

REGIONAL INTENSIFICATION
Intensive Housing Demand and
Supply Issues

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1 Summary

This report was initially prepared in 2004 as a working report for the Auckland Regional Council. The Council has requested that the report be updated so that it can be made available as part of the review of the Auckland Regional Growth Strategy. The updating process has allowed for some information in the report to be amended, where new information exists. In other cases, as identified, the report continues to present information gathered in 2004.

The purpose of this report is to identify the role of market-based mechanisms in promoting intensification of housing in the Auckland Region, in accordance with the Auckland Regional Growth Strategy (ARGS).

Intensification is taken to mean terraced and apartment-type housing. The ARGS promotes nodal-based intensification. This refers to intensive housing located in the areas identified by the ARGS for such growth, such as around transport hubs, town centres and along important corridors.

The report concentrates on market rate intensive housing (i.e. housing that is not provided by the State via Housing New Zealand) in non-CBD locations.

To date, promotion of intensification has focused mainly on regulatory tools (such as District Plan zoning). Such approaches have met with a mixed response from the market place. A better understanding of market dynamics is needed to inform future policy decisions, in particular the forthcoming review of the Auckland Regional Growth Strategy.

The intensive housing segment of the market has grown rapidly over the 10 years to 2006 to a point where it represents 35% of the total urban housing market and over 60% in Auckland City. The past 10 years has seen a process whereby intensification has shifted from infill housing being the main form, through to terraced-type housing on brownfields land to a situation today where redevelopment and mid to high-rise apartments are increasingly feasible. This process reflects changes in demand, as well as development economics.

A range of sub-markets is appearing within the overall intensification market. At a broad level, there are two main markets with respect to location:

- Within inner city areas and favoured coastal areas, demand is high and a process of redevelopment is well advanced, where the emphasis is on apartment-type developments replacing less intensive development. Demand supports a quality product.
- In outer (suburban) areas away from higher value inner and coastal areas, intensification is occurring, but the market faces a number of barriers. Apart from

zoning availability, an important aspect is that the market looks for price differential between intensive housing and that of surrounding stand-alone housing. This means that in areas of lower priced housing, intensive housing can sometimes only be commercially viable if quality and design are sacrificed. The only alternative to this appears to be comprehensively developed sites where it is possible to add value to an intensive development through careful management of design, landscaping and amenity (e.g. Addington in Takanini, Harbour view in Te Atatu).

Mechanisms to support the growth of the intensive housing market have to respond to the differences between these markets.

In favoured inner city and coastal areas, the main issues relate to expanding the supply of opportunities for intensive housing and better managing the quality of development in these areas. Stimulation of the market is not needed as there is already a substantial and growing market demand in these areas. Supply is constrained by limited appropriate zoning and proposals for rezoning usually encounter stiff resistance from existing residents.

The critical question for the Growth Strategy review is whether more intensification should be planned for in inner and coastal areas – to follow the market demand for people to live in these areas. Do more and bigger nodes for growth need to be identified in these areas? The available evidence would suggest that this needs to occur if the region is to reap the wider benefits of market pressure for redevelopment in these areas.

In inland, suburban areas the main issue is how to broaden the market for intensive housing, away from investors towards owner occupiers, and to support a better quality product. Currently, there are substantial opportunities available in competing housing markets (infill, stand-alone housing, rural-residential housing), while the benefits of being close to rail or a town centre are not valued highly by the market place.

It will require substantial effort to increase the market demand for intensive housing in suburban areas. Actions must involve a mix of regulatory and non-regulatory mechanisms. Generally, these actions need to focus on increasing the demand for intensive housing, rather than increasing supply (although having the appropriate zoning in place is obviously an important pre requisite):

- Techniques that attempt to promote supply, such as reducing costs by lowering development contributions, rates reductions and land amalgamation for developers are not favoured. These actions tend to support the current market position of intensive housing as a “gap filler”; they will not substantially grow the market.
- Techniques that attempt to ‘enable’ the market for intensive housing by disabling other markets (such as restrictions on infill development in suburban areas, or less intensification in inner and coastal areas in the hope that this will displace demand to outer areas) are also not favoured. These are defensive strategies that will not create a natural market for intensive housing.

The following techniques need to be considered to help promote demand in areas where market barriers exist:

1. A much keener appreciation of development economics needs to be a factor in the selection of suburban nodal areas, such as the trigger point analysis used in this report. Issues of liveability and market desirability need to more strongly influence the selection of areas for intensification, along with access to transport and services. Market processes take these factors into account, and so price signals are important.

2. In areas where market demand for intensive housing is low, there is the need to slow or stop incremental infill type development from occurring in the node. This type of development will delay the point at which substantial redevelopment will occur.
3. Current techniques such as structure and concept planning for the selected nodal areas are helpful in helping to provide some direction to the market in terms of location, but real gains will only come from substantially upgrading the environment within the selected areas. Given the scale of the investments needed, in the short term, it may be best for the region to concentrate efforts on only a handful of “marginal” nodes.
4. The benefits of living in and owning intensive housing versus other housing forms need to be defined. For example, the total saving to households of less travel, greater energy efficiency, less maintenance and debt servicing associated with intensive housing. Sales history and capital growth of intensive housing developments could also be tracked.
5. Developers need to be encouraged to respond more to the needs of end users rather than investors, when designing developments. The establishment of an Urban Land Institute or equivalent industry driven organisation would assist this process in terms of better understanding the market for intensive housing.
6. Some sort of regional redevelopment agency that could assist in these processes would be a significant step forward. A critical role for such an agency would be to engender a degree of certainty relating to future land use and infrastructure changes in and around the nodes selected for intensification. This would help to reduce developer risk. Joint ventures and land amalgamation, enabling more participation in the market place by the private sector, would also be helpful.

2 Introduction

As part of the further development and implementation of the Auckland Regional Growth Strategy, the Auckland Regional Council and Auckland City Council have commissioned Hill Young Cooper Ltd, Waitakere Properties Ltd and Bristow Barbour Walker Ltd to investigate mechanisms that will further encourage nodal-based residential intensification. The essential task of the project is to understand the market mechanisms behind the demand for, and supply of, intensive housing, and the extent to which these mechanisms can be manipulated to increase the number of intensive housing units located in nodal areas, in accordance with the Auckland Regional Growth Strategy.

The project involves the following objectives:

- Understanding the triggers or mechanisms that lead to infill housing and intensive housing, both in terms of the demand for such housing and the supply of housing units.
- Identification of how market factors may interact to stimulate or dampen residential intensification in the locations selected by the Regional Growth Strategy for intensification, including town centres, transport hubs, activity centres and selected greenfield areas.
- Identification of a range of methods that can be used to help encourage further nodal-based intensive housing developments. Methods considered need to cover:
 - Statutory – the implications of a range of District Plan-based techniques need to be addressed. Investigation needs to concentrate on techniques that could work alongside up-zoning, such as design-based rather than density-based controls, limited or non-notification of applications, consistent processing paths across the region, as well as bonus-type provisions and provisions that encourage site amalgamation.
 - Non-statutory techniques - this will be an important emphasis of the study. Techniques considered will include:
 - investment in infrastructure and public amenity,
 - reductions to financial contributions, rates and other charges and levies,
 - land amalgamation, redevelopment agencies and related activities,
 - education and communication about the benefits of living in more compact areas.

- Consideration of whether restricting further infill and redevelopment associated with intensive housing outside nodal areas will see demand for nodal-based intensification increase, that is, is there a cross-over between buyers involved in the two markets?
- Consideration of whether incremental infill development is likely to see the loss of opportunities for future nodal-based redevelopment, either within existing identified nodes, or in future nodal areas.

An initial report was prepared in 2004. In 2006, the Council requested that the report be updated with new information, where this is at hand.

2.1 Definitions

This report is principally concerned with intensive housing. Infill-type housing is also referred to, as well as stand-alone housing. The report also refers to nodal-based developments and non-nodal developments. These different types of developments need to be well-defined to ensure the policy issues associated with them are clear.

Looking first at housing types, typically different housing types have been defined by the density of the housing – the area of land associated with each house. For example, intensive housing is often defined as development involving houses on lots smaller than 250 m² of land. However, trying to define housing by density becomes problematical at higher densities. This is because in apartment-type housing, units may have no ground area associated with them. Also, a simple measure of density does not take into account design issues, such as building coverage. For example, taking a hectare site, apartment type buildings can cover less of that hectare site but accommodate more people, than the same hectare site being occupied by low density, stand alone houses.

Misconceptions about the types of living environment provided by different housing types colour debate around intensive housing. Continual references to density being the prime differential of housing types reinforces these misconceptions. It is more useful to talk about the different physical qualities associated with different housing types.

Table 1 sets out the important parameters of different housing types. The focus of this report is on the middle range of housing types – town houses and mid-rise apartments. This is because of the need to focus on market dynamics within suburban areas. This report does not dwell on market issues within the Auckland CBD area, as the dynamics in this market are considerably different from suburban areas.

Table 1 Housing types

Suburban		Urban			
Stand-alone suburban	Town house infill site	Terraced house	Low-rise apartment	Mid-rise apartment	High-rise apartment
Separate house on its own section. The section is usually between 500 to 800 sqm in area.	Usually involves a separate house on a 'half' or small site. Can some times involve duplexes (two houses joined together). Lot areas are typically between 300 and 500 sqm.	Individual houses usually joined together in a row or as part of a comprehensively designed complex. Each house has its own ground-level entry from the street or internal access way. It may or may not have a back yard associated with it.	Houses in a 2 or 3 story building, usually accessed from a common entrance lobby. Car parking may be on the surface or above or below ground.	4 to 6 storey building. Usually parking is common, and is above or below ground.	More than 6 storeys (e.g. CBD or sub-regional centre).

Turning to the location of development (nodal and non-nodal developments):

- Nodal areas refer to the areas identified by the Auckland Regional Growth Strategy, and the associated Sector Agreements, for intensification. Typically these areas are associated with town centres and/or transport hubs.
- Nodal-based intensification therefore refers to intensive housing developments located in nodal areas, while non-nodal intensive development refers to intensive housing located outside the areas identified for intensification.

2.2 Context

The context to this report is the continuing rapid growth of the Auckland Region and the associated changes in demographic and socio-economic conditions. Over the next 50 years, the region's population is projected to increase to over 2 million people. A medium growth rate places the resident population at 2,073,448 by 2046.

In 1999, in anticipation of similar growth rates, the Auckland Regional Growth Strategy (ARGS) was adopted by the councils of the Auckland Region. The ARGs was prepared at a time of rapid expansion of the housing market. There were substantial concerns that this fast growth would see a significant outward expansion of the urban area, placing pressure on the natural environment of the region. A more compact form of growth was proposed by the

strategy. It was also apparent at the time that there was a shift in the market towards more intensive housing forms and that growth management could utilise and hopefully build on this demand to help achieve a more compact region. However, the depth of the market for intensive housing was largely untested at the time that the ARGS was prepared, and as a result the strategy took a fairly tentative approach to how intensification was to be encouraged. At the time, the main issue was perceived to be ensuring that district plan zoning provisions were in place to allow for the anticipated intensification.

The ARGS proposed the following allocation of growth for the next 50 years:

Table 2 Growth allocations under the 1999 ARGS

Type of growth	Expected population growth between 1999 and 2050	Percentage of growth between 1999 and 2050
Existing urban area (infill and vacant land)	264,000	30%
Future urban growth	165,000	18%
Intensification in the form of nodes and corridors	391,000	44%
Rural	69,000	8%
Total	889,000	100%

Overall, under the ARGS, nearly 75% of future growth is to be accommodated in the existing urban area and on land already zoned for urban expansion, with the majority of this to be nodal intensification (44% of all future growth).

The emphasis of the ARGS on nodal-based intensification represented a break with previous strategies to accommodate population growth. These strategies were based on:

- continued outward expansion of the urban area, and
- considerable allowance for general infill within the urban area – the provision for houses on half sites in many suburbs across the region.

The target for the amount of population growth that needed to be accommodated by the ‘Intensification’ category was not directly related to any detailed forecasts of the demand for intensification, or the ability of the market to supply all of these units. Rather, the target was largely driven by the lack of capacity provided by the other growth options. In general, the ability to accommodate growth in the ‘Existing urban area’, in the ‘Future urban’ or in the ‘Rural’ categories was constrained by a range of factors. Intensification represented the one growth category where there was a perceived ability to significantly expand capacity. Nodal-based intensification would allow additional growth within the urban area to be accommodated in a way that would:

- not see the region continue to sprawl outwards,

- not see every suburb within the urban limit face significant levels of change through continued infill,
- recognise that many suburbs would effectively be ‘filled up’ by infill development allowed under current planning controls, significantly compromising the ability to see large scale redevelopment for 30 to 50 years in these areas, and
- recognise a desire to increase densities around transport hubs to support passenger transport and the viability of town centres.

The figures in Table 2 were partly based on a 1996 study of capacities prepared by the Auckland Regional Growth Forum. This study was based on the planning (zoning) provisions of the time. The ‘Existing urban area’ capacity set out in Table 2 was based on the sub-categories set out in Table 3.

Table 3 1996 capacity

Type of urban area growth	Number of additional households	Estimated additional population
Vacant land	45,957	129,000
Infill	35,732	100,000
Business land	24,704	62,000
Total	106,393	291,000

Source: ARC

The capacity for housing provided by the vacant land and infill categories was fairly equal in size. The 1996 capacity study also estimated capacity in the ‘Rural’ growth and ‘Future urban’ areas. These categories added a further 70,000 households in the ‘Future urban growth’ category and 30,000 in the ‘Rural’ category. This provided a total capacity for around 390,000 additional people, substantially below the anticipated demand of around 890,000 that the ARGS was based on. The ARGS managed this gap by expanding the ‘Rural’ and ‘Future urban area’ categories and creating the ‘Intensification’ category. The following table sets out this data.

Table 4 ARGS capacities

Type of growth	1996 capacity report (additional people)	1999 ARGS capacity (additional people)	Additional capacity provided by ARGS
Existing urban area	291,000	265,000	- 26,000
Future urban area	70,000	165,000	+ 95,000
Rural	30,000	69,000	+39,000
Intensification	Not measured	391,000	+ 391,000
Total	390,000	890,000	+499,000

It should be noted that some of the development opportunities identified in the 'Existing urban area' category overlap with the areas identified for growth under the 'Intensification' category. In other words, the size of the 'Existing urban area' category is somewhat overstated while the need to accommodate growth in the 'Intensification' category is understated.

The extent to which there was a market for this scale of intensification was not fully tested by the ARGS, although there were indications that there was a growing segment of the housing market interested in medium density developments. The ARGS took the approach that as there were no other growth alternatives, the market for this scale of intensification would have to be 'created' in one way or another.

2.3 Location and format of intensive development

The ARGS stated general principles as to the location of future intensive development, as well as its design. Broad growth allocations were proposed, with the details to be filled in by specific Sector Agreements. Transport was an important driver in the location of intensive development, with town centres and rail station hubs favoured. Some corridors of intensive housing were also considered.

During the preparation of the strategy it was clear that there was a growing demand for housing in inner city areas and along the coastal fringes of the metro area. These forces are not unique to the Auckland Region. However rather than reinforce these trends with intensification of these areas, the strategy took the approach that intensive housing should be directed to a range of town centres and transport hubs, many of which were inland. The inner metro and coastal areas were to receive some growth (mostly in the CBD), but generally the tenor of the strategy is to manage (reduce) growth pressures in these areas and spread the load to other areas.

This approach matched, to a certain extent, the population trends of the post-war period which had seen a dispersal of population across the region. The Auckland Region is marked by a ring of historic suburbs around the CBD, and the scale of inner area intensification seen in other cities is not possible because of this. It was also apparent that some coastal areas had

a lack of infrastructure, including transport links, while other coastal areas were already reasonably intensive.

It was anticipated that a combination of planning controls (limited growth potential in inner and coastal areas, as well as expanded capacity in and around the identified town centres) and investments in transport and other infrastructure in nodal areas would direct market-forces to the areas selected for intensification. It was also hoped that with changing lifestyles, there would be a natural transition towards more intensive housing units, and that this trend would occur in suburban, as well as inner city areas. This study has raised fundamental issues about this set of assumptions.

The growth strategy envisaged a mix of apartment and terraced-type houses in the intensive housing areas, with apartments being a feature of the CBD and the main sub-regional hubs. Terraced-type housing was considered to provide suitable densities in the other nodal areas – there was no need for higher densities. The strategy acknowledged the need to address design issues, associated with both these types of houses. As with the location of intensive housing, recent experience has called into question some of these assumptions: apartment-type developments are beginning to be seen in some sub-regional centres but not others, while the design issues associated with all forms of intensive housing have proven to be much more difficult to tackle than first anticipated.

2.4 Growth capacities: 2001

The picture in 2001, in terms of growth capacities, is still essentially the same as it was in the mid 1990s when the AGRS was formulated. Monitoring of growth capacities presents the following updated picture of the growth capacities set out in the 1996 capacity report:

Table 5 1996 and 2001 growth capacities

Type of Growth	Capacity for Growth 1996 Report- additional population	Capacity for Growth 2001 Update - additional population
Vacant urban land	129,000	95,600
Infill	100,000	95,700
Business land	62,000	112,400
Total existing urban area	291,000	303,700
New greenfields areas	74,000	74,000
Rural	29,000	No information available, but assume the same
Total 'supply'	394,000	406,700

As the two studies (the 1996 and 2001 reports) used different methodologies to determine capacities, it is not possible to directly compare the two studies. However, the studies are based on estimates of growth capacities and development trends and therefore reflect, even in an impressionistic way, growth patterns. A number of trends are evident from comparing the two studies:

- The capacity available in the business land category has significantly expanded. This reflects the fast uptake of business land opportunities as one of the main sources of land for medium to high density developments in the late 1990s. As a result of this trend, the 2001 report assumed a much larger capacity in the business areas than the 1996 report. The critical point for the ARGS is that many of these development opportunities for intensive housing on business land lie outside the areas identified for nodal-based intensification. It should be noted that since 2001, Auckland City Council has moved to limit intensification in some business areas, while still allowing for intensive housing in defined mixed use areas.
- Increasing demand has meant that infill development opportunities that were formerly seen to be uneconomic (shifting a house on a large section to the back so that there is a developable site at the front, for example) have become realistic propositions. As a result, capacity has expanded to match demand. It is expected that this process will continue, unless a constraint is placed on the process of expanding supply. Again much of this infill development is outside the nodal areas identified by the ARGS.

An implication of both these trends is that development opportunities in the existing urban area, rather than steadily contracting, as anticipated by the ARGS, and which would help to create a market for nodal-based intensification, have instead expanded. As a result, nodal-based intensification remains one of a number of development options. Compounding this issue further is the additional development capacity that was to be provided by up-zonings in the nodal areas is not fully available.

These issues highlight the extent to which the policy drivers for intensification have changed since 1999. Under the ARGS, nodal-based intensification was expected to occur as other forms of development opportunities 'dried-up'. Existing policy settings (district plan zones) relating to infill and further development in non-nodal areas were not altered in any way by the ARGS, such as down-zoning of selected suburban areas. It was anticipated that the gradual diminishment of other development opportunities and continuing high growth rates would mean that development would have to switch, over time, away from infill towards nodal-based intensification, and that this intensification could easily be spread across the region.

However, rather than dry up, other development opportunities have expanded. As a result nodal-based intensification has to **compete** with a range of development opportunities. A policy decision therefore needs to be made about the importance of nodal-based intensification to the Auckland Region. If nodal-based forms of growth are important, then there will need to be a more proactive approach to intensification. This policy decision lies outside the scope of this report. This report confines itself to two main questions:

- What are the realistic mechanisms to support and further encourage nodal-based intensification, given a planning framework which provides substantial opportunities for a variety of growth types – nodal, infill, greenfields and rural?

- Is it realistic and feasible to reduce development opportunities in the Existing urban area category as a way of further promoting nodal-based growth?

Based on the answers to these two questions, the Regional Growth Forum can debate the extent to which nodal-based intensification is important, informed by a good understanding of what may be involved if it wishes to significantly promote intensification. This picture then sets the brief for this project.

2.5 Comparisons with Sydney and Melbourne

Before looking in more detail at the demand and supply issues associated with intensive housing in the Auckland Region, an important question to consider is whether there is any inherent reason why the Auckland Region cannot sustain the quantum of intensification proposed by the ARGs – does the amount of intensification sought outstrip the ability of the market place (both housing consumers and suppliers) to provide for this level of growth?

This is of course a hard question to answer as it is very much about future housing intentions and the capacity of the industry to meet demands. One possible way to answer the question is to compare Auckland with Melbourne’s and Sydney’s growth strategies. While making comparisons between the growth strategies of different cities is difficult due to their unique characteristics, and the different ways that growth opportunities are categorised, it is nevertheless useful in highlighting differences and possible trends.

In terms of the overall mix of different housing types anticipated by the different regional growth strategies, Table 6 sets out the targets for new households contained in the regional growth strategies for Auckland, Melbourne and Sydney, with some adjustments and assumptions to create comparable housing categories.

Table 6 Targets – new households

Type of growth	Auckland (1999)	Melbourne (2001)	Sydney (2001)
Greenfield	20%	31%	25%
Across urban area	35%	28%	25%
In nodal areas	45%	41%	50%+

These figures have been derived from a variety of sources that are not directly comparable, so it is the broad patterns that are important. It can be seen from the table that Sydney is pushing down a nodal growth pattern, and current development patterns reflect this strategy. For a number of years it has had a compact city strategy. The main debate at the moment is

whether there is insufficient greenfields land and the quality of the built environment in the nodal areas.

In contrast, Melbourne is just starting the process of developing a more compact city strategy. As such, the proportion of future housing to be accommodated in nodes is lower than in Sydney, while the proportion in greenfields is higher reflecting the current market for this type of development. In the case of both Sydney and Melbourne the proportion of growth to be accommodated by development across the urban area is less than that of Auckland, with both areas under 30%.

The Auckland Region has adopted a strategy of much less greenfields growth, but more housing across the urban area. The greater reliance on development across the urban area reflects the historical situation - this form of growth being the main means of growth through the 1970s to 1990s.

Turning to the role of multi-unit development, Sydney's target is for 65% of new dwellings to be in the form of multi-units. In 1989, the percentage was 27%. Currently the figure is 55%. Melbourne is experiencing demand for 25% of new homes to be in multi-unit development, and is intending to push this percentage to 40% by 2030. For the Auckland Region, as will be discussed below, demand is around the 25% to 30% mark, with the target being between 40 and 45%. The Sydney experience is instructive as to the extent to which the market for multi-unit development can grow quickly over time if a range of factors come into play.

This comparison suggests that large changes in the housing market can occur in a relatively short time, in terms of a shift towards intensive housing formats, and that there is no reason why Auckland should not also experience these trends. Most of the trends cited in the Melbourne and Sydney growth strategies are also present in Auckland.

