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Housing Supply in the Auckland Region 2000–2005

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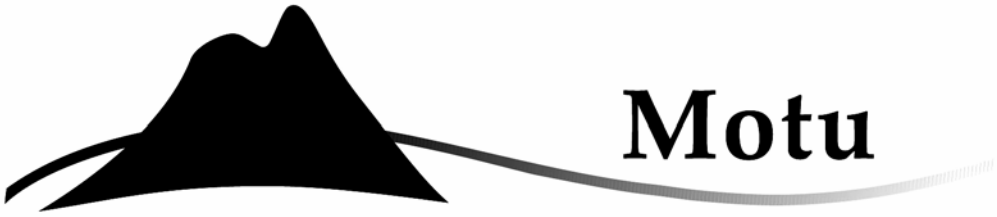

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with
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Executive Summary

Research Questions and Methods

We examine constraints to expansion of Auckland's[1] housing supply. Since 2000, increases in demand for housing have outstripped increases in its supply. The result has been a major increase in land and house prices. A range of factors have contributed to increased demand including positive net immigration, higher incomes and higher employment, coupled with strong ability to borrow to finance house purchase. A number of factors have constrained supply. One of these has been a limited supply of land. Another contributor has been difficulties in the consents process, especially its time consuming nature; lack of appropriate resources within councils to handle both non-notifiable and notifiable consents is partly responsible for this situation.

We adopt a range of approaches to examine this issue: We examine zoning and other regulations relating to housing; analyse trends in population, dwelling stock, house prices, costs, and new building; report on structured discussions held with 30 respondents in the private and public sectors; and we conduct statistical analysis of building consent activity. Finally, we discuss the implications of these analyses for house supply and the housing market in Auckland.

Zoning

Auckland's Regional Growth Strategy (RGS), adopted by the ARC and all seven TLAs in 1999, sets the overarching strategy for Auckland development and urban form. The RGS promotes a compact city capable of accommodating at least 2 million people by 2050. Intensification of dwellings and population is sought around growth nodes situated around town centres and transport links.

The RGS adopts Metropolitan Urban Limits (MUL) that set a boundary within which residential, business and other 'urban activities' are to occur. Proposed Change 6 (PC6) to the RGS sees urban activities effectively banned outside the MUL. PC6, if adopted, makes extension of the MUL extremely difficult; no extension could be permitted that encroaches on prime agricultural land, and no development could be allowed that is not contiguous with existing built-up areas.

Territorial Local Authorities (TLA) District Plans are each influenced by the RGS. However zoning changes since 1999 have generally been rather minor other than near the city's periphery. Some significant increase in residential development has been enabled through rezoning of land around the city outskirts - e.g. Long Bay, Hobsonville, Flat Bush, Takanini and Hingaia. Comparatively little has been done to promote intensification in growth nodes; in some cases,

[1] Unless otherwise stated, "Auckland region" (or "Auckland" or "the region") refers to the seven territorial local authorities: Rodney District, North Shore, Waitakere City, Auckland City, Manukau City, Papakura District and Franklin District. ARC refers to the Auckland Regional Council.

regulatory changes have limited the ability to intensify within the heart of the city (e.g. heritage type restrictions in Auckland City and North Shore).

The overall effect of actual and proposed zoning changes is to limit urban expansion, leading to a shortage of land suitable for large scale development. Zoning changes have done little to enhance the rate of intensification. The latter is occurring but not at the rate envisaged in the RGS.

Population and Dwelling Trends

Population in the region grew 35.0% in the fifteen years to 2006.[2] Over the same period, the stock of dwellings rose faster (36.9%). In the five years to 2006, this relationship reversed: population increased by 11.6% while dwelling stock rose 10.9%. Manukau occupancy rates (population per dwelling) stayed high at around 3.6, indicating continued housing stress in South Auckland. Occupancy rates in Auckland City stayed constant, despite the increase in small CBD apartments, implying some increase in housing stress in parts of Auckland City.

Population and dwellings per km^2 have increased in every TLA for every five year period between 1991 and 2006. Some intensification has therefore occurred.

Building Consents

Auckland City (34%) and Manukau (22%) dominated the number of regional building consents over 2000-2005. House consents exceeded apartment consents across the region (and in all TLAs other than Auckland City). This is consistent with feedback from developers and other housing stakeholders (reviewed in section 4) that, in aggregate, there is a continuing consumer preference for stand-alone houses over apartments. (Demand for higher quality apartments is, however, increasing.)

Relative to the existing stock of dwellings, Franklin and Rodney had the strongest dwelling consents, indicating a pattern of development being pushed to the city outskirts. Within the other five TLAs, considerable activity occurred near MUL boundaries. These developments indicate pressures for continued outward expansion of the city.

However there are some moves towards intensification, with considerable apartment consent activity around the CBD, the Albany area and in the western part of the isthmus (e.g. New Lynn and Henderson). Apart from in the CBD, however, we find little evidence of a relative increase in overall development in the growth nodes over and above what was occurring already prior to adoption of the RGS. This finding is in keeping with the relatively minor nature of zoning changes to enable intensification in the nodes.

[2] Note that 2006 census data is provisional.

Prices and Costs

Between 2000 and 2005, the median house sales price rose by over 60% in Rodney District, North Shore City and Auckland City, by over 50% in Waitakere and Franklin, and by 48% and 39% in Manukau and Papakura respectively. Over the decade to 2005, the median TLA price increased in a range of 88% (Papakura) to 131% (Rodney and Franklin). Apartment prices also rose strongly, but not as much as for house prices. This lower rate of apartment inflation may reflect a variety of factors including: more responsive supply of apartments than houses; differential construction costs for the two types of dwelling; temporary over-supply of (some types of) apartments; differences in investor versus owner-occupier attitudes to risk and yield; and a preference by purchasers for stand-alone houses over apartments.

The difference between house and apartment inflation also reflects land inflation. Vacant section prices doubled or more than doubled in the five years to 2005 in Auckland City, Waitakere and Franklin. Over the decade to 2005, the median vacant section price across TLAs rose from a 'low' of 108% in Manukau to highs of 334%, 329% and 315% in Auckland City, Franklin and Rodney respectively.

The correlation coefficient between ten year rates of increase in median house prices and median section prices across the TLAs is 0.88. In other words, house price inflation is linked very strongly with land price inflation. By contrast, construction price inflation was moderate over this period.

Greenfield land prices reflect the value of the option to develop a site for residential and/or business purposes.[3] They will therefore be influenced by the MUL boundary since the option to develop is different within and outside the MUL. Rural land values within the boundary tend to be considerably higher than values well outside the MUL, despite both being zoned for rural use. The former are likely to be converted to residential use. Rural land just outside the MUL tends to be priced to reflect some probability of the MUL being shifted outwards. This indicates that the current MUL boundaries are seen to be unsustainable over coming years.

Stakeholder Perceptions

Surveyed private sector stakeholders (including developers) identify two key themes concerning Auckland house supply constraints: land constraints and council-related issues relating especially to consent processes and infrastructure.

Most see three land issues as posing major constraints to development: land availability, land ownership, and cost of land. Land availability reflects the existence of urban growth controls (the MUL). Cost of land is linked to this issue. Land ownership reflects two separate concerns.

[3] The option will be valued under conditions of uncertainty.

Ownership of greenfields land within the MUL is seen as concentrated in the hands of a few 'land-bankers'. The MUL results in limited land supply available for greenfields development, giving landowners strong bargaining power when selling to developers. Greater restrictions on development beyond the existing MUL under PC6 would make these issues even more problematic.

The problem is the opposite for intensification. Ownership of sites within the metropolitan area is fragmented, especially where prior infill development has occurred. This makes it difficult for developers to purchase a sizeable block to make medium/high density development feasible. A single 'hold-out' can block development. There is no legal avenue in New Zealand to force amalgamation or sale of sites to enable more intensive development to occur.

High land prices promote intensification by incentivising apartment living over stand-alone dwellings. This has acted to the benefit of CBD developers. However others note that where land prices (and other costs) become too high, any kind of development becomes unprofitable and so does not proceed.

Officials[4] also see land as a constraining factor, but place a higher weighting on land ownership issues, and a lower weighting on land availability and cost issues than do private sector participants. Officials are concerned both with land-banking of greenfields land and with fragmented ownership of land within the city.

Most private sector participants feel that MUL expansion provides one way to mitigate land supply issues. Some officials share this view; others consider that MUL expansion would not reduce land price pressures and believe that greater restrictions on expansion are required to force increased intensification.

Council planning procedures and consent processing times are the subject of huge dissatisfaction amongst private stakeholders. Over 80% of respondents see these two features as major development constraints. Consent approval processes tend to proceed iteratively within councils, each item having to be 'solved' before the next officer becomes involved. This leads to a prolonged process. Developers consider that councils are neither aware of the length of the consent process nor of the implications of delay.

Delays result in increased uncertainty for developers in a market where tastes can change rapidly. This raises the required profit margin for a project to proceed. Delays also cost money directly: a one month delay on a $12 million project adds $100,000 to its cost (at a 10% weighted average cost of capital).

Delays are most extensive where a development is notifiable, opening up the potential for objections and lengthy hearings. Developers seek to avoid notification at all costs. This frequently means they settle for 'lowest common denominator' developments that meet all District Plan requirements, rather than including innovative features that might make the development notifiable.

[4] We use the term "officials" to refer to local and central government employees who were interviewed. These are personal views and should not be construed as "official" views.

Poor quality development raises the potential for community objection, which is seen as problematic by two-thirds of private sector respondents. Half the officials also see consent processing times as a constraint, while 90% see community objections as a major development constraint. This reverses the ranking for private stakeholders, possibly reflecting the respective roles of the respondents.

Unlike private stakeholders, officials see major constraints relating to brownfields land conversion. We infer from our interviews that developers generally do not see much opportunity in brownfields residential development, especially given the generally recognised shortage of business land in the region.

Infrastructure and drainage issues are seen as important by both private stakeholders and officials. However emphases again differ. Officials are primarily concerned with infrastructure availability and drainage requirements; private stakeholders are more concerned with infrastructure and development contributions. They are also concerned that their efforts to mitigate the need for infrastructure (e.g. through innovative water management) tend not to result in lower development contributions. Many developers complain of iniquitous charging of contributions by certain councils and note that charging approaches differ widely across councils.

A lack of innovation by designers and developers is seen as a major constraint by officials, but not by developers. However other private sector stakeholders, especially those from the UK, share the view that design skills for medium/high density housing are immature in New Zealand. Developers consider that lack of innovation is driven predominantly by the regulatory and consents environment.

High costs and low profit margins are a concern of developers. However these concerns are not as great as other highlighted concerns. Labour availability is a concern, but much less so now than was the case over 2004/05.

Modelling House Supply

Our modelling of new house supply over 1991-2005 finds that a 1% increase in dwelling price relative to costs, increases supply (building consents/existing supply) by around 0.5% in one year. Waitakere City is estimated to have the highest response of new activity to prices and costs, followed by Manukau and Rodney. North Shore and Auckland are estimated to have the lowest response.

At the region-wide level, the supply response has increased since 2000. However, this result appears to be driven by the reaction of the Auckland apartment market. Once we exclude this effect, the response of supply to market forces appears to have fallen since 2000 compared with prior years.

After controlling for the influence of prices and costs, strong building activity is occurring near the MUL boundaries, most likely driven by availability of land. There is also strong activity in the CBD and near some coastal areas. Many inland areas tend to have low activity after accounting for price and cost effects.

The modelling findings are consistent with findings from the other approaches. Price increases play a major role in incentivising new building, while higher costs act to stifle investment; land availability is important. Sizeable differences in response across TLAs indicate that council approaches are also important. In particular, there appears to be a lack of supply response across much of the North Shore (other than Albany) and Auckland City (other than the CBD).

Implications

Developers of new housing respond to market forces - prices and costs - and also to opportunities (e.g. land availability) and to regulation. Moves to encourage building of new housing need to ensure that regulatory and other costs are contained and opportunities to develop are enhanced. Our research indicates that land costs and regulatory costs (especially financial costs of delay) are of most concern; materials and labour costs are of much less concern. If development costs keep rising, housing investment will diminish and housing affordability will worsen. The result could be that Auckland's population falls well short of projected levels.

One way to resolve these difficulties, especially if people retain a preference for stand-alone housing, is to extend (or abolish) the MUL. Extensions could be contiguous with the current built-up area or could take the form of new towns (possibly based on existing settlements) separated by greenbelts from the main city. Comprehensive infrastructure development would be required for these developments. New towns should also include a mix of residential, commercial and industrial activities to minimise commuting needs so enhancing sustainability (possibly more so than would further development on the current urban fringe).

Freeing up land supply, while necessary to alleviate high land prices, is not sufficient. The manner in which land is made available is as important as any extension. Dribbling new land onto the market in a pre-specified pattern allows existing landowners to retain monopoly rights and high land prices. An auction mechanism that encourages a large number of land owners to compete against each other for development rights may be required to bring down prices.

An alternative to extending the MUL (suitable if there is a substantial shift in the public's preferences towards apartments) is to completely overhaul zoning and other regulatory processes to enable intensification within built-up areas. District Plans would have to focus on 'effects' rather than on specific criteria.

The RMA process needs a revamp to reduce delays associated with objections. One possibility is to allow expert panels to preside over consent decisions in cases where a development proposal falls outside the existing District Plan.

Councils can provide leadership in consolidating sites in pre-specified areas that allow larger scale medium/high density housing. To assist them in doing so, a compulsory acquisition process, modelled on company take-overs legislation could be legislated, that would enable councils to purchase properties once a

sufficient proportion of residents had agreed to sell. Purchase contracts would have to include price safeguards and substantial notice for existing owners.

Intensification also requires council leadership on infrastructure. Intensification should only occur where high quality infrastructure can be guaranteed for all affected communities. (Infrastructure provision may be easier in greenfields situations.) Local and central government can provide leadership by looking to intensify residential dwellings on their own land holdings.

Given the scale of Auckland's housing issues, it is likely that both expansion and intensification will be required. Whichever mix of actions is taken, councils will need to streamline their processing of consents. Simpler District Plans would help. Also, councils could be subject to meeting 50% of funding costs for development for any time taken over the statutory maximum when processing a consent. This would provide balanced incentives for the council and for the developer to hasten the consent processing period.

Provision of housing is predominantly a private sector activity, but it is shaped by local and central government. Their planning approaches and implementation will have a major influence on how Auckland house prices and supply evolve.

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1 Research Questions

Auckland is fortunate to be surrounded by a plentiful supply of land, much of it suitable for residential purposes. When one flies into Auckland from the south-east, the approach is over green fields. A drive from Henderson to Albany skirts along large areas of agricultural land. The Northern Motorway passes through twenty kilometres of rural land between Albany and Orewa.

Commodities that are in plentiful supply normally face few price pressures. Yet in the ten years to 2005, the median price of a vacant residential section in each of Rodney District, Auckland City and Franklin District more than quadrupled.[5] The price of a vacant residential section almost quadrupled in Waitakere City, almost trebled in North Shore City and more than doubled in each of Manukau City and Papakura District.

House prices also rose strongly across the Auckland region. In 2005, the price of the median stand-alone residential dwelling in Auckland City stood at $508,436, a 63% increase compared with 2000 and a 116% increase compared with 1995. Similar increases were experienced in the six other territorial local authorities (TLAs) within the Auckland region.[6] Over the ten years to 2005, house prices rose by 131% in each of Rodney and Franklin, by 115% in Waitakere, 109% in North Shore, and by 93% and 88% respectively in Manukau and Papakura. The pattern of house price increases reflects the pattern of land price increases, albeit with much lesser rates of increase. The lower rates of increase of house prices compared with land prices implies that construction cost increases have been mild compared with land price increases.

What can explain the paradox of a plentiful commodity (land) having such massive price increases as have occurred in and around Auckland? Given the

[5] The data referred to in this section refer to calendar years. They are presented in more detail and sourced in section 3 of this report.

[6] To avoid ambiguity, when we refer to the "Auckland region" and to "Auckland" we are referring to the entire area covered by the seven territorial local authorities: Rodney District, North Shore City, Waitakere City, Auckland City, Manukau City, Papakura District and Franklin District. Where we wish to refer to the area governed by the Auckland City Council we refer to "Auckland City"; where we refer to the area governed by the Auckland Regional Council, we refer to "ARC".

implied moderation in construction costs, why has new housing supply not increased sufficiently fast to cap house price increases to a much lower level? What factors are potentially constricting new house supply: land availability, shortage of construction materials or labour, delays in processing consents, lack of infrastructure? These are the type of questions that we address in this study.

In markets with many buyers and sellers, such as the housing market, prices adjust to achieve an approximate balance between supply and demand at the observed price. Price increases reflect increases in demand that have not been met by a commensurate increase in supply at the previous price. In a well-functioning market, price increases encourage new supply to come on to the market. The new supply changes the balance between demand and supply, so limiting the extent of price increase.

In the case of Auckland housing, demand has risen strongly in recent years, outstripping existing supply. A number of factors have contributed to the strong demand increase. These influences are dealt with in more detail elsewhere[7] but deserve some mention here. First, strong net inwards migration to New Zealand has been channelled principally towards Auckland resulting in increased population pressures in the Auckland region. Regional migration within New Zealand towards Auckland is likely to have exacerbated these pressures. Second, employment and incomes have risen strongly, with both the New Zealand and Auckland economies performing well (relative to history) since the late-1990s.

Third, finance has been available from banks and other institutions to facilitate house purchase both for owner-occupied homes and for second homes, including holiday homes and investor properties. The Reserve Bank of New Zealand (Financial Stability Report, November 2006) calculates that the effective weighted average interest rate facing households stayed within a range of 7.9%-9.1% throughout the 2000-2005 period. The average rate over these five years was 8.3% compared with the corresponding average rate of 10.1% for the preceding five years. Nationally, households' outstanding borrowing rose by 93% between December 1999 and December 2005, reflecting household and lender willingness

[7] See Grimes and Aitken (2006).

to increase household leverage. Mortgages as a ratio of GDP increased from 56% in 1999/2000 to 78% in 2005/2006 (Reserve Bank of New Zealand Financial Stability Report, November 2006).

The rise in demand for housing relative to the inevitable fixity in short run supply is the proximate (or immediate) cause of the observed price pressures in Auckland housing. A major question for analysis is how fast new supply can respond to jumps in demand for housing. New supply requires both a supply of land suitable and available for residential purposes, and the capacity to construct new dwellings (houses and apartments). The latter, in turn, requires availability of materials and labour as well as the granting of required consents. The faster (and greater) the supply response, the lesser will be the price pressures observed in the market.

This report examines the dynamics of new house supply in the Auckland area over 2000-2005. In some cases, our analysis extends over a longer time period to place the more recent patterns into historical perspective. The report's purpose is to understand why new housing supply in Auckland has not been forthcoming in sufficient amounts or with sufficient speed to place a greater limit on house price increases in the region.

We utilise a range of complementary methodologies to study the dynamics of Auckland housing supply over this period. The methodologies include descriptive material (pertaining to zoning and to location of new housing supply), interviews with developers and others connected to the property industry, and statistical analysis. This range of methodologies enables us to examine issues pertaining to new housing supply from a number of angles. In doing so, we can ascertain whether the insights from one approach are consistent with those derived from other methodological approaches. Where the insights are mutually supportive, we can have greater confidence than otherwise in the findings that we obtain.

We begin with a descriptive analysis of zoning and associated regulations contained in the District Plans of the various Auckland local authorities. Numerous international studies find that zoning and growth

containment regulations affect the patterns and dynamics of new housing supply across cities.[8] Auckland comprises seven local authorities and one principal regional council (ARC).[9] Within each local authority there are several different residential zones. Consequently, a comprehensive description of zoning in the Auckland region is inevitably a very large task. A companion document, released as part of this research programme, provides detailed evidence on the nature of zoning across Auckland.[10] Here we concentrate on key zoning features - and changes to those features - that impact on the patterns and dynamics of new Auckland house supply. One of these features is the Metropolitan Urban Limit (MUL) associated with Auckland's Regional Growth Strategy (RGS). The effects of the MUL, and of the RGS more generally, on patterns of new housing supply forms one area of focus for this study.

Section 3 of the report provides detailed descriptions of patterns of new house supply across Auckland. We draw out the nature and strength of new house supply in the study period (2000-2005) and for prior periods. By doing so, we can gauge whether new housing supply has increased or decreased over time. We pay particular attention to the spatial patterns of development, highlighting responses across different TLAs and responses of areas adjacent to the MUL. This latter material indicates whether the administrative rules associated with the RGS are having an effect on patterns of new house supply on Auckland's periphery.[11]

Themes obtained from comprehensive interviews with people involved in the property and related sectors are presented in section 4. The interviews were designed to ascertain experiences and judgements regarding new Auckland housing supply from people directly engaged in the sector. We draw out common threads across respondents and also draw out where material divergences of view are apparent. In particular, we draw out divergences in views of people involved in different roles (e.g. local or central government officials versus property developers). Key issues that are thrown up by the interviews are highlighted. We

[8] For example, see Malpezzi (1996), Ryan et al (2004) and Pendall et al (2006).
[9] In addition, there are two regional councils on the periphery of the region (Northland Regional Council and Waikato Regional Council).
[10] See DTZ (2006).
[11] We do so since some studies in the USA find that urban growth limits similar to the MUL may be ineffective in containing city growth; see Pendall (1999).

relate these issues to the zoning and descriptive material on new house supply in prior sections of the report. The issues also form a basis for the subsequent statistical analysis.

Section 5 analyses the dynamic features of house supply responsiveness across Auckland. We use econometric (statistical) techniques to model the reactions of new housing activity (proxied by residential building consents) to market forces. The market forces particularly relate to the price of houses in each area, costs of construction and local land prices. The analysis uses the similar framework to a previous study,[12] but applies that analysis at a finer spatial level (i.e. to area units, or "suburbs"). The approach enables us to analyse whether the responsiveness of new housing supply has changed over time in the region, and also whether responsiveness differs across TLAs.

The results obtained from the various methodologies are summarised in the final section. We use this material to form judgements regarding Auckland's overall responsiveness of new housing supply and, especially, of key impediments to new supply. In forming these judgements we are not prescriptive as to what "should" be done with regard to housing supply in Auckland. Rather, our purpose is to isolate what we regard as the factual elements that affect Auckland house supply. We indicate how changing some of these factors may alter the responsiveness of housing supply in the region and how they may impact also on related issues such as land and house prices, transportation and urban form. Armed with this analysis, policy-makers and people directly involved in the industry can review current approaches and form judgements as to whether changes to current practices are warranted.

[12] Grimes and Aitken (2006).

2 District Plans and Residential Development

A companion document to this report - *Auckland Region District Plan Review* (prepared by DTZ Research) - provides a detailed review of the District Plans of the seven Territorial Local Authorities that comprise the Auckland region.[13] Included in that document are reviews of 'Residential Zoning Regulations', 'Controls and Constraints' relating to residential development, and 'Plan Changes Since 2000' for each of the TLAs. For each local authority, the 'Residential Zoning Regulations' section defines the separate zones that exist within that TLA, while the 'Controls and Constraints' section defines regulatory constraints and controls that operate within each zone (e.g. the precise "height to boundary" restrictions).

Considerable detail is required to accurately describe all zones, controls and constraints operating throughout the Auckland TLAs. We therefore choose to leave the detailed description of these matters to the companion paper and concentrate on two aspects in this report. First, we give an overall description of the zoning and control approaches across the seven TLAs. Second, we identify the key plan changes for each TLA that have had an effect on residential zoning and land use activity since 2000. We discuss the implications that these changes may have on residential development. Those interested in precise District Plan details concerning residential development should refer to the companion document.

2.1 Zoning and Constraints

There are many similarities between the seven TLA District Plans, not only in terms of structure, but also in terms of their use of zoning regulations to differentiate areas allocated for residential development with varying levels of density, and to protect areas of particular natural, heritage or cultural value. Zones - also termed 'environments', 'strategic management areas' and 'precincts' in some

[13] This 182 page document is available from the Motu website: www.motu.org.nz/housing.htm

plans - are used across all District Plans as a tool for the management of land use activities.

The controls and constraints used to manage development in these residential zones are very similar across the District Plans; for instance in the use of maximum height controls and parking requirements.[14] They aim to control development intensity and limit adverse environmental effects on the surrounding areas. The specific development controls and constraints for permitted and controlled activities are teamed with rigorous assessment criteria. Sometimes - particularly in the case of high intensity integrative housing (such as high rise apartments) - strict design guidelines are also required to be addressed.

The seven District Plans have very similar objectives and policies for residential land use, both now and into the future. One key reason for this is that the approach in each is driven by the Auckland Regional Growth Strategy. Auckland's population has grown at a faster rate than the rest of the country for most of the past century and is projected to exceed two million people by 2050. The Auckland Regional Growth Strategy was produced in 1999 by the Auckland Regional Growth Forum. It provides a framework for the future direction of growth and development within the region. There are two fundamental aspects to the Strategy:

- A policy of making the region a compact city; and
- Intensifying development around multiple growth nodes and transport corridors.

[14] This strong similarity of zoning and control approaches across TLAs means that one subsidiary aim of this project - to develop regulatory indexes of the type developed in the United States that measure the restrictiveness of regulation across TLAs - has not been possible to pursue meaningfully. In order to do so, we would have required quite different regulatory approaches across local authorities. The nature of regulation is specific to local areas within TLAs rather than reflecting broadly different stances across TLAs. TLAs may differ in their implementation of regulations and in their speed and efficiency. These differences cannot be observed from the regulations themselves; however indirect information on these matters can be interpreted from statistical work.

The Regional Growth Strategy is formulated in tandem with the Regional Land Transport Strategy, the Regional Economic Development Strategy and the Business Land Strategy (which is currently being developed).

Before this strategy was developed, change and development was partly developer led within the confines of each TLA's District Plan. The strategy leads Auckland away from a local, purely effects based approach to managing growth and development, to a more integrated region-wide approach.[15] This longer term view of growth management issues has resulted in the identification of infrastructure requirements needed to accommodate growth.

The growth concept aims to achieve compact urban environments with greater emphasis on intensification than expansion. The purpose of this approach is to avoid spreading the effects of urbanisation over a greater area. This sees a shift in land use patterns towards a more compact urban form which focuses growth in more intensive mixed use centres along the northern, western and southern passenger transit corridors, as well as near main arterial roads. The Strategy aims to control urban growth to within the MUL to prevent sprawl. The 'Growth Concept Map' reflecting this Strategy is attached as a separate document.

Appendix D to this report provides estimates, published by ARC in 2003, of the capacity for new dwelling units across different types of land in each of the six local authorities with land inside the MUL.; 43% of estimated units are on greenfields sites, the remainder being residential infill or on rezoned business land. In practice, as shown later in the report, a much greater proportion of development (than 43%) has occurred on greenfields sites. Thus, if the overall figures were to hold, a much greater proportion of future dwelling growth will have to occur as residential infill or on formerly business-zoned land.

Whilst intensification or 'building a compact city' is the central theme running through the Regional Growth Strategy, some expansion to the MUL in new greenfields areas has been (and is) necessary to provide sufficient land and locational choice for dwellings and businesses alike. Within each District Plan, the

[15] This statement does not necessarily imply endorsement of the current approach, but rather describes the aim of the strategy.

territorial authorities have (where feasible) identified areas for future growth (i.e. potential greenfields opportunities). These areas are managed in the preliminary 'pre-development' stage through the use of structure plans to ensure a holistic approach is taken to the development of the entire area and to avoid the ad hoc isolated pockets of development that have occurred in the past.

The seven TLAs that operate within the Auckland region have all recorded their support for the direction of the strategy. Accordingly, they are committed to align their policies, including their District Plans, to support and implement the strategy. The key areas of focus for the local authorities are:

- Integrating rapid transit investment with transit-supportive higher density mixed land uses along the western, southern and northern transit corridors;
- Upgrading the storm water and waste water infrastructure within the existing urban area to provide intensification opportunities; and
- Providing or upgrading the social infrastructure to service new development areas.

A change to Auckland Regional Council's *Auckland Regional Policy Statement* (Proposed Change 6) is currently under consideration. The change is designed to give effect to the Regional Growth Concept and to integrate land-use and transport. If accepted, it will impact on each of the seven Auckland region District Plans. It will officially give effect to the Auckland Regional Growth Strategy's 1999 Growth Concept (see further discussion below). Most of the plan changes since 2000 that affect residential land use are a reflection of the Regional Growth Strategy (RGS). Changes include: making it easier for developers to proceed with higher density housing options around main centres and transport routes, and development of more structure plans in areas identified for future residential development (for example, Flat Bush in Manukau City).

While the direction of plan changes is generally consistent with the RGS, our work indicates that changes to implement the RGS vision have not been comprehensive or of a sufficient magnitude to transform the nature of Auckland's development. The MUL has been effective in limiting Auckland's urban

expansion but intensification around the growth nodes and corridors has not been effectively facilitated (other than within Auckland's CBD). The result has been a constriction of land effectively available for housing supply which has resulted in considerable pressure on land and house prices.

2.2 Plan Changes

It is unrealistic to expect documents conceived and written in 2000 to accurately reflect the concerns of the future. Councils continually review their District Plans and from time to time initiate changes where necessary for the benefit of the community, to best manage the growing and changing needs of their region, and to address any issues that may arise from the existing plan structure and content. People can also request private plan changes. Plan changes since 2000 that may impact on residential development are reviewed below.

2.2.1 Regional Growth Strategy Proposed Change 6

The Local Government (Auckland) Amendment Act 2004 (LGAAA) required all TLAs of the Auckland Region to change their District Plans to integrate Land Use Planning and Transport Planning, and 'give effect' to the Auckland Regional Growth Strategy's 1999 Growth Concept built around the concept of intensification.

On 31 March 2005, under the LGAAA, the ARC notified its Proposed Change 6 (PC6) to the Auckland Regional Policy Statement. The proposed change applies to all land within the Auckland region covered by the seven TLAs.

At the heart of PC6 is its statement of "Strategic Direction":

> The Strategic Direction for the Auckland region is one of containment of urban development within defined limits and accommodating future growth within and around high density centres and corridors linked by an effective public transport system.

Importantly, PC6 states:

> Urban activities are to be contained within the metropolitan urban limits (MUL) … and within the limits of rural and coastal settlements such that:
>
> (a) There is no provision for new, or expansion of existing urban activities outside the metropolitan urban limits as defined and shown in the RPS, except as provided for in (2) below;
>
> (b) There is no expansion of rural and coastal settlements outside the limits of their existing urban areas except as provided for in (2) below.

"Urban activities" are defined very widely, and include any residential or business development, schools, health or medical facilities, etc. The provisions that may allow for some development outside the MUL are so tightly specified as to effectively preclude development outside the MUL. For instance, no development can be allowed that is situated on "prime agricultural land" - which includes most land suitable for residential development around Auckland. Any expansion (on non-prime agricultural land) must be contiguous with the existing urban development, precluding the building of a new town that is separated by a green belt from metropolitan Auckland.

The submission period for PC6 closed in December 2005. Included in the submissions were considerable expert criticisms of the provisions of the RGS and of PC6. The LGAAA directed the local authorities of the Auckland Region to form a joint Hearing Panel to hear submissions and evidence relating to LGAAA changes. All councils nominated a member for the panel. The LGAAA Hearing was scheduled to be finished by December 2006. At the end of the hearings process the Panel will release its recommendation to the councils before any final plan change decisions are made. Although this plan change is yet to be finalised, councils have already been influenced by its strategy in their approach to District Plan development and have set about aligning District Plans with the Regional Growth Strategy through regional plan changes.

