



Capacity for Growth Study 2012 Working Report

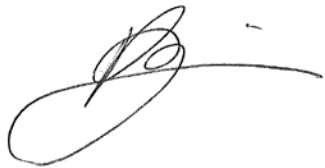
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Capacity for Growth Study 2012

Working Report

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Working Report, November 2012

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Executive Summary

The Capacity for Growth Study monitors and reports on residential, business and rural land availability in Auckland. Residential, business and rural zoned sites have been assessed for their capacity to accommodate additional development (expressed either as additional dwellings or hectares of land) under the current operative district planning rules (as at May 2012).

This working report highlights the preliminary results from the 2012 study as well as outlining the basic method used to calculate capacity as well as providing examples of current and future use of the information generated.

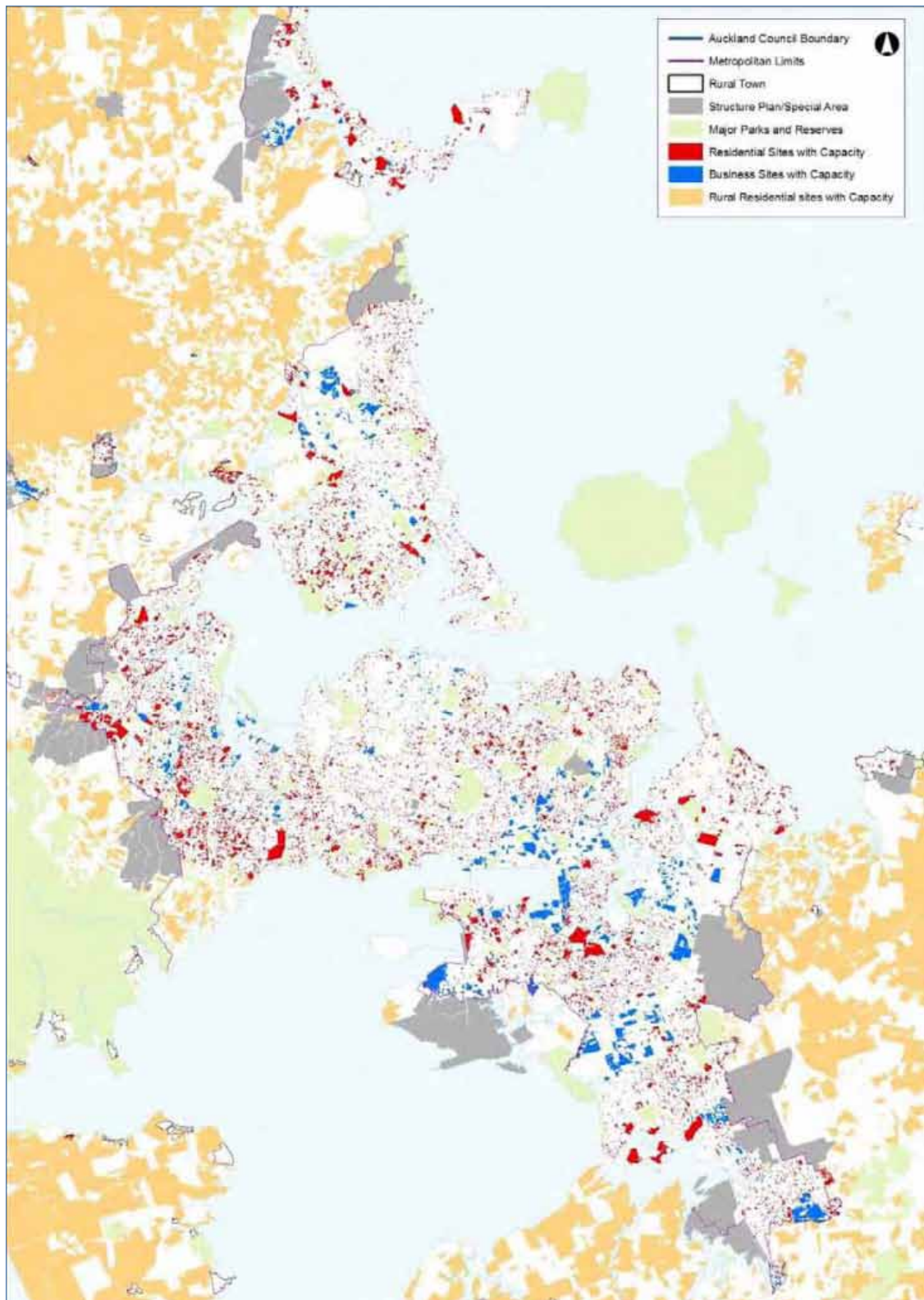
For residential capacity, this report finds that:

- There are 8284 vacant residential zoned sites that have a capacity for 23,097 dwellings
- There are 22,572 residential sites that currently have some building on, that have the potential to accommodate an additional 47,568 dwellings through infill.
- There are 271,262 sites with potential for an additional 115,369 dwellings under redevelopment (removal of current buildings and redevelopment to the maximum capacity)
- Development in business areas and centres could provide capacity for a further 115,042 dwellings (using conservative or “modified” assumptions)
- ‘Pipeline’ capacity could provide up to 59,084 dwellings in identified structure plans and special areas.
- Opportunities in the rural area provide for an additional 25,415 dwellings. Of this capacity, 16,409 dwellings are from titles that are currently vacant while the remaining 8565 are from possible sub-division opportunities available on occupied titles.
- 63.5% of the total rural residential capacity is within the former Rodney District.

For business capacity, this report finds that:

- There are 3397 vacant business zoned sites totalling across Auckland totalling 756 hectares
- 1292 hectares of land from sites that are currently occupied, but have been assessed as having some potential for additional development (vacant potential)
- ‘Pipeline’ capacity could provide up to 1212 hectares of business land.

Figure 1: Sites identified as having capacity (Auckland urban core)



1.0 Introduction

The Capacity for Growth Study assesses the ability of residential and business land within Auckland to accommodate growth. This working report provides a high-level overview of the most recent study and seeks feedback on its implications and applications for Council. The study uses a range of corporate geo-spatial data sets and operative planning rules to determine the amount of possible development on every parcel and title in Auckland. For the purpose of this working report results have been produced for the region and local boards, however the study results can be aggregated in different ways as is necessary.

The results of the Capacity for Growth study can be used in a variety of ways, some of which might include:

- As a base layer or source of information for other studies, including place specific analysis, market feasibility, and the council's models and forecasts;
- As an indicator of the adequacy of Auckland's land supply, by comparing a range of projected development rates to the available capacity;
- As a baseline for considering changes to the relevant planning provisions to either increase or decrease capacity in response to various other drivers; and
- As a tool for indicating the effects of policies on future outcomes, particularly those around subdivision and development.

This document is a 'working report' and is for internal use only. The report is intended to facilitate discussion and debate. The final technical publication for the Capacity for Growth Study 2012 is intended to be released in March 2013. Feedback is being sought on this report to improve the final version of the technical report and its usability for Auckland Council.

Questions and comments are posed though out this document (in grey boxes) to stimulate debate, ask questions and raise issues.

If you have any questions about any part of this report or the Capacity for Growth Study 2012, please contact us via @aucklandcouncil.govt.nz.

2.0 Background

The Capacity for Growth Study is an integral part of the Research, Investigations and Monitoring Unit's land use monitoring programme. The study provides a "point in time" snapshot of the current district plan capacity for the region, revealing the opportunities for growth and/or development under the operative planning system. The primary objective of the Capacity for Growth Study 2012 is to determine:

- How much capacity the region has for accommodating residential and business growth (under current operative district plan rules).

The study is a quantitative planning assessment of capacity. It measures whether each site has the potential for more development under a selected set of operative rules (specifically subdivision, and some bulk and location provisions).

This working report does not examine the likelihood or feasibility of this capacity being absorbed. Factors affecting the likelihood of development might include property owners' willingness to develop or technical constraints to development. Considerations such as these will be addressed in a modified capacity assessment, which will be included in the final technical report.

The study analyses the capacity of every parcel and title across the Auckland region. The results of this analysis will be used for:

- The Auckland Growth Model/Residential Futures Model and the Auckland Strategic Planning Model. The results will act as the baseline land supply for model operations.
- Auckland Plan implementation monitoring. The Auckland Plan requires that land and dwelling supply be monitored, and the Implementation Addendum states that Auckland should always have at least 20 years of "planned land capacity" available.
- Monitoring the provisions in the Auckland Regional Policy Statement (Change 6) (refer Policies 2.6.3 Methods - Urban Containment and 2.6.18 Methods - Rural Areas). The ARPS requires that Auckland Council undertakes surveys every five years to determine the provision and uptake of residential and business urban development opportunities, as well as the provision and uptake of countryside living opportunities available in rural areas.
- As a basis for comparing the development capacity created by existing and enabled zoning provisions with that envisaged by the Auckland Unitary Plan.

For analysis and reporting purposes, this working report breaks the region into five distinct location types. These are outlined below in Table 1, which describes the location types, the method used to calculate capacity and the unit of analysis. Figure 2 shows the distribution and extent of these location types.

Table 1: Geographic location types used in study and their corresponding capacity calculation method

Location Type	Description	Method	Smallest geographic unit analysed
Urban area	All of the properties within the Metropolitan Urban Area (at the time of the study) that do not have a rural zoning/are not in the rural area (see Figure 2 below). Includes both residential and business areas.	Residential: application of district plan subdivision and bulk and location rules via FME spatial model.	Parcel
		Business: assessment of vacancy or potential vacancy via FME spatial model.	
Rural Towns	Clusters of 'urban' type zoning (including residential and business zones) that occur outside of the Metropolitan Urban Area.	As per urban area.	Parcel
Business Areas and Centres	The large contiguous areas of business zoning that have a similar typology and are considered to be significant areas of employment, including urban and rural centres, as described in the technical papers written to inform the Auckland Plan. The geographic limits of these areas are defined by present zoning ¹ . These areas are a subset of the urban area and rural towns.	Business Redevelopment component – a spreadsheet based model utilising some parcel analysis and assumptions, to identify vacant and potentially vacant land within a business area.	Overall assessment at business area (i.e. multiple parcels analysed as one) Note: inputs used in this model can be collected at a smaller level i.e. parcel or meshblock.
Rural Area	Properties with a rural zoning that are outside of the Metropolitan Urban Area and those properties that are within the Metropolitan Urban Area that are zoned for rural use, excluding areas that have been identified as forming part of a rural town.	Rural Residential component – titles analysed for subdivision potential to derive a net dwelling potential.	Title
Special Areas and Structure Plans (SASP)	Areas spread across the locations above that are not suitable for analysis by the other methods. In many cases these are structure plans, where an overall yield figure is provided for the structure plan area based on published information.	Spreadsheet to aggregate information gathered from published sources and subject-matter experts. Note: no additional analysis has been undertaken in these areas other than calculation of a net yield (i.e. maximum expected total from SASP less current take up).	Special area or structure plan extent

¹ As present business zoning is used to define the extent of 'centres' in this study, it needs to be noted that these are not the same as centres defined for other purposes. In the Auckland Plan a centre is generally conceived as both the business zoned area (which we have used) *and* a periphery, which will fall into one of our other categories, most likely the Urban Area. Data can be extracted at almost any geography, but caution should be used when using current centres results for other purposes or geographic definitions.

3.0 Key assumptions and limitations

The Capacity for Growth Study uses a series of assumptions, the most important of which are outlined below:

- The capacity results are a measure of plan enabled capacity. Capacity is reported in terms of net opportunities for additional dwellings, hectares of land or additional floor space, by geographic area and type.
- Capacity is calculated under current operative planning provisions, which were agreed upon and approved by the Operative Planning teams. In most cases, the analysis applied the lowest consent category specified in the plan for residential subdivision and development². However the study utilised the next highest activity threshold in cases where territorial authority experience shows that these consents are regularly granted, and the relevant district plan provides clear parameters³ for modelling.
- The data used for the analysis of capacity is sourced from council's corporate geo-spatial database. These include, but are not limited to, building footprints, property boundaries and zoning information. A list of the residential zones and assumptions can be found in Appendix D: List of residential zones and assumptions
- Building footprints utilised for the urban residential and business assessments were in the process of being digitised from 2010 aerial photography, providing an update of the building footprints layer from 2008. At the time the analysis was undertaken for this working report, updates of the footprints had not been completed for former Auckland City, or Franklin and Papakura Districts. As such, modelling and reporting for these three areas was undertaken using the 2008 data⁴.
- Capacity for residential dwellings and business floor space in business areas and centres is calculated as part of the business redevelopment component, using a "modified theoretical" scenario.
- Capacity for residential dwellings and business land in special areas and structure plans (pipeline capacity) was identified from information on planned outcomes in published structure plan material.
- There are significant changes to rural capacity expected to be operative shortly and includes Plan Change 22 in the Franklin District and Plan Change 13 in Papakura District. As these were not operative at the time of the study, outcomes from these provisions have not been included.
- Capacity for minor residential units⁵ was not assessed as part of this study.

² All subdivision requires consent, so it is never permitted. The majority of subdivision modelled is a controlled or restricted discretionary activity, with some discretionary activities utilised where this is the lowest defined category.

³ An example is that a plan may specify a generic lot size for all urban residential development with more specific provisions applying to each zone or sub-zone allowing smaller lot sizes at a higher consent category. Open ended provisions (such as most non-complying activities) cannot be objectively modelled.

⁴ Building footprints for all urban areas have now been updated to 2010. A rerun for the final report will incorporate this new updated data. Due to the limited amount of actual building activity between these two dates only small variances are anticipated from the reported results due to this update.

⁵ A 'Minor Residential Unit' (MHU) is a residential unit on a site in addition to another larger residential unit on the same site. Typically a minor residential unit cannot be disposed of separately to the main house (i.e. it cannot be given a separate title) and usually includes a maximum floor space limit. A minor residential unit is sometimes referred to as a "granny flat". MHUs could potentially provide a significant capacity resource for smaller households, but most sites would lose the potential for a MHU if infill is undertaken. A proportion of sites that do not otherwise qualify for infill may have potential for MHUs, but it is rare that an urban site subdivision under the minimum lot size provisions would allow for a MHU on the resulting sites in addition to an existing dwelling.