However, one possible reason for the speed of the transition is the extent of public intervention in the development market in Sydney and Melbourne compared to Auckland. A notable feature of Sydney and Melbourne is the range of tools available to the community to implement their growth strategies. These tools include:

- Greater direction of growth forces at the regional level,
- Directive planning schemes,
- Close integration of land use development with large investments in public transport schemes, and
- Extensive involvement in the land development process - in both cities, state-controlled land development agencies have a significant market share and use this position to influence the rest of the housing market.

This range of tools highlights the extent to which the Auckland Region is likely to have to expand its range of implementation tools if it is to seriously tackle growth pressures in a way consistent with the growth strategy.

3 Demand for Intensive Housing

This project has to look at mechanisms to stimulate the demand for and supply of intensive housing. A basic assumption of the project is that it is not just about helping the current market for intensive housing to operate more efficiently (although this is a potential mechanism to increase the amount of development in the form of nodal-based intensification). Rather the project assumes that there is both insufficient demand for and supply of intensive housing to meet regional growth goals.

Increasing supply and demand must therefore involve considering both ‘demand side’ and ‘supply side’ factors:

- Demand-side factors involve mechanisms that direct or encourage people to live in higher density areas, such as restricting opportunities for other forms of living, such as infill and greenfields growth. Actions may also involve making other development opportunities more expensive so that fewer people can access these opportunities while increasing the relative price benefit of housing in higher density areas. This might come about from increased transport costs associated with access to non-nodal areas, or increased construction and development costs of stand-alone housing compared to nodal-based intensive housing.
- Other demand factors involve making higher density areas more attractive to a wider range of people and households than at present, such as through the price of units in higher density areas being lower than other housing, transport costs being less and/or the range of amenities available as part of the individual development, or in the wider neighbourhood area being better than that found in other housing types, or the style of development better matching lifestyles.
- Supply-side factors involve zoning and land supply, and land and construction costs. The investment market also influences demand, and in some respects, the intensive housing market will have been shaped more by the needs of investors (e.g. likely cost and rental returns), than the needs of possible occupiers.

Later sections of the report will look at the issues which influence the supply of intensive housing. This section concentrates on the issues affecting the demand for intensive housing.

However, forces of demand and supply do not operate in a totally free market – a wide range of issues affect the workings of the housing market. This distorts the extent to which these demand and supply factors affect the market for intensive housing. Understanding these distortions is important. In considering the demand for intensive housing, the following factors have been considered:

- People’s decision-making processes – why do people choose intensive housing over other housing options?
- People’s actual preferences rather than their stated preferences.
- Future demographic changes - is the size of the groups likely to be attracted to intensive housing likely to increase or decrease in the future?

3.1 Demand for intensive housing – individual housing choices

Remarkably little is known about people's housing choices, and even less about intensive housing choices. A 2000 literature review for the ARC noted this. Most studies of people's housing preferences are either historical or aspirational. Few studies attempt to replicate the real decisions that most people face when buying a house and the trade-offs inherent in this process.

The following section summarises research on housing preferences. A 'potted' rather than comprehensive summary is provided.

3.1.1 ARC review of literature

This work involved a literature review of research on people's preferences for intensive housing. Important points from this work are:

- Price acts as the main constraint in the decision-making process. Trade-offs are made within this constraint.
- Traditionally people have been prepared to move to the periphery to satisfy their preference for stand-alone housing, trading off increased travel time to work, and most preference studies support this basic trade-off. However, more recently many people are choosing to live in infill type housing, and now apartment-type housing, suggesting that a different set of trade-offs are being made.
- People tend to stay within an area once they are settled. While younger people may be more likely to move neighbourhoods to find a house that suits their price and needs, older people tend to narrow their search, and for these people the desire to live in an area may see them try different housing types. That is, location may be more important than housing style for some people.

In terms of the market segments that might be willing to take up intensive housing opportunities, the following groups were commonly identified, based on the studies reviewed:

- Young, single and more likely female, and
- Older and single.

The literature reviewed consistently said that families with young children would not be interested in higher density living. The review notes that the literature was unclear about the preferences of:

- Young couples without children,
- Empty nesters,
- Single-parent households, and
- Households with older children.

The research noted the difficulties of asking people to consider whether they may be willing to live in a type of housing which they have never experienced - living in an apartment or

terrace house when none exist in their area, for example. The cited research could therefore easily underestimate demand.

The research also highlighted many internally inconsistent preferences held by individuals, such as the desire for low-density living and the desire to reduce car dependency. The study also noted that there was scant research, at the time, on people's preferences should transport costs rise substantially in the future, or passenger transport become more available.

3.1.2 ARC report - Building a Better Future¹

This research asked residents of higher density areas why they chose to live this way. Respondents were about equally split between renters and owner occupiers, a split higher than the region in general (where around 35% of all households are renters).

In terms of people's decision-making the following points were made when people considered living in higher density areas:

- Location is the main consideration. People wanted to live in an area that they 'like'. This might involve being near friends, family or work, or might relate to the amenities and character of the area.
- Price then becomes the issue. The ability to live in an area that they wanted to be in, at a price affordable to them. For many residents living in an intensive house has opened up an option that was not previously there. For some it was seen as a step in the door to living in their chosen neighbourhood and they would like to trade-up in the future.
- The security offered by living close to others was a very strong feature for some people. Residents felt safer in higher density housing areas.
- Low maintenance, or at least the promise of this, was a further attraction.

This decision-making process is different from that discussed in the literature review - location was the main factor rather than price for the residents of higher density housing. This suggests that to achieve their desired location, residents were willing to accept a more modest living arrangement. This point highlights the additional housing opportunities that more intensive housing has opened up to people.

The study also shed some light on people's attitudes to intensive housing and the extent to which people may be prepared to trade-off some housing attributes for others. When all people involved in the survey (residents of intensive housing, as well as residents of surrounding neighbourhoods) were asked about their attitudes to intensive housing, people fell into three camps with regard to attitudes to higher density housing:

- Acceptors - People who think higher density living is OK, and are living that way now, or could see themselves living that way in the future.
- Rejecters - people who think that higher density living is socially bad and should not be allowed, full stop.

¹ Building a Better Future. Intensification Review: ARC Residential Research and Monitoring Programme. Stage 1: Community Perceptions and Attitudes. August 2000. Research Solutions Ltd.

- Intellectual acceptors - people who accept the idea that higher density living may suit some people, but it's not for them.

While the research does not allow for an accurate fix on the number of people in these different categories, the numbers suggest an uneven split, with about 40% of people falling into the rejecter camp, and about 30% each in the acceptor and intellectual acceptor camp. There is no evidence if these views are held strongly by one age group or segment of the population, or whether there is movement over time in the size of the different camps - has the rejecters' camp increased or decreased, for instance?

One inference of the study is that, at a regional level, there is likely to be demand for at least 30% of housing to be in intensive formats, provided that location and price are suitable.

In terms of people who have moved into a higher density development, about 40% indicated that they would stay put, while the other 60% said that they may move in the future, either to another higher density development, or to a stand-alone house in the area. This suggests a high churn rate for properties in higher density areas as people move into and out of them at different stages.

Finally, in terms of the demographic make-up of people living in the higher density areas, the evidence was that the make-up of residents was very similar to the population of the surrounding area in terms of income and ethnic background. The only difference was in age - residents of higher density housing were younger, but there were also families with young children and older adults too. This form of housing is not just for singles and couples.

In summary, as the research points out, people choose to live in areas where they feel they belong, and higher density housing increases the opportunity for people to be able to live in areas that they like.

3.1.3 North Shore City Council research – 1996²

This is an older report, and referred to in the ARC literature review, but is perhaps the most comprehensive local analysis of people's preferences for living in higher density developments. Higher density development was defined in the study as terraced housing, apartments, or town houses - a house on a very small section, possibly connected with another house. The report was prepared at a time when higher density living was a new form of living, and as a result asked people to speculate as to whether they would be prepared to live in higher density housing. The report is therefore a snap shot of preferences at the time.

A stated-preference methodology was used to help highlight trade-offs that people might make in their housing choices. This is a useful technique. For example, the survey asked people whether they would be prepared to live in a house on a full site in Albany or an apartment in Takapuna which would be of similar cost to the house in Albany. In reality this option is not available to people - the apartment in Takapuna is likely to be considerably more expensive than the house in Albany - however, it does highlight whether people will be

² Evaluation of the Preferences and Demand for Higher Intensity Housing on the North Shore. August 1996. Forsythe Research and McDermott Fairgray Group Ltd.

prepared to make a trade off between living in a more intensive area in return for being close to good amenity (in this case, beaches and town centres).

The report helps shed some light on people's preferences for different types of housing at different life stages, and differences between people in inner and outer urban areas, although the report does not provide a great deal of detail on the actual share of preferences.

In terms of people's decision-making patterns, the report drew from a number of focus groups. The main point from this work is that younger people are more flexible in terms of the locations that they may consider – younger people are more likely to move to find the right house at the right price. In contrast, older people tend to be more fixed on a particular location - attachment to a community increases with age - and therefore they are less inclined to move. Obviously, increased affluence helps to widen housing choices, less affluence reduces choices.

In terms of people's preferences for living in higher density housing, the report states that overall around 25% of North Shore residents would consider living in higher density housing. For Auckland City residents, the figure was more like 40%. Interestingly, these figures are close to those of the more recent Better Future's Research, and not too dissimilar to the data set out below on actual patterns of demand for intensive housing, suggesting that there is a base level of support for intensive housing.

Interestingly, the report notes that Auckland City residents did not look as favourably upon cross-lease type housing as North Shore residents, while North Shore residents had a higher preference for this type of living than for higher density housing. This is a point that will be discussed in later sections of this report looking at the effect of restricting infill housing and whether this will 'push up' the demand for intensive housing.

The report does not provide a detailed breakdown of preferences by age. Also, the study, by using family life stages, does not make it clear where households formed by singles and couples without children fit into the picture.

There is a graph that shows different preferences by life stage. Overall the demand for intensive living is highest for the post-family stage, but demand in the early and late-family stage is also high. There is a clear difference between the preferences of North Shore and Auckland City residents, with residents of the latter much more willing to consider intensive living options:

- For North Shore residents, preference for higher density housing is strongest for people in the late- and post-family stage, and lower for the pre-family and early-family stages.
- For Auckland City residents, the life stage groups with the highest preference were early-family and post-family.

The following table has been developed from the graph in the report, and as a result the figures are approximations only.

Table 7 Preferences for living in higher density housing (1996)

Life stage	North Shore residents	Auckland City residents
Pre-family	15%	35%
Early-family	20%	40%
Late-family	30%	30%
Post-family	25%	50%

The fact that the demand for intensive housing amongst family-orientated stages is stronger than common belief that high density housing is only for singles and couples is not discussed in the report. This difference may be driven by the family stage groups willing to sacrifice living space to enable them to get into a good area for their children – perhaps for schools or access to beaches, although the report does not state why.

The report mainly concentrates on demand for intensive housing in the Albany area, and discusses this suburb at length. The report makes the point that, at the time, there appeared to be modest demand for intensive living in Albany, and that demand was much higher for intensive housing in coastal locations like East Coast Bays, Takapuna and Devonport.

Subsequent to the study, Albany has proven to be a popular location for higher density housing. The Building a Better Future research helps shed some light on this point. Interviews with people living in intensive housing in the Oteha Valley area suggests that part of the demand for this development appears to have been generated by people wishing to live in the East Coast Bays area, but who could not afford to buy in these coastal settlements. For these people the next best location was therefore the eastern side of Albany, such as Oteha Valley.

In comparison to Albany, Takapuna has seen moderate growth in intensive housing when the North Shore study suggested that demand would be high for Takapuna. In reality it is likely that high land values and very expensive apartments in Takapuna mean that most people cannot make the trade-off between an apartment in Takapuna or a house in Albany. In most cases the apartment in Takapuna will be double to treble the price of the house in Albany. In addition, there are no suburbs close by where intensive housing may be located and be an acceptable alternative location to Takapuna. Therefore demand is also displaced to Albany and other inland suburbs.

There is an important lesson from the North Shore experience with intensive housing: Because of the relatively narrow demand for intensive housing (only one in four households) suggested by the study, the North Shore District Plan took a relatively liberal approach to intensive housing opportunities in the greenfields areas of the city. However, market dynamics, as well as planning controls, meant this demand was not evenly spread across the city, rather much of it was concentrated in the greenfields areas, and as a result development considerably outran expectations regarding intensive housing in these areas.

3.1.4 Other research

Since the ARC's 2000 research, a variety of other work has been undertaken on people's preferences. The research tells a similar story - the common theme is the impact of the aging population, and in particular the future housing intentions of the baby boom generation.

3.1.5 Australia – Melbourne³

A report on current and future housing trends prepared as an input into the development of the regional growth strategy for Melbourne highlights a number of trends that are of interest to Auckland, and the consideration of higher density housing.

- In the 1970s and 1980s Melbourne saw a high demand for more intensive housing styles, but this demand fell away in the 1990s, only to reappear in the late 1990s with a significant upswing in the demand for apartments.
- Currently the apparent demand for intensive housing is around 30% of the housing market. The intention of the Melbourne Growth Strategy is to push this figure towards 50%.
- There is now a discernable trend away from terrace houses and town houses, towards apartments in terms of people's demand for intensive housing types.
- The development industry has responded to the demand for intensive housing and a number of firms now specialise in this form of housing. This, along with a more discerning buyer, is seeing a better outcome in terms of design and quality.
- The current market interest for intensive housing is in inner city apartments, mostly fuelled by younger people working in inner city areas and associated with the 'new economy'. However, there is a limit to this market, both in terms of the number of people as well as land supply issues - as inner city land gets more expensive, houses prices are likely to become out of reach for many people.
- To expand the intensive housing market in the future, the market needs to find a base in the suburbs - the location of many households that are beginning to enter the retirement market.
- The largest potential market for more intensive housing is the aging baby boomers in the suburbs. These people generally like to 'age-in-place' and are less likely to move to inner city areas. Intensive housing may be an attractive option for these people as they get older. However, there are significant constraints on this process occurring, not the least of which is money. In most cases a new terrace house will cost as much if not more than the current stand-alone house that they are living in. Consequently there is no financial incentive for them to sell the 'family house'. They cannot release any capital by doing so. The report notes that this problem is further compounded by falling property prices in some suburbs as demand for stand-alone houses in established suburbs slows.

The report usefully highlights the important price-related issues involved in the demand for intensive housing. In particular, in suburban areas, intensive housing may be no cheaper than stand-alone housing. As a result, there is less market demand for intensive housing. Compounding this picture is the potential for house prices to slide in suburban areas as demand for stand-alone houses decline as demographic patterns alter. The report notes that

³ Melbourne's Housing Past, Housing Future. November 2000. Swinburne Institute for Social Research.

this is a difficult issue to address. It suggests a range of public interventions may be needed to improve the attractiveness of intensive housing in suburban areas. Reduced transport costs or access to better amenities may help persuade people to shift from stand-alone housing to a similarly priced house in an intensive development. Actions might include:

- Improving transport connections to selected areas to help stimulate demand for living in the area,
- Concentrating on significantly improving the amenity and quality of a **selected** range of town centres to make them attractive, vibrant places to live close to, and
- Improving educational facilities in selected suburban locations, making it desirable for families to live in these areas.

The report does not discuss whether intervention is best targeted at the demand or supply side (attracting buyers or trying to reduce unit prices to create an incentive). This is a point we return to later.

The picture painted in this report is one that has many parallels with Auckland. As will be discussed in later sections, while the inner city intensive housing market has found its 'legs', the market for suburban located development is less established.

3.1.6 American research

There is a variety of work on this topic. A fairly typical example is a 2001 report by Fannie Mae on housing preferences⁴. Like the Melbourne report, this report also picks up on the aging baby boomers in terms of this group being the key to future demand for intensive housing. The size of this market segment, as well as the consideration that this group will supply many single and couple only households in the future makes it an important market. The report shows that preferences by Americans for centrally located town houses is more than twice as great among older households than among younger households (among 25 to 34 year olds, only 9% preferred a town house to a suburban house, but amongst people 55 and older, this percentage grew to 24%). With the trend towards older households, there is a considerable mismatch developing between supply and demand. The study goes on to note a range of trends that is likely to see the demand for town houses increase, including rising transport costs and enhanced inner city vitality.

The study also provides some useful pointers as to what people of different ages value when considering different locations. Of course this research (and other research from overseas) is not directly comparable to New Zealand: American inner cities have a bad reputation, being seen as places of crime and low socio-economic status, for instance. As a result of these influences, crime is the most important issue for all age groups when considering housing location and preferences. Schooling is very important for younger people, while for older people access to passenger transport and shops becomes more important. On the basis of these preferences, the study suggests a significant up-swing in the demand for more intensive housing located close to shops and activities as the population ages.

⁴ Current Preferences and Future Demands for Denser Residential Environments. Housing Policy Debate Volume 12, Issue 4. Fannie Mae Foundation, 2001.

However, the report does not address the financial issues involved in intensive housing demand in suburban areas. It further concentrates on the aging baby boomers as being the most likely target for the intensive housing market, and ignores other groups, such as younger households and also families.

Indirectly, the report tends to reinforce the Melbourne report – attracting a range of people to live in intensive housing developments in suburban areas will take a variety of strategies – including ones that address crime, schools and transport.

3.2 Transport’s influences on housing preferences

A central issue for the ARGS, (as well as the Regional Land Transport Strategy) is the extent to which people’s housing preferences are affected by the presence of transport infrastructure.

Most work on housing preferences holds constant other costs that might impinge on people’s decision-making. In particular, there is little research on whether increased or decreased transport costs alter people’s housing preferences. Household transport costs are rapidly rising and it is likely that in the future, people will have to start to make trade-offs involving living in accessible higher density areas for lower transport costs.

Transport is an area where there will be significant changes in the future in the Auckland Region - the transport system in 20 years’ time will be different from today’s system. In particular, the cost of travelling by car is likely to rise as a result of increasing congestion as well as toll roads, congestion costs and other taxes on travel. On the other hand, the relative cost of travelling by passenger transport is likely to fall as levels of service increase and there are more frequent services to a wider range of destinations.

In general, it is assumed that reduced transport costs, such as faster travel times, will see people shift further out in search for more space or lower housing costs. The reverse may therefore be true - increased travel costs should see people move closer to desired destinations, such as work or shops. However, there is little research on this topic.

The ARC has modelled the effect of changing transport costs on people’s housing choices. The effect of congestion charges on housing decisions was modelled using the ARC’s ASP model. Rising transport costs tended to see people move closer to work places, particularly to the central isthmus area, as they sought to reduce their transport costs. In this way, increased transport costs tended to reinforce the current market demand for inner city living. On the other hand, businesses tended to move out of central areas to reduce their transport costs.

The modelling involved increasing the costs of using a car – it did not address the extent to which improved passenger transport may influence the demand for intensive housing around transport and service hubs in suburban areas. In response to rising car costs, people moved their home location to reduce these car costs - they did not necessarily switch to passenger transport. The extent of suburban ‘hubbing’ that might occur – people shifting from a suburb to a suburban town centre served by a rail line – was not clear from the research. That is, would living in an intensive development close to a train station – and perhaps needing to have one car rather than two – be a sufficient incentive for people to sell a stand-alone house and buy the same or more expensive priced unit in a suburban intensive development?

There is considerable discussion of these dynamics in various reports, but little hard data. There are a number of issues as they relate to the demand for intensive housing in suburban areas:

- In areas where passenger transport services provide a real alternative to private motor vehicles (in terms of time and cost of travel), then land use values and development returns are likely to rise in response to increased market demand for people and activities to locate in these areas. However the demand for such locations may be limited.
- Rising transport costs will particularly affect households with members who live in suburban areas for family reasons but work in central areas. For these groups to move into a more intensive development closer to work it will be necessary to invest in family-related infrastructure, such as education, crime reduction and amenity improvements.
- Moving closer to passenger transport routes may not appeal to the retiring baby boomers, especially in their active stage of retirement – if you don't need to catch the train to work, what is the advantage of living near a train station? Yet this is a large housing group.
- There is a considerable amount of dispersal of workplaces already occurring, a trend that is likely to be accentuated by rising transport costs – and so over time there is likely to be an equilibrium established between households moving closer to work and businesses moving closer to workers.

3.2.1 Summary

There are a number of conclusions from this research:

1. Higher density housing is not just for single people or older couples – people from all age groups and household compositions wish to live in higher density areas, but for a variety of reasons. Some relate to location and price, others to lifestyle factors.
2. There is a floating market that is happy to consider intensive housing rather than stand-alone housing if it provides advantages to it. This might be in terms of price relative to other properties in an area or factors like security, access to facilities or reduced transport costs.
3. Higher density housing particularly appeals to people wishing to live in inner areas, and is a choice that many families are prepared to make if it enables them to live in an area with good schools or with other desirable features, such as proximity to beaches.

4. While people are prepared to trade-off smaller living spaces in return for proximity to other amenities, it is not clear whether rising transport costs will alter these trade-offs in the future.

5. For many suburban areas, price is the big issue. The price difference between the intensive housing unit and the wider suburb is the critical issue. In higher priced suburbs, higher density housing needs to be less expensive than stand-alone homes, but can still be good quality. However, in lower cost suburbs, for intensive housing to be sold at a discount to general housing in the area, either the development will need to be subsidised in some way, or quality will suffer.

Certainly, these dynamics can be seen in the Auckland housing market. Inner city redevelopment is being driven by a mix of people – some want the lifestyle offered, for others intensive housing is the only way of gaining entry to these markets as stand-alone housing rapidly rises in cost. In suburban areas, significant intensification has occurred on the fringes of the East Coast Bays area, driven by a demand for people to live close to this part of the North Shore. Similarly in Botany Downs with its proximity to Howick and Pakuranga. In other cases like Birkenhead, intensification appears to be more a mix of ‘life stylers’ and people wanting to live in the area.

3.3 Recent growth patterns

Having explored people’s preferences for intensive housing options, this section contrasts the expected demand with actual patterns of demand over the last few years. The following section sets out data from the 2001 Census and what the implications of this data are for intensive housing.

3.3.1 Housing types

2001 census data on the type of dwellings in the region shows a continuing growth of detached, stand-alone houses. The number of attached houses is also growing, but not at such a fast rate, and as a result, the proportion of the housing stock which is in the ‘attached’ category has declined since 1986.

Table 8 Types of houses – Auckland Region

Type of House	1986	1991	1996	2001
Detached	211008	243,375	274863	303,177
Attached	72153	73,575	78714	86,487
Total	283161	316950	353577	389664
Proportion of total which are attached	25.5%	23.2%	22.3%	22.2%

Between 1991 and 2001, around 19% of all dwellings constructed have been in the attached category. However it is evident that in the last few years there has been a surge in the attached dwelling market.

