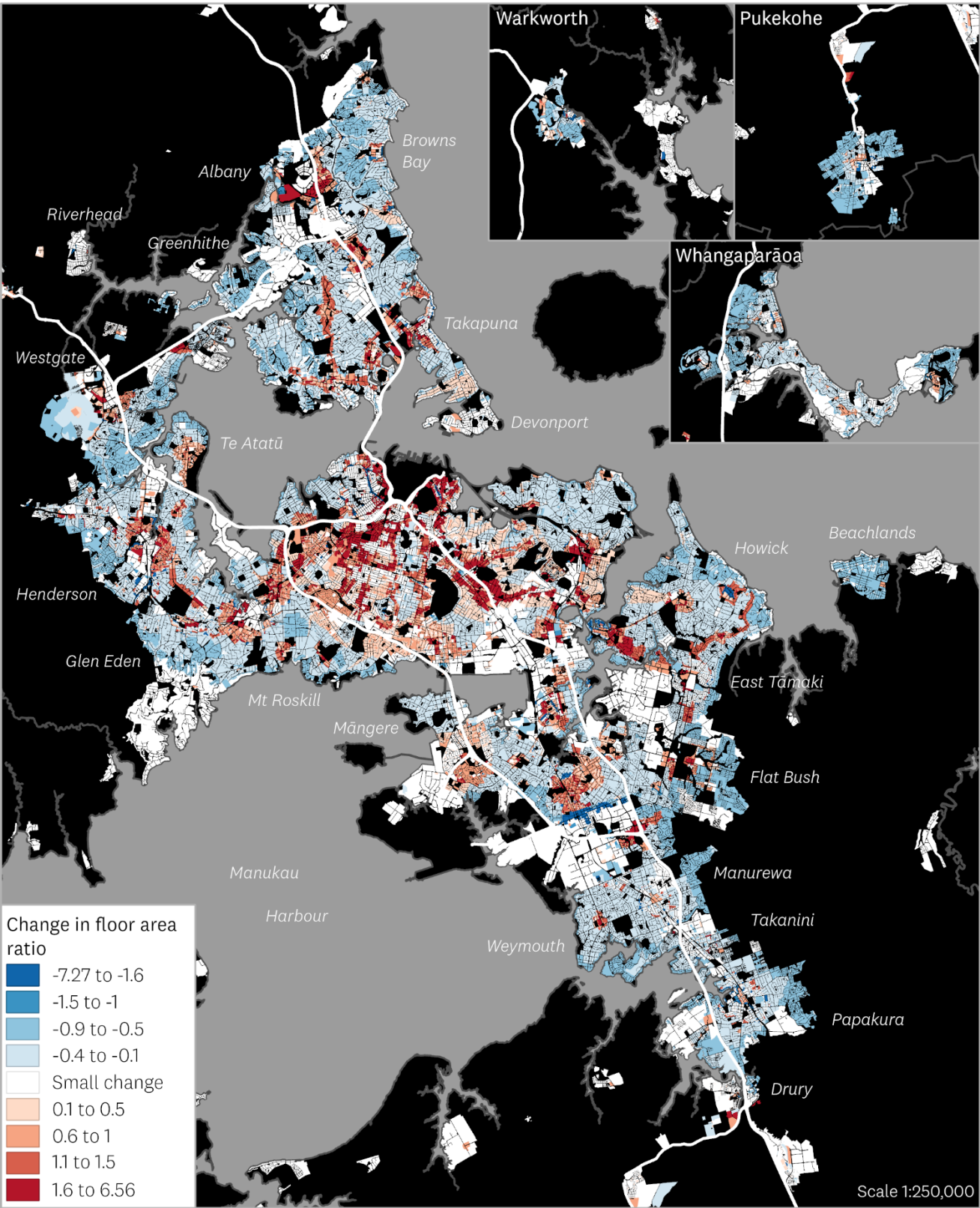
Strategic Advice
and Research

SARU

Figure 11: Difference between in floor area ratio between PC78 Baseline and PC120

Difference in floor area ratio between PC78 Baseline and PC120

Showing the change in floor area ratio between PC78 Baseline and PC120 from residential and business zones, excluding City Centre



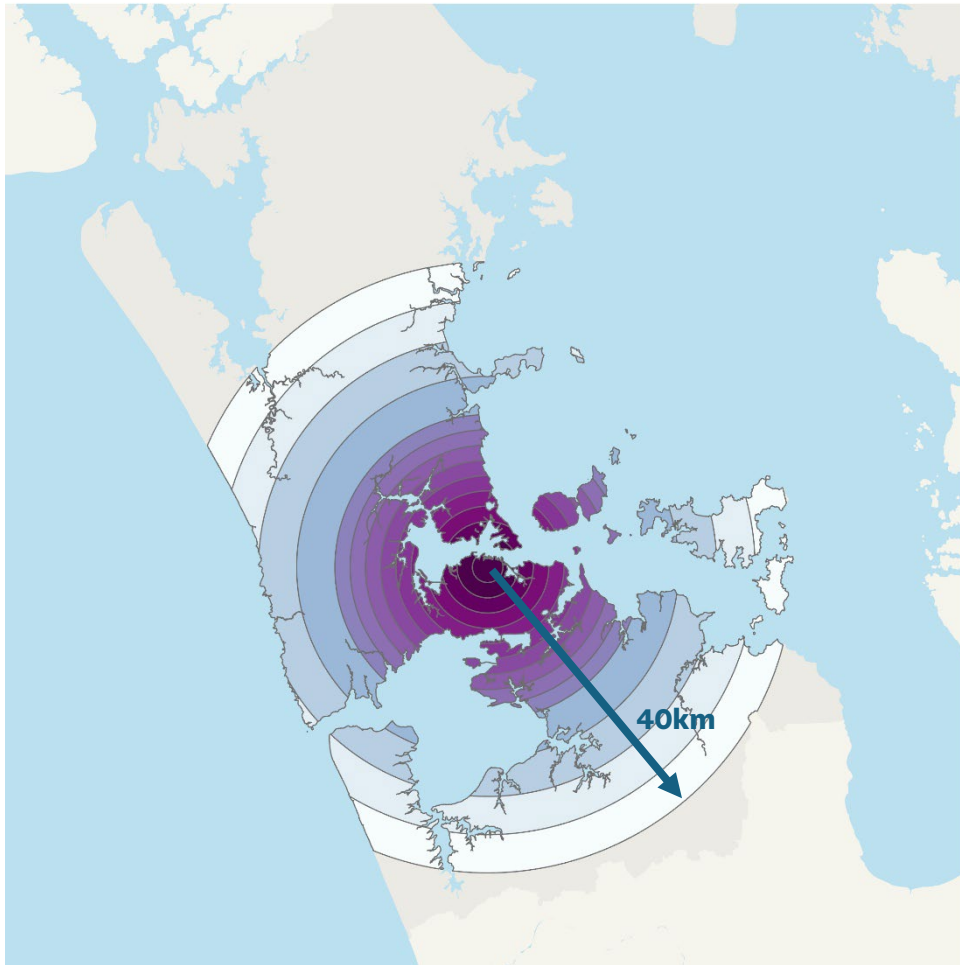
Strategic Advice
and Research

SARU

4.3 Concentration (Distance to City Centre)

This analysis examines the concentration of residential zone housing capacity in relation to distance from the CBD. The CBD is a high-amenity area, offering a wide range of cultural, economic, and social facilities, as well as key infrastructure. It is also centrally the most accessible location to almost any other part of the region. It is also the largest single 'centre', the largest employment location, and the focus of the wider transportation network.

Figure 12: Illustrative map showing concentric rings of distance to City Centre (straight-line distance).



Land values (a good proxy for relative demand) also tend to decrease with distance from the centre, but due to nuances from other amenities, access and regulation affecting both demand and land values differently, using accessibility and land value directly is recommended, and both are shown in section 4.5 below.

The colours of the concentric rings in the illustrative map in Figure 12 correspond to the distances shown in Figure 13, with darker purples being closer to the CBD, and lighter blues being further from the CBD.

Please note that the following figures show plan-enabled capacity in just the Residential zones, and do not include the housing capacity which is enabled in Business zones.

Figure 13: Percentage change in enabled capacity in Residential zones only, by straight-line distance from the CBD

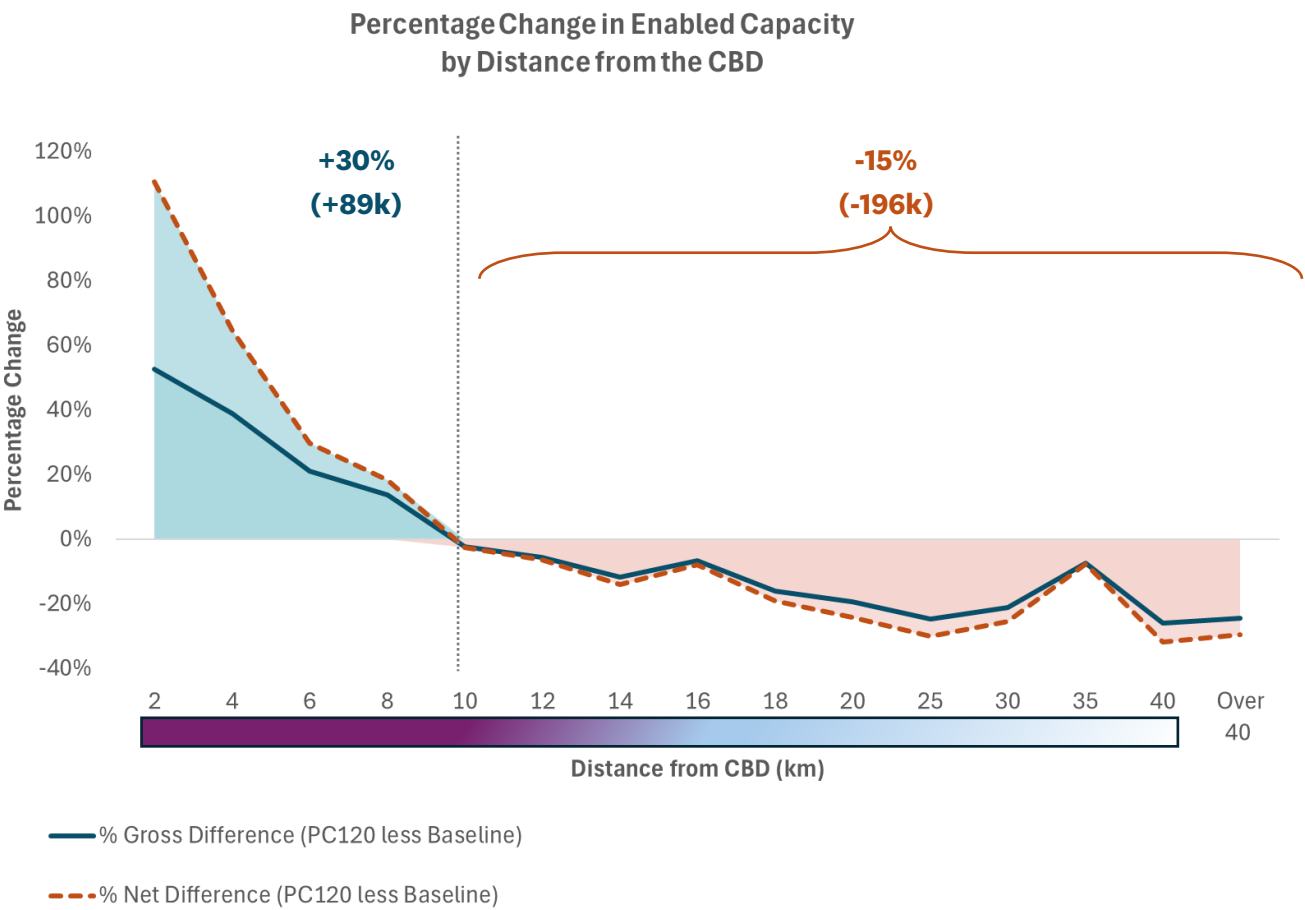
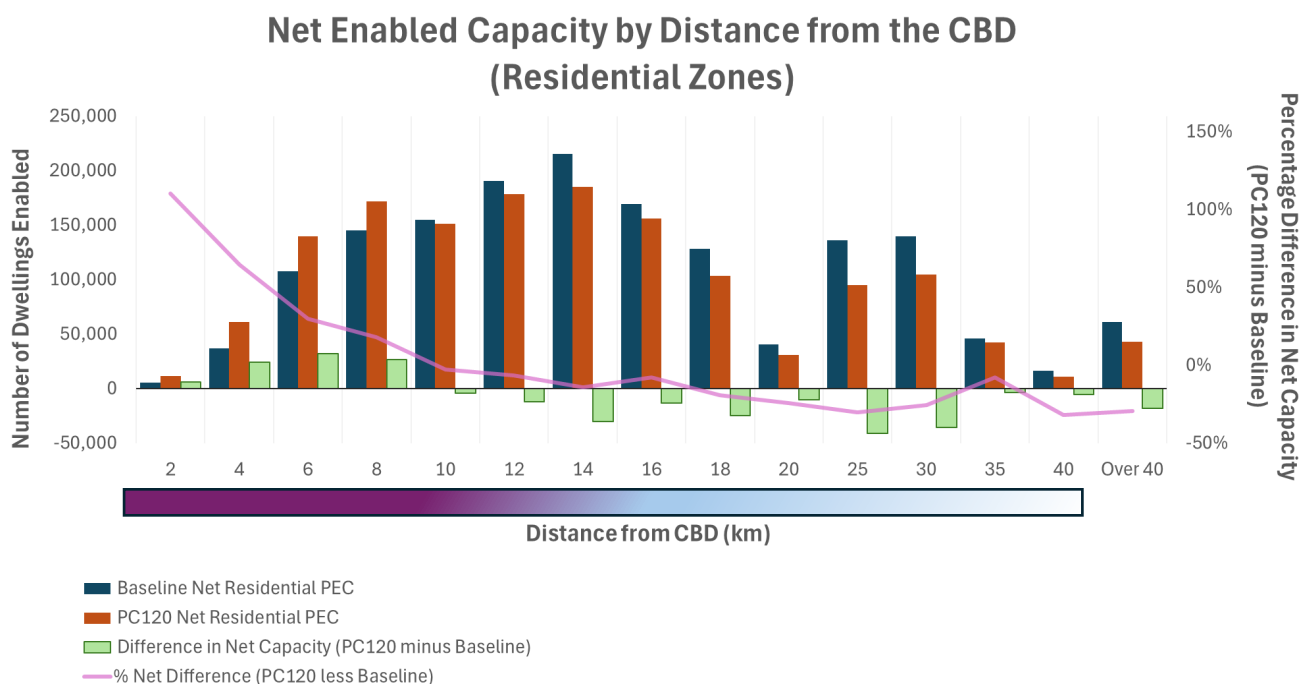


Figure 14: Net plan enabled capacity in Residential zones only, by straight-line distance from the CBD



The graphs in Figure 13 and Figure 14 show relative change in Residential zone capacity, where this has increased within 8km in some cases significantly, and decreased beyond that distance.

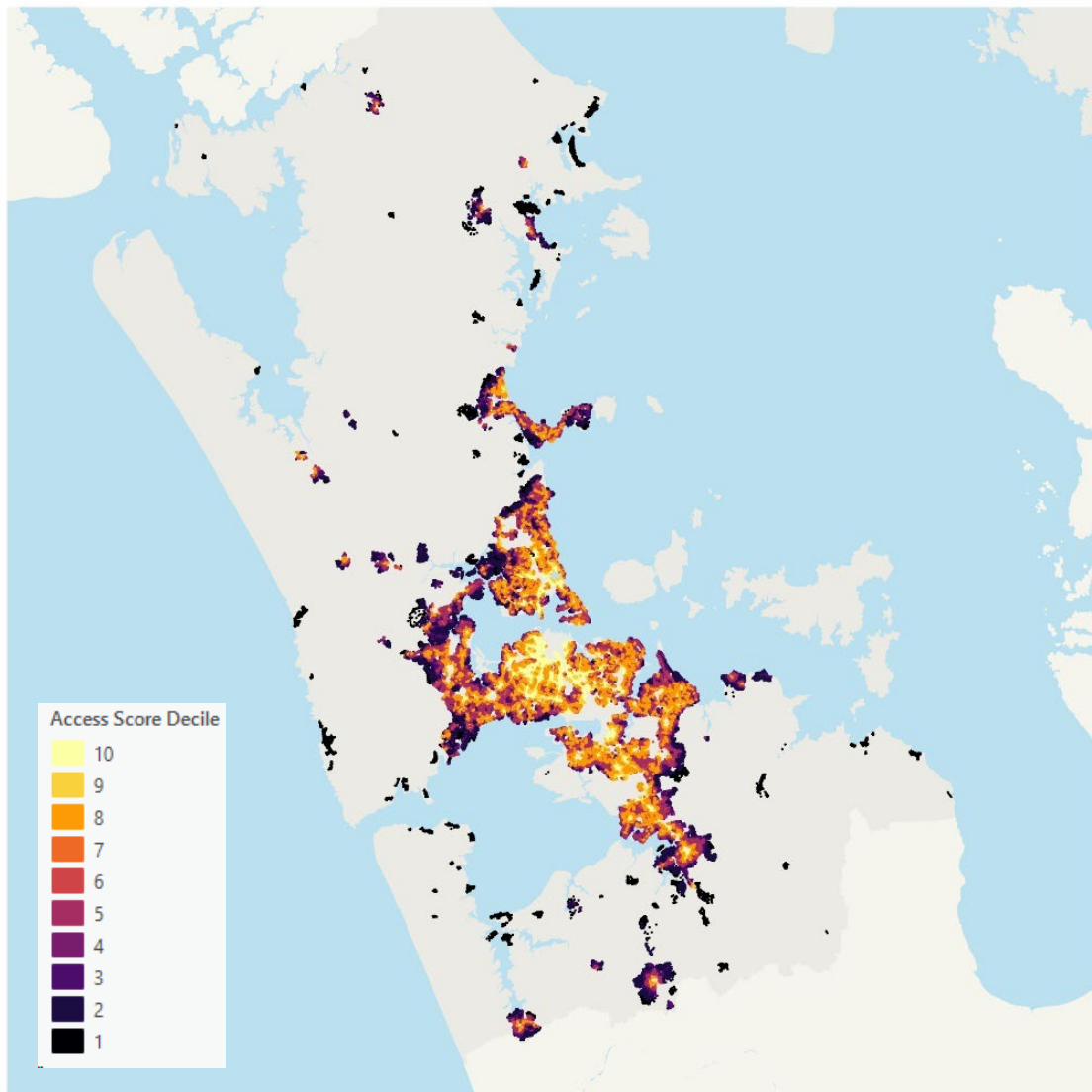
- Capacity has been increased **within 8km of the CBD**, by 30% overall, and 111% within 2km.
- This is an increase of +89k dwellings within 8km and +6k within 2km.
- There is a capacity decrease **beyond 8km**, of -15% or -196k.