- The number and extent of structure plans has been limited to those identified as either G1 (inside the MUL, zoned and serviced) or G2 (inside the MUL, but not yet zoned and serviced) in the Auckland Plan Implementation Update, or have an assumed start date prior to 2021 in the Auckland Growth Model.
- Urban capacity has been assessed at the parcel level. Rural residential capacity has been assessed at the title level. A significant amount of data has been used which is provided at the rates assessment level. Other data is only available at larger geographies such as meshblock, local board or region. Accounting for these varying geographies means that care should be taken utilising 'property' level results, and figures are generally provided at an aggregated level.
- Capacity has been assessed at the parcel/title level and no accounting has been made for the potential of amalgamations of the parcels/titles.

In addition to these assumptions and limitations, comparisons between the reported results of this study and previous iterations of the study should be undertaken carefully as differing geographies, modelling techniques and assumptions employed in the studies make comparisons problematic.

Please contact the Land Use Research team in RIMU if you require more information on inter-study comparisons.

4.0 Components of capacity

Residential capacity is reported in terms of net additional dwellings while business capacity is reported in terms of land area (hectares) or net floor space (metres squared). Greater detail on the type, method and source of the multiple components of the study are outlined below.

A more complete methodological outline as well as a full list of assumptions used for calculating capacity will be included in the Auckland Council Technical Publication that will be produced as part of this study. A preliminary version of the assumptions used to date is available on request.

4.1 Residential capacity: Urban area and rural towns

Residential capacity measures the number of additional dwellings units that could be built under operative planning rules. Table 2 lists and details the type of residential capacity reported in this study and provides a high level summary of the modelling approach.

Table 2: Types of residential capacity

Residential capacity type	Definition of capacity type	Source/modelling approach
Vacant	Capacity for dwelling units on residential zoned sites that are currently vacant (no dwellings or buildings).	Vacant: parcels where current dwelling count = 0, parcel area divided by minimum lot size, rounded down to nearest whole integer = dwelling yield
Infill ⁶	Capacity for additional dwelling units on residential zoned sites that are partially vacant and have subdivision potential (based on the lowest consent category from district planning rules), presuming that any existing dwellings/ or structures > 50 m ² stay in place (structures with a footprint area < 50 m ² are assumed to be removable to facilitate infill).	Infill and vacant potential: parcels where current dwelling count > 0 or building area > 50 m ² . Infill spatial assessment accounted for setbacks from existing dwellings and access to any new site. Assessed infill area divided by minimum lot size, rounded down to nearest whole integer, less current dwelling count = dwelling yield. Note: vacant potential is the same as infill, but allows for different minimum lot size assumptions to be applied to parcels over 2000 m ² in area.
Redevelopment	Capacity for additional dwellings on residential zoned sites presuming that all dwellings/structures are removed and the sites are redeveloped to yield the maximum number of dwellings permitted (based on the lowest consent category from district planning rules).	All parcels: existing buildings and dwellings assumed to be removed (i.e. property is redeveloped). Parcel area divided by minimum lot size, rounded down to nearest whole integer, less current dwelling count = dwelling yield.

⁶ In previous iterations of the Capacity for Growth Study, capacity for dwellings on sites that were not wholly vacant were split into two types; infill (sites that were less than 2,000 m²) and vacant potential (sites that were equal to or greater than 2,000 m²). Since both categories reported on the same type of capacity, and feedback showed there was some confusion over what the difference was, it was decided that these would be reported together as "infill" in the 2012 study.

Residential capacity type	Definition of capacity type	Source/modelling approach
Dwellings in Business Areas and Centres (Business Redevelopment)	Capacity for additional dwellings provided by development and/or redevelopment of sites in business areas and centres. Capacity in this category is calculated as part of the business redevelopment component.	Business redevelopment component: an assumed future Floor Area Ratio (FAR) is applied to generate total floor space. A residential allocation proportion is applied to generate residential floor space. That floor space is divided by the assumed average dwelling size and rounded down to provide a dwelling yield (after accounting for current dwellings).
Pipeline/ Structure Plan Area	Capacity that was in the planning processes at the time of the study (May 2012) but not in district plans. Examples include capacity in the proposed district plan changes or strategic growth management documents.	Data from structure plans (as utilised in the Auckland Plan implementation update report and the Auckland Residential Futures model), are modified by accounting for current dwellings a net dwelling yield is calculated. Only those structure plans and special areas classified as G1 or G2 or anticipated to be online before 2021 have been included as 'pipeline'. No new assessment has been undertaken via this study for those areas.

4.2 Residential Capacity: Rural residential

Each title in Auckland's rural area was assessed for its subdivision potential, sometimes multiple times, to calculate a net dwelling yield. The rural residential component incorporated a number of modelling innovations; enabling assessment under multiple rules (e.g. the plans for Rodney, Franklin, Papakura, Manukau and the Hauraki Gulf Islands all contain provisions allowing a choice of subdivision options for various sites or zones). and allowing for multiple overlays⁷ (e.g. bush areas, existing covenants, and areas for restoration).

Where an existing title has more than one dwelling, existing dwellings are allocated to any new sites before any new vacant site is created, based on the assumption that this is what most consenting processes would require. Therefore the dwelling yield is less than the number of new rural titles being created, and cannot be used to forecast subdivision consents or new titles (e.g. for development contributions calculations).

⁷ We anticipate that we will be able to utilise this experience when moving to model the Auckland Unitary Plan, which is likely to have a large number of overlays to account for the spatial variation across Auckland (varying the base rules).

4.3 Business land capacity

Business land capacity is measured by area of land (usually hectares), but floor space and dwellings are also reported in other study components (see below for Business Redevelopment). Table 3 lists and details the type of business land capacity reported as part of this iteration of the study.

Table 3: Types of business land capacity

Business capacity type	Definition of capacity type	Source/modelling approach
Vacant	Capacity (in hectares) of business zoned sites that are currently vacant (no buildings/structures).	Sites over 100 m ² ⁸ that are currently vacant (no buildings).
Vacant potential	Capacity (in hectares) of the vacant portion of business zoned sites that are currently occupied by buildings/structures. ⁹	Sites that are not vacant. A proportion of the site is set aside around the footprint of any existing buildings >50 m ² plus a 'buffer' for other use, such as loading areas and parking. The remaining area is considered to be vacant potential. Candidate results are further refined based on statistical analysis.
Total business land	Total area of business zoned land.	Total area of business zoned land.
Pipeline/Structure Plan Area Capacity	Capacity that was in the planning processes at the time of the study (May 2012) but not in district plans. Examples include capacity in the proposed district plan changes or strategic growth management documents.	Data from structure plans (as utilised in the Auckland Plan implementation update report and the Auckland Residential Futures model), Only those structure plans and special areas classified as G1 or G2 or anticipated to be online before 2021 have been included as 'pipeline'. No new assessment has been undertaken via this study for those areas.

⁸ Sites less than 100 square metres were excluded from analysis due to their small size.

⁹ It should be noted that almost all business zoned sites have a portion of the site which is not covered by building/structure. Our modelling and methodological approach takes this into account and assesses vacant potential capacity based on a site's size and the proportion of site that is vacant (within a population of sites within the district plan area). Full details on this will be included in the Auckland Council Technical Report.

4.4 Business areas and centres redevelopment capacity

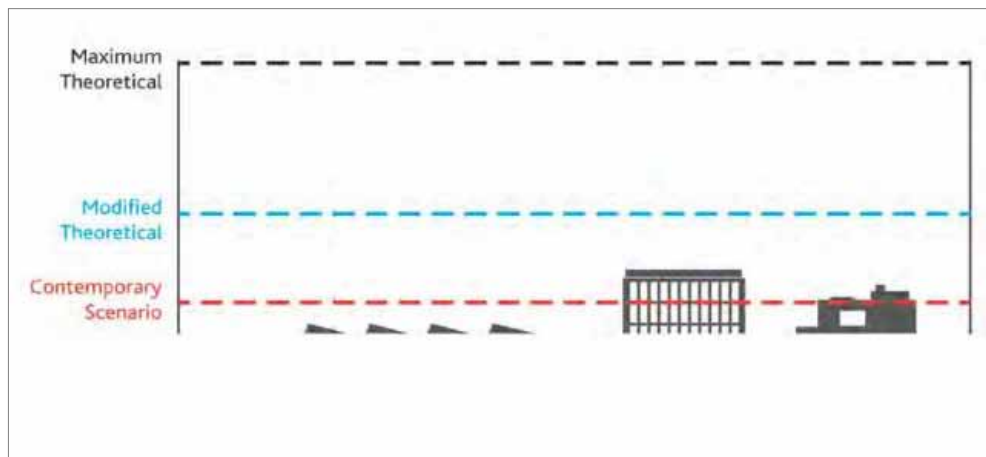
The business redevelopment component estimates the likely total floor space area of a business area or centre. Total floor space area is determined and subsequently apportioned to business and residential purposes.

The study uses assumptions rather than present zoning parameters for business areas and centres because the existing zoning framework for these areas does not provide a functional limit to capacity, effectively allowing for infinite floor space. In many business areas, the only 'plan' limit to floor space potential is a height to boundary line from often far distant residential zones, which results in an unfeasibly high development potential.

To generate more reasonable floor space figures, assumptions must be used. The 2012 study developed two 'reasonable' scenarios, a 'contemporary'¹⁰ and a 'modified theoretical'. Only the 'modified theoretical' scenario results have been reported in this report as this is consistent with the approach taken in the reporting of 2006 study and provides the most rational view of development potential in business areas. Other scenario results are available on request.

District plan limitations are captured in a third scenario known as the 'maximum theoretical' scenario (using results of three-dimensional modelling undertaken for the 2006 study), which has not been utilised at this stage. The conceptual differences between the three approaches are illustrated below.

Figure 3: Illustrative diagram of business redevelopment scenarios

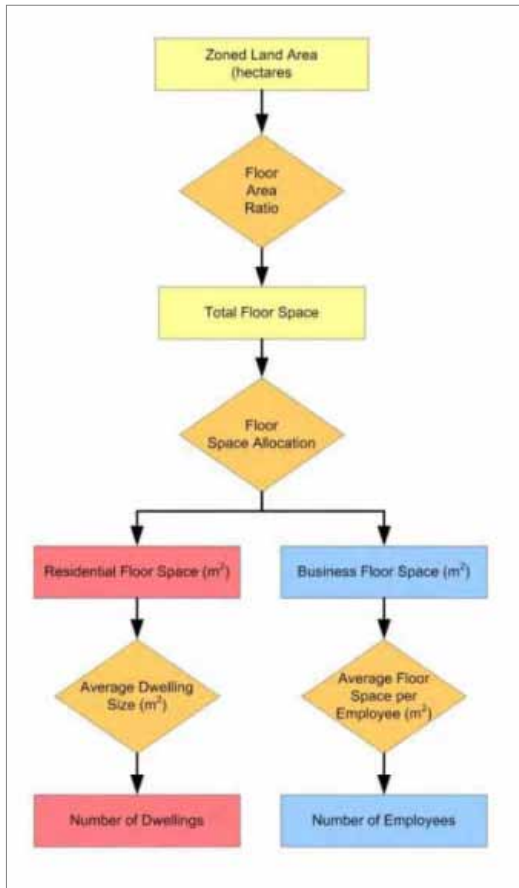


Using the modified theoretical assumption a total floor area estimate is generated, from which the proportion of floor space to be used for business and/or residential is determined. These proportions are assumptions and vary between business area types and model scenarios. The estimated business floor space can in turn predict the possible number of employees that could be accommodated, using an average floor area per employee (based on the business area 'type').

The amount of estimated floor space for residential use is converted to a dwelling potential count by applying an average dwelling area (based on the business area type). The possible number of dwellings is then included in the residential capacity totals. This process is illustrated in Figure 4.

¹⁰ The contemporary scenario is the implied build out of the business area based on its current characteristics.

Figure 4: Diagram of business redevelopment capacity calculation process



The components/outputs from the business redevelopment component are listed in Table 4. Capacity results by these business redevelopment categories can be found in section 5.0, (Results), and in Appendix A: Tables of preliminary results by local board).

Table 4: Types of business redevelopment capacity

Business redevelopment capacity type	Definition of capacity type
Total floor space	Total amount of floor space (square meters) possible in a business area or centre calculated using floor area ratio (FAR) assumptions.
Business (non-residential) floor space	Amount of business (non-residential) floor space (square meters) likely to be yielded from a business area or centre.
Residential floor space	Amount of residential floor space (square meters) likely to be yielded from a business area or centre.
Estimated employees	Estimated number of employees likely to be accommodated in a centre or business area, based on the amount of business (non-residential) floor space yielded and a floor area per employee ratio.
Estimated dwellings	Estimated number of dwellings likely to be accommodated in a centre or business area, based on the amount of residential floor space yielded and a floor area per dwelling ratio.

A methodological outline as well as a full list of assumptions used in all three scenarios and their results will be included in the Auckland Council Technical Publication on the Capacity for Growth Study. A preliminary version is available on request.

4.5 Capacity from special areas and structure plans (pipeline capacity)

Pipeline capacity is reported to give a slightly longer-term view of what is or will shortly become available for development, but is not yet operative (or some other reason keeps it from being included or assessed in the other capacity categories). Inclusion of this information also provides a more realistic view of what is or will become available over the next few years. Figures reported for pipeline capacity are for dwelling yield and additional business land only.

Appendix E: Table of structure plans and special areas), provides a list of what was included in this capacity component of the study and lists the yields (dwellings and hectares of business land) these areas could generate.

Given the uncertainty associated with the proposed structure plan areas (for example their spatial extent and the iterative nature of development that occurs within them), the capacity yield estimated is subject to a degree of uncertainty and should be continually refined as more information becomes available. This is particularly true of large areas or areas that are expected to be made available later.

Question: Given the uncertain nature of pipeline capacity, we are interested in knowing whether the criteria for capacity used in this report are correct and/or if the figures utilised are accurate, for example:

- Should pipeline capacity include the 'G3' category?
- Are the numbers used for structure plan and special areas (listed in Appendix E: Table of structure plans and special areas correct?
- Is the cut off point of counting pipeline capacity available before 2021 correct?

5.0 Results

This section of the report summarises the preliminary results. The results have been summarised for the Auckland region; Appendix A: Tables of preliminary results by local board reports capacity by local board.