3.3.2 Building permit data

Building permit data for the region confirms there has been this surge. Up to 2001, building permit data provides a similar picture to the census data. Between 1991 and 2001 around 23% of dwellings within the Metropolitan Urban Limit line have been constructed as part of developments with five or more units. The ‘five or more units’ category is a useful distinction between dwellings that are likely to be detached versus those that are likely to be attached as part of a multi-unit development.

Around 15,000 multi-units were consented to over the period 1991 to 2001, and so about 33,000 people are likely to be living in intensive housing developments.

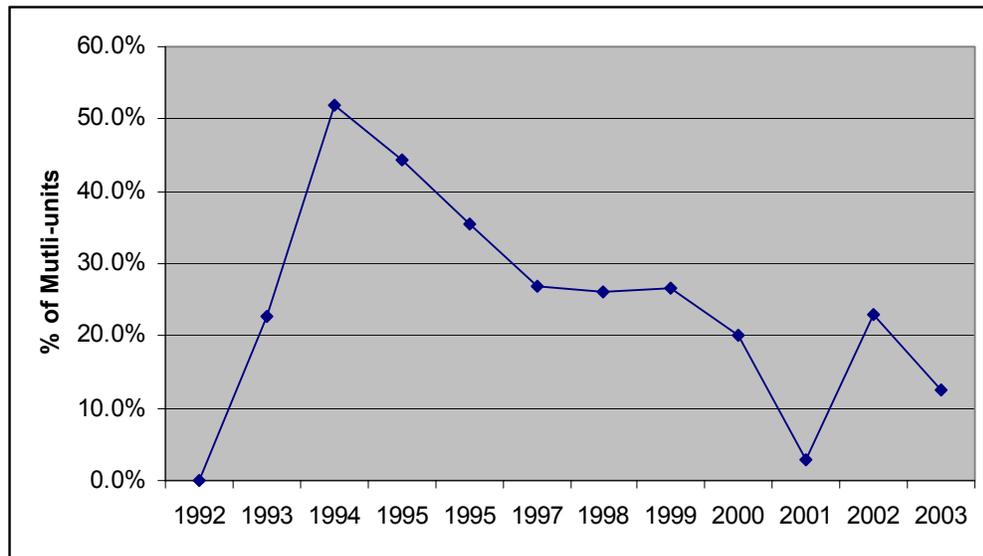
Since 2001 (2001 to 2006), an additional 19,000 multi-units have been consented to, or 43% of all residential development within the MUL.

Table 9 Residential building consents

Year	All residential units	5+ units	%
1991-1996	27,688	3,770	14%
1996-2001	38,655	11,247	29%
2001-2006	44,817	19,303	43%

This data includes the Auckland CBD, as well as inner and outer suburbs. Figure 2 shows the CBD’s market share for intensive housing developments has fallen over time as the market has broadened and deepened.

Figure 1 Auckland CBD's share of intensive housing market 1992 to 2003



Broken down by TA, Table 10 sets out the number of units that were part of a building permit with 5 or more units, between 1991 and 2006, by local authority.

Table 10 Multi-unit developments by TA

Council	1991-1996	1996-2001	2001-2006
RDC	181	116	589
NSCC	391	1621	1713
WCC	185	1459	1239
ACC	2807	6835	13634
MCC	166	994	2074
PDC	40	222	54
FDC	0	0	0
Total	3770	11247	19303

It can be seen that Auckland City attracted the lion's share of intensive housing developments over this period. More modest contributions were sourced from North Shore

and Waitakere and to a lesser extent Manukau. Even allowing for the CBD, Auckland City's share is still higher than its share of the regional population as a whole.

Looking at market share over time, it can be seen from Table 11 how all areas have experienced a rise in demand for intensive housing schemes. The inner-metro area (as largely covered by Auckland City) has seen very fast growth. However, demand in North Shore and Waitakere does appear to have stabilised at around 25% of all housing units.

Table 11 Multi-unit developments as a % of all dwelling consents 1991-2001

TA	1991-1996	1996-2001	2001-2006
RDC	9%	6%	22%
NSCC	6%	25%	27%
WCC	5%	23%	22%
ACC	32%	53%	74%
MCC	3%	10%	20%
PDC	7%	20%	5%
FDC	0%	0%	0%
Total	14%	29%	43%

While there is no obvious explanation for the apparent levelling off in activity in Waitakere and North Shore, one possible explanation is that, certainly in the case of Waitakere, the demand for multi-unit developments received an initial boost when developers had the opportunity to buy industrial land for housing developments, as occurred around New Lynn. Lower land costs associated with the industrial land enabled a competitively priced product to be offered. However, as prices for industrial land readjusted to reflect the residential development potential, the ability to sustain this competitive price started to evaporate, and there has been a slowing of the delivery of new product onto the market. This issue of land supply and development feasibility in suburban areas is a critical one. It is further addressed in later sections of this report.

The graphs on the following two pages (Figure 3 and 4) show recent development patterns of the High Density Centres and Corridors listed in the ARPS, excluding the CBD.

Figure 3 shows the amount of residential development between 2001 and 2006, categorised by being multi-unit or residential.

Figure 4 shows the % of all dwelling units that were multiunit developments, by node.

Figure 2 Residential Development by High Density Centre and Corridor, 2001-2006.

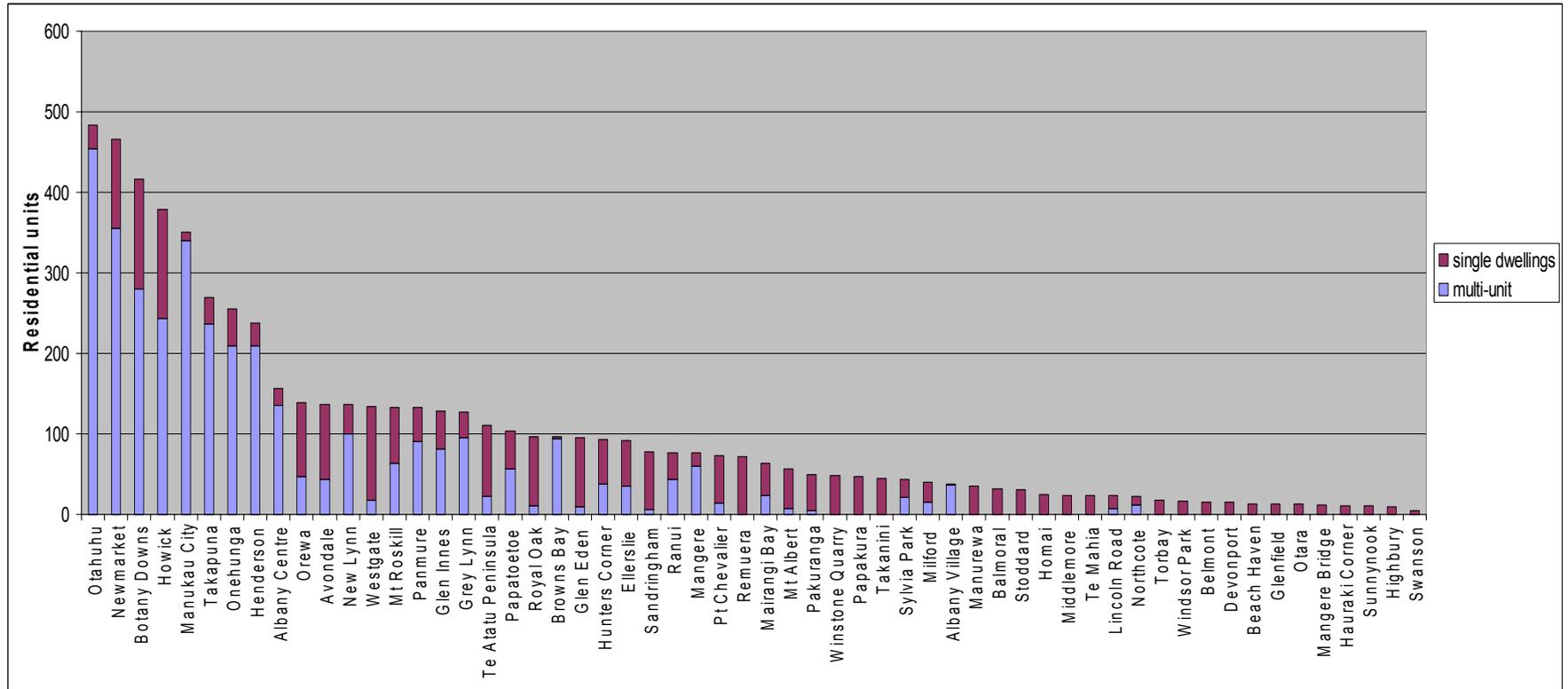
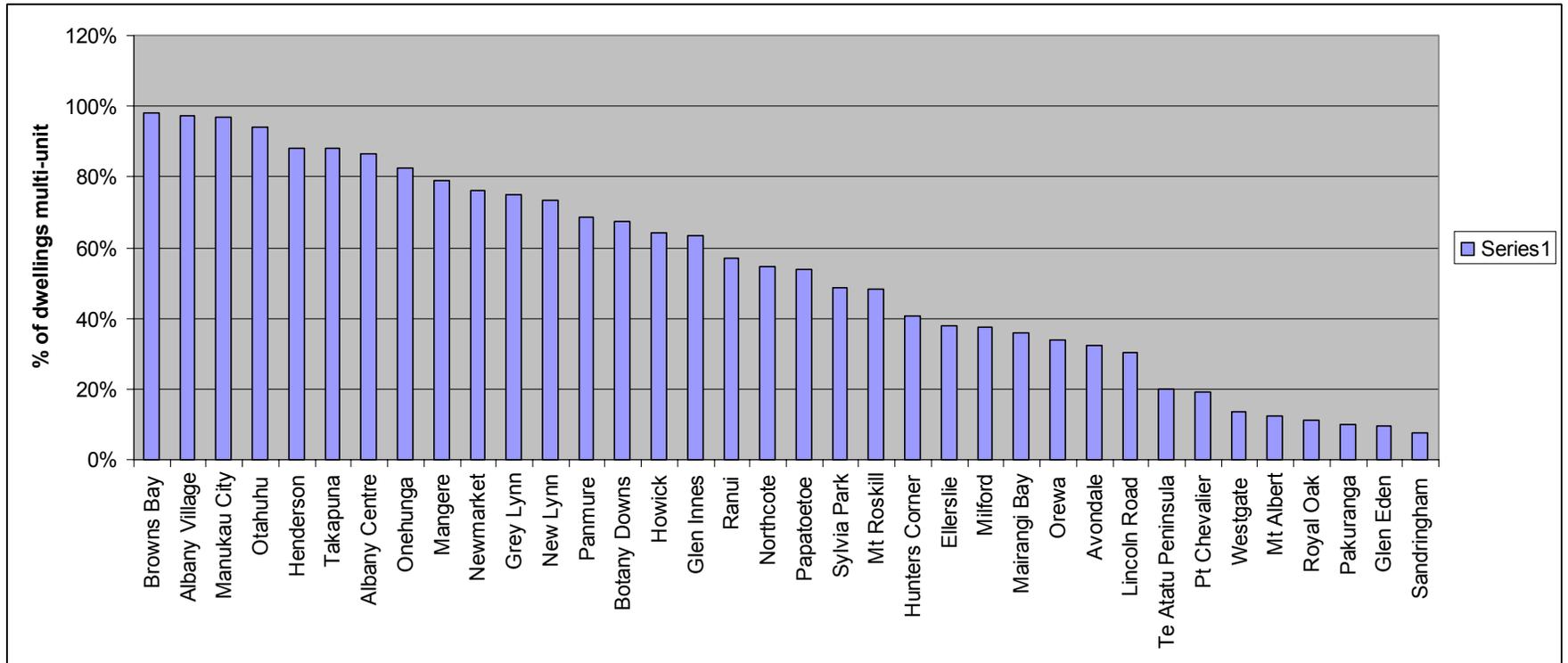


Figure 3 Percentage of dwelling units consented to in nodal areas that are multi-unit development, 2001-2006



As can be seen from Figure 3, growth over this period has been concentrated in 7 nodes. These nodes are a mix of inner suburban centres like Takapuna and Newmarket, and more affordable outer suburban centres.

To a certain extent the trends evident over the 2001 and 2006 will be driven by what zoning is available, rather than displaying exactly where an unconstrained market would like to locate in.

3.3.3 Who is occupying these multi-unit dwellings?

As is often discussed, the number of households formed by families comprised of parents and children is not growing as fast as households formed by singles and couples.

Table 12 Change in households 1991 - 2001

Type of family	1991	2001	Change	Proportion of change	% Change
Singles	60,786	77,178	16,392	22.8%	27.0%
Couples	76,248	91,929	15,681	21.8%	20.6%
Single parent	38,727	47,826	9,099	12.6%	23.5%
Two parent	121,464	138,024	16,560	23.0%	13.6%
Non-family	20,397	34,707	14,310	19.9%	70.2%
Total	317,622	389,664	72,042	100.0%	22.7%

Table 12 shows that 64% of the growth in households between 1991 and 2001 has been in the singles (23%), couples (22%) and non-family (20%) categories. It would be expected that the growth of these households would be fuelling the growth of attached housing.

However, looking at family types by the types of housing that they occupy reveals a much more complex picture. Up to 56% of the growth in attached housing over the decade between 1991 and 2001 has been associated with two parent families and multi-family groups – the groups most commentators say would be least likely to want to live in an attached housing situation.

Table 13 Households in attached housing units

Family type	Change in the number of households in attached dwellings 1991 - 2001	Proportion of change 1991-2001
Single	1422	11.6%
Couple	2952	24.0%
Single Parent	-57	-0.5%
Two parent	5706	46.4%
Multi family	1614	13.1%
Other	648	5.3%
Total	12285	100.0%

Looking at the trends over time, the propensity of singles and couples to live in attached housing has fallen, while the propensity of two parent families and multi-families to live in attached dwelling formats has increased.

Table 14 Propensity of different household types to live in attached housing

Propensity to live in attached dwelling		
Family type	1991	2001
Single	40.1%	34.9%
Couple	22.4%	21.8%
Single parent	13.7%	11.1%
Two parent	8.5%	12.4%
Multi family	9.2%	16.7%
Other	32.9%	21.2%
Total	21.0%	20.4%

This picture (of demand for intensive housing fuelled by families) is hinted at in the studies on housing preferences, but has not been strongly articulated by growth management policy documents. However, it is a clear trend that needs to be addressed.

3.3.4 Amount of residential development in nodal and non-nodal areas

Turning to whether the ARGS is helping to direct growth to nodal areas across the region, data from the ARC’s GIS system has been used to understand development patterns over the last 10 years and in particular the proportion of residential development that has been accommodated by the intensive growth areas identified by the ARGS and the associated Sector Agreements.

In terms of overall population growth patterns for the decade 1991 to 2001 (covering both intensive and stand-alone housing) the picture is of the identified nodes attracting some development, but far from all development. In terms of population, the number of people living in identified nodal areas in the four main urban cities has increased by around 50,000 over the last 10 years. Waitakere City has recorded the fastest growth rate and North Shore City the slowest. Auckland City has seen the largest growth in numerical terms.

The following data is based on the High Density Centres and Corridors identified in proposed Schedule 1 to the Auckland Regional Policy Statement, and relates to building permits issued for residential development.

Table 15 Proportion of all residential building consents located in nodal areas 1991-2006

	1991-96	1996-2001	2001-06
RDC	5.6%	9.7%	5.2%
NSCC	11.3%	10.1%	12.8%
WCC	2.7%	13.5%	14.5%
ACC	33.6%	33.4%	60.2%
MCC	15.5%	16.6%	15.7%
PDC	16.8%	8.1%	4.0%

The significant amount of development occurring in Auckland City-based nodes and corridors is evident. It should be noted that Auckland City has relatively large number of nodal areas, compared to the other cities.

The suburban-based cities of North Shore, Waitakere and Manukau have seen a levelling off of growth in nodal areas between the 1996 and 2006 period.

It is useful to relate this data back to the ARGS. The 1999 ARGS anticipated that around 400,000 people might need to be accommodated in nodal forms of development over the

next 50 years. This equals around 8,000 people per year. The rate of growth between 2001 and 2006 has been an average of 3,000 dwellings per annum, or perhaps 7,500 people at an average of 2.5 people per household.

The reasons for the levelling off of nodal growth in the suburban centres is likely to be related to zoning availability. Both cities emphasise greenfields growth – some of which contains intensive housing. The overall conclusion from this data is that, as nodal areas are growing as fast as non-nodal areas, the nodal areas are not offering any significant advantages to households as a location. This will have to change if the goals of the ARGS are to be achieved.

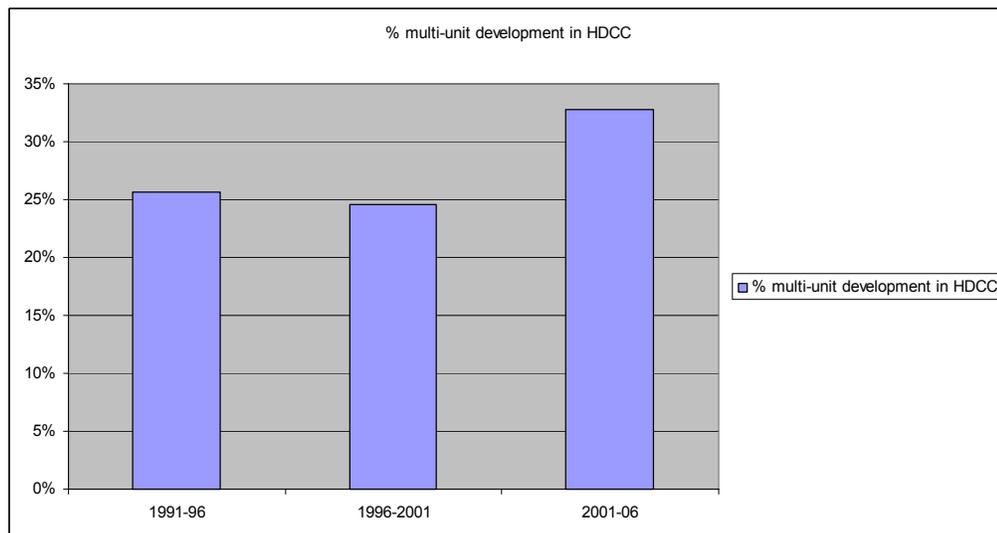
3.3.5 Types of housing in nodal areas

A final area to consider before turning to the demographic context is the extent to which intensive housing formats are being attracted to nodal areas. Section 3.3.1 has noted the rapid growth of the intensive housing market, but how much of this housing has been attracted to nodal areas?

Using building permit data, it is possible to map the location of different types of housing developments and the extent to which they fall into the nodal areas identified by the ARGS. It is apparent that the percentage of multi-unit developments that are located in nodal areas (as opposed to areas outside nodal areas) has increased from 18% to 35% of all multi-unit developments. This indicates that planning policies directing multi-unit developments to nodal areas are working, but there remains a wide range of opportunities outside of the defined HDCCs.

As a result of these trends, the type of housing being built in nodal areas has changed significantly. In 1992, in nodal areas, the main form of development was stand-alone housing which formed 63% of the housing being built in the nodes. By 2002, the main form of housing was developments involving five or more units. This type of development comprises 80% of the units being built in nodal areas.

Figure 4 Types of development in nodal areas



3.4 Demographic context

This section of the paper briefly looks at the demographic context of the region, and highlights relevant issues for the future of the intensive housing market.

The majority of the increase in population projected for the period up to 2050 will occur in the first 20 years – 60% of this increase is between 2001 and 2021, or 440,000 people. Successfully accommodating this population growth in a way that supports ARGs outcomes is therefore critical.

A significant demographic change is the aging of the baby boomers and their gradual shift from their middle stage of life into their early retirement stage. This shift will occur in the next 20 years. The decisions that this group makes about their housing choices will also significantly affect whether strategy goals are attained.

As a consequence of these demographic shifts, the decisions that are being made now and for the next five years or so on zonings will largely determine the longer term future of the region.

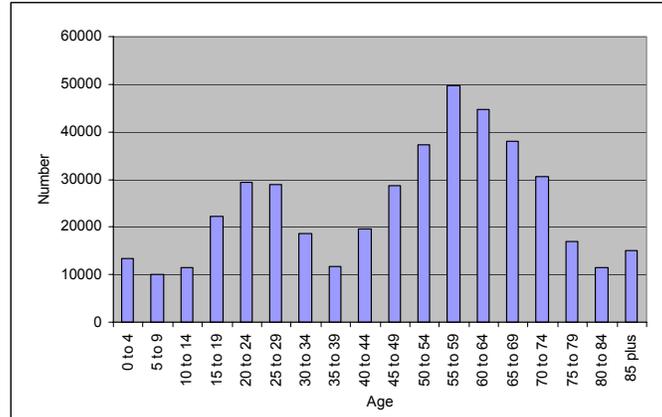
3.5 Components of population change

Between now and 2021, there are two significant areas of change in terms of the age structure of the population:

- The 20 to 34 year olds – the new teenagers, and
- The 50 to 64 year olds – the new young adults.

Together, these two groups represent around 50% of the expected growth in the population between now and 2021.

Figure 5 Changes in population structure 2001-2021



The next 20 years therefore represent a significant break in demographic patterns from the last 20 years. Between 1981 and 2001, the demographic pattern has been set by the baby boomers moving into their middle life stages, with the attendant focus on establishing (delayed) families, jobs and domestic-orientated spending. This pattern might help to explain the relatively high interest in intensive housing amongst family groups.

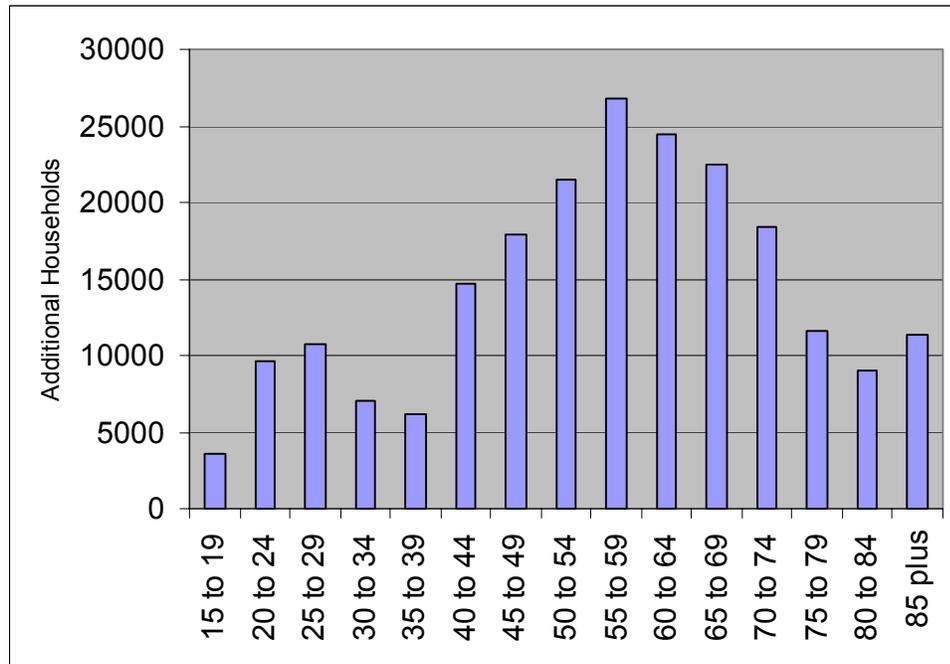
However the market will alter in the future. The demographic projections suggest that there will be a major growth in demand for inner city apartments by younger people who are part of the echo of the baby boom. If supply cannot meet this demand (as is likely) then this demand will be displaced, but to where?