4.4 Relative Accessibility (Framework for Urban Access)

To understand relative accessibility, this analysis draws upon Auckland Council's Framework for Urban Access¹⁵ a metric that analyses relative accessibility to a range of amenities and facilities that Aucklanders have revealed a preference for visiting, using the existing public transport network and walking network (i.e., footpaths). This data has also helped inform the spatial patterns of PC120.

¹⁵ Framework for Urban Access Tool Methodology v1.3a, presently unpublished, but available as Appendix 2 to Implementation of Intensification Directions from Resource Management Amendment Act (2025) and policy 3 of the National Policy Statement on Urban Development (Policy 3 Intensification): Evaluation Report, October 2025.

Figure 15: Framework for Urban Access Tool, classified by deciles



For this analysis, we use the overall Access Score and measure and convert this to a decile ranking. The Access Score is shown in Figure 15 above. The map's colour scheme corresponds to the legend. Yellow areas represent higher deciles (i.e., greater accessibility), while dark purple areas represent lower deciles (i.e., lower accessibility). An Access Score of 10 indicates a location is highly accessible, whereas a score of 1 indicates it is highly inaccessible. This legend is also applied below to Figure 16. Housing capacity data from Residential zones from each plan is tagged with the Access Score decile and presented below in Figure 16 and Figure 17.

Figure 16: Percentage change of plan-enabled capacity in Residential zones only, by Access Score decile

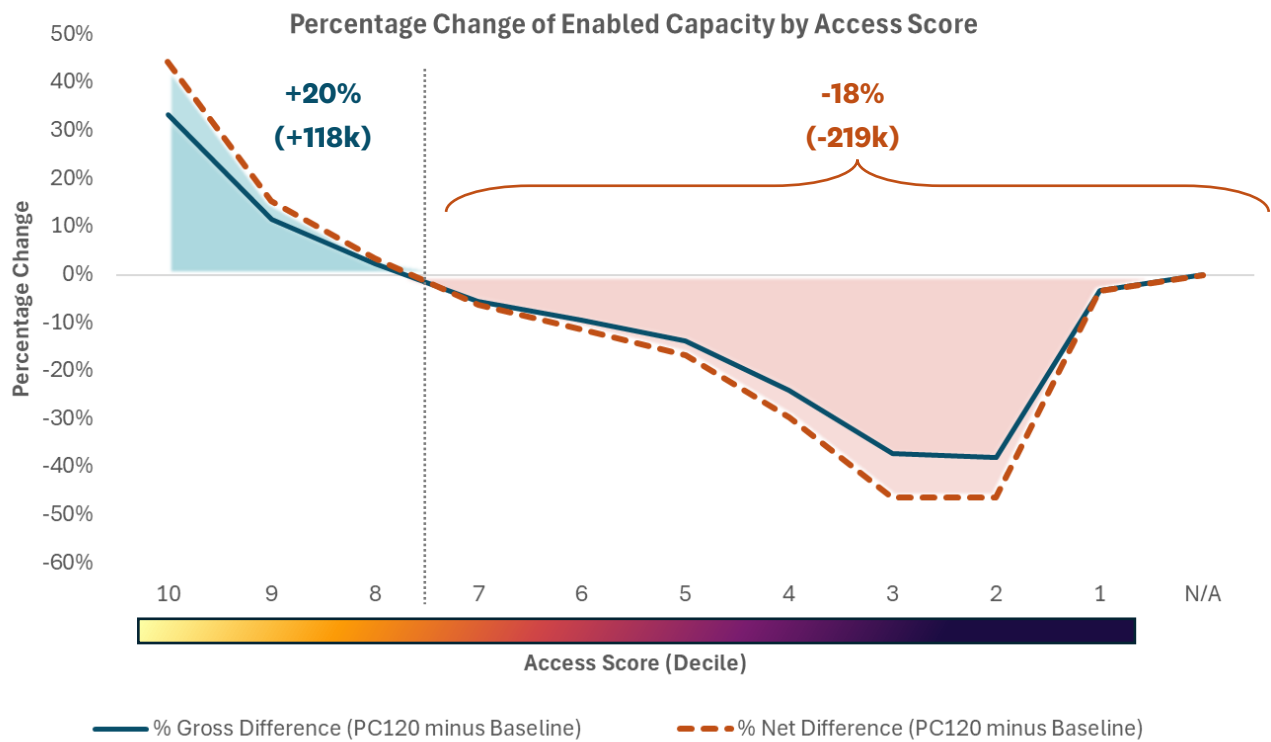
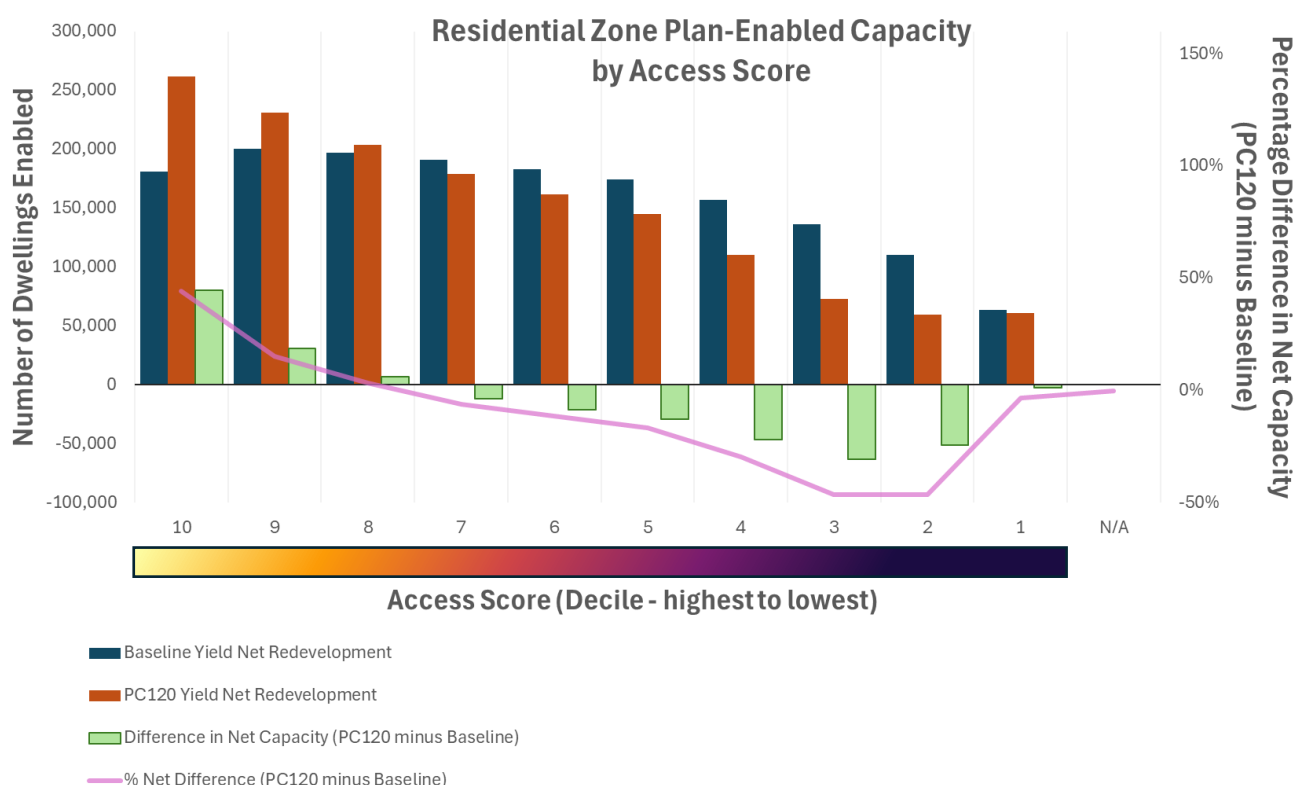


Figure 17: Net plan-enabled capacity in Residential zones only, by Access Score decile



Key high-level findings from this accessibility-based capacity analysis are as follows:

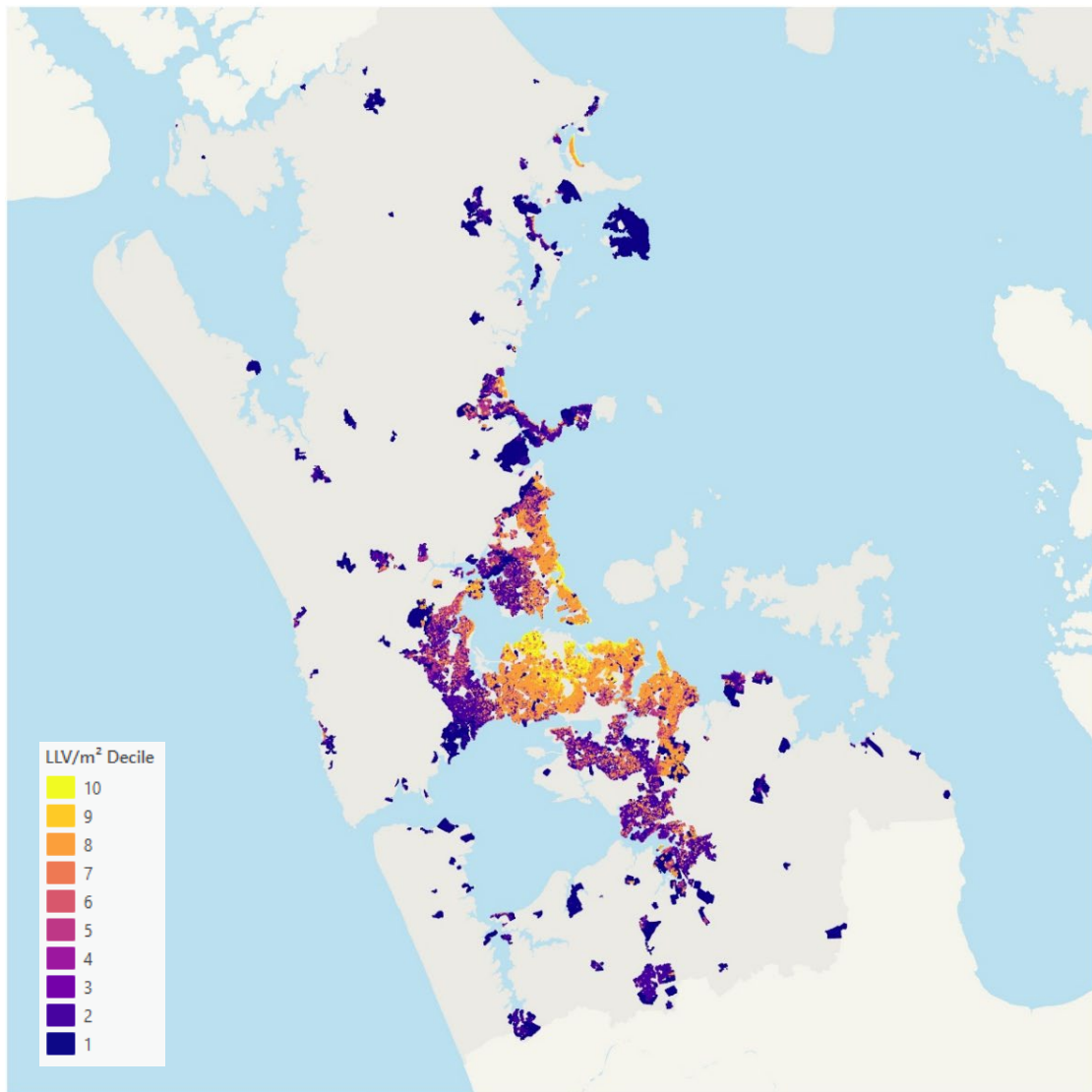
- Capacity has been increased **within the top 3 deciles for accessibility**, by 20% overall, and 44% within the top decile.
- This is an increase of +118k dwellings within the top 3 deciles, and +80k within the top decile.
- There is a capacity decrease **between deciles 1-7**, of -18% or -219k dwellings.

4.5 Demand (Land Values)

The 2023 HBA highlighted the use of land value as a proxy for understanding the underlying relative demand for some locations relative to others. We are also aware¹⁶ that land values can be distorted by land use regulations, and so, direct use as a definitive indicator of unconstrained demand is not ideal. Given that this analysis compares two different sets of regulations, we have utilised the unadjusted valuation data.

¹⁶ <https://new.aucklandcouncil.govt.nz/content/dam/ac/docs/about-council/misc/where-auckland-wants-to-live.pdf>

Figure 18: Land value per m², classified by deciles



This analysis compares Residential zone housing capacity with the latest available land values per square metre (LLV/m²), as embedded in the sites used in the capacity model. The valuation data reflects an effective date of May 2024.

Those valuations are shown classified into deciles in Figure 18 above. The colouration of the map indicates the decile and corresponds to Figure 19, with yellows representing areas with higher land value per square metre, and dark blues representing areas with lower land value per square metre.

Figure 19: Percentage change in plan-enabled capacity in Residential zones only, by LLV/m² decile

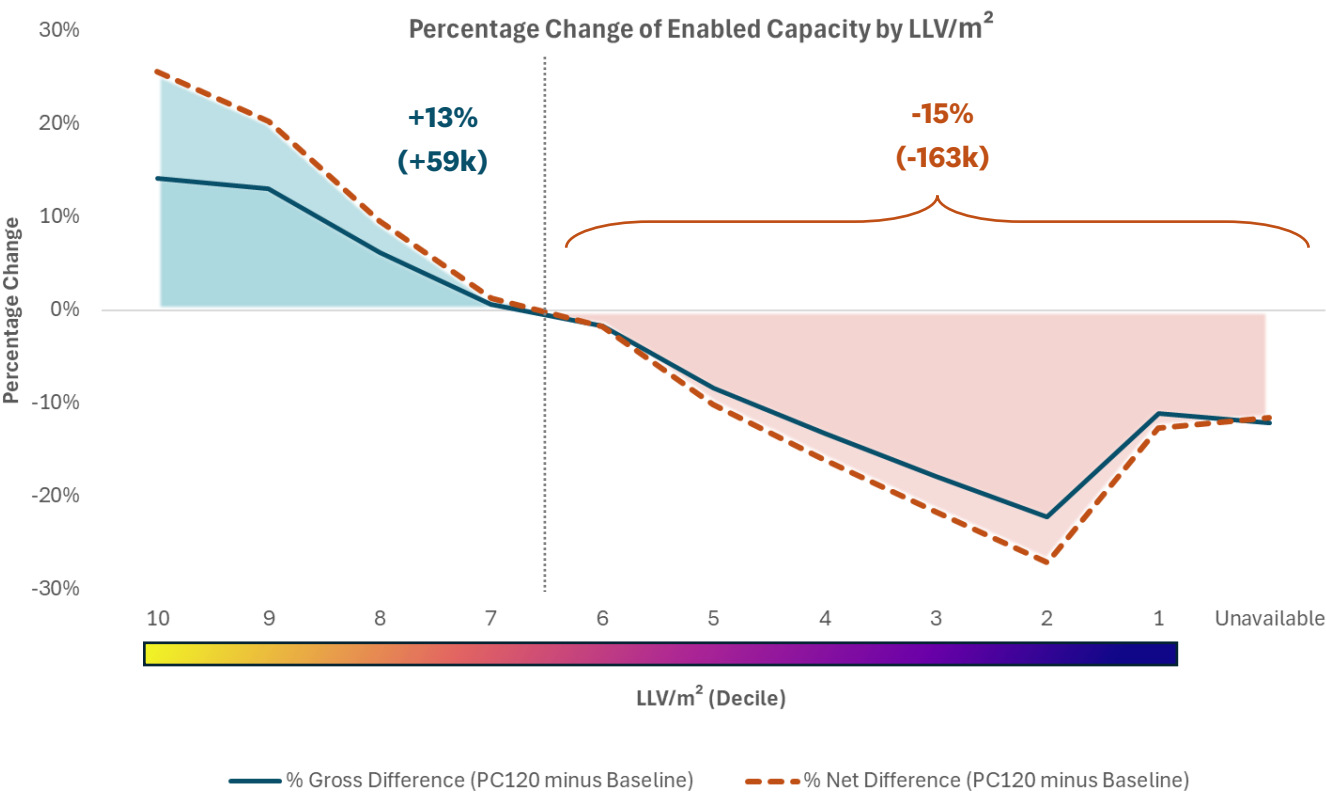
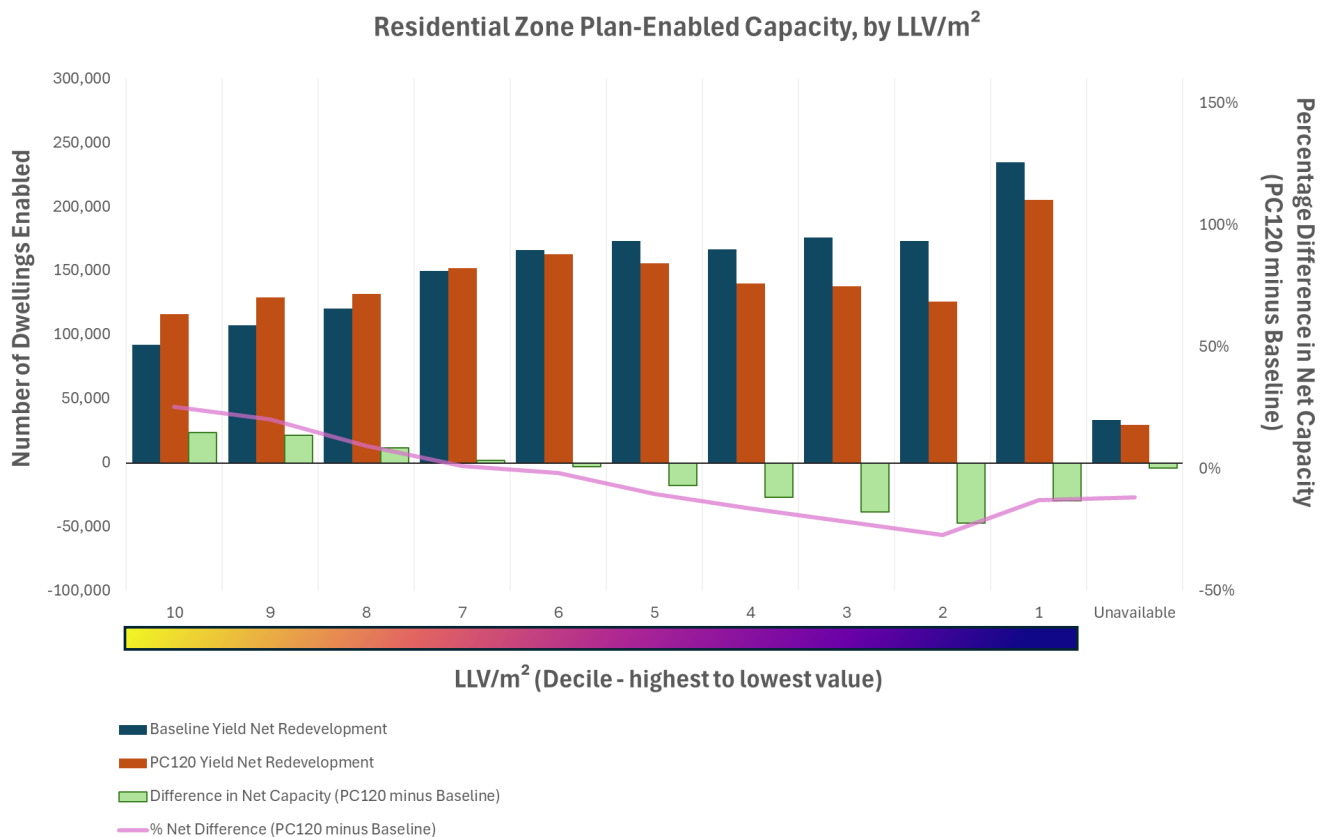