Residential capacity results are reported as two separate figures, with the first total representing the capacity utilising infill opportunities and the second total representing capacity utilising redevelopment opportunities. These totals cannot be added together as each represents a different capacity yield from the same properties; parcels can have additional dwellings added to them (infill), or the existing dwelling can be removed and the site redeveloped to its maximum potential at the lowest consent category (redevelopment). Because the uptake of these opportunities will be a mixture of both Infill and Redevelopment over time, the results are reported as a range.

Business capacity results are reported in hectares of land available (from sites that are wholly or partially vacant) from the total land zoned for business uses.

5.1 Residential capacity

Across Auckland, there is capacity under current planning provisions for an additional 263,362 dwellings (utilising infill) to 338,007 dwellings (utilising redevelopment).

Table 5: Auckland residential capacity summary (preliminary results) (in dwellings)¹¹

Existing dwellings (2011)	485,013
Urban area capacity	201,600 to 269,401
Rural towns capacity	36,347 to 43,191
Rural area capacity	25,415
Total residential capacity	263,362 to 338,007

5.1.1 Urban area

Within the urban area, the study found that:

- The majority of Auckland's residential capacity is located within the urban area, with capacity for 201,600 dwellings (utilising infill) to 269,401 dwellings (utilising redevelopment)
- There is capacity for an additional 16,551 dwellings on residential zoned land that is currently vacant.
- Capacity for a further 35,824 dwellings was identified as being possible on infill sites, a key form of development for small residential construction firms.
- If all residential sites were redeveloped to their maximum capacity, this could yield an additional 103,625 dwellings.
- There is capacity for 107,578 dwellings in business areas and centres (under the modified theoretical scenario), highlighting the importance of non-residential zoned land to absorb future growth.

¹¹ Totals in this table include pipeline capacity.

- Capacity from structure plans (greenfields developments) that are underway or are expected to come online before 2021 provides for an additional 41,647 dwellings. This includes areas such as Flat Bush, Hobsonville and other similar master-planned fringe developments, as well as a number of smaller areas well inside the existing urban area.

5.1.2 Rural towns

Within rural towns, the study found that:

- Total residential capacity in rural towns totals 36,347 dwellings (utilising infill) and 43,191 dwellings (utilising redevelopment). These totals represent approximately 13 per cent of total residential capacity.
- Capacity for additional dwellings on vacant sites totals 6546, while a further 4900 could be yielded from infill opportunities.
- If all residential sites were redeveloped to their maximum capacity, this would yield an additional 11,744 dwellings.
- Calculations from the Business Redevelopment component (modified theoretical scenario) suggest there is capacity for 7464 dwellings in business areas and centres.
- Pipeline capacity in and around rural towns is expected to supply a further 17,437 dwellings, which indicates that approximately 30% of total pipeline capacity for Auckland is in or around rural towns.

5.1.3 Rural residential capacity

Within the rural area the study found that:

- There is capacity for an additional 25,415 dwellings within the rural area of the Auckland region. 63.5% of this capacity is located in the former Rodney District.
- Rural residential capacity on currently vacant rural titles totals 16,409 dwellings.
- Rural residential capacity on titles that are currently occupied contributes 8565 additional dwellings. It is interesting to note that the capacity from titles that are currently vacant proved almost double the capacity of presently occupied titles, as vacant sites will maintain potential for at least a single dwelling, even under new unitary plan rules.
- Further rural capacity is provided by several rural specific structure plans or special areas¹² across the region, which plan for another 441 additional titles (dwellings).

¹² A large number of other rural 'structure plans' or special zones are captured in the general rural operative zonings and are not specifically reported in this category.

5.2 Business land capacity

In total there are 7122 hectares of zoned business land across Auckland. Of this total, 719.9 hectares (10%) were wholly vacant at the time of the study. A further 1292 hectares (18%) were judged to have some part of the site vacant (i.e. a portion of the site was assessed as 'vacant potential').

Table 6: Auckland business capacity summary (preliminary results) (in hectares)¹³

Current zoned business land	7,122
Urban area business land capacity	2,657
Rural towns business land capacity	603
Total business land capacity	3,260

5.2.1 Urban area

Within the urban area the study found that:

- 6689.6 hectares or 90% of Auckland's business zoned land is located within the urban area.
- 10% of urban business land is made up of vacant sites, which equates to 640.1 hectares. Vacant potential on currently occupied sites amounts to 1161.5 hectares – 17% of the total urban area business zoned land.
- 27% of currently zoned business land in the urban area is vacant or has some vacant potential.
- Structure plans and special areas in or adjacent to the urban area are anticipated to provide a further 855.2 hectares of business zoned land. This constitutes a significant proportion of the future demand/supply as outlined in the Auckland Plan, and would more than double the business land capacity of the urban area.

5.2.2 Rural towns

Within the rural towns the study found:

- Business land in rural towns is a small part to the regional total of some 432 hectares (6%).
- Of these 432 hectares, a total of 115.8 hectares was identified as vacant sites - nearly 25% of Rural Town Business land
- A further 130.5 hectares was identified as sites with vacant potential - another 25% of the Rural Town business land.
- Some 50% of currently zoned business land in rural towns is vacant or has some vacant potential.
- Structure plans and special areas in or adjacent to the rural towns provide a further 357 hectares of business zoned land. This would increase the total business land area in rural towns by 82% and increase the available business land capacity by more than 144%.

¹³ Totals in this table include pipeline capacity.

5.3 Business redevelopment capacity

At the time of the study (May 2012) there was:

- A total of 6294 hectares of business zoned land within major business areas and centres assessed, containing a total of 54,686,046 square metres of building floor space.
- Floor space for non-residential purposes totalled 50,044,504 square metres with the remaining 4,641,542 square metres being used for residential purposes.
- The non-residential floor space in business areas and centres is estimated to accommodate
- The estimated employee count for the business areas and centres was 927,192¹⁴.
- Dwellings in business areas and centres across the region totalled 67,070.

Results from the modified theoretical scenario indicate that:

- There is capacity for an additional 44,989,578 square meters of floor space in business areas – an 82% increase from the current total.
- Of this additional capacity, 32,746,653 square meters is estimated be for non-residential use (business) and 12,762,012 is estimated to be for residential use.
- The additional 32,746,653 square meters of non-residential floor space calculated using the modified theoretical scenario is estimated to accommodate up to an additional 628,068 employees - an increase of 68% over current business area employment.
- The estimated floor space for residential use provides capacity for up to 115,042¹⁵ additional dwelling units in business areas and centres – a 172% increase on the current centre dwelling numbers. This figure is included in the total residential capacity results reported.
- Residential development in centres and business areas would be expected to be largely of an attached typology; whereas the urban area, rural town and rural residential modelling parameters would typically result in a detached typology.
- The large potential for increase in residential floor space (275% over current figures), is a reflection of the current plan enabled potential of high-density housing development, such as apartments in and around Auckland's town centres and CBD.
- Overall residential capacity yielded from business areas and centres is estimated to make up 49% (utilising infill) or 34% (utilising redevelopment) of the total dwelling capacity, a very important portion of residential capacity supply.

¹⁴ Based on Business Demographics 2011, sourced from Statistics New Zealand and analysed by Auckland Council.

¹⁵ Note this total is for all businesses areas and centres in Auckland

6.0 Analysis Examples

The analytical framework of the Capacity for Growth Study allows us to use the outputs from the study to answer real-world questions. Three examples are included that illustrate the utility of the study and its applicability to understand the land use challenges facing Auckland.

6.1 Example 1: Monitoring of capacity uptake

The theoretical capacity outputs of the study can be combined with RIMU's building consent database to examine the uptake of land and the location of development across Auckland. This monitoring can be updated regularly using the monthly building consent data received from Statistics New Zealand.

Overlaying the results of the Capacity for Growth Study 2006 and building consent data show that a third (36%) of dwellings consented inside the MUL were on sites that were identified as being vacant or having infill potential (refer to Table 7 below). This result is similar to trends observed in the period 1996 to 2001, where 41% of dwellings consented were located on sites that were identified as vacant or having infill potential (Auckland Regional Council, 2003). This shows that construction on vacant residential land and "infill" style development is desirable. These findings suggest that land identified as vacant, vacant potential and infill in the Capacity for Growth study 2012 is highly likely to be developed; the model results are a good predictor of where this growth is likely to occur. Approximately 30% of development occurred in "other" categories showing that development through non-complying activities etc provides a significant component of development potential which is not measured in this study.

Table 7: Dwellings consented to in Auckland by Capacity for Growth Study 2006 type, April 2006 to March 2012

Capacity for Growth Study 2006 capacity type	Capacity total from Capacity for Growth Study 2006	Number of dwellings consented (2006-2012)
Residential vacant	17,782	4,818
Residential vacant potential	11,208	1,055
Residential infill	23,302	2,309
Business zoned land	69,370	3,310
Structure plans/special areas ¹⁶	30,273	3,605
Other ¹⁷		7,474
Total inside current Metropolitan Urban Limits	151,935	22,571

¹⁶ As outlined/detailed in the Capacity for Growth Study 2006 (Auckland Regional Council, 2010).

¹⁷ Other category includes redevelopment on residential sites (i.e. an older dwelling removed or demolished and replaced), as well as development opportunities that were not identified in the 2006 study, including non-complying activities or out of zone developments. This category also includes development that occurred though minor consent (to get around factors that precluded the site being identified in the study), such as consent for small minimum site area discrepancies or relaxation of setback requirements.

6.2 Example 2: Capacity for additional dwellings on Housing New Zealand properties in The Southern Initiative Area

There are currently 8141 Housing New Zealand (HNZ) properties containing 10,562 dwellings within The Southern Initiative Area (TSI). Of these properties, there are 32 vacant parcels with capacity for 110 dwellings. Infill opportunities on sites already occupied provide capacity for a further 767 dwellings. If all HNZ properties within TSI were redeveloped to their maximum capacity, these sites would yield an additional 1817 residential dwellings. Redevelopment or infill at lower densities than modelled is also possible. Figure five provides an example of the output the model can generate.

Table 8: Capacity of Housing New Zealand properties in The Southern Initiative Area

	Parcels	Dwellings
Current count	8,141	10,562
	Parcels with capacity	Net dwelling yield
Vacant capacity	32	110
Infill capacity	512	767
Redevelopment capacity	7,167	1,817

Figure 5: Example of infill opportunities on Housing New Zealand sites in the TSI



6.3 Example 3: Comparing capacity against a range of demands:

The capacity results generated through this study can be compared against demand for dwellings scenarios at a range of temporal and spatial scales. However, it is not currently possible to compare the results with dwelling demand projections at small spatial scales, as local projections are generally more sensitive to changes in planning provisions and local factors.

Figure six compares the total dwelling capacity figures from both infill and redevelopment to a range of dwelling demand scenarios for the whole of Auckland, essentially comparing total regional 'supply' with total regional demand for dwellings.

A similar approach is taken in Appendix C, which compares total capacity to total dwelling targets from the latest Auckland Plan 70:40 high planning guidance figures.

Figure 6: Auckland total capacity for dwellings vs. regional demand(s)

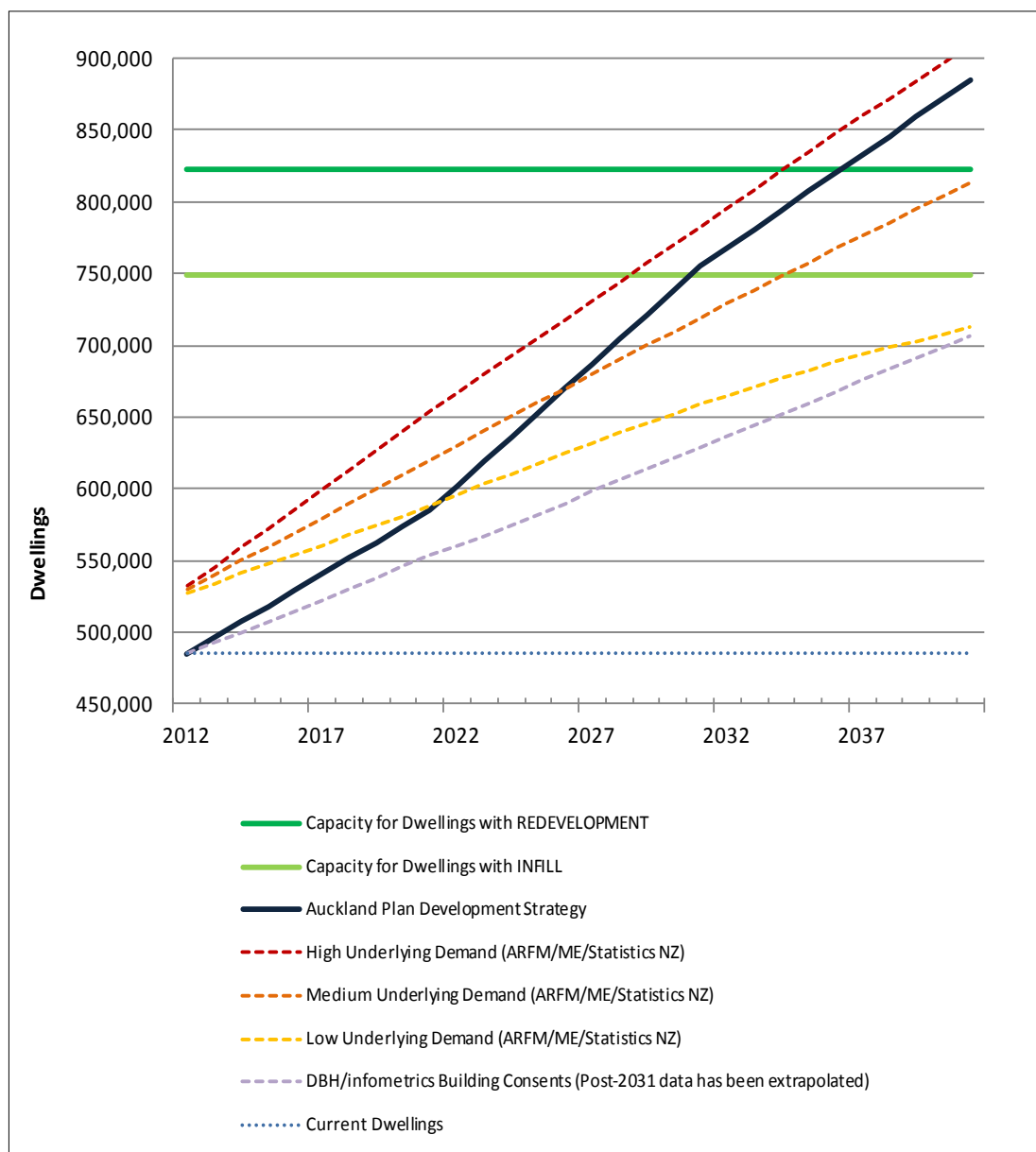


Figure 6 illustrates that whether supply meets demand (in a numerical sense) is dependant on the growth path (demand) and capacity (infill or redevelopment); capacity may be exhausted as soon as 2028 (high underlying demand x infill), or perhaps never at all (such as under the low underlying demand or Department of Building and Housing building consent projection scenarios). The dwelling growth set out in the Auckland Plan's Development Strategy crosses the infill line at around 2030 and the redevelopment line at around 2037.