As discussed above, the bigger question is the fate of the aging baby boomers and what types of housing they may prefer. Certainly the elderly may accept and like intensive housing in a retirement unit format, but what about active, early retirees?

3.5.1 Households

Looking at households, the demographic picture is skewed and the field narrowed in terms of demand for intensive houses. Household formation rates are higher amongst older groups than younger groups. This means that with the aging population, while the region's population will grow by 36% over the next 20 years, the number of households will grow by 50%, with much of this growth in the 50 to 65 year age bracket. Forty four percent of future changes in household numbers will be driven by this age group.

Figure 6 Expected change in household numbers 2001-2021

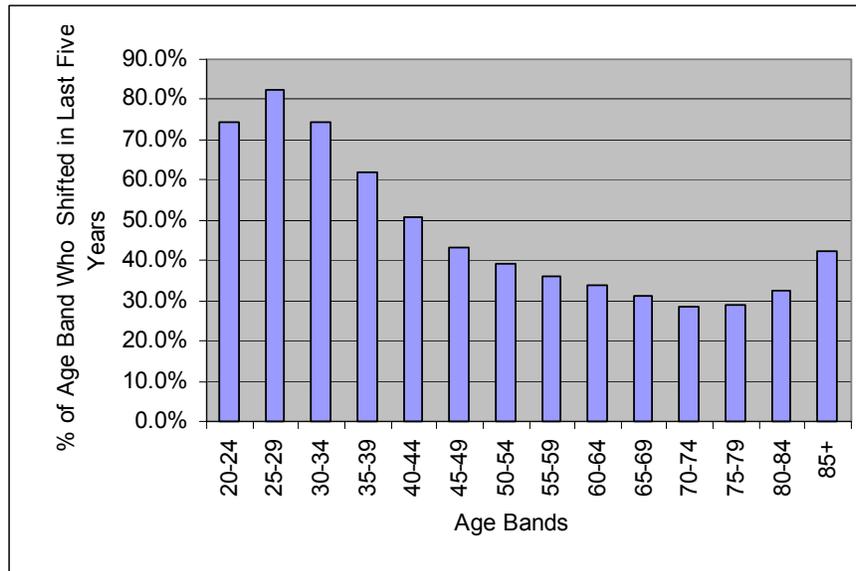


The ARGS seeks to attract at least 45% of the additional households into nodal areas. To achieve this figure, households from across the spectrum of ages will need to be attracted into intensive housing areas. The middle age groups will have to provide a large proportion of these households, but demand cannot be sourced solely from this group.

A further layer needs to be added to this data, which is the propensity of people in different age bands to shift. Using national data, it is possible to calculate how many households are likely to shift in the coming decades. The point here is that just because their numbers are growing, the baby boomers may not be necessarily active in the housing market.

The following graph shows that people's propensity to shift reduces by age.

Figure 7 Propensity to shift



Two important points are evident from this picture:

1. While the 20 to 30 year olds do not have the high household formation rates of the older age groups, they shift often and therefore are more likely to be willing to try different housing types.
2. On the other hand, the more significant 50 plus age group which will drive most growth in the number of households shifts less often, and therefore may be less reluctant to try different housing types. They are also more likely to stay in their current suburb. Retaining and improving the value of their house is likely to be important as they face retirement. They are less likely to 'trade down' in their initial stages of early retirement and will want a house and location that protects their capital value.

3.6 Summary

People's stated and actual preferences, development trends and demographic patterns raise a number of fundamental issues:

1. The younger age group and the baby boom generation, while natural targets for intensive housing, are not likely to be large enough, by themselves to generate enough demand to meet regional growth strategy goals relating to intensive housing.
2. Demand will have to be sourced from across the spectrum of households, including households formed by families with children. As discussed above in the material on housing trends, there is already a growing demand amongst these groups for intensive housing.
3. Intensive housing will need to be located in inner and outer areas. In fact, all suburbs need an opportunity for intensive housing as most people get attached to a suburb. As people get older they are less likely to shift.

4. To be a realistic choice in all suburban areas, intensive housing will need to offer some sort of trade-off for the shift from a stand-alone house.

4 The SUPPLY of INTENSIVE HOUSING

Having looked at demand issues, this section of the report explores the issues associated with expanding the supply of intensive housing.

If intensification is to occur in the Auckland Region around nodes, much of it will need to be accommodated on land which is currently developed for housing. Within areas which may be considered suitable for intensification, there are few opportunities for green or brownfield sites. Vacant land stock will be the first to be utilised for comprehensive intensification, and once this stock is exhausted, the development community will have to consider options involving already developed land.

These options will require amalgamation of a number of land holdings in order to provide comprehensive sites capable of delivering successful intensive development outcomes. In purchasing land holdings with fragmented ownership, developers will not only face the issues of amalgamation risk but also the need to recompense land owners for dwellings which will need to be removed to make way for development.

Incremental site-by-site infill therefore represents a relatively simple intensification option for developers when compared with more complex forms of redevelopment. To what extent do the economic benefits of incremental infill outweigh the costs and benefits of comprehensive redevelopment? Understanding this relationship is important if the region is to slow incremental infill, and promote comprehensive redevelopment instead.

As has been discussed, and is further highlighted below, there are two different types of markets in the Auckland Region for intensive housing – a relatively buoyant inner city market, and a less stable suburban market. Creating confidence in the suburban market will be very important to the success of the ARGs.

4.1 THE DEVELOPMENT PROCESS

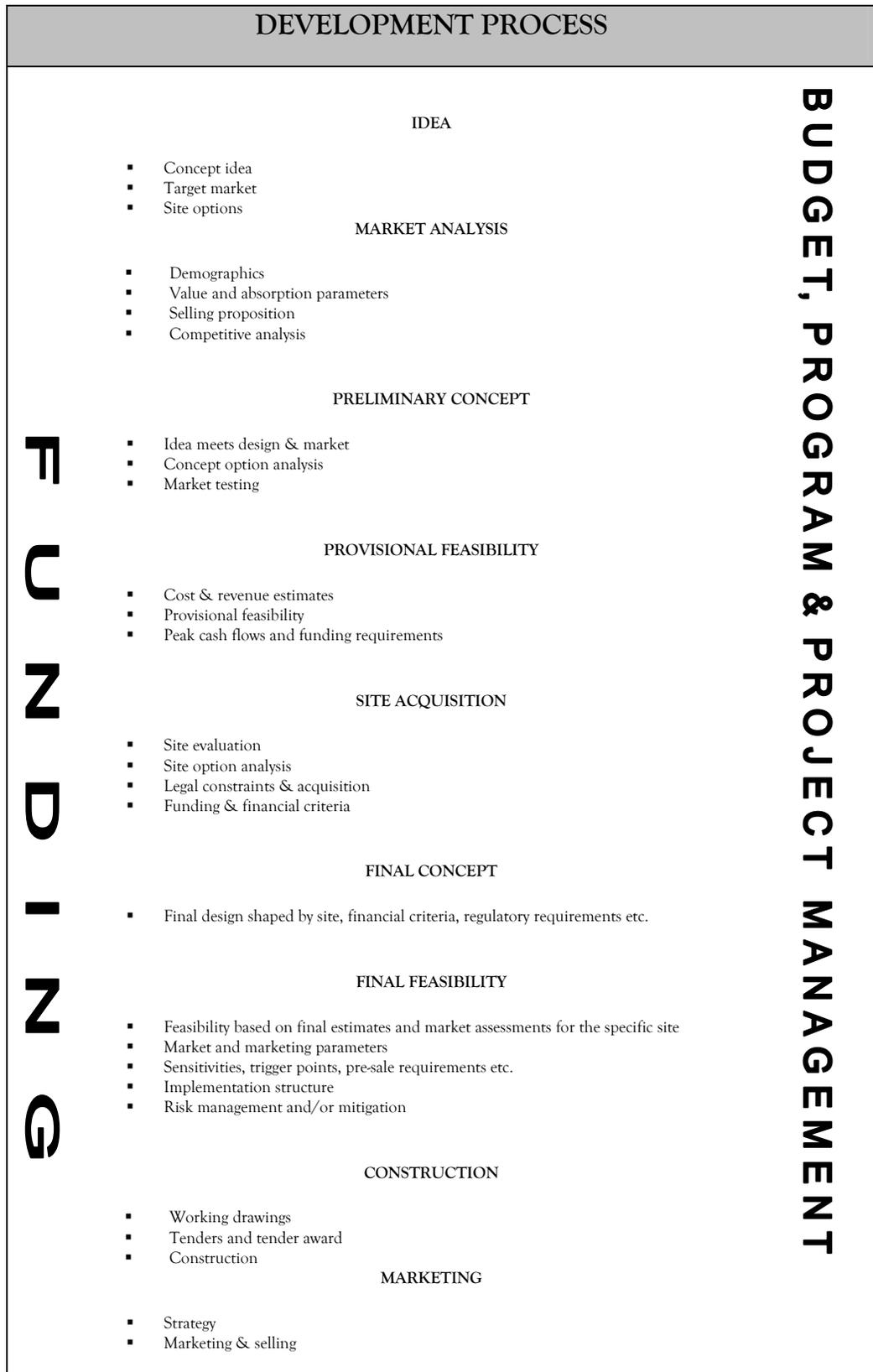
This section of the report sets out a typical development process and the extent to which the different steps involved in this process may be open to influence by public agencies. The following flow diagram sets out a typical development process. It is a complex process with many interlinked steps, with many risks involved. Essentially the process involves looking for the right balance between risk and return, and the private sector will discriminate between areas and different types of developments on the basis of these criteria. The market tends to be black or white – either a development does or does not ‘stack up’ and often there is limited ability to make an uneconomic development feasible.

For a development to proceed, it requires that the developer control at least one of the following: land, capital, knowledge and demand. However, these elements are often combined in different ways:

- In some cases a developer may acquire a piece of land, and then go through a process of understanding the market potential for this piece of land.
- In other cases the developer may think of a particular development idea (knowledge and demand), and then find a suitable site for the development.
- For larger institutional developers, rates of financial return on the capital invested are likely to be the determining factor in the process, while smaller developers are more likely to run-off basic levels of analysis, and may be willing to take more risks.

In terms of the input of public agencies to the process, once land use zoning is put in place most input occurs at the back end of the process – at the point of resource and building consent. Often at this stage, the development process means that there is little latitude to change the fundamentals of the development. Many intensive developments would not have reached this stage, due to a lack of feasibility, and those that pass this hurdle will be largely set in terms of their parameters. To promote more innovative and better quality development, public agencies have to be able to influence the front end of the development process.

Figure 8 Development process



Looking at the individual stages of the development process, the following comments can be made about the ability of public agencies to influence the process, particularly towards acceptance of more intensive housing formats:

Idea

The idea stems from the developer:

- Perceiving a concept which is considered to offer a market opportunity, or
- Identifying a market segment which is not served or underserved, or
- Identifying a site which could deliver on one or both of the above.

The development industry in New Zealand tends to be dominated by smaller operators. While there is a new breed of housing developers coming to the fore who are well versed in recent design trends, and as a result show a high degree of innovation, these developers tend to operate in inner city areas. For developers in suburban markets, who tend to be smaller or more risk adverse, development proposals often reflect other successful developments in the area. Consequently, sharing new development ideas and concepts amongst market players can be beneficial, especially given the small size of the development industry in the region - new ideas can quickly take hold. Public agencies can facilitate this process. Some form of Urban Land Institute or similar could be helpful here. The NZ Property Council also has a role here.

Market analysis

Through market analysis the developer seeks to better determine the demand, identify competitive offerings and provide parameters that will inform the feasibility assessment. However, it must be said that market analysis tends to be based on 'what sold yesterday' and is often of a fairly low level of detail. As a result there is constant pressure to chase existing markets and provide standard products.

Public agencies can improve the standard of market analysis by undertaking research into the housing market. As most developers in the region are small and do not have the resources to undertake comprehensive research, any publicly funded research is generally well received by the market place. With a need to shift the market place towards greater acceptance of apartment living, this could be a very useful area of research for councils.

Preliminary concept

Should the market analysis continue to support the idea, then a preliminary concept is determined in sufficient detail to establish preliminary costs and value parameters. This is likely to be undertaken with a number of potential sites in mind if the sites are not already held or controlled under option.

At this point, having a clear understanding of the context of the potential development site is very important. The more that public agencies can do to provide certainty over future land use and infrastructure changes, the better. Structure planning can be a powerful tool at this stage of the process.

Provisional feasibility

The provisional feasibility provides a basis for financially assessing the project as a viable concept and to establish the capital needs. For apartments, pre-sales will be needed to support financing partners.

Again market information is critical at this phase, especially if more innovative schemes are proposed. A lack of a sound picture of the longer term risks and returns involved in intensive housing tends to slow market innovation. Here joint private public partnerships can be a useful tool in helping to make transparent the risks and rewards of innovative developments. A joint venture situation ensures that other developers can be confident in understanding the commercial viability of publicly proposed schemes.

Site acquisition

The potential for a feasible project triggers the need for site identification and acquisition. The preliminary feasibility would have established the possible land acquisition cost that the project can bear and still remain feasible. Usually the site would be acquired under option to limit the degree of risk at this stage.

Final concept

The preliminary concept is refined to reflect specific site opportunities and constraints, including financial issues, planning requirements, legal covenants etc.

Final feasibility

The final feasibility will reflect the best estimates of costs, a review of the market parameters and site characteristics. The feasibility will establish the sensitivities of the project to changes in cost and market parameters; consider the implementation structure, determine the management and/or mitigation of risk and confirm funding requirements. This may well trigger the need for pre-selling prior to the project proceeding or receiving the necessary funding.

At this point, detailed planning and infrastructure advice is needed, and the greater the clarity on these issues the better, especially in relation to the length of time needed to gain resource consents and the quantum of development contribution that the development will need to pay for. Inadequate information at this stage makes a significant impact on the eventual bottom line of the development.

Construction

The project is constructed having regard to the sensitivities of the feasibility. Costs can quickly escalate due to market pressures, and as result there can be pressure to reduce the quality of the final product.

Marketing

It is likely that marketing would precede construction, particularly in high-risk projects or where the providers of capital demand it. The marketing strategy is determined by an analysis of the market and the requirements to maintain a feasible project.

Increasingly marketing of intensive developments is focusing on the lifestyle that the development can offer – the access to a particular area of town – rather than the

development itself, and so council-initiated plans to upgrade the environment of the area surrounding the particular development can help with these marketing plans.

4.2 Elements considered in development process

A typical development process requires that a wide range of factors be taken into account, and the table below lists the main common elements. These factors are listed to demonstrate the complexity of the process, and that influencing development processes is not a matter of influencing just one factor.

However, a key issue for developers is having as much certainty as possible over as many of these different elements. In situations where planning agencies wish to encourage development, then providing greater certainty is one of the main means of lowering development risk. Certainty over future land uses changes, infrastructure investments and resource consent processing timelines and associated development fees help to build confidence. In general, developers perceive the planning process as being highly uncertain, and so any moves to increase certainty have a positive and often immediate spin off.

Figure 9 Development elements

Funding availability criteria	Zoning & regulatory
Financial contribution regime	Development climate
Risks/uncertainties	Impact fees
Developer profile	Future public needs
Product profile/uncertainty	Type and complexity of approvals
Pre-sale issues	Community participation & acceptance level
	Consent process
	Strategic fit with council objectives
Land	Neighbourhood & context
Presence of attractions	Supermarkets, retail clusters, civic facilities, etc.

Complementary activity mix	Mix of complementary residential, services etc.
Balanced activity mix	Employment, recreation, leisure etc. opportunities
Nearby major commercial attractors	Regional facilities
Continuous activity frontages	Opportunities and interest for pedestrians
Public facilities	Childcare, schools etc.
Cost	Socio-economic conditions
Aggregation & economies	Neighbourhood quality
Market positioning	Site conditions
Consideration of socio-demographic profile	Topography, vegetation, sensitive land, drainage etc.
Identification of niche markets	Existing structures
Pedestrian amenity and scale for local market	Contamination
Positioned to capture broader regional market	
Affordability or value for money	
Competitive/competitor analysis	

4.3 Development feasibility

The range of factors involved in assessing commercial viability is equally wide. An important point to note is that the level of analysis undertaken by developers relating to feasibility is not necessarily very sophisticated. Market signals are often weak or confusing, especially in emerging markets like medium to high density formats in suburban areas, and this does not help with encouraging rational patterns of behaviour. Lack of information often leads to the perpetuation of misconceptions of risk and return levels. One bad development can quickly colour developers' attitudes to particular areas, but the reverse is also true. A successful development can quickly spawn many other similar developments.

Figure 10 Development feasibility

Development concept	Technical issues
<p>Presence of community focal point</p> <p>Utilisation of character buildings</p> <p>Range of densities</p> <p>Appropriate mix and location of densities</p> <p>High rise where appropriate – superior views etc.</p> <p>Utilisation of key physical aspects</p> <p>Address and mitigate key physical constraints</p> <p>Opportunities for staging, pre-selling or risk mitigation</p>	<p>Consents & success rate</p> <p>Site complexities</p> <p>Size and shape of land</p>
Market analysis	Risks
<p>Population, household, socio-demographic characteristics</p> <p>Income, affordability and disposable income</p> <p>Prevailing local market characteristics (income and home)</p> <p>Employment statistics</p> <p>Commuting patterns</p> <p>Supply factors</p>	<p>Site acquisition</p> <p>Consents</p> <p>Site specific issues</p> <p>Financial/funding</p> <p>Construction</p> <p>Demand - number, depth, degrees of choice etc.</p> <p>Transferability or mitigation of risk</p> <p>Community response</p>

Feasibility study	Success factors
<p>Concept & target market</p> <p>Enumeration of target market - numbers, absorption, values etc</p> <p>Analysis of comparable projects including economic performance</p> <p>DCF analysis & sensitivity testing</p> <p>Risk identification, control and mitigation</p>	<p>Understand your market position</p> <p>Build community support</p> <p>Drivers of value</p> <p>Desirable areas or locations</p> <p>“Hot” market segments</p> <p>Active buyers - characteristics & preferences</p> <p>Competitive analysis</p> <p>Control - knowledge, land, capital, buyers?</p>

4.4 Land supply within nodes

Land supply is obviously a fundamental condition for development. Analysis of Auckland Regional Council data on different development opportunities in the region suggests that around only 30% of current development opportunities within the urban part of the region are within nodal areas (either currently identified as part of the Sector Agreements, or within the ARGs concept).

Table 16 sets out the estimated number of dwellings that might be able to be accommodated in nodal areas, based on ARC’s 2003 data relating to densities, and based on existing zonings.

Table 16 Development opportunities in nodal areas (2003)

Opportunity	In nodal areas (number of units)	Outside nodal areas	Total units within built up area	% in nodal areas
Residential infill	9412	22885	32297	29.1%
Redevelopment of business land	10687	24864	35551	30.1%
Vacant residential land	6644	21510	28154	23.6%
Total	26743	69259	96002	27.9%

The ARC estimates that there is capacity for around another 27,000 units, or perhaps 67,500 people in the nodal areas – another 13 years supply at current rates of growth. This growth would take the nodal population to around 120,000 – only about 30% of the target population envisaged by the ARGS for nodal areas.

Of this development capacity, an important share is provided by residential infill – a type of growth that may not substantially raise densities and will stymie redevelopment into the future. Redevelopment of business land is also an important source of capacity. Vacant residential land that could be used for comprehensive development is rare.

In terms of the spread of these nodal development opportunities across the region, most opportunities are located in Auckland City.

Table 17 Nodal development opportunities by TA (2001)

City	Infill opportunities	Redevelopment opportunities	Share of infill	Share of redevelopment
North Shore City	596	826	6.3%	7.7%
Waitakere City	2125	2300	22.6%	21.5%
Auckland City	4610	5323	49.0%	49.8%
Manukau City	2081	2238	22.1%	20.9%
Total	9412	10687	100.0%	100.0%

In terms of vacant residential land and residential land with redevelopment potential, Waitakere City has the most vacant land in nodal areas, but this still represents only 25% of its stock of vacant residential land. In comparison, 43% of Auckland City's vacant land is in nodal areas. Auckland City has the most land with vacant potential in nodal areas.

Table 18 Area and proportion of residential development land in nodal areas 2003

TA	Vacant residential land		Vacant potential residential land	
	In nodal areas (ha)	% of total (in and out of nodal areas)	In nodal areas (ha)	% of total
ACC	81.94	42.8%	109.71	32.0%
NSCC	17.16	6.0%	7.50	5.3%
WCC	99.62	25.9%	59.49	28.5%
MCC	16.45	3.6%	25.07	13.2%
Total	215.17	16.4%	201.77	29.9%

Finally, in terms of parcel sizes and the extent to which there are large blocks of land suitable for comprehensive development, most vacant land and land with redevelopment potential is under 1 ha in area. In fact, the average parcel size is just on 2,000 sqm.

Table 19 Vacant and vacant potential land in nodal areas 2003

TA	Less than 1 hectare		Between 1 and 2 hectares		Between 2 and 4 hectares		More than 4 ha	
	Number of parcels	Area (ha)	Number of parcels	Area (ha)	Number of parcels	Area (ha)	Number of parcels	Area (ha)
Vacant	1110	114.5	20	27.9	16	45.9	4	26.8
Vacant potential	564	100.2	17	22.2	4	7.9	1	4.6
Total	1674	214.7	37	50.1	20	53.8	5	31.4

4.4.1 Summary

This data highlights the following points:

- Nodal-based intensive housing developments will have to increasingly involve redevelopment of residential and business land, rather than development of vacant residential land, which will push up costs.
- Intensive housing will have to become more intensive and shift from a focus on terrace type housing to apartments if growth targets are to be met.

- There is likely to be a need for additional nodal areas. The current nodal areas are unlikely to be able to physically cope with the target levels of development.

4.5 Sales Data

Quotable Value New Zealand sales records have been accessed to provide a picture of the sale value of flats and apartments versus stand alone dwellings, for the period 1982 to 2006.