Figure 20: Net plan-enabled capacity in Residential zones only, by LLV/m² decile



The overall high-level findings from this analysis are as follows:

- Capacity has been increased **within the top 4 deciles for land value by square metre**, by 13% overall, and 26% within the top decile.
- This is an increase of +59k dwellings within the top 4 deciles, and +24k within the top decile.
- There is a capacity decrease **between deciles 1-6**, of -15% or -163k dwellings.

5. Inputs and assumptions

5.1 Assumptions: Common to both plans

The Baseline and PC120 Housing Capacity Assessments share as many common assumptions as possible. This is to ensure that any differences in outputs are, as much as possible, a function of differences in the input planning assumptions, being spatial zoning/overlay patterns, and the provisions that apply within those zones/overlays.

5.1.1 Cadastral base

The key shared input is the base cadastral pattern of 'sites'. Keeping these fixed for both plans means reported capacity differences are reflective of testing the same sites with the same starting conditions,

but having different development opportunities, and not complicated by the ongoing changes to land use and renewal between any two snapshots.

The provisions and zonings for PC78 are based on the version notified in August 2022. However, both PC78 and PC120 are applied to a more current mid-2025 urban landscape. This means the model is assessing: *“What would the capacity be if PC78 or PC120 were implemented as alternative planning pathways in mid-2025?”* The capacity of each is evaluated, and the difference between them is used to inform the ‘same or more’ capacity test.

The Capacity for Growth model utilises an approach that combines LINZ parcels, titles and Auckland Council rates assessment areas into the smallest spatial unit (or ‘site’) where all three are wholly contained.

Data for this site creation used:

- LINZ Titles: as at 19th May 2025
- LINZ Parcels: as at 19th May 2025
- Auckland Council Rates Assessments: as at 11th June 2025 – this data includes the 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, 2 (or more) titles and 2 (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 809m² to 34.5Ha, some of which have been amalgamated into 3 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 Precinct and Overlays.¹⁷ Where base zone boundaries split input

¹⁷ Precincts are excluded and a smaller subset of overlays than usual is considered in this analysis due to time constraints. A separate qualitative review of Precinct effects relative to base zoning is being undertaken by others.

base sites,¹⁸ 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. 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 at fine spatial or categorical scales problematic without careful analysis. Please refer to section 5.6 for additional detail.

5.1.2 Other common assumptions

In recognition of the above, the following additional assumptions have also been made:

5.1.2.1 *Dwelling Size Assumption for floorspace conversion*

Floorspace is the primary capacity measure output in higher density residential zones (generally Mixed Housing Suburban, Mixed Housing Urban and THAB), 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, neither the AUP(OIP), PC78 or PC120 in the more intensive zones directly control dwellings, or state how large a dwelling is, or may be, other than imposing a minimum dwelling size (and only for studio and 1-bedroom dwellings). This means, other than what is required to be 'at least' the minimum size, dwelling floor area is totally open-ended.¹⁹

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 'plan-enabled'.

For the purposes of this reporting, which is primarily a **like-for-like comparison** between two different plans, 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.

120m² has been used for the plan-enabled data supplied to the PC78 hearings process and plan-enabled modelling for the last two HBAs. 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

¹⁸ The Planning GIS team generate zoning patterns to align with property boundaries and try to avoid multi-zoned properties. However, the CfGS 'site' generation process, timing differences, and churn in the cadastral patterns do result in more split zoning sites in our process than the plan drafters intend.

¹⁹ 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, could be a theoretical 'minimum' or lower bound. Upper bound would be 100% of dwellings being the minimum, which would be 35m² studios. Both scenarios can be dismissed as implausible on a regional basis.

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.

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.²⁰

All decimal yields are **rounded down** to their integer (e.g., both 3.01 dwellings and 3.99 dwellings are reported as 3 dwellings).

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.²¹

In contrast, in zones where density or maximum dwellings per site rules apply (Single House Zone and below) 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.

5.1.2.2 *Treatment of large sites (>10,000m²)*

The CfGS model and the plan(s) it reflects 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.

²⁰ $120\text{m}^2 + (120 \times (0.2 + 0.5)) = 150\text{m}^2$.

²¹ 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.

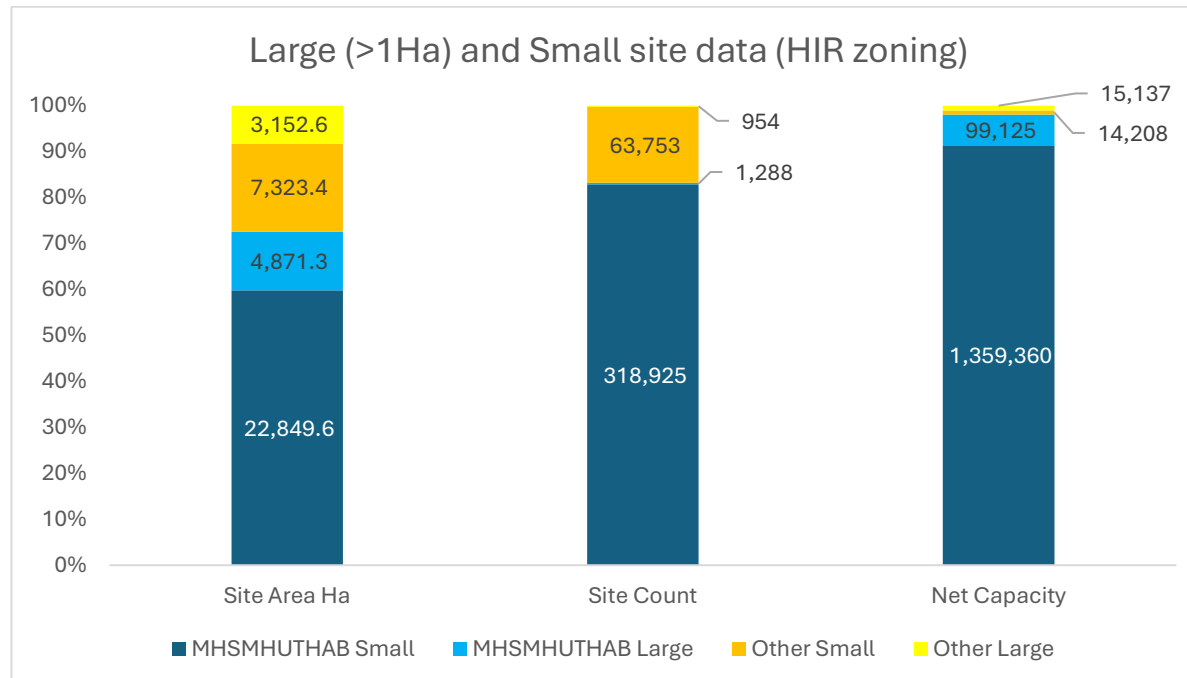
The determination and treatment of large Residential zoned sites in the urban environment is undertaken using the following approaches, shown in Table 12 below, noting the threshold for ‘large site’ is 1Ha (10,000m²).

Table 12: Modelling approaches for site areas below and above 10,000 square metres

Zone	Site Area <10,000m ²	Site Area ≥ 10,000m ²
MHS	Standard Volumetric Approach	Site Area less 25% divided by 300m ² (33 dwellings per ha)
MHU		
THAB		
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 21 below, sites larger than 1 hectare are quite rare, making up only 0.6% of sites by count, but representing 21% of the total residential zoning by area. Under PC120 as modelled, these larger sites provide 7.7% of overall capacity.

Figure 21: PC120-based zoning showing large and small site and zone split proportions



5.1.2.3 *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 small²²) 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.²³

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, for comparative purposes between plans, 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 13 below.

²² Subject only to minimum size requirements.

²³ Some Centre zones have constraints on residential use on the ground floor but are otherwise silent.

Table 13: 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 *LDR zone (PC78 only) has specific dwelling maximum requirements, including where certain overlays exist
Residential 'Higher Density' (LDR, MHS, MHU, THAB)	N/A (100% assumed)	120m ² + 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. *LDR zone (PC78 only) has specific dwelling maximum requirements, including where certain overlays exist.
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).	*120m ² + 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 Use not enabled	N/A

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 shoehorned 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'.

5.1.2.4 Plan Change 79: Transportation

The approach to this plan change is consistent with the approach taken to the modelling for the 2023 HBA and the capacity evidence base for PC78, and the assumptions below have been applied to the baseline and replacement.

Plan Change 79²⁴ was a companion plan change to PC78 relating to transport issues as all car parking requirements excepting accessible carparking were removed from the AUP in accordance with NPSUD Policy 11(a): "The proposed plan change seeks to manage impacts of development on Auckland's transport network, with a focus on pedestrian safety, accessible car parking, loading and heavy vehicle management, and catering for EV-charging and cycle parking".²⁵

This plan change is not yet operative, but some of the notified provisions have been used in this modelling, particularly E38.8.1.2.1, as represented in Table 14, which limits the number of dwellings served in residential zones as a function of driveway width – this is more restrictive (i.e., requires greater access width/fewer dwellings) than the AUP(OIP) equivalent by adjusting the number of sites and adding additional width for separate pedestrian access.

Requirements for onsite parking are not accounted for in the modelling including under AUP(OIP), having been removed by plan amendments giving effect to NPSUD Policy 11/Clause 3.38.

Modelling undertaken for PC79 to account more fully for storage and waste management, and pedestrian access, has been undertaken to support hearings on that plan change, and this model suggests these requirements would reduce potential floorspace yield (especially at ground level) and therefore dwelling capacity relative to the equivalent AUP(OIP) transport provisions varying by zone and scenario assumption. While no equivalent modelling has been done for PC120, we would expect the PC79 requirements would have a capacity reducing impact relative to the modelling undertaken to date, again variable by zone and scenario assumption and the precise nature of the rules that are ultimately arrived at.

²⁴ <https://new.aucklandcouncil.govt.nz/en/plans-policies-bylaws-reports-projects/our-plans-strategies/unitary-plan/auckland-unitary-plan-modifications/proposed-plan-changes.html>

²⁵ From Explanatory Note to PC79 as notified.

These other provisions are subject to appeal we have not considered them explicitly,²⁶ except in residential capacity assessments, the ‘Access to rear sites’ requirements of E38.8.1.2.1 as modified by PC79 as proposed are utilised, based on the ‘_length_site_road_frontage’ value calculated from the intersection of the site geometry with road parcel casings, used to represent the minimum ‘legal width’ requirements referenced in E38, as shown in Table 14 below.

Table 14: Access width requirements in Residential zones under PC79

Access Width x (in metres)	Maximum Dwellings Serviceable ²⁷
$x < 3.0$	0
$3.0 \leq x < 3.5$	1
$3.5 \leq x < 4.4$	3
$4.4 \leq x < 6.9$	5
$6.9 \leq x < 7.5$	10
$x \geq 7.5$	Not limited by access width requirements of E38.8.1.2.1, as these are not ‘rear sites’ ²⁸

5.1.3 Other data and assumptions

Other common assumptions are listed below – these are applied to the assessment of both plans. For the most part, these are undertaken for speed and simplicity (to deliver timely modelling results), and addressing them will require a significantly longer timeframe than the initial modelling, which has a turnaround time of approximately 2-6 weeks, depending on the complexity and extent of change from previously configured model runs:

- 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).
- We use the numerical limits set in the plan where they are provided, and use the highest stated limit so long as that is a Permitted, Controlled, or Restricted Discretionary Activity (RDA). Many have limits, but also enable breaches that are open ended.
 - For example, a permitted height limit is stated, but breaching is an RDA with no upper limit, which means we use the permitted standard, despite in theory any height being ‘enabled as an RDA’. A ‘reasonably consentable height could be used in the modelling

²⁶ Floorspace to dwelling conversion includes a 25% enabled building floorspace allowance for common areas and storage made up of 20% (circulation/common) and 5% (bicycle storage) allowances. The 5% allowance was included in PC78 modelling for the PC78 hearings process and the to most recent HBAs.

²⁷ 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.

²⁸ The definition of a rear site (as per Chapter J1) is “A site with frontage of less than 7.5m to a legal road or private road”.

without any technical modelling concerns; it is the practical and planning challenge that means these unknown values would need to be provided to us by ‘someone’ to model and defend, and this value would of course, vary considerably by site and context.²⁹

- A subset of 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.
- No filtering of modelled sites for existing uses, designations, potential hazards or implausibility of development occurring³⁰ has been undertaken.
- *Commercial Feasibility*, *Infrastructure Readiness* and *Likely to be Realised* capacity analysis (or take-up forecasting) is a separate process that is best undertaken separately and informed by Plan-Enabled Capacity analysis, but Plan-Enabled Capacity is not in and of itself any of these.

5.2 Assumptions: The Baseline (PC78 + Auckland Light Rail Corridor and Special Housing Areas

The baseline provisions and zoning is representative of the urban extent if ‘Plan Change 78 (as notified) were made operative’.

While this sounds clear, Plan Change 78 ‘as notified’ did not apply to all of the region, nor to all of the ‘urban environment’.

Areas of the region/zones not covered by PC78, and therefore excluded from this analysis include:

- Future Urban Zone^{31,32}
- All Rural Zones
- All Special Purpose Zones
- Hauraki Gulf Islands (these are covered by the Auckland Council District Plan: Hauraki Gulf Islands Section³³)
- All other zones in the AUP(OIP), such as Open Space, Coastal and Transport which for the most part are considered ‘undevelopable’.

²⁹ The best example of a stepped limit is Alternative HIRBs, under PC78 where both a permitted HIRB standard and a more enabling alternative is available as an RDA, the alternative RDA limit is used. Most rules in the plan only have a single stated value.

³⁰ 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’, alongside an active asset recycling and disposal process, and a perception that school sites won’t or can’t ever be developed.

³¹ The plan-enabled capacity of the Future Urban Zone is effectively zero, as the FUZ is a holding zone set up to preclude development that would negatively impede future urban development, ahead of any plan change to change to urban zoning. Only then, once rezoned to an urban zoning, would that land then have plan-enabled capacity.

³² There are several Plan Changes that were made operative after PC78 was notified that were not included within the Baseline extent, some of which affect FUZ zone land that are captured in PC120.