However, if capacity remains static (which it will not) development is unlikely to occur as a linear trend, as illustrated in this graph, as without provision of additional 'headroom' (or forward supply) well before these capacity limits are reached, development rates are likely to slow in advance of the capacity supply ceiling.

It is also important to consider differences in demand for different housing types. For example, there is currently capacity for approximately 51,000 stand-alone dwellings on infill and vacant land within the MUL. If total regional growth demand is for this dwelling type only (i.e. a stand-alone house inside the MUL), this capacity type/location could be 'used up' in as little as five years.

Question: What other examples or uses can you think of that could utilise outputs from the Capacity for Growth Study 2012?

Question: Are there ways in which this information could be used to benefit any of your current work?

7.0 Where to from here?

7.1 Analysis and reporting

This working paper is the first output of the 2012 iteration of the Capacity for Growth study. It is hoped that this working paper will generate discussion and provide some feedback on the structure of the study's formal report (a council technical publication). The full technical report will also include further analysis of results, as well as detailed methods.

As in the 2006 study, a modified capacity assessment will be undertaken. The modified capacity assessment is a short-term, more market-orientated analysis intended to identify capacity that is readily realisable. The purpose of this assessment is to provide policy makers with a more complete understanding of capacity supply issues and to identify where policy actions may be best directed. It is intended that a more robust methodology will be created for this component (compared to the 2006 study). A business land 'modified capacity' assessment to identify short term market outcomes could also be undertaken if it is perceived to have utility value. The results and methodology of the modified capacity assessment will be detailed in the technical publication.

A 'Business brownfield' component is proposed that will investigate 'underutilised' sites that may fail the vacant or vacant potential tests for business land but the value of improvements against land values suggest that redevelopment is economically feasible. A similar approach could be taken to identifying residential 'brownfields' sites.

It is expected that the outcomes of this study will be used extensively in ongoing research and form a part of Council's evidence base for a range of statutory and non-statutory functions.

7.2 Other analysis

It is expected that modelling, analysis and reporting of both residential and business land capacity be undertaken based on the proposed Unitary Plan (once rules and geographies have been confirmed). At this stage (November 2012), we are unable to provide an estimated timeline for this exercise. We are awaiting direction from the Unitary Plan teams, in particular finalised zone and overlay map data and rules, which are unlikely in the short term.

The capacity modelling methodology could also be used to study the effects of proposed plan changes to currently operative district plans on capacity, as part of the land supply monitoring programme. Scenario testing for future plan changes or changes to the Auckland Unitary Plan could also be undertaken once a unitary plan based model has been developed.

7.3 Other research

Outputs from this study could help to inform the business land study currently being undertaken by the Economic Development department of council. It is hoped that findings from the Capacity for Growth Study will help inform policy by providing a better understanding of the location and type of business land across the region.

8.0 References

Auckland Regional Council (2003). *Auckland Metropolitan Area: Capacity for Growth 2001*. Regional Growth Forum, Auckland.

9.0 Glossary

Business areas: Contiguous areas of business zoning that have a similar typology and are considered to be significant areas of employment, including town centres, as defined in the technical papers written to inform The Auckland Plan process.

Business vacant potential: Vacant potential is the measure of the vacant portion of site that is currently zoned for business use and is not already occupied in some way by a building. Generally this portion of the site is unoccupied and could be used for further development.

G1: Greenfield land that is inside the MUL, zoned and serviced.

G1(a): Greenfield land that is inside the MUL, but not yet zoned and serviced.

Property: A property refers to an area of assessment as part of the study's modelling processes; being either a cadastral parcel (used in the urban area and rural towns) or a title (used in the rural area).

Residential infill: The process, by which an addition dwelling is added to either the front or the back of a residentially zoned parcel, which is already occupied by a dwelling.

Residential redevelopment: The removal of dwellings from a residential zoned parcel and the rebuilding to the maximum number of dwellings allowed under the district planning rules.

RPS: Regional Policy Statement.

Rural towns: Clusters of urban type zoning (including residential and business zones) that occur outside of the Metropolitan Urban Area.

Rural area: Properties that fall outside of the Metropolitan Urban Area (at the time of the study), those properties that are within the Metropolitan Urban Area but are zoned for rural use and excluding areas that have been identified as being a rural town.

SASP: Special Areas and Structure Plans

Urban area: All of the properties within the Metropolitan Urban Area (at the time of the study) that do not have a rural zoning.

MUL: Metropolitan Urban Limits

Former Territorial Authority (Councils) Codes:

Former Council	Code
Rodney District	RDC
North Shore City	NSC
Waitakere City	WCC
Auckland City	ACC
Manukau City	MCC
Papakura District	PDC
Franklin District	FDC

10.0 Appendix A: Tables of preliminary results by local board

Table 9: Metropolitan Urban Area: Preliminary residential capacity results by local board area (part 1)

Capacity Type	Albert - Eden	Devonport - Takapuna	Franklin	Great Barrier	Henderson - Massey	Hibiscus and Bays	Howick	Kaipatiki	Mangere - Otahuhu	Manurewa	Maungakiekie - Tamaki
Current dwelling count (2011)	32,904	21,377	0	0	33,608	31,600	39,540	28,485	17,499	22,353	24,622
Vacant capacity (dwellings)	291	466	0	0	1,977	2,715	1,308	1,422	965	930	343
Infill capacity (dwellings)	1,259	869	0	0	5,378	2,186	2,689	2,045	2,349	2,413	2,622
Redevelopment capacity (dwellings)	4,714	2,769	0	0	15,871	6,848	8,784	4,798	5,561	6,998	7,023
Dwellings in business areas and centres (Business Redevelopment)	4,036	2,040	0	0	5,848	1,784	4,262	1,829	1,559	1,983	7,944
Pipeline/structure plan area capacity (dwellings)	0	0	0	0	2380	8421	10215	0	0	0	0
Total residential capacity (dwellings) utilising INFILL	5,586	3,375	0	0	15,583	15,106	18,474	5,296	4,873	5,326	10,909
Total residential capacity (dwellings) utilising REDEVELOPMENT	9,041	5,275	0	0	26,076	19,768	24,569	8,049	8,085	9,911	15,310

Table 10: Metropolitan Urban Area: Preliminary residential capacity results by local board area (part 2)

Capacity Type	Orakei	Otara - Papatoetoe	Papakura	Puketapapa	Rodney	Upper Harbour	Waiheke	Waitakere Ranges	Waitemata	Whau	Metropolitan Total
Current dwelling count (2011)	30,409	20,481	13,989	16,841	0	14,089	4,816	11,900	41,012	23,844	429,369
Vacant capacity (dwellings)	585	938	734	511	0	1,353	148	593	206	1,066	16,551
Infill capacity (dwellings)	2,190	2,800	1,525	1,871	0	964	76	1,538	507	2,543	35,824
Redevelopment capacity (dwellings)	6,261	7,654	4,613	5,100	0	3,358	482	3,323	1,840	7,628	103,625
Dwellings in business areas and centres (Business Redevelopment)	3,802	13,024	3,892	633	0	7,091	0	430	43,308	4,113	107,578
Pipeline/structure plan area capacity (dwellings)	1924	0	11480	2000	0	2855	0	152	0	2220	41,647
Total residential capacity (dwellings) utilising INFILL	8,501	16,762	17,631	5,015	0	12,263	224	2,713	44,021	9,942	201,600
Total residential capacity (dwellings) utilising REDEVELOPMENT	12,572	21,616	20,719	8,244	0	14,657	630	4,498	45,354	15,027	269,401

Table 11: Rural Towns: Preliminary residential capacity results by local board area (part 1)

Capacity Type	Albert - Eden	Devonport - Takapuna	Franklin	Great Barrier	Henderson - Massey	Hibiscus and Bays	Howick	Kaipatiki	Mangere - Otahuhu	Manurewa	Maungakiekie - Tamaki
Current dwelling count (2011)	0	0	14,677	460	0	442	0	0	0	0	0
Vacant capacity (dwellings)	0	0	3,303	580	0	187	0	0	0	0	0
Infill capacity (dwellings)	0	0	2,537	15	0	194	0	0	0	0	0
Redevelopment capacity (dwellings)	0	0	6,936	1,560	0	138	0	0	0	0	0
Dwellings in business areas and centres (Business Redevelopment)	0	0	6,936	1,560	0	138	0	0	0	0	0
Pipeline/structure plan area capacity (dwellings)	0	0	12844	0	0	0	0	0	0	0	0
Total residential capacity (dwellings) utilising INFILL	0	0	21,772	595	0	381	0	0	0	0	0
Total residential capacity (dwellings) utilising REDEVELOPMENT	0	0	26,171	2,140	0	325	0	0	0	0	0

Table 12: Rural Towns: Preliminary residential capacity results by local board area (part 2)

Capacity Type	Orakei	Otara - Papatoetoe	Papakura	Puketapapa	Rodney	Upper Harbour	Waiheke	Waitakere Ranges	Waitemata	Whau	Rural Total
Current dwelling count (2011)	0	0	0	0	10,341	727	77	1,345	0	0	28,069
Vacant capacity (dwellings)	0	0	0	0	2,389	58	3	26	0	0	6,546
Infill capacity (dwellings)	0	0	0	0	2,046	103	1	4	0	0	4,900
Redevelopment capacity (dwellings)	0	0	0	0	2,642	198	0	270	0	0	11,744
Dwellings in business areas and centres (Business Redevelopment)	0	0	0	0	4,339	37	0	0	0	0	7,464
Pipeline/structure plan area capacity (dwellings)	0	0	0	0	4593	0	0	0	0	0	17,437
Total residential capacity (dwellings) utilising INFILL	0	0	0	0	13,367	198	4	30	0	0	36,347
Total residential capacity (dwellings) utilising REDEVELOPMENT	0	0	0	0	13,963	293	3	296	0	0	43,191

Table 13: Metropolitan Urban Area: Preliminary business capacity results by local board area (part 1)

Capacity Type	Albert - Eden	Devonport - Takapuna	Franklin	Great Barrier	Henderson - Massey	Hibiscus and Bays	Howick	Kaipatiki	Mangere - Otahuhu	Manurewa	Maungakiekie - Tamaki
Total Business Zoned Land (2012) (ha)	158.8	78.3	0.0	0.0	392.1	163.5	738.7	245.4	675.1	640.1	1,166.5
Business Vacant land (ha)	5.6	4.5	0.0	0.0	30.1	18.8	52.1	14.2	103.1	74.1	73.6
Business Vacant Potential Land (ha)	8.3	12.1	0.0	0.0	91.4	50.8	83.8	26.9	184.1	113.1	179.1
Pipeline/Structure Plan Area Capacity (ha)	0.0	0.0	0.0	0.0	85.0	155.9	32.1	0.0	301.4	0.0	0.0
Business Land Capacity (ha)	13.9	16.6	0.0	0.0	206.5	225.5	168.0	41.1	588.5	187.2	252.7

Table 14: Metropolitan Urban Area: Preliminary business capacity results by local board area (part 2)

Capacity Type	Orakei	Otara - Papatoetoe	Papakura	Puketapapa	Rodney	Upper Harbour	Waiheke	Waitakere Ranges	Waitemata	Whau	Metropolitan Total
Total Business Zoned Land (2012) (ha)	154.7	626.3	326.9	98.1	0.0	466.7	36.7	39.5	372.3	309.9	6,689.6
Business Vacant land (ha)	12.0	48.6	45.6	7.1	0.0	87.7	6.0	4.5	26.7	25.9	640.1
Business Vacant Potential Land (ha)	5.6	118.7	121.0	5.4	0.0	82.4	13.7	10.2	15.8	39.3	1,161.5
Pipeline/Structure Plan Area Capacity (ha)	2.7	200.0	0.0	15.2	0.0	78.0	0.0	0.0	0.0	-15.0	855.2
Business Land Capacity (ha)	20.3	367.3	166.6	27.6	0.0	248.1	19.6	14.8	42.5	50.1	2,656.8

Table 15: Rural Towns: Preliminary business capacity results by local board area (part 1)

Capacity Type	Albert - Eden	Devonport - Takapuna	Franklin	Great Barrier	Henderson - Massey	Hibiscus and Bays	Howick	Kaipatiki	Mangere - Otahuhu	Manurewa	Maungakiekie - Tamaki
Total Business Zoned Land (2012) (ha)	0.0	0.0	199.0	41.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Business Vacant land (ha)	0.0	0.0	33.5	38.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Business Vacant Potential Land (ha)	0.0	0.0	60.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pipeline/Structure Plan Area Capacity (ha)	0.0	0.0	254.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Business Land Capacity (ha)	0.0	0.0	348.5	40.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 16: Rural Towns: Preliminary business capacity results by local board area (part 2)

Capacity Type	Orakei	Otara - Papatoetoe	Papakura	Puketapapa	Rodney	Upper Harbour	Waiheke	Waitakere Ranges	Waitemata	Whau	Rural Towns Total
Total Business Zoned Land (2012) (ha)	0.0	0.0	0.0	0.0	174.7	0.7	0.0	15.8	0.0	0.0	432.0
Business Vacant land (ha)	0.0	0.0	0.0	0.0	31.8	0.0	0.0	12.1	0.0	0.0	115.8
Business Vacant Potential Land (ha)	0.0	0.0	0.0	0.0	64.8	0.0	0.0	3.1	0.0	0.0	130.5
Pipeline/Structure Plan Area Capacity (ha)	0.0	0.0	0.0	0.0	102.3	0.0	0.0	0.0	0.0	0.0	356.7
Business Land Capacity (ha)	0.0	0.0	0.0	0.0	198.9	0.0	0.0	15.3	0.0	0.0	602.9