2.2.2 Rodney District

Plan Change 26 – Introduction of New Provisions for Residential Development

This plan change deletes the entire existing residential section of the District Plan and replaces it with new provisions – the existing thirteen residential zones are replaced with three new 'residential activity areas': high intensity, medium intensity and low intensity and future urban development areas are each allocated a unique 'special zone'.

By simplifying the zoning within the District Plan, developers can more clearly identify which areas are designated for growth, now and in the future, and determine what type of residential development is likely to be permitted on the land e.g. standalone single lot subdivisions in low intensity zones versus multi unit apartment buildings in high intensity zones.

2.2.3 North Shore City

Plan Change 1 – Improving the Design and Location of Intensive Residential Developments

Plan change 1 was initiated by council in recognition of a growing need within North Shore City for more intensive housing development in order to meet the demand of the growing population and to prevent further urban sprawl. Structure Plans have been put in place and are now operational for Albany and Greenhithe, with development and urbanisation activities underway in these areas. The vast majority of this development is for residential use.

The plan change clearly identifies the council's policies and objectives with regard to intensive housing development and has a flow on effect throughout the plan with regard to controls and assessment criteria, making it easier for land owners and developers wishing to build intensive housing to understand the associated controls and constraints they are likely to face. The decision was adopted by full Council on 24 July 2003.

This plan change is designed to facilitate residential intensification, making it easier to develop residential units by identifying specific areas where

intensive residential development can occur, previously not allowed for in the District Plan. However, whilst increased controls for intensive development are seen as necessary, they often hinder residential development by making the planning process more detailed, time consuming and expensive.

Plan Change 6 (Variation 66) – Long Bay Structure Plan

The Long Bay Structure Plan was prepared after an Environment Court decision determined that Metropolitan Urban Limits (MUL), set by the Auckland Regional Policy Statement, would include an area from Glenvar Road to the boundary between Long Bay and the Okura catchment as being within the MUL. The Environment Court determined that the Okura area would remain rural and that in principle the Long Bay area was suitable for urban development.

Proposed Variation 66 sets out the resource management issues, objectives, policies, rules and methods of implementation for subdivision and development in the Long Bay area. Proposed Plan Change 6 deals with the changes to the operative parts of the District Plan that affect the Long Bay area. The Structure Plan, as ratified, contains a detailed framework for managing future development in the area reflecting a number of important environmental factors and constraints and social, cultural and economic considerations. Plan change 6 (variation 66) is yet to become operative under the North Shore City District Plan.

The plan change will make residential development possible in the Long Bay area, currently a greenfields development site, and increase the supply of suitably zoned land for residential development in the region. The structure plan will make it clear to developers what subdivision and housing densities will be permitted for development.

Proposed Plan Change 17 – Effects of Infill Housing

Plan change 17 is the most recent council initiated change that will have some bearing on residential land use. Notified on 6 April 2006, this proposed plan change seeks to address the effects of infill housing on the character of residential areas.

Whilst designed to protect the special character/amenity of neighbourhoods, this plan change will result in additional constraints and more controls, making development of infill residential units more difficult. This will particularly be the case when it comes to infill housing projects in older areas of North Shore City such as Northcote Point and Devonport, which have some of the greatest capacity for infill residential development. These areas have older properties that are located on traditional large lots capable of subdivision.

2.2.4 Waitakere City

Proposed Plan Change 13 – Hobsonville Airbase

Proposed plan change 13 seeks to rezone land that is currently occupied by the Hobsonville Airbase from 'Countryside Environment' into four separate 'Special Areas' – the 'Hobsonville Base Village Special Area', 'Hobsonville Marine Industry Special Area', 'Hobsonville Landing Special Area' and 'Hobsonville Future Urban Special Area' - each with its own set of specific rules and supporting policies to manage development.

This plan change includes the introduction of a 'Hobsonville Airbase Concept Plan' to guide development across all of the Special Areas, and identify features that should be retained and enhanced as development occurs. It establishes a relatively prescriptive regime, with the introduction of specific rules for each precinct to control the location and mix of activities, the built form and design quality of development, and sets the required minimum density of development. Proposed plan change 13 was publicly notified in March 2005, with submissions closing in December 2005; to date no final decision has been released.

This plan change will make residential development possible on the land currently occupied by Hobsonville Airbase and increase the supply of suitably zoned land for residential development in the region. This is a brownfields development site. The concept plan will make it clear to developers what subdivision and housing densities will be permitted for development. This

plan change will require the MUL to be shifted as the site sits outside the current boundaries.

Proposed Plan Change 17 – New Lynn

Proposed plan change 17 seeks to introduce specific rules and supporting policies intended to facilitate and encourage the intensification of development in and around the New Lynn town centre. The plan change will establish new Living 5 and Living 6 Environments to provide for intensive residential development in selected locations around the New Lynn town centre, rezone land from Working Environment to Community Environment, to provide for an expanded retail and mixed use core town centre and introduce a 'New Lynn Concept Plan' to guide development in and around the New Lynn town centre, and identify features that should be retained and enhanced as development occurs. Proposed plan change 17 was publicly notified in March 2005, with submissions closing in December 2005. To date no decision has been released.

This plan change is designed to facilitate residential intensification, making it easier to develop residential units by identifying specific areas where intensive residential development can occur and increasing the supply of suitably zoned land.

Proposed Plan Change 18 – City Wide Urban Design Rule

Proposed plan change 18 seeks to introduce a suite of City-wide rules and supporting policies intended to ensure that intensification occurs only after careful consideration of amenity and urban design issues. It creates specific rules addressing apartment design, site analysis, building design in relation to street frontages, noise mitigation in mixed use development, and building design for mixed use development. Proposed plan change 18 was publicly notified in March 2005, with submissions closing in December 2005. To date no decision has been released.

Whilst increased controls for intensive development are seen as necessary, they often hinder residential development by making the planning process more detailed, time consuming and expensive; for example, the increased

time and cost associated with the growing need to bring specialist consultants (e.g. traffic engineers) into the development process much earlier and requiring the design / plans to be almost at a final drawings stage in order to gain resource consent.

Proposed Plan Change 4 – Birdwood Urban Concept Plan

This plan change will make residential development possible in the Birdwood Area, currently a greenfields development site, and will increase the supply of suitably zoned land for residential development in the region. The structure plan makes it clear to developers what subdivision and housing densities will be permitted for development.

Publicly notified in February 2004, the Concept Plan provides for what is considered by council as an appropriate level and nature of development in view of identified environmental constraints. A key feature of the concept plan includes provision for standard (minimum 450m^2) and larger lot (minimum average 2000m^2, minimum 1250m^2) residential areas. An appeal has been lodged against the decision notice for proposed plan change 4 and the proposed plan change cannot be finalised until the appeal is resolved.

2.2.5 Auckland City

2.2.5.a Isthmus Area

Plan Change 58 – Residential 8 Zone

The population of Auckland City is projected to increase by 68% to 2050 (over 200,000 people), whereas under previous zoning rules in the existing District Plan there was only capacity for approximately 30,000 additional people. Due to its location in the middle of urban Auckland, with no rural land to expand onto, the Auckland City Council concluded that Auckland City needed to cater for this additional population growth through intensification.

The creation of the Residential 8 zone was initiated by council as a solution to this increased demand for urban intensification. It allows specifically for intensive housing development within the Auckland Isthmus area. The plan

change was made operative in August 2003. The residential 8 zone appears predominately in Mt Wellington, Glen Innes, Newton, Parnell and Grafton.

This plan change is designed to facilitate residential intensification, making it easier to develop residential units by identifying specific areas where intensive residential development can occur, previously not allowed for in the District Plan. Development of residential units is made easier by the increase in the supply of land zoned for dense development since suitably zoned land supply has been one of the greatest constraints to residential intensification in the Auckland City Isthmus area.

Plan Change 153 – Incorporation of Urban Design Provisions for Developments of 4 or more Residential units in the Residential 6 and 7 Zones

Auckland City Council initiated this public plan change in September 2004, which proposed to apply urban design criteria to the development of 4 or more residential units on a site in the Residential 6 and 7 zones. The plan change was approved and made operative in July 2005; however there is currently an appeal lodged against this decision.

Whilst increased controls for intensive development are seen as necessary, they often hinder residential development by making the planning process more detailed, time consuming and expensive. This is particularly so for smaller residential development projects, often undertaken by owner occupiers or small building companies, where the ability to meet all the planning requirements, from a financial and human resource point of view, often makes a development difficult to undertake.

Plan Change 163 – Residential 1 and 2 Zones

Proposed plan change 163 has been drafted to amend the Auckland City District Plan - Isthmus Section - to incorporate revised provisions for the Residential 1 & 2 zones. The proposed plan change seeks to ensure that building and development is designed in a manner that protects the special character of the zones. Amongst several other activity and control changes, the proposed plan change seeks to make removal or demolition a restricted discretionary activity for

all pre-1940 buildings in the Residential 1 and 2 zones, and subject to assessment for notification. This will result in an additional layer of protection for the city's built heritage. The plan change was publicly notified in May 2005 and submissions have closed. To date a final decision has not been made public.

Plan Change 192 – Residential 3 Zone Review

Plan Change 192 will introduce changes to the rules covering the Residential 3 zone found on some of the city's volcanic cones and coastal cliffs. The council is aware that as the city grows there will be increasing pressure for new and larger development in the Residential 3 zone. The aim is to ensure that the physical and visual integrity of volcanic features and coastal cliffs remains intact and that these landforms are not dominated by inappropriate development. The plan change was publicly notified in May 2006 and submissions closed at the end of August 2006.

Both plan changes 163 and 192, whilst designed to protect the special character / amenity of neighbourhoods, will mean additional constraints and more controls making development of residential units more difficult. This is particularly the case when it comes to infill housing projects in older areas of Auckland City such as Remuera, Parnell, St Mary's Bay and Mt Eden, which have some of the greatest capacity for infill residential development with older properties located on traditional large lots capable of subdivision.

2.2.5.b Central Area

Plan Change 2 – Urban Design and Residential Amenity

The recent boom in CBD residential apartment building has revealed serious concerns about unit sizes, poor natural lighting, ventilation, noise and separation distances between high rise blocks, their outlooks and outdoor amenity areas.

Changes proposed for the Central Area District Plan were formally notified on 3 June 2005, and are still in the submission stages. The proposed plan changes would have a major impact and aim to rid the city of poor quality design.

The changes impose both residential amenity controls and new design criteria, such as minimum gross floor areas for apartments – studio 35m^2, one bed 45m^2, two bed 70m^2, three + bed 90m^2. These minimum standards will be applied in tandem with detailed urban design principles and will apply to any new building or external alteration or addition to any existing building. These developments will also now require restricted discretionary resource consent. This means the council will be able to accept or decline these proposals if it is not satisfied the new standards are being met.

This plan change has been largely a reaction to address issues that have resulted from the substantial increase in intensive residential development in the CBD. Examples include the significant number of very small 'student' apartment buildings built within the CBD between 2002 and 2005 and the intensive townhouse development along the Strand in Parnell, which suffered severely from leaky building syndrome. Whilst increased controls for intensive development are seen as necessary, they can hinder residential development by making the planning process more detailed and time consuming, particularly if developers are required to put designs before an Urban Design Panel. The development process also becomes more expensive in terms of increased development contributions and the growing need to bring specialist consultants (e.g. traffic engineers) into the development process much earlier in the process in order to gain resource consent.

Plan Change 5 – Character Building Demolition Controls

Plan change 5 proposes to introduce a requirement to obtain a resource consent for the demolition of pre-1940 buildings in both the Queen Street Valley and the Karangahape Road precincts. Under plan change 5, the demolition, partial demolition or removal of a building is a restricted discretionary activity. This status enables such an application to be approved, approved with conditions, or declined.

Whilst designed to protect heritage and special character in certain areas and / or buildings, this plan change places additional constraints and controls on

residential development, particularly when it comes to demolition for brownfield development sites.

2.2.6 Manukau City

Variation 13: Flat Bush

The most significant plan change implemented by Manukau City Council since 2000 has been Variation 13, a comprehensive rezoning of approximately 1700 hectares of land in the Flat Bush area to facilitate the development of a new town. This became operative on 19 January 2005.

The Flat Bush area provides an important opportunity for Manukau City Council to address intensification policies contained in the Proposed District Plan, the Auckland Regional Policy Statement and agreements reached under the Auckland Regional Growth Strategy. Key principles of the Regional Policy Statement and the Regional Growth Strategy are to promote intensive and mixed-use development patterns at appropriate locations, and to give greater recognition to environmentally sound design principles. The development strategy for Flat Bush provides a framework of zonings and plan provisions which are consistent with the outcomes sought in these regional plans. The structure plan identifies 3 key zones with regard to residential development: high, medium and low density. Flat Bush Residential 1 is a high density zone seeking to achieve densities of 16.5 to 30 households per hectare, Flat Bush Residential 2 is a medium density zone seeking to achieve a density target of at least 15 households per hectare and the Flat Bush Countryside Transition Zone is low density restricted to accommodate approximately one household unit per 5,000m².

Variation 13 is one of the best examples within the Auckland region where re-zoning of a significant portion of land, accompanied by a clear structure plan and comprehensive development guidelines, has been implemented. The plan change makes the development of residential units and the subdivision of land for residential land use a much simpler and cohesive process. Currently a greenfields development site, the re-zoning of Flat Bush increases the supply of

suitably zoned land for residential development in the region significantly. The variation makes it clear to developers what subdivision and housing densities will be permitted for development, enabling them to determine what type of residential development they should pursue e.g. standalone single lot subdivisions in low intensity zones versus multi unit apartment buildings in high intensity zones.

Plan Changes 5 & 6 – Rural 3 to Main Residential, Point View Drive & Hill Road

Rezoning of land at the Rural / Main Residential interface. These plan changes became operative in April 2005.

Plan Change 8 – Whitford Rural

The development strategy for the Whitford Rural Area focuses on providing opportunities for countryside living while retaining the landscape character, rural amenity values and environmental quality of the area. The development strategy seeks to protect and enhance the ecological, heritage and landscape features within the area through the land subdivision and development process. The total carrying capacity of the Whitford Rural Area has been identified at 760 development units.

Plan changes 5, 6 and 8 all increase the ability to develop residential units by increasing the supply of suitably zoned land available in Manukau City for residential development.

2.2.7 Papakura District

Takanini Structure Plan (Residential 8)

In February 2000, Papakura District Council commenced a structure plan process for Takanini designed to identify the constraints and opportunities of the land, and the objectives of the community and development sector, in order to establish an overall framework for the planned growth and development of the Takanini area. The structure plan was approved in draft form by Council in May 2000 and adopted in November 2000.

Hingaia Structure Plan (Residential 9)

In July 2000, Papakura District Council commenced a structure plan process for Hingaia designed to identify the constraints and opportunities of the land, and the objectives of the community and development sector, in order to establish an overall framework for the planned growth and development of the Hingaia Peninsula. It sought to provide for a living environment with high amenity, character, access to public open space, a range of housing and lifestyle opportunities, and business and employment provision.

The establishment of the residential 8 and 9 zones in the Papakura District will make residential development possible in the Takanini and Hingaia areas, currently greenfield development sites, and will increase the supply of suitably zoned land for residential development in the region. The structure plans make it clear to developers what subdivision and housing densities will be permitted for development.

Plan Change No.8b: Central Area (Residential)

Proposed plan change 8b adds policy to Residential Zones 1 & 2 to enable the establishment of higher density multiple household units (apartment buildings only) in the Town Centre.

This plan change is designed to facilitate residential intensification, making it easier to develop residential units by permitting high density residential apartment buildings within the Papakura Town Centre – a level of residential intensity not previously allowed in the Papakura District.

2.2.8 Franklin District

Plan change 14 – Rural Plan Change

The Rural Plan Change, formally known as Plan Change 14, is a comprehensive replacement of the existing sections relating to rural areas in the Operative District Plan. The management of growth and its impact on the rural and coastal environments in Franklin will now be governed by the Rural Plan Change, which provides opportunities for limited countryside living in the rural

and coastal areas, encourages the protection of unique environments and directs growth to particular villages. The Rural Plan Change became fully operative in August 2006.

Whilst this plan change increases the opportunity for residential development in Franklin's largely rural areas, intensification is not a priority as the Franklin District sits outside the current MUL. Therefore, residential development is restricted to low intensity, stand-alone single large lot housing, such as lifestyle sections.

One question that is posed in relation to this approach is whether such development is conducive to longer term intensification in such areas. Further consideration of the impacts of low-density zoning restrictions on development in future decades may therefore be warranted.

2.3 Conclusions

The plan changes outlined above all have implications for the development of residential units, in terms of the type / nature of residential units being developed, the location of residential development projects and the quality / standard of what is being built.

The majority of the plan changes that have been implemented and initiated since 2000 are focused towards bringing the TLA District Plans in line with the growth concept prescribed in the Regional Growth Strategy. TLAs are changing their approach to planning away from solely using zoning mechanisms to taking a more integrated view of certain key development areas through the implementation of intensive structure plans and concept plans, such as Takanini, Long Bay, Flat Bush and Hingaia.

This approach means the councils are not only focused on which areas are zoned for what activities, but rather are looking at the development of entire towns and communities including infrastructure requirements (drainage, sewerage etc), social infrastructure requirements (schools, libraries etc), proximity to and provision of public transport facilities and roads. This more integrated approach

to planning is required in order to facilitate the outcomes desired from the Regional Growth Strategy.

Most of the plan changes implemented and initiated since 2000 are focused specifically towards development within the MUL. This hinders residential development in areas such as Franklin and Rodney, with much of their land sitting outside the current MUL. Consequently, there are significant residential development opportunities that are not being assisted through plan changes. More traditional district plan zoning rules tend to apply to these areas which make it difficult for development to proceed, particularly if developers wish to undertake higher density development. Exceptions to this are Long Bay and Flat Bush, where the MUL was shifted in order to enable development to proceed. Rodney District Council currently has two proposed plan changes out for public consultation for small 'Hamlet' style residential lot developments in Puhoi and Rodney Highlands, both of which sit outside the MUL and do not meet existing District Plan requirements.

Overall, some plan changes have facilitated new development, both of infill (intensification) and, in a limited number of cases, of greenfields development. However other plan changes (such as the introduction of heritage type restrictions in Auckland City and North Shore City) have made infill development, in some areas, more difficult.

Even ignoring these latter changes, the degree of plan changes since 2000 designed to facilitate new supply appears limited. The Regional Growth Strategy envisaged considerable intensification around transport corridors and town centres. In reality, however, plan changes to facilitate such development has been relatively minor. As noted in the description of new housing developments in section 3, this 'timid' response of regulation is reflected in a lack of intensification specifically around transport corridors and town centres (other than in Auckland's CBD).

The seeming lack of regulatory response to the requirements of the Regional Growth Strategy may reflect long policy development windows rather than a lack of will on the part of local authorities. It is apparent from our

discussion of plan changes (above) that plan changes have to undergo a considerable gestation period including formulation of a draft strategy, consultation, decision and (as is the case with several of the plan changes detailed above) appeal. The result of this prolonged policy-making process is that seven years after the launch of the Regional Growth Strategy, the regulatory environment - while changing - has still not changed markedly to support the strategy's implementation.

Extension of the MUL at Flat Bush and Long Bay reflects a continuing tension between intensifying the city and allowing development at the fringes. For instance, the rezoning of 1,700 hectares at Flat Bush is projected to support a population of 40,000 people within 20 years. The development is occurring with the support of an integrated plan - support which is generally lacking in cases of infill development. It enables well-designed development that is denser than typical historical urban developments in Auckland. The success of this development raises the issue of whether considerably more 'Flat Bushes" should be explored around the fringes of the Auckland metropolitan area. This would require a review of the current metropolitan urban limits - both in terms of their specific placement and, potentially, the principle on which they are imposed.

Proposed Change 6 to the Regional Growth Statement, currently being considered under the LGAAA, is likely to make expansion of urban activities outside the existing MUL more difficult. The proposed change, in conjunction with the provisions of the LGAAA, effectively affords the ARC a right of veto over any 'urban activity' that takes place outside the MUL within Auckland Regional Council limits. This veto, coupled with the broad definition of 'urban activity', means that urban expansion can be prevented by the ARC no matter what the view is of the local authority. A new 'Flat Bush' supported by a local authority but opposed by the ARC could therefore be stifled. This potential impediment to new house supply is particularly salient in light of the current regulatory climate in which regulatory constraints limit the degree of infill development that can occur. The overall effect is likely to be an increased shortage of land zoned and suitable for residential (and business) development.

3 Auckland Housing Developments

The Auckland housing market has experienced both strong price increases and a material increase in new supply in recent years. This combination indicates a very strong increase in demand for housing across the Auckland region. We document patterns of supply and related variables in this section.

3.1 Population and Dwellings

The seven TLAs spanning the Auckland region had a combined 35.0% increase in population between 1991 and 2006 (Table 1). Between 1991 and 2006, the dwelling stock rose by 36.9%, slightly more than the increase in population. This is consistent with an observed trend internationally towards smaller average household size. The pattern reversed slightly between 2001 and 2006, with population growing 11.6% and dwellings growing 10.9%.[16]

Both dwellings and population per square kilometre (km^2) have increased over every five year period since 1991 across each of the seven TLAs. Thus Auckland is becoming a denser city over time. Part of this is due to intensification in existing built-up areas, the remainder due to new greenfields activity.

North Shore City is the most densely populated TLA, even when we consider population density just of those areas that are within the MUL. Auckland City and Waitakere are the next most densely populated TLAs. Considerable increases in density appear possible in Manukau City and, especially, in Papakura and Rodney (plus Franklin which lies outside the MUL).

[16] The 2006 figures are provisional and are census night counts. Previous census counts are for the usually resident population. The dwelling numbers in this table do not distinguish between apartments and stand-alone houses, and do not distinguish between occupied houses and other units (e.g. holiday dwellings). We concentrate on population rather than on households since the latter is more constrained than is population by the supply of housing. For instance, two families that share one dwelling will be counted as a single household in the census. Over 1991-2006, the number of households rose by 36.8% (almost identical to the dwelling stock); over 2001-2006, the number of households rose by 12.3%.

Table 1: Population, dwelling stock and density (1991, 1996. 2001, 2006)[a]

	Rodney	North Shore	Waitakere	Auckland	Manukau	Papakura	Franklin
Census Population (usual resident except 2006)							
1991	57,100	161,700	146,600	328,300	242,200	38,200	43,800
1996	68,300	179,500	161,600	362,000	266,500	41,100	49,200
2001	78,500	194,200	176,200	388,800	298,200	42,300	53,300
2006	91,500	215,300	194,700	430,700	339,400	43,900	58,500
Dwelling Stock (Private occupied dwellings)							
1991	19,884	54,411	44,826	112,071	67,140	11,796	13,551
1996	24,450	60,621	50,289	122,436	74,565	12,798	15,837
2001	28,668	66,609	56,172	132,945	83,829	13,560	17,730
2006	33,200	72,900	61,800	145,100	95,100	14,800	20,200
Residential Density (dwellings per km^2)							
1991	7.96	418.55	122.14	105.83	121.85	95.90	6.19
1996	9.79	466.32	137.03	115.61	135.33	104.05	7.23
2001	11.48	512.38	153.06	125.54	152.14	110.24	8.10
2006	13.30	560.77	168.39	137.02	172.60	120.33	9.22
Population Density (people per km^2)							
1991	22.9	1,243.8	399.5	310.0	439.6	310.6	20.0
1996	27.4	1,380.8	440.3	341.8	483.7	334.1	22.5
2001	31.4	1,493.8	480.1	367.1	541.2	343.9	24.3
2006	36.6	1,656.2	530.5	406.7	616.0	356.9	26.7
Occupancy Rate (census population / dwelling stock)							
1991	2.87	2.97	3.27	2.93	3.61	3.24	3.23
1996	2.79	2.96	3.21	2.96	3.57	3.21	3.11
2001	2.74	2.92	3.14	2.92	3.56	3.12	3.01
2006	2.76	2.95	3.15	2.97	3.57	2.97	2.90
Land Area (km^2)[b]							
	2,497	130	367	1,059	551	123	2,190
Population Density (people per km^2) - Inside MUL only[c]							
2006	285.3	1,871.2	1,410.6	1,682.0	1,156.0	476.3	n.a.

[a] 2006 data is provisional and population is census night only.

[b] Area excludes bodies of water greater than 15ha.

[c] This measure of population density includes only those TLA areas that lie within the MUL; Franklin is therefore excluded.

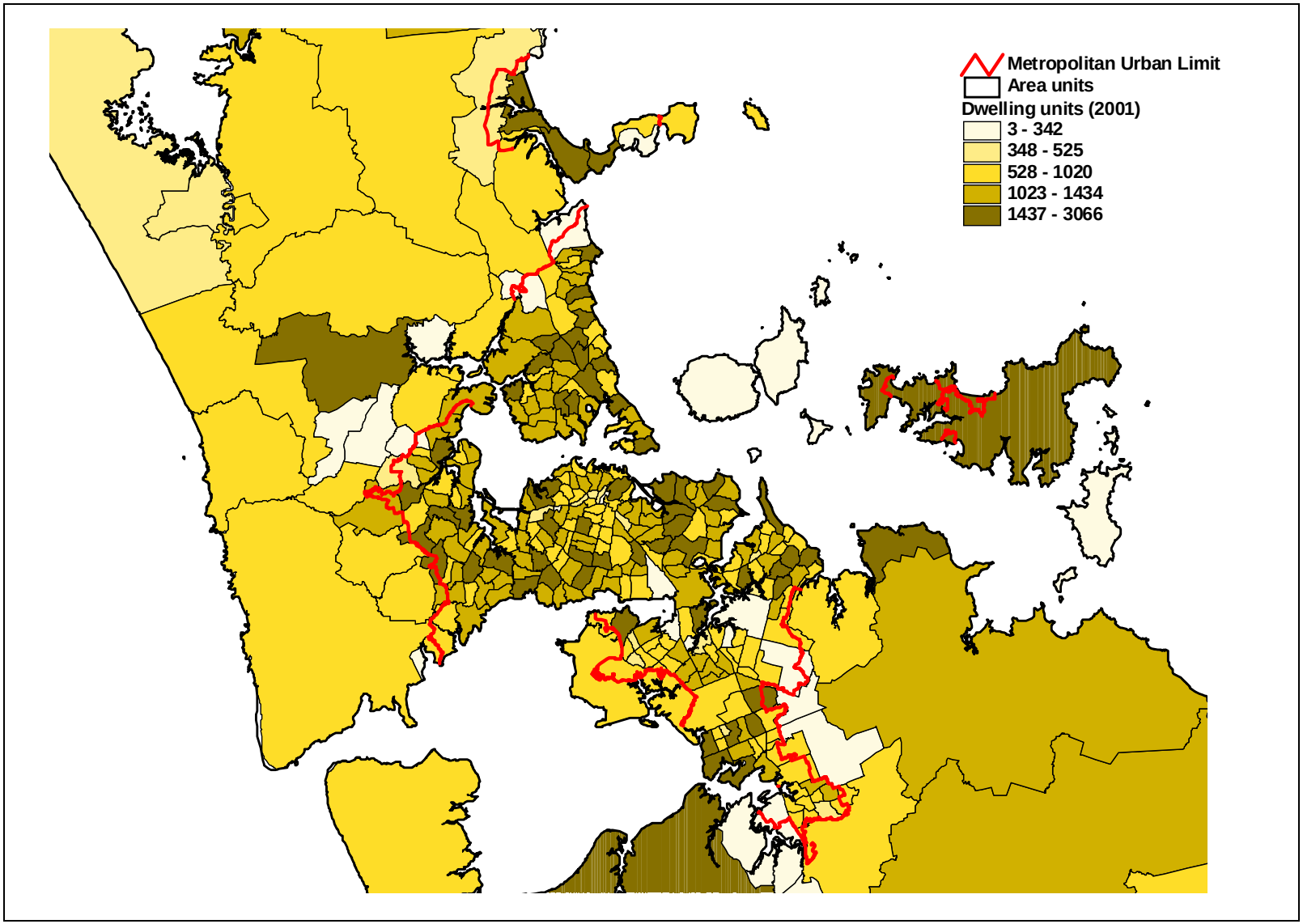
Source: Statistics New Zealand

Because dwelling growth has broadly kept pace with population growth, the occupancy rate for the region as a whole has stayed remarkably constant over the past 15 years (3.14 in 1991; 3.13 in 1996; 3.08 in 2001; and 3.10 in 2006). The occupancy rate has remained consistently high in Manukau City at approximately 3.6. This higher occupancy rate in part reflects the comparatively high rate of Maori and Pacific Island households in Manukau City, with corresponding larger average family size. It also indicates that South Auckland housing stress (reported, for example, by Alatini, 2004) is likely to be a continuing feature in 2006. Perhaps surprisingly in light of the Auckland CBD apartment boom, the occupancy rate in Auckland City has not fallen over time, and in fact increased slightly between 2001 and 2006. This suggests that there is also some degree of housing stress in parts of Auckland City. Papakura and Franklin have displayed reducing occupancy rates over the past 15 years, a trend that has continued over the five years to 2006; North Shore's has remained stable.

Auckland City and Manukau are the two most populous local authorities and have the largest housing stock. As Figure 1 depicts, the majority of the population and housing stock are in the Auckland isthmus, or just to the west in Waitakere, to the north in North Shore City, or just to the south in Manukau City. North Shore City is the most densely populated local authority, having the highest number of people and dwellings per square kilometre.[17] Rodney and Franklin, in contrast, are predominantly rural. The concentration of dwellings is depicted in Figure 2.

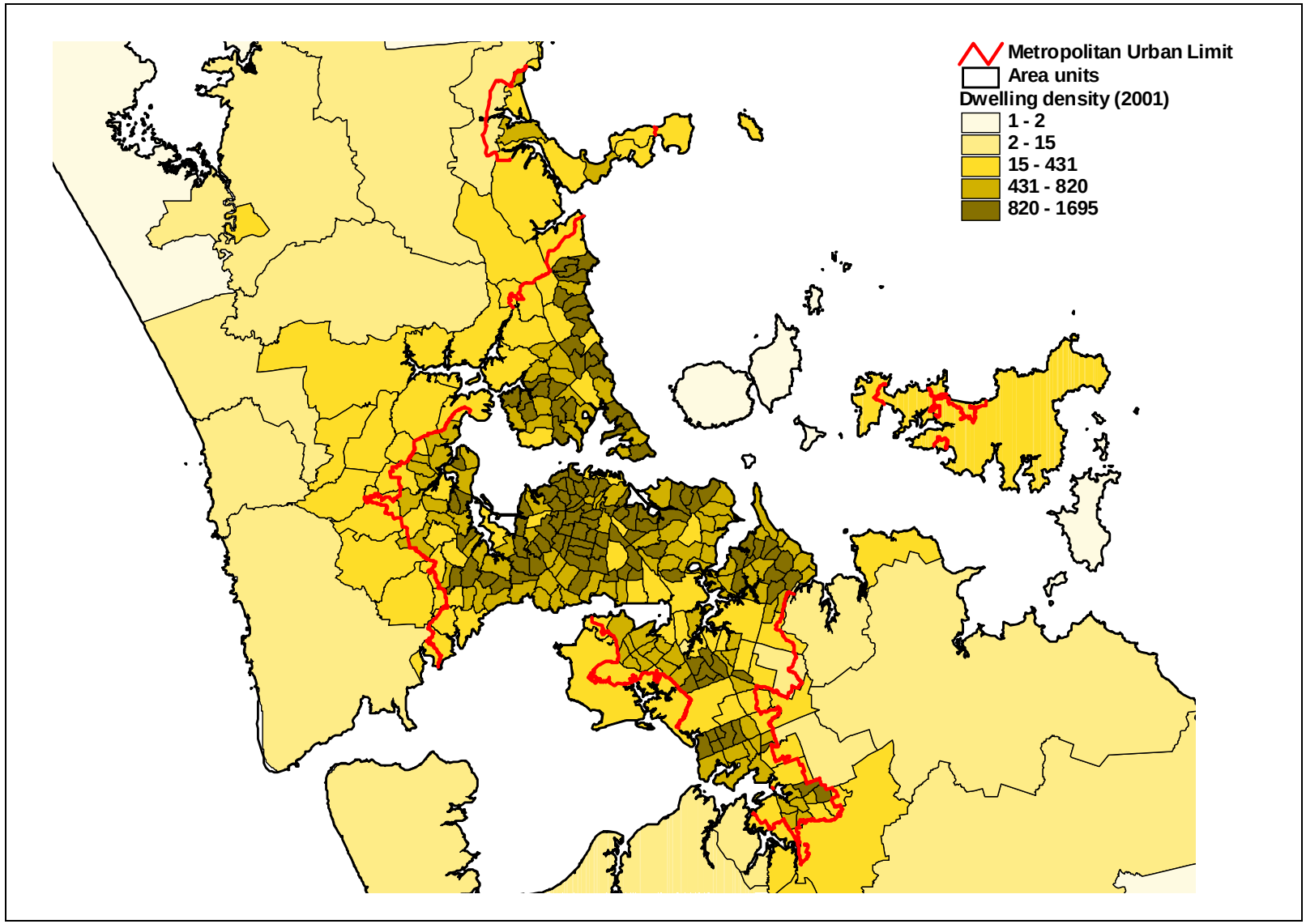
[17] Auckland City includes the sparsely populated Hauraki Gulf islands which reduce its reported residential and population densities.