³³ <https://new.aucklandcouncil.govt.nz/en/plans-policies-bylaws-reports-projects/our-plans-strategies/hgi-district-plan.html>

Those parts of the urban environment not in PC78, include the ‘white-out’ areas (as shown on the PC78 viewer), remained subject to the AUP(OIP):

- the **Auckland Light Rail Corridor** (excluded pending further detail on the location of stations for the now-cancelled Auckland Light Rail project, that would have had new Walkable Catchments, as well as the MDRS, all subject to qualifying matters), and
- areas within Precincts that were also **Special Housing Areas** (under the HASHA Act).

These areas were excluded from PC78 but, for completeness, have been modelled under the Auckland Unitary Plan Operative in Part (AUP(OIP)) provisions and zoning that would have continued to apply in those locations, when PC78 was notified.

Figure 22 below shows the combined base zoning from both PC78 and AUP(OIP). Note that the rules applying in the zones will vary depending on what plan applies to the particular site. PC120 zoning is shown in Figure 24 further below.

The urban zones that were in PC78 but excluded from this report include:

- **City Centre Zone (CCZ)**

Figure 23 below shows the different plan provisions applied under the Baseline model, where most is subject to PC78, except SHAs and the ALR corridor were modelled as AUP(OIP). For now, the City Centre Zone, subject to PC78, has not been modelled.

Figure 22: Baseline (PC78 and AUP(OIP)) base zoning

PC78 Baseline zoning

Showing residential and business zones, City Centre is excluded from this report - note provisions applying to zones will vary depending on the 'plan' that applies

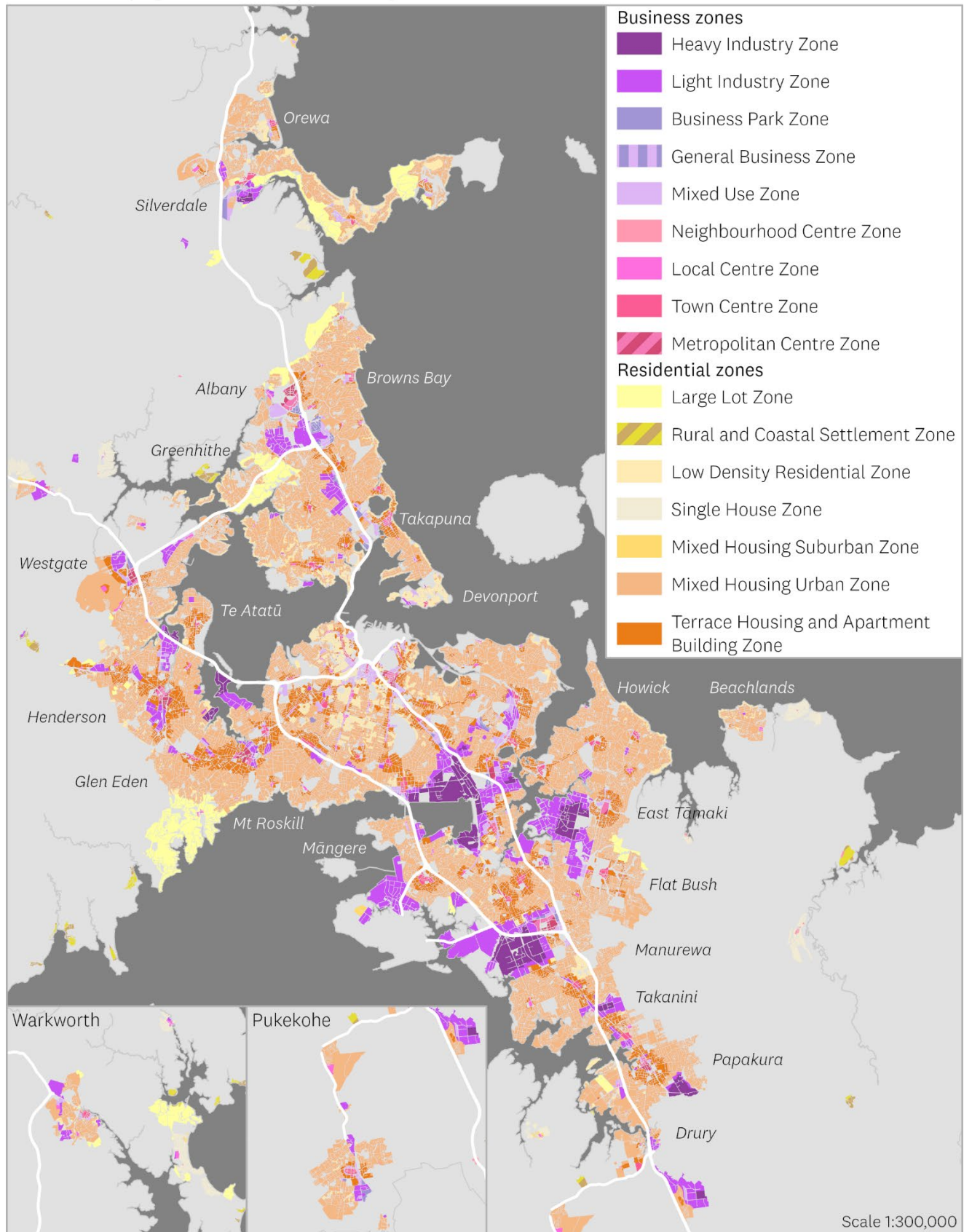
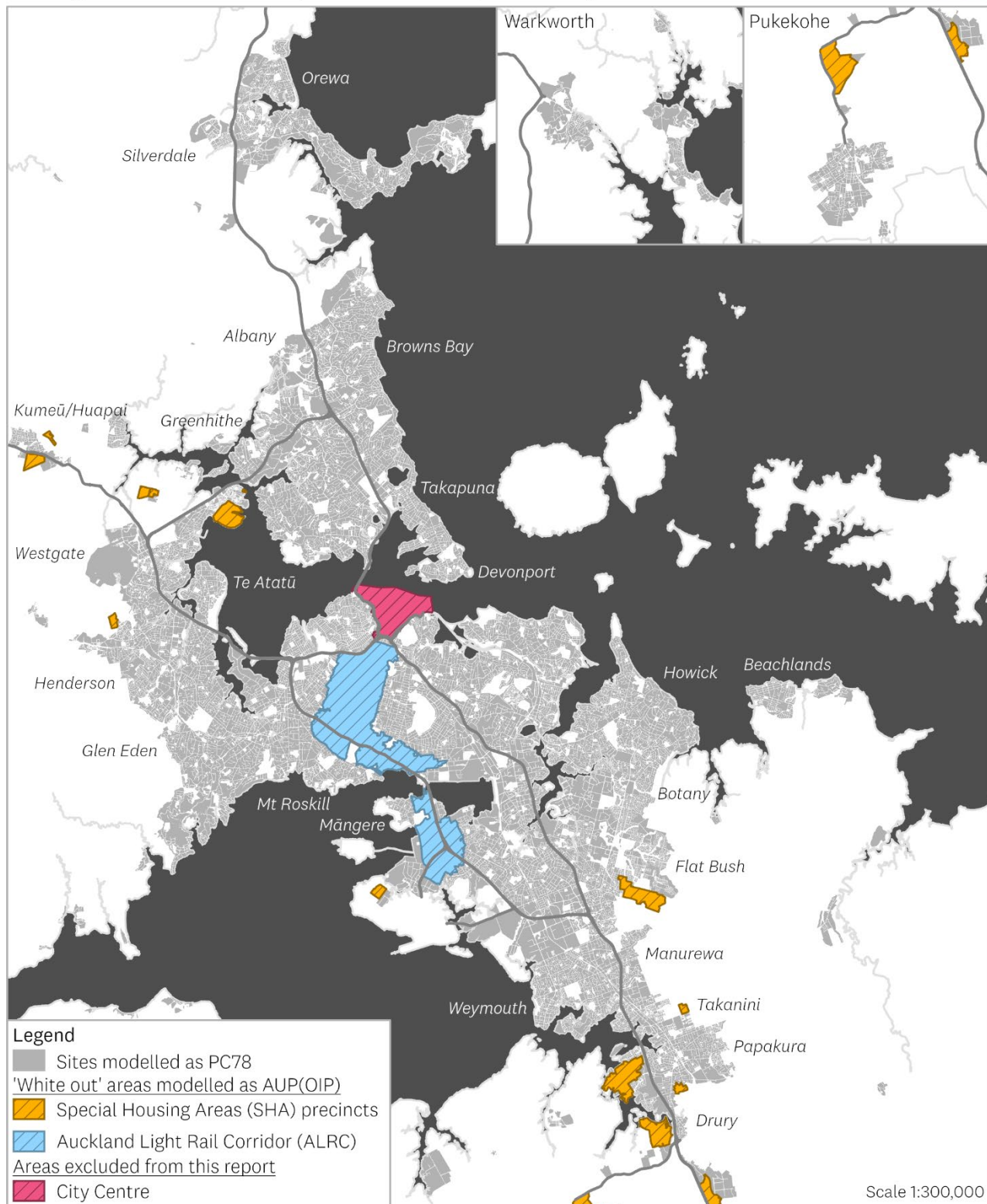


Figure 23: Baseline model and location of different planning provisions

PC78 Baseline sites and 'white out' areas

Showing baseline sites which are within the urban area but were not in PC78 including ALRC & SHAs and the City Centre which is not part of this report



5.3 Assumptions: The Replacement - PC120: Housing Intensification and Resilience

PC120 as modelled reflects the intensification aspects, including mapping included in the 24 September 2025 Council Agenda report, as approved for notification, subject to delegations to make minor technical or error corrections. It is possible that these minor technical corrections or errors mean the ultimately 'as-notified' version could vary (in a minor way) from the committee approval version we have modelled.

The modelling undertaken for this report relates to the intensification aspects of the plan change only. We understand that the changes to the natural hazards sections of PC120 apply region wide, but as they are not directly housing capacity impacting (unless risk assessment has resulted in specific zoning changes reflected in the zoning layers provided to us). They are not part of our scope, noting the rule changes are intended to reduce the likelihood of being realised *of development that is subject to unacceptable risk*, determined through the consent process by detailed assessment of the combination of the particular hazard and design response proposed.

Plan Change 120 intensification aspects apply to all the urban extent, including expanded live zoned areas and sites rezoned by plan changes made operative since PC78 was notified on 18 August 2022, up to 22 August 2025 (the cutoff date for our data inputs).

The intensification provisions of PC120 **does not apply to:**

- **the City Centre Zone or the Metropolitan Centre Zone³⁴** as these areas have been subject to ongoing parallel hearings processes via PC78 which are now completed. The amount of housing capacity that these additional plan amendments will contribute has not been determined at the time of writing (PC120 figures for MCZ are placeholders and based on PC78 as notified provisions).

Like PC78, PC120 intensification provisions also do 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'.

Provisions used to establish modelling processes were based on summary tables (not full plan text) provided ahead of the draft text.

Changes (if any) since made under that delegated authority and subsequently included in any yet to be finalised (at the time of writing) notification version have not been incorporated. Given the delegation

³⁴ See also Sections 5.4 and 5.5 below detailing CCZ and MCZ treatment.

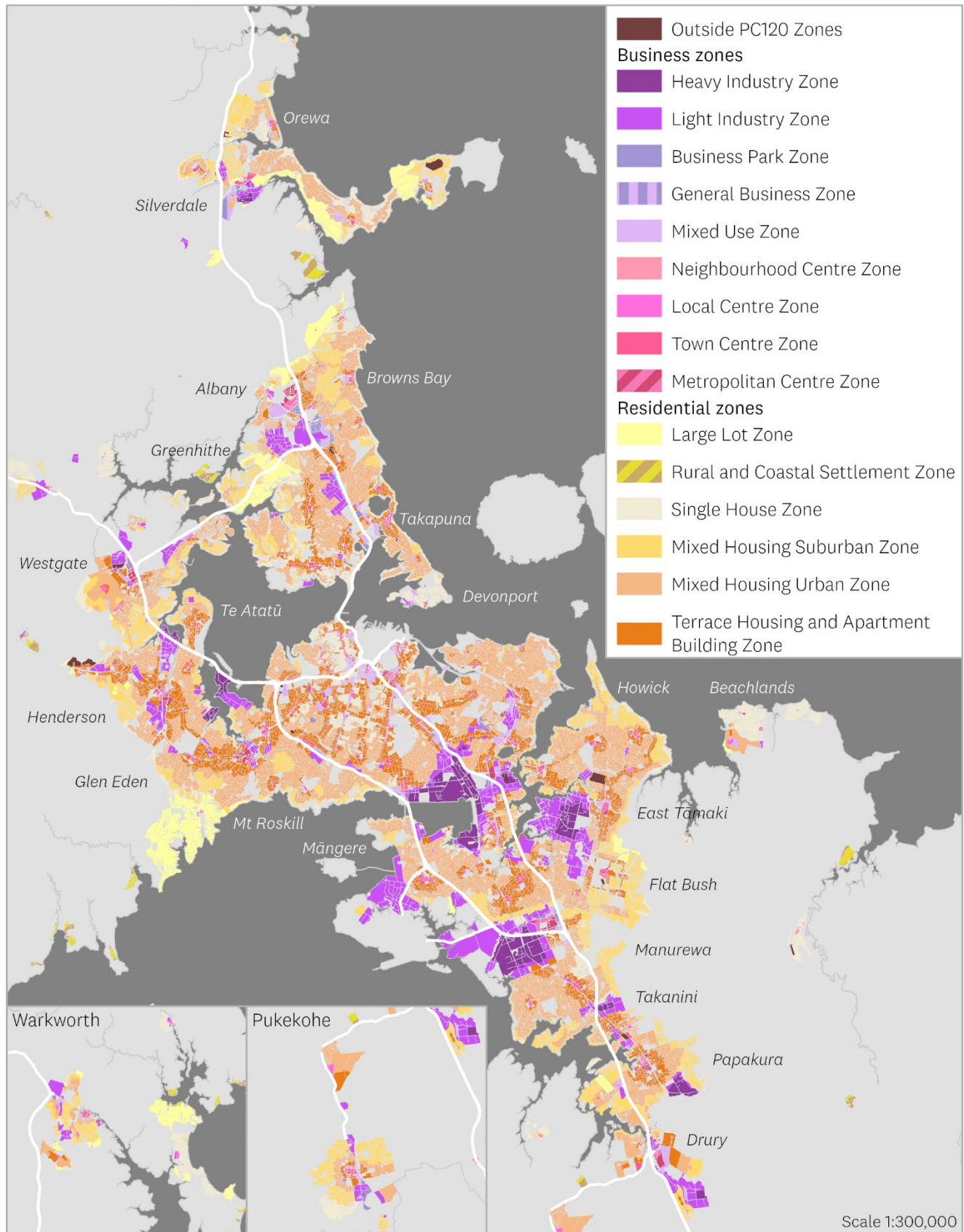
permits minor changes, we assume the impact of variations from what has been included in the agenda and modelled is also similarly minor.

Figure 24 below shows the base zoning applied within PC120 as modelled, noting the City Centre Zone is excluded from PC120. The Metropolitan Centre Zoning is shown on the map as it has been included in the replacement results using PC78 as notified provisions. These results will be updated in due course once decisions are known.

Figure 24: PC120 base zoning

PC120 zoning

Showing residential and business zones, City Centre is excluded from this report - note provisions applying will vary by location



5.4 Notes on the treatment of the Metropolitan Centre Zone in Replacement

- PC78 as notified includes modelled and reported MCZ results in the Baseline (no MCZ is within areas subject to the AUP(OIP)). The 'PC78 as notified' provisions were also used in the replacement plan processes for the MCZ as the process evolved.
- Over the course of the modelling and replacement development process, PC78 Metropolitan Centre Zone topic hearings were ongoing in parallel and have recently concluded. The Council is yet to make decisions on the IHP recommendations on the Metropolitan Centre Zone, which is likely to occur in November or December 2025. The Metropolitan Centre zone provisions will be modelled to update the MCZ capacity once the MCZ provisions are operative.
- The comparison between PC78 as notified and PC120 for the Metropolitan Centre zone has been undertaken based on the extent of the zone in each plan change, and using the PC78 as notified provisions. This is because the Council has not yet made decisions on the IHP recommendations for the Metropolitan Centre zones in PC78 and the provisions are not yet operative. The PC120 extent of Metropolitan Centre zone is larger, as a new Metropolitan Centre zoned area was included in Drury as a result of PC48: Drury Centre Precinct being made operative on 16 December 2022, after the notification of PC78).
- Because the notified provisions may change through the IHP recommendations and the Council (or Ministers) decisions, we note that the capacity may change for the MCZ.³⁵
- We will update MCZ capacity once the Metropolitan Centre zone provisions are operative.
- In addition, the MCZ is not included in PC120³⁶ given the recency of changes made though the now mostly completed PC78 hearing process.

5.5 Notes on the treatment of the City Centre Zone in both Baseline and Replacement

- Excluded from this assessment due to the timing of Council's decisions on IHP recommendations. The City Centre provisions are now operative, and modelling will be undertaken to determine the difference in housing capacity between PC78 as notified and PC78 as operative for the City Centre zone.
- The City Centre Zone provisions are highly complex and are captured in the CfGS effectively as its own plan. A decision was made early in the timeline to focus our limited modelling resources on the components of the plan that were subject to change to better inform the change process.
- In addition, the IHP recommendations include several new constraints that require specialist technical consultants to generate. This includes the spatial determination of several new

³⁵ We would also note the Drury area is subject to a number of precinct provisions that are not accounted for and is largely greenfields under a single master developer and made up of larger sites, meaning enabled capacity modelling results in this area in particular should be considered or compared against more qualitative and context aware analysis including stated developer intentions, planning process evidence and strategic planning such as master and structure plans.

³⁶ Excepting specific Precincts in Westgate and New Lynn Metropolitan Centre Zones, noting Precincts have not been considered in this report or the modelling.

qualifying matters (sunlight admissibility), and technical improvements to the representation of a number of existing constraints.