Table 17: Rural Residential: Preliminary rural residential capacity results by local board area (part 1)

Capacity Type	Albert - Eden	Devonport - Takapuna	Franklin	Great Barrier	Henderson - Massey	Hibiscus and Bays	Howick	Kaipatiki	Mangere - Otahuhu	Manurewa	Maungakiekie - Tamaki
Current dwelling count (2011)	0	0	8,485	289	141	679	526	0	82	209	0
Capacity from vacant sites (dwellings)	0	0	3,606	515	48	324	377	0	36	38	0
Capacity from occupied sites (dwellings)	0	0	1,618	26	33	324	184	0	0	43	0
Pipeline/Structure Plan Area Capacity (dwellings)	0	0	0	0	0	0	0	0	0	0	0
Rural Residential Capacity (dwellings)	0	0	5,224	541	81	648	561	0	36	81	0

Table 18: Rural Residential: Preliminary rural residential capacity results by local board area (part 2)

Capacity Type	Orakei	Otara - Papatoetoe	Papakura	Puketapapa	Rodney	Upper Harbour	Waiheke	Waitakere Ranges	Waitemata	Whau	Rural Towns Total
Current dwelling count (2011)	0	26	510	0	11,821	904	365	3,538	0	0	27,575
Capacity from vacant sites (dwellings)	0	4	62	0	9,556	256	555	1,024	0	8	16,409
Capacity from occupied sites (dwellings)	0	1	25	0	5,742	66	34	465	0	4	8,565
Pipeline/Structure Plan Area Capacity (dwellings)	0	0	0	0	41	0	62	338	0	0	441
Rural Residential Capacity (dwellings)	0	5	87	0	15,339	322	651	1,827	0	12	25,415

Table 19: Total Auckland region preliminary capacity results by local board area (part 1)

Capacity Type	Albert - Eden	Devonport - Takapuna	Franklin	Great Barrier	Henderson - Massey	Hibiscus and Bays	Howick	Kaipatiki	Mangere - Otahuhu	Manurewa	Maungakiekie - Tamaki
Current dwelling count (2011)	32,904	21,377	23,162	749	33,749	32,721	40,066	28,485	17,581	22,562	24,622
Total residential capacity (dwellings) utilising INFILL	5,586	3,375	26,996	1,136	15,664	16,135	19,035	5,296	4,909	5,407	10,909
Total residential capacity (dwellings) utilising REDEVELOPMENT	9,041	5,275	31,395	2,681	26,157	20,741	25,130	8,049	8,121	9,992	15,310
Total Business Zoned Land (2012) (ha)	159	78	199	41	392	164	739	245	675	640	1,167
Total business capacity	14	17	348	40	206	226	168	41	589	187	253

Table 20: Total Auckland region preliminary capacity results by local board area (part 2)

Capacity Type	Orakei	Otara - Papatoetoe	Papakura	Puketapapa	Rodney	Upper Harbour	Waiheke	Waitakere Ranges	Waitemata	Whau	Auckland Region Total
Current dwelling count (2011)	30,409	20,507	14,499	16,841	22,162	15,720	5,258	16,783	41,012	23,844	485,013
Total residential capacity (dwellings) utilising INFILL	8,501	16,767	17,718	5,015	28,706	12,783	879	4,570	44,021	9,954	263,362
Total residential capacity (dwellings) utilising REDEVELOPMENT	12,572	21,621	20,806	8,244	29,302	15,272	1,284	6,621	45,354	15,039	338,007
Total Business Zoned Land (2012) (ha)	155	626	327	98	175	467	37	55	372	310	7,122
Total business capacity (ha)	20	367	167	28	199	248	20	30	42	50	3,260

Table 21: Preliminary business redevelopment capacity (modified scenario) by local board area (part 1)

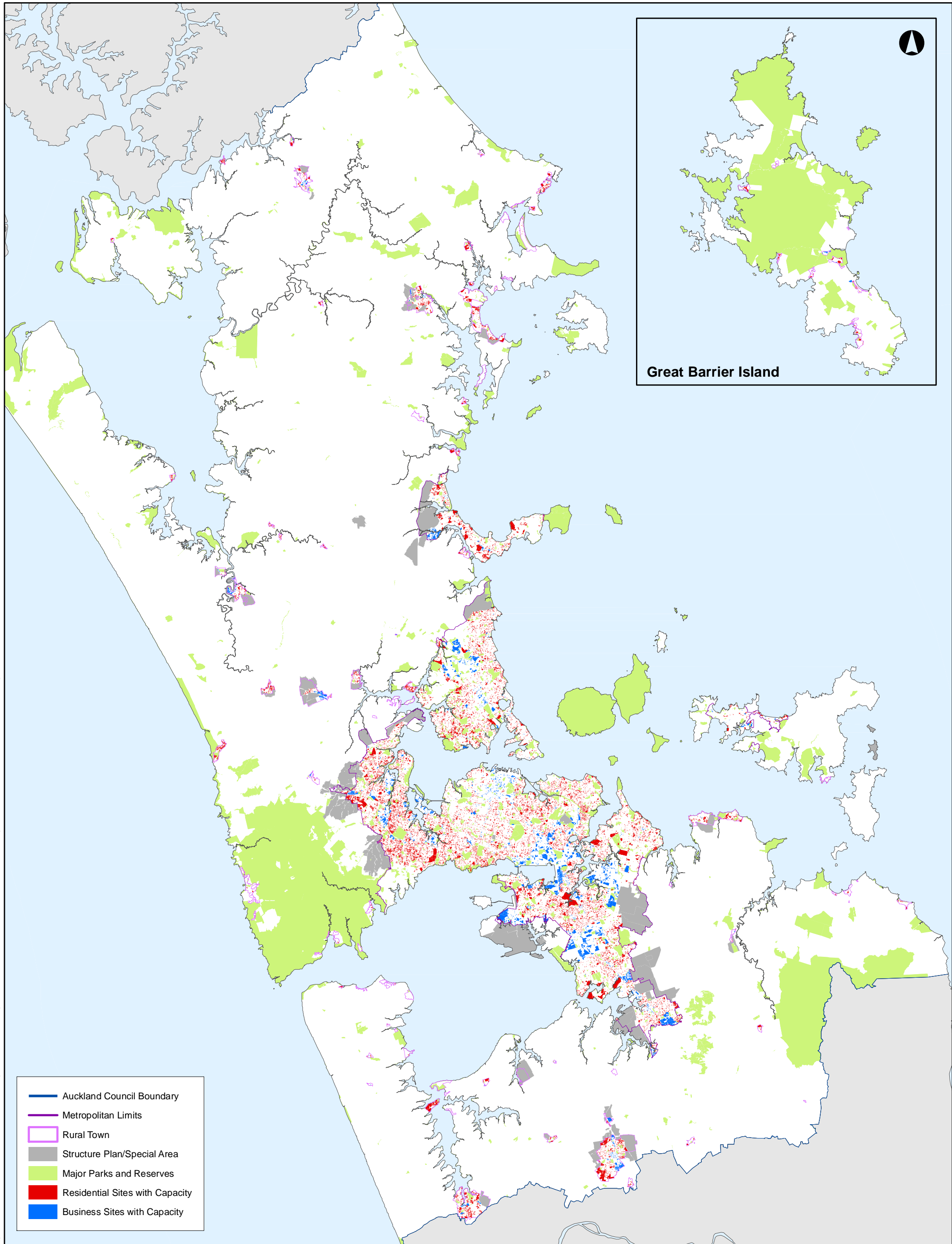
Capacity Type	Albert - Eden	Devonport - Takapuna	Franklin	Great Barrier	Henderson - Massey	Hibiscus and Bays	Howick	Kaipatiki	Mangere - Otahuhu	Manurewa	Maungakiekie - Tamaki
Current Total Floor Space (2011) (m ²)	1,082,005	454,807	450,473	0	1,185,686	442,775	2,273,822	1,034,257	2,007,857	1,173,825	4,670,080
Current Business Floor Space (2011) (m ²)	885,511	388,273	441,347	0	1,131,088	413,682	2,260,553	1,014,307	1,962,300	1,170,218	4,509,061
Current Estimated Employees (2011)	22,117	18,656	8,312	0	19,975	7,071	31,409	7,678	30,990	12,513	72,225
Current Residential Floor Space (2011) (m ²)	19,6494	66,534	9,126	0	54,598	29,093	13,269	19,950	45,557	3,607	161,019
Current Dwellings (2011)	2,100	574	151	0	665	600	86	216	413	36	1,640
Total Floor Space Capacity (m ²)	1,499,437	647,973	2,058,820	0	3,000,891	862,371	2,183,682	755,908	1,414,133	1,955,439	8,024,551
Business Floor Space Capacity (m ²)	1,150,726	370,059	1,700,088	0	2,225,528	666,778	1,636,006	557,667	1,303,768	1,735,364	7,248,053
Total Estimated Employee Capacity	24,795	15,162	24,014	0	49,644	10,731	25,732	14,493	13,302	20,452	107,668
Residential Floor Space Capacity (m ²)	460,758	277,915	360,808	0	805,896	195,593	549,295	200,233	170,361	220,356	880,125
Total Dwelling Capacity (on Business Land)	4,036	2,040	3,088	0	5,848	1,784	4,262	1,829	1,559	1,983	7,944

Table 22: Preliminary business redevelopment capacity (modified scenario) by local board area (part 2)

Capacity Type	Orakei	Otara - Papatoetoe	Papakura	Puketapapa	Rodney	Upper Harbour	Waiheke	Waitakere Ranges	Waitemata	Whau	Auckland Region Total
Current Total Floor Space (2011) (m ²)	317,369	1,561,676	735,270	416,438	233,319	1,404,865	0	124,093	6,498,883	1,275,522	27,343,023
Current Business Floor Space (2011) (m ²)	314,140	1,523,697	731,610	395,391	225,686	1,368,386	0	108,470	4,927,530	1,251,001	25,022,252
Current Estimated Employees (2011)	5,367	28,415	9,265	5,287	4,048	32,682	0	1,632	128,956	16,998	463,596
Current Residential Floor Space (2011) (m ²)	3,229	37,979	3,660	21,047	7,633	36,479	0	15,623	1,571,353	24,521	2,320,771
Current Dwellings (2011)	36	665	78	240	133	341	0	180	25,072	309	33,535
Total Floor Space Capacity (m ²)	1,115,718	5,811,271	1,820,386	608,226	1,368,483	3,277,761	0	146,653	6,940,787	1,497,089	44,989,578
Business Floor Space Capacity (m ²)	694,716	3,953,243	1,284,562	547,416	861,357	2,203,590	0	106,517	3,593,809	907,407	32,746,653
Total Estimated Employee Capacity	9,570	75,430	17,661	7,492	11,794	89,207	0	1,468	91,934	17,519	628,068
Residential Floor Space Capacity (m ²)	421,002	1,864,490	536,409	71,917	507,873	1,088,771	0	47,828	3,509,005	593,375	12,762,012
Total Dwelling Capacity (on Business Land)	3,802	13,024	3,892	633	4,339	7,128	0	430	43,308	4,113	115,042

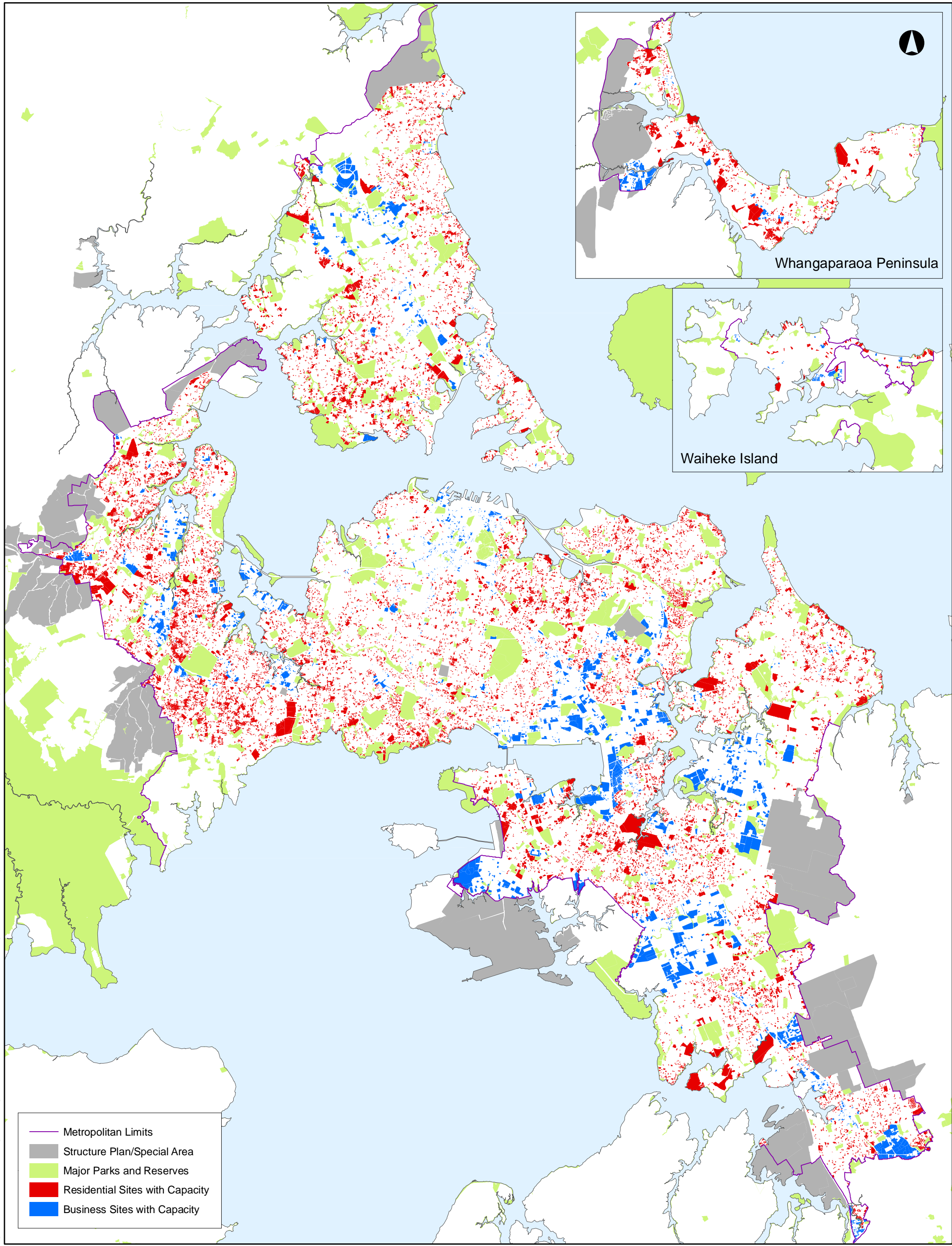
11.0 Appendix B: Maps of results

Please note in order to keep this working report concise no maps included in this appendix that apply specifically to rural towns. If maps for capacity results in rural towns are of interest please contact the Research, Investigations and Monitoring Unit.