Figure 1: Number of dwelling units (houses and apartments) by area unit (2001)



Source: Statistics New Zealand

Figure 2: Residential density (dwellings per km^2) by area unit (2001)[a]



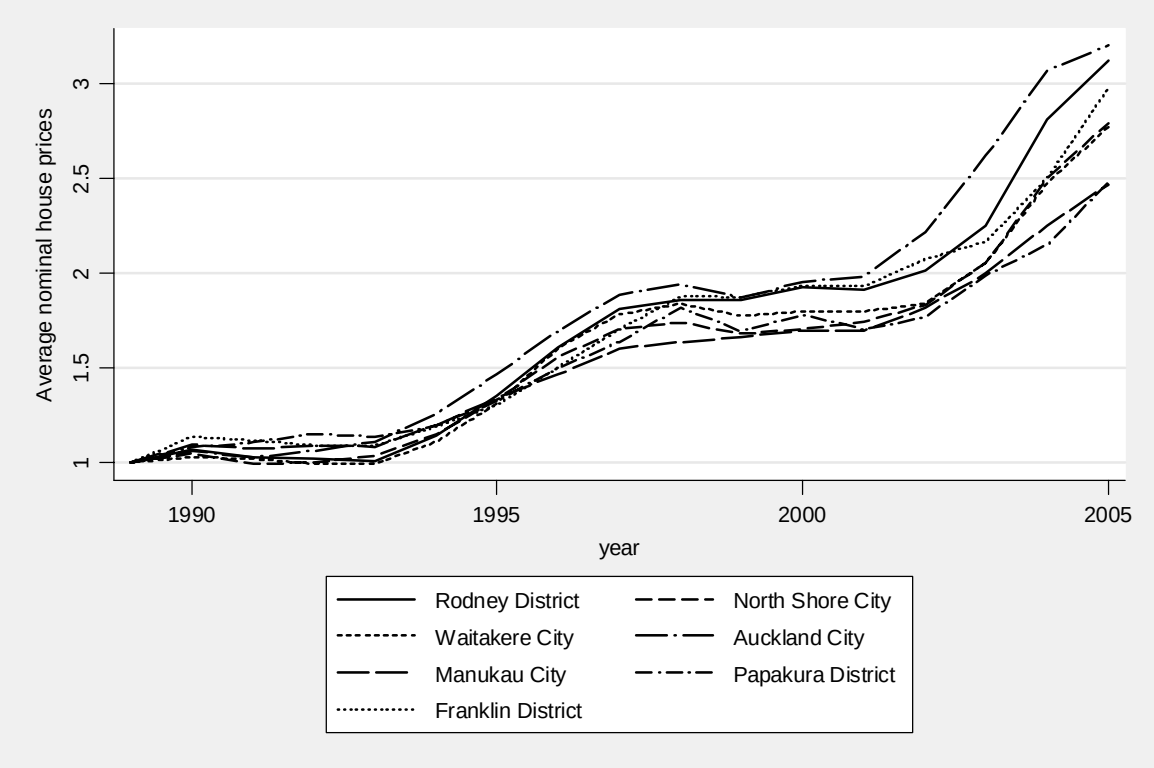
Source: Statistics New Zealand

[a] Areas used to calculate densities excludes any water greater than 15ha.

3.2 Prices and Costs

House prices have more than doubled across all seven Auckland TLAs since 1989. In some cases (Auckland City, Rodney, Waitakere) they have trebled (Figure 3). Table 2 shows the percentage change in house prices by Local Authority between 1995 and 2005.

Figure 3: Index of average nominal house prices by TLA (1989 = 1.0)



Source: Quotable Value New Zealand

Table 2: Median house sale prices[a]

Territorial Local Authority	Median House sales price (1995)	Median House sales price (2000)	Median House sales price (2005)	Median sales price, % change (1995-2000)	Median sales price, % change (2000-2005)
Rodney	160,954	228,928	372,040	42	63
North Shore	219,348	280,537	459,361	28	64
Waitakere	146,491	203,012	315,306	39	55
Auckland	235,387	311,799	508,436	32	63
Manukau	180,874	235,256	349,289	30	48
Papakura	155,343	209,084	291,433	35	39
Franklin	115,662	174,377	266,760	51	53

Source: Quotable Value New Zealand
[a] Refers to a stand-alone dwelling.

The distribution of median residential house prices across Auckland is shown in Figure 4 at area unit ("suburb") level. The pattern is striking – area units with the highest house prices tend to be those around the CBD and/or on the northern coastline of the Auckland isthmus, or around the coast of the North Shore. Two further clusters of high prices are around Albany and Orewa.

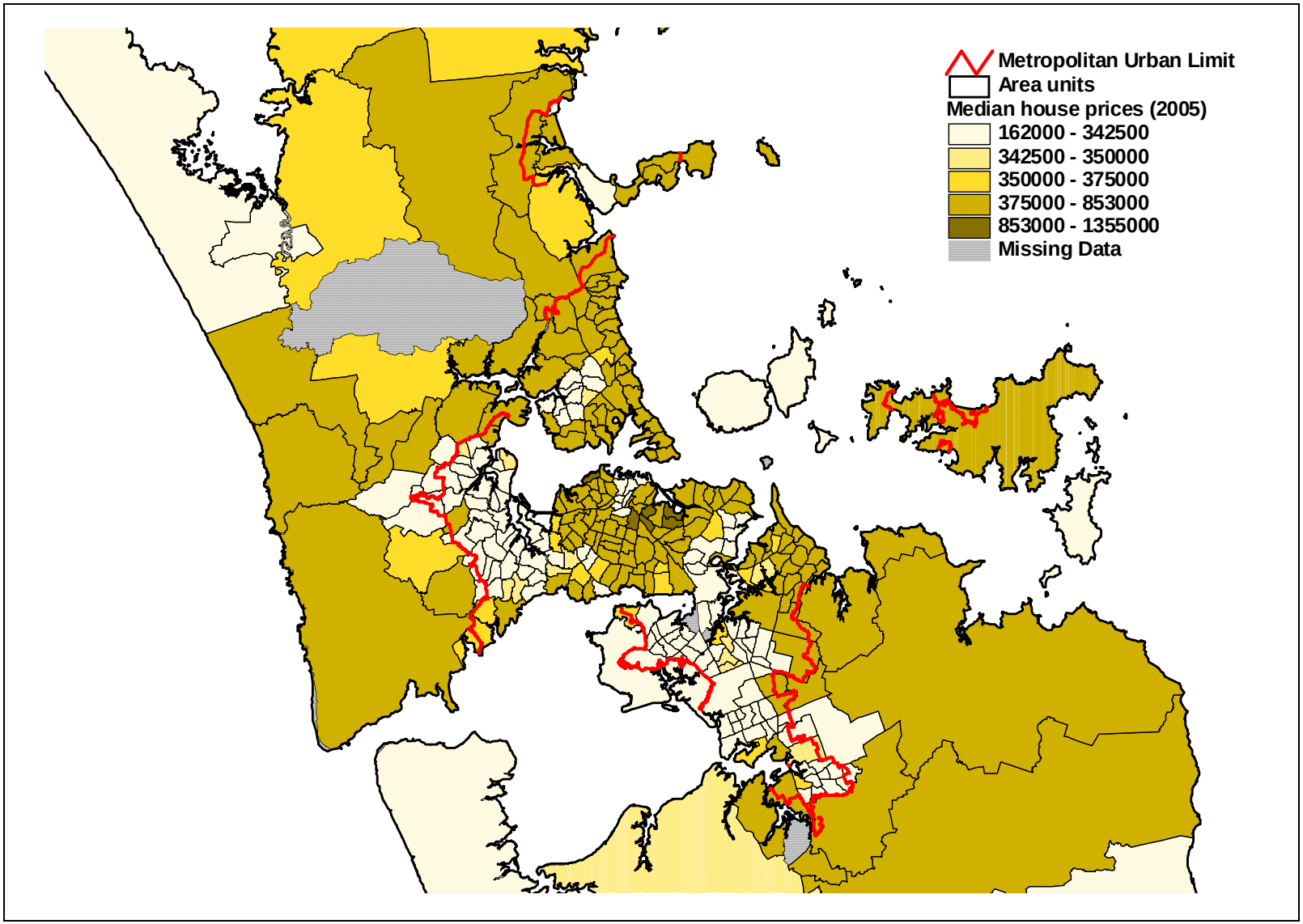
Across the 360 area units for which we have price data[18], (stand-alone) house prices increased on average by 63% between 2000 and 2005 (calendar years) and had on average 89 sales in this period. Area units with median house price increases in the top quintile are dispersed across all seven TLAs in the Auckland region (Figure 5); however it is possible to identify several clusters of high price growth. Area units near the Auckland CBD or on the coast are prominent: Mt Hobson (167% increase), Westmere (112%), Ponsonby West (107%), Waiheke Island (107%), Ponsonby East (107%), Kohimarama West (103%), Arch Hill (102%), Sherbourne (99%) and Herne Bay (97%). In addition,

[18] Sourced from Quotable Value New Zealand. QVNZ defines residential dwellings (houses) as those dwellings of a fully detached or semi-detached style on their own clearly defined piece of land, and defines apartments/flats in four different ways. We form an average these, weighting by the number of sales in each category for each area unit and year. The categories are: Residential home and income: the dwelling is the predominant use and there is an additional unit of use attached to, or associated with, the dwelling house which can be used to produce income; Residential converted: converted dwelling houses which are now used as rental flats; Residential

the area around Whenuapai has seen dramatic price growth over this period, for example: Paremoremo West (531%), Dairy Flat-Redvale (147%), Paremoremo East (133%) and Whenuapai West (119%). There has also been strong price growth around Albany and around Auckland airport (Mangere South, 100%). Areas in the lowest quintile are predominantly in the western part of Manukau City and the northern part of Papakura (in contrast prices in Drury in the southern part of Papakura rose 140%). The largest decline in house prices over this period was in Eden Road-Hill Top (-20%) in Franklin. Mt Eden North and Newton in Auckland City also had declines in median prices of 4% and 2% respectively.

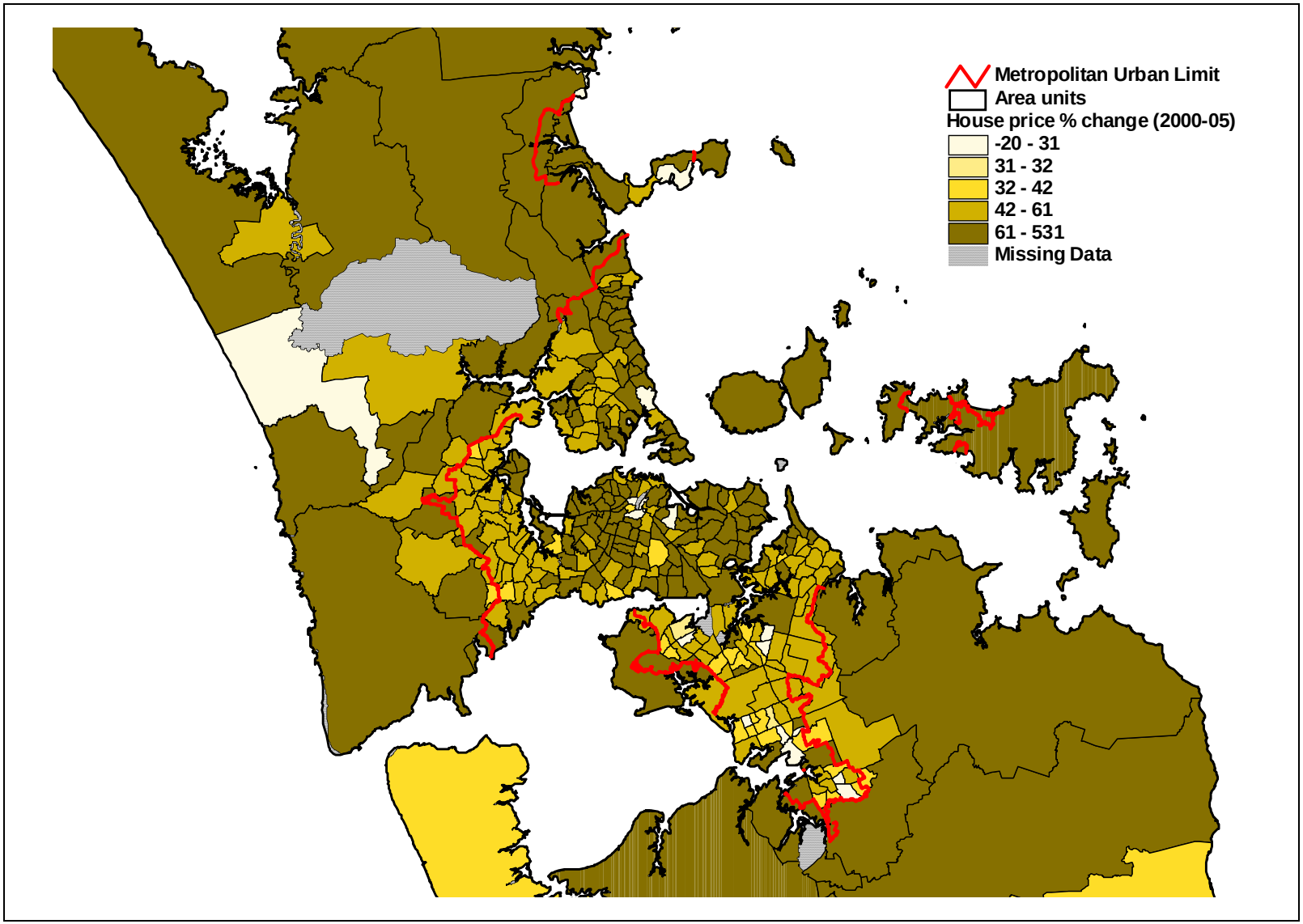
rental: flats which have been purpose built; Residential flat: Ownership units which may be single storey or multi-storey and which do not have the appearance of dwelling houses.

Figure 4: Median residential house prices by area unit (2005)



Source: Quotable Value New Zealand

Figure 5: Median residential house prices by area unit (% change 2000-05)



Source: Quotable Value New Zealand

Over the 2000-2005 period, apartment prices rose by less than house prices in all TLAs, other than Franklin where the rates of increase were identical (Table 3). Prices rose by 51% on average across the region. Apartment prices rose most in Rodney District (57%), followed by North Shore City and Waitakere. Prices rose the least in Auckland City and Papakura (each 35%). The comparatively low rate of apartment price increase in Auckland City is notable given the high rate of apartment construction in the city over this period.

Table 3: Median apartment sale prices[a]

Territorial Local Authority	Median Apartment sales price (1995)	Median Apartment sales price (2000)	Median Apartment sales price (2005)	Median sales price, % change (1995-2000)	Median sales price, % change (2000-2005)
Rodney	160,928	221,778	347,488	38	57
North Shore	174,643	229,807	355,147	32	55
Waitakere	116,259	166,656	249,169	43	50
Auckland	155,184	252,204	341,480	63	35
Manukau	153,636	193,634	265,072	26	37
Papakura	114,826	156,832	212,035	37	35
Franklin	114,665	153,740	235,724	34	53

Source: Quotable Value New Zealand

[a] Refers to a weighted average of four Quotable Value categories (Residential home and income, Residential converted, Residential rental, and Residential flat).

One reason for the lower rate of apartment price than house price inflation could be a downsizing of apartments through this period relative to the existing apartment stock and/or an upsizing in houses relative to the existing house stock (both of which accord with anecdotal observation.) Another reason could be a lack of demand for apartments (or at least for the type of apartments that have been built). A further reason could be that apartments are less land-intensive than are stand-alone dwellings. If land has increased faster in value than improvements, then apartment prices will tend to inflate by less than the price of stand-alone houses.

Table 4 reports the median vacant section sales price for each TLA for 1995, 2000 and 2005 together with the five-yearly rates of increase. It also reports rates of construction cost increase for the Auckland region based on data from *New Zealand Building Economist*. This measure holds constant the size and quality of a notional dwelling, which is appropriate for a cost index.[19]

We made an attempt to derive our own composite cost measures by interviewing stakeholders about the typical breakdown of costs (e.g. between materials, labour and land) for house construction. Appendix C discusses the difficulties that preclude this being a fruitful approach. We therefore rely on the published construction cost data that appropriately measures the cost of a constant quality dwelling unit.

The published construction cost measure shows annual rates of increase of 1.2% and 2.3% p.a. respectively over the five years to 2000 and 2005. These rates are fractionally below the rates of consumer price inflation for the two periods (1.9% and 2.5% p.a. respectively).

[19] This measure can be downloaded from the Statistics New Zealand website. The value of improvements for the typical new house will have inflated faster than shown by this measure if the size and/or quality of new houses has been improving.

Table 4: Median vacant section sale prices and construction costs

Territorial Local Authority	Median vacant section sales price (1995)[a]	Median vacant section sales price (2000)[a]	Median vacant section sales price (2005)[a]	Median vacant section sales price, % change (1995-2000)[a]	Median vacant section sales price, % change (2000-2005)[a]	Construction cost, % change (1995-2000)[b]	Construction cost, % change (2000-2005)[b]
Rodney	68,824	152,484	285,393	122	87	6%	12%
North Shore	93,875	144,269	256,517	54	78		
Waitakere	60,258	107,243	233,041	78	117		
Auckland	106,157	192,721	460,453	82	139		
Manukau	104,275	141,733	216,575	36	53		
Papakura	68,363	138,598	176,610	103	27		
Franklin	40,458	86,996	173,547	115	99		

Source: [a]Quotable Value New Zealand and [b]New Zealand Building Economist

In contrast to the low measured rates of construction cost increase, land prices have inflated hugely since 1995. Vacant section prices doubled or more than doubled in the five years to 2005 in each of Auckland, Waitakere and Franklin. Rodney and North Shore also experienced very strong section price increases. Comparatively 'low' section price increases were experienced in South Auckland (Manukau and Papakura), but even Papakura's rate of section price increase was well above consumer price inflation and followed a doubling in its section prices over the previous five year period. Over the ten years to 2005, the median vacant section price across TLAs rose from a 'low' of 108% in Manukau to highs of 334%, 329% and 315% in Auckland City, Franklin and Rodney respectively.

The correlation coefficient between the ten year rates of increase in median house prices and median vacant section prices for the seven TLAs is 0.88. In other words, we can 'explain' over three-quarters of the variation in cross-TLA house price movements simply by referring to cross-TLA vacant section price movements over this decade. Both house and section prices reflect forces of

supply and demand. We examine the supply side, in particular, in subsequent analysis.[20]

As discussed in the section on zoning, the Metropolitan Urban Limit (MUL) largely restricts expansion of urban activity to within the MUL boundaries. Provided two conditions hold, this restriction is likely to be reflected in differences in the prices of otherwise identical land within and just outside the MUL. The first condition for this pattern to hold is that there is demand (in the absence of the MUL) for urban expansion beyond the MUL limits (i.e. the MUL is a binding constraint). The second condition is that the MUL is actually effective (and is expected to remain effective) in restricting urban expansion beyond the imposed boundaries (i.e. the regulations "work").

We can see whether the hypothesised pattern holds by plotting the value of rural (greenfields) land within and outside the MUL boundary. If the conditions hold in full, we would expect to see a sharp drop-off in rural land values at the MUL boundary. If agents see some probability of the MUL being relaxed over time, we would expect to see a gradual reduction in land values as distance increases beyond the existing MUL.

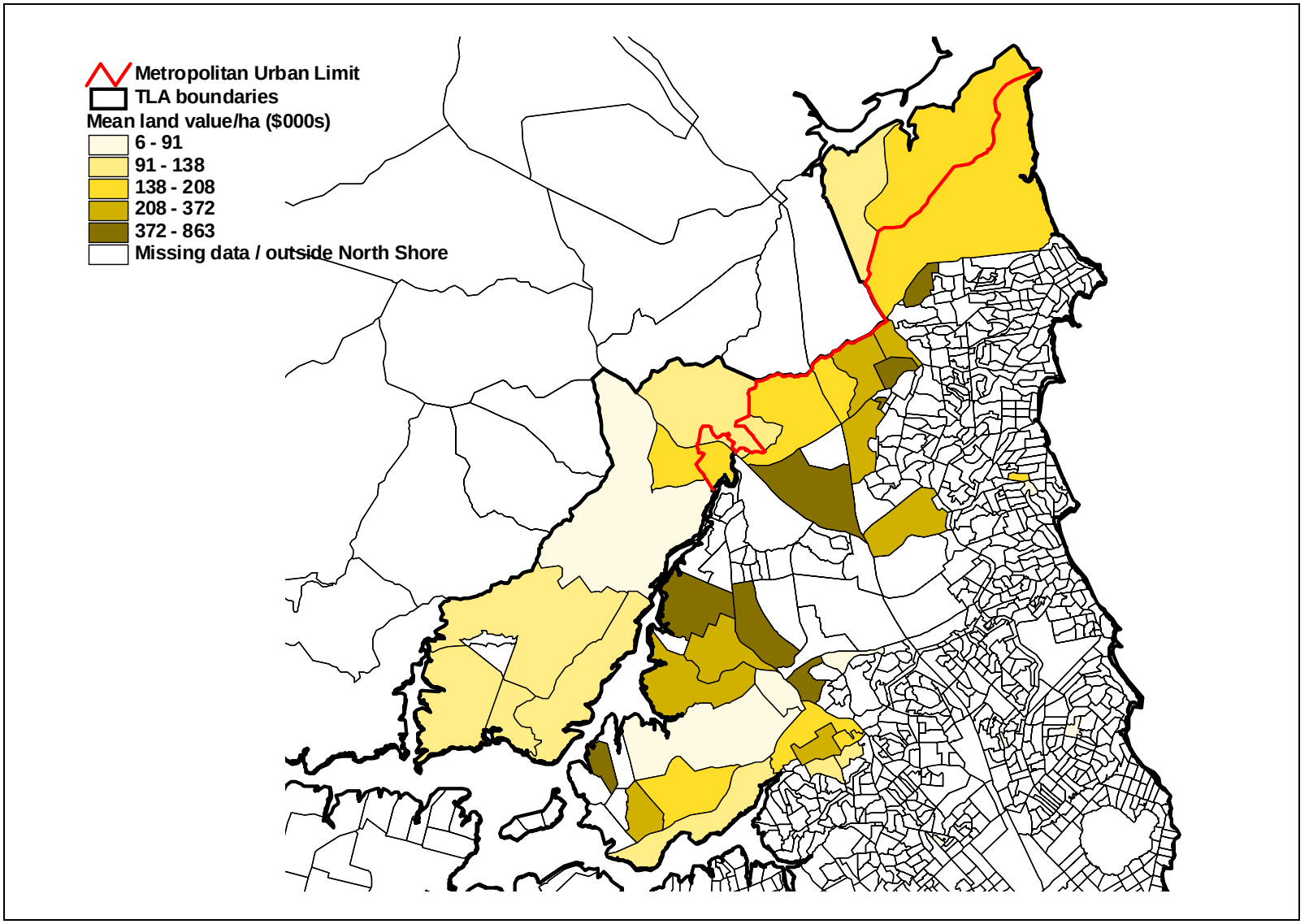
[20] For analysis of demand side factors that impact on house prices, see Grimes and Aitken (2004).

Figure 6 plots average rural land values[21] (i.e. rateable values) per hectare by mesh-block for North Shore City in 2002 (the most recent valuation year for which we have data). The MUL is marked in red.[22] Most mesh-blocks in the city contain no rural land and are therefore left blank in the figure. All the most highly valued meshblocks (other than a 'rogue' observation well within the city) are situated just within the MUL. Some, but not all, rural land in meshblocks just outside the MUL are also relatively highly valued while land a little more distant is less highly valued still. Figure 7 and Figure 8 produce similar maps for Manukau City and for Papakura. The patterns in each case are similar to those for North Shore. Overall, the patterns indicate that the existence of the MUL results in an increase in land prices where that land can be used for housing (i.e. for land within the MUL). The moderately high value of land just outside the MUL indicates a market expectation that the MUL may be relaxed over coming years to allow urban development in neighbouring mesh-blocks.

[21] This is a weighted average of the following Quotable Value categories (where applicable): Arable Irrigated, Arable Non Irrigated, Dairying Factory, Dairying Town Supply, Forestry Exotic, Forestry Indigenous/Protected, Forestry Vacant, Horticulture Total, Lifestyle Improved, Lifestyle Vacant, Pastoral Fattening/Stud, Pastoral Grazing, Pastoral Run, Specialist.

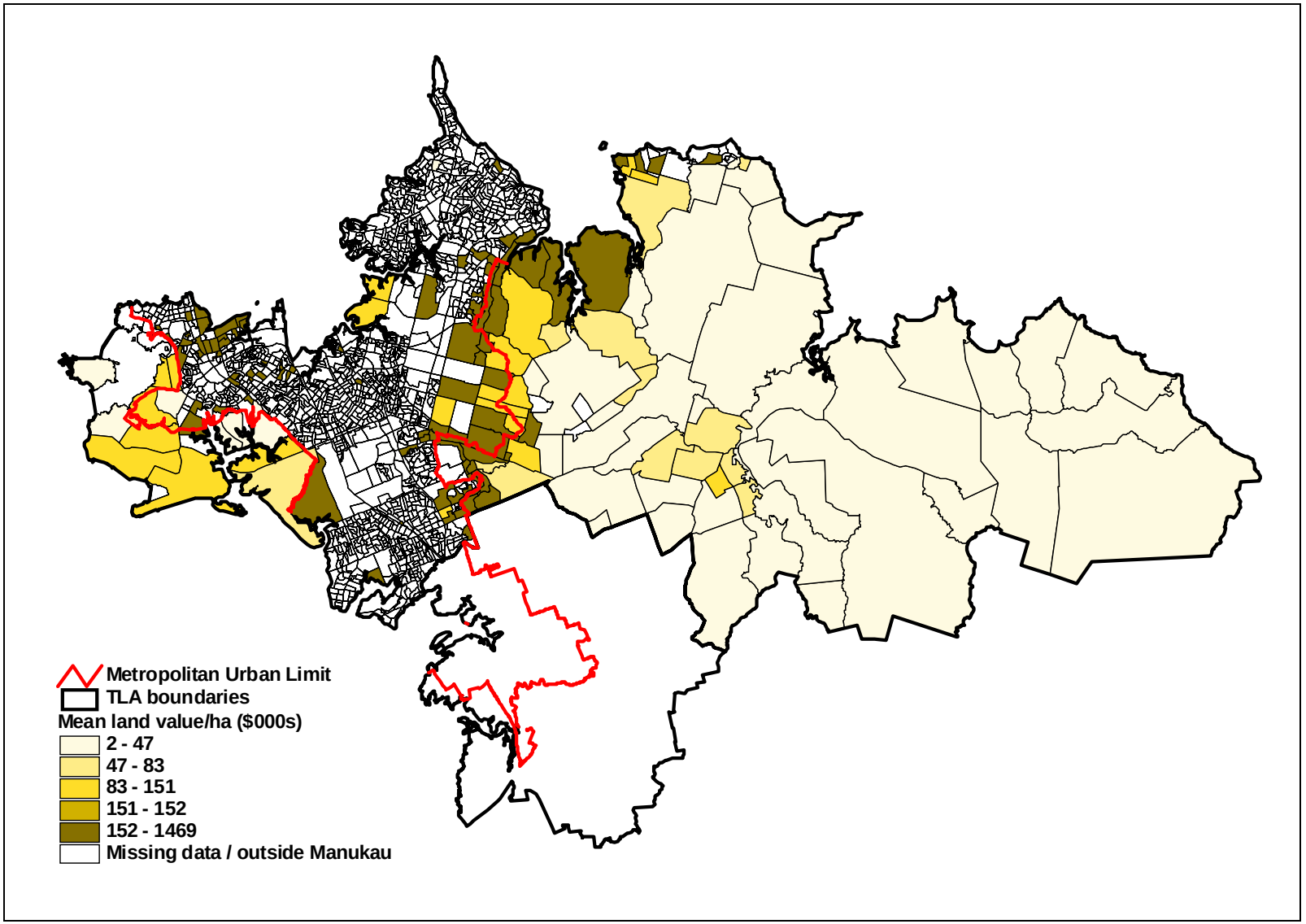
[22] In this and subsequent graphs, the MUL often cuts through a mesh-block (or area unit); where it does so we recommend that the relevant area be interpreted as falling inside the MUL boundary.