- The resultant decision by the Council was that the CCZ would be modelled later and separately, and it was deemed ‘out of scope’ of our modelling for this report.
- In addition, the CCZ is not included in PC120, given the recent changes made through the now-completed PC78 hearings process for that zone.

The above notes are summarised in Table 15 below.

Table 15: Zones, zone groups and housing capacity modelling treatments

Zone or Zone Group	Baseline		PC120	In Totals and Comparison in this report?	Notes
	in PC78 as notified extent	AUP(OIP) applies (<i>in ALR and SHA white-out areas only</i>)			
Residential Zones	Yes	Yes	Yes	Yes	Sites within urban extent modelled under relevant provisions
Business Zones* (exc. *)	Yes	Yes	Yes	Yes	
City Centre Zone	Yes	No. All CCZ within PC78 extent.	No AUP has been amended by the now operative PC78 process recommendations.	No* Results to be updated in due course	PC78 notified, hearings completed and provisions now operative. Excluded and out of scope for this report modelling.
Metropolitan Centre Zone	Yes	No. All MCZ within PC78 extent.	No AUP to be amended by PC78 MCZ hearings recommendations, when accepted & known.	Yes* using PC78 provisions over PC120 data extent as a placeholder. Results to be updated in due course	PC78 notified, hearings completed and provisions TBC. Baseline known and available, PC120 unknown. PC78 based results included

					pending update.
Future Urban Zone, Rural Zones, Special Purpose Zones, Hauraki Gulf Islands DP	No	No	No	No	Not subject to PC78 or PC120 intensification provisions. Not modelled. Assume ‘the same’ housing capacity with or without PC78 or PC120 ³⁷ .
All other AUP Zones	No	No	No	No	Not subject to PC78 or PC120 intensification provisions Not developable, not modelled

5.6 Differences in spatial extent and quantum of sites between Baseline and Replacement modelling

It is worth mentioning here that the total number of CfGS assessment sites in PC120 modelling and the Baseline modelling is not the same. Though both scenarios take the same cadastral site footprint candidates (property boundary) as a data input, because of the difference in the spatial extent of zonings in each model, the number of sites that pass through the capacity assessment process is different.

For instance, some sites under the Baseline modelling were spatially overlaid by the Future Urban Zone and therefore were not being processed through the Baseline modelling capacity assessment.³⁸ Those same sites under PC120 were now rezoned as residential or business – these sites under PC120 passed through the modelling and have their capacity assessed under the PC120 provisions. However, not all

³⁷ PC120 extent covers more sites and area than PC78 as notified, as Plan Changes made operative between notification of PC78 in August 2022 and our data supply of 18 August 2025 are included, including some FUZ land (in PC78) now live-zoned (in PC120). FUZ has a *housing capacity* of zero (it is not ‘developable’ in any meaningful sense ahead of rezoning), but is a reservoir of *future development capacity*, whose quantum is a function of assumed future rezoning and infrastructure decisions. In terms of the same or more issue, we assume these rezonings would have occurred irrespective of whether PC78 or PC120 was in effect, though the quantum of development potential given the zoning in those areas may vary depending on the particular set of circumstances and suite of provisions applying in the plan change area.

³⁸ As previously highlighted, Future Urban Zone does not have any *housing capacity* in and of itself, until such time that it is ‘live-zoned’ to a development zone, ideally following structure planning.

plan changes that have occurred between August 2022 and August 2025, or adjustments and corrections made to zoning between each as notified plan are greenfield related.

Table 16 below shows the total number of sites processed in each model run. The PC120 model run processed a total of 408,026 CfGS sites (combined residential and business), out of which 407,340 sites had a corresponding Baseline counterpart and 686 sites had no corresponding Baseline data. Similarly, the Baseline model processed a total of 407,769 CfGS sites, out of which 407,541 sites had corresponding PC120 zoning information. About 228 sites in the Baseline model did not have any corresponding PC120 zoning information.

Throughout this report, all capacity figures are presented based on total PC120 sites (408,026) and total Baseline sites (407,769).

Table 16: Number of sites processed in each model run

Number of sites	PC120 sites also in Baseline	Sites only in PC120	Total PC120 Sites	Baseline sites also in PC120	Sites only in Baseline	Total Baseline Sites
Residential	384,478	442	384,920	384,648	185	384,833
Business	22,862	244	23,106	22,893	43	22,936
Total	407,340	686	408,026	407,541	228	407,769

Figure 25 below maps the differences. The bulk of the additions by area in PC120 are newly rezoned greenfield areas, which are located in Silverdale, Warkworth, Westgate, Whenuapai, Beachlands, Drury and Pukekohe.

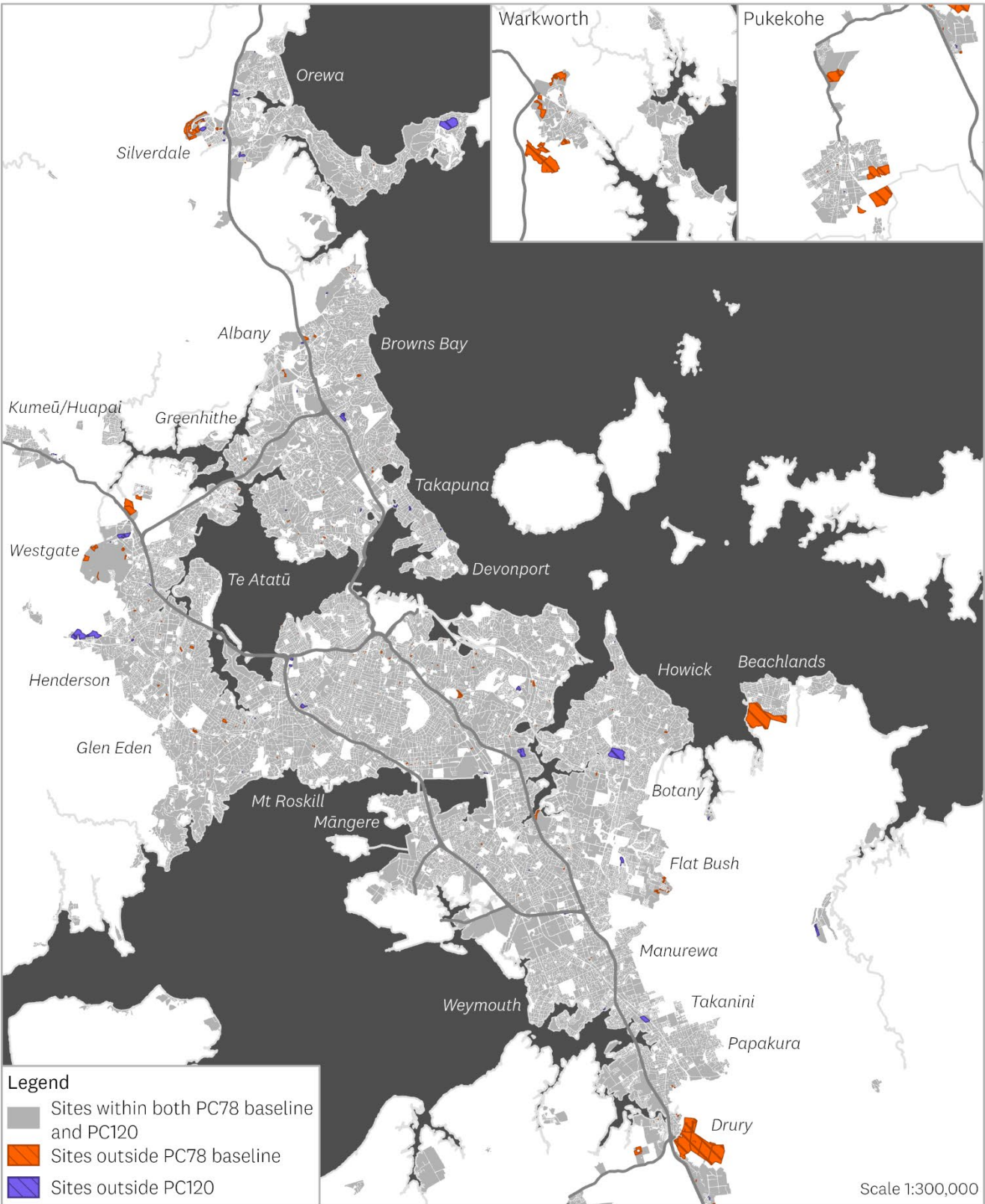
Most land in PC78 and not in PC120 by area is largely located in Swanson, Whangaparāoa and Botany.

Beyond intentional adjustments to the spatial planning inputs, site geometry or data join issues in our modelling may also result in otherwise zoned sites being dropped from processing and contributing to the imperfect site count overlap.

Figure 25: Change in spatial extent between Baseline and PC120

Changes in spatial extent between PC78 baseline and PC120

Showing CfGS sites which overlap both plan changes, which are not in PC78 baseline and which are not in PC120



6. Modelling methods

6.1 Introduction

The Capacity for Growth Study (CfGS) methodology utilised for the modelling to inform PC120 is a well-established one, and is the same methodology which has been used for previous Auckland Council HBAs and to inform other plan change processes, including PC78.

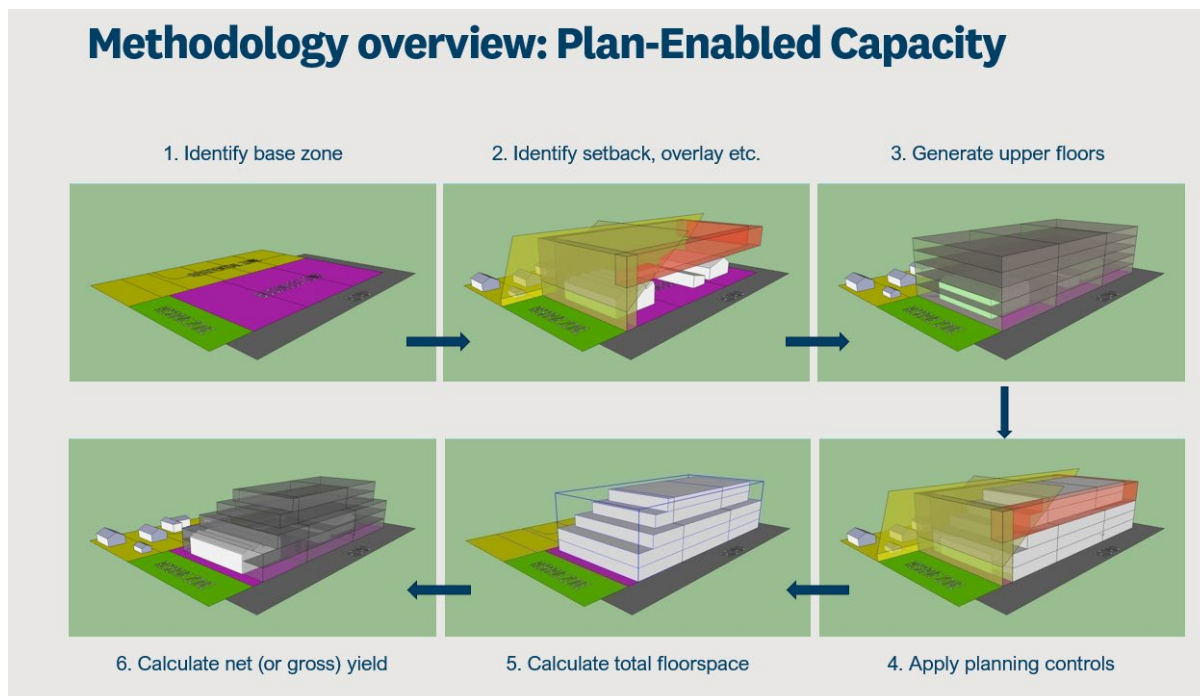
Foundational documentation for the CfGS process is available as separate technical reports and can be accessed via Knowledge Auckland.³⁹ The CfGS process is one of continuous improvement and evolution, and is set up in such a way as to be responsive to changes in planning rules and requirements. While various nuances and detailed technical elements of the process have changed in the last decade to reflect this and to respond to an ever-changing planning environment, the core principles remain the same.

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.

6.2 High level overview of Plan-Enabled Capacity modelling under CfGS

Figure 26 below shows the capacity assessment process at a very high level, for higher intensity residential and business development where floorspace is the primary output.

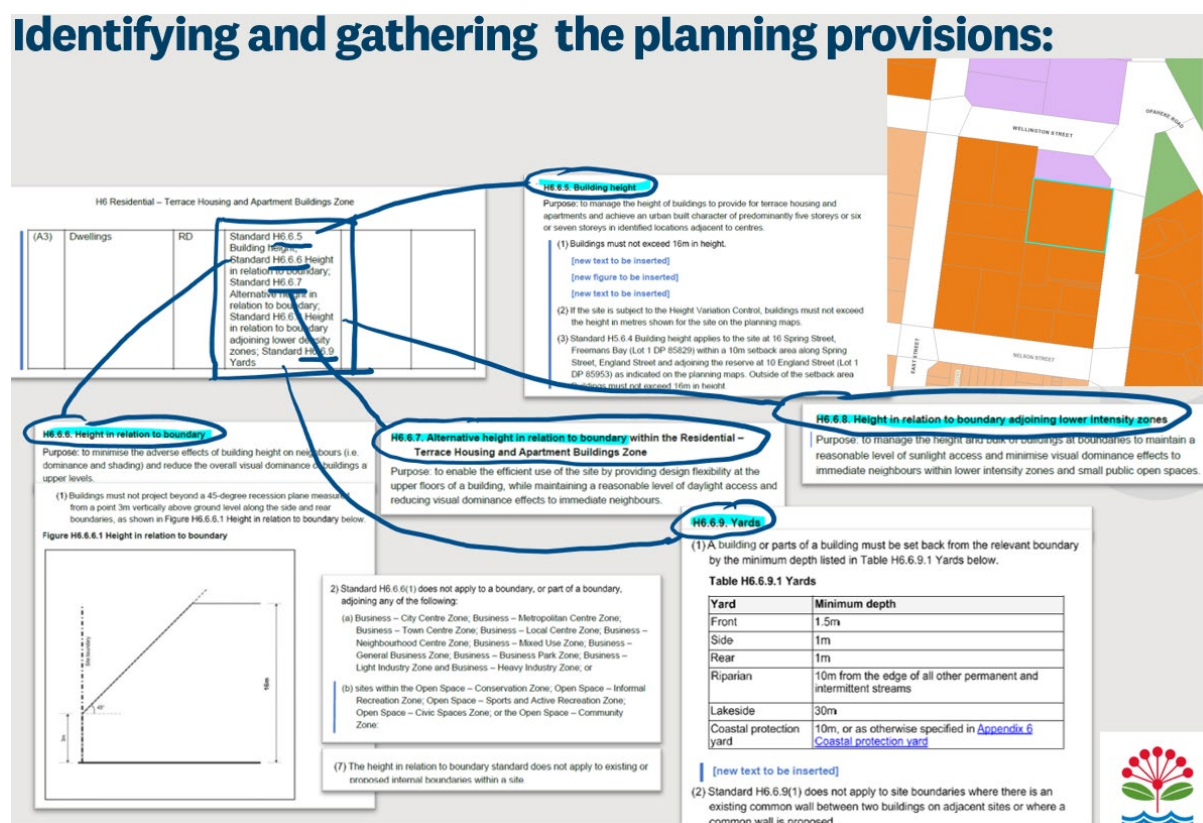
Figure 26: Overview of the Plan-Enabled Capacity modelling methodology



³⁹ [Capacity for Growth Study 2012: Methodology and Assumptions](#); [Capacity for Growth Study 2013: Methodology](#)

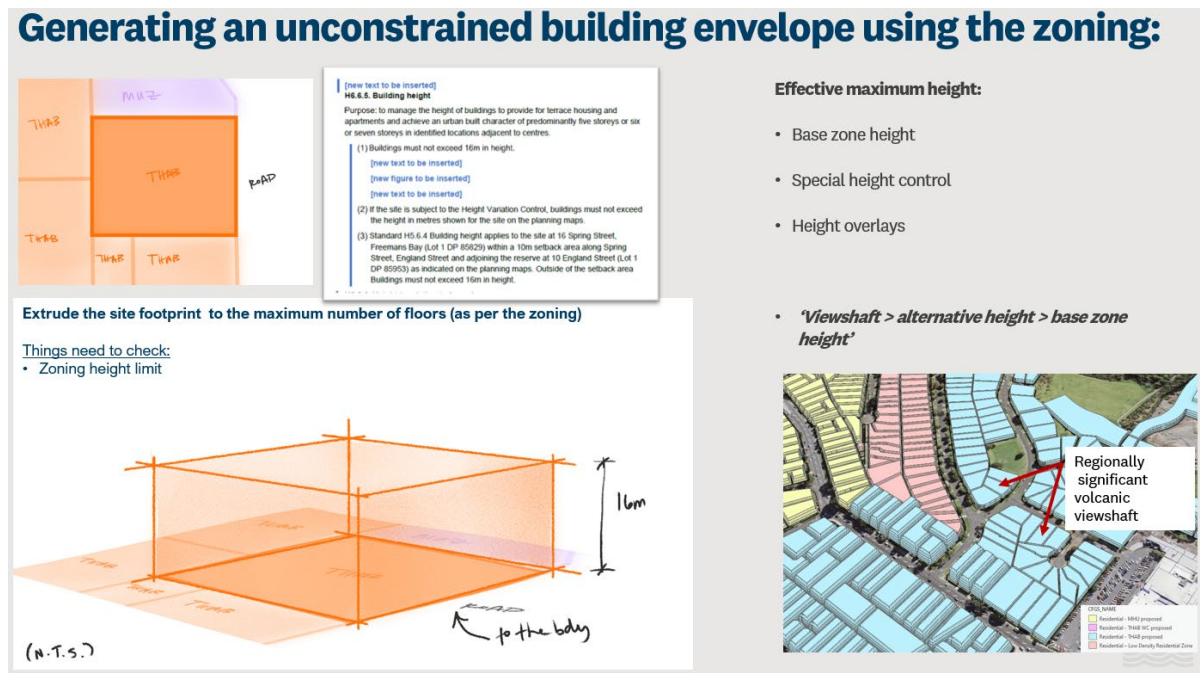
In these zones, the Auckland Unitary Plan, PC78, and PC120 do not directly regulate the number of dwellings or employment. Instead, the rules generally define a three-dimensional shape within which development can occur, subject to a range of requirements and restrictions – this is known as a building envelope as shown in Figure 27 and Figure 28 below.