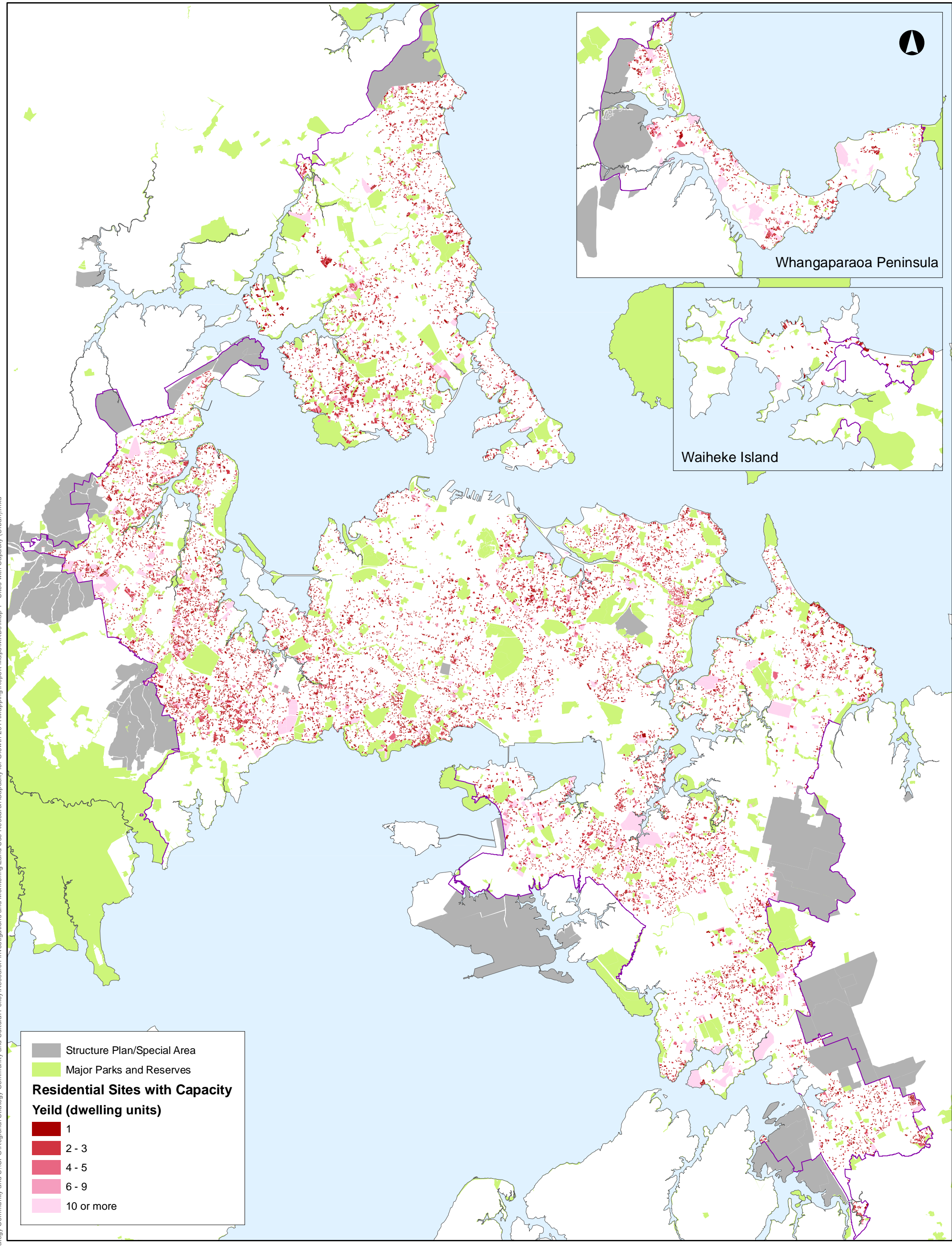
Map 1A: Sites Identified as Having Capacity (Urban Area and Rural Towns, Residential and Business). Preliminary Results (model run 1.1.0)





Map 1B: Sites Identified as Having Capacity (Urban Area, Residential and Business). Preliminary Results (model run 1.1.0)

CraigF_24/10/2012 U:\CPO\Regional Strategy, Community and Cultural Policy\Research, Investigations and Monitoring\Land Use Research\Capacity for Growth 2011\Maping\Report Maps\MXD\Map 1 - Sites with Capacity (Urban).mxd



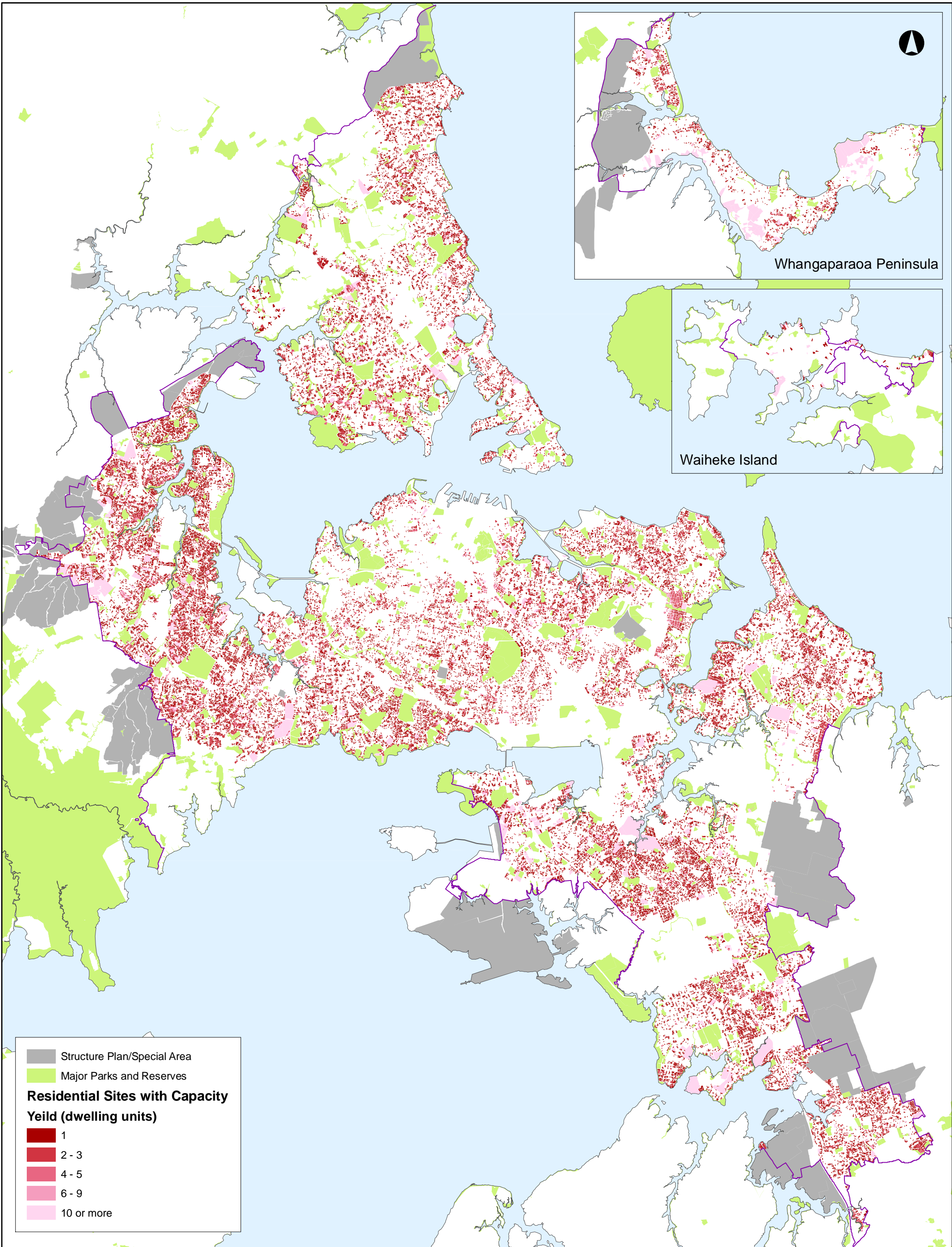
Map 2A: Residential Capacity - Vacant and Infill Yields (Urban Area). Preliminary Results (model run 1.1.0)



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CraigF_24/10/2012 U:\ICPO\Regional Strategy\Community and Cultural Policy\Research Investigations and Monitoring\Land Use Research\Capacity for Growth 2011\Mapping\Report Maps\MXD\Map 3A - Residential Capacity (Vacant and Redevelopment) Yield (Urban).mxd

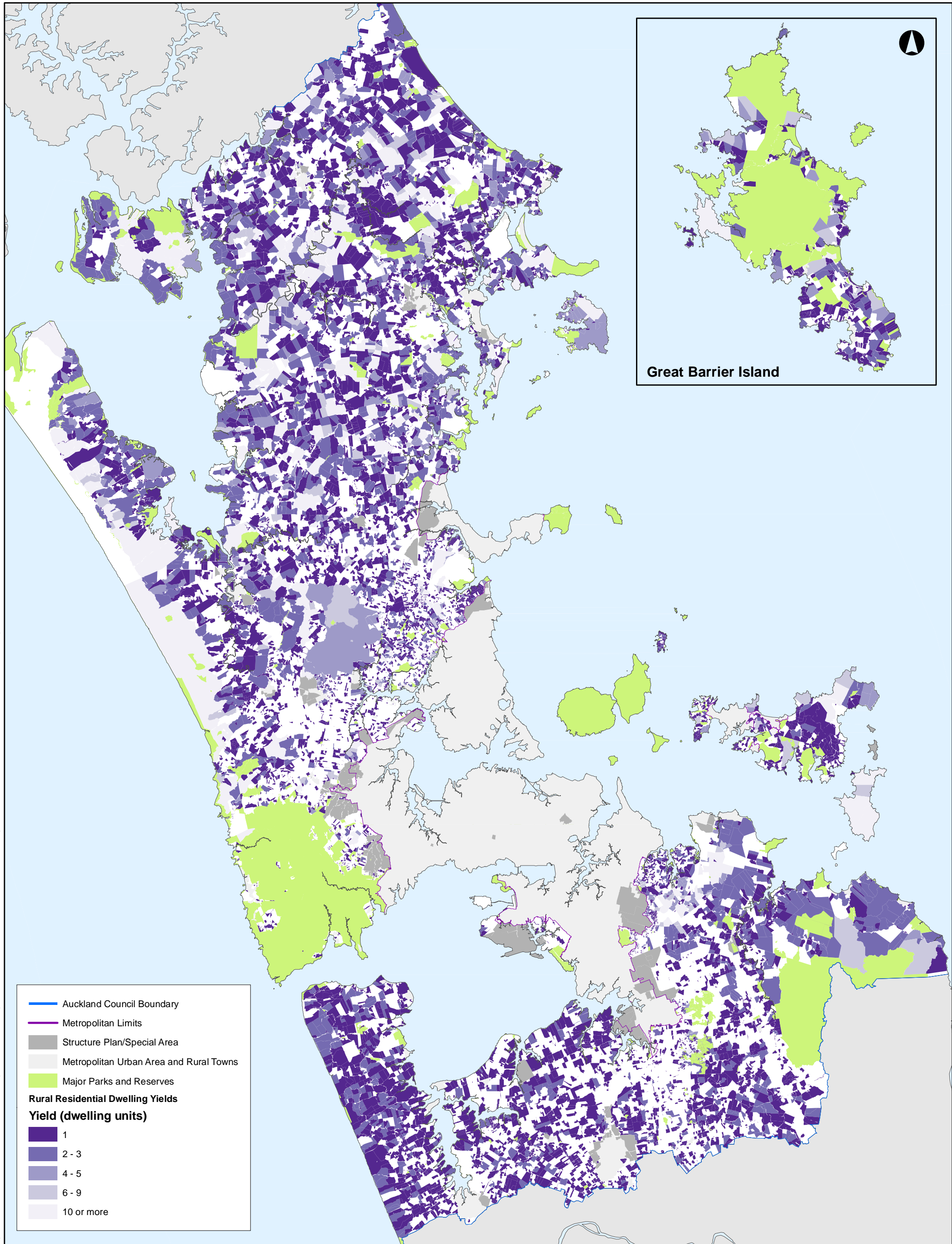


Map 3A: Residential Capacity - Vacant and Redevelopment Yields (Urban Area). Preliminary Results (model run 1.1.0)