The sales data indicates that the flat / apartment market generally mirrors the wider housing market, with the most noticeable feature being a slower rate of capital growth for apartments and flats. This can be explained, in part, by the lower land value component of residential flats and apartments, compared to housing on sections. The lower land value component means that the market generally expects to see a differential between the value of a house, compared to an apartment or flat.

The Auckland City Council area (excluding the CBD and the Islands) presents a typical picture of the basic differences between the two markets. Figure 12 shows median sale values for the two different forms of dwellings. It can be seen how sale values have followed a similar path of booms, followed by periods of consolidation. What is clear is that the value of stand alone dwellings has increased much faster than flats and apartments, with the difference between the two forms of housing growing more steeply since 2000.

Data for the CBD area is provided for context. There, sale values have been flat for the 6 years since 2000, with this trend driven by the large number of small apartments that have been brought onto the market.

Figure 11 Median sales vales of flats / apartments and dwellings in Auckland City (non CBD)

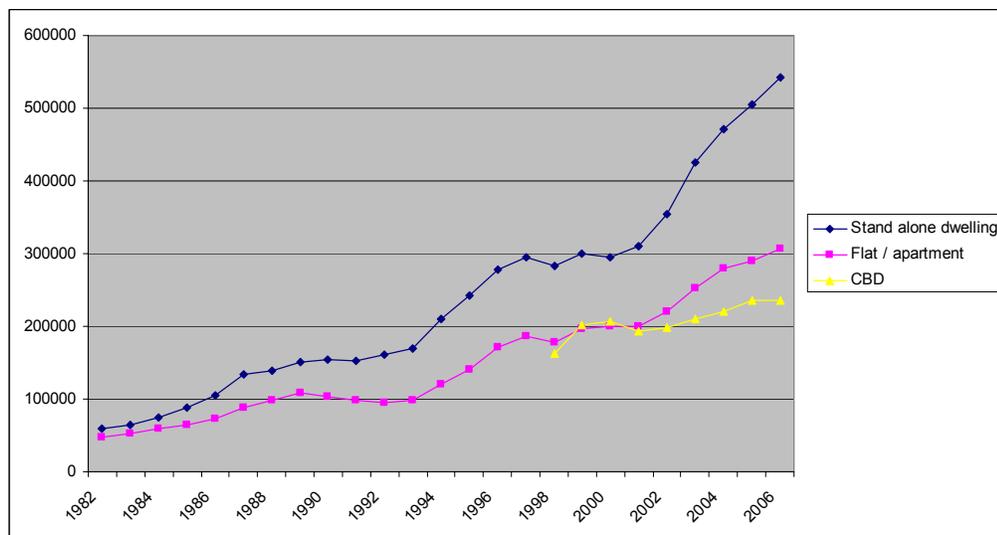
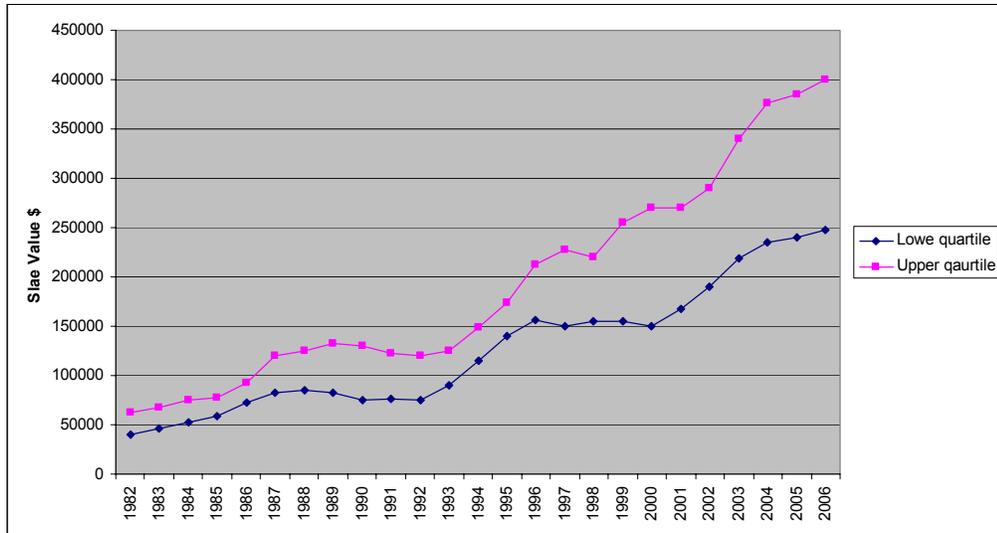


Figure 13 looks more closely at lower and upper quartile sale prices for flats and apartments, in non-CBD, Auckland City. Upper quartile flats and apartments have risen much faster

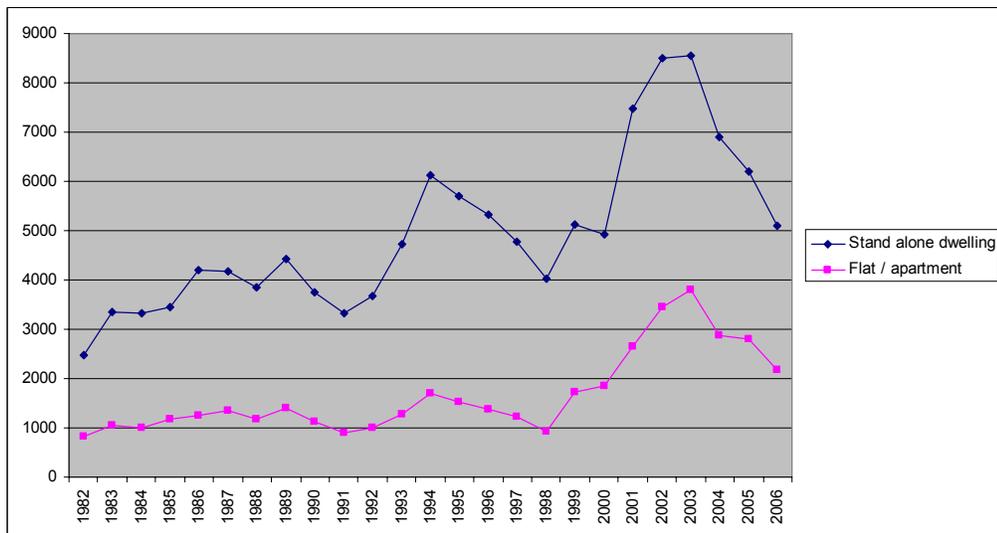
than lower quartile units. This indicates the two tiered nature of the flats / apartments market – a luxury top end and an affordable bottom end.

Figure 12 Upper and Lower Sales Values (\$) for Flats / Apartments



Looking at sales volumes, the trend line for the number of sales of flats and apartments, per year, mirrors the wider housing market. Figure 14 does not suggest that flats and apartments are sold more frequently than conventional housing.

Figure 13 Yearly number of sales stand alone versus flats / apartments.



Average values per square metre of floor area for flats and apartments versus dwellings show very similar values, although since 2001, values for stand alone dwellings have pulled ahead

of flats and dwellings, indicating a stronger market preference for stand alone dwellings. This may reflect the leaky homes syndrome.

Figure 14 Average value per square metre of floor area.

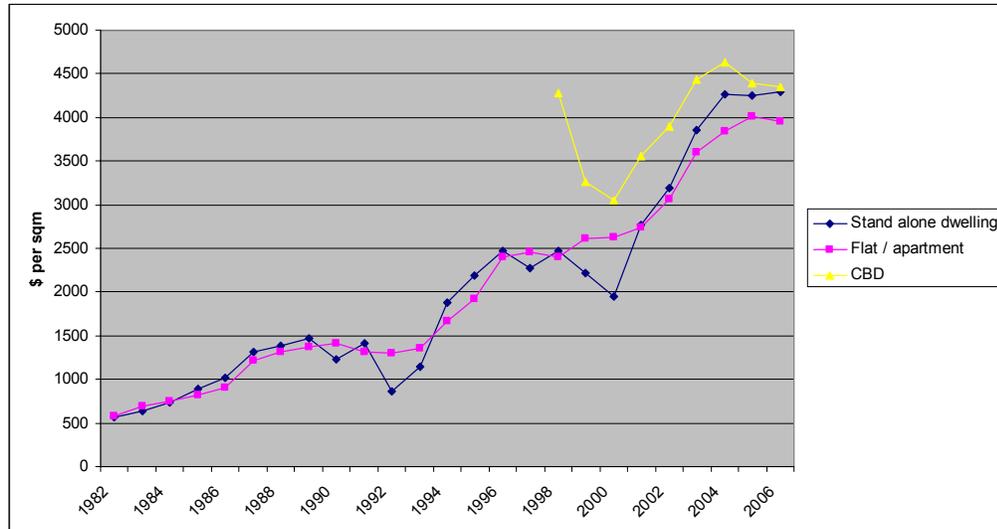


Table 20 sets out median sales data for flats and apartments for those areas within the Metropolitan Urban Limit Line, grouped by local authority.

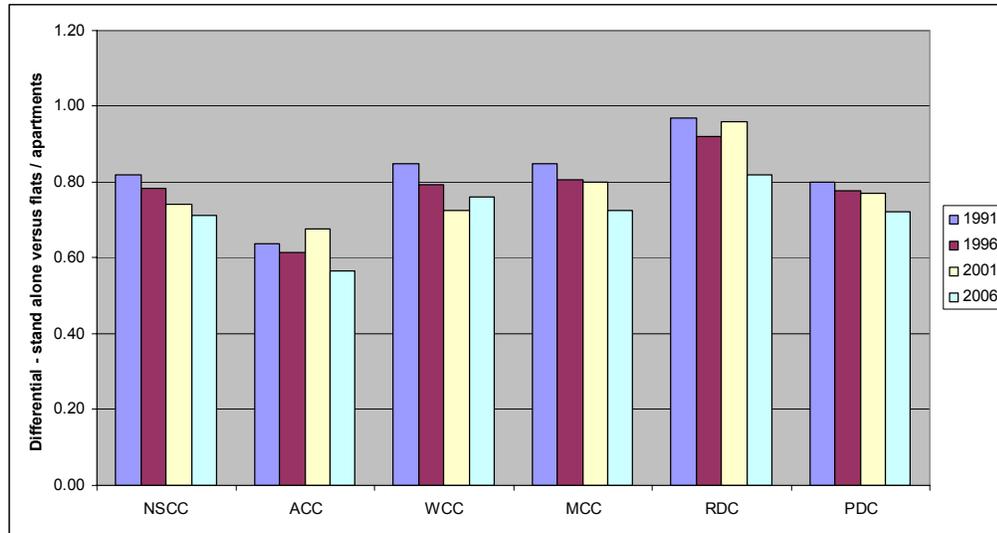
Table 20 Median sale values – flats and apartments

Year	NSCC	ACC	WCC	MCC	PDC	RDC
1991	127000	97500	93500	113500	102500	129000
1996	208000	171000	150250	170750	140000	219000
2001	208000	200000	145000	195000	154000	230000
2006	343000	306500	262000	275000	246000	360000
Change	216000	209000	168500	161500	143500	231000
% change	170.1%	214.4%	180.2%	142.3%	140.0%	179.1%

In 2006, Rodney District (Orewa area) had the highest median values, followed by North Shore and Auckland City. Lower values were recorded in Waitakere, Manukau and Papakura District. Auckland City has recorded the highest rise in median values over the 15 years between 1991 and 2006.

The basic patterns found in Auckland City are repeated across the Region: Apartments and flats are generally priced at 60 to 80% of stand alone dwellings, with this ratio declining over time. See Figure 15

Figure 15 Differential between intensive and stand alone housing



4.6 Development case studies

In order to understand better the supply side of the housing delivery process, four recent intensive residential developments were selected for assessment. The four case studies were as follows:

- An inner city terrace housing development.
- A suburban sub-regional development for apartments that failed.
- A terrace housing development outside a traditional node.
- A terrace housing development adjacent to a suburban local neighbourhood centre.

The intention of the assessments was to:

- Understand the financial parameters involved,
- Consider the feasibility of alternative density patterns being developed, and
- Test the sensitivity of the development to changes in financial parameters.

Table 21 sets out basic parameters. The analysis was conducted in 2003 and 2004.

This analysis helps inform the application of financial mechanisms to facilitate desired density patterns. It should be noted that in order to carry out the investigation every means was used to utilise actual information, with informed assumptions only being made when this was not available or the developer involved was unwilling to disclose the information.

Table 21 Case study details

Location	Density (units per ha)	Average sale price (\$2000 psm)	Land cost (per unit)	Profit & risk %	Remarks
Albany Village	28	\$ 240 000 (\$2000 psm)	\$ 27 000	14%	Developed in stages - complete
Botany Downs		\$ 300 000	\$ 13 500	22%	Developed in stages - in progress
Mt Eden	100	\$ 240 000	\$ 24 000	25%	Developed in stages - complete
Henderson	82	\$ 200 000	\$ 16 000	-	Development not commenced

4.6.1 CASE STUDY 1 – ALBANY VILLAGE

The development comprised 74 detached, duplex and attached terrace houses near the Albany Village on the North Shore. The development commenced in 1998 and is now completed. The development followed that of earlier similar offerings in Oteha Valley Road and may have suffered from the negative perceptions those particular developments provided to the market.

Development parameters

- The land purchase price equated to \$27 000 per unit which represents a premium price due to the shortage of development land on the shore.
- At a profit and risk return of 14%, the development under-performed normal market expectations of + 20%
- The average sales price of \$240,000 was in the upper 50% of average sales prices for equivalent product on the North Shore.
- Reserve contributions totalled some \$439,000 (\$5,900 per unit) and represented some 2.7% of total costs.
- Construction costs represented some 54% of total with the profit element comprising 22%.
- An achieved net return of \$1.77m equals \$18 000 (7.5%) per unit.
- Sensitivity testing to cost and revenue changes provide the following:
 - Revenue improvements of 5 to 7.5% produced a more acceptable market return.
 - Correspondingly cost reductions of 7.5 to 10% produced the same result.
 - A reduction in the cost of the land by 28% would produce the same result.

Conclusions

- The development was an improvement on the earlier competition, however returns probably suffered from general market conditions at the time.
- The development offered an “in between price point” alongside poorer quality similar product and that of competing conventional housing.
- The mix of housing types was a plus to the sales.
- Staged development reduced risks and improved cash flows.
- The “fallout” from some poorer development in the vicinity was also a negative factor particularly through the pre-construction sales period.
- Removing the reserve contribution requirement would have improved returns, however, it would have been insufficient to deliver an acceptable market return. It is noted, however, that the reserve contribution represents some 30% of the return per unit.

4.6.2 CASE STUDY 2 – BOTANY DOWNS

The development comprised 132 semi-detached and attached terrace houses on Ti Rakau Drive that commenced in 1998 and is still in progress. The development followed that of earlier similar offerings at Sacramento and competed within a different price bracket. The development involved a joint venture between the council and a developer. The council, which owned the land, sold the land development to a preferred developer on the basis that the developer would undertake a ‘model’ development.

Development parameters

- The land purchase price equates to \$13 500 per unit.
- At a profit and risk return of 25% the development has performed at the upper end of normal market expectations of + 20%
- The average sales price of \$300,000 represented a premium price in this market (Sacramento was in the low to mid \$200,000s)
- Reserve contributions totalled some \$550,000 (\$6000 per unit) and represented some 4% of total costs.
- Construction costs represented some 46% of total with the profit element comprising 26%.
- An achieved net return of \$4.92m equals \$37 000 (12%) per unit.
- Revenue includes a church site which was sold.
- It should be noted that a favourable land price was negotiated due to the special circumstances of the development which improved returns above the norm with regard to an alternative lower density option.

Conclusions:

- The development presented a superior product to the direct competition, but probably suffered from general market conditions at the time and the price of detached housing nearby which was at equivalent prices.
- Surrounding conventional developments presented significant competitive pressures as the development attempted to compete head on with this market on price.

- Construction costs for quality terrace housing is likely to be higher than the “mass produced” conventional equivalent.

4.6.3 CASE STUDY 3 – Mt EDEN

The development comprised 83 semi-detached and attached terrace houses as part of a multi-stage terrace housing development on a brownfield site in Mt Eden. The project commenced in 1998 and is complete. The site is in a most sought after area, close to the city and amenities and is highly price competitive in the prevailing market.

Development Parameters:

- The land purchase price equates to \$24,000 per unit.
- At a profit and risk return of 25% the development has performed at the upper end of normal market expectations of + 20%.
- The average sales price of \$240,000 represents an extremely price competitive offering being in the lower 25% of ruling prices in the area.
- Reserve contributions totalled some \$576,000 (\$6000 per unit) and represented some 2.5 % of total costs.
- Construction costs represented some 52.3% of total with the profit element comprising 29%.
- An achieved net return of \$4.16m equals \$50,000 (20%) per unit.

Conclusions:

- The development presented an extremely price competitive product in a sought after location and the returns achieved reflect that fact.
- The development offered the market a niche not being met by the conventional housing in the area.
- The city fringe location was a definite plus including the location close to good local schools.
- The high density achieved, due to existing streets, improved the yield and return.
- The developer suggests that if the development had commenced a few years later, the apartment option would have probably been the preferred choice.

4.6.4 CASE STUDY 4 – HENDERSON: PROPOSED APARTMENTS

The development proposed 246 units offering one to three bedroom accommodation contained in three five-to six-level towers and some terraces in central Henderson. An option was acquired over the land and some \$500,000 was spent in obtaining resource consents and marketing the proposal. The development failed to proceed, due to a lack of sales and an alternative strategy to proceed with a terrace housing option was also abandoned.

The development represented a unique opportunity to examine the financial dynamics of suburban, higher density residential development.

Development parameters:

- The land purchase price equates to \$16 000 per unit. It should be noted that the option price at \$4.15m represented a significant premium against the assessed value of approx \$3m.
- Sales prices ranged from \$130,000 to \$230,000 or approx. \$2,700 to \$3,700 psm.
- The sales price expressed as a value per square metre represented an absolute premium for that location and no evidence existed to support this expectation.
- Reserve contributions totalled some \$495,000 (\$2000 per unit) and represented some 1.1 % of total costs.
- Construction costs represented some 51.7% of total with the profit element comprising 30%.

Conclusions:

- The development presented the first apartment proposed for Henderson. The only comparable option existed in New Lynn which had failed financially although one tower was constructed.
- Discussion with the developer suggests that all the terrace house options had sold and there was little success with the apartments.
- The investigation suggests that a number of things could have been done better with regard to the marketing of the development, however, the overriding cause of failure was unreasonable price expectations. The expected prices for the units were high against comparable product and were also substantially ahead of surrounding detached housing options.
- The costs of multi-level construction, the need for pre-sales and the capital requirements all added to the risk pressures.
- The need for demolition of existing buildings did not improve the selling environment.
- Proximity of amenities, utilised as a selling point, did not inspire the market, particularly the location of the adjoining main northern railway line and town centre.
- The terrace housing option was not pursued as the council was not in favour of this option in a central location and the need to recover sunk costs probably influenced price and risk expectations.

4.6.5 Overall conclusions

An overview of the case studies identified provides the following conclusions: -

- Developer returns are most sensitive to variations in revenue – what the units can be sold for. Achieving adequate revenue presents the greatest challenge to suburban terrace housing and apartment development where comparable examples do not exist and where revenue expectations are therefore subject to interpretation and opinion.
- Prevailing house prices in the immediate location have a significant effect on the competitive position of intensive housing (the revenue achieved). This is very evident

when trying to compete by selling off ‘the plans’ and no physical evidence exists of the quality of the homes to be provided.

- The opportunity to implement developments in stages offers major risk mitigation as well as a tool to provide product to be used as show homes to demonstrate quality and therefore improve down stream price expectations in later phases.
- Apartments can present significant added value opportunities provided the market is there – this sometimes is only known at pre-sale stage once significant costs have been expended.
- It would appear at times that developer expectations of revenue are more the result of a cost plus return analysis than really understanding the anticipated market.
- As more and more medium density developments and apartments arise, the availability of comparisons will improve revenue expectations as well as promote a better understanding of what the market will value in the long-term as opposed to what is achieved on immediate sale. This cycle of experience will filter to the buyer and therefore drive the developer more toward customer expectations.
- Provided the planning requirements permit the option to be considered, apartments will increasingly be favoured ahead of medium density, particularly as land values grow on the back of a policy of urban containment. The challenge is to ensure that critical locations do not give way to medium density in the interim which will “lock the land up” for decades”.
- Development activity appears to be more driven by developer preferences and the ownership of certain land rather than a clear identification of the market, followed by sound scenario planning and feasibility analysis.
- Securing land by option at higher than market prices to “test a theory”, a commonly accepted process can taint opportunities as vendors wait for these opportunities to come good and land price expectations rise.
- Developers traditionally do not perceive value in reserve contributions, possibly because there is no nexus between the cost and direct investment in the neighbourhood amenity or that the provision of these amenities is seen as a normal activity of council that should be funded from general rates.

4.6.6 Importance of locational factors

Perhaps the most important implication of the case studies is that, in general, the market does not appear to place any premium on living close to town centres and transport hubs in suburban areas. This is creating a fundamental issue for nodal-based development as proposed by the ARGs. The ‘hubbing’ of intensive housing that is being achieved is to a degree the result of planning controls that limit options elsewhere, and is occurring within a limited market. A more broad-based market will only come about as the liveability benefits of nodal-living come to the fore, which may be some time away, given the poor state of many of the suburban centres. Aspects such as views and proximity to open spaces and coastal areas have a much larger influence on people’s housing preferences. The region therefore faces a difficult period where traditional drivers of liveability are still strong, but the desire of the Growth Strategy to create an ‘urban living’ tradition will take time to establish. Part of the answer must involve selecting nodal areas where the two sets of values overlap – nodal areas with traditional housing drivers such as good views and amenities, access to open space and coastal areas, as well as ones with good transport and local services. Places such as Birkenhead and Te Atatu therefore come to mind.