Figure 27: Translating the planning text into parameters



A building envelope starts out as 100% of the site, pushed up to the maximum height in storeys allowed, as shown in Figure 28 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).

Figure 28: 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 and coverage 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 29 and Figure 30 below.

Figure 29: Identifying site boundaries to begin applying standards

Converting the constraints into spatial inputs

(1) A building or parts of a building must be set back from the relevant boundary by the minimum depth listed in Table H6.6.9.1 Yards below.

Table H6.6.9.1 Yards

Yard	Minimum depth
Front	1.5m
Side	1m
Rear	1m
Riparian	10m from the edge of all other permanent and intermittent streams
Lakeside	30m
Coastal protection yard	10m, or as otherwise specified in Appendix B Coastal protection yard

[new text to be inserted]

(2) Standard H6.6.9(1) does not apply to site boundaries where there is an existing common wall between two buildings on adjacent sites or where a common wall is proposed.

Identify the location of yard setbacks

Things need to check:

- Zoning provisions
- Orientation of site in relation to road and other yard-affecting features

Figure 30: Spatially clipping away the building envelope

Converting the constraints into spatial inputs

Carve away the yard setbacks from the building envelope

(1) A building or parts of a building must be set back from the relevant boundary by the minimum depth listed in Table H6.6.9.1 Yards below.

Table H6.6.9.1 Yards

Yard	Minimum depth
Front	1.5m
Side	1m
Rear	1m
Riparian	10m from the edge of all other permanent and intermittent streams
Lakeside	30m
Coastal protection yard	10m, or as otherwise specified in Appendix B Coastal protection yard

[new text to be inserted]

(2) Standard H6.6.9(1) does not apply to site boundaries where there is an existing common wall between two buildings on adjacent sites or where a common wall is proposed.

Identify the location of yard setbacks

Things need to check:

- Zoning provisions
- Orientation of site in relation to road and other yard-affecting features

(1) Buildings must not project beyond a 45-degree recession plane measured from a point 3m vertically above ground level along the side and rear boundaries, as shown in Figure H6.6.6.1 Height in relation to boundary below.

Figure H6.6.6.1 Height in relation to boundary

Things need to check:

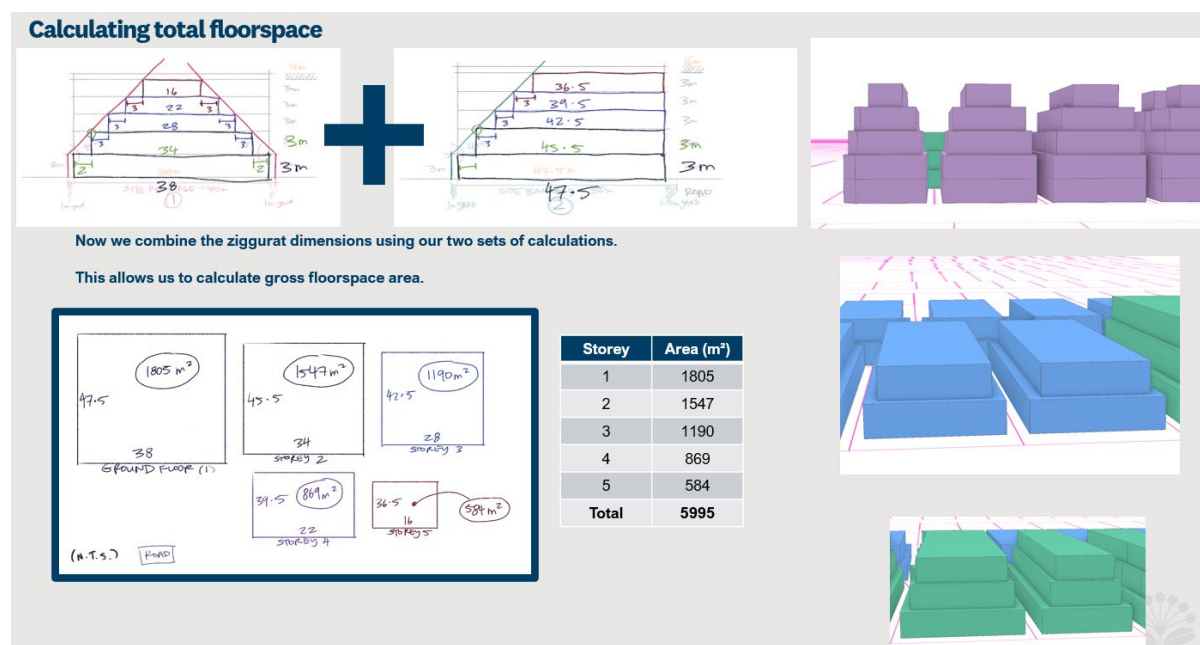
- Zoning provisions
- Neighbouring sites if different height in relation to boundary standards apply

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 31 below.

Figure 31: 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.

6.3 Floorspace vs Dwellings

As described elsewhere in this report, Plan-Enabled Capacity, as measured under this model, is not a model of what is feasible, infrastructure-ready, or likely to be realised on any given site. It is the envelope within which development could occur, and how much floorspace is provided for within that envelope, given the spatial constraints imposed by the combination of planning standards that apply to that site, proxied by the subset of planning standards modelled.

Under the NPS-UD, the Plan-Enabled Capacity for housing must be reported in terms of number of dwellings. However, due to the nature of the planning standards (both operative and proposed) in many zones, the primary factor which is being influenced is not actually the number of dwellings at all. This is true for the more intensive zones (i.e., Mixed Housing Suburban, Mixed Housing Urban, and Terrace Housing and Apartment Buildings Zones, as well as business zones which provide for residential activity). These are also the zones where the bulk of Plan-Enabled Capacity occurs.

There is very limited constraint or guidance on how activities (e.g., dwellings and/or employment) can be arranged within that envelope, so the focus on floorspace is the primary output (given this is what is controlled by regulations⁴⁰). Most users are interested in ‘how many dwellings or employment’ as the ‘Plan-Enabled Capacity’ indicator. These measures are high-level derivatives from the primary output of floorspace, and should be considered indicative and useful for comparative purposes only.

Beyond limited provisions for minimum dwelling sizes or maximum numbers of dwellings in specific circumstances, there are otherwise no explicit quantitative constraints in those zones related to how big a dwelling can be, or how many dwellings can be applied for by an applicant on a site as a Restricted Discretionary Activity.

For example, take the excerpt in Figure 32 below from the Mixed Housing Suburban Zone under PC78 as notified.

Figure 32: Excerpt from the notified PC78 Mixed Housing Suburban Zone chapter

Table H4.4.1 Activity table

		Activity status	Standards to be complied with
Use			
(A1)	Activities not provided for	NC	
Residential			
(A2)	Camping grounds	D	
(A3)	Up to three dwellings per site	P	Standard H4.6.4 Building height; Standard H4.6.5 Height in relation to boundary; Standard H4.6.7 Yards; Standard H4.6.8 Maximum impervious areas; Standard H4.6.9 Building coverage; Standard H4.6.10 Landscaped area; Standard H4.6.11 Outlook space; Standard H4.6.12 Daylight; Standard H4.6.13 Outdoor living space; Standard H4.6.14 Front, side and rear fences and walls
(A4)	Four or more dwellings per site	RD	Standard H4.6.4 Building height; Standard H4.6.5 Height in relation to boundary; Standard H4.6.6 Alternative height in relation to boundary; Standard H4.6.7 Yards
(A5)	The conversion of a principal dwelling existing as at 30	P	Standard H4.6.3 The conversion of a principal dwelling into a maximum of two dwellings

Four *or more* dwellings per site is deemed a Restricted Discretionary Activity. There is no maximum number of dwellings specified as a ceiling. The main constraining factor, therefore, is the floorspace which can be achieved on the site to accommodate residential activity, which is a product of the other spatial constraints on the site, including but not limited to yards, building coverage, height in relation

⁴⁰ For example, there is no maximum dwelling size only a minimum and only for studio and 1-bedroom dwellings. Employment is even more difficult to convert ‘accurately’ as a given amount of commercial floorspace space could be used as a densely packed call centre, or a fully automated server room without any further consenting activity, hence why business capacity is reported as floorspace.

to boundary, the effect of overlays, and other planning provisions which impact capacity such as the interaction between zonings.

6.3.1 Converting from Floorspace to Dwellings

The Planning team provides a suite of planning rules, as well as spatial inputs which reflect where those rules are to be applied. As part of the model configuration process, the rules are spatialised and associated with the geographical extent to which they apply. From this the model is prepared to receive these inputs and derive a building envelope (split into storeys) in response to the input rules.

The purest output of this process is floorspace, in square metres. At the site level, this floorspace could be utilised in an infinite number of configurations, which are a combination of how big the dwellings are, how those dwellings are laid out (and therefore where their outlook spaces and outdoor living spaces would be located, etc.), and various other real-world choices that are made on developable sites.

Inherently, the requirement to convert a floorspace output to a number of dwellings as part of a Plan-Enabled Capacity assessment is a problematic one – it requires some degree of assumption about how big a dwelling will be, and invites speculation about how that may vary from zone to zone, location to location, and based on various preferences or other factors. However, Plan-Enabled Capacity should not involve feasibility testing or impose assumptions beyond what is enabled by the plan in and of itself, and cannot preclude or pre-empt the outcome of any given resource consenting process.

To avoid this and maintain a clear boundary between Plan-Enabled Capacity and Feasible Capacity, the conversion of the CfGS model's floorspace output into a 'number of dwellings' figure utilises a single fixed dwelling size of 120m² across all iterations, zones and locations to maintain comparability between runs.⁴¹

Using site, zone, location, or time-specific dwelling sizes for Plan Enabled Capacity is of course entirely possible and valid, but adds considerable complexity and reduces comparability, and is conceptually better considered to be an aspect of a feasibility or likely to be realised *estimations*, rather than a Plan-Enabled Capacity *measurement*.

6.4 Input data

6.4.1 Input data: Baseline

Spatial data was supplied to us by the Planning GIS Team limited to the extent of the PC78 urban environment zoning that was mapped for PC78, as well as all overlays that applied. Within the 'white-out' areas, consisting of the Auckland Light Rail corridor and Special Housing Areas, which were within the PC78 urban environment but excluded from the PC78 mapped extent, were modelled using the operative Auckland Unitary Plan zoning and provisions. This Baseline configuration is described and shown in section 5.2.

The suite of planning rules which were associated with these spatial datasets and spatialised were taken from the Plan Change 78 proposal documents (i.e., proposed plan chapters) as notified to the public. The translation of these rules into parameters which the model utilises for modelling is carried

⁴¹ See also section 5.1.2.1 Dwelling Size Assumption for floorspace conversion.

out using look-up tables, which are joined to the spatial data to parameterise the geometric testing and define the bounds of the constraints which apply to sites (and the subsequent building envelope that is constructed by the model).

For the Baseline, the look-up tables used for the business and residential zones, derived from the draft PC78 and operative AUP(OIP) plan texts, were utilised in their respective spatial extents. These are laid out in ‘**Appendix 1: Look-up tables**’.

Additionally, further look-up tables are produced as part of the configuration process to translate the interaction, particularly between business zones and other zones at the zone boundary. This posed challenges due to the boundary between PC78- and AUP(OIP)-zoned areas, and the different standards which applied there depending on which side of the boundary an assessment site was located. To address this, a ‘flattened’ Baseline zoning layer was created, and this subprocess was run twice – once with PC78 adjacency assumptions, and once with AUP adjacency assumptions. The two outputs were later clipped to their appropriate extent and recombined to form the final Baseline output.

The two sets of look-up tables that were used for this subprocess can also be found in ‘**Appendix 1: Look-up tables**’.

6.4.2 Input data: PC120

The capacity modelling process for PC120 has involved three major iterations and various sub-iterations, with the latest of these major iterations being the subject of this report. Data for each of these iterations was supplied to us by the Planning Policy and GIS Teams as a package of planning provisions and spatial data for translation and input into the model.

The planning rules and standards, which were applied for each of these model iterations, varied in format. For the first iteration, we were supplied with a table summarising key capacity-affecting standards in residential and business zones. For the second iteration, we were supplied with the draft plan text (i.e., full plan chapter drafts), as well as summary tables. For this third iteration, we were supplied with only a summary table.

Unless a variation was specified within the third iteration’s summary table, the rules and standards applied in this latest iteration assume the same package of provisions supplied as draft plan text for the second iteration. If there have been any modifications to those standards since the second iteration was run,⁴² which have not been identified in the summary table, then those modifications will not have been incorporated into this modelling.

The summary tables used for the PC120 model run discussed in this report are in ‘**Appendix 1: Look-up tables**’, as well as the business zone boundary interactions tables.

7. Concluding remarks

The objective of this modelling report was to assess whether proposed Plan Change 120 (PC120): Housing Intensification and Resilience, delivers **at least the same amount of housing capacity** as

⁴² The results of which were presented at the Policy and Planning Committee 24th September 2025.

enabled if Plan Change 78 (PC78) (as notified) were made operative. This is a statutory requirement under Schedule 3C of the RMA, as a consequence of the Council making a decision to withdraw PC78 in part.

Using Auckland Council's CfGS methodology, the report compared plan-enabled housing and business capacity under both PC78 and PC120 across the same cadastral base, applying consistent assumptions to ensure a valid 'like-for-like' comparison. The modelling focused on quantifying the plan-enabled ceiling for development, not forecasting actual uptake or feasibility.

The modelling included Residential and Business zones within the urban environment that were subject to either PC78 (or the AUP(OIP) for the Auckland Light Rail Corridor and SHA precincts) or PC120, excluding the City Centre due to timing and scope constraints. Zones such as Future Urban, Rural, Special Purpose, and the zones in the Hauraki Gulf Islands District Plan were also excluded, as they were not affected by either plan change.

Key findings:

- **Residential zones** under PC120 show a -6.74% (or -107,510) decrease in net dwelling yield compared to PC78 Residential zones.
- **Business zones** under PC120 show a 21.58% (or 103,272) increase in dwelling yield relative to PC78 Business provisions.⁴³
- **Total net dwelling capacity** across both Residential and Business zones under PC120 is 2,069,708 dwellings, compared to 2,073,946 under the baseline, a difference of -4,238 dwellings.
- Capacity modelling to identify the difference in housing capacity between PC78 as notified and PC78 as operative for the City Centre Zone is commencing. Capacity modelling will also be undertaken to identify the difference in housing capacity between PC78 as notified and PC78 as operative for the Metropolitan Centre Zone, following Council making decisions on the IHP recommendations in November or December this year. The outcome of this further capacity modelling will be provided in due course.

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.

⁴³ This figure uses a 50/50 split scenario, includes Metropolitan Centre Zones modelled using PC78 provisions under PC120 and excludes the City Centre Zone in both plans.