Figure 6: Mean rural land value ($000 per hectare) North Shore City (2002)



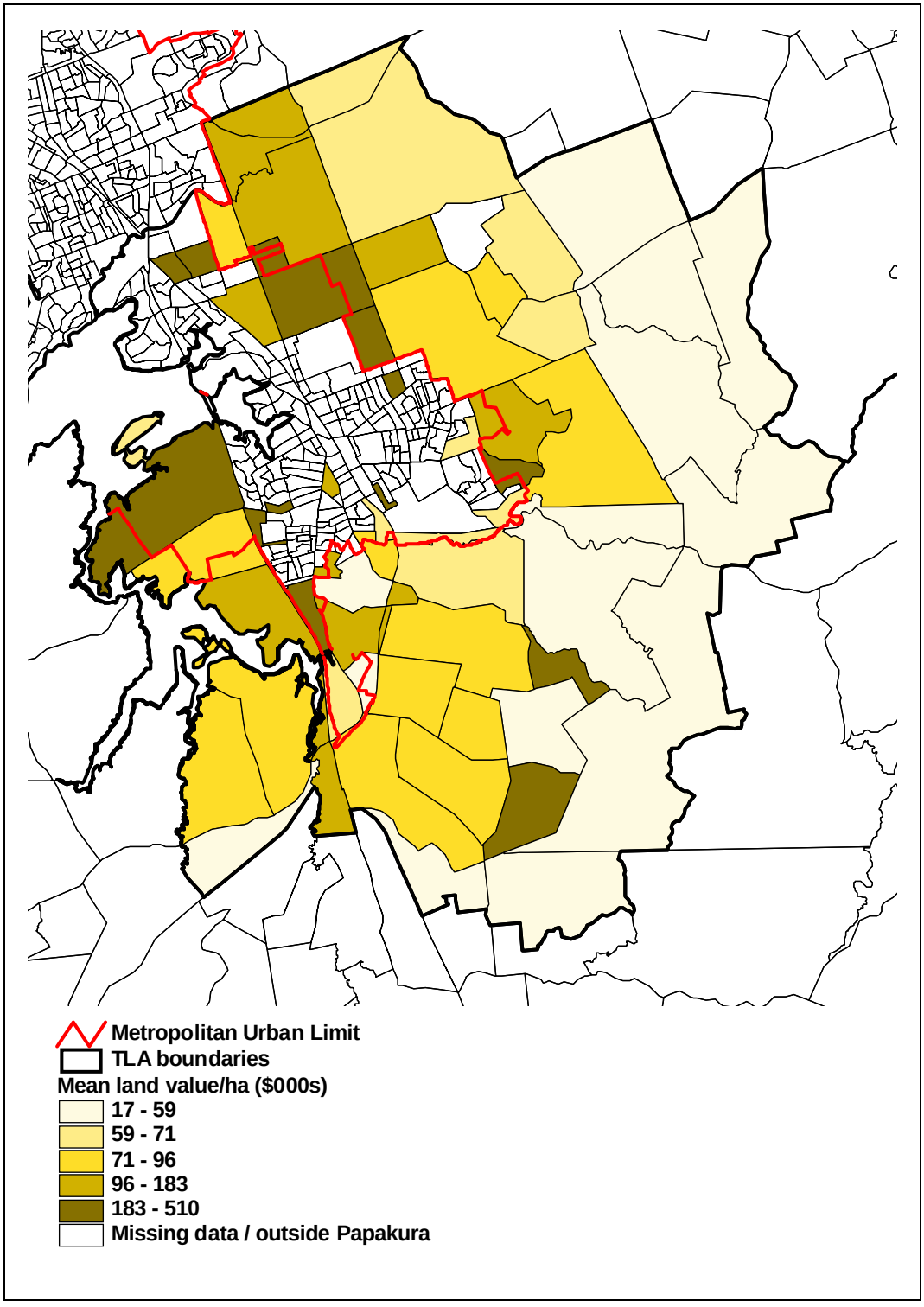
Source: Quotable Value New Zealand

Figure 7: Mean rural land value ($000 per hectare) Manukau City (2002)



Source: Quotable Value New Zealand

Figure 8: Mean rural land value ($000 per hectare) Papakura District (2003)



Source: Quotable Value New Zealand

3.3 Building Consents

Table 5 shows the total number of building consents issued over the period 2000 to 2005 (calendar years) for the seven TLAs in the Auckland region. A total of 59,679 building consents were issued in the region over this period for houses and apartments, with the largest proportions being in Auckland City (34%) and Manukau City (22%).[23] For all TLAs other than Auckland City, house consents substantially outstripped apartment consents. The pattern was reversed in Auckland City, with apartment consents almost three times house consents. (However, it is likely that a smaller proportion of apartment consents were actioned compared with house consents.) The predominance of house over apartment consents across the region as a whole indicates that Aucklanders' demand remains primarily for stand-alone houses rather than for apartments.

Table 5: Total residential building consents (2000-2005)[a]

Territorial Local Authority	House building consents (2000-05)	Apartment building consents (2000-05)	Total building consents (2000-05)	Consents / 2001 Stock (Houses)	Consents / 2001 Stock (Apartments)	Consents / 2001 Stock (Total)
Rodney	5,493	899	6,392	0.219	0.249	0.223
North Shore	5,115	2,557	7,672	0.099	0.171	0.115
Waitakere	5,293	2,056	7,349	0.110	0.253	0.131
Auckland	5,466	15,026	20,492	0.061	0.347	0.154
Manukau	10,824	2,313	13,137	0.156	0.159	0.157
Papakura	1,529	111	1,640	0.132	0.057	0.121
Franklin	2,838	159	2,997	0.176	0.097	0.169

Source: Statistics New Zealand

[a] We count the number of actual housing units and exclude alterations and additions.

Interesting spatial patterns of development are indicated in Table 5. Total building consents relative to total existing dwelling stock in the five "non-

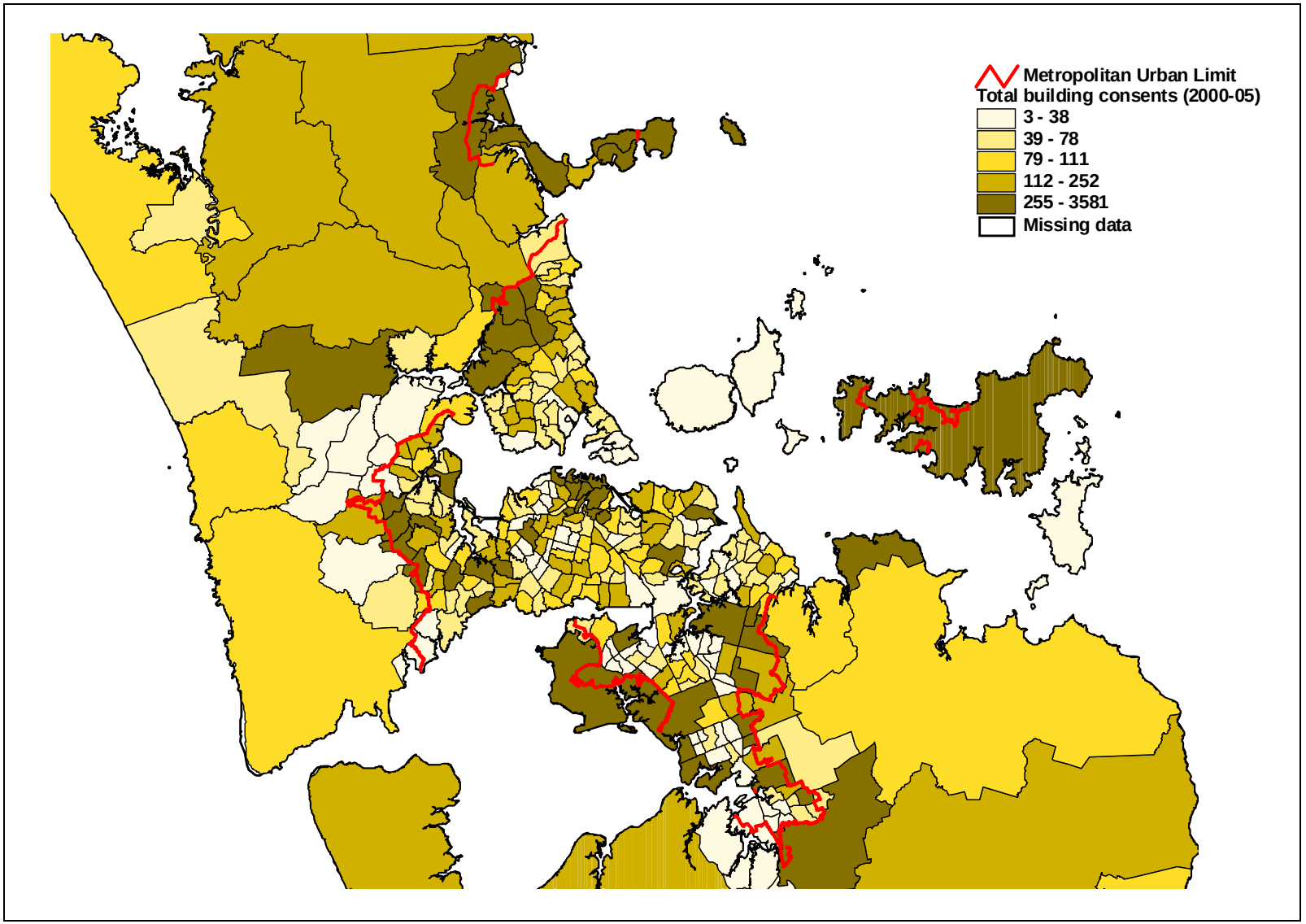
[23] Instances where construction does not take place following the issuing of a consent are not corrected for in consent data and so consent data represent an overestimate of actual building activity.

northern" TLAs varied between 12.1% and 16.9%, with Franklin - the most outlying of these TLAs - having the highest proportion of consents to existing stock. To the north, North Shore City had a particularly low ratio of consents to existing stock (11.5%), despite the Albany developments. However further north again, Rodney had by far the highest rate of consents at 22.3% of existing stock.

This pattern of consents indicates a situation where development is being pushed to (or beyond) the periphery of the city - well beyond the metropolitan urban limits pertaining to the major part of metropolitan Auckland. This development pattern is at odds with the RGS vision of a 'compact city'. By limiting development on the borders of the existing metropolitan area, implementation of that vision may well be resulting in an even more sprawled metropolis.

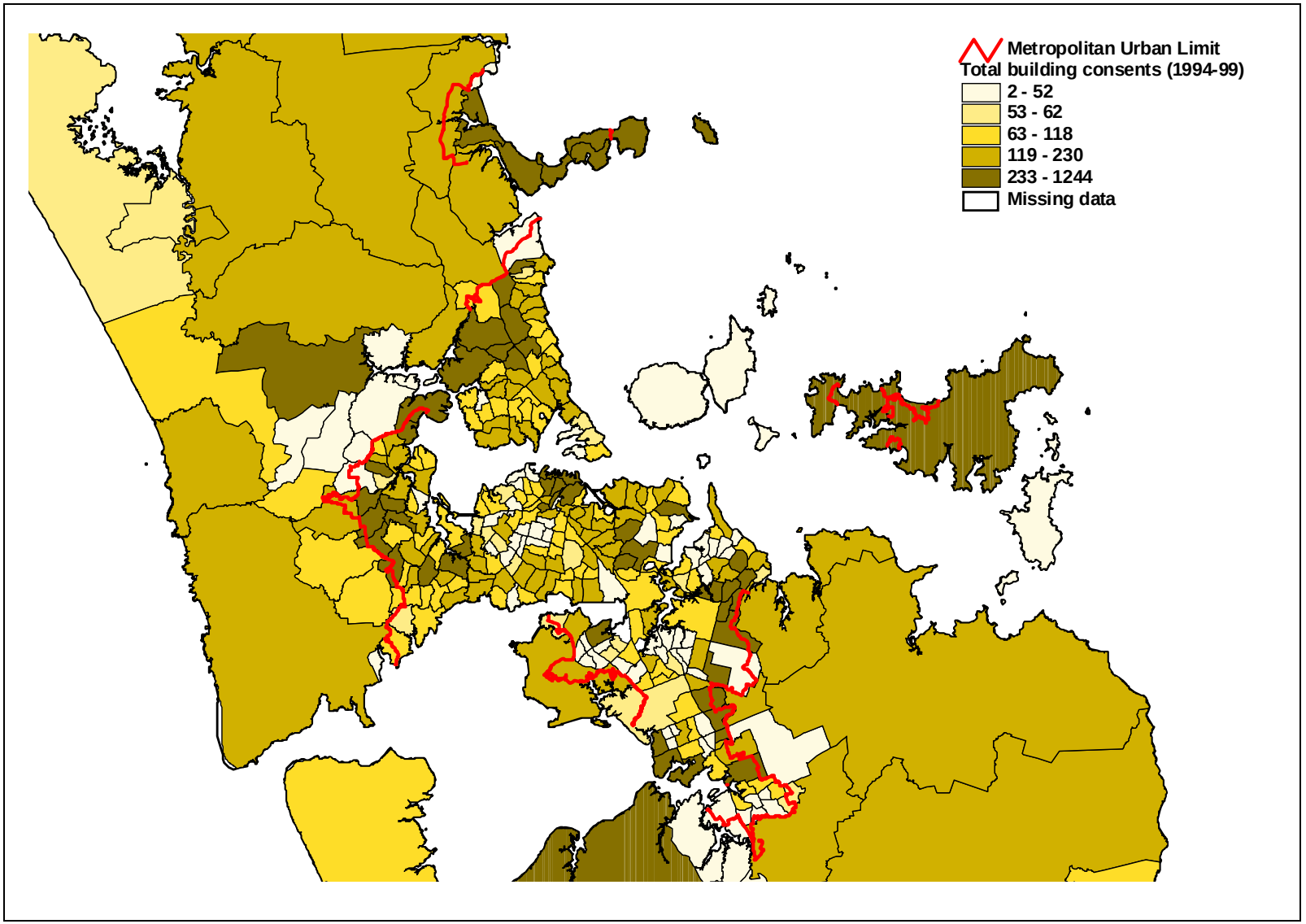
Relative to the stock of existing houses and apartments, apartment building is extremely strong in Auckland, Waitakere and (to a lesser extent) North Shore, consistent with a move to intensification in these cities. House building and apartment building (relative to existing stocks) are broadly evenly balanced in Rodney and Manukau; house building predominates relative to apartment building in Papakura and Franklin. The strength of house consents in Rodney and Franklin again underscores the demand for stand-alone houses in greenfields areas beyond the main area covered by the MUL.

Figure 9: Total residential building consents (2000-05)



Source: Statistics New Zealand

Figure 10: Total residential building consents (1994-99)

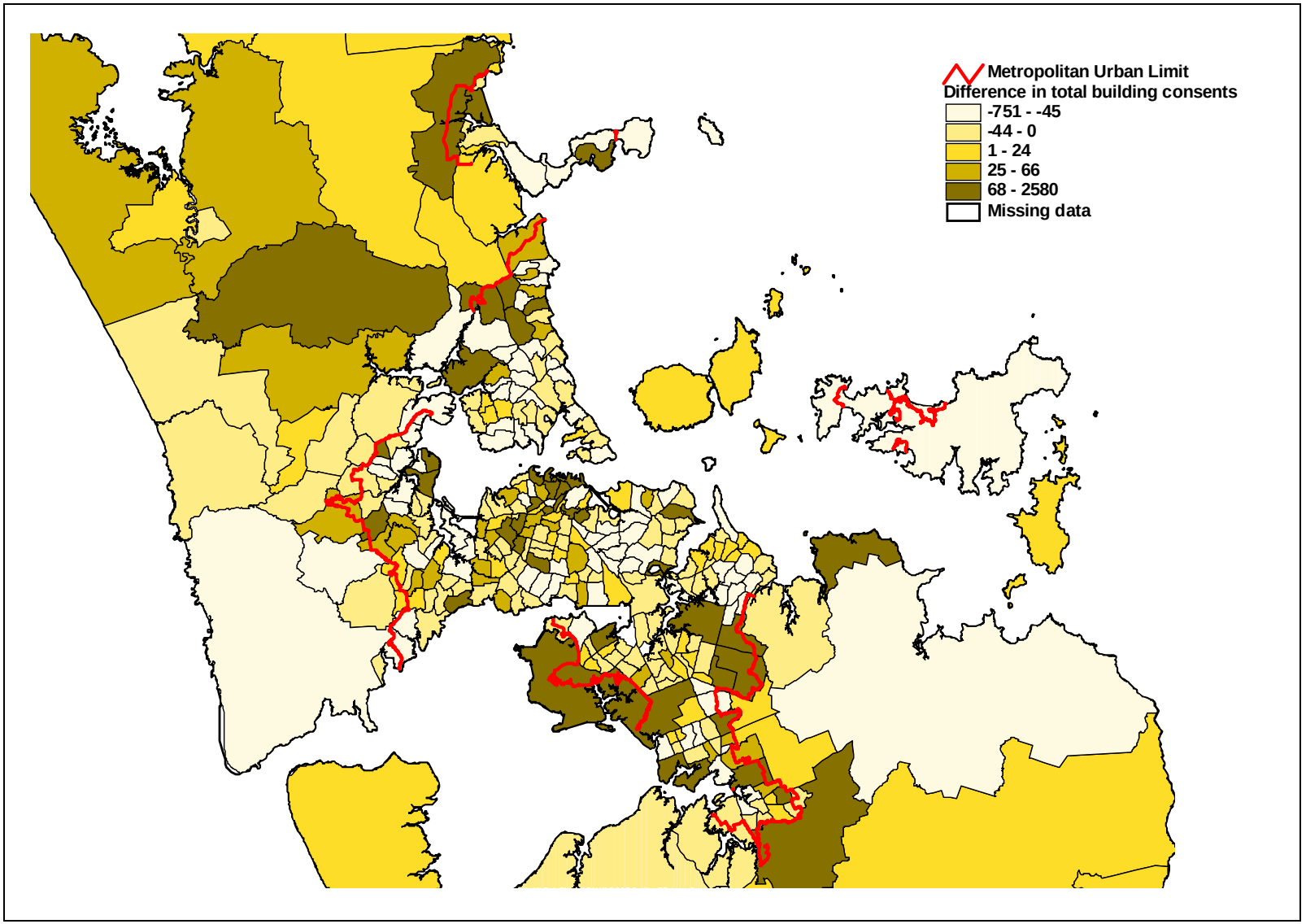


Source: Statistics New Zealand

Figure 9 and Figure 10 map total consents by area unit for the 2000-2005 period and for the prior six-year period, 1994-1999. Figure 11 indicates the growth or decline in building consents between the period 1994-99 and 2000-05. These data suggest the two largest growth spots are around Auckland airport (Mangere South) and Albany (Greenhithe, Albany, Northcross), with strong growth also in Donegal Park (Manukau City) Newmarket, and Sturges North (Waitakere). The figure also gives an indication of where growth has slowed, for example Millhouse in Manukau City, where there was rapid expansion in the mid-1990s (a total of 840 consents over 1994-99), compared to 249 over 2000-05. Similarly, expansion has slowed for Unsworth Heights, Maungamaungaroa, Lucken Point, Awaruku, and Parnell West.

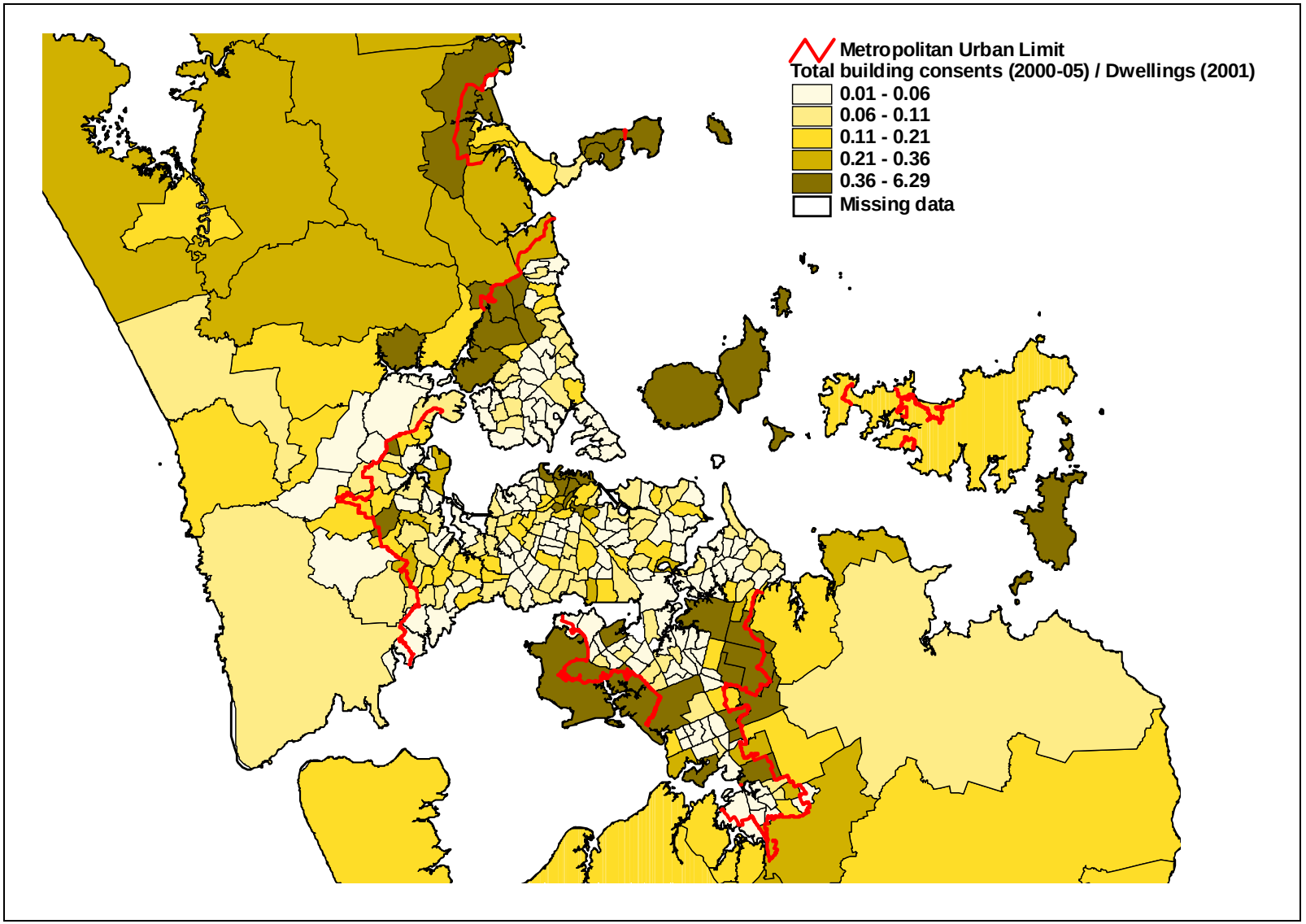
The number of building consents issued over 2000-05 relative to the 2001 dwelling stock is shown in Figure 12, which again highlights major growth spots in parts of Waitakere (Sturges North, Westgate), around Albany (Northcross, North Harbour, Pinehill, Greenhithe), around Orewa (Gulf Harbour, Kawau, Silverdale North, Army Bay, Orewa), Mangere South, and around the CBD fringe in Auckland City (Newmarket, Eden Terrace, St Marys).

Figure 11: Difference in residential building consents (2000-05 less 1994-99)



Source: Statistics New Zealand

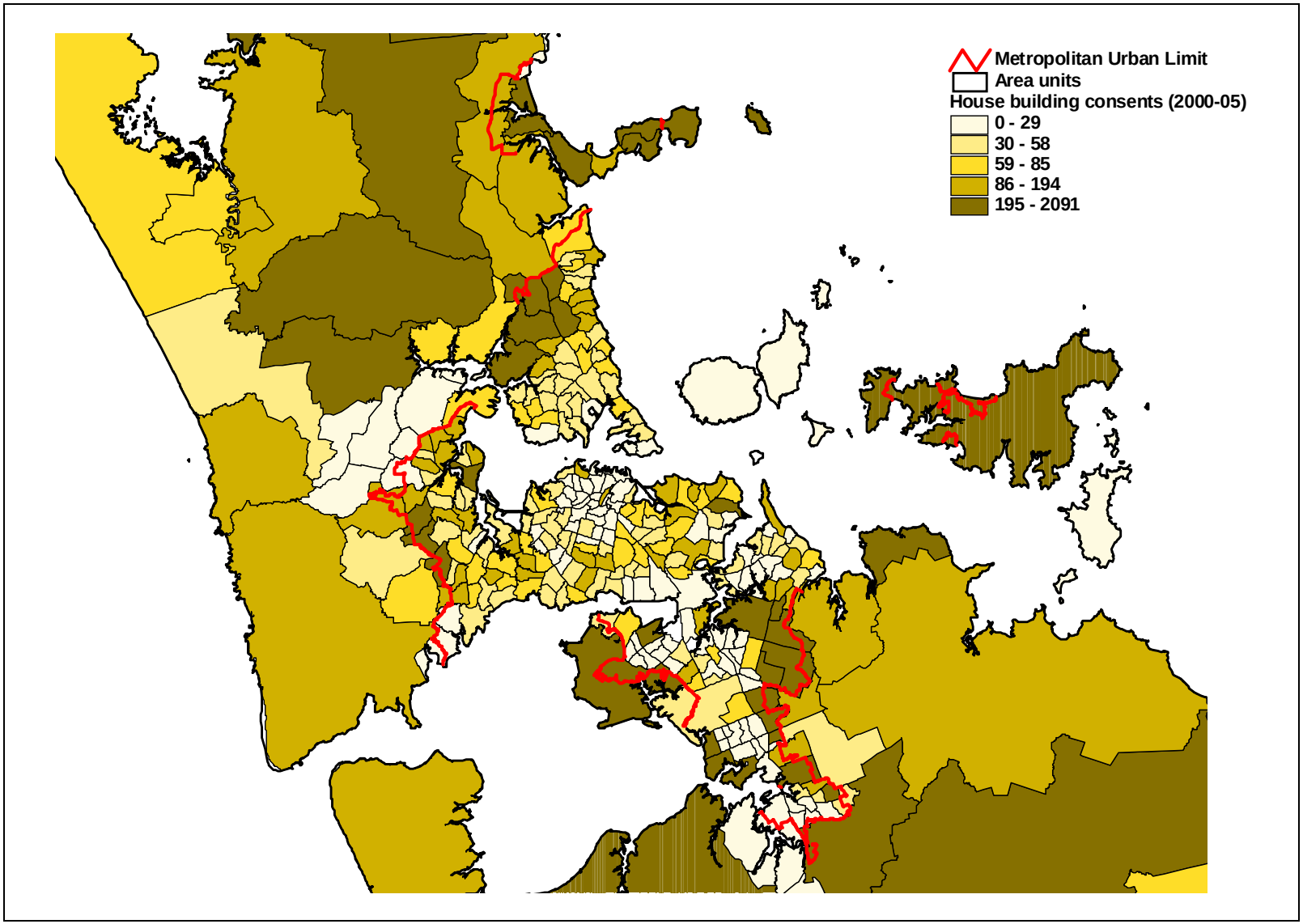
Figure 12: Residential building consents (2000-05) / 2001 dwelling stock



Source: Statistics New Zealand

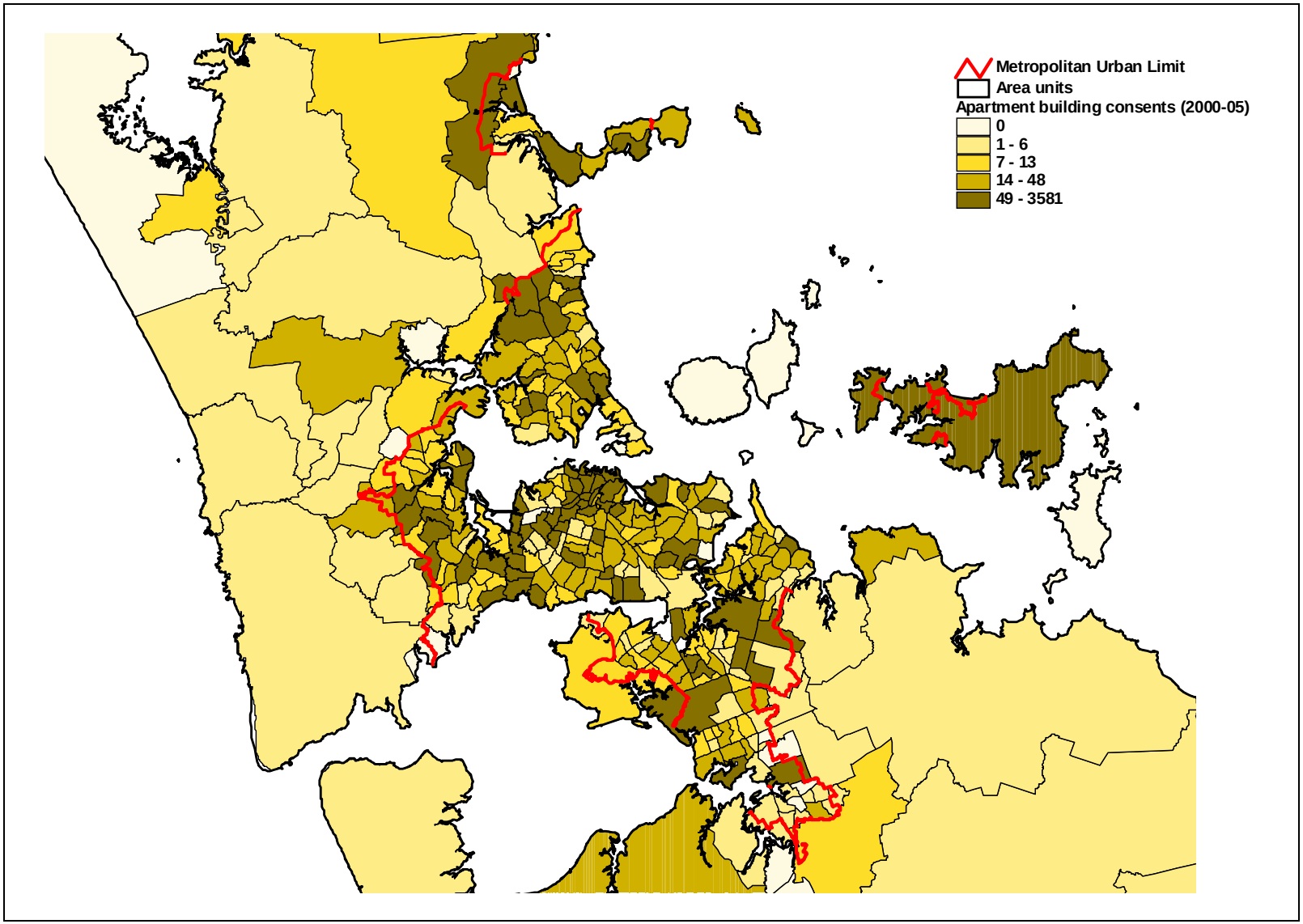
Figure 13 and Figure 14 separate the 2000-2005 consents into houses and apartments respectively. Notable from each of these maps is activity around the MUL fringes and near the Auckland CBD. The area units with the highest number of consents issued for apartments over 2000-05 are primarily in or around the CBD in Auckland City, such as Newmarket (478 consents), St Marys (317), Eden Terrace (303); or in the Albany cluster - North Harbour (457), Northcross (393), and Albany (305). Figure 14 also shows however, considerable apartment building activity in the western part of the isthmus, well away from the CBD. This activity is indicative of intensification taking place on a broader scale than just around the CBD.