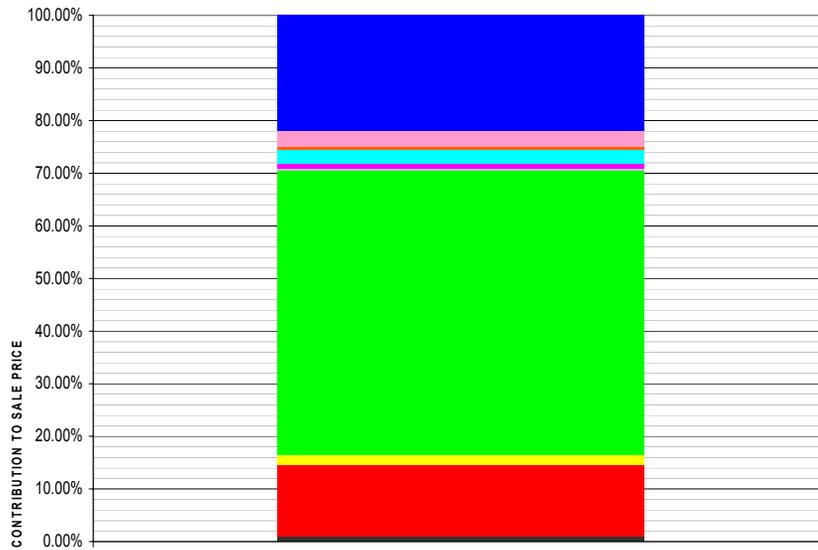
4.6.7 Development costs

Looking at the costs of development, and whether there is any ability to manipulate these costs to help stimulate more intensive development, the following picture emerges:

- Reserve contributions do not represent a significant cost to development, in general, being around 2 to 3% of the average cost of units, and therefore waiver or reduction of such fees to promote development may have little impact on sale prices. However, contributions are perceived as directly affecting the bottom line of the development and therefore are considered a cost against profit, which can be as high as 30%. Where land values are very high, reserve contributions for apartment developments can be perceived to be prohibitively expensive, and anecdotally at least, these high costs has stopped some apartment development from occurring.
- Land costs are also a relatively minor component of average unit costs – typically between 8 to 12%, compared to up to 30% in suburban housing developments. Land banking and land amalgamation may provide some assistance with development economics, as it did with the Botany example.
- For owners of intensive housing units, the lower proportion of total value in land costs, compared to conventional housing, means that unit values will not rise as fast as other housing types, because most price increases are being driven by rises in land values. Over time, the value of improvements tends to decrease. This raises issues related to securing home loans for intensive housing units. Banks are reluctant to lend as much as they do for conventional houses. It also means that households will need to look at other benefits of intensive housing, such as cheaper running costs, to help balance less capital appreciation.

The graph below demonstrates typical cost breakdowns on a per unit basis, with the major components being land and construction costs.

**STACKER GRAPH : LUCAS POINT, ALBANY, NORTH SHORE CITY
'AS BUILT' TYPICAL UNIT ANALYSIS**



ANALYSIS OF TYPICAL UNIT (SALE PRICE \$208,000)	
Profit	22.02%
Disposal Costs & Real Estate Commissions	3.00%
Legal Fees	0.50%
Reserve Contribution	2.70%
Professional Fees	0.91%
Contingencies	0.30%
Unit Construction Cost	54.04%
Civil Cost Component	2.04%
Raw Land Component	13.56%
Preliminary & General / Consent Application	0.92%

4.6.8 Investors versus owner occupiers

Although not studied in any detail, it is clear that the needs of investors have had a large influence on the market for intensive housing. While the CBD is perhaps extreme in this regard, even in suburban areas, rates of renting in multi unit developments are much higher than in suburban areas in general, indicating a high proportion of units are owned by investors. Directing the market at investors (and renters) obviously skews the market towards 1 and 2 bedroom units, and will tend to put a cap on the acceptable capital costs of units, further reinforcing a price differential between units and stand alone dwellings.

The large role of investors also calls into question the sustainability of the market for intensive housing. The growth of the intensive housing market has occurred during a time of historic low interest rates (making borrowing easier), as well as a large block of the population (baby boomers) in high income earning years and looking for an accessible form of investment. These conditions will not last for ever.

However, there is no reason that should the investment market decline, then the market for owner occupation will not increase. One view is that come retirement, the owners of the investor units may wish to sell their other property and shift into the town centre located unit or apartment.

4.7 Trigger point analysis – case study approach to redevelopment

Having considered case studies of relevant developments, the next phase of the work considered the extent to which market conditions favour redevelopment of existing urban areas. The case studies reviewed in the previous section involved the use of greenfields land or brownfields land for intensive housing options. In many cases, intensification will have to involve redevelopment of existing housing.

In 2004, three hypothetical development case studies of different areas within the Auckland Region were undertaken. For each of the case study areas, land holdings have been analysed in order to establish existing base data such as land area, density, value profile and infill opportunity.

Analysis has then been undertaken in order to establish the trigger point profile for redevelopment of these locations (assuming amalgamation of land) for varying degrees of intensity. The analysis can also be used to establish the impact of ad-hoc infill housing on the timelines for comprehensive redevelopment. That is, whether incremental infill will significantly delay the time when comprehensive redevelopment is feasible.

The three levels of intensity used in the analysis are:

- Section subdivision – clearance of existing dwellings to allow for stand-alone (infill type) housing development to occur. The base case assumes a density of 25 dwellings per ha, which in turn assumes section sizes of around 400 to 450 sqm per lot.
- Medium density housing – clearance of existing dwellings and construction of terrace-type housing units at a density of 40 units per hectare or around 250 sqm per unit.
- Higher density housing – clearance of existing dwellings and construction of apartment type houses at a density of 80 units per ha or around 100 sqm per unit.

Based on the three case studies, as well as other information on development costs and returns, a generic trigger point analysis has been completed. This analysis is set out in Appendix One. Based on recent development information, this analysis describes the costs and returns needed to support various forms of development. The analysis can therefore help highlight areas of Auckland where land values and development returns would combine to favour substantial redevelopment.

4.7.1 Case study outline

Case studies were completed for three locations as follows:

- Point Chevalier – a hypothetical amalgamation of 12 conventional lots totalling 8,736m² with dual road frontage. The block was chosen as it has proximity to the Point Chevalier commercial centre and other infrastructural requirements.
- Onehunga – a hypothetical amalgamation of 12 conventional residential lots with dual road frontage near the Onehunga commercial centre.
- Te Atatu Peninsula – a hypothetical amalgamation of 12 conventional residential lots with dual road frontage to Te Atatu Road and a side street. The land has relative proximity to the Te Atatu commercial centre and was chosen as excellent harbour views would be available from relatively low levels.

The trigger point analysis has been used to establish:

- The relationship between land value and capital value and therefore the extent to which existing improvements add value to the land.
- The potential to remove existing buildings on the land, and undertake subdivision generally in accordance with existing planning regulations.
- The break-even points for undertaking significant redevelopment with land amalgamation and removal of buildings.
- The increases of density required under different comprehensive development scenarios in order to achieve feasibility.

4.7.2 Case study results

Detailed results of each of the case studies are set out in a separate report. Material includes base data, variable development feasibility, and the sensitivity of cash flows and density. The following general observations can be made for each of the case studies:

4.7.2.1 Point Chevalier, Auckland City

Like most of the inner and older suburbs of Auckland, Point Chevalier is typified by upgraded houses and infilled sections, where this has been possible. The area, however, is characterised by relatively low building coverage, particularly in comparison with suburbs to the east towards the Auckland Central Business District.

The land to capital value ratio under the analysis is approximately 53%, however, with recent substantial increases in value, this ratio is likely to be closer to 65% - 70% (that is land values make up the lions share a sites total value). Land value increases mean that the area has the highest land value to capital value relationship of the areas studied, which is to be expected for a fringe city location.

The analysis indicates that the trigger point for comprehensive development involving amalgamation does not lie significantly far from present conditions. It is estimated that a further 10% to 15% increase in land to capital value ratio, i.e. to increase it to around 80% would be sufficient to trigger widespread comprehensive intensification where amalgamation was achieved.

It is noticeable that medium density and tower developments appear to need only a 5% to 15% increase in revenue - the price at which units can be sold with all other variables remaining constant - in order to be feasible. This factor suggests that the existing housing stock within the area has a limited economic life expectancy and, disregarding planning constraints, the area would appear capable of accommodating widespread intensification development.

In our opinion, the Point Chevalier area and others with similar profile characteristics have the short to medium term potential to accommodate widespread intensification.

4.7.2.2 Onehunga, Auckland City

The area of Onehunga chosen has a relatively similar land capital ratio to that displayed in Point Chevalier, albeit at a significantly lower monetary level.

The Onehunga area was chosen as a suburb on the isthmus which had displayed considerable capital growth without a significant change in the character of dwellings. Much of the area is former state housing, therefore the traditional housing stock displays low building coverage, offering conventional housing accommodation. Infill development has been undertaken where possible with very few sites capable of being further developed without either significant expenditure or the relocation of existing buildings.

The case study indicates that the trigger point for feasible intensification within the study area is some way off. Revenue adjustments of between 15% and 30% are required, all other factors remaining equal, for amalgamation to be feasible for section and terrace-type developments.

The prime reason for the difference between the feasibility of redeveloping this area and the feasibilities studied in Pt Chevalier for terrace-type development is that current values in the area do not justify the investment needed to undertake redevelopment. Only a considerable increase in density begins to make redevelopment feasible.

Given both the value and physical characteristics of the locality, a significant rise in value is unlikely to occur in the short to medium term. We note, however, that significant areas of intensification have occurred particularly on brownfield sites on former business land. This would have occurred because land values would have been considerably lower in these areas.

4.7.2.3 Te Atatu Peninsula, Waitakere City

The Te Atatu Peninsula location was chosen as it is an area in transition - attributable to large modern developments being undertaken within the area, as well as providing value for money housing in a relatively short distance from the Central Business District. Te Atatu Peninsula was also chosen as a case study as it has little by way of physical constraints, enjoys good transport linkages, and has a self-contained town centre. The developments within the Harbour View Estate (a Waitakere City Council project), are also noteworthy as the area has proven to be capable of accommodating relatively high values for medium density housing stock.

The study area has the lowest land to capital value ratio of approximately 42% although this could be as high as 50% to 55%. One of the key differences between the Te Atatu Peninsula property and other areas studied is that the houses are predominantly original which, although having had superficial upgrading, are by and large unchanged since their construction during the 1950s and 1960s. Despite this, average unit values are higher than those in the Onehunga area.

The trigger point analysis indicates that the area could support all forms of intensification development given current value profiles. Values would need to rise by just 5 to 10% for intensive redevelopment to be a viable option, provided that there is a market for this type of redevelopment. In comparison to the other case studies there is less difference between the different types of intensification in terms of the values needed to support redevelopment. In this case the choice of which type of intensification will occur is likely to be largely determined by demand side factors, such as what type of housing is in demand. In our

opinion, if the amalgamation of sites studied was available on the market, it would most likely be developed for intensive housing purposes. This is based on the affordability aspect of the location, its proximity to the motorway network and the self-contained town centre, and the quality of surrounding new development.

4.7.3 Implications for comprehensive redevelopment

The above analysis offers some guidance to the establishment of mechanisms to facilitate density outcomes in selected nodes:

- Ad hoc infill raises the commercial barriers to more comprehensive and planned intensification across a logical block.
- Higher densities, in a comprehensive redevelopment, with all things being equal in the demand stakes, provide better commercial value.
- The complexities of fragmented ownership may produce sufficient risks to militate against the natural commercial desires of comprehensive redevelopment in favour of an ad hoc approach.
- Opportunities to capitalise on amenity, such as views at higher levels, provide greater impetus to seek height.
- Brownfield redevelopment of industrial and marginal commercial sites is a likely front runner as a lower risk option to comprehensive redevelopment. This is a consequence of larger land ownership patterns, large low value buildings and the redundancy of use brought about by changing economic circumstances. The challenge in these locations is typically what occurs at the street level. Usually ground floor units provide a poor amenity for residential uses; however, they are also likely to be marginal for commercial or retail uses.
- Medium density developments, which are the subject of strata titles, introduce a further layer of complexity and risk which is likely to seriously militate against further intensification.
- Infill, which can easily be accommodated by the local relocation of an existing house on a site, permits the greatest value capture from an existing asset. This process can provide a significant barrier to further intensification down stream unless the commercial returns are superior due to unique location attributes such as view capture or other amenity of bankable value.
- The greatest challenge to intensification of apartments lies in the second ring suburbs particularly where there is no bankable value in local amenity. At this stage of the development of Auckland, the location adjacent to existing town centres or proximity to public transport nodes such as rail are unlikely to be bankable attributes.
- A further challenge is the need to address the rental market by the provision of apartments developed and managed for that purpose as opposed to the ad hoc sale to investors/owners dependent on chance.

4.7.4 Effect of rising property values

As capital values increase, holding other variables constant, more intensive development becomes more of a likely option, and as such there is more of an incentive for developers to undertake comprehensive type developments. Higher density development is the only way possible to develop land in a way that delivers new units at a price not too dissimilar to the cost of the units that they are replacing; otherwise redevelopment is only viable if the new product can be sold considerably above current values, which is an unrealistic assumption. The trigger point analysis suggests for much of the inner urban area, land values are reaching a point where comprehensive redevelopment is a realistic possibility. Planning needs to take this pressure into account. Attaining regional growth strategy goals may require acceptance of this trend, and this is discussed more fully in the section on implementation.

For areas with more modest capital values (which implies less market demand than high value areas) and where land values are roughly equal to the value of improvements, there is less of a differential between densities in terms of the values that need to be obtained to make development feasible. Units in medium to high density developments need to be sold at nearly the same price as stand-alone houses to be viable. This raises marketing issues. While overall, profits from a more intensive development may be higher, the market for the more intensive housing is likely to be thinner, as potential buyers expect intensive housing to be provided at a discount to stand alone housing in the area. There is therefore less incentive to undertake a medium to high density development, and more incentive for developers to undertake infill and other incremental type developments. However, these are the very areas that the ARGS strategy seeks significant redevelopment to occur in. Clearly market forces are out of step with planning goals for these areas, and this is a major area for consideration of techniques to promote market demand.

For areas with lower house prices, such as Onehunga, infill type development is the only realistic option. While site amalgamation may be cheaper than in other areas, the low house prices make medium to high density comprehensive development much less viable.

4.7.5 Effect of raising or lowering density

Does increasing the allowable density change the picture as to when comprehensive redevelopment becomes more feasible? Would significantly increasing the allowable density make redevelopment easier for a developer, and there be less incentive for infill type development?

In the case of areas with higher capital values, increased density promotes redevelopment. In the case of lower value areas, increased density makes a smaller impact on redevelopment options.

For example, in the case of Point Chevalier, a tower type development would only need a small rise in value of units to make such a development viable, around a 5% rise. In comparison, a medium density development would need to rise in unit values of around 17% to be viable. For Te Atatu Peninsula, there is very little difference between the values needed to justify a tower-type development or a medium density type development or a stand-alone housing development. In the case of Onehunga, values would have to rise considerably for more intensive development to be a realistic prospect.

Another way to look at the issue is the density needed to make a development viable. The following table makes an estimate of the density needed under different development types, for each of the case study areas. The first line provides a point of comparison for the subsequent lines. The difference between the figure in the first row and the density figure in

the case study row provides an indication of how much densities need to be altered to facilitate comprehensive redevelopment.

Table 22 Effects of density on redevelopment feasibility

Area	Density to make apartment housing redevelopment viable	Density to make terrace housing redevelopment viable	Density to make stand-alone housing subdivision viable
Base densities	80 dwellings per ha	40 dwellings per ha	25 dwellings per ha
Pt Chevalier	100 dwellings per ha	45 dwellings per ha	38 dwellings per ha
Onehunga	130 dwellings per ha	65 dwellings per ha	27 dwellings per ha
Te Atatu	110 dwellings per ha	51 dwellings per ha	30 dwellings per ha

It can be seen that in the Point Chevalier and Te Atatu areas, densities for apartment and medium density developments do not have to be much higher than at present for them to make wholesale clearance a real option. In contrast, in Onheunga densities would have to increase substantially to have any effect.

4.8 Implications for policy

The trigger analysis highlights those conditions where adjustments to infill policies may assist help to encourage redevelopment.

- In the case of higher value, popular suburbs such as Pt Chevalier, redevelopment is a realistic prospect, provided that zoning controls allow this. In these situations there is plenty of market pressure for redevelopment. Not allowing this pressure to be expressed will see a continuation of infill as the market seeks to meet some but not all of the demand. Not providing for redevelopment is a case of lost opportunity. There is no need to actively encourage more intensive redevelopment, in fact the market pressure for redevelopment at higher densities could be used to extract public benefits from the development process.

- For emerging suburbs like Te Atatu, the different forms of redevelopment are all realistic prospects, so there may need to be some kind of incentive for redevelopment at higher densities to occur, other than just market dynamics, if this is the preferred course of direction. For example density bonuses for comprehensive redevelopments.
- For lower cost areas with lower market interest, infill type developments will be the preferred type of development. The only realistic option if redevelopment is to be pursued is via a public agency or through ‘freezing’ redevelopment until such time as values start to justify the required investment.

In all three cases, continued infill is likely to see the break even point for redevelopment be put back substantially.

To assist in further understanding the redevelopment process across the region, a generic trigger point analysis has been prepared. This generic analysis has been based on the case study material and presents a generalised picture of what types of capital values and (revenue) sale values are needed to prompt redevelopment. The details of this analysis are set out in Appendix Two.

5 IMPLICATIONS FOR INFILL

5.1 Introduction

The brief for this project requires an assessment of the extent to which infill as a form of growth may need to be curtailed to support nodal-based intensification. This issue arises from recent investigations into the capacity for growth in the Auckland Region.

The ARGS proposed selective intensification as the main means of achieving a more compact form of regional growth. Such a policy was partly in response to public concerns about the adverse effects of infill on the ‘look and feel’ of neighbourhoods, as well as whether such development was creating a sustainable urban form. Infill was clearly adding to infrastructure pressures but was not delivering the densities needed to support better passenger transport, or the critical mass to support substantially improved local services, for example.

Despite these concerns with infill type development, at the strategic level the strategy suggested that current infill policies be ‘left to run their course’, and that no moves be made to increase or decrease infill capacity. This policy reflected a feeling at the time that there were not too many more infill opportunities present in the region.

The Growth Forum report ‘Auckland Metropolitan Area: Capacity for Growth 2001’ raised two issues with regard to this approach to infill that means that a reassessment of this policy is required:

1. The large capacity (for infill) outside of the nodes identified in the sector agreements will divert some growth away from the nodes over the next 15 years.
2. A large infill capacity remains within the nodes identified within the ARGS. If taken up it will make it much more difficult to achieve the level of density required to accommodate projected growth and achieve the strategy’s strategic objectives.

Essentially these issues raise two mechanisms that need to be considered when looking at ways to promote nodal-based intensification:

- Is it worthwhile ‘disabling’ other forms of growth, such as infill, to help ‘enable’ nodal-based intensification?
- Is it necessary (or at least worthwhile) slowing or halting incremental infill type growth within nodal areas so that more comprehensive, intensive development and redevelopment can occur now or at a latter stage? That is, will incremental infill forestall more significant redevelopment later?

In this part of the report we discuss the context within which infill is occurring, and whether there is any benefit from taking forward the above two mechanisms into a more wide ranging discussion of methods of encouraging nodal-based intensification.

5.2 Infill context

In this report we refer to infill as the incremental development of suburban areas through the gradual addition of stand-alone dwellings. Typically, infill involves the subdivision of the back or front part of a large section where a new house is built. The ARC's 2001 capacity study identified two forms of infill:

- Adding another dwelling to a site, where feasible. This could be described as an 'easy-to-do' type of infill. The existing house remains and a house is added where there is room and access to do so.
- A more complex form of infill involves removing the existing dwelling and developing the site to the maximum density under the relevant district plan controls. This involves a more complex process than just adding a further dwelling.

The figures in the 2001 capacity study therefore may represent a possible upper and lower limit on potential infill development. However, the report notes that there are a range of uncertainties involved in the infill process which mean that in many cases the maximum figure is never reached, while even the feasible scenario of adding a further dwelling where there is space to do so on a site may not always be realised. This is because of a range of factors, including physical constraints (topography, trees, access, infrastructure) as well as land owner intentions and development feasibility. These uncertainties mean that it is not possible to be precise as to what amount of infill may be possible over the next five years, let alone 20 years.

What is apparent is that as property values rise, the economic incentive to infill a site increases, and increasingly it makes economic sense to remove or shift the existing house to maximise existing development potential. Therefore over time, there is pressure towards the maximum figure, and so the upper figure needs to be considered. However, it is unlikely that all of the upper figure capacity will be realised. The theoretical figure should be scaled back somewhat to take into account the likely existence of site specific issues. It is not possible to be precise about what scaling back should occur, but a reasonable assumption might be to assume that 70% of the theoretical figure is possible over the longer term.

5.2.1 Infill as a proportion of total dwelling capacity

The ARC capacity report uses the 'easier-to-do' category of infill - adding a further dwelling(s) to a site rather than the theoretical figure - when discussing the capacity for growth within the region. Of the capacity for a further 138,000 dwellings identified by the ARC report, 34,000 are in the 'easy-to-do' infill category or 24% of the total capacity. If the scaled-back theoretical maximum infill capacity is used, then the proportion of capacity in the infill category rises to 34%.

Table 23 Infill's contribution to development capacity

Type of capacity	Additional dwellings easy to do	Additional dwellings scaled back theoretical
Infill capacity	34,185	53,760
Total capacity	137,951	157,526
Infill as a % of total capacity	24.8%	34.1%

In terms of the spread of infill development opportunities across the four largest cities in the region, infill represents a substantial part of total development capacity within Waitakere and Manukau cities.

Table 24 Infill opportunities by TA

City	Infill opportunities	Total development opportunities	Infill as % of total
NSCC	8720	28539	30.6%
WCC	12203	27600	44.2%
ACC	18884	54558	34.6%
MCC	11846	30712	38.6%

For the four cities, around 30% of infill opportunities lie within the defined nodal areas and 70% outside, or around 36,000 dwellings.

Table 25 Infill In nodal areas

TA	In nodal areas	Out of nodal areas	% in nodal areas
North Shore	1074	7646	12.3%
Waitakere	3346	8857	27.4%
Auckland City	7578	11306	40.1%
Manukau City	3301	8546	27.9%
Total	15299	36354	29.6%

North Shore City has a relatively high proportion of infill development opportunities outside of the nodal areas, partly reflecting the fact that the city has fewer nodal areas than the other cities. In contrast a greater proportion of Auckland City is covered by nodal areas, and therefore a greater proportion of infill development opportunities lie inside the nodal areas.

5.3 Effects of infill development

This section briefly canvasses the main growth management arguments for and against the ARGS containing an overt policy on restricting infill type development.

5.3.1 Growth management

On the face of it, the scaled-back theoretical infill capacity represents a significant source of growth capacity in the region, considerably higher than that anticipated by the 1999 ARGS. At the time of its preparation the ARGS estimated that there was scope for a further 36,000 infill dwellings. Growth since 1996 and 2001 should have reduced this stock to around 24,000 dwellings. Instead of decreasing, the stock of infill has increased over this period.