8. References

- Auckland Council. (2014). *Capacity for Growth Study (CfGS) Methodology Documentation*. Retrieved from <https://knowledgeauckland.org.nz>
- Auckland Council. (2022). *Plan Change 78: Intensification to Auckland Unitary Plan (Operative in Part)*. <https://unitaryplan.aucklandcouncil.govt.nz>
- Auckland Council. (2022). *Plan Change 79: Transportation*. <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. (2024). *Rates Assessment Data*. Effective valuation date: May 2024.
- Auckland Council. (2025). *Framework for Urban Access Tool Methodology v1.3a*, presently unpublished, but available as Appendix 2 to *Implementation of Intensification Directions from Resource Management Amendment Act (2025) and policy 3 of the National Policy Statement on Urban Development: Evaluation Report, October 2025 (Policy 3 Intensification s32 Report)* – to be made available at <https://unitaryplan.aucklandcouncil.govt.nz>
- Auckland Council. (2025). *Plan Change 120: Housing Intensification and Resilience*. Council Agenda Report, 24 September 2025. <https://www.aucklandcouncil.govt.nz/UnitaryPlanDocuments/06-draft-pc120-s32-consultation-general.pdf>
- LINZ. (2025). *Land Titles and Parcels Dataset*. Retrieved May 19, 2025, 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>

Appendix 1: Look-up tables

Changes since last version are in red text additions underlined deletions ~~strike~~through

	POTENTIAL AUP IIPC DEVELOPMENT STANDARDS FOR RESIDENTIAL ZONES AS AT 29 SEPTEMBER 19 <u>14 AUGUST</u> 2025							
STANDARD	RESIDENTIAL - LARGE LOT ZONE (NO CHANGE)	IIPC RESIDENTIAL - SINGLE HOUSE ZONE	IIPC RESIDENTIAL – MIXED HOUSING SUBURBAN ZONE	IIPC RESIDENTIAL – MIXED HOUSING URBAN ZONE	IIPC RESIDENTIAL – TERRACED HOUSING AND APARTMENT BUILDINGS ZONE_OUTSIDE WC_6 STOREY	IIPC RESIDENTIAL – TERRACED HOUSING AND APARTMENT BUILDINGS ZONE_INSIDE WC_6 STOREY	IIPC RESIDENTIAL – TERRACED HOUSING AND APARTMENT BUILDINGS ZONE_INSIDE WC_10 STOREY	IIPC RESIDENTIAL – TERRACED HOUSING AND APARTMENT BUILDINGS ZONE_INSIDE WC_15 STOREY
BUILDING HEIGHT (M)	8	8	8	11	22	22	34.5	50
FRONT YARD SETBACK (M)	10	3	2.5	1.5	1.5	1.5	1.5	1.5
SIDE YARDS SETBACK (M)	6	1	1	1	1	1	1	1
REAR YARDS SETBACK (M)	6	1	1	1	1	1	1	1
PERMITTED HIRB VERTICAL HEIGHT (M)	NA	2.5	2.5	3.6	20	20	20	20
PERMITTED HIRB ANGLE DEG	NA	45	45	73.3° SET IN 1M and 45° ABOVE 6.9M	60	60	60	60
PERMITTED REAR (INCL. REAR SITES) HIRB HEIGHT (M)	NA	NA	NA	NA	8	8	NA	NA
PERMITTED REAR (INCL. REAR SITES) HIRB ANGLE DEG	NA	NA	NA	NA	60	60	NA	NA
REAR HIRB DISTANCE FROM FRONTAGE (M)	NA	NA	NA	NA	21.5	21.5	NA	NA
RESTRICTED DISCRETIONARY ALT. HIRB VERTICAL HEIGHT (M)	NA	NA	3.6	NA	NA	NA	NA	NA
RESTRICTED DISCRETIONARY ALT. HIRB VERTICAL HEIGHT	NA	NA	73.3° SET IN 1M and 45° ABOVE 6.9M	NA	NA	NA	NA	NA
HIRB TO LOWER INTENSITY ZONE VERTICAL HEIGHT (M)	NA	NA	NA	2.5	2.5	NA	NA	NA
HIRB TO LOWER INTENSITY ZONE ANGLE DEG	NA	NA	NA	45	45	NA	NA	NA
HIRB NOTE AND ADDITIONAL STANDARDS DESCRIPTION	NA	NA	<i>Alternative HIRB with Resource Consent applies 20m from front boundary</i> <i>HIRBS do not apply when Common Wall exists or is proposed. Does NOT apply from Any Business, Open Space (<2000). Far Side of any entrance strip.</i>	<i>HIRBS do not apply when Common Wall exists or is proposed and to any Business, Open Space (<2000). Measured from far side of any entrance strip.</i>	<i>Front HIRB for 21.5m / Rear HIRB applies after 21.5m and rear sites</i> <i>HIRBS does not apply when Common Wall exists or is proposed to any Business, Open Space zone. Measured from far side of any entrance strip.</i>	<i>Front HIRB for 21.5m / Rear HIRB applies after 21.5m and rear sites</i> <i>Does not apply when Common Wall exists or is proposed and to any Business, Open Space zone. Measured from far side of any entrance strip.</i>	<i>20M + 60° HIRB applies on all boundaries.</i> <i>Does not apply when Common Wall exists or is proposed and to any Business, Open Space zone. Measured from far side of any entrance strip.</i>	<i>20M + 60° HIRB applies on all boundaries.</i> <i>Does not apply when Common Wall exists or is proposed and to any Business, Open Space zone. Measured from far side of any entrance strip.</i>
BUILDING MAX. % COVERAGE	0.2	0.35	0.4	0.45	0.5	0.5	0.5	0.5
BUILDING COVERAGE MAX M²	400	NA	NA	NA	NA	NA	NA	NA
IMPERVIOUS AREA MAX. % COVERAGE	0.35	0.6	0.6	0.6	0.7	0.7	0.7	0.7
IMPERMEABLE SURFACE AREA MAX M² COVERAGE	1400	NA	NA	NA	NA	NA	NA	NA
LANDSCAPE AREA MIN. % COVERAGE	NA	0.4	0.4	0.35	0.3	0.3	0.3	0.3

	POTENTIAL AUP IIPC DEVELOPMENT STANDARDS FOR RESIDENTIAL ZONES AS AT 29 SEPTEMBER 19 11 AUGUST 2025							
STANDARD	RESIDENTIAL - LARGE LOT ZONE (NO CHANGE)	IIPC RESIDENTIAL - SINGLE HOUSE ZONE	IIPC RESIDENTIAL – MIXED HOUSING SUBURBAN ZONE	IIPC RESIDENTIAL – MIXED HOUSING URBAN ZONE	IIPC RESIDENTIAL – TERRACED HOUSING AND APARTMENT BUILDINGS ZONE_OUTSIDE WC_6 STOREY	IIPC RESIDENTIAL – TERRACED HOUSING AND APARTMENT BUILDINGS ZONE_INSIDE WC_6 STOREY	IIPC RESIDENTIAL – TERRACED HOUSING AND APARTMENT BUILDINGS ZONE_INSIDE WC_10 STOREY	IIPC RESIDENTIAL – TERRACED HOUSING AND APARTMENT BUILDINGS ZONE_INSIDE WC_15 STOREY
MAX. TOWER DIMENSION	NA	NA	NA	NA	NA	NA	38M ABOVE 22M	38M ABOVE 22M
BUILDING SETBACK AT UPPER FLOORS	NA	NA	NA	NA	NA	NA	6M SETBACK ABOVE 22M FROM ALL BOUNDARIES AND 18M SETBACK FOR ANY DEVELOPMENT WITH BUILDINGS GREATER THAN 22M THAT ADJOINS A LOWER INTENSITY ZONE AT THE WALKABLE CATCHMENT EDGE	6M SETBACK ABOVE 22M FROM ALL BOUNDARIES AND 18M SETBACK FOR ANY DEVELOPMENT WITH BUILDINGS GREATER THAN 22M THAT ADJOINS A LOWER INTENSITY ZONE AT THE WALKABLE CATCHMENT EDGE
PRINCIPAL LIVING ROOM OUTLOOK SPACE AT GROUND FLOOR	NA	NA	OUTLOOK DEPTH 5M WHERE DEFINED BY A BOUNDARY FENCE	OUTLOOK DEPTH 5M WHERE DEFINED BY A BOUNDARY FENCE	OUTLOOK DEPTH 5M WHERE DEFINED BY A BOUNDARY FENCE	OUTLOOK DEPTH 5M WHERE DEFINED BY A BOUNDARY FENCE	OUTLOOK DEPTH 5M WHERE DEFINED BY A BOUNDARY FENCE	OUTLOOK DEPTH 5M WHERE DEFINED BY A BOUNDARY FENCE
PRINCIPAL LIVING ROOM OUTLOOK SPACE FIRST FLOOR AND ABOVE	NA	NA	FROM A PRINCIPAL LIVING ROOM IS 6M IN DEPTH AND 4M IN WIDTH, MEASURED FOR THE LARGEST WINDOW OR BALCONY EDGE WHICHEVER IS CLOSER TO A BOUNDARY. MEASURED FROM THE LARGEST WINDOW OR BALCONY EDGE WHICHEVER IS CLOSER TO A BOUNDARY.	FROM A PRINCIPAL LIVING ROOM IS 6M IN DEPTH AND 4M IN WIDTH, MEASURED FOR THE LARGEST WINDOW OR BALCONY EDGE WHICHEVER IS CLOSER TO A BOUNDARY. MEASURED FROM THE LARGEST WINDOW OR BALCONY EDGE WHICHEVER IS CLOSER TO A BOUNDARY.	FOR DEVELOPMENT UP TO 22M IN HEIGHT FROM A PRINCIPAL LIVING ROOM IS 6M IN DEPTH AND 4M IN WIDTH, ABOVE 12.5M IS 8M IN DEPTH. MEASURED FROM THE LARGEST WINDOW OR BALCONY EDGE WHICHEVER IS CLOSER TO A BOUNDARY.	FOR DEVELOPMENT UP TO 22M IN HEIGHT FROM A PRINCIPAL LIVING ROOM IS 6M IN DEPTH AND 4M IN WIDTH, ABOVE 12.5M IS 8M IN DEPTH. MEASURED FROM THE LARGEST WINDOW OR BALCONY EDGE WHICHEVER IS CLOSER TO A BOUNDARY.	FOR DEVELOPMENT MORE THAN 22M IN HEIGHT FROM A PRINCIPAL LIVING ROOM: - GROUND FLOOR TO 12.5M ABOVE GROUND IS 6M IN DEPTH, - BETWEEN 12.5M AND 22M IS 8M IN DEPTH AND - ABOVE 22M IS 20M IN DEPTH. AND IN ALL CASES THE REQUIRED OUTLOOK MUST BE A MINIMUM 4M IN WIDTH MEASURED FROM THE LARGEST WINDOW OR BALCONY EDGE WHICHEVER IS CLOSER TO A BOUNDARY.	FOR DEVELOPMENT MORE THAN 22M IN HEIGHT FROM A PRINCIPAL LIVING ROOM: - GROUND FLOOR TO 12.5M ABOVE GROUND IS 6M IN DEPTH, - BETWEEN 12.5M AND 22M IS 8M IN DEPTH AND - ABOVE 22M IS 20M IN DEPTH. AND IN ALL CASES THE REQUIRED OUTLOOK MUST BE A MINIMUM 4M IN WIDTH MEASURED FROM THE LARGEST WINDOW OR BALCONY EDGE WHICHEVER IS CLOSER TO A BOUNDARY.
BEDROOM OUTLOOK	NA	NA	3M DEPTH × 3M WIDTH	3M DEPTH × 3M WIDTH	3M DEPTH × 3M WIDTH	3M DEPTH × 3M WIDTH	3M DEPTH × 3M WIDTH	3M DEPTH × 3M WIDTH
ALL OTHER HABITABLE ROOM OUTLOOK	NA	NA	1M DEPTH × 1M WIDTH	1M DEPTH × 1M WIDTH	1M DEPTH × 1M WIDTH	1M DEPTH × 1M WIDTH	1M DEPTH × 1M WIDTH	1M DEPTH × 1M WIDTH
DAYLIGHT	NA	NA	APPLIES	APPLIES	APPLIES	APPLIES	APPLIES	APPLIES
OUTDOOR LIVING SPACE	NA	NA	AT GROUND FLOOR AT LEAST 20M ² NO DIMENSION LESS THAN 4M AND A GRADIENT LESS THAN 1 IN 20; IN THE FORM OF BALCONY, PATIO OR ROOF TERRACE IS AT LEAST 5M ² AND HAS A MINIMUM DIMENSION OF 1.8M; ABOVE GROUND FLOOR LEVEL 5M ² FOR STUDIO AND ONE-BEDROOM DWELLINGS AND HAS A MINIMUM DIMENSION OF 1.8M; 8M ² FOR TWO OR MORE BEDROOM DWELLINGS AND HAS A MINIMUM DIMENSION OF 1.8M; EXCEPT THAT, A BALCONY OR ROOF TERRACE IS NOT REQUIRED WHERE THE NET INTERNAL FLOOR AREA OF A DWELLING IS AT LEAST 35M ² FOR A STUDIO AND 50M ² FOR A DWELLING WITH ONE OR MORE BEDROOMS. SOUTH FACING OUTDOOR LIVING SPACE STANDARD					

[illegible]

Changes since the last version are in red text additions underlined deletions ~~strikethrough~~

POTENTIAL AUP IIPC DEVELOPMENT STANDARDS FOR BUSINESS (TOWN, LOCAL, NEIGHBOURHOOD CENTRE ZONES AND MIXED USE ZONE AND BUSINESS PARK) ZONES AS AT 19 <u>11</u> AUGUST 2025								
STANDARD	IIPC BUSINESS – TOWN CENTRE OUTSIDE WC	IIPC BUSINESS – LOCAL CENTRE OUTSIDE WC	IIPC BUSINESS – NEIGHBOURHOOD CENTRE OUTSIDE WC	IIPC BUSINESS – MIXED USE OUTSIDE WC	IIPC BUSINESS – BUSINESS PARK OUTSIDE WC	IIPC BUSINESS – TOWN, LOCAL, NEIGHBOURHOOD CENTRE ZONES AND MIXED USE ZONE AND BUSINESS PARK ZONE (WC) 6 STOREY	IIPC BUSINESS – TOWN, LOCAL, NEIGHBOURHOOD CENTRE ZONES AND MIXED USE ZONE AND BUSINESS PARK ZONE (WC) 10 STOREY (MAPPED IN HVC)	IIPC BUSINESS – TOWN, LOCAL, NEIGHBOURHOOD CENTRE ZONES AND MIXED USE ZONE AND <u>BUSINESS-PARK-ZONE</u> (WC) 15 STOREY (MAPPED IN HVC)
ZONE HEIGHT (M)	Refer HVC	18 & refer HVC	13 & refer HVC	18 & refer HVC	22-20.5 & refer HVC	22	34.5	50
INSIDE WC HIRB VERTICAL HEIGHT (M) TO IDENTIFIED ZONES ¹	NA	NA	NA	NA	NA	20	20	20
INSIDE WC HIRB ANGLE DEG TO IDENTIFIED ZONES ¹	NA	NA	NA	NA	NA	60	60	60
OUTSIDE WC HIRB TO SHZ & MHSZ (M) (VERTICAL)	2.5	2.5	2.5	2.5	2.5	NA	NA	NA
OUTSIDE WC HIRB TO SHZ & MHSZ (ANGLE)	45	45	45	45	45	NA	NA	NA
OUTSIDE WC HIRB TO THABZ (M) (VERTICAL)	8	8	8	8	8	NA	NA	NA
OUTSIDE WC HIRB TO THABZ (ANGLE)	60	60	60	60	60	NA	NA	NA
OUTSIDE WC HIRB TO SPECIAL PURPOSE – MĀORI PURPOSE AND SCHOOL ZONE (M) (VERTICAL)	6	6	6	6	6	NA	NA	NA
OUTSIDE WC HIRB TO THABZ (ANGLE)	45	45	45	45	45	NA	NA	NA
OUTSIDE WC HIRB TO OPEN SPACE ² (M) (VERTICAL)	8.5	8.5	8.5	8.5	8.5	NA	NA	NA
OUTSIDE WC HIRB TO IDENTIFIED OPEN SPACE ZONES ² (ANGLE)	45	45	45	45	45	NA	NA	NA
OUTSIDE WC HIRB TO IDENTIFIED OPEN SPACE ZONES ² FOR BUILDINGS LOCATED ON THE SOUTHERN BOUNDARY (M) (VERTICAL)	16.5	16.5	16.5	16.5	16.5	NA	NA	NA
OUTSIDE WC HIRB TO IDENTIFIED OPEN SPACE ZONES ² FOR BUILDINGS LOCATED ON SOUTHERN BOUNDARY (ANGLE)	45	45	45	45	45	NA	NA	NA
OUTSIDE WC 6M SETBACK AT UPPER FLOOR OPPOSITE RESIDENTIAL ZONE, HEIGHT ABOVE GROUND (M)	18	18	18	18	18	NA	NA	NA
OUTSIDE WC 6M SETBACK AT UPPER FLOOR OPPOSITE OTHER ZONES, HEIGHT ABOVE GROUND (M)	27	27	27	27	27	NA	NA	NA
INSIDE WC 6M UPPER FLOOR SETBACK FROM FRONTAGE HEIGHT ABOVE GROUND (M)	NA	NA	NA	NA	NA	34.5	34.5	34.5

¹ Residential – Single House Zone; Residential – Mixed Housing Urban Zone; Residential – Terrace Housing and Apartment Buildings Zone; Special Purpose - Māori Purpose Zone; Special Purpose - School Zone; Open Space – Conservation Zone; Open Space – Informal Recreation Zone; Open Space – Sports and Active Recreation Zone; Open Space – Civic Spaces Zone; or Open Space – Community Zone

² Open Space –Conservation Zone; Open Space – Informal Recreation Zone; Open Space -Sport and Active Recreation Zone; Open Space – Civic Spaces Zone; or Open Space –Community Zone

Changes since the last version are in red text additions underlined deletions ~~strike through~~

[illegible]

Baseline Residential LUT

CFGS_UID	CFGS_NAME	MODEL_TYPE	ASSESSMENT_T YPE	NOTES	ZONE_H EIGHT	ZONE_STO REYS	AHCO_IMP ACT	SECOND_DWE LLING_PERMI TTED	MHU_PERM ITTED	VSS_PARC EL_AREA_ MIN_QUALI FIER	VSS_PAR CEL_ARE A_MIN_IN FILL	VSS_SITE SHAPEFA CTOR_MI NDIM	VSS_SITE SHAPEFA CTOR_MI NAREA	VSS_SITE SHAPEFA CTOR_MI NDIMSQ	VSS_ACCE SS_WIDTH _MIN_1	VSS_ACCE SS_WIDTH _MIN_2_3	VSS_ACCE SS_WIDTH _MIN_4_5
ZN_2_23	Residential - Large Lot Zone	Residential	Density		8	2	Constraint	0	1	8000	4000	8,15	120	11	3	3.5	4.4
ZN_2_18	Residential - Mixed Housing Suburban Zone	Residential	Volume		8	2	Constraint	1	1	650	400	8,15	120	11	3	3.5	4.4
ZN_2_60	Residential - Mixed Housing Urban Zone	Residential	Volume		11	3	Constraint	1	0	500	300	8,15	120	11	3	3.5	4.4
ZN_2_20	Residential - Rural and Coastal Settlement Zone	Residential	Density		8	2	Constraint	1	1	5000	2500	8,15	120	11	3	3.5	4.4
ZN_2_19	Residential - Single House Zone	Residential	Density		8	2	Constraint	1	1	1200	600	8,15	120	11	3	3.5	4.4
ZN_2_8	Residential - Terrace Housing and Apartment Building Zone	Residential	Volume		16	5	Constraint OR Bonus	1	0	1400	1200	15,20	300	17.3	3	3.5	4.4
ZN_99_2	Residential - MHU proposed	Residential	Volume		11	3	Constraint			1200	600	8,15	120	11	3	3.5	4.4
ZN_99_3	Residential - THAB proposed	Residential	Volume		16	5	Constraint			1400	1200	15,20	300	17.3	3	3.5	4.4
ZN_99_4	Residential - THAB WC proposed	Residential	Volume		21	6	Constraint			1400	1200	15,20	300	17.3	3	3.5	4.4
ZN_99_5	Residential - Low Density Residential Zone	Residential	Volume		8	2	Constraint			1200	600	8,15	120	11	3	3.5	4.4