Figure 13: Total house building consents (2000-05)



Source: Statistics New Zealand

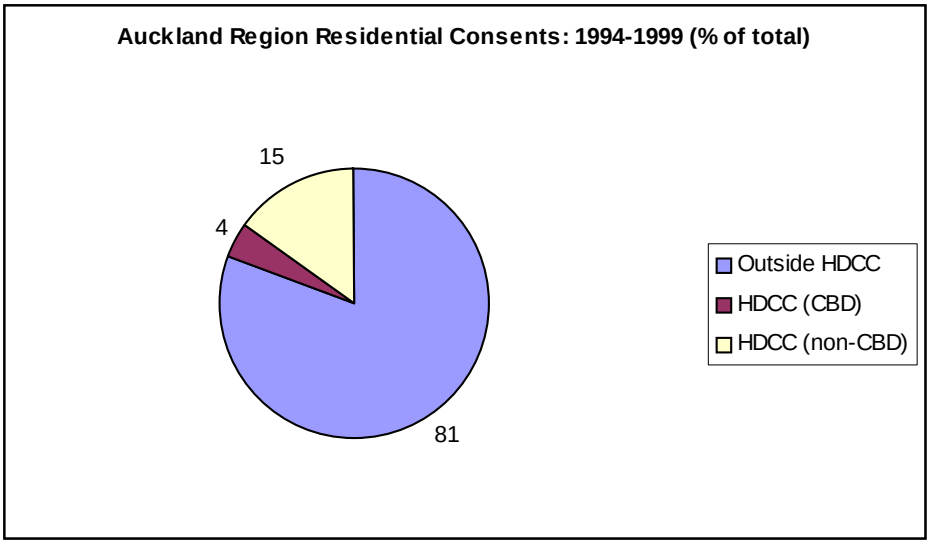
Figure 14: Total apartment building consents (2000-05)



Source: Statistics New Zealand

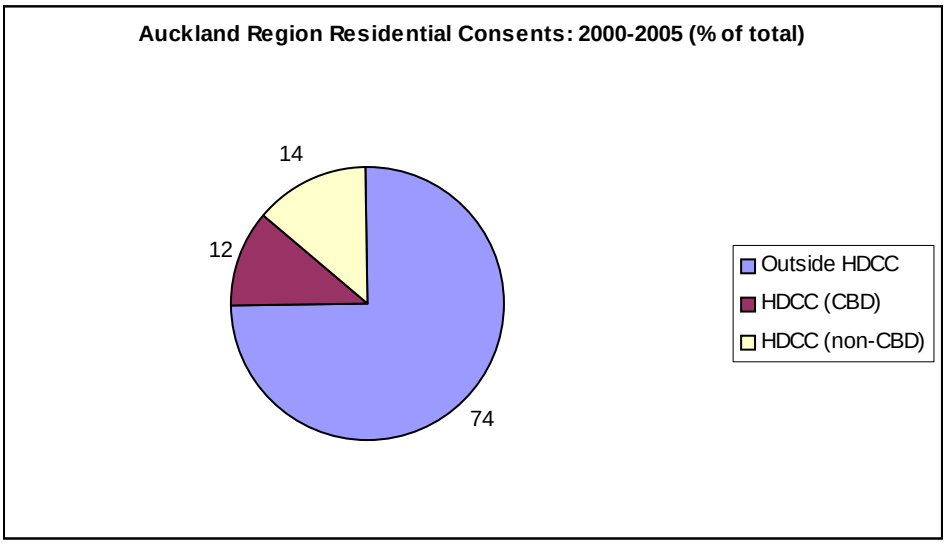
We investigate whether this growth has specifically been within the High Density Centres and Corridors (HDCC) favoured by the Regional Growth Strategy (see the Concept Map attached). Figure 15 and Figure 16 graph the proportion of Auckland Regional Council residential consents pertaining to three geographic categories: outside an HDCC, within the CBD (which is an HDCC), and within an HDCC excluding the CBD. Figure 15 presents the data for 1994-1999 and Figure 16 presents the data for 2000-2005.

Figure 15: Auckland Regional Council residential consents: 1994-1999



Source: Auckland Regional Council, using data from Statistics New Zealand

Figure 16: Auckland Regional Council residential consents: 2000-2005



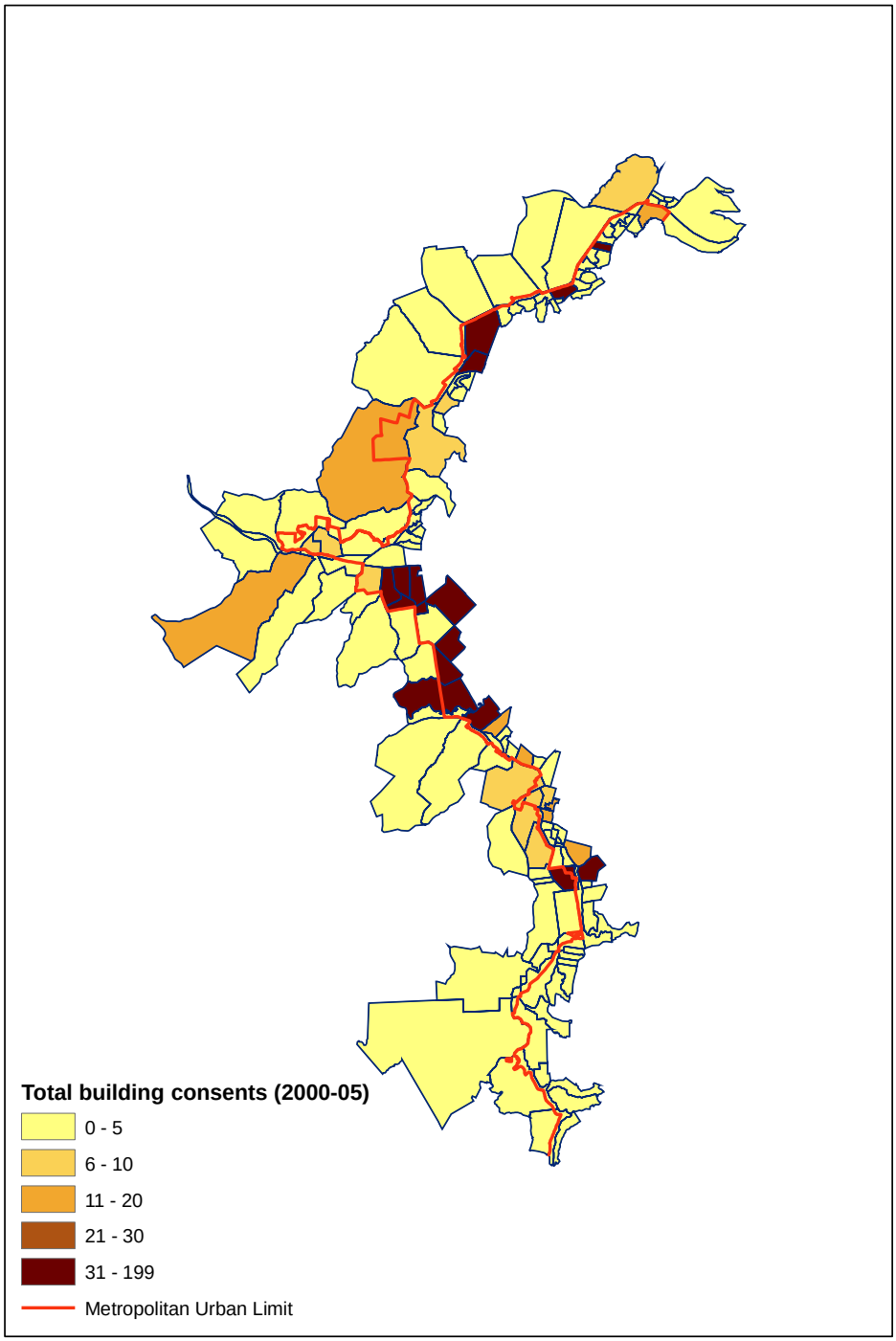
Source: Auckland Regional Council, using data from Statistics New Zealand

The proportion of consents that were granted to areas outside an HDCC fell from 81% to 74% between these two periods. However, the proportion of consents granted to non-CBD HDCCs stayed approximately the same across the two periods (15% and 14% in the earlier and later periods respectively). The CBD increased its proportion of consents from 4% to 12%; however this latter activity is now subsiding as over-supply in certain parts of the CBD apartment market is apparent.

Taken together, these two figures indicate that while intensification activity is taking place within (non-CBD) HDCCs, those areas are not increasing in terms of their overall importance for the region's housing stock. Development is continuing to occur principally in areas that are not designated high density centres or corridors. This finding is consistent with our interpretation of the zoning changes since 2000. That interpretation indicated that local authorities had not made material headway in altering zoning rules and other regulations to encourage substantive intensification in the designated HDCCs.

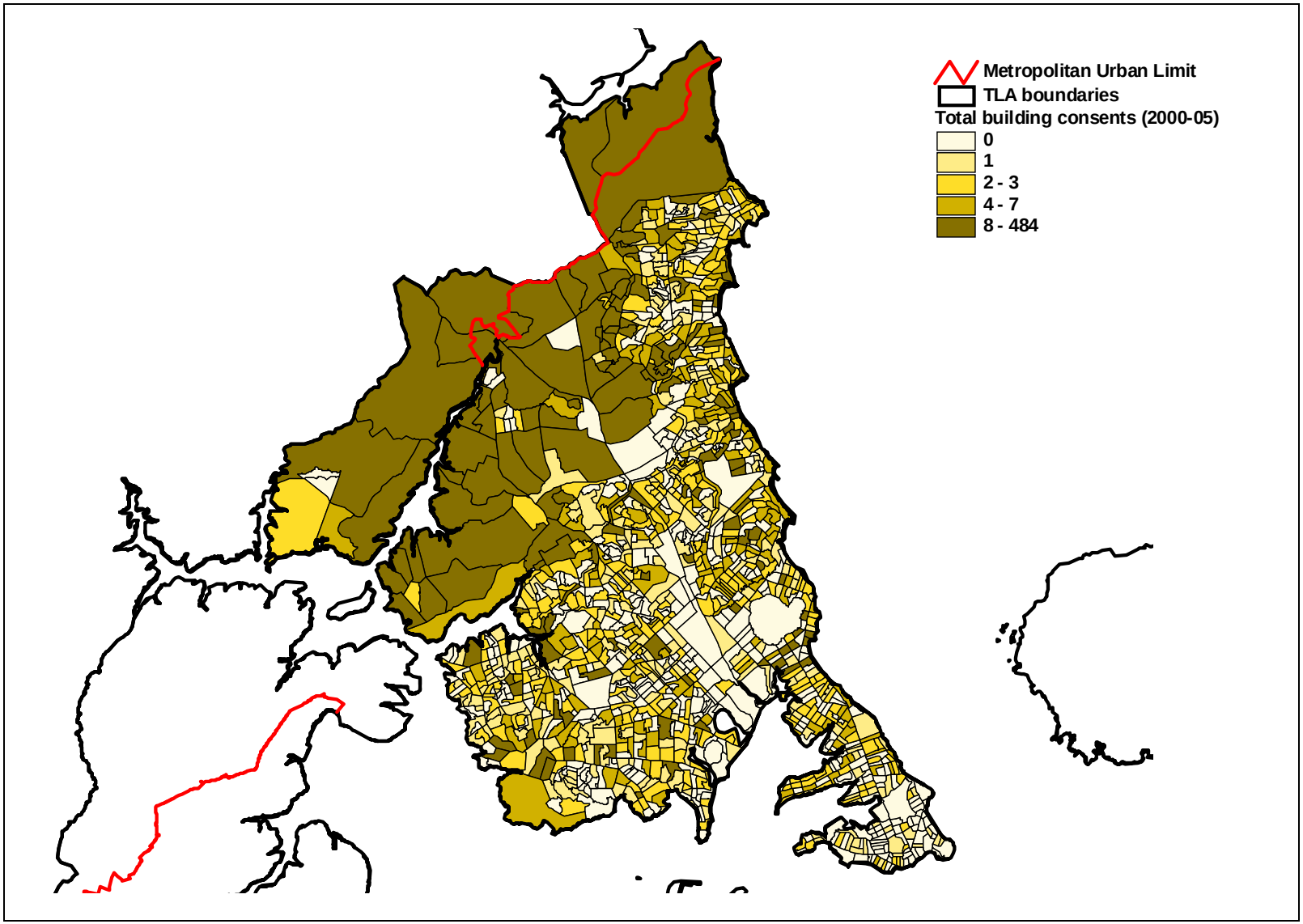
Instead, considerable development continues to occur in areas close to the MUL. Figure 17 illustrates this pattern for the meshblocks adjacent to the MUL within Waitakere City. Considerable development is taking place in areas on or just inside the MUL, but growth has been effectively prevented in most meshblocks that lie fully outside the MUL. Figure 18 presents a larger scale map showing a similar pattern in North Shore City.

Figure 17: Total residential building consents by meshblock adjacent to MUL: Waitakere



Source: Statistics New Zealand

Figure 18: Total residential building consents by meshblock: North Shore City



Source: Statistics New Zealand

3.4 Overall Assessment of the Data

Considerable residential building activity has taken place in Auckland since 2000, both for apartments and for stand-alone houses. However, the dwelling stock has not quite kept pace with population growth; occupancy rates remain high in Manukau City indicating that housing stress remains in that city. Housing stresses may also have increased in parts of Auckland City over the past five years.

Intensification has been occurring throughout the region, but the policy of promoting intensification particularly in the High Density Centres and Corridors has so far been notable for its lack of impact on development patterns. Considerable building activity continues in remaining greenfields sites near the Metropolitan Urban Limits. The MUL has provided an effective barrier for development, with considerable development up to its boundaries and little development beyond.

The MUL's effect is noticeable on land prices as well as on building activity. Greenfields land prices within the MUL tend to be considerably higher than those outside the MUL, except where agents appear to have purchased land outside the MUL that they consider may be rezoned for residential purposes in future. Thus there tends to be a gradient in the price of rural land reflecting its location relative to the MUL. The high price of some rural land immediately beyond the MUL indicates that certain agents expect the MUL will have to be extended in the foreseeable future.

Land that is zoned and is suitable for development is clearly in short supply in the Auckland region (despite extensive greenfield land within the region contiguous with the current city). The shortage of zoned and suitable land for development is reflected in the price of vacant sections. In 2005, the median vacant section price represented 91% of the median residential house price in Auckland City; the ratio was between 56% and 77% across the other six TLAs. Land price inflation has hugely outstripped house price inflation (and construction cost inflation) over the past five to ten years.

Overall, the data indicate a housing market in which new supply is struggling to keep pace with rising demand. The proportion of apartments in total dwelling stock is increasing, but it appears (from the price data at least) that demand is still predominantly for stand-alone houses in greenfields areas. While implications of these patterns will be discussed in detail in the final section of the paper, it is apparent that current housing pressures are likely to worsen if current preferences for housing coupled with current regulatory approaches both continue into the future.

4 Stakeholder Perceptions

4.1 Survey Approach

Many constraints impact on the supply of new housing. A new dwelling requires (*inter alia*): suitable land, labour (design, construction, supporting services, etc) and materials. A resource consent and a building consent are required prior to development; other approvals, e.g. from Transit, may also be required. Costs must be sufficiently low to allow a reasonable return for the developer. These costs include land costs; labour and material costs; consent preparation and application costs; infrastructure, reserves and development contributions; goods and services tax (GST); and borrowing costs. The final category (borrowing cost) is affected by the amount borrowed, the interest rate (including any risk premium charged by the financier) and the length of borrowing window. The borrowing window, in turn, is affected by the time taken to physically construct the development plus any delays due to labour or materials shortfalls, and processing times for consents and other regulatory procedures.

To shed detailed light on the importance of these potential constraints, we have undertaken a series of interviews with participants involved in various aspects of residential development. Two related surveys have been used: one for developers and one for 'non-developers' (i.e. for other participants). The two surveys can be found in the appendices.

The Developer Survey was developed by Motu and DTZ in conjunction with the Auckland Regional Council. Each of Motu/DTZ and ARC were about to interview developers on similar issues at the same juncture. In order to increase the sample of developers and reduce respondent load the organisations decided to conduct a single Developer Survey using interviewers from all three organisations. All Developer surveys were conducted face to face and took an average of approximately 1½ hours to complete. Interpretations of the responses for the purposes of this study are the responsibility solely of Motu/DTZ and do not reflect the interpretation of the ARC.

The Non-Developer Survey was developed by Motu and DTZ, based on the Developer Survey. The Non-Developer survey has some modifications relative to the Developer Survey with questions relating directly to developers' own developments being deleted and some extra interpretive questions added. Overall, the questions of the two surveys have considerable overlap. In particular, the section on *Constraints to Intensification* is identical across the two surveys. This section is central to our research since the answers focus on constraints that limit new development. Although the questions are asked principally in relation to intensification, the comments section available to respondents meant that considerable comment was made also about factors that act as constraints to greenfields development. Explicit questions were also asked separately about greenfields and brownfields development.[24] All Non-Developer surveys were conducted face to face (other than a single telephone interview) by Motu and/or DTZ interviewers, taking approximately 1½ hours each. All individual responses to the two surveys are confidential. By assuring confidentiality, we were able to extract forthright views from all respondents.

Section 3 of the Non-Developer Survey and section 5 of the Developer Survey deal with *Constraints to Intensification*. We use these questions as a basis for summarising key themes to emerge from the survey responses. Responses to other questions in the survey are used to provide context in our discussion of constraints. We group the questions together according to themes. Responses are shown for private sector participants[25] and for (local and central) government participants[26] separately, and in total. In each case, we report the percentage of respondents who identified the particular issue as a constraint to new development. We also report differences between the private and government sector responses, indicating issues on which some differences in interpretation

[24] "Greenfields" development entails construction of new dwellings on land that has not hitherto been developed for urban purposes (mainly farmland). "Brownfields" development entails construction of new dwellings on land that has hitherto been developed for industrial or commercial purposes. "Mixed use" developments may retain some elements of industrial/commercial uses coupled with residential uses in the same area. "Greyfields" expansion is a term that refers to developments in areas such as former caryards. In general, we subsume this category into brownfields development.

[25] Within the private sector group are responses from developers and non-developers. This latter group includes responses from people involved in: planning, architecture, design, finance and law.

may exist. We note that care has to be taken in interpreting the government sector responses since we have only 10 survey respondents in that category whereas we have 19 private sector respondents. Care must also be taken in contrasting the responses between private and government sector respondents.

4.2 Private Sector Respondents

Two consistent clusters of themes emerged from the private sector respondents relating to land availability and to council-related issues. This latter group, in turn, can be separated into two categories: themes relating to consent processes and themes relating to infrastructure.

4.2.1 Land

Land availability and land ownership are both regarded as major constraining factors for new housing development in Auckland. Constraints on land are seen to impact on land prices which in turn have a constraining effect on new supply. Land supply issues are considered to affect both infill development and greenfields development.

Table 6: Stakeholder views on land supply[a]

LAND	Private (%)	Govt (%)	Total (%)		Private-Govt (%)
Land availability	***79***	60	***72***		19
Land ownership	***74***	***90***	***79***		-16
Cost of land	***84***	***70***	***79***		14

[a] Share of respondents reporting the issue as a major constraint to development.

Table 6 reports the shares of respondents who report land issues as major constraints to development. In this and subsequent tables, figures in bold in the Private, Government and Total columns indicate that over two-thirds of respondents see the issue as a major constraint to development. A bold figure in

[26] Included in this group are responses from officials in each of the TLAs plus the ARC, plus responses from Auckland-based officials in three central government departments.

the final column indicates that the shares of responses in the private and government columns differ by at least twenty-five percentage points. (These highlighting choices are arbitrary and are not based on statistical criteria; they are adopted solely for descriptive purposes.)

Between 74% and 84% of private sector respondents see the three land issues as constraints to residential development in Auckland. While views are not unanimous, this is a strong indication that land supply is considered a constraining factor on new housing development.

Taking greenfields development first, the existence of the Metropolitan Urban Limit (MUL) is consistently seen as a barrier to new development. Respondents almost universally consider that development would be occurring in areas beyond the existing MUL in the absence of the current development restriction. Indeed that is the *raison d'etre* for the MUL: if development were not going to occur beyond the bounds of the MUL, councils would not see it as necessary to adopt these growth limits. Evidence for the view that development would be occurring beyond the MUL (if it were not in existence) is the demand for dwellings in existing settlements such as Pukekohe, Orewa and Warkworth. Towns and properties situated near the coast are particularly sought after by prospective home-purchasers. Many of the potential coastal development sites lie outside the existing MUL and outside existing town centres.

The MUL was introduced as part of Auckland's Regional Growth Strategy (RGS) in 1999. However, a number of respondents noted that the MUL was essentially a formalisation of zoning constraints that were already in existence across the region prior to 1999 preventing expansion of the urban footprint of Auckland. The formalisation of the MUL within the RGS, however, has meant that it is more difficult for any one party (e.g. a TLA) to extend the boundary for urban development since the limit has been collectively adopted by all eight local governments (ARC plus seven TLAs) in the region.

Proposed Change 6 to the Regional Growth Strategy (see section 2 of this report) is seen potentially as a major constraining factor for new development. Under the LGAAA, the ARC will have a veto power over any development

involving an 'urban activity' that takes place beyond the MUL (within the ARC boundaries). That veto power will be able to be exercised by the ARC even if the relevant territorial local authority supports the proposed activity in the proposed location. Proposed Change 6 contradicts the premise of the Resource Management Act that seeks to control *effects* rather than to control *activities*. Further, it is more restrictive than the predecessor to the RMA (the Town and Country Planning Act) since the plan change contains a broad prohibition (on 'urban activities') rather than the more precise designations that existed under the previous Act. Because the ARC will be given a veto power over any 'urban activity' occurring outside the MUL, its decisions will effectively not be able to be tested in the Environment Court. In effect, Proposed Change 6 will make development outside the MUL even less likely than it is at present and, indeed, this is its explicit purpose.

A number of respondents informed us that the effect of the MUL is to push development to existing towns within the ARC but beyond the MUL boundaries (e.g. Pukekohe, Warkworth, Silverdale/Orewa) where development is permitted. Another effect is to push development to towns beyond the borders of the ARC, specifically to Pokeno (in the northern part of the Waikato Region) and to parts of Kaipara District Council (in the southern part of the Northland Region). Commuter settlements based in Pokeno are a distinct possibility, especially with the State Highway One motorway link from Pokeno to Auckland and with the mooted improvements to the Hamilton to South Auckland passenger rail link. These trends undermine the intent of the MUL (which is designed to promote a compact city). The trends also indicate that the MUL is having real effects on development patterns, as demonstrated also in the descriptive material relating to development around the MUL borders (section 3).

The search for development beyond the MUL is being driven by the small amount of vacant greenfields land still available within the MUL boundaries. Respondents, and our analysis of the geographic data, inform us that there is still some spare greenfields capacity within the MUL. However, the common view is that the available greenfields land tends to be closely held by a small number of owners (including some long-term holders based offshore). Because few agents hold the land, it can be 'dribbled' into the market (i.e. made

available in small quantities over a long period of time). This practice is not coordinated by landowners, but the effect is similar to one where a cartel owns a limited resource (such as OPEC for oil). The practice is supported by council actions (for instance with regard to infrastructure provision) which promote the development of small parcels of land at a time. Market power of the land owner is increased when only small quantities of land are released to the market at once - whether due to owners' decisions or due to councils' actions.

The existence of the MUL therefore has a strong effect on land prices even where there is spare greenfields capacity remaining. In terms of game theory, the MUL affects the "outside option" of the players (i.e. of the land holder and of the prospective developer). In the absence of the MUL, a developer who cannot buy land (at a mutually agreed price) from a land owner on the urban fringe can seek to bargain with another land owner, possibly further from the fringe. The threat of being able to do so affects the bargaining power (and hence the outcome of the bargain) between the urban fringe landowner and the developer in the developer's favour. This shift in bargaining power lowers the land price. With the existence of the MUL, the developer cannot threaten to bargain with a land owner further out from the fringe and so the bargain is skewed in favour of the existing landholder. This enables the land owner to raise the land price in the bargaining process.

Importantly, even if the same amount of greenfields land is ultimately developed (i.e. no extra "sprawl" occurs) the presence of the MUL affects the greenfields land price by skewing bargaining power in favour of existing land owners within the MUL. Through the process of spatial arbitrage (i.e. the approximate equating of the price of neighbouring parcels of land), the high urban fringe land price cascades across the entire urban area to lift land prices across the whole region bounded by the MUL. To the extent that future expansion in the MUL is expected, the process also acts to raise prices in land surrounding the existing MUL boundary, as witnessed in section 3.

Issues of land ownership and availability also affect infill development. A considerable number of respondents talked of the difficulty they have in

developing large parcels of land within the existing urban area. Infill development has occurred in a piecemeal fashion over many years in Auckland. Many of the easiest sites to subdivide across the region have already been subdivided (e.g. existing 800 m^2 sites have been subdivided into two 400 m^2 sites with two separate stand-alone dwellings). That subdivision has: (a) often not been done well in an aesthetic sense; and (b) prevents further intensification where this would otherwise occur since two properties (rather than a single dwelling) now have to be demolished.

In addition, the fragmentation of sites means that a developer often has to negotiate with numerous owners in order to gain possession of a sufficiently large area to feasibly develop medium or high density housing. A single 'hold-out' can stifle an entire prospective development. This is particularly the case in situations covered under the Unit Titles Act in which unanimous agreement must be obtained from all parties related to the original title for significant development to proceed by any one unit title holder. This Act is currently under review.

In New Zealand, there is no mechanism for a council to force such a 'hold-out' to sell in order to allow intensification to occur. In the United Kingdom, local authorities and bodies such as Urban Development Corporations have the power of compulsory purchase, with appropriate compensation, to promote town planning schemes (which covers residential and mixed use as well as commercial) or to demolish unfit housing.[27] In New Zealand, the Housing Act 1955 (s.5) gives central government (officially the Governor General) the power to "take under the Public Works Act 1928 any land required for State housing purposes" (Maori land requires approval of the Minister of Maori Affairs).[28] However this power is rarely, if ever, used. The power does not extend to private housing development.

Housing New Zealand Corporation (HNZC) is one body that owns a considerable quantity of contiguous low density properties that could feasibly be developed into higher density housing. This process is beginning in Glen Innes

[27] However this power is apparently rarely used since it is a somewhat cumbersome and lengthy process. (Source: DTZ UK, personal communication.)
[28] Housing New Zealand Corporation does not have a similar power. Section 19(3) of the Housing Corporation Act prevents the Corporation from acquiring land without the owner's consent.

(Talbot Park). The proposed new development at Hobsonville will also include some medium to high density housing. However, a number of respondents pointed to the potential for much greater intensification to occur on current HNZC owned land, especially in Panmure/Glen Innes and also in Manukau City.

The issues facing HNZC are complex because the corporation is dealing primarily with families that have multiple social needs. HNZC chiefly requires large houses surrounded by excellent social amenities rather than units in medium to high density developments. One option for the corporation may be to sell existing (unsuitable) stock and create new mixed ownership and mixed socio-economic developments with a variety of house sizes and with attention to social amenities (as at Hobsonville). Developments of this type require considerable land and so may need to be taken outside the existing MUL boundaries.

Continued infill development that occurs within the current planning restrictions may undermine longer term intensification by contributing further to fragmentation of land parcels. Such fragmentation (resulting in medium rather than high density housing) is frequently the easiest for a developer to undertake given the complexities of the planning and consent processes. Even if a preferable higher density development is desirable and feasible, such a development may be uneconomic given the existing consent processes. (The effects of consenting processes on developers' choices are discussed further below.) The current planning regimes in force across local authorities may therefore be undermining the vision of a compact city by encouraging fragmentation and preventing longer term intensification from occurring.

One reason for lack of uniformity of private sector views on the effect of land constraints on residential development is that high land prices can act to encourage intensification. Some developers that specialise in high density CBD residential development, and who have been able to access development sites of sufficient size, report that the high land prices mean that prospective purchasers wish to purchase dwellings with minimal land holdings. This process increases consumer demand for apartments and other types of high density housing in accordance with standard demand theory and with the intentions of the RGS.

Other respondents, however, placed two qualifications on this interpretation. First, land prices in many areas of Auckland are so high as to stifle new development since profit margins are overly squeezed (see further evidence below). Second, while the effect may be to push people towards purchasing units in high density developments, the overwhelming demand from households, and especially from families with children, is still for stand-alone housing rather than for apartments.

4.2.2 Local/Central Government

In examining the role of local and central government actions and regulations on housing development, we distinguish between consent and regulatory processes on the one hand, and infrastructure and related issues on the other. This is primarily for descriptive ease, since the two areas are linked.

Table 7: Stakeholder views on local/central government processes[a]

LOCAL/CENTRAL GOVT	Private (%)	Govt (%)	Total (%)		Private-Govt (%)
Planning procedures	***84***	30	66		***54***
Planning rules	***68***	60	66		8
Consent preparation costs	53	20	41		***33***
Consent processing times	***89***	50	***76***		***39***
Community opposition	***68***	***90***	***76***		-22
Building regulations	42	10	31		***32***
Brownfields land conversion	21	***70***	38		***-49***

[a] Share of respondents reporting the issue as a major constraint to development.

Table 7 reports survey results on questions that relate primarily to regulatory and legislative requirements and/or processes. Private sector respondents overwhelmingly report development constraints that arise from consent processing times and planning procedures (89% and 84% respectively). Related issues of planning rules and community opposition also rank as major issues.

Of these issues, the strongest, and most consistent, comments relate to consent processing times. Almost nine out of ten private sector participants see

consent times as a major issue that constrains supply. Virtually all developers and people working in related areas have recounted to us examples of extremely slow and piecemeal consent processes for both resource and building consents. In most cases, the consent approval processes result in consideration of consents by a string of council officials using iterative processes between the developer and relevant officials. Rather than a council highlighting all issues to do with the consent at the outset, so enabling the developer to address all aspects systematically, it is often the case that each part of a consent is dealt with to the stage where the official is satisfied, prior to the next aspect of the application being considered within the council. The result of this iterative approach is that time taken from land purchase to gaining all required consents for a development can be very considerable - often over three years, and sometimes much more.

Developers frequently report that they consider councils are: (a) not aware of the length of time their processes take in total; and (b) are not aware of the implications of time delays for development.

Two aspects relating to time are particularly important. First, development is an inherently risky activity. One aspect of risk is market demand. The longer that a development takes, the greater is the likelihood that purchaser demand may change over the time of the development. A development designed to cater for existing demand patterns may still be appropriate for tastes in two years time but fall foul of changes in demand patterns over say four years. Lengthy consenting processes raise the risks of development, so requiring a higher ex ante profit margin to be factored in by the developer. In turn, the higher required profit margin may squeeze out developments that would otherwise occur if development times were shorter.

A more direct cost of slow consent processes is the time value of money (e.g. borrowing costs). Consider, for instance, a $12 million development that has a weighted average cost of capital of 10% p.a. A six month consent processing period results in an approximate $600,000 cost to the developer.[29]

[29] To give an example of how such delays mount up, we recount a report from one developer required to convene a meeting of 14 people to discuss the choice of trees to be planted on the site

The most problematic delays occur when a consent becomes notifiable. This occurs when the developer wishes to undertake a development that does not fully comply with the relevant District Plan. In these cases, the council cannot (or at least does not) give the consent without first publicly notifying the circumstances of the development, allowing objections to the development to be submitted, and considering those objections under the auspices of the Resource Management Act (RMA). The time taken for this process to occur can often exceed a year (or even two years in some cases that were related to us involving seemingly innocuous breaches of the District Plan).[30]

Many developers report that they modify their development plans so as to avoid notification at all costs. They do so through designing developments that fully comply with all aspects of the District Plan. This means that developments are frequently of the 'lowest common denominator' variety. Innovative features, almost by definition, are not envisaged by those designing District Plans. Thus developers who wish to pursue innovative designs that meet a market demand in an improved fashion will normally face the notification process. The costs relating to that process make the pursuance of innovation in design costly, risky and time-consuming.

The notification regime therefore acts to stifle innovative medium and high density development. This exacerbates another constraint to development. A commonly expressed view to us in our interviews (even with developers) is that much infill development in Auckland over a long period has been poorly designed and executed. Individuals and community groups observe these poor outcomes and are then more likely to object to proposed developments on the basis of past observations. Thus "community opposition" is seen as a constraint by approximately two-thirds of private sector respondents.

Community opposition in itself is not a problem for development. It becomes a problem when it manifests itself through the objections process. This

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of a development. The meeting took three to four weeks to arrange. Using our example above, this meeting would have cost $100,000 in addition to direct attendance and preparation costs.

occurs especially in the case of notification, but can also occur in other circumstances. For instance, even where notification does not occur, our interviews found that consent times could extend unreasonably where local residents sought to influence council officials' decisions (often through elected councillors) for non-notifiable cases. In such circumstances, councils may take an inordinate amount of time and care to "dot the i's and cross the t's".[31]

It is quite clear from our interviews that none of the Auckland councils currently have the resources or processes to process non-notifiable consents consistently within the statutory timeframes. Further, under the current regulatory regime (including the requirements of the RMA) none have the resources and processes required to provide decisions on notifiable consents consistently within a reasonable timeframe.