If a proportion of this infill development had been directed to nodal forms of growth, then this may have boosted growth rates in the nodes. Between 1996 and 2001, ARC figures suggest that about 40% of new housing has been provided by infill housing. For the four metro authorities in the region, this represents about 12,000 dwellings for the five years between 1996 and 2001. During the same period about 25% of growth was accommodated in nodal areas, or around 9,000 dwellings – in the form of infill and multi-unit development. There is likely to be some overlap between these figures. Setting this overlap issue aside, if infill had been limited by a third – to say 9,000 dwellings – and the other 3,000 dwellings directed to the nodes as multi-unit development, then nodal-based growth would have been substantially higher.

However, the main issue is whether such a switch in demand is likely.

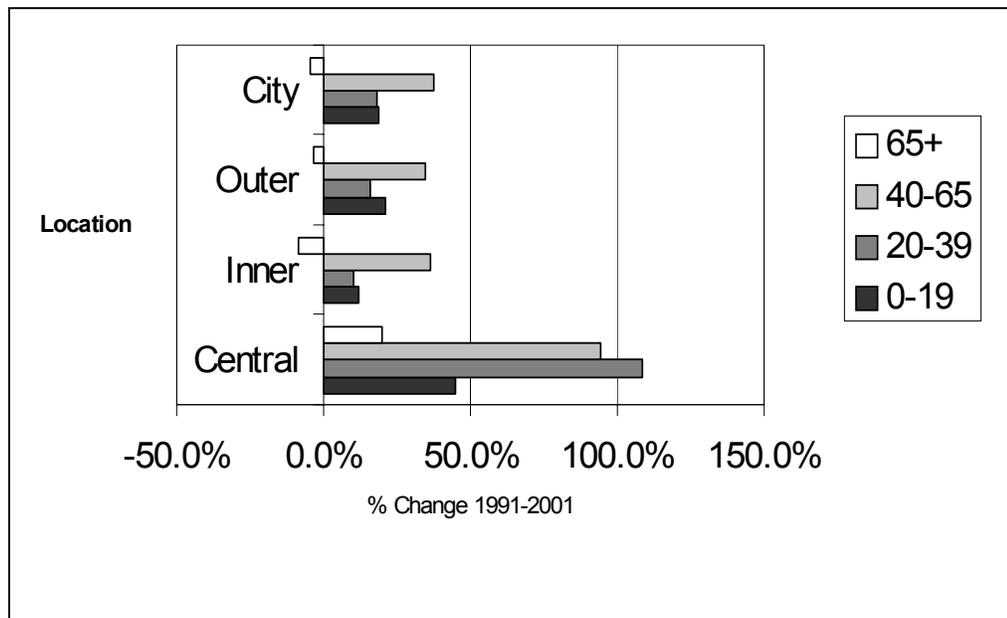
5.3.2 What will happen to demand?

It is not clear whether a scaling back of infill in non-nodal areas will lead to greater demand for more intensive housing formats in nodal areas. The characteristics of the two markets are not well understood.

There is some evidence that the infill market is changing. Prices for infill sites are rising and as other product is introduced into the market place, people's perceptions about desirable living conditions alter. For example the 1996 housing preference research noted that in Auckland City there was a much higher preference for multi-unit development than for infill type development. However for North Shore City, the reverse was true – the preference for a house on a half site was stronger than for a home in a multi-unit development. This difference in preference will reflect a range of factors including price, attitudes and experience. It also indicates that preferences are likely to change over time.

It is difficult to characterise the type of people attracted to the infill market, and whether these people overlap with the characteristics of those interested in intensive housing. Looking at Auckland City as an example, if the suburbs within the city are split into three groups reflecting the general type of development that is occurring in them, for the suburbs where infill development is likely to be the main form of development the general trend is a reduction in the number of older adults and an increase in the number of middle-aged adults and younger people between the age of 0-19.

Table 26 Changes in age structure by area



The above graph shows changes in the age structure of the three different types of suburbs as well as for the city as a whole. Central refers to the CBD and its vicinity where most housing is in the form of multi-unit development. Inner refers to the suburbs within about 5km of the CBD and which cover a mix of heritage areas, some suburbs with infill type development and areas of business land with higher density housing. Outer refers to suburbs in the fringes of the Isthmus, where most growth is likely to be development of vacant land and infill type housing on larger sections.

The data shows very little difference between inner and outer areas. In both areas there is a trend for households in their middle stages of life wishing to locate in the central Isthmus area, either for school, jobs, access to amenities or for other reasons. There is a clear difference between the CBD and the inner and outer areas.

Infill clearly occurs because there is demand for people to live on smaller sites. Often this might be for ease of maintenance or because they do not need such a large home any more. For others it may be a financial trade-off: They wish to locate in a specific suburb, but stand-alone houses on full sites are beyond their price range.

A limitation on infill at the same time as there is an opening up of multi-unit development opportunities should therefore see a switch between the two forms of development provided that they are of a comparable price and are in similar locations and provide a similar or better living environment. Well designed multi-unit development can provide more privacy and better amenities than a stand-alone house on an infill site.

However, recent examples of multi-unit development suggest that such transference of demand will not occur easily:

- Recent examples of multi-unit development have not provided the same level of living environment as that offered by infill housing for all sectors of the market. There does appear to be a substantial gap in the market place relating to multi-unit development aimed at the family market.
- For such a switch to be acceptable to many people, intensive housing opportunities are likely to have to be fairly widely spread across the Isthmus. People wish to stay in areas that they know, especially as they grow older. Zoning and current development economics does not support this spread of opportunities.
- A restriction on infill is also likely to fuel demand for other forms of housing. Not all households attracted to infill type development will wish to locate in more intensive areas. Some will search out other living environments. There is also likely to be demand for smaller sites in greenfields areas, for rural residential and rural settlement housing. In this sense a reduction in infill is likely to be a two-edged sword, it will both promote intensification and further urban expansion.

5.3.3 Infrastructure

The issue here is whether incremental infill creates more infrastructure issues than other forms of intensification, and as a result whether there are other reasons to manage infill. Specific issues relate to:

5.3.3.1 Transport

The question here is whether infill type development can see densities reach thresholds where passenger transport becomes more viable. In short, infill can see suburbs reach the thresholds of density needed to support bus-based passenger transport, but in most cases infill type development cannot generate the demand for rail-based passenger transport services.

For the purposes of this report, the densities needed to support different forms of passenger transport have been sourced from the Central Sector Agreement under the ARGS. Fifteen dwellings per ha is taken to be the minimum density needed to support a regular, frequent bus service, while 25 dwellings per hectare is taken to be the density needed to support regular rail-based services.

Table 25 sets out the maximum theoretical density possible under different infill scenarios. Percentage infilled refers to the percentage of sections where one additional unit has been added. It can be seen from Table 24 that for suburbs with either quarter acre or fifth acre lots, over 50% of sections would need to be infilled to reach the density figure of 15 dwellings per ha, but most sections would need to be infilled to reach densities on the mid to lower 20s. This is an unlikely prospect.

Table 27 Minimum densities

Original section size (m2)	% of properties infilled	Gross density (dwellings per ha)
1000	0%	7
	25%	9
	50%	13
	75%	23
800	0%	9
	25%	11
	50%	16
	75%	29

In this sense infill can help support bus services and therefore in suburbs where buses will be the main form of passenger transport, then it is an appropriate strategy. In areas close to fixed transit lines, greater densities are warranted and infill is unlikely to see the level of density required.

5.3.3.2 Open space

Open space strategies recognise that infill type development is placing considerable pressure on open space resources in existing built-up areas. Quantity-based standards are rapidly becoming outdated as the population of urban areas increase. However, whether growth occurs by infill or comprehensive redevelopment, pressure will be exerted on the stock of reserve land in the region and there is no particular difference between the two forms of growth.

One of the only differences between infill-type development and comprehensive nodal-based development is the seemingly random nature of infill development. This makes it hard to predict future population growth and, as a result, demands on open space.

5.3.3.3 Stormwater

Infill is often associated with increased pressure on stormwater systems. North Shore City is looking at the effects of infill type development on stormwater management in the city. There is a concern that infill development is exacerbating stormwater problems. Increased impervious areas are leading to greater runoff, causing localised flooding problems and scouring and erosion of water courses.

Initial indications suggest that better on-site management will manage these problems and there is not a need to scale-back infill-type development. Techniques such as the use of rain

tanks, rain gardens and better standards of design and inspection could go a long way to overcoming the problems evident. Nevertheless there may be some specific areas where densities should be limited to manage stormwater issues. These need to be identified on a water catchment basis.

The same stormwater issues will arise with intensive housing schemes and the same solutions can also be applied. Infill presents no greater risks than intensification.

Intensification offers some benefits over infill-type development if intensification involves high rise development. As set out in Appendix Two, apartment-type development can see fewer impermeable areas than stand-alone than housing development at the scale of a street block, and because of the additional people involved, the area of impermeable surface per person is much less than that of stand-alone housing development. It should also be noted that higher density development makes water reuse schemes (such as roof water harvesting) much more efficient and useful as a stormwater mitigation technique.

5.3.4 Neighbourhood character

Clearly, infill leads to different built form outcomes than selective intensification. Infill occurs in an incremental fashion across a neighbourhood, and in general the housing forms match those of the established houses in the area – stand-alone houses with separate garages and driveways. However, infill can cause the loss of trees and vegetation as sites are cleared for houses.

In comparison, selective intensification involves a substantial change to the subject area. Built forms are different to those associated with suburban areas, and the development may or may not increase the ‘green elements’ in an area. Examples of intensification around the region display the range of designs possible – from very good to very poor.

In design terms then, infill leads to different built form outcomes than intensive housing, but it is hard to judge which is better. The only clear difference between the two is that infill housing generally reinforces on-site amenity as being the primary amenity feature of an area. Generally infill housing does little to enhance the streetscape of a suburb and often due to the additional fencing and driveways involved, there can be a diminishment of the sense of character of the area, as experienced from the street. In contrast, intensive housing has the potential to reinforce and add to the public amenity values of an area, and in particular the streetscape, provided the development is well designed. This requires sites that have sufficient street frontage. Obviously higher density development that is side onto the street or down a right-of-way contributes little to the street.

5.4 Infill in nodal areas

Within the nodal areas identified by the ARGS, infill type development represents an important form of development opportunity. Vacant land is relatively scarce. Redevelopment of business zoned land represents an important but minor share of the potential development capacity. Under current policy settings, the majority of future development will have to involve infill type development.

Table 28 Infill in nodal areas

Type of development opportunity	Estimated number of units	% of total units
Infill	15299	46.9%
Redevelopment	10687	32.8%
Vacant	6644	20.4%
Total	32630	100.0%

Much of the infill capacity within nodes reflects zoning which allows for a medium level of intensity of development. This may be an acceptable outcome in terms of intensity for some nodes. But for the majority of nodes identified in the ARGS, a significant level of intensity is needed, both to achieve strategic goals relating to a more compact region, as well as transport and other outcomes.

As discussed in Section 4.6, additional infill in an area has the potential to considerably delay the point at which comprehensive redevelopment is feasible. However, this effect is very case sensitive. In some areas, infill is likely to be the only economically feasible form of intensification for a very long time. In others, where redevelopment is increasingly likely, then infill has a stalling effect that is counter productive.

5.4.1 Infill's role as a form of intensification

Not all infill is therefore 'bad'. Infill can be a useful form of intensification where the desire is to achieve a 'medium' level of urban consolidation. This might involve the fringes of nodal areas, but not their core areas, for instance, or intensification along bus routes rather than rail-based or bus transit transport routes. Incremental infill may also be the only way of intensifying an area with very fragmented, small land holdings, and where other market enhancing factors (such as views) cannot be captured through high rise development.

There are a number of areas in the region where it is apparent that infill type development is helping to consolidate the urban area. This includes areas like parts of Parnell and the main arterial roads leading out of the CBD, such as Great South Road and Manukau Road. These areas could be termed secondary intensification areas – sites along bus routes and around smaller shopping centres.

It is the density of infill development in these areas that is important. It is apparent from observing the Auckland Region that a density of 15 dwellings per hectare (gross dwellings per ha) helps support a reasonable bus service. Where infill is to be used as a form of intensification, then it needs to be at a level that supports transport outcomes, rather than just be a mechanism to accommodate some more growth.

Table 27 sets out a possible role for infill-type development. The table sets out how a more sophisticated approach to infill development is required; one that has as much regard to location and redevelopment as it does to the amenity of surrounding development.

Table 29 A role for infill

Type of urban area	Role of infill
CBD, main activity centres, major fixed passenger transport routes	Comprehensive redevelopment needs to be encouraged. Infill should only occur if sites are very fragmented and comprehensive development is not possible.
Secondary centres, key passenger transport routes	Infill on the edges of these centres and routes, i.e. more than 400m out from the centre would be appropriate. Within 400m infill-type development should be discouraged in favour of redevelopment.
Inner areas within 5km of the CBD where bus networks are relatively extensive	Infill would be appropriate
Suburbs with limited PT, few activity centres - generally more than 1km from these elements	Infill could be limited
Heritage areas, areas of important landscape and natural environment	No or very limited role and subject to specific controls

In areas where infill type development needs to be discouraged and comprehensive intensification encouraged, then district plan zones need to be structured to provide this incentive.

It is hard to say, at a generic level, how such incentives for comprehensive redevelopment should be structured. One technique is to create a density gap between site-by-site infill and the densities possible under comprehensive redevelopment. For example, the normal infill requirement could be set at one unit per 450 sqm of land, but for sites of at least 2000sqm, then densities of 250 sqm per unit and higher may be possible, subject to design outcomes. Additional height in areas signalled for comprehensive development is likely to be a significant incentive, especially where this height will enable access to views.

6 IMPLICATIONS FOR INTENSIVE NODAL-BASED DEVELOPMENT AND REDEVELOPMENT

This section of the report turns to the question of the mechanisms that should be used to stimulate the demand for intensive housing in nodal areas. Part of this process of stimulation must involve improving the quality of development, and due to the importance of this issue, the report devotes a separate section to it.

The first question to be considered is whether encouragement of more intensive housing should focus on demand or supply issues, or both. The following section briefly reviews the range of mechanisms available to promote demand and supply, before concentrating on the techniques that will best be used in the various sub-markets discussed in this report.

6.1.1 Demand issues

Demand-side mechanisms focus on building-up the demand for intensive housing. An important consideration must be overcoming the key issue with intensive housing - that currently the market does not perceive any value in the 'lifestyle' issues associated with intensive housing located close to town centres and passenger transport in suburban areas.

This issue could be tackled through improving the quality of life offered by the nodal locations, or it could be dealt with by trying to reduce the costs of housing in the nodal areas relative to other areas.

Figure 16 Stimulating demand

Issue	Mechanisms to encourage
The benefits of urban living	
<ul style="list-style-type: none"> ◆ Access to amenities ◆ Vitality & diversity ◆ Access to employment ◆ Access to transit ◆ Less commuting ◆ Social and cultural environment ◆ Entertainment & leisure 	<ul style="list-style-type: none"> ◆ Assistance with selling the urban story ◆ Density means the more that come the more that is offered in amenity ◆ Density by “design” rather than “default” ◆ Promoting vitality and amenity ◆ Promoting back to city trends ◆ Valuing good design
Elements of “place making”	
<ul style="list-style-type: none"> ◆ Composition of physical forms ◆ Distinctive open spaces ◆ Pedestrian scale ◆ Connectivity & access ◆ Mixed uses ◆ Landscape environment ◆ Character ◆ Neighbourhood context and connection 	<ul style="list-style-type: none"> ◆ Integrated planning - making it all fit together ◆ Emphasise neighbourhood scale and human context ◆ Sound market analysis to inform planning ◆ Take “control” of planning ◆ Utilise financial tools ◆ Define entries and edges to neighbourhoods ◆ Zone for flexibility ◆ Consider parking requirements ◆ Guidelines and urban quality/amenity

Issue	Mechanisms to encourage
Community building	
<ul style="list-style-type: none"> ◆ Local - day & night time activity ◆ Understanding needs ◆ Retail which offers immersive local experience ◆ Balanced mix of uses ◆ Encourage local business ◆ Integrate uses e.g. retail, residential, civic, leisure, recreation etc. 	<ul style="list-style-type: none"> ◆ Town centre & mainstreet programs ◆ Community design processes ◆ Civic investments
Neighbourhood town centres	
<ul style="list-style-type: none"> ◆ Storefronts ◆ Circulation – pedestrian & car ◆ Strategic tenant mix ◆ Streetscapes ◆ Parking ◆ Lighting and Security ◆ Management ◆ Amenity etc. 	<ul style="list-style-type: none"> ◆ Town centre programs ◆ Town centre management & promotion ◆ Public investments & infrastructure improvements ◆ Recognise and limit competition from less urban approaches ◆ Civic investments

6.2 Increasing supply

Looking at supply issues, the range of techniques span the development process from site acquisition to development feasibility and costs.

Figure 17 Stimulating supply

Factor	Encourage
Site aggregation	
<ul style="list-style-type: none"> ◆ Multiple ownership ◆ Conflicting interests/objectives ◆ Economies of scale needs - efficient land use ◆ Land cost 	<ul style="list-style-type: none"> ◆ TA to identify and assess available sites for density ◆ TA use of vacant or underutilised public land ◆ Assistance with land assembly and acquisition ◆ Financial contribution policy
Community issues	
<ul style="list-style-type: none"> ◆ Contentions on density 	<ul style="list-style-type: none"> ◆ TA to deal with community issues on a broader basis, rather than site specific ◆ Assistance with preparation of media material <p>Benefits of density & smart growth to be communicated broadly</p>
Risks/market context	
<ul style="list-style-type: none"> ◆ Problems of pioneering or unknown market ◆ Difficulties in recreating older urban environments ◆ Neighbourhood context ◆ Land costs may reflect a higher use not compatible with vision 	<ul style="list-style-type: none"> ◆ Assistance with market analysis ◆ Urban design assistance/guidelines ◆ Recognition of historical parameters such as parking requirements ◆ Assistance with selling the neighbourhood/urban amenity concept ◆ Financial contribution policy

Factor	Encourage
Parking and other on-site requirements	
<ul style="list-style-type: none"> ◆ Cost implications ◆ Urban context recognised 	<ul style="list-style-type: none"> ◆ Recognition of shared arrangements and urban context ◆ Consideration of location and value of aggregated parking provision at key locations (public & private) ◆ Recognition of “travel styles” ◆ Parking management having regard to impacts on commercial viability, transit use etc. ◆ Consideration of structured parking facilities which provides economies for parking provision and free land (possibly public) for redevelopment ◆ Commuter vs short-term needs
Public infrastructure	
<ul style="list-style-type: none"> ◆ Quality of public amenity ◆ Transit infrastructure, links and amenity 	<ul style="list-style-type: none"> ◆ Amenity and infrastructure improvements ◆ Transit planning to improve service provision

6.2.1 Discussion of techniques

To increase the market demand for intensive housing, actions must involve a mix of regulatory and non-regulatory mechanisms. It was initially an assumption of this report that appropriate zonings will be put in place to accommodate intensive development at some point in the future, consistent with the ARGS. The question then becomes whether any additional actions are needed to encourage the take up of these development opportunities.

Clearly the market place favours some areas over others in terms of suitable locations for intensive housing. The greatest criticism that the development industry has about the feasibility of intensive development is the lack of availability of suitable zoned land and the uncertainties over resource consent processes. These criticisms are valid, but they hide more fundamental issues associated with market demand in suburban areas.

The case studies and discussions with developers have highlighted a fundamental issue with intensive housing - it is the ‘revenue’ side of the equation which drives the feasibility of the project. In other words, it is what the units can sell for that is important, not how much they cost to build, or the price of the land. These market dynamics mean that intensive housing is

viable in some areas, but less viable in others. There is a preference for inner city and other higher value areas where intensive housing can be offered at a discount to stand-alone housing in the vicinity, but good returns can still be achieved.

There are significant market barriers to intensive housing in many suburban areas. Intensive development in suburban areas reflects displacement of demand from higher value areas, or site specific factors, such as land obtained at a value that does not reflect its real development potential. Intensification in suburban areas is not occurring because of the inherent benefits of living near town centres or transport hubs, while the demographics of suburban areas provide a mixed picture in terms of future demand. This analysis suggests that more than just appropriate district plan zonings are needed to attract sufficient development into all of the nodal areas identified in the ARGS.

The ARGS can choose to 'run' with market forces or shape them in some way. Running with market forces implies much greater redevelopment in inner and high value areas than that anticipated by the strategy. Shaping market forces so that the supply of intensive housing is 'spread around' more will require a lot more intervention than just accommodating market forces. Shaping market forces involves a difficult double act - influencing the location of intensive housing, as well as the quantum of intensive housing. The need to address the quantum of intensive housing lies with the point that encouraging intensive housing in areas where the market will not naturally wish to go implies potentially less demand for such housing.

Currently the ARGS seeks both outcomes - lots of intensification and a spread of this intensification across the region. To achieve growth and location targets, the amount of intervention required in the market place may well exceed the resources available to public agencies.

6.3 Inner areas

Important factors that may dampen or stimulate demand are:

- The greatest constraint in inner areas to higher density development is suitably zoned land. Market demand is not the problem. With a further upsurge in demand for inner areas becoming likely as the echo of the baby boom enters its first home buying (or at least home occupying) years, then demand will grow. If land supply remains constant and density cannot expand, then prices for intensive houses will increase, possibly reducing the differential between intensive housing and stand-alone housing. Even if the cost of intensive housing keeps pace with the rise of other housing in inner areas, there is likely to be a ceiling as to the price which most people can afford, especially for first home buyers and people who wish to rent.
- Many current developments exhibit the maximum development potential of the site under current rules - a form of low rise, squashed up urbanism. This is likely to turn off buyers as the problems of poor quality design become more apparent. Improved design will come about from reducing site coverage but

increasing height. This will help to accommodate the greater demand for inner city areas and create better design outcomes.

- In inner city areas, the discount that exists between an intensive house and a stand-alone house needs to be maintained. Extraordinary costs, such as those associated with very high financial contributions can stifle some developments, especially where the amounts imposed are uneven.
- It is apparent that the next phase of intensification in inner areas will involve medium rise apartment developments. This reflects development economics (site amalgamation and land costs), as well as buyer preferences. The planning process needs to facilitate this process, and in particular to learn from the lessons of the first round of intensification.
- Uncertainties over resource consent timelines can further compound feasibility and are an issue for specific developments. It is likely that District Plan zonings and development controls will need to be more sophisticated to give the community greater confidence that design issues are being addressed. Auckland City is moving in this direction with its Res 8 zone provisions, but they still reflect a low rise approach to development. Specific apartment design guidance needs to be prepared.

What happens if development opportunities in inner areas are not further extended? There is community resistance to more intensive development in inner suburbs. There are valid concerns about the effects of redevelopment on heritage housing and loss of business opportunities if employment land is consumed for housing. If the surge in young households is not to be accommodated in the inner area, where is it likely to locate? This is probably the critical issue to get right. These 'displacement' areas need to be identified and protected from too much incremental growth in the interim to ensure development opportunities are not lost. Development economics will dictate where this displacement is to occur. Transport and accessibility into the CBD area is likely to be an important factor. Established town centres with reasonable amenity and good access are also likely to be desirable locations. So too could be suburbs with some environmental attributes like views or coastal proximity, but not with the property prices associated with inner areas and coastal settlements.