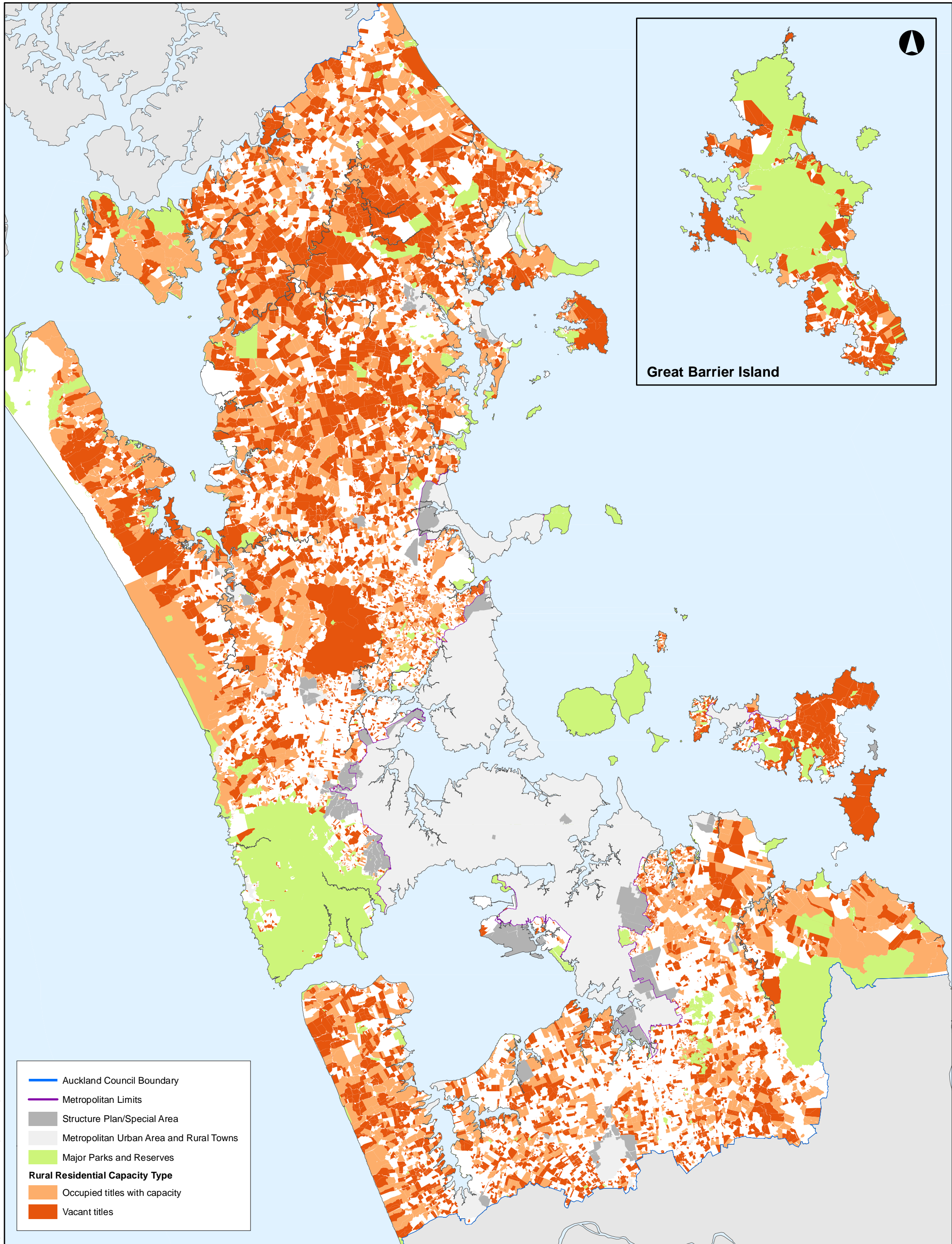
Capacity for Growth Study 2012

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Map 4: Rural Residential Capacity - Yields.
Preliminary Results (model run 1.1.0)

CraigF_26/10/2012 U:\CPO\Regional Strategy\Community and Cultural Policy\Research Investigations and Monitoring\Land Use Research\Capacity for Growth 2011\Mapping\Report Maps\MXD\Map 5 - Residential Capacity (Rural) by type (Region).mxd

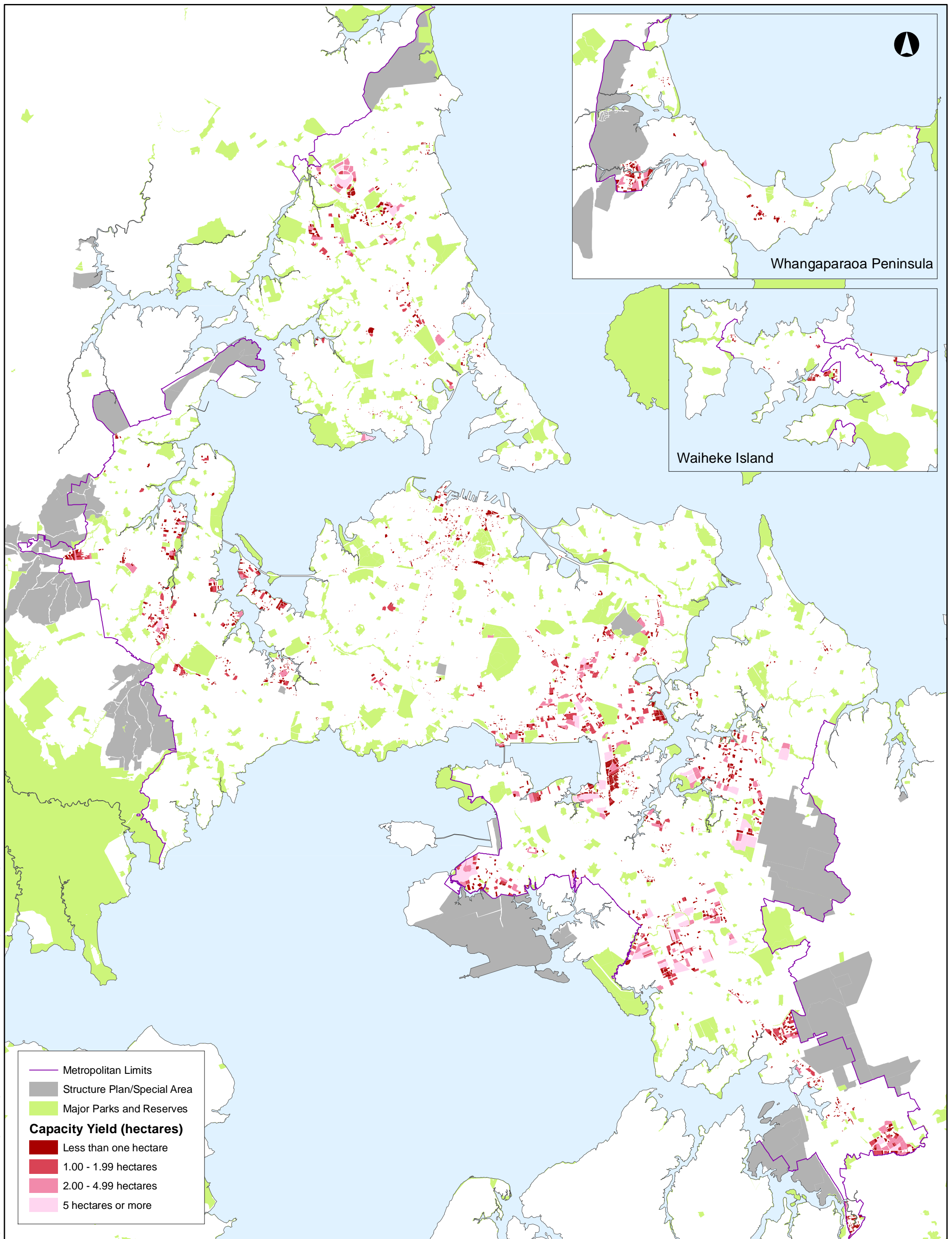


Map 5: Rural Residential Capacity by Type
Preliminary Results (model run 1.1.0)

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Map 6: Business Capacity - Vacant and Vacant Potential Yields. Preliminary Results (model run 1.1.0)

Capacity for Growth Study 2012



12.0 Appendix C: Preliminary results compared to Auckland Plan Development Strategy anticipated dwelling growth (high projection, 70:40)

Table 23: Preliminary capacity results compared to The Auckland Plan Development Strategy anticipated dwelling growth (by Auckland Council local boards) (part 1)

Capacity Type	Albert - Eden	Devonport - Takapuna	Franklin	Great Barrier	Henderson - Massey	Hibiscus and Bays	Howick	Kaipatiki	Mangere - Otahuhu	Manurewa	Maungakiekie - Tamaki
Current dwellings (2011)	32,904	21,394	8,485	289	33,955	32,505	40,234	28,526	18,170	22,749	24,875
Total residential capacity (dwellings) utilising INFILL	5,586	3,375	26,996	1,136	15,664	16,135	19,035	5,296	4,909	5,407	10,909
Total residential capacity (dwellings) utilising REDEVELOPMENT	9,041	5,275	28,092	2,101	26,157	20,554	25,130	8,049	8,121	9,992	15,310
Auckland Plan Target (Additional dwellings required at 2041, high projection, 70:40 scenario)	29,684	14806	58397	58	28843	22817	20682	9059	12143	8150	26519
Difference between Capacity and Auckland Plan Target utilising INFILL	-24,098	-11,431	-31,401	1,078	-13,179	-6,682	-1,647	-3,763	-7,234	-2,743	-15,610
Difference between Capacity and Auckland Plan Target utilising REDEVELOPMENT	-20,643	-9,531	-30,305	2,043	-2,686	-2,263	4,448	-1,010	-4,022	1,842	-11,209

Table 24: Preliminary capacity results compared to The Auckland Plan Development Strategy anticipated dwelling growth (by Auckland Council local boards) (part 2)

Capacity Type	Orakei	Otara - Papatoetoe	Papakura	Puketapapa	Rodney	Upper Harbour	Waiheke	Waitakere Ranges	Waitemata	Whau	Auckland Region Total
Current dwellings (2011)	30,429	20,874	14,666	16,869	11,821	15,241	5,201	15,453	41,054	23,894	459,588
Total residential capacity (dwellings) utilising INFILL	8,501	16,767	17,718	5,015	28,706	12,783	879	4,570	44,021	9,954	263,362
Total residential capacity (dwellings) utilising REDEVELOPMENT	12,572	21,621	20,806	8,244	26,913	15,214	1,281	6,595	45,354	15,039	331,461
Auckland Plan Target (Additional dwellings required at 2041, high projection, 70:40 scenario)	21880	12299	16689	12739	45169	25376	1305	7564	44171	15885	434235
Difference between Capacity and Auckland Plan Target utilising INFILL	-13,379	4,468	1,029	-7,724	-16,463	-12,593	-426	-2,994	-150	-5,931	-170,873
Difference between Capacity and Auckland Plan Target utilising REDEVELOPMENT	-9,308	9,322	4,117	-4,495	-18,256	-10,162	-24	-969	1,183	-846	-102,774

13.0 Appendix E: Table of structure plans and special areas

Table 25: Capacity for Growth Study 2012 Special Area and Structure Plans

Special Area Name	Local Board	Location Type	APIU 'G' Classification	Assumed Start Date	Current Dwelling Count (2011)	Reported Maximum Dwelling Capacity	Reported Dwelling Yield	Current Zoned Business Land (ha)	Reported Maximum Business Land Provision (ha)	Reported Business Land Yield (ha)
Auckland International Airport	Otara - Papatoetoe	Urban	G1	2012	8	0	0	0.0	200.0	200.0
Beachlands Village – New Avenues	Franklin	Rural Town	G2	2014	4	750	746	0.0	0.0	0.0
Birdwood Structure Plan	Waitakere Ranges	Rural	CSL	2012	60	121	61	0.0	0.0	0.0
Clevedon Village	Franklin	Rural Town	G2	2020	8	566	558	0.0	0.0	0.0
Flat Bush (Stage 1)	Howick	Urban	G1	2012	3207	6330	3123	2.1	25.0	27.1
Flat Bush (Stage 2)	Howick	Urban	G2	2014	36	5600	5564	0.0	4.0	4.0
Flat Bush (Stage 3)	Howick	Urban	G3	2018	22	1550	1528	0.0	1.0	1.0
Hatfields Beach	Hibiscus and Bays	Urban	G1	2012	0	60	60	0.0	0.0	0.0
Helensville	Rodney	Rural Town	G3	2020	24	1000	976	0.0	14.0	14.0
Hibiscus Gateway	Hibiscus and Bays	Urban	G2	2015	9	0	0	0.0	45.0	45.0
Hingaia (Stage 1A)	Papakura	Urban	G1	2012	289	1400	1111	0.0	0.0	0.0
Hingaia (Stage 1B)	Papakura	Urban	G2	2012	100	765	665	0.0	0.0	0.0
Hingaia (Stage 2 - Town Centre)	Papakura	Urban	G3	2020	2	200	198	0.0	0.0	0.0
Hingaia (Stage 2)	Papakura	Urban	G3	2020	45	1295	1250	0.0	0.0	0.0
Hobsonville Corridor	Upper Harbour	Urban	G2	2014	8	0	0	0.0	30.0	30.0
Hobsonville Peninsula	Upper Harbour	Urban	G1	2012	497	2740	2243	0.0	20.0	20.0
Hobsonville Peninsula Future Development Special Area	Upper Harbour	Urban	G1	2018	0	440	440	0.0	0.0	0.0
Hobsonville Village	Upper Harbour	Urban	G2	2012	8	180	172	0.0	28.0	28.0
Huapai North	Rodney	Rural Town	G2	2016	76	237	161	0.0	0.0	0.0
Huapai South (Business)	Rodney	Rural Town	G2	2014	10	0	0	0.0	53.0	53.0
Huapai South (Residential)	Rodney	Rural Town	G3	2014	43	0	0	0.0	0.0	0.0
Kellys Cove	Franklin	Rural Town	G3	2012	177	420	243	0.0	0.0	0.0
Kingseat	Franklin	Rural Town	G2	2020	82	1479	1397	0.6	0.0	0.6
Long Bay	Hibiscus and Bays	Urban	G1(a)	2013	111	2764	2653	0.0	0.0	0.0
Mangere Gateway Heritage Area	Mangere - Otahuhu	Urban	G2	2015	32	0	0	85.4	216.0	301.4
Massey North	Henderson - Massey	Urban	G1(a)	2012	20	2400	2380	0.0	85.0	85.0
Oratia Structure Plan	Waitakere Ranges	Rural	CSL	2012	353	567	214	0.0	0.0	0.0
Orewa West	Hibiscus and Bays	Urban	G2	2013	11	3270	3259	0.0	0.0	0.0
Paerata	Franklin	Rural Town	G3	2016	4	0	0	0.0	70.0	70.0
Patumahoe	Franklin	Rural Town	G2	2018	10	170	160	0.0	0.0	0.0
Penihana	Waitakere Ranges	Urban	G2	2012	3	155	152	0.0	0.0	0.0
Pukekohe	Franklin	Rural Town	G3	2016	18	1714	1696	0.0	0.0	0.0
Pukekohe A	Franklin	Rural Town	G3	2016	8	0	0	0.0	0.0	0.0
Pukekohe D (Belmont)	Franklin	Rural Town	G2	2016	16	720	704	0.0	0.0	0.0
Pukekohe F	Franklin	Rural Town	G3	2016	0	1714	1714	0.0	0.0	0.0
Pukekohe North East	Franklin	Rural Town	G3	2016	309	5760	5451	1.3	0.0	1.3