Some councils supplement their resources by employing consultants rather than (or as well as) permanent staff to process applications. This approach came in for considerable criticism. Developers find inconsistencies in decisions and approaches across different consultants and over time (even within the same council). They also question the incentive for consultants to seek out problems rather than solutions. Council officials, however, were also often seen to be poor in their understanding of commercial imperatives. Comments were made that officials with a commercial and/or engineering background tended to be better to work with, but many officials had a planning background instead. Often the most junior officials work on consent applications. Developers expressed scepticism that proposed building consent authority accreditation standards would improve the situation.

The current notification and objections processes are stifling development (especially innovative development) and most respondents consider that the system needs to be overhauled. A number of private sector respondents

[30] For instance one case taking over two years related to the provision of underground parking for a development. Such parking was not allowed for in the District Plan and so the development became notifiable and objectors to the development could hold up development.

[31] For example, one resident undertaking a replacement dwelling on their own property provided us with details demonstrating that the resource consent process for a non-notified limited-

suggested that New Zealand needs to look towards United Kingdom approaches whereby in some areas, expert panels can award a consent even where the proposed development is beyond existing guidelines. Auckland City already has an Urban Design Panel. However this panel cannot award a consent to a non-complying development even if all members of the panel unanimously consider the proposed development to have strong merit. We recommend that in such cases, consideration be given to the panel being able to recommend that the consent proceeds without notification. This procedure would, we understand, require a change to the RMA.

Consent delays and community opposition incur costs of uncertainty and financial costs as discussed above. The consenting process also results in direct costs relating to preparation and presentation of consent-related materials. While recognised as a cost by many respondents, only half of respondents see these costs as a constraint to development. Most consider the costs as inevitable; however smaller participants appear to be affected more than are larger developers.[32] The costs relating to consent preparation are generally minor compared with time-related consent costs. At the margin however, preparation costs can still make the difference between a profitable development (worth proceeding with) and an unprofitable one (that then does not take place). Councils must therefore continue to ensure that direct costs of consent preparation are minimised. This means that a "belts and braces" approach to detail may not be optimal where significant costs of meeting or modifying minor details would be required on the part of the developer.

One planning rule that came in for intense criticism, especially in relation to infill development, is the requirement for new units to have off-road parking space for two cars. A key objective of the Regional Growth Strategy is to

discretionary land use consent took 52 working days to be processed. This compares with the statutory timeframe as set out in the Resource Management Act of 20 working days.

[32] For instance, in the case of the private individual referred to in the previous footnote, the sum of all consent-related fees and costs (including professional fees required to process the consents) was $22,000. Of the $22,000, approximately $4,500 related to Resource Consent fees and $3,600 related to building consent fees. Professional fees accounted for the remainder despite that individual being a planner, so not incurring any costs to employ a planner and being able to obtain 'cut-price' quotes from other professionals. In this case, the consent costs were a crucial factor at the margin in terms of whether the development could go ahead or not.

achieve a denser city with enhanced public transport services. The two carpark requirement cuts across both these objectives. Considerable space has to be set aside for carparking (and manoeuvring) which reduces the possibilities for dense development; encouragement of car usage (through mandatory provision of carparking space) cuts across the aim to encourage public transport use.

The carparking requirements are important not only in their own right. They are illustrative of a more serious lack of coordination between local councils' policies and the broader regional strategy. This is a specific example of the issues raised in the discussion of zoning above.

Regulation-related matters that do not feature strongly in responses are building regulation requirements and regulations affecting the conversion of brownfields land. Isolated examples of issues pertaining to brownfields development were related by respondents. In general however, most respondents see building regulations as necessary and see the requirements to meet health and other standards on brownfields sites as inevitable.

Developers' criticisms of council processes can be expected - any constraint or delay reduces the scope for a developer's action. While this observation can explain some of the responses recorded in Table 2, we found that developers' attitudes were quite different when asked about their dealings with councils inside and outside of Auckland. When asked about the relative service standards of councils within Auckland, most developers responded that all were bad. Pushed to provide a more nuanced response, Manukau tended to be thought of as most helpful, with North Shore regarded as least helpful. There was a strong consensus that Auckland councils are considerably more problematic to deal with than councils in smaller towns and cities. There was also a strong consensus that the Tauranga council (which is also faced with major expansion pressures) is substantially more service-oriented than are the Auckland councils.

4.2.3 Infrastructure Costs and Availability

New housing requires many different types of physical infrastructure to service it: roads and other transport networks, water supply, sewerage, drainage,

telecommunications, electricity and gas. New housing developments also require social infrastructure such as schools, health services and community facilities. Each of these infrastructure services is costly to provide and the costs must be met either by the developers (and/or the new residents) or by existing residents across some defined area.

Most of these infrastructure services are already present in the case of infill development although some aspects may become overloaded as a result of such development. From our interviews with developers, drainage requirements are the most pressing infrastructure item affecting infill development. However because considerable development is at the greenfields level, only a minority (albeit a sizeable minority) of private sector participants cited drainage requirements as a major constraint to development (Table 8).

Table 8: Stakeholder views on infrastructure[a]

INFRASTRUCTURE COSTS & AVAILABILITY	Private (%)	Govt (%)	Total (%)		Private-Govt (%)
Availability of infrastructure	53	***70***	59		-17
Drainage requirements	42	***80***	55		***-38***
Infrastructure contributions	***79***	30	62		***49***
Development contributions	***84***	50	***72***		***34***
Site access factors	26	60	38		***-34***

[a] Share of respondents reporting the issue as a major constraint to development.

Around half of private sector respondents cite infrastructure availability overall as a constraint. The responses tend to be location specific. In some areas councils and developers have worked together to ensure appropriate infrastructure availability and in these cases infrastructure availability is not seen as a major constraint.

The approach to charging for infrastructure (and drainage) is cited as a much greater concern by developers and other private sector respondents. Three issues are paramount here.

First, developers and others find that practices regarding the setting of development contributions vary considerably across TLAs in the Auckland region. Our examination of the scale of development contributions across the four 'cities' in Auckland for 2004/05 (and 2005/06 where available) shows that development contributions are indeed sizeable:[33]

- North Shore: $12.44 million ($27.07 million in 2005/06);
- Auckland: $15.83 million ($13.35 million in 2005/06);
- Waitakere:[34] $4.88 million;
- Manukau: $20.90 million.

It is possible that accounting definitions differ across councils, so comparison of these figures across councils has to be undertaken with care and the indications presented here should be treated as preliminary only. If we take the ratio of these contributions to the number of new building consents issued in the relevant year, the development contribution per unit is:

- North Shore: $11,248 ($23,956 in 2005/06);
- Auckland: $4,180 ($6,906 in 2005/06);
- Waitakere: $5,552;
- Manukau: $12,060.

If we compare the contributions with the dollar value of consents issued in the relevant year, the value of the development contributions relative to consent values is:

- North Shore: 4.9% (11.2% in 2005/06);
- Auckland: 2.4% (3.2% in 2005/06);
- Waitakere: 3.4%;
- Manukau: 6.1%.

[33] In each case data are obtained from the city's Annual Report covering the 2004/05 financial year, and (where available) for the 2005/06 year (North Shore and Auckland City only).

These figures are indicative only given the caveats outlined above. However they imply that development contributions represent a sizeable portion of total development costs, particularly in Manukau and North Shore, and especially in 2005/06 in the latter case.

Developers regard some councils' approaches in setting development and infrastructure contributions as iniquitous. They consider that where new infrastructure is for the benefit of existing as well as new residents (e.g. an improved public transport link servicing existing neighbourhoods as well as a new development) the charges should be spread pro rata over all affected residents. In some cases this practice has not been followed, and the bulk of the infrastructure upgrade has been charged to new developments. An example is the North Shore busway, charged predominantly to new developments.[35]

Second, developers consider that some councils are inflexible in their charging approaches in cases where a developer adopts a design that mitigates the need for new infrastructure. We heard multiple examples where developers have used modern design techniques to minimise stormwater runoff through use of holding ponds for example. However the developers are still faced with the same or similar drainage charges as they would had they not worked to minimise runoff. In these cases, developers feel that councils are not flexible in recognising and rewarding good design through abatements to development and infrastructure contributions.

Third, a frequently expressed view is that councils are reluctant to fund capital works through debt, even though this is the normal way of funding capital investment in the private sector. Legislative requirements and/or central government directives or guidelines may be a constraining factor here. The nature of the funding does not alter the capital cost of the infrastructure, but it does alter the cashflow profiles for the beneficiaries of the investment.

[34] Data are aggregated over four reported categories (Urban and Rural Villages; Integrated Transport and Communications; Strong Communities; Three Waters).
[35] This is currently the subject of a High Court case brought by developers against the North Shore City Council.

For instance, consider the case of an infrastructure investment that solely benefits the residents of a new development. If council charges an infrastructure contribution to cover the full cost of the capital works, the developer will pay that cost and pass it on to purchasers of the new dwellings. The price of the units will reflect this cost. If instead the council raises a loan to fund the capital costs of the project, it can levy a rates surcharge on the affected properties over the length of the loan, sufficient to repay the loan. The same residents will meet the cost of the project but the capital works will no longer be reflected in the purchase price of the house; they will instead be met out of residents' cashflows over time. If councils debt fund new infrastructure, they can thereby have a direct impact on housing affordability to the extent that the major affordability constraint relates to the purchase price of a house. This constraint is most likely to bite for prospective first time home-owners. Councils may therefore consider debt funding new infrastructure especially in cases where developments are predominantly of "entry-level" homes.

Two other infrastructure issues arose in our discussions. First, a new requirement in the Auckland Region is for developers on greenfields sites to have to submit drainage plans for the full catchment, not just for their own development. This requirement is seen as problematic in two respects. First, the extension of the scope of the plans raises costs for developers, which must be passed on to house-buyers. This reduces affordability and constrains supply. Second, developers are being asked to submit drainage plans for properties over which they have no influence. In catchments with multiple developments one could even have conflicting drainage plans. This requirement adds costs and delays to development, and its practicality does not seem to have been well considered.

A further issue concerns a link between infrastructure provision and community objections. In cases where existing infrastructure is already stretched, lack of an infrastructure upgrade increases the likelihood of community opposition to new development. As an example, community opposition has grown (especially in the Eastern Bays) to the Mt Wellington Quarry development,

especially owing to traffic concerns. A Citizens and Ratepayers (C&R) public circular in October 2006 expressed this concern as follows:

> *Traffic is going to jam our residential roads*
>
> *This will come from development in and around the quarry area and from traffic diverted from outside. Our safety and lifestyle will be dramatically affected. C&R Now supports a moratorium being placed on these developments until a solution acceptable to Eastern Bays residents is found.*

The St Heliers/Glendowie Residents Association also sent a circular to Eastern Bays residents in October 2006 on this subject:

> *What's going on at the Mt Wellington Quarry?*
>
> - *The major impacts of this massive development on surrounding areas, including US!*
> - *Unimaginable congestion on our roads!*
> - *The relentless growth of intensified housing!*

Apart from the concern about the development's impact on traffic flows, these extracts are useful for illustrating two features that relate to constraints on new housing supply. The Citizens and Ratepayers extract illustrates the lack of concern about the time value of money. Despite the development being well underway, the call is for a "moratorium" on the development, with no mention of the financial cost of such a moratorium to the developers. The Residents Association extract illustrates a much wider opposition to "intensified housing". The spread of development into greenfields areas is driven not just by new purchasers wishing to purchase a stand-alone house on greenfields site (in preference to a unit in an existing area). It is driven also by a strong feeling within existing communities that existing densities should be retained in many parts of Auckland. This issue has already been recognised in our discussion of zoning. It has been reflected, for instance, in Auckland City Council's designation of Heritage Areas that stifle intensification.

Site access factors are not generally considered to be a major constraint to development by private sector respondents. However two aspects of this issue did surface from a number of interviews.

First, in cases of infill development, access to subdivided back properties is sometimes problematic and may prevent intensification from occurring. Council flexibility in dealing with access needs, including relaxation of District Plan requirements, may be required to facilitate greater infill development.

Second, Transit's cautious reactions to new development, even where the development does not border onto existing major transport routes, is in some cases seen as restrictive. We did not research this issue intensively, but certain developers felt that Transit's requirements and approach are not conducive to new development, and especially to greenfields development.

An important related matter is that it appears, despite the Regional Growth Strategy, that urban development and transport planning are still not well integrated in Auckland. For instance, the proposed Western Ring Route (the motorway stretching from Manukau through West Auckland to State Highway 1 in the north) will border on the MUL in the north-west. This means that the motorway will service an urban area to its east and a rural area to its west. This configuration is unlikely to result in an optimal match of the transport network to the pattern of residential development. Another example is the Northern Motorway which currently extends to Orewa and which in future will extend to Puhoi. A large stretch of the motorway (Albany to Silverdale) currently runs through rural land that is outside the MUL (and so cannot be developed) whereas major urban development along this transport route (potentially with an extended busway) appears eminently feasible.

4.2.4 Other Factors

Costs, and their effects on profit margins are a concern of private sector respondents and especially of developers (Table 9). Almost two-thirds of these respondents consider that profit margins are currently low and place further

development in danger. This view is most generally expressed in tandem with comments relating to sources of the diminished profit margins compared with previous years.

Table 9: Stakeholder views on other development issues[a]

OTHER	Private (%)	Govt (%)	Total (%)		Private-Govt (%)
Lack of innovation	37	***90***	55		***-53***
Finance availability	0	20	7		-20
Cost of building materials	58	30	48		***28***
Market demand for type	32	30	31		2
Increasing competition	16	0	10		16
Low profit margins	63	40	55		23
Availability of labour	58	60	59		-2
Availability of materials	11	10	10		1

[a] Share of respondents reporting the issue as a major constraint to development.

Costs of building materials (but not availability of materials) presented a consistent concern. Many developers question whether the market structure of building material suppliers in this country (which many consider to be dominated by a duopoly of companies) contributes to the high cost of building materials. Some developers note an increasing trend to source materials directly from overseas, bypassing the major domestic suppliers. For instance, we understand that pre-built kitchens are now being sourced directly from China, lowering costs.

Labour shortages are a concern of approximately half of developers, but most consider that this issue is less of a concern now than it was in 2005. The shortages in 2005 highlighted the concern that a consistent and adequate supply of construction sector labour (at all stages of the design and build process) is a risk for a small and volatile industry, situated well away from other major markets. This risk is particularly acute when Australia faces a surge in demand for construction labour, drawing resources away from New Zealand. The effects of prior labour shortages in creating bottlenecks over 2004-05 underscore the need to manage the construction cycle so as to reduce volatility in activity, to the extent that this is feasible.

Approximately one third of private sector respondents consider that lack of innovation is a constraint on new development. This relatively low proportion of positive responses hides a dichotomy in views. Developers tend to regard lack of innovative design as a consequence of the need to avoid the notifications process. Private sector respondents who are not developers, and especially respondents who had shifted to Auckland from the United Kingdom, regard the underlying quality of design as often poor. This comment particularly applied to medium and high density housing developments in Auckland. A consistent view was expressed that designers in New Zealand lack experience of developing dense housing with attractive and economical features. Space is often used poorly. For instance, we were shown designs in which staircases were located in the wrong parts of a room to maximise useable space, and were shown poor design of carparking space. The view was expressed that a lack of experience in medium and high density housing design in New Zealand is a feature that needs to be addressed in this country. A developer perspective on this view included the comment that sometimes poor design (e.g. location of a staircase) was the result of interventions by council officers rather than being part of the original design.

Widespread concern was noted (by developers and others) about the poor quality "shoe-box" apartments constructed in Auckland's CBD over the early 2000's. These tiny apartments were almost universally condemned for their poor design and poor features. They cater for a particular (possibly fleeting) market and now result in considerable excess capacity in one segment of the urban apartment market. Because of their tiny size and poor features this overcapacity cannot be used to meet wider housing needs. It is likely that some of these shoe-box apartments will have to be amalgamated to form usable accommodation for a wider market.

4.3 Local/Central Government Officials[36]

Face to face interviews were conducted with representatives from each of Auckland's seven territorial local authorities, the Auckland Regional Council and three Auckland-based central government departments.[37] We used the 'non-developer' survey in each instance as a basis for our interviews. The key themes identified through this interview process are summarised below, grouped into the same themes as used for private sector respondents. In each case, we discuss public sector responses and compare them with private sector responses.

4.3.1 Land

Officials' views on the constraining role of land for development are not as clear-cut as for private sector respondents. As shown in Table 6, a majority of officials see each of the three land-related issues as constraining development but the ordering of their importance differed from the private sector. Only 60% of officials see land availability as a constraining factor whereas 90% see land ownership as a constraint. Cost is considered of intermediate importance.

Discussions on land ownership reflect two themes, as for private sector respondents. One theme relates to infill sites: a prevalence of small fragmented sites, sometimes with poor shape or access. Another theme relates to land-banking which is seen as a major constraining factor for development by a number of respondents.

On the issue of land availability, views are quite divided. Land availability is inextricably linked with the RGS and the policies supporting it, including the existence of the MUL. In this context, a recurring theme throughout the responses is the uncertainty of how the RGS affects residential development. While some feel that the RGS has influenced intensification, others are of the view that the RGS has simply reinforced trends that were already in place. The

[36] We refer to "officials" as short-hand for respondents employed in local and central government. We stress that these responses reflect personal, not "official" views.
[37] Two of the central government department officials answered in a joint interview and so are counted as a single respondent in the tables.

RGS may have greater influence in future as TLAs align their District Plans with the strategy.

Some officials feel that the RGS has had a considerable effect in freeing up land that was previously constrained by rigorous rules, or was not available for development. It has also created a focus on intensification and nodal patterns of development, with the MUL focusing new development and investment within and around town centres. The RGS is also credited with influencing greenfield development in terms of density and urban form. However a contrary view is that intensification is more a natural progression of development that would have happened regardless.

The scarcity of available development sites (including lack of greenfield opportunities) and land values are cited as major influences on the location of infill housing. Proximity to transport, infrastructure and amenities are also seen as relevant to location choices. A number of officials considered that there needs to be much more focus on brownfield opportunities in order to achieve the level of intensification that is going to be required. However, in the absence of extra land being made available, this view is contrary to another problem foreseen by officials that relates to insufficient business land being available within the MUL.

As a result of the pressures on land availability, some officials consider that outward movement of the MUL will be necessary to provide people with choice and new greenfield opportunities. This reflects a view that there is a need for development to be able to proceed both ‘up’ and ‘out’, not just one or the other. These people consider it as inevitable that more land will have to be released through movement of the MUL.

However, this view is far from universally held amongst officials. For instance, one clearly expressed view is that there is not a great enough restriction to development outside the MUL. The reasoning here is that if TLAs continue to allow urban expansion, this will hinder the move to residential intensification. Accompanying this view is a belief that freeing up land outside the MUL would not result in more affordable housing: "you don’t need urban expansion to

increase affordable housing, you need to increase the supply and range of housing options, together with intensification, in existing urban areas."

Overall, officials recognise that land constraints are an issue, but there is not the same consensus amongst them as amongst private respondents, over how to address the implications. The potential solution of shifting the MUL outwards - shared by most private sector respondents - is anathema to some local authority officials, but not to others. There is a consensus amongst officials, however, that whatever the merits of MUL expansion, greater intensification is worthwhile, even though it is currently constrained by land ownership, fragmentation and cost issues.

4.3.2 Local/Central Government

There are strongly differing emphases between public and private sector respondents concerning some of the issues summarised in Table 7. Only half the officials see consent processing times as a major development constraint while 90% see community opposition as being important. This reverses the ranking for the private sector (89% and 68% respectively).

The perceived importance of community opposition to development (and especially to intensification) is reflected strongly in officials' responses. A common view is that NIMBYism,[38] coupled with a public perception about what is appropriate development in Auckland, is the single biggest constraint to intensification in Auckland. The general public frequently has negative perceptions of infill housing, partly as a reaction to poor examples being highlighted by the media. The size and shape of available sites and inexperienced 'amateur' developers lead to design problems. There also exists potential for 'minor units' to lead to undesirable rental tenants and a lack of property maintenance. This impacts on neighbours and can affect whole neighbourhoods.

One view from officials is that effective communication to remove community opposition could help remove one of the key constraints inhibiting

[38] "Not in my back yard."

intensification. A greater understanding of intensification is needed and more positive images need to be projected in the market place by central Government, ARC and TLAs. This response, however, begs the question of whether information and/or education is lacking on the part of the public. It is possible, for instance, that residents' preferences differ from those of officials.

Officials generally recognise that consent delays are problematic, especially in cases of notification. Where notification is not required, some (but not all) officials see consent processing times as a constraint to development arising in part, from resourcing issues. It was noted that most TLAs are under-resourced; attracting and retaining staff is a major problem for all TLAs.

Compounding this under-resourcing are complex and inconsistent planning rules and regulations across TLAs. Changing and simplifying plans, regulations and policies to make the consent process easier and less time consuming for developers (as well as reducing costs, such as development contributions) is viewed as one way to reduce constraints associated with consent processes. Simpler (and more enabling) plans would also have the benefit of reducing the prevalence of customers who do not provide the correct information.

Local government officials are far more concerned about the constraints and costs associated with converting brownfields sites to residential purposes than are developers and other private sector agents (70% response compared with the private sector's 21%). This possibly reflects a view amongst private sector respondents that brownfields development has limited prospects, so their concentration is elsewhere. Further, the lack of business zoned land in Auckland suggests that conversion of brownfields land to residential purposes cannot be a major contributor to promoting residential development in Auckland.

4.3.3 Infrastructure Costs and Availability

Officials are more concerned about infrastructure availability (including drainage concerns and site access factors) than is the private sector (Table 8), while the private sector is far more concerned about costs (infrastructure and

development contributions). Many officials refer to a lack of infrastructure both in greenfields areas and in infill growth nodes. They recognise that a lag exists between the identification of development opportunities and infrastructure development. Ideally, infrastructure investment should lead development or at least happen concurrently; in reality it often occurs the other way around which creates problems and delays.

Adequate drainage is seen by many officials as a particularly major problem - both in infill and greenfields developments. Officials also note that relevant infrastructure includes not just physical infrastructure such as drainage, water, sewerage and transport, but also social infrastructure such as schools and healthcare.

A commonly expressed view is that if councils wish to promote intensification in growth nodes, they must take a leadership role through their infrastructure strategies and investments. Intensification could be promoted through investment in public infrastructure, partnerships with other public agencies and with the private sector.

The view that council leadership is required in this respect echoes a very commonly expressed view of private sector participants that council leadership on development is seriously lacking. Both developers and officials consider that most councils are reactive (e.g. to community opposition concerns) rather than proactive in leading the development process. This approach is not conducive to attainment of strategic goals.

Transport infrastructure investment is seen by many as crucial to encourage residential development in appropriate locations, but is also seen as problematic. It is generally acknowledged that transport upgrades (and the cost of fuel) will influence patterns of development. Major transport priorities identified include:

- Penlink – the direct link from Whangaparoa Road to connect with the Northern Motorway, bypassing Silverdale;
- Western bypass at Warkworth;

- Kumeu / Huapai bypass;
- Completion of the Northern Motorway;
- Drury Station upgrade;
- The Northern Busway, other bus networks and bus lane projects;
- Motorway interchange upgrades – Takanini and Papakura;
- Double tracking the rail network;
- SH16 / SH18 extension north of the city;
- SH20, particularly the Manukau Harbour Bridge duplication and stage two linking Avondale to the North Western Motorway;
- Integrated ticketing;
- Walking and cycling initiatives;
- Ferry terminal upgrades;
- Highbrook, link to East Tamaki;
- AMETI – eastern transport initiatives;
- Whitford bypass; and
- Improving access to the airport.

The large scale of this list illustrates the nature of the challenge. Further, Transit is seen to be restrictive when it comes to development. For instance, it restricts access to motorways, with existing interchanges already under a lot of pressure. Increased capacity will require upgrades, the costs of which will likely fall on the developments. This, in turn, increases infrastructure/development contributions. Some officials recognise that it is becoming financially infeasible to undertake infill housing, in part due to increased costs such as development contributions (and also because of escalating land values). Additional upgrades to transport links that are passed to developers would make additional intensification even more difficult.

One view is that greenfields development provides the opportunity to get integrated mixed use sustainable development. Planning an area from scratch enables planning for more intensive development, including public transport, versus existing sites which are restricted due to existing subdivision and street patterns. Transport infrastructure can be (and needs to be) in place from the very

beginning of a new development. New residents consider their travel plans prior to purchasing a new home, so some form of public transport should be in place even if there are some initial financial losses in the establishment phase. Provision of public transport at the outset of a new development provides people with opportunities, and it is much harder to encourage a change of mode from car to bus at a later date.

4.3.4 Other Factors

A key concern of officials - and a major divergence in their views from the bulk of private sector respondents - concerns a perceived lack of innovation by designers and developers (Table 9). In keeping with the views of architects and other private sector respondents who had migrated to New Zealand from the United Kingdom, officials consider that design skills in New Zealand are immature, especially with regard to higher density housing. Lack of understanding on the part of the public (i.e. prospective purchasers and prospective neighbours) is also cited as a barrier to innovative development. Officials are agreed that there is a need to demonstrate and promote good examples of intensification; however there are mixed views as to whose responsibility this is: e.g. councils, developers and/or central government.

A recurring theme is the perceived desire of developers to keep costs down (and to maximise profits) which acts as a constraint to innovative development. Developers are considered to perceive "good" innovation as increasing costs. It was suggested that developers need to take a longer term approach to the quality of their development, keeping in mind those who have chosen to live in them, and not just have a short term profit focus. This view reflects a difference in approach between many private and public sector participants.

Black and white planning rules are cited by some officials as a major constraint to innovative development. Those who consider this issue refer to the need for councils to have more flexible assessment criteria and a certain level of discretion to ensure the best design outcomes.

Related to this issue, officials recognise that a major constraint is the current requirement for public notification of certain developments. This process stifles innovation as the outcome of notification is very uncertain and can result in huge time delays; hence developers stay with 'safe' developments to avoid the need for notification. Any involvement of third parties creates delays and expenses, so developers tend to stay within the site's planning controls (i.e. permitted activities), thereby inhibiting innovation. The need for council flexibility in approving innovative designs, and the very major problems associated with the notifications process, mirror the concerns of developers.

4.4 Conclusions on Stakeholder Perspectives

Officials and private sector participants have some congruent views and some divergent views about key constraints on residential development. The notifications process under the Resource Management Act is an area in which strongly congruent views are held by both sectors. The current regime is costly, results in major delays, and stifles innovation. Virtually all participants see this as a major stumbling block to intensification. It may also act as an impediment to greenfields development, but to a lesser extent.

Innovation also appears to be stifled by poor design skills in relation to medium and high density developments. Architecture/design schools and professional associations may need to consider how to improve skills in this respect. Required skills include efficient design of inside and outside space, and use of sustainable building materials, energy sources and water resources. Planning requirements, such as mandated multiple carparking spaces, that are incompatible with the RGS vision, also need to be reviewed.

Infrastructure availability and/or cost is also seen to be problematic. Perhaps reflecting their respective roles, officials tend to worry most about provision of infrastructure whereas developers worry most about its cost. These are two sides of the same coin. Ultimately, new infrastructure - whether for greenfields development or for intensification - must be provided and must be paid for.

The lack of quality infrastructure in and around Auckland is perceived as a major constraint to residential development in the region. There is a huge 'wish-list' for additional transport infrastructure in and around Auckland. Private sector respondents emphasised the need for improved road transportation, including provision of bus-lanes on motorways and arterial routes. Officials emphasised the need for improved public transport covering both rail services and bus-lanes. There is greater support for public transport initiatives amongst officials than amongst developers. Nevertheless, there did seem to be a consensus that bus-lanes provide an effective public transport option in many cases.

The lack of transport and other infrastructure is symptomatic rather than causal. Both private and public sector respondents point to a real lack of leadership by local government leaders in promoting and facilitating development. Making things happen is an entirely different skill to producing documents.

One area that councils must address - discussed by virtually all private sector respondents and by half of officials - is consent processing times. Current consent processing delays for non-notifiable consents are considered problematic and costly by developers, but tend not to be an insuperable obstacle to development. In part, these delays are a result of a lack of resources and skills within councils, especially a lack of staff experienced in actual development (rather than in development policy and planning).

The lack of resources and experience, combined with community opposition, becomes of much greater concern for the process of deciding whether a consent application is notifiable and once it becomes notified. The delays involved in gaining approval for development in cases of notification can be extremely long (at least three years in some cases) and the costs and uncertainty involved can make prospective developments untenable. This can be as problematic for developments that most stakeholders regard as 'high quality' as for lower quality developments. This experience highlights the importance of council leadership and of reform of the notifications process (and of the requirement to notify) under the Resource Management Act.

Finally, it is inescapable that land availability is a major constraint to residential development in Auckland. The lack of greenfields land and its concentrated ownership, coupled with fragmented ownership of infill sites, means that developers are stifled by an inability to obtain sites of sufficient scale to develop innovative developments that meet customer needs. The bulk of consumer demand is still for stand-alone housing but there is little zoned land available for sustained development of such dwellings. Constraints to development of quality stand-alone houses on infill sites are prevalent; the Unit Titles Act can serve to stifle development; and developers and councils lack any means to force amalgamation of sites for intensive development.

The result of this land shortage will continue to be inflation of land values until prices meet major consumer resistance. That resistance is most likely to be exhibited by prospective residents choosing not to migrate to Auckland and by current residents choosing to emigrate from Auckland. Other cities in New Zealand may attract some would-be Aucklanders. A more likely scenario is that people priced out of the Auckland market (and economy) will migrate to similar sized (or larger) cities in Australia that are addressing planning and affordable housing concerns.

Most (but not all) officials who we interviewed considered that Auckland will reach a population of 2 million people much quicker than the RGS projection of 2050. Some private sector participants differ quite strongly from this viewpoint. They point to the lack of opportunities to house this population given the existing constraints and given people's current housing preferences (for stand-alone homes). A classic tenet of local public finance (Tiebout, 1956) is that people sort themselves into locations that best suit their personal needs, preferences and opportunities. People are not forced to live in Auckland; most have the opportunity to shift to Australia under current migration laws. Whether they do so or not could well depend on whether housing, of the type that they demand, is available at reasonable cost relative to income, or whether the equation is preferable on the other side of the Tasman.

5 House Supply Responsiveness

5.1 Statistical Modelling of House Supply

We supplement our interview and descriptive-based material with statistical modelling of the determinants of new housing supply within the Auckland region. To do so we apply the housing supply model developed in Grimes and Aitken (2006) to a panel dataset over 1991-2005 covering 321 area units across the seven Territorial Local Authorities within the Auckland Region.

Housing developers are treated as profit-seeking agents. A developer seeks to build a new house where the expected house sale price exceeds the full costs of developing and building the house. The developer's total costs comprise land costs, building costs (including materials and labour) financing costs (determined by the nominal interest rate, adjusted for a risk premium) and a range of other costs that may be geographically dependent (including consent-related costs).