Acceptance of greater height of development in these areas will be very important to the attainment of ARGs goals. The Growth Forum needs to front foot the shift towards apartment-type development in these areas, explaining to people the benefits of this type of development, and the design issues associated with them. The trade-off involved in the protection of the heritage ring of suburbs around the CBD in return for more development in adjacent suburbs also needs to be made explicit.

6.4 Middle and outer areas

Factors that may stimulate or dampen demand are more complex than in inner areas. This is because there is less market demand in the first place in many suburban areas. Demand will also have to be sourced from a different sector of the market than

compared to inner areas. Particularly important will be the aging baby boomers. Middle and outer suburbs also cover a much wider range of environments than inner suburbs.

In wealthy middle and outer areas, intensive housing is likely to be an attractive option, such as in coastal areas where high land values help to make intensive housing a viable option. Brown's Bay would be such an example. As has already been discussed Albany appears to have taken up much of the demand for intensive housing displaced from the East Coast Bays area by lack of development opportunities. Botany Downs may have benefited from the same dynamic – people wishing to live in or at least near to the eastern suburbs.

In these suburbs, the factors which may stimulate or dampen demand are likely to be similar to those applying in the inner area, particularly suitably zoned land. On this note the strategy did not identify many coastal areas as locations for significant intensification. This may be a reasonable policy position to maintain, but the consequences of this approach – displacement of growth and possible dampening of demand - needs to be acknowledged.

6.4.1 Middle to lower income suburbs

This is the area of greatest challenge. The gap between current market demand and ARGs intentions is the largest in these areas. While there is a trend towards rising property prices which should assist with the growth of the market for intensification, recent evidence suggests that property prices in lower income areas are not rising nearly as quickly as property prices in higher income areas. This process creates fundamental barriers to the development of a large intensive housing market in these lower priced areas.

Techniques that attempt to promote the supply of intensive housing in suburban areas, such as by reducing development contributions, rates reductions and land amalgamation for developers are not favoured – these actions will tend to support the current market position of intensive housing as a gap filler; they will not substantially grow the market. While not costed, there will also be financial limits to these techniques – there will never be sufficient resources to sufficiently stimulate the market by these techniques to the size needed.

Furthermore, techniques that attempt to 'enable' the market for intensive housing, by 'disabling' other markets (such as restrictions in infill development in suburban areas, or less intensification in inner and coastal areas in the hope that this will stimulate demand in outer areas) are also not favoured. These are defensive strategies that will not create a 'natural' market for intensive housing.

Similarly, hoping that restrictions on the supply of intensive housing in high values areas will see demand from these areas displaced to suburban nodes is unlikely to see the geographic extent of intensification proposed by the growth strategy achieved. Neither is there a likelihood that the quantum of intensification sought by the growth strategy will be achieved. Displacement of demand out of high value areas will tend to see intensification locate in areas adjacent to favoured areas, rather than this intensification being located around town centres and transport hubs.

It is likely that long term success will come from trying to improve all property prices in particular suburbs through improvements to transport, town centres and social services. The standard of educational facilities will be important for families with school-aged children. Recreation-based facilities may be particularly important factors for households in the late family stage and for active retirees. Safety and feelings of personal security will also be important. To achieve improvements to these outcomes, substantial co-ordination of a range of services and agencies will be required. Currently this level of co-ordination is very difficult to achieve.

At a regional or national level, further investigation into the market for intensive housing in suburban areas is needed. Perceptions that intensive housing only appeals to single young people still linger, despite evidence to the contrary, while research into resale values and the impacts on surrounding house values would help to address concerns about impacts on property prices. The establishment of an Urban Land Institute or equivalent organisation would assist this process. A particular focus on the likely housing intentions of the suburban-based baby boom generation would be appropriate.

Associated with this, there is a need to educate people about the financial and other benefits of urban style living. Some sort of analysis of total household costs could be beneficial here, comparing the costs of living in stand alone housing compared to living in a terrace or apartment-type development in the same area. Overcoming common misconceptions of living in intensive housing is also needed. Again targeting this type of information at aging baby boomers would be critical, and so a highlighting of the benefits to their retirement options would be important.

Turning to place-based techniques, all councils in the region are using a range of techniques to promote intensification in suburban areas. What this study has highlighted is the need to be much more targeted in these efforts. Current techniques such as structure planning and demonstration projects also need to be extended, and complemented by actions that improve whole neighbourhoods.

Some form of Urban Regeneration Company may be needed to help co-ordinate and champion this activity. To create a favourable climate for the private sector, an organisation at arm's length from local authorities may be needed. Such an organisation could reduce the risks associated with intensive housing developments in suburban areas, such as creating the perception that areas identified for growth are well managed, that there is a commitment from key decision takers, and that investments in the area will be made. To achieve this level of certainty, it may be necessary to hand over many planning decisions to such a body. Redevelopment agencies used in other countries are often built around the redevelopment of surplus government land – former dockyards, defence sites or health establishments, for example, or they have substantial funding bases. In Auckland, there are few publicly owned redevelopment sites left, while public funding is also likely to be limited. Either strategic land acquisition is needed, or the company would need to be based on some other form of leverage. Some form of control over the planning system may therefore be needed to create this leverage. Such control would instil some sense of certainty over land use decisions and help reduce development risk. Catalyst type developments are also a possibility. The private sector would generally favour private-public partnerships to drive these projects. This is to provide some transparency to the economics of the development. Totally publicly controlled development is eyed suspiciously by the private sector, which may think that the development was feasible because of availability of cheaper capital or other advantage not open to the private sector.

Areas selected for intensification need to have market pressure for this type of development, or at least market conditions that are conducive to development of market fundamentals. There is little point in trying to encourage intensive housing into areas where the market has no interest in such housing, or where it is only feasible by considerably lowering unit values. Currently the market does not place any value on proximity to town centres or public transport. This issue therefore raises the need for a much keener appreciation of development and redevelopment options. This has significant implications for the review of the ARGS and the location of nodes, especially in suburban areas. Issues of liveability and market desirability need to more strongly influence the locations selected for intensification, not just a focus on rail station or town centre access. This implies issues of views, and proximity to water and valued open spaces are equally important in the selection of areas for intensification.

Zoning and development controls within nodal areas need to reflect the fact that land holdings tend to be small and fragmented. Increasingly redevelopment is to be the only route for redevelopment. Density increases should be tied to site amalgamation. To overcome the additional risks associated with intensive development in suburban areas, greater certainty over resource consent procedures are required. In areas with marginal development economics, time lines associated with resource consent procedures can make or break a development. Some form of incentive or encouragement is needed for developers to mount development schemes, and the planning system can help to provide this certainty.

7 QUALITY ISSUES

This report has reinforced the importance of getting quality right. The importance of quality stems from two interlinked issues:

- In high priced inner city and coastal areas where values support quality intensive development, intensive housing is resisted by communities on the basis that it will be poor quality development, with the affected communities pointing to the lower quality suburban development as evidence of this. Consequently the process of redevelopment within inner areas is slowed.
- Lower quality development sees some sectors of the suburban market continue to perceive intensive housing as a secondary choice, limiting the size of the market, further entrenching its role as a market filler.
- The need to sell housing at a discount to surrounding housing, the advantages of being able to stage developments, as well as an untested market for apartments in suburban areas means that ‘squashed-up’ terrace house formats are favoured by developers in these areas, despite the fact that apartment-type developments would offer better living environments (living on one level, for example, more outlook) and better community outcomes (less building coverage, less sprawl).

The related quality issue is that market pressures will increasingly see apartments as the preferred form of housing development. This will be in response to the economies of redevelopment as well as buyer preferences. Apartments raise a much wider range of design issues than terrace housing in the minds of the community, but provided they are designed well, they can offer better design outcomes.

The delivery of quality built outcomes in the provision of medium and higher density housing must have regard to the following factors:

7.1.1.1 Funding

The funding of apartments by the retail banking and mezzanine finance tiers has the following effects: -

- Funding criteria require pre-construction sales, usually at a high percentage of the total. Criteria are indifferent to quality built outcomes. It is the volume and value of sales that is important.
- Significant pre-sales is no incentive to produce a quality product once construction commences.
- Value beyond sale is of no interest to the funders or developers who have no interest in long-term mortgage value.

- The provision of funds, which are solely project specific rather than responsive to the developer, provides opportunities for unsophisticated players to come into the market.

7.1.1.2 Purchasers

The typical purchaser of apartments has an effect on quality by:

- Investors are more concerned about return parameters than quality product. The investment market tends to be at the lower end of the value scale.
- There is still limited provision of family housing in the apartment sector as this sector can be more demanding of quality.
- Pre-sales tend to capture a sector of investors who on-sell prior to occupation in a bullish market and therefore have no interest in quality.
- Off plan sales capture a segment of the market that may lack the sophistication to ensure the quality of their purchase at this early stage.
- Guaranteed returns, bull markets and effective marketing can hasten decisions of buyers who lack discernment.
- The downstream impact of poor quality in terms of future investment value or in cost implications does not appear to be a major concern to purchasers.
- Purchasers driven by cost usually lack incentive to pay for quality or do not recognize such in their decision.
- There is no evidence of long-term housing players who hold to lease and therefore have a vested interest in quality and long-term value.
- Not a prevailing culture of tenants who rent by choice and therefore provide opportunities for larger investment players to acquire entire buildings

7.1.1.3 Tenure

The sale of apartments to multiple buyers on strata title has the following effect: -

- The effectiveness of body corporates can be tested when dealing with issues of quality particularly when there are structural problems.
- Apartments that are particularly directed at segments of the market which are itinerant or lack choice can produce poor outcomes.
- Apartments particularly directed at the rental market can provide poor quality outcomes.
- Multiple owners do not provide cohesion on quality requirements.

7.1.1.4 Developers

The supplier of apartments has a bearing on quality:

- Significant projects are developed by small players who may have no long-term incentive to maintain an image of suppliers of quality.
- Develop to sell as opposed to develop to lease/long-term hold has a major bearing on the view of quality and longevity in the market.
- Opportunists with little experience or long-term commitment can access funds on the pre-sales basis fairly simply.
- The competitive position in a small economy does not act effectively enough to drive out poorly performing sectors of the delivery process.
- There is probably a lack of skills amongst the developers, professions and builders within this new market in the region.

7.1.1.5 General

- Skills in managing apartments need to be improved.
- The development of commercial buildings for long-term ownership by investors such as property trusts or pension funds is a model for the provision of rental accommodation.
- Investment in large scale residential buildings by a single owner will drive improved quality and offer greater competition in the market.
- Cheap mortgage capital can have a positive and negative effect.
- Pressure on the professionals for fee reductions does not inspire good design and a commitment to quality building and outcomes.

8 Conclusions

The purpose of this report has been to discuss and identify market-based mechanisms that can be used to promote further nodal-based intensification in the Auckland Region, in accordance with the Auckland Regional Growth Strategy.

Intensification is taken to mean terrace and apartment type housing. Nodal-based development refers to intensive housing located in the areas identified by the ARGs for such growth. The focus of the report on market-based mechanisms reflects the point that to date, promotion of intensification has focused on regulatory tools (such as district plan zoning). Such approaches have met with a mixed response from the market place – significant intensification has occurred in some areas (not all of which are identified for such growth by the ARGs), while less growth has occurred in other areas identified for nodal growth. A better understanding of market dynamics is now needed to inform future policy decisions, in particular the forthcoming review of the growth strategy.

The report has been prepared at a time of rapid change in the Auckland regional property market. Rapid rises in property prices, as well as fast population growth and continuing structural changes in the make-up of the population, including the lifestyles that people wish to pursue, are seeing fundamental changes to the way residential development is perceived by the market place. The intensive housing segment of the market has grown rapidly to where it represents 35% of the total housing market. All the indications are that the size of the intensive housing market will increase, and it is possible that in the future intensive housing will be the housing market rather than a segment within it.

A critical issue for the region is to understand the lessons learnt from the first round of intensification that has occurred in the region (terrace-type housing), and to apply these lessons to the next round of intensification that is beginning to occur (apartment-type development). Currently the demand for apartments is in the inner areas, but at some stage in the future, this demand will spread to outer areas. As with the demand for terrace housing, development economics mean that this demand will be concentrated in some areas rather than others. Planning needs to respond to this.

It is apparent that within inner city areas and favoured coastal areas a process of redevelopment is well advanced, where the emphasis is now on apartment-type developments. The last 10 years has seen a process whereby intensification has shifted from infill through to terrace-type housing on brownfields land to a situation today where mid to high rise apartments are increasingly feasible. This process reflects changes in demand as well as development economics.

In outer (suburban) areas away from valued inner and coastal areas (and where the bulk of the population lives), the process of intensification is subject to different market pressures. In these areas, intensification is occurring and the market for intensive housing is more broadly based than in inner city areas – covering families as well as singles, couples and other household types. However, the market is much more price sensitive than in inner city areas, and to a certain extent the market is being driven by displaced demand – people who wish to

live in inner or coastal areas, but price and a lack of opportunities in these areas is forcing them to consider (often temporary) locations near to these areas.

In the long term, if the ARGS is to achieve its goal of a compact urban form, a much greater percentage of intensification will need to occur in both inner and suburban areas. The greatest challenge in the suburban areas - the market in the suburban areas cannot just rely on displaced demand from inner city areas. In particular, intensification will need to appeal to the large baby boom segment and, as is happening in inner areas, the transition away from terrace housing towards apartments will also need to be planned for.

Mechanisms to support the growth of the intensive housing market have to respond to the differences between these markets.

In favoured inner city and coastal areas, the main issues relate to expanding the supply of opportunities for intensive housing and better managing the quality of development in these areas. Stimulation of the market is not needed as there is already a substantial and growing market demand in these areas. The critical question for the ARGS is whether more intensification should be planned for in inner and coastal areas - do more and bigger nodes for growth need to be identified in these areas?

The available evidence would suggest that this needs to occur if the region is to reap the wider benefits of the current market pressure for redevelopment in these areas. If not, then the region will need to plan for a smaller proportion of the total housing market to be within the intensive category. This therefore implies adjustments to other elements of the growth strategy. A move to expand capacity in inner and coastal areas will require careful planning and such a move is likely to invoke substantial community debate. As part of this process, the design and quality of the housing product offered needs to be improved, but to a certain extent the market will do this anyway if demand remains high. A related issue is ensuring that opportunities that exist for intensive housing are protected for higher density development and are not instead consumed by lower density development.

In outer areas, the main issue is how to broaden the market for intensive housing. To a certain extent the strategy hoped that this would be a natural process as other housing opportunities 'dried up', and investment in rail and town centres created an incentive for people to live around hubs. Currently, there are substantial opportunities available in competing housing markets (infill, stand-alone housing, rural-residential housing) while the benefits of being close to rail or a town centre are not valued highly by the market place. In short, intensive housing has to compete against other housing types and it will only be in the medium to long term that other forces will come to bear that will improve the competitive position of intensive housing in suburban areas.

The price sensitivity of suburban intensive housing means that often the quality of development is reduced and other intensive housing formats, which offer better design solutions, such as apartments, are not pursued. The poor quality of development is leading to adverse outcomes at a regional level:

- In high priced inner city and coastal areas where values support quality intensive development, intensive housing is resisted by communities on the basis that it will be poor quality development, with the affected communities pointing to the lower quality suburban development as evidence of this. Consequently, the process of redevelopment within inner areas is slowed.

- Lower quality development sees some sectors of the suburban market continue to perceive intensive housing as a secondary choice, limiting the size of the market, further entrenching its role as a ‘filler’ of a gap in the market.
- The need to sell housing at a discount to surrounding housing, the advantages of being able to stage developments, as well as an untested market for apartments in suburban areas means that ‘squashed-up’ terrace house formats are favoured by developers in these areas, despite the fact that apartment-type developments would offer better living environments (living on one level for example, more outlook) and better community outcomes (less building coverage, less sprawl).

To increase the market demand for intensive housing in suburban areas will require substantial effort. Actions must involve a mix of regulatory and non-regulatory mechanisms. Generally these actions need to focus on increasing the demand for intensive housing, rather than increasing supply. Techniques that attempt to promote supply, such as reducing costs by lowering development contributions, rates reductions and land amalgamation for developers are not favoured – these actions will tend to support the current market position of intensive housing as a gap filler; they will not substantially grow the market. While not costed, there will also be financial limits to these techniques - there will never be sufficient public resources to stimulate the market to the size needed by these techniques.

Furthermore, techniques that attempt to ‘enable’ the market for intensive housing by ‘disabling’ other markets (such as restrictions in infill development in suburban areas, or less intensification in inner and coastal areas in the hope that this will stimulate demand in outer areas) are also not favoured. These are defensive strategies that will not create a ‘natural’ market for intensive housing.

There is growing evidence that many types of people are willing to consider intensive housing in suburban areas and the strategy must seek to reinforce and build on this trend. Current techniques such as structure planning and demonstration projects need to be extended, and complemented by actions that improve whole neighbourhoods. Addressing standards of schooling and crime rates are as valid as improvements to open spaces and streetscapes in this process.

There is also a need to educate people about the benefits of intensive living. There is an urban story that needs to be told. The ‘lifecycle costs’ of intensive housing versus other housing forms – the total saving to households of less travel, greater energy efficiency, as well as house maintenance and debt servicing associated with intensive housing need to be identified. Developers also need to start responding to the needs of end users rather than investors when designing developments.

At a regional or national level, further investigation into the market for intensive housing is therefore needed. Perceptions that intensive housing only appeals to single young people still linger, despite evidence to the contrary, while research into resale values and the impact on surrounding house values would help to address concerns about impacts on property prices. The establishment of an Urban Land Institute or equivalent organisation would assist with this process.

Turning to place-based techniques, all councils in the region are using a range of techniques to promote intensification in suburban areas. What this study has highlighted is the need to be much more targeted in these efforts. In the short term, it may be best for the region to concentrate efforts on only a handful of nodes. Some sort of regional redevelopment agency that could assist in these processes would be a significant step forward. A critical role for such

an agency would be to engender a degree of certainty of future land use and infrastructure changes in and around the nodes selected for intensification. This would help to reduce developer risk. Being able to participate in the market place through joint ventures would also be of assistance.

Finally, areas selected for intensification need to have market pressure for this type of development. There is little point in trying to encourage intensive housing into areas where the market has no interest in such housing, or where it is only feasible by considerably lowering value. Currently the market does not place any value on proximity to town centres or public transport. This issue therefore raises the need for a much keener appreciation of development and redevelopment options. This has significant implications for the review of the ARGS and the location of nodes. Issues of liveability and market desirability need to more strongly influence the locations selected for intensification, not just a focus on rail station or town centre access.

APPENDIX ONE

TRIGGER POINT ANALYSIS - GENERIC APPROACH

Introduction

The relationship between property value, density governed by planning, construction cost and land cost is complex and ever-changing. It is the complexities of these forces which the development market attempts to interpret to fulfil niche gaps which develop and therefore achieve improved development margins. An understanding of the dynamic between these variables is useful for longer term and regional planning, as it allows the profiling of areas into those requiring certain levels of density from a feasibility perspective.

By undertaking generic Trigger Point Analysis, we have graphed the relationship between the complex variables so any particular development location or circumstance can be identified within the confines of the graphical analysis.

Generic Analysis Outline

The approach has been to prepare development feasibility models and to use the sensitivity of variable inputs to create graphs which illustrate the relationship between the key components of the feasibility equation. These are land cost, retail property value and development density. Other key variables which have remained constant through the analysis include development cost, profit and risk margin, finance costs and development contributions.

Trigger Point Chart Interpretation

We have produced two generic trigger point charts each providing similar analysis although displaying two outcomes.

Chart 1 illustrates that at any given retail value per unit, land value is a function of development density, all other factors being equal.

Chart 2 illustrates that at variable densities of between 30 and 40 sites per hectare land value is a function of the retail value

of the unit.

We have provided specific trigger point interpretations on each graph, showing the outcome of a particular set of variables. The graphs have also pinpointed the underlying land value characteristics of each of the three case studies investigated. The graphs can be used to illustrate the following:

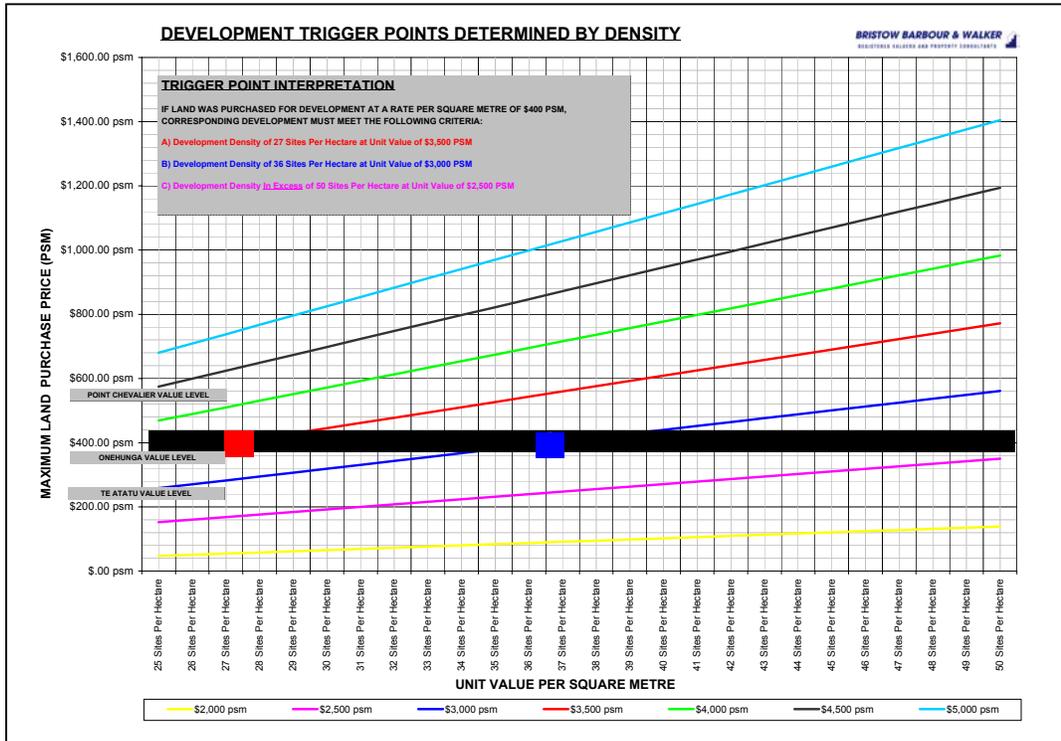