VSS_ACCE SS_WIDTH _MIN_6_10	FRONT_Y ARD_SET BACK	SIDE_YAR DS_SETB ACK	REAR_YA RDS_SET BACK	ALTERNA TIVE_REA RANDSID E_YARDS_ SETBACK	HIRB_VE RTICAL_ HEIGHT	HIRB_AN GLE_DEG	ALT_HIR B_VERTI CAL_HEI GHT	ALT_HIRB _ANGLE	ALT_HIR B_VAR	ALTERNATIVE HIRB_VAR_NOTE	BUILDIN G_MAXP C_COVER AGE	BUILDIN G_MAXP C_COVER AGE_NET	BUILDIN G_MAXM 2_COVER AGE	ISA_MAX PC_COVE RAGE	ISA_MAX M2_COVE RAGE	PSEUDO_ CODE	VAR_1	VAR_2	VAR_3	VAR_4
6.9	10	6	6							Big Yard Setbacks	0.2	Yes	400	0.35	1400					
6.9	3	1	1	0	2.5	45	3.6	73.3	20	Front 20m - Not apply when Common Wall exists or is proposed. Does NOT apply from Any Business, Open Spece (<2000). Far Side of any entrance strip.	0.4	Yes		0.6			0.4			400
6.9	2.5	1	1	0	3	45	3.6	73.3	20	Front 20m - Not apply when Common Wall exists or is proposed. Does NOT apply from Any Business, Open Spece (<2000). Far Side of any entrance strip.	0.45	Yes		0.6			0.35		2	18
6.9	5	1	1		2.5	45				Does NOT apply from Any Business, Open Space (<2000). Far Side of any entrance strip	0.2	Yes	200	0.35	1400					
6.9	3	1	1		2.5	45				Not apply when Common Wall exists or is proposed. Does NOT apply from Any Business, Open Spece (<2000). Far Side of any entrance strip.	0.35	Yes		0.6			0.4			
6.9	1.5	1	1	0	3	45	8	60	20	Front 20m - Does Not apply when Common Wall exists or is proposed. Does NOT apply from Any Business, Open Spece (<2000). Far Side of any entrance strip.	0.5	Yes		0.7			0.3		3	25
6.9	1.5	1	1		4	60				No AHIRB. Apply to front and rear site	0.5	No*		0.6			0.2			
6.9	1.5	1	1		8	60				No AHIRB. Apply to front and rear site	0.5	No*		0.7			0.2			
6.9	1.5	1	1		19	60	8	60	21.5	Apply HIRB to 21.5m of a frontage, AHIRB beyond	0.5	No*		0.7			0.2			
6.9	3	1	1		4	60					0.35	No*		0.6			0.2			

VAR_5	VAR_6	VAR_METADATA
0.2	120	
0.4	120	VAR_1: not used, VAR_2: not used, VAR_3: not used, VAR_4: minimum parcel area for desity to be greater than PARCEL_INFILL _AREA_MIN, VAR_5: Maximum Building Coverage, VAR_6: Assumed regional average dwelling floor area
0.45	120	VAR_1: not used, VAR_2: not used, VAR_3: Maximum Storey Count if Site has less Frontage than VAR_4, VAR_4: minimum parcel frontage to use 3 level storey limit, VAR_5: Maximum Building Coverage, VAR_6: Assumed regional average dwelling floor area
0.2	120	
0.35	120	
0.5	120	VAR_1: not used, VAR_2: not used, VAR_3: maximum storey count if road frontage is less than VAR 4, VAR_4: _length_parcel_rd_frontage minimum for >VAR 3 level development, VAR_5: Maximum Building Coverage, VAR_6: Assumed gross building floor area per apartment
0.5	120	VAR_1: Minimum landscape area
0.5	120	VAR_1: Minimum landscape area
0.5	120	VAR_1: Minimum landscape area
0.35	120	VAR_1: Minimum landscape area

Baseline Business LUT															
CFGs_UID	CFGs_NAME	MODEL_TYPE	ASSESSMENT_TYPE	ASSESSMENT_SUBTYPE	NOTES	ZONE_HEIGHT	ZONE_STOREYS	PSEUDO_CODE	VAR_1	VAR_2	VAR_3	VAR_4	VAR_5	VAR_6	VAR_METADATA
ZN_3.1	Business - Business Park Zone	Business	Commercial	Business Park		20.5	5								VAR_1,VAR_2: Height control range, VAR_3: Min setback, VAR_4:, VAR_5:, VAR_6: Max building coverage
ZN_3.5	Business - Heavy Industry Zone	Business	Industrial	Heavy Industry		20	5								
ZN_3.7	Business - Local Centre Zone	Business	Commercial	Local Centre		16	4								
ZN_3.10	Business - Metropolitan Centre Zone	Business	Commercial	Metropolitan Centre		72.5	20								
ZN_3.12	Business - Mixed Use Zone	Business	Commercial	Mixed Use		16	4								
ZN_3.17	Business - Light Industry Zone	Business	Industrial	Light Industry		20	5								
ZN_3.22	Business - Town Centre Zone	Business	Commercial	Town Centre	Height from AHCO										
ZN_3.35	Business - City Centre Zone	Business	Commercial	City Centre	Height from AHCO										
ZN_3.44	Business - Neighbourhood Centre Zone	Business	Commercial	Neighbourhood Centre		11	3								
ZN_3.49	Business - General Business Zone	Business	Commercial	General Business		16.5	4								
ZN_98.1	Business - Mixed Use Zone_WC	Business	Commercial	Mixed Use		21	6								
ZN_98.2	Business - Metropolitan Centre Zone_WC	Business	Commercial	Metropolitan Centre		72.5	20								
ZN_98.3	Business - Town Centre Zone_WC	Business	Commercial	Town Centre		21	6								
ZN_98.4	Business - Local Centre Zone_WC	Business	Commercial	Local Centre		21	6								
ZN_98.5	Business - Neighbourhood Centre Zone_WC	Business	Commercial	Neighbourhood Centre		21	6								
ZN_98.6	Business - Business Park Zone_WC	Business	Commercial	Business Park		21	5								
ZN_98.7	Business - General Business Zone_WC	Business	Commercial	General Business		21	6								
ZN_98.8	Business - Heavy Industry Zone_WC	Business	Industrial	Heavy Industry		21	6								
ZN_98.9	Business - Light Industry Zone_WC	Business	Industrial	Light Industry		21	6								
ZN_98.12	Business - Business Park Zone proposed	Business	Commercial	Business Park		21	5								

Baseline PC78 Ziggurat Source/Destination LUT

[illegible]

Baseline PC78 Ziggurat Source/Destination Parameters LUT

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	4.5	60	3.6	1	1.56	2.08	20
zig4_src	ALLEXCLID_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_LD_SRC	4	60	3.6	1	1.85	2.08	20
zig8_src	MU_GB_SRC	8	60	3.6	2	1.62	2.08	20
zig9_src	MU_GB_WC_SRC	19	60	3.6	5	1.50	2.08	20
zig10_src	POS_LC_NC_SRC	4.5	45	3.6	1	2.70	3.60	20

Baseline AUP Ziggurat Source/Destination LUT

	zig_dest_code	zig1_dest	zig2_dest	zig3_dest	zig4_dest	zig5_dest	zig6_dest	zig7_dest
zig_src_code	zig_src_name \ zig_dest_name	ALLEXCLIND	ALLEXCLIND	ALLEXCLIND	INDUSTRY	ALLEXCLIND	METRO_TOWN_MU	LOCAL_NH_GB_BP
zig1_src	SH_MHS_ON_ALLEXCIND	1						
zig2_src	MHU_ON_ALLEXCIND		1					
zig3_src	THAB_ON_ALLEXCIND			1				
zig4_src	RES_POS_SPL_ON_IND				1			
zig5_src	SPL_ON_ALLEXCIND					1		
zig6_src	POS_ON_METRO_TOWN_MU						1	
zig7_src	POS_ON_LOCAL_NH_GB_BP							1

Baseline AUP Ziggurat Source/Destination Parameters LUT

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	SH_MHS_ON_ALLEXCIND	2.5	45	3.6	0	0.69	3.60	20
zig2_src	MHU_ON_ALLEXCIND	3	45	3.6	0	0.83	3.60	20
zig3_src	THAB_ON_ALLEXCIND	8	60	3.6	2	0.13	2.08	20
zig4_src	RES_POS_SPL_ON_IND	6	35	3.6	1	3.43	5.14	20
zig5_src	SPL_ON_ALLEXCIND	6	45	3.6	1	2.40	3.60	20
zig6_src	POS_ON_METRO_TOWN_MU	8.5	45	3.6	2	1.30	3.60	20
zig7_src	POS_ON_OTHERBUS	4.5	45	3.6	1	0.90	3.60	20

[illegible]

PC120 Residential LUT

CFGS_UID	CFGS_NAME	MODEL_TYPE	ASSESSMENT_T YPE	NOTES	ZONE_HEIGHT	ZONE_STOREYS	AHCO_IMP ACT	SECOND_ DWELLIN G_PERMI TTED	MHU_PER MITTED	VSS_PAR CEL_ARE A_MIN_QU ALIFIER	VSS_PAR CEL_ARE A_MIN_IN FILL	VSS_ACC ESS_WID TH_MIN_1	VSS_ACC ESS_WID TH_MIN_2 _3	VSS_ACC ESS_WID TH_MIN_4 _5	VSS_ACC ESS_WID TH_MIN_6 _10	VSS_SITE SHAPEFA CTOR_MI NDIM	VSS_SITE SHAPEFA CTOR_MI NAREA	VSS_SITE SHAPEFA CTOR_MI NDIMSQ	FRONT_Y ARD_SET BACK	SIDE_YAR DS_SETB ACK	REAR_YA RDS_SET BACK
ZN_2_23	Residential - Large Lot Zone	Residential	Density		8	2	Constraint	0	1	8000	4000	3	3.5	4.4	6.9	8,15	120	11	10	6	6
ZN_2_20	Residential - Rural and Coastal Settlement Zone	Residential	Density		8	2	Constraint	1	1	5000	2500	3	3.5	4.4	6.9	8,15	120	11	5	1	1
ZN_2_19	Residential - Single House Zone	Residential	Density		8	2	Constraint	1	1	1200	600	3	3.5	4.4	6.9	8,15	120	11	3	1	1
ZN_2_18	Residential - Mixed Housing Suburban Zone	Residential	Volume		8	2	Constraint	1	1	800	400	3	3.5	4.4	6.9	8,15	120	11	2.5	1	1
ZN_2_60	Residential - Mixed Housing Urban Zone	Residential	Volume		11	3	Constraint	1	0	600	300	3	3.5	4.4	6.9	8,15	120	11	1.5	1	1
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	4.4	6.9	15,20	300	17.3	1.5	1	1
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	4.4	6.9	15,20	300	17.3	1.5	1	1
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	4.4	6.9	15,20	300	17.3	1.5	1	1
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	4.4	6.9	15,20	300	17.3	1.5	1	1

ALTERNATIVE_REAR ARANDSIDE_YARDS_SETBACK	HIRB_VERTICAL HEIGHT	HIRB_ANGLE GLE_DEG	ALT_HIRB_VERTICAL CAL_HEIGHT	ALT_HIRB_ANGLE B_ANGLE	ALT_HIRB_VAR B_VAR	ALTERNATIVE_HIRB_VAR_NOTE	BUILDING_MAXPC_COVER AGE	BUILDING_MAXPC_COVER AGE_NET	BUILDING_MAXPC_COVER AGE	ISA_MAXPC_COVER AGE	ISA_MAXPC_COVER AGE	PSEUDO_CODE	VAR_1	VAR_2	VAR_3	VAR_4	VAR_5	VAR_6	VAR_METADATA
							0.2	Yes	400	0.35	1400							120	VAR_1: , VAR_2: VAR_3: VAR_4: VAR_5: , VAR_6: Assumed regional average dwelling floor area
	2.5	45				Does NOT apply from Any Business, Open Space (<2000). Far Side of any entrance strip	0.2	Yes	200	0.35	1400							120	VAR_1: , VAR_2: VAR_3: VAR_4: VAR_5: , VAR_6: Assumed regional average dwelling floor area
	2.5	45				Not apply when Common Wall exists or is proposed. Does NOT apply from Any Business, Open Spece (<2000). Far Side of any entrance strip.	0.35	Yes		0.6			0.4					120	VAR_1: Minimum Landscape Area, VAR_2: , VAR_3: VAR_4: VAR_5: , VAR_6: Assumed regional average dwelling floor area
0	2.5	45	3.6	73.3	20	Alternative angles is set in 1m. Alternative applies to front 20m. Not apply when Common Wall exists or is proposed. Does NOT apply from Any Business, Open Spece (<2000). Far Side of any entrance strip.	0.4	Yes		0.6			0.4	1.0	6.9			120	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: VAR_5: , VAR_6: Assumed regional average dwelling floor area
0	3.6	73.3				VAR2 contains inset of first (lower) angle. VAR3 constains height of second (upper) angle. VAR4 contains upper angle. Does not apply when Common Wall exists or is proposed. Does NOT apply from Any Business, Open Spece (<2000). Far Side of any entrance strip. NOTE 2.5 and 45deg HIRB applies from boundary abutting lower density zone	0.45	Yes		0.6			0.35	1.0	6.9	45	2.5	120	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 angle & Lower Intensity Zone HIRB Angle. VAR_5: Lower Intensity Zone HIRB Height , VAR_6: Assumed regional average dwelling floor area
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.	0.5	Yes		0.7			0.3			45	2.5	120	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
	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.	0.5	Yes		0.7			0.3					120	VAR_1: Minimum Landscape Area, VAR_2: , VAR_3: VAR_4: VAR_5: , VAR_6: Assumed regional average dwelling floor area
	20.0	60					0.5	Yes		0.7			0.3	22.0	6.0	38.0	18.0	120	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
	20.0	60					0.5	Yes		0.7			0.3	22.0	6.0	38.0	18.0	120	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

PC120 Business LUT

CFGS_UID	CFGS_NAME	MODEL_TYPE	ASSESSMENT_TYPE	ASSESSMENT_SU BTYPE	NOTES	ZONE_HEIGHT	ZONE_STOREYS	PSEUDO_C ODE	VAR_1	VAR_2	VAR_3	VAR_4
ZN_3_1	Business - Business Park Zone	Business	Commercial	Business Park		22	6					
ZN_3_5	Business - Heavy Industry Zone	Business	Industrial	Heavy Industry		20	5					
ZN_3_7	Business - Local Centre Zone	Business	Commercial	Local Centre		18	5					
ZN_3_10	Business - Metropolitan Centre Zone	Business	Commercial	Metropolitan Centre		72.5	20					
ZN_3_12	Business - Mixed Use Zone	Business	Commercial	Mixed Use		18	5					
ZN_3_17	Business - Light Industry Zone	Business	Industrial	Light Industry		20	5					
ZN_3_22	Business - Town Centre Zone	Business	Commercial	Town Centre	Height from AHCO	22	6					
ZN_3_35	Business - City Centre Zone	Business	Commercial	City Centre	Height from AHCO							
ZN_3_44	Business - Neighbourhood Centre Zone	Business	Commercial	Neighbourhood Centre		13	3					
ZN_3_49	Business - General Business Zone	Business	Commercial	General Business		16.5	4					
ZN_98_1	Business - Mixed Use Zone_WC	Business	Commercial	Mixed Use	Height from AHCO and other height affecting overlays	22	6					
ZN_98_2	Business - Metropolitan Centre Zone_WC	Business	Commercial	Metropolitan Centre	Height from AHCO and other height affecting overlays	72.5	20					
ZN_98_3	Business - Town Centre Zone_WC	Business	Commercial	Town Centre	Height from AHCO and other height affecting overlays	22	6					
ZN_98_4	Business - Local Centre Zone_WC	Business	Commercial	Local Centre	Height from AHCO and other height affecting overlays	22	6					
ZN_98_5	Business - Neighbourhood Centre Zone_WC	Business	Commercial	Neighbourhood Centre	Height from AHCO and other height affecting overlays	22	6					
ZN_98_6	Business - Business Park Zone_WC	Business	Commercial	Business Park	Height from AHCO and other height affecting overlays	22	6					
ZN_98_7	Business - General Business Zone_WC	Business	Commercial	General Business	Height from AHCO and other height affecting overlays	22	6					
ZN_98_8	Business - Heavy Industry Zone_WC	Business	Industrial	Heavy Industry	Height from AHCO and other height affecting overlays	22	6					
ZN_98_9	Business - Light Industry Zone_WC	Business	Industrial	Light Industry	Height from AHCO and other height affecting overlays	22	6					

[illegible]

PC120 Ziggurat Source/Destination LUT

[illegible]

PC120 Ziggurat Source/Destination Parameters LUT

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	MHU_METRO_SRC	4	60	3.6	1	1.85	2.08	20
zig12_src	MHS_SRC	20	60	3.6	5	0.92	2.08	20