The planned rate of change in housing supply in any period (taken here as year) is proxied by the rate of new housing consents granted in that period relative to the existing housing and apartment stock. We use housing consents as a measure of planned changes since a new house can be constructed legally only following the granting of a consent by the relevant territorial local authority (TLA). Grimes and Aitken show that this approach yields the housing investment equation:[39]

$$HC_{it}/H_{it-1} = \lambda_0 + \lambda_1 \ln\{PD_{it}/PB_{it}\} + \lambda_1\lambda_2 \ln\{PB_{it}/PL_{it}\} + FE_i + FE_t + \varepsilon_{it} \quad (1)$$

[39] The abbreviation "ln" indicates a natural logarithm. The logarithmic formulation means that the coefficients can be interpreted as elasticities; i.e. the percentage response of the dependent (left hand side) variable in response to a one percentage point in the relevant explanatory (right hand side) variable.

where:

HC_{it} is building consents for dwelling units issued in area i at time t;
H_{it-1} is the stock of dwellings (number of units) in area i at time t-1;
PD_{it} is the weighted median price of houses and apartments in area i at time t;
PB_{it} is the construction cost index in area i at time t;
PL_{it} is the residential land valuation in area i at time t;
λ_1 is the elasticity of housing investment to house prices (relative to costs);
λ_2 is the proportion of land costs in total costs;
λ_0 is an overall constant term;
FE_i are area fixed effects;
FE_t are time fixed effects (including the impact of time-varying financing costs);
ε_{it} is a residual term representing any unexplained impacts on investment.

We are particularly interested in the pattern of estimated area fixed effects (FE_i). These fixed effects indicate the rate of building investment (relative to the average for the region) after taking account of market forces acting through prices and construction costs. Areas with high positive fixed effects have high building activity for a given price/cost ratio. Where fixed effects are consistently high across a local authority, this may indicate a supportive environment for new house construction in that TLA. The supportive environment may reflect zoning, land supply and/or official processes (e.g. consent application times) that support development, relative to the average for the region.

We are also interested in whether the estimated λ_1 coefficient varies across local authorities when we estimate the model separately for each local authority. This coefficient indicates the responsiveness of new house supply to market forces. These forces will normally drive new housing investment provided there are no strong impediments to doing so. A local authority that has a high estimated λ_1 may have processes in place that enable residential development to respond quickly and strongly to changes in prices and costs. Conversely, a local authority that has a low (or zero) λ_1 may be one that has processes which tend to stifle the impact of market forces on new residential development.

5.2 Data

We use an annual dataset of house prices, land costs, construction costs, building consents and housing stocks for the period 1991-2005 covering 321 area units within the seven Territorial Local Authorities (TLAs) in the Auckland Region. The region comprises four predominantly urban or suburban cities: North Shore City, Waitakere City, Auckland City and Manukau City; and three more rural/suburban districts: Rodney District, Papakura District and Franklin District. Area units have an average population of about 3,000 and correspond to a suburb.

We restrict our sample to area units for which we have 15 observations. This leaves 321 area units out of 368 within the seven Auckland region TLAs. Together these area units (AUs) cover 94% of the total 2001 population of 1,231,500 people.

House price data are sourced from Quotable Value New Zealand (QVNZ). The data include median sales prices, median capital values and land values (i.e. official valuations used for rating purposes) and the number of residential property sales at area unit level. QVNZ defines residential dwellings as those dwellings of a fully detached or semi-detached style on their own clearly defined piece of land, and defines apartments/flats in four different ways[40]. We form an average of all five categories, weighting by the number of sales in each category for each area unit and year. We use median rather than mean data, as this is less susceptible to being distorted by extremely low or high observations.

We obtain land prices relating to residential properties from QVNZ. QVNZ valuations (which are generally conducted on a three yearly cycle) split residential property values into structures and land components. We use these data to construct a flexible trend representing area unit residential land values over the full period. In practice, land valuations may incorporate a slight lag relative to actual land values (as measured by vacant section prices) but this may be

[40] Residential home and income: the dwelling is the predominant use and there is an additional unit of use attached to, or associated with, the dwelling house which can be used to produce income; Residential converted: converted dwelling houses which are now used as rental flats; Residential rental: flats which have been purpose built; Residential flat: Ownership units which may be single storey or multi-storey and which do not have the appearance of dwelling houses.

appropriate for our purposes since land has to be obtained prior to construction work beginning.

Building consent data at area unit level is sourced from Statistics New Zealand (SNZ). We combine data on the number of units for separate houses, Unit/Flat/Townhouse/Studio units that are either attached or unattached horizontally, and Apartment blocks that are attached vertically. In all cases we count the number of actual dwelling units.

Data on the housing stock in each area unit comes from the 1991, 1996 and 2001 censuses. We use data on total private dwellings, including flats, apartments and separate houses. We estimate intercensal housing stock in each area unit by successively adding the building consents issued each year to estimate each census year stock. The ratio of the actual census stock to the estimated stock is applied to the four years prior to each census year to allow for the scrapping (demolition) of some stock.

Construction cost data are sourced from the trade publication, *New Zealand Building Economist*, and are available on a quarterly basis from 1992 to 2005 for six regions covering the entire country. A single cost series is available for the Auckland region. We use the cost for standard dwellings[41], which represents average installed prices. The cost includes trade materials prices, labour rates, plus allowance (according to local conditions) for overheads, subcontractors, and subcontractors' profit where applicable. The measure does not allow for expansion in house sizes over time; this effect is picked up within the time fixed effects (FE_t). The fixed quality nature of the cost series is ideal for our purposes since it is pure cost increases (rather than design changes, etc) that we

[41] Standard house specification: 2001 onwards: 94m2; 3 bedroom; level site; timber pile base; fibre cement base lining with plastic vents; timber steps; fibre cement weatherboards; R 2.2 batts to walls, R 2.4 batts to ceilings; truss gable roof with ceiling battens; Zincalume roofing and accessories; aluminium joinery; particle board floor; Gib board to walls and ceilings; shower over bath; separate wc; separate laundry with ss tub and cupboard under; 12 lights; 16 power outlets; average quality wallpaper; conventional four element stove. 1992 - 2000: 94m2; 3 bedroom; level site; concrete pile basement/fibre cement lined; concrete steps; weatherboards; all exterior walls and ceilings lined with 75mm batts; corrugated iron gable roof; timber joinery; particle board floor; gibraltar board walls; sloping ceiling with exposed rafters to dining room/lounge; flat ceiling to other areas; separate shower/bath/laundry; separate WC; 12 lights; 16 power points; average quality wallpapers; conventional four ring stove.

require for our model. This makes the (constant quality) construction cost measure compatible with the (constant quality) land value measure.[42]

The measure does not include costs associated with consent processes. The effects of these costs will be reflected in the area fixed effects (FE_i). High consent costs and/or long processing times will tend to be reflected in low area fixed effects across a local authority.

5.3 Results

We present results from estimation of our model in Table 10.[43] The key parameter determining responsiveness of new housing supply to demand shocks (which are reflected in house prices) is λ_1. For the full sample period (1991-2005), across all area units, this coefficient indicates that annual building consents (for houses and apartments) rise by approximately 0.5% in response to a 1% increase in house prices (relative to costs). The full sample estimate implies that land comprises a material portion (69%) of land plus construction costs.[44] This is almost double the ratio found in Grimes and Aitken (2006) across the whole of New Zealand for a slightly earlier time period. The rise in land prices relative to other costs over time, and the specific circumstances of Auckland relative to the remainder of New Zealand possibly account for this higher ratio.

[42] The measure used here can be downloaded from the Statistics New Zealand website.

[43] We estimate the equation using instrumental variables. We do so because of the potential simultaneity between building consents in period t and the price and cost terms in period t. The instruments comprise the two supply variables lagged by one year. Thus effectively we model supply as a function of the information contained in lagged prices and costs. All reported equations pass tests for weak instruments at conventional statistical levels. In all cases, we report standard errors using White period standard errors that are robust to arbitrary within cross-section residual autocorrelation. All equations include area unit and time fixed effects.

[44] I.e. the implied value of $\lambda_2 = 0.69$. This ratio is not estimated directly but rather is given by the ratio of two estimated coefficients. We therefore do not present a standard error for this estimate and it should be treated as indicative only. The ratio of land costs to all development costs including land costs, construction costs, financing costs, infrastructure and development contributions, and consent-related costs will therefore be estimated as less than 69%.

Table 10: Housing supply responsiveness

	Auckland Region			Rodney	North Shore	Waitakere	Auckland City	Manukau	Papakura
	1991-2005	**2000-2005**	**1991-1999**	**1991-2005**	**1991-2005**	**1991-2005**	**1991-2005**	**1991-2005**	**1991-2005**
$\ln\{PD_{it}/PB_{it}\}$	0.0519*** [0.0091]	0.0548** [0.0237]	0.0325** [0.0164]	0.0605** [0.0300]	0.0334 [0.0417]	0.0808*** [0.0281]	0.0349 [0.0242]	0.0685*** [0.0155]	0.0743 [0.0539]
$\ln\{PB_{it}/PL_{it}\}$	0.0358*** [0.0062]	0.0537*** [0.0174]	0.0064 [0.0195]	0.0382* [0.0213]	0.0398 [0.0256]	0.0440*** [0.0157]	0.0266 [0.0254]	0.0446*** [0.0087]	0.033 [0.0423]
Constant	0.2361*** [0.0392]	0.3096*** [0.1085]	0.0981 [0.0955]	0.2616** [0.1319]	0.3322** [0.1623]	0.5869*** [0.1493]	0.1957 [0.1701]	0.3673*** [0.0679]	0.2944 [0.2581]
Obs.	4494	1926	2568	392	700	658	1316	1022	210
Adj-R2	0.4271	0.5125	0.5024	0.5505	0.5035	0.3142	0.1676	0.4639	0.3921

HC_{it}/H_{it-1} (i.e. annual building consents divided by existing housing stock) is the dependent variable.
Time fixed effects and area unit fixed effects included but not reported.
Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

Splitting the sample across time periods indicates that responsiveness of housing investment to market forces appears to have increased over 2000-2005 relative to 1991-1999. In the early period, a 1% increase in house prices relative to costs induced an estimated 0.33% increase in the annual rate of consents; the estimated annual response rose to 0.55% for the more recent period. We therefore find no statistical support for the notion that the response of housing investment to market forces declined over this period.[45]

When we split the sample across TLA boundaries, Waitakere City has the highest estimated supply responsiveness, with a 1% rise in prices relative to costs increasing the annual rate of consents by 0.81%. Manukau City and Rodney District also have relatively high supply elasticities (0.69% and 0.61% respectively). Each of these estimates is statistically significant (i.e. we can confidently conclude that consents in these TLAs respond positively to market forces). Papakura's estimated supply elasticity is of a similar magnitude (0.74%) to the Waitakere, Rodney and Manukau but because of its smaller sample, this estimate has a wide confidence interval.[46]

[45] However the difference in responses is not statistically significant, so it is possible that the same underlying rate of responsiveness applied to both sub-samples. Each of these equations explains approximately half of the annual variation in building consents, so other local factors that we cannot capture also act to influence consent activity. Measurement error (e.g. from valuation mis-measurement or aggregation of new with existing house sales to obtain median prices) could also contribute to the residual. Another contributor could be changing lag patterns over time.

[46] The small sample is even more problematic for Franklin District and that equation fails to pass diagnostic tests for weak instruments. We therefore omit reporting a separate Franklin equation here. Concerns about sample size also mean that we do not split the TLA samples by period sub-

The estimated supply elasticities for North Shore and Auckland City are much smaller than for Waitakere, Manukau and Rodney, and are not statistically significantly different from zero. In these two cases, therefore, we cannot be confident that new supply responds materially within a year to market forces that affect prices and costs.

Growth in housing supply, especially in Auckland City, is likely to have been dominated in recent years by the apartment market. To investigate this further, we estimate the consents equation for Auckland City using data for apartments and for houses separately. In contrast to the combined (houses and apartment) results which are insignificant, the sub-sample results imply that a 1% rise in apartment prices relative to costs increases the annual rate of apartment consents by (a statistically significant) 0.74%, as shown in Table 11. We can reject a positive housing response to increased house prices relative to costs. In-fill stand-alone housing therefore appears to be constrained within Auckland City whereas new apartment building is responsive to prices and costs.

Table 11: Supply responsiveness in Auckland City: apartments & houses separately

	Apartments 1991-2005	**Houses 1991-2005**
$\ln\{PD_{it}/PB_{it}\}$	0.0739*** [0.0242]	-0.0423*** [0.0080]
$\ln\{PB_{it}/PL_{it}\}$	0.0196 [0.0158]	-0.0395*** [0.0090]
Constant	0.2064** [0.0913]	-0.2323*** [0.0523]
Observations	1106	1316
Adj-R2	0.0084	0.2401

HC_{it}/H_{it-1} (i.e. annual building consents divided by existing housing stock) is the dependent variable.
Time fixed effects and area unit fixed effects included but not reported.
Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

As another check on the impact of Auckland City's apartment market on the overall elasticity of the supply of new dwelling units to prices/costs, we re-estimate the regional equation omitting all area units within Auckland City (i.e.

samples, other than in the case of Auckland City (for which the sample is larger). These estimates

the equation is estimated for the area units in the other six TLAs combined). These results are shown in Table 12. They indicate that over the full sample, a 1% rise in dwelling prices increased annual consents relative to the housing stock by 0.61% across the six included TLAs. This is slightly higher than when Auckland is included in the region. When we split the estimation over the two periods, the response is significant in the early sub-sample (1991-1999) but is not significantly different from zero in the later sub-sample (2000-2005). Taken together with the estimates in Table 11, these results suggest that the stronger overall supply responsiveness over 2000-2005 compared with earlier years may predominantly be due to the strength of the Auckland City apartment market in recent years. After controlling for this factor, the responsiveness of new housing supply to market forces appears possibly to have weakened since 1999 in the Auckland region.

Table 12: Supply responsiveness, Auckland Region excluding Auckland City

	1991-2005	**2000-2005**	**1991-1999**
$\ln\{PD_{it}/PB_{it}\}$	0.0608***	0.0018	0.0329*
	[0.0117]	[0.0183]	[0.0193]
$\ln\{PB_{it}/PL_{it}\}$	0.0391***	0.018	-0.0003
	[0.0068]	[0.0126]	[0.0254]
Constant	0.2639***	0.0759	0.0748
	[0.0469]	[0.0794]	[0.1189]
Observations	3178	1362	1816
Adj-R2	0.4427	0.5754	0.5089

HC_{it}/H_{it-1} (i.e. annual building consents divided by existing housing stock) is the dependent variable.
Time fixed effects and area unit fixed effects included but not reported.
Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

These results do not mean that houses are not being built; just that they are not responding quickly and/or materially to prices and costs. Strong building has been occurring in certain areas, as described earlier in this study. Figure 19 and Figure 20 (drawn at different scales) map the estimated area fixed effects from the model for the full sample period 1991-2005. (The red line in each indicates the Metropolitan Urban Limit.) Areas with higher fixed effects indicate strong growth in the rate of new housing investment after controlling for the

are reported subsequently.

effects of prices and costs. The area units with the highest fixed effects are Donegal Park (Manukau), North Harbour (North Shore), Sturgess North (Waitakere), Gulf Harbour (Rodney), Northcross (North Shore), Golfland (Manukau), Millhouse (Manukau) and Albany (North Shore). All of these areas are located near the metropolitan urban limit or near the coast. Other areas with high fixed effects include Mangere South (around the Auckland airport), and a significant area around Whangaparoa peninsula, Albany, Long Bay, Silverdale and Orewa.

The area fixed effects are uniformly high across the Auckland isthmus. Areas around the CBD and the CBD-fringe such as St Mary's, Eden Terrace, Mt Hobson, Newmarket and Parnell West have the largest fixed effects. These latter fixed effects indicate strong infill and/or apartment activity occurring in these areas. This finding is consistent with the descriptive and interview-based material reported earlier in the study.

Four area units had negative fixed effects: Grange, Mascot, Manurewa East and Aorere (all in Manukau City), indicating a weak supply response in these areas after controlling for price and cost effects. These latter results are again consistent with prior findings in this study that sought after areas tend not to be inland.

Figure 19: Area unit fixed effects (1991-2005

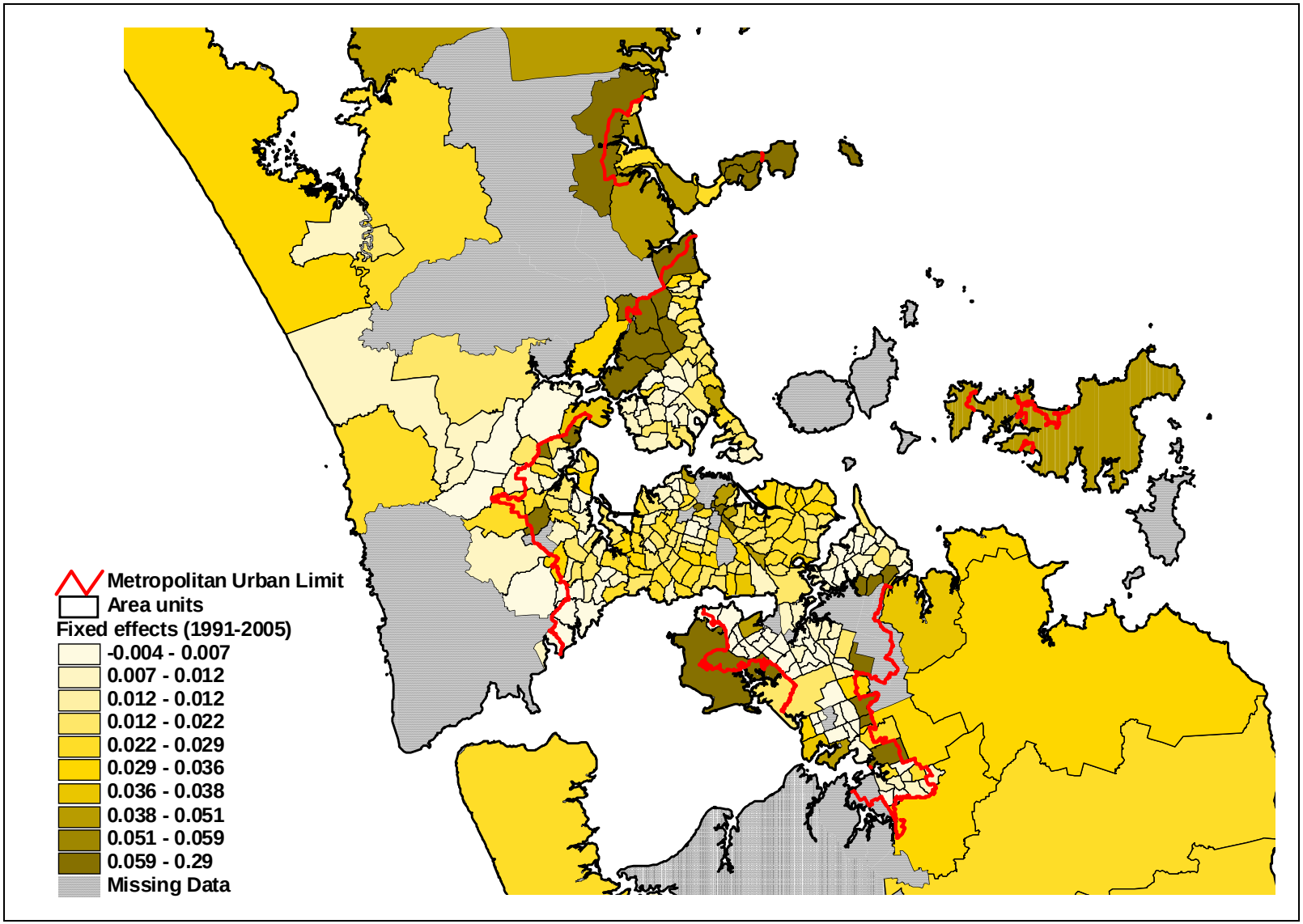
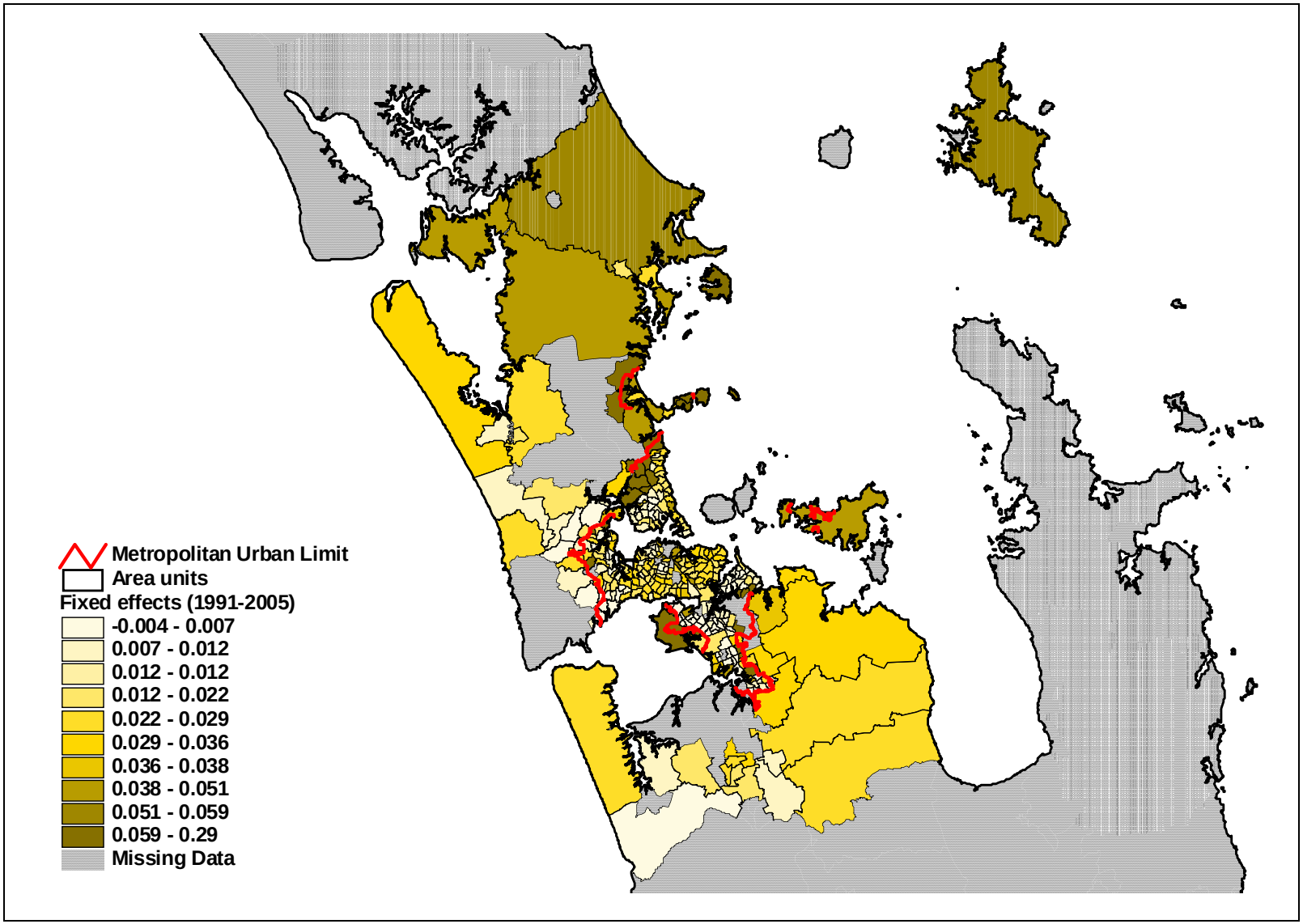


Figure 20: Area unit fixed effects (1991-2005)



6 Summary and Implications

6.1 Summary

We have examined constraints to the expansion of Auckland's housing supply. Over 2000-2005, increases in demand for housing have outstripped increases in its supply. The result has been a major increase in land and house prices. A range of factors have constrained supply. Chief amongst these have been a limited supply of land and difficulties in the consents process, especially its time consuming nature.

Our report has adopted a range of approaches to examine this issue. We have examined zoning and other regulations pertaining to housing; analysed trends in population, dwelling stock, house prices, costs, and new building; reported on structured discussions held with 30 surveyed respondents in the private and public sectors; and conducted econometric (statistical) analysis of building consent activity.

Auckland's Regional Growth Strategy (RGS), adopted by the ARC and all seven TLAs in 1999, sets the overarching strategy for Auckland development and urban form. The RGS promotes a compact city capable of accommodating at least 2 million people by 2050. Intensification of dwellings and population is sought around growth nodes situated around town centres and transport links.

The RGS adopts Metropolitan Urban Limits (MUL) that set a boundary within which residential, business and other 'urban activities' are to occur. Proposed Change 6 (PC6) to the RGS sees urban activities effectively banned outside the MUL. PC6, if adopted, makes extension of the MUL extremely difficult; no extension could be permitted that encroaches on prime agricultural land, and no development could be allowed that is not contiguous with existing built-up areas.

TLA District Plans are each influenced by the RGS. However zoning changes since 1999 have generally been rather minor, other than around the periphery of the urban area. Some significant increase in residential development

has been enabled through rezoning of land around the city outskirts - e.g. Long Bay, Hobsonville, Flat Bush, Takanini and Hingaia. Comparatively little has been done to promote intensification in growth nodes. In some cases, regulatory changes have limited the ability to intensify within the heart of the city (e.g. heritage type restrictions in Auckland City and North Shore).

The overall effect of the zoning changes and of proposed changes is to limit urban expansion but they do little to enhance the rate of intensification. The consequence is a shortage of greenfields and other land suitable for large scale development.

Population in the region grew 35.0% (2.0% p.a.) in the fifteen years to 2006. Over the same period, the stock of dwellings rose fractionally faster (36.9%). In the five years to 2006, this relationship reversed: population increased by 11.6% (2.2% p.a.) while dwelling stock rose 10.9%. Manukau occupancy rates (population per dwelling) stayed high at around 3.6, indicating continued housing stress in South Auckland. Occupancy rates in Auckland City stayed constant, despite the increase in small CBD apartments, implying some increase in housing stress in parts of Auckland City.

Population and dwellings per km2 have each increased in every TLA for every five year period between 1991 and 2006. This indicates that some intensification has occurred.

Auckland City (34%) and Manukau (22%) dominated the number of regional building consents over 2000-2005. House consents exceeded apartment consents across the region (and in all TLAs other than Auckland City), indicating a continuing consumer preference for stand-alone houses over apartments.

Relative to the existing stock of dwellings, Franklin and Rodney had the strongest dwelling consents, indicating a pattern of development being pushed to the city outskirts. Within the other five TLAs, considerable activity occurred near MUL boundaries. These developments are contrary to the 'compact city' strategy.

However there are some moves towards intensification, with considerable apartment consent activity around the CBD, the Albany area and in

the western part of the isthmus. Apart from in the CBD, we find no evidence of a relative increase in development in the growth nodes. This finding is in keeping with the relatively minor nature of zoning changes to enable intensification in the nodes.

Between 2000 and 2005, the median house sales price rose by over 60% in Rodney District, North Shore City and Auckland City, by over 50% in Waitakere and Franklin, and by 48% and 39% in Manukau and Papakura respectively. Over the decade to 2005, the median TLA price increased in a range of 88% (Papakura) to 131% (Rodney and Franklin). Apartment prices also rose strongly, but not as much as for house prices. This lower rate of apartment inflation may reflect a variety of factors including: more responsive supply of apartments than houses; differential construction costs for the two types of dwelling; temporary over-supply of (some types of) apartments; differences in investor versus owner-occupier attitudes to risk and yield; and a preference by purchasers for stand-alone houses over apartments.

The difference between house and apartment inflation also reflects land inflation. Vacant section prices doubled or more than doubled in the five years to 2005 in Auckland City, Waitakere and Franklin. Over the decade to 2005, the median vacant section price across TLAs rose from a 'low' of 108% in Manukau to highs of 334%, 329% and 315% in Auckland City, Franklin and Rodney respectively.

The correlation coefficient between ten year rates of increase in median house prices and median section prices across the TLAs is 0.88. In other words, house price inflation is linked very strongly with land price inflation. By contrast, construction price inflation was moderate over this period.

Land prices reflect the influence of the MUL boundary. Rural land values within the boundary tend to be considerably higher than values well outside the MUL, despite both being zoned for rural use. The former are likely to be converted to residential use. Rural land just outside the MUL tends to be priced to reflect some probability of the MUL being shifted outwards. This indicates that the current MUL boundaries are seen to be unsustainable over coming years.

Surveyed private sector stakeholders (including developers) identify two key themes concerning Auckland house supply constraints: land constraints and council-related issues relating especially to consent processes and infrastructure.

Most see three land issues as posing major constraints to development: land availability, land ownership, and cost of land. Land availability reflects the existence of urban growth controls (the MUL). Cost of land is linked to this issue. Land ownership reflects two separate concerns.

Ownership of greenfields land within the MUL is seen as concentrated in the hands of a few 'land-bankers'. The MUL results in limited land supply available for greenfields development, so landowners having strong bargaining power when selling to developers. Greater restrictions on development beyond the existing MUL under PC6 would make these issues even more problematic.

The problem is the opposite for intensification. Ownership of sites within the metropolitan area is fragmented, especially where prior infill development has occurred. This makes it difficult for developers to purchase a sizeable block to make medium/high density development feasible. A single 'hold-out' can block development and this situation is exacerbated in some cases by the requirement for unanimity where properties are covered by the provisions of the existing Unit Titles Act. There is no legal avenue for councils in New Zealand to force amalgamation or sale of sites to enable more intensive development to occur.

High land prices promote intensification by incentivising apartment living over stand-alone dwellings. This has acted to the benefit of CBD developers. However developers note that where land prices (and other costs) become too high, any kind of development becomes unprofitable and so does not proceed.

Officials also see land as a constraining factor, but place a higher weighting on land ownership issues, and a lower weighting on land availability and cost issues than do private sector participants. Officials are concerned both

with land-banking of greenfields land and with fragmented ownership of land within the city.

Most private sector participants feel that MUL expansion provides one way to mitigate land supply issues. Some officials share this view; others consider that MUL expansion would not reduce land price pressures and believe that greater restrictions on expansion are required to force increased intensification.

Council planning procedures and consent processing times are the subject of huge dissatisfaction amongst private stakeholders. Over 80% of respondents see these two features as major development constraints. Consent approval processes tend to proceed iteratively within councils, each item having to be 'solved' before the next officer becomes involved. This leads to a prolonged process. Developers consider that councils are neither aware of the length of the consent process nor of the implications of delay.

Delays result in increased uncertainty for developers in a market where tastes can change rapidly. This raises the required profit margin for a project to proceed. Delays also cost money directly: a one month delay on a $12 million project adds $100,000 to its cost (at a 10% weighted average cost of capital).

Delays are most extensive where a development is notifiable, opening up the potential for objections and lengthy hearings. Developers seek to avoid notification at all costs. This frequently means they settle for 'lowest common denominator' developments that meet all District Plan requirements, rather than including innovative features that might make the development notifiable.

Poor quality development raises the potential for community objection, which is seen as problematic by two-thirds of private sector respondents. Half the officials also see consent processing times as a constraint, while 90% see community objections as a major development constraint. This reverses the ranking for private stakeholders, possibly reflecting the respective roles of the respondents.

Unlike private stakeholders, officials see major constraints relating to brownfields land conversion. We infer from our interviews that developers

generally do not see much opportunity in brownfields residential development, especially given the generally recognised shortage of business land in the region.

Infrastructure and drainage issues are seen as important by both private stakeholders and officials. However, again the emphases differ. Officials are primarily concerned with infrastructure availability and drainage requirements, whereas private stakeholders are more concerned with infrastructure and development contributions. They are also concerned that their efforts to mitigate the need for extra infrastructure (e.g. through innovative water management) tend not to result in lower development contributions. Many developers complain of iniquitous charging of contributions by certain councils and note that charging approaches differ widely across councils.

A lack of innovation by designers and developers is seen as a major constraint by officials, but not by developers. However other private sector stakeholders, especially those from the UK, share the view that design skills for medium/high density housing are immature in New Zealand. Developers consider that lack of innovation is driven predominantly by the regulatory and consents environment.