Special Area Name	Local Board	Location Type	APIU 'G' Classification	Assumed Start Date	Current Dwelling Count (2011)	Reported Maximum Dwelling Capacity	Reported Dwelling Yield	Current Zoned Business Land (ha)	Reported Maximum Business Land Provision (ha)	Reported Business Land Yield (ha)
Riverhead North	Rodney	Rural Town	G1	2012	14	137	123	0.0	0.0	0.0
Riverhead South	Rodney	Rural Town	G1	2012	14	574	560	0.0	0.0	0.0
Rural Hamlet Conservation Subdivision RDC Appx7H	Rodney	Rural	G2	2020	3	44	41	0.0	0.0	0.0
Silverdale North (Special 19)	Hibiscus and Bays	Urban	G1(a)	2012	431	2880	2449	12.9	90.0	102.9
Silverdale South	Hibiscus and Bays	Urban	G2	2012	1	0	0	0.0	8.0	8.0
Silverdale West	Rodney	Urban	G2	2020	28	0	0	0.0	0.0	0.0
Snells/Algies	Rodney	Rural Town	G1(a)	2018	18	1000	982	0.0	0.0	0.0
Stonefields (Mt Wellington Quarry)	Orakei	Urban	G1	2012	576	2500	1924	2.7	0.0	2.7
Swanson Structure Plan	Waitakere Ranges	Rural	CSL	2013	295	358	63	3.0	0.0	3.0
Takanini (Stage 2A)	Papakura	Urban	G1	2012	0	3443	3443	0.0	0.0	0.0
Takanini (Stage 2B)	Papakura	Urban	G1	2012	8	2336	2328	0.0	0.0	0.0
Takanini (Stage 2C)	Papakura	Urban	G1	2012	0	0	0	0.0	0.0	0.0
Takanini (Stage 3)	Papakura	Urban	G1	2012	0	0	0	0.0	0.0	0.0
Takanini (Stages 1A and 1B)	Papakura	Urban	G1	2012	217	2287	2070	0.0	0.0	0.0
Takanini (Stages 6A and 6B)	Papakura	Urban	G2	2012	35	450	415	0.0	0.0	0.0
Three Kings Quarry	Puketapapa	Urban	G3	2020	0	2000	2000	15.2	0.0	15.2
Vuksich and Borich (Clay Pits)	Whau	Urban	G2	2015	0	2220	2220	0.0	-15.0	-15.0
Waimauku	Rodney	Rural Town	G1(a)	2012	13	291	278	0.0	0.0	0.0
Waiuku Plan Change 14 (Business)	Franklin	Rural Town	G1	2012	13	0	0	102.5	0.0	102.5
Waiuku Plan Change 14 (Residential)	Franklin	Rural Town	G1	2012	6	80	74	0.0	80.0	80.0
Warkworth A	Rodney	Rural Town	G3	2020	1	0	0	0.0	0.0	0.0
Warkworth B	Rodney	Rural Town	G3	2020	6	700	694	0.2	0.0	0.2
Warkworth B (B)	Rodney	Rural Town	G3	2020	0	0	0	8.4	0.0	8.4
Warkworth C	Rodney	Rural Town	G3	2020	14	0	0	0.0	0.0	0.0
Warkworth C (B)	Rodney	Rural Town	G3	2020	0	0	0	26.6	0.0	26.6
Warkworth F	Rodney	Rural Town	G3	2016	1	820	819	0.0	0.0	0.0
Warkworth G	Rodney	Rural Town	G3	2016	9	0	0	0.0	0.0	0.0
Warkworth H	Rodney	Rural Town	G3	2016	34	0	0	0.0	0.0	0.0
Warkworth I	Rodney	Rural Town	G3	2016	6	0	0	0.0	0.0	0.0
Whitford Village	Franklin	Rural Town	G2	2015	4	105	101	0.0	0.0	0.0
Pakatoa	Waiheke	Rural	CSL	2015	0	50	50	0.0	0.0	0.0
Rotoroa	Waiheke	Rural	CSL	2015	0	12	12	0.0	0.0	0.0

14.0 Appendix D: List of residential zones and assumptions

Table 26: Zoning list and assumptions for residential zones: Auckland City Isthmus District Plan

Zone name	Zone description	Zone type	Parcel area minimum qualifier	Parcel area minimum infill	Parcel area minimum vacant potential	Access width minimum	Building setback minimum
Residential 1	Built (Victorian/Edwardian)	Residential	800	400	400	3	1.2
Residential 4	Flora Dominant	Residential	8000	4000	4000	3	1.2
Residential 5	Low Intensity	Residential	1000	500	500	3	1.2
Residential 2a	Low Density Built/Flora (Garden Suburbs)	Residential	2000	1000	1000	3	1.2
Residential 2b	Higher Density Built/Flora (Garden Suburbs)	Residential	1200	600	600	3	1.2
Residential 2c	Low Density Built/Flora (Garden Suburbs)	Residential	2000	1000	1000	3	1.2
Residential 3a	Built/Landform (Mt Eden)	Residential	800	400	400	3	1.2
Residential 3b	Built/Landform (others)	Residential	1200	600	600	3	1.2
Residential 6a	Medium Intensity (1 per 375m2)	Residential	750	375	400	3	0
Residential 6b	Medium Intensity (1 per 300m2)	Residential	600	300	400	3	0
Residential 7a	High Intensity (3-4 Level)	Residential	400	200	400	3	0
Residential 7b	High Intensity (3-4 Level)	Residential	400	200	400	3	0
Residential 7c	High Intensity (4 level +)	Residential	400	200	400	3	0
Residential 8a	Strategic Growth Management Areas (10 min walk of TC or Transport Node, Max 3 levels)	Residential	300	150	400	3	0
Residential 8b	Strategic Growth Management Areas (5 min walk of TC or Transport Node, Max 4 Levels)	Residential	200	100	400	3	0
Residential 8c	Strategic Growth Management Areas (<2km of CDB, Apartments, 40m2 min floor area per DU, max 5 levels)	Residential	80	40	400	3	0

Table 27: Zoning list and assumptions for residential zones: Auckland City Hauraki Gulf Islands District Plan

Zone name	Zone description	Zone type	Parcel area minimum qualifier	Parcel area minimum infill	Parcel area minimum vacant potential	Access width minimum	Building setback minimum
Island Residential 1	Traditional Residential	Residential	4000	2000	2000	2.5	1.5
Island Residential 2	Bush Residential	Residential	4000	2000	2000	2.5	1.5
Tryphena Headland Protection	GBI Settlement Area	Residential	14000	7000	7000	2.5	3
Tryphena Residential	GBI Settlement Area	Residential	4000	2000	2000	2.5	3
Medlands Residential	GBI Settlement Area	Residential	4000	2000	2000	2.5	3
Claris Residential	GBI Settlement Area	Residential	3000	1500	1500	2.5	3
Okupu Residential	GBI Settlement Area	Residential	4000	2000	2000	2.5	3
Whangaparapara Residential	GBI Settlement Area	Residential	4000	2000	2000	2.5	3
Awana Residential	GBI Settlement Area	Residential	4000	2000	2000	2.5	3
Okiwi Residential	GBI Settlement Area	Residential	8000	4000	4000	2.5	3
Port Fitzroy Residential	GBI Settlement Area	Residential	14000	7000	7000	2.5	3

Table 28: Zoning list and assumptions for residential zones: Franklin District Plan

Zone name	Zone description	Zone type	Parcel area minimum qualifier	Parcel area minimum infill	Parcel area minimum vacant potential	Access width minimum	Building setback minimum
Residential		Residential	1000	425	300	3	1.5
Residential 2		Residential	1000	500	500	3	2.0
Rural-Residential		Residential	6000	3000	3000	3	3.0
Village (Reticulated)		Residential	1600	800	800	3	2.0
Village (Unreticulated)		Residential	5000	2500	2500	3	2.0
Village Growth Area A		Residential	20000	10000	10000	3	1.5
Village Growth Area B		Residential	10000	5000	5000	3	10.0
Village Growth Area C (Reticulated)		Residential	1600	800	800	3	1.5
Village Growth Area C (Unreticulated)		Residential	5000	2500	2500	3	1.5
Village Growth Area D		Residential	5000	2500	2500	3	10.0
Village Growth Area E		Residential	10000	5000	5000	3	1.5

Table 29: Zoning list and assumptions for residential zones: Manukau District Plan

Zone name	Zone description	Zone type	Parcel area minimum qualifier	Parcel area minimum infill	Parcel area minimum vacant potential	Access width minimum	Building setback minimum
Integrated Intensive Housing		Residential	400	400	300	0	0
Main Residential	Standard residential zone	Residential	800	400	300	2.7	1.5
Residential Heritage 1	Built Form (Rosella Rd, Mangere)	Residential	1000	500	500	2.7	3
Residential Heritage 2	Built Form (Teo and Tiro Lanes, Mangere)	Residential	800	400	400	2.7	3
Residential Heritage 3	Built Form (Station Rd, Papatoetoe)	Residential	1400	700	700	2.7	5
Residential Heritage 4	Flora	Residential	1500	750	750	2.7	3
Residential Heritage 6	Traditional Suburban (Mangere Bridge)	Residential	1200	600	600	2.7	2.5
Residential Heritage 7	Traditional Suburban (Eastern Howick)	Residential	1400	700	700	2.7	3
Residential Heritage 8	Traditional Suburban (Hill Rd, Manurewa)	Residential	1500	750	750	2.7	3
Residential Settlement Serviced	Rural Settlements	Residential	1400	700	700	2.7	2
Residential Settlement Unserviced	Rural Settlements	Residential	3000	1500	1500	2.7	2
Main Residential Special Policy Area 1		Residential	2400	1200	1200	2.7	3
Main Residential Special Policy Area 2		Residential	1500	750	750	2.7	3

Table 30: Zoning list and assumptions for residential zones: North Shore District Plan

Zone name	Zone description	Zone type	Parcel area minimum qualifier	Parcel area minimum infill	Parcel area minimum vacant potential	Access width minimum	Building setback minimum
Residential 1	Semi Rural communities	Residential	2400	1200	1200	3	3
Residential 2A	Natural Heritage Protection	Residential	1600	800	800	3	3
Residential 2A1	Good Quality Bush	Residential	10000	5000	5000	3	3
Residential 2B	Larger sites with trees or Coast	Residential	1200	600	600	3	3
Residential 2C	Eadys Bush	Residential	700	350	350	3	3
Residential 3A	Built Heritage	Residential	900	450	450	3	2.1
Residential 3B	Built Heritage	Residential	1000	500	500	3	2.1
Residential 3C	Built Heritage	Residential	1200	600	600	3	2.1
Residential 4A	Main Residential Area	Residential	900	450	450	3	2.1
Residential 4B	Main Residential Area	Residential	900	450	450	3	2.1
Residential 5	New Development	Residential	700	350	350	3	1.2
Residential 6A	Intensive Housing	Residential	700	350	350	3	2.1
Residential 6A1	Intensive Housing	Residential	700	350	350	3	2.1
Residential 6B1	Intensive Housing	Residential	800	400	400	3	2.1
Residential 6C	Intensive Housing	Residential	500	250	250	3	2.1
Residential 6C1	Intensive Housing	Residential	500	250	250	3	2.1

Table 31: Zoning list and assumptions for residential zones: Papakura District Plan

Zone name	Zone description	Zone type	Parcel area minimum qualifier	Parcel area minimum infill	Parcel area minimum vacant potential	Access width minimum	Building setback minimum
Residential 1	Standard Residential	Residential	800	400	400	3	1.2
Residential 2	Intensive Residential	Residential	700	350	350	3	1.5
Residential 3	Keri Hill Geotech Zone	Residential	700	350	350	3	1.5
Residential 3 / Residential 1	Keri Hill Geotech Zone	Residential	700	350	350	3	1.5
Residential 3 / Residential 3 Ridgeline	Keri Hill Geotech Zone	Residential	700	350	350	3	1.5
Residential 3 / Rural Residential	Keri Hill Geotech Zone	Residential	700	350	350	3	1.5
Residential 3 Ridgeline	Keri Hill Geotech Zone	Residential	700	350	350	3	6
Residential 4	Natural Amenity Values Protection	Residential	800	400	400	3	3
Residential 6	Low Density Residential (Urban/Rural Transition)	Residential	8000	4000	4000	3	1.5

Table 32: Zoning list and assumptions for residential zones: Rodney District Plan

Zone name	Zone description	Zone type	Parcel area minimum qualifier	Parcel area minimum infill	Parcel area minimum vacant potential	Access width minimum	Building setback minimum
Residential Eastern Peninsula		Residential	1200	600	600	2.7	2.1
Residential High Intensity		Residential	550	275	275	2.7	2.1
Residential Landscape Protection		Residential	16000	8000	8000	2.7	2.1
Residential Low Intensity		Residential	16000	8000	8000	2.7	2.1
Residential Medium Intensity		Residential	1200	600	600	2.7	2.1
Residential Medium Intensity (Township Policy Area)		Residential	1600	800	800	2.7	2.1
Residential Physical Limitations		Residential	8000	4000	4000	2.7	2.1
Residential Medium Intensity (Unsewered)		Residential	3000	1500	1500	2.7	2.1
Orewa Beach Front Residential		Residential	1200	600	600	2.7	2.1
Residential Eastern Peninsular (Unsewered)		Residential	3000	1500	1500	2.7	2.1

Table 33: Zoning list and assumptions for residential zones: Waitakere District Plan

Zone name	Zone description	Zone type	Parcel area minimum qualifier	Parcel area minimum infill	Parcel area minimum vacant potential	Access width minimum	Building setback minimum
Coastal Village	Subdivision Rules Section , Rule #9	Residential	8000	4000	4000	3	3
Living	Subdivision Rules Section , Living Environment Rule #2	Residential	700	350	350	3	1.2
Living 1	Subdivision Rules Section , Living Environment Rule #2	Residential	800	400	400	3	1.2
Living 2	Subdivision Rules Section , Living Environment Rule #2	Residential	900	450	450	3	1.2
Living 3	Subdivision Rules Section , Living Environment Rule #2	Residential	1600	800	800	3	1.2
Living 4		Residential	2500	1250	1250	3	1.2
Living 5		Residential	1500	200	200	3	0
Living 6		Residential	1500	100	100	3	0
Rural Village Unsewered	Unsewered	Residential	8000	4000	4000	3	1.2
Rural Village Sewered	Sewered	Residential	1600	800	800	3	1.2