High costs and low profit margins are a concern of developers. However these concerns are not as great as other highlighted concerns. Labour availability is a concern, but much less so now than was the case over 2004/05.

Our modelling of new house supply over 1991-2005 finds that a 1% increase in dwelling price relative to costs, increases supply (building consents/existing supply) by around 0.5% in one year. Waitakere City is estimated to have the highest response of new activity to prices and costs, followed by Manukau and Rodney. North Shore and Auckland are estimated to be the least responsive.

At the region-wide level, supply responsiveness has increased since 2000. However, this result appears to be driven by the reaction of the Auckland apartment market. Once we exclude this effect, responsiveness of supply to market forces appears to have fallen since 2000 compared with prior years.

After controlling for the influence of prices and costs, strong building activity is occurring near the MUL boundaries, most likely driven by availability of land. There is also strong activity in the CBD and near some coastal areas. Many inland areas tend to have low activity after accounting for price and cost effects.

The modelling findings are consistent with findings from the other approaches. Price increases play a major role in incentivising new building, while higher costs act to stifle investment; land availability is important. Sizeable differences in responsiveness across TLAs indicate that council approaches are also important. In particular, there appears to be a lack of supply responsiveness across much of North Shore (other than Albany) and Auckland City (other than the CBD).

6.2 Implications

The incentives to developers that are provided by market forces ensure that new residential development responds, over time, to changes in house prices and costs. As population in Auckland increases, further pressure will be placed on house prices and this will encourage new supply.[47] Costs, however, also react to forces of supply and demand; as costs rise, new house supply tends to be stifled. Construction costs have risen, as have council-related costs (especially infrastructure and development contributions and costs driven by consent delays). However, the major driver of dwelling cost increases in Auckland has been land price inflation.

House prices and costs cannot keep rising in an unchecked fashion. As well as macroeconomic forces acting on the market (e.g. through interest rates) another major influence is migration. If, after accounting for income differentials, housing is overly expensive in Auckland relative to other competing centres, people will emigrate from Auckland and inwards migration will be curtailed. Housing market balance will then be achieved in time with a smaller population.

[47] For evidence on the effects of population on house prices, see Grimes and Aitken (2004).

Under current regulatory and zoning circumstances, the outcome of this interplay of forces could be resolved in a number of ways. Its resolution will depend, in part, on people's preferences. Given a continued strong preference of most families to live in stand-alone houses, it is likely that prices and costs will continue to rise and population growth will be curtailed, quite possibly to a level that is well below the 2 million projection. This outcome would run counter to the objectives of central and local government in terms of Auckland's role as a centre of agglomeration that drives New Zealand's economic transformation.

An alternative outcome sees a change to people's preferences, with much greater acceptance, or even willingness, to live in apartments rather than in stand-alone houses. The ageing of the population may assist to some extent in this process. A change in preferences in this fashion would almost certainly be reflected in a continued - or even strengthened - preference by many to live in coastal locations or in other high amenity areas. Demand for apartment living in the "interior" of Auckland, particularly areas without views, is unlikely to be strong. This would need to be reflected in a reorientation of the growth nodes, which currently are not well mapped onto high amenity areas.

Faced with the former scenario, governments (local and central) can either accept the consequences (high prices and slower growth) or make conscious moves to contain development costs. The most important option in this regard is to increase the available land supply for residential and business development. This would require an expansion (or removal) of the metropolitan urban limits.

Development restrictions on greenfields land and zoning changes to permit development can have very long-lived effects on a city's development path. For instance, a broad swathe of land zoned for urban development in the 1960s and 1970s in West Auckland was progressively developed during the 1980s and 1990s. This belt of development extended from New Lynn, through Ranui and Massy to West Harbour. Greenfield developments in Sturges South and West Harbour were undertaken in accordance with structure plans implemented in the early 1970s. Sturges North and part of Te Atatu North were rezoned for residential use in the 1990s pursuant to structure plans. Meanwhile, future residential zoning in the Whenuapai, Hobsonville and Birdwood areas was

removed in the late 1970s with an urban limit being adopted similar to that of the RGS in 1999. Each of these developments has affected the long term shape of the western part of the Auckland metropolis.

If the MUL were to be expanded in future, expansion could be contiguous with current built-up areas. Alternatively, moves could be made to facilitate new towns/cities to be developed within the region, with green belts between existing and new urban areas. New towns could be based on existing small centres or be completely greenfields in nature.

If the expansion approach is adopted, it would be important to include commercial/industrial activities in these developments to minimise the commuting needs of the population. Indeed, it may be more sustainable (in terms of carbon emissions, etc) to have a large multi-purpose urban development separate from Auckland than to continue with residential development on the city boundaries where residents commute elsewhere in the city to work. Whichever form were adopted for expansion, it would be vital to integrate comprehensive public and private transport options with the development plans.

Any expansion of the land supply needs to be conducted in a 'big bang' manner to minimise the chance of cartel-like behaviour by landowners. Dribbling new land onto the market is not effective in substantially reducing land price pressures. Auction mechanisms can be used to obtain land for development in a manner that has large numbers of existing landowners bidding against each other for the right to have land rezoned residential (or future residential). For instance, a region-wide auction could be held for large parcels of land (that are capable of being developed) in which the regional council receives bids from landowners for the option to sell the land for development at a pre-set future price, for a limited period. The aim of such an approach is to bring the residential land price much closer to the value of land in its existing rural purpose. This cannot be achieved in an environment in which land is closely held with only small amounts of residential development permitted.

The degree of expansion in land for development that is required to contain land prices is inextricably linked to the mechanism by which it is brought

on-stream. For this reason, simple calculations of "X years of supply" are of limited use. A fifteen year supply of land that is dribbled onto the market in a pre-specified fashion - giving individual landowners effective monopoly rights - may result in far higher land prices than a wide-ranging auction process that handles seven years worth of land at once. A more useful approach to considering the effective supply of land available for development is the use of land price gradients at and beyond the urban fringe, as presented in section 3. These gradients indicate the degree of monopoly pressure that is being exerted as a result of growth limits and other land controls.[48]

An alternative approach to that of expansion, suitable if a substantial portion of the population's preferences turns towards apartment living, is to completely overhaul zoning and other regulatory processes for development within built-up areas. The purpose would be to promote intensification. Current and past planning and zoning approaches have led to a plethora of poor quality infill and variable quality medium/high density housing. Further intensification is being stifled by zoning restrictions, community opposition, unwieldy and slow consent processes, lack of available sites, and costs of infrastructure and drainage.

Current District Plans are extremely detailed and often restrictive, at least in certain zones. This complexity makes innovative development in existing built-up areas extremely difficult. In the current environment, developers wish to ensure that their development proposal fits all existing parameters. The alternative, of submitting a non-complying development proposal that becomes notified, is too costly (especially in terms of time) for many developers to consider.

The Resource Management Act (RMA) process of allowing objections to residential developments is clearly not working well. It causes major uncertainties and delays for developers. Two changes to existing practice and/or legislation may lessen this problem.

[48] For further discussion, see Knaap and Hopkins (2001).

First, District Plans and the Regional Growth Strategy could be written in much more enabling fashion with fewer restrictions imposed by them. In keeping with the objectives of the RMA, the emphasis should be on 'effects' rather than on specific criteria.

A variation to the current concentration on nodal intensification would be to work with market trends and support intensification in any part of the metropolitan area where the negative effects of intensification can be sufficiently mitigated. This might lead to support for intensification, for instance, close to parks and public open spaces and not just near retail/transport hubs. This possibility will become increasingly relevant (if the current MUL is retained) since an increasing proportion of new development will have to occur through intensification rather than on greenfields sites as the latter become fully utilised.

Second, TLAs could set up expert panels to consider development proposals that breach regulatory or plan requirements. Where the overall effect of the proposed development is to enhance the local community, the panel could give approval, with no opportunity for objection. The panel could also reject a proposal outright. The current notification process would only be followed in intermediate cases. An expectation could be placed on panels that they make decisions ("yes" or "no") in the overwhelming majority of cases. This approach is likely to require legislative amendment to the RMA. Consideration should also be given by councils as to whether this approach could be achieved through appropriate District Plan provisions. The aim of these approaches is to encourage developers to submit development proposals that are innovative and that can be processed with relatively little delay.

Even if these enhancements to intensification were introduced, developers still face difficulties in consolidating land within cities to enable larger scale developments to proceed. Two complementary approaches could be adopted here. First, councils could take a leadership role by identifying suitable large-scale development sites in their areas, and negotiating with existing owners to purchase the properties. The contracts could include a time-frame that allows sale by the existing owner at any time chosen by the owner over the following five years, with the price being set at an agreed premium over the then rateable value.

Under current legislation, existing owners cannot be forced to sell. A complementary approach is to enact legislation similar to the company take-over code: i.e. where a certain proportion of owners within a specified area has agreed to sell (e.g. as per the contract above) then compulsory purchase (with the same contract terms) could proceed.

If councils adopt this leadership role (possibly in conjunction with a private developer) they will still need to thoroughly consider infrastructure implications of the proposed (intensified) development. Intensification should only occur where all aspects of infrastructure can be brought up to the standard required to provide a quality service to the affected communities, including distant communities that may be affected by changed traffic patterns, etc. (In many cases, it may be easier to provide appropriate infrastructure afresh in a greenfields development than to upgrade all aspects of infrastructure for a high density development within the city.)

Local and central government can take an enhanced leadership role with respect to their own land holdings, as is occurring currently in some instances (e.g. Hobsonville, Talbot Park, Takanini). All large-scale central and local government holdings of land that are capable of development or redevelopment (including existing HNZC holdings) need to be considered and a consultative process between the owners and the relevant council (where different) could then prioritise development options.

Given the scale of Auckland's housing issues - particularly those associated with land costs and the difficulty of obtaining land - it is likely that both expansion and intensification will be required. Thus more land will need to be made available (in a 'big bang' fashion) and an overhaul of council processes (planning, zoning, consents, site acquisition and infrastructure planning and provision) will be required.

Even then, councils need to revamp their processes to streamline consents. This would be assisted by simpler and more enabling District Plans. It also requires a recognition that every month of processing adds around 1% to development costs through funding costs alone. If councils and developers were

each to meet 50% of the financial costs of a development for any period that is taken to process the consent beyond the statutory timeframe, both parties would have an incentive to hasten the process and make it more efficient.

The provision of housing supply is predominantly a private sector activity, but one that is shaped by local and central government requirements and processes. There is considerable vitality in the private components of the market. Local and central governments each desire an improvement in Auckland housing provision and quality at affordable prices. Their planning approaches and implementation methods will, to a large extent, determine whether, and how, the Auckland housing market reaps the benefits of the industry's vitality.

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Appendix A: Regional Growth Forum – Urban Intensification Survey 2006

REGIONAL GROWTH FORUM – Urban Intensification Survey 2006

Survey on behalf of the Regional Growth Forum as part of the Auckland Regional Growth Strategy Review

The Regional Growth Strategy (RGS) guides the long-term management of growth of the Auckland region. In the Strategy, growth is managed by promoting quality, compact urban environments (intensification) with most growth focused around town centres and major transport routes (the growth concept).

Six years on from the launch of the RGS, the Regional Growth Forum is reviewing and updating the Strategy, in particular progress of implementation against the expectations outlined in the document. This review will reflect on progress made, identify barriers to successful implementation and find ways to remove those barriers and provide incentives for desired types of development

The growth concept as promoted in the RGS is about creating communities. Finding ways to improve RGS implementation should assist the region to achieve this vision. (Further information on the RGS can be found at http://www.arc.govt.nz/arc/auckland-region/growth/)

OBJECTIVE OF SURVEY

A number of residential developers were interviewed in the lead up to the development of the 1999 Regional Growth Strategy. This process aims to repeat this original survey to gather trends since 1997. The key objective was to check in with a range of companies participating in Auckland residential and business development and find out about:

- ⇨ Their role in both the intensification and future urban (greenfield) markets;
- ⇨ Their perceptions of constraints to effective participation in these markets; and
- ⇨ What is seen as the future for residential and business development in Auckland.

METHODOLOGY AND SAMPLE

A range of property developers, builders, development financers and others involved in the residential and business development market within the 7 local authority areas in the Auckland Region will be interviewed via *face to face* interviews.

The questions seek information about the companies selected and their present residential and business development activity, while others will seek more open-ended responses to intensification constraints and futures. *Note, not all the questions will relate to your type of business.*

Information collected in the survey will remain confidential to the ARC and to our research partners, led by Motu Economic and Public Policy Research Trust (a charitable trust undertaking research on Auckland housing constraints). Individual responses will not be identified when results of the survey are reported.

DEFINITIONS

- ⇨ Intensification is "an increase of density (dwellings/activity units/population and so on) over the existing density within a defined area". Intensification in terms of the survey would include general incremental intensification (often described as "infill"), selective intensification in nodes and corridors (included mixed use in employment areas), and more intense development of greenfield land.
- ⇨ Metropolitan Urban Limit (MUL) delineates the outside edge of metropolitan Auckland.

- ⇨ Greenfield is land on the periphery that has been allocated for new/future urban uses.
- ⇨ Brownfield is land previously used for industrial or other purposes available to be redeveloped for alternative purposes.

Section 1: Company Details

1. Name of Development Company and individuals interviewed.

2. Size of Company
   - ⇨ Total number staff
   - ⇨ No of professional staff
   - ⇨ No of builders (if appropriate)

3. Length of time the company has been developing residential dwellings / units.

4. Length of time the company has been developing commercial units.

5. Annual turnover in $ (if willing).

6. Which local authority areas in Auckland do you work in? Do you work in other parts of NZ or overseas? If yes, where?

7. Has the Regional Growth Strategy influenced your company's role or strategy for development? If so in what ways (e.g. increased/decreased activity in town centres/corridors/Greenfield areas/infill)?

Section 2: General Residential Activity

1. How many dwelling units have you developed in the past five years?

2. How many of these are in the existing built-up urban area (town centre/infill/redevelopment)?

3. How many of these are in new (greenfield) urban areas?

4. How many of these are on business-zoned land?

5. What have been the main influences on your choice of location?

6. Do you currently own greenfield land in the Auckland Region within or outside the MUL that you expect to use for residential development? If so how much do you own.

7. When do you anticipate developing this land and for what type of housing?

8. What, if any, problems do you anticipate in developing this land?

9. Do you currently own brownfield land within the MUL that you expect to use for residential development? If so how much do you own.

10. When do you anticipate developing this land and for what type of housing?

11. What, if any, problems do you anticipate in developing this land?

12. Are your land holdings for Greenfield and/or brownfield land the same, more or less than five years ago?

Section 3: Urban Residential Intensification Activity

For this section we need information on residential development considered to be part of urban intensification. This is defined as any units developed on sites <500 m^2 yielding an overall net residential density of at least 15 dwellings per hectare.

1. How many dwellings per year would you build in the following site density?

Site Density	**Net Yield (Dwellings per hectare)**	**Annual production**	**Type of Dwelling ***	**Location (inner city/ town centre/infill/ greenfield)**
401 m^2 – 500 m^2				
301 m^2 – 400 m^2				
200 m^2 – 300 m^2				
< 200 m^2				
Other				

** separate house / townhouse / terrace house / 3 storey apartments / high rise apartments etc / other*

2. What is the range of land prices (per unit) for each type of dwelling?
3. What is the range of selling prices (per unit) for each type of dwelling?
4. Can you comment on any regional variation in land prices or building prices (including why you think this is)?
5. Can you give a couple of good examples of residential intensification from your viewpoint (including the address). The examples could be from your own or other company activities.

Section 4: General Business (Commercial Land) Activity

1. How many business units have you developed in the past five years?
2. How many would be in the existing built-up urban area (town centres/infill/redevelopment)?
3. How many would be in new (greenfield) urban areas?
4. How many of these have been for a mix of business and residential uses?
5. How many business units have you developed in the last year?

Business Sector	**No of units**	**Location**
Office ⇨ CBD ⇨ Town Centre ⇨ Other		
Multi-tenant		
Warehouse/Distribution		
Retail ⇨ Shop ⇨ Bulk ⇨ Showroom		
Industrial ⇨ Heavy ⇨ Light		
Hotel & Leisure		
Special Purpose		
Other		

Section 5: Constraints to Intensification (Residential and Business)

Please include what you see as the main constraints to developer participation in the residential and business intensification market (specify details if possible).

CONSTRAINT	YES	NO	EXAMPLE OR COMMENT
Land availability	❑	❑	
Land Ownership	❑	❑	
Planning procedures (i.e. notified applications)	❑	❑	
Planning rules (i.e. amount of parking or height/boundary relationship)	❑	❑	
Consent preparation costs	❑	❑	
Consent processing times	❑	❑	
Building regulations	❑	❑	
Lack of innovation by designers	❑	❑	
Community opposition	❑	❑	
Availability of infrastructure	❑	❑	
Drainage requirements	❑	❑	
Site access factors	❑	❑	
Finance availability	❑	❑	
Infrastructure contributions	❑	❑	
Cost of land	❑	❑	
Cost of building materials	❑	❑	
Development contributions	❑	❑	
Market demand for type	❑	❑	
Increasing competition in intensification market	❑	❑	
Low profit margins	❑	❑	
Availability of suitable labour	❑	❑	
Availability of materials	❑	❑	
Conversion of brownfields land to residential use (i.e. contamination, location, regulation)	❑	❑	
Other (specify)	❑	❑	

1. Are there certain constraints, which you think hinder innovative development?
2. In your opinion, the removal of which of these constraints would lead to greater participation in the intensification market – for residential and/or business activity?

Section 6: Intensification Futures (Open-Ended Questions)

1. List what you see as the major factors necessary to make residential/business intensification attractive to the development industry.
2. Who or what are your greatest competitors for suitable residential/business intensification land?
3. How could Local Authorities encourage residential/business intensification, particularly in town centres and corridors?
4. How do you see the future for increased residential/business intensification in the short (5 years), medium (10 years) and longer term (25-30 years)?

Section 7: Other Information

1. Are you aware of the Auckland City Council's Urban Design Panel? If you have you used it, please tell us about your experience of it.
2. Has the Building Act (2004) influenced the nature and/or cost of your company's activities?
3. In your view, do any parts of the current Building Code impinge on your ability to achieve intensification, better design or better urban design? What things do you think could be changed in the Building Code to provide you an incentive in this area?
4. If you have developed or are developing property in more than one Local Authority area, are there differences in time to gain regulatory approval to your development?
5. Do you do any post occupancy research on your development to test and analyse response to your design?
6. Do you factor sustainable building design and/or building products into your business? If yes list?
7. Do you monitor overseas trends and factor those into your business and development outcomes?
8. If you operate outside of Auckland, can you reflect on the opportunities or constraints in other NZ cities regarding intensification?

Section 8: Future of Auckland

1. The Regional Growth Strategy anticipates a population of 2 million in Auckland by 2050. This growth is projected to occur within the current Metropolitan Urban Limits. Do you foresee any opportunities or problems with this?
2. Has the upgrade (or proposed upgrade) of transport links and facilities such as roads, rail lines, bus ways and stations, influenced your company's role or strategy? Are there any particular examples?
3. In order to achieve the RGS vision of a compact city, are there any transport projects which you think are a priority to complete?
4. Are there any other comments you wish to add about current or future residential and business intensification and urban growth for Auckland?

Attached as separate document: Auckland Region Growth Concept Map

Appendix B: Non-Developer Survey

Auckland Residential Development Survey 2006

OBJECTIVE OF SURVEY:

This survey aims to sample a range of organisations connected with developments in the Auckland residential market. We wish to ascertain what they perceive as constraints to effective development in these markets and what they see as the future for residential (and business) development in Auckland. The survey complements a more detailed joint ARC/Motu/DTZ survey of property developers, builders, development financers and others involved in the residential and business development market within the 7 local authority areas in the Auckland Region.

Information collected in the survey will remain confidential to Motu Economic and Public Policy Research Trust (a charitable trust undertaking research on Auckland housing constraints) and our research partner, DTZ. Individual responses will not be identified when results of the survey are reported.

DEFINITIONS

The Regional Growth Strategy (RGS) is an integrated long-term management plan for the Auckland region that was adopted in 1999. The plan promoted quality, compact urban environments (intensification) with most growth focused around town centres and major transport routes.

Intensification is "an increase of density (dwellings/activity units/population and so on) over the existing density within a defined area". Intensification in terms of the survey would include general incremental intensification (often described as "infill"), selective intensification in nodes and corridors (included mixed use in employment areas), and more intense development of greenfield land.

Metropolitan Urban Limit (MUL) delineates the outside edge of metropolitan Auckland.

Greenfield is land on the periphery which has been allocated for new/future urban uses.

Brownfield is land previously used for industrial or other purposes available to be redeveloped for alternative purposes.

Section 1: Details of Organisation

1. Name of organisation, and person (and role) interviewed.

2. Nature of organisation

3. Role of organisation in relation to housing development

4. Which local authority areas in the Auckland region are relevant for you?

Section 2: General Residential Activity

5. Do you consider that the RGS has influenced residential development in the Auckland region? If so in what ways; e.g. increased/decreased development in town centres, transport corridors, greenfield areas?

6. What do you think have been the main influences on the location of new large-scale housing developments within the Auckland region?

7. What do you think are the main problems people face in developing land for new large-scale developments in the Auckland region?

8. What do you think have been the main influences on the location of infill housing within the Auckland region?

9. What do you think are the main problems people face in undertaking infill housing development in the Auckland region?

10. What do you think are the main problems people face in undertaking brownfield residential development in the Auckland region?

11. In your view, is there major regional variation in greenfield land prices within the Auckland region and, if so, why?

12. In your view, is there major regional variation in building/construction costs (including costs of consents, etc) within the Auckland region and, if so, why?

Section 3: Constraints to Intensification

13. Please indicate what you see as the main constraints to residential intensification.

CONSTRAINT	YES	NO	EXAMPLE OR COMMENT
Land availability	❑	❑	
Land Ownership	❑	❑	
Planning procedures (i.e. notified applications)	❑	❑	
Planning rules (i.e. amount of parking or height/boundary relationship)	❑	❑	
Consent preparation costs	❑	❑	
Consent processing times	❑	❑	
Building regulations	❑	❑	
Lack of innovation by designers	❑	❑	
Community opposition	❑	❑	
Availability of infrastructure	❑	❑	
Drainage requirements	❑	❑	
Site access factors	❑	❑	
Finance availability	❑	❑	
Infrastructure contributions	❑	❑	
Cost of land	❑	❑	
Cost of building materials	❑	❑	
Development contributions	❑	❑	
Market demand for type	❑	❑	
Increasing competition in intensification market	❑	❑	
Low profit margins	❑	❑	
Availability of suitable labour	❑	❑	
Availability of materials	❑	❑	
Conversion of brownfields land to residential use (i.e. contamination, location, regulation)	❑	❑	
Other (specify)	❑	❑	

14. Are there certain constraints which hinder innovative development?
15. Removal of which constraints would lead to greater participation in the residential intensification market?

Section 4: Intensification Futures (Open-Ended Questions)

16. How could Local Authorities encourage residential intensification, particularly in town centres and corridors?

17. How do you see the future for residential intensification in the short (5 years), medium (10 years) and longer term (25-30 years) both in designated intensification areas (nodes/centres/corridors) and elsewhere?

Section 5: Other Information

18. Do you have any information as to whether the Building Act (2004) has influenced the nature and/or cost of residential development?

19. Are there any parts of the current Building Code that impinge on the ability to achieve intensification, better design or better urban design at reasonable cost?

20. What things do you think should be changed in the Building Code?

21. Are there differences in time and/or costs to gain regulatory approvals for residential development across different Local Authorities within the Auckland region?

Section 6: Future of Auckland

22. The RGS anticipates a population of 2 million in Auckland by 2050. This growth is projected to occur within the current MUL. Do you foresee any opportunities or problems with this?

23. Do you think the proposed upgrade of transport links and facilities such as roads, rail lines, bus ways and stations will influence the pattern of residential development in the Auckland region? Are there any particular examples?

24. Are there any transport projects which are a priority to complete?

25. Are there any other comments you wish to add about current or future residential and business intensification within Auckland?

26. Are there any other comments you wish to add about residential development on greenfields sites within and outside the MUL in the Auckland region?

Appendix C: Measuring Construction Costs

In the original outline for this study, we included an intention to include a "group of questions for developers and builders … to ascertain the "typical" break-down of costs involved in certain types of development." In keeping with this intention, we initially sought to derive our own composite cost measures by interviewing stakeholders about the breakdown of costs for house construction. However the variety of development types and locations made this a fruitless task. The "typical" breakdown of cost of building a high-rise apartment is potentially quite different from the breakdown of cost for a low-rise apartment, which in turn may be quite different from building a stand-alone house. Even in the latter category, the breakdown in cost between building a luxury house relative to an entry-level house may differ sharply.

Even if one were able to concentrate solely on a single style of dwelling, the notion of a "typical" cost breakdown is problematic, especially when relative prices are changing. The reason is that labour, capital and materials are in some cases substitutable. For instance, developers gave us an example whereby it has become cheaper to import a fully built-up kitchen from China than to construct it in New Zealand. The fully built-up kitchen is 100% materials. By contrast, a kitchen built from scratch on-site will include a large labour element and a much smaller proportion of materials. Except in cases of a fixed technology production function, a "typical cost breakdown" is therefore not a valid concept and consequently cannot be measured sensibly in practice.

This conceptual difficulty is reflected in Statistics New Zealand's calculation of the Producers Price Index (PPI). Statistics New Zealand produces a PPI (Outputs) that measures the final prices of goods produced by firms. It also produces a PPI (Inputs) that measures the cost of materials used in the production of final goods. This measure explicitly excludes any labour cost component. This is consistent with the problems caused by substitutability between materials and labour outlined above.

We have examined the housing measure included by Statistics New Zealand within the Capital Goods Price Index. Again, this measure does not offer

a detailed breakdown of construction inputs; rather it is a measure of the final price of houses, similar to the PPI (Outputs) concept.

The measure of construction costs that we use, published in *New Zealand Building Economist*, defines two particular types of dwelling (executive and standard) and surveys builders on the cost of construction of each type of dwelling. This approach allows builders to factor in the current least cost methods of constructing that type of dwelling. The approach forestalls the problems associated with fixed coefficient cost indices, and has the benefit of being a constant quality measure of construction costs. The measure excludes land costs which is sensible given the evidence in this paper that land costs vary considerably across locations as well as across time.

Any improvement on the *New Zealand Building Economist* data would most likely require the specification of alternative dwelling types (the 'executive' home is now probably more of a 'standard' home). Nevertheless, the same approach to measuring the cost involved in constructing those dwellings is appropriate. An extension of this measure along these lines would be best undertaken by Statistics New Zealand using up-to-date specifications of newly built dwellings. A government agency such as Department of Building and Housing may wish to explore this possibility with Statistics New Zealand.

We note here that this report gives evidence on other costs involved in house construction. Specifically, we refer readers to section 4.2.3 on the scale of development contributions across the four Auckland cities.

In section 4.2.2 we provide an example of costs of obtaining a resource consent and of obtaining a building consent, together with associated professional fees. These types of cost can, however, be highly idiosyncratic depending on the nature and scale of development that is planned. It is therefore difficult to report a 'typical' fee associated with such activities.

Appendix D: Residential Land Capacity in Auckland Region within MUL (2003)

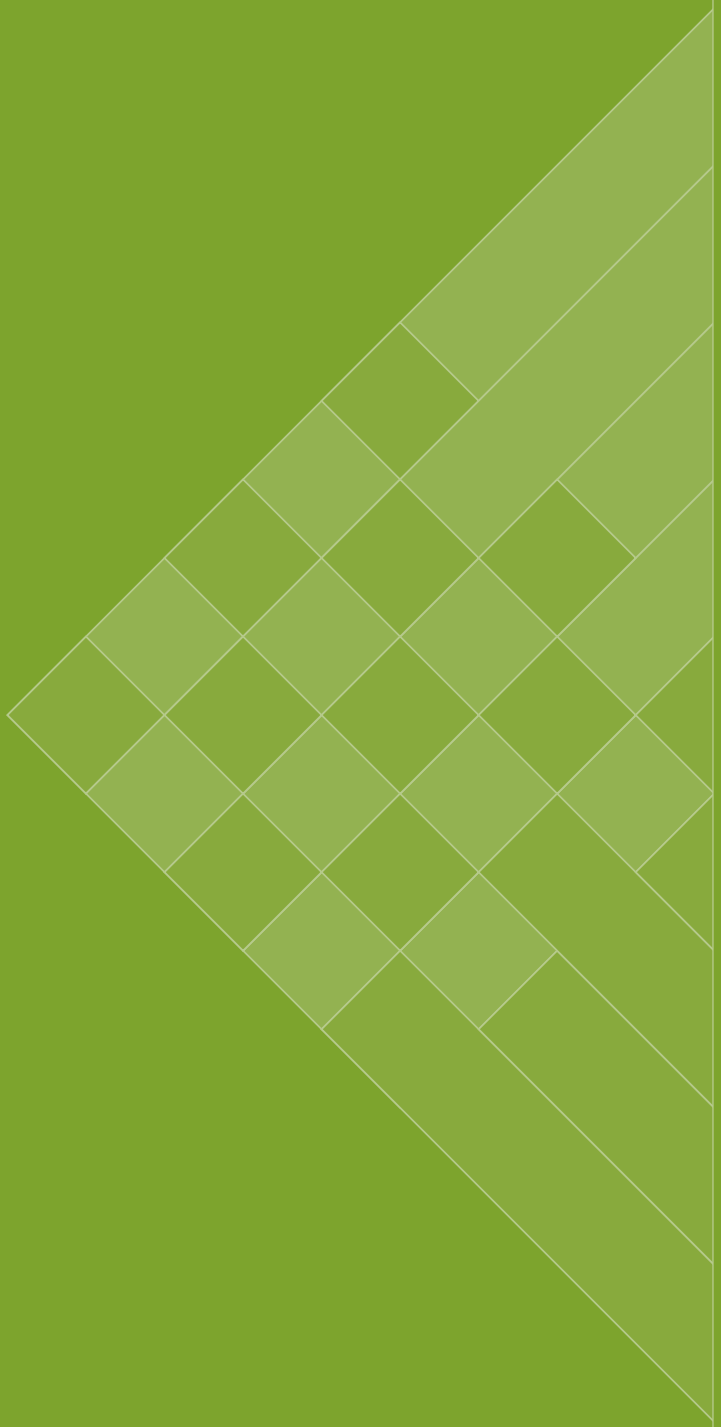
ESTIMATED NUMBER OF POTENTIAL DWELLING UNITS

	Vacant and Vacant Potential	*Future Capacity - Structure Planned Areas*	*Total Greenfields*	*Residential Infill*	*Residential Capacity on Rezoned Business Land*	*Total Household Capacity*
Rodney District	3,268	7,711	10,979	364	500	11,843
North Shore City	5,434	8,473	13,907	5,414	5,912	25,233
Waitakere City	8,537	675	9,212	7,766	6,185	23,163
Auckland City	6,218	0	6,218	11,678	29,456	47,352
Manukau City	9,059	7,785	16,844	7,439	2,022	26,305
Papakura District	1,643	0	1,643	1,524	888	4,055
	34,159	24,644	58,803	34,185	44,963	137,951

Source: ARC (2003) *Auckland Metropolitan Area: Capacity for Growth*. A Report by the Regional Growth Forum.

Note these areas do not include:

TLA	*Site*	*Additional Capacity Dwelling Units*
Manukau City	Flat Bush	18,500
Waitakere City	Hobsonville	3,000
		21,500



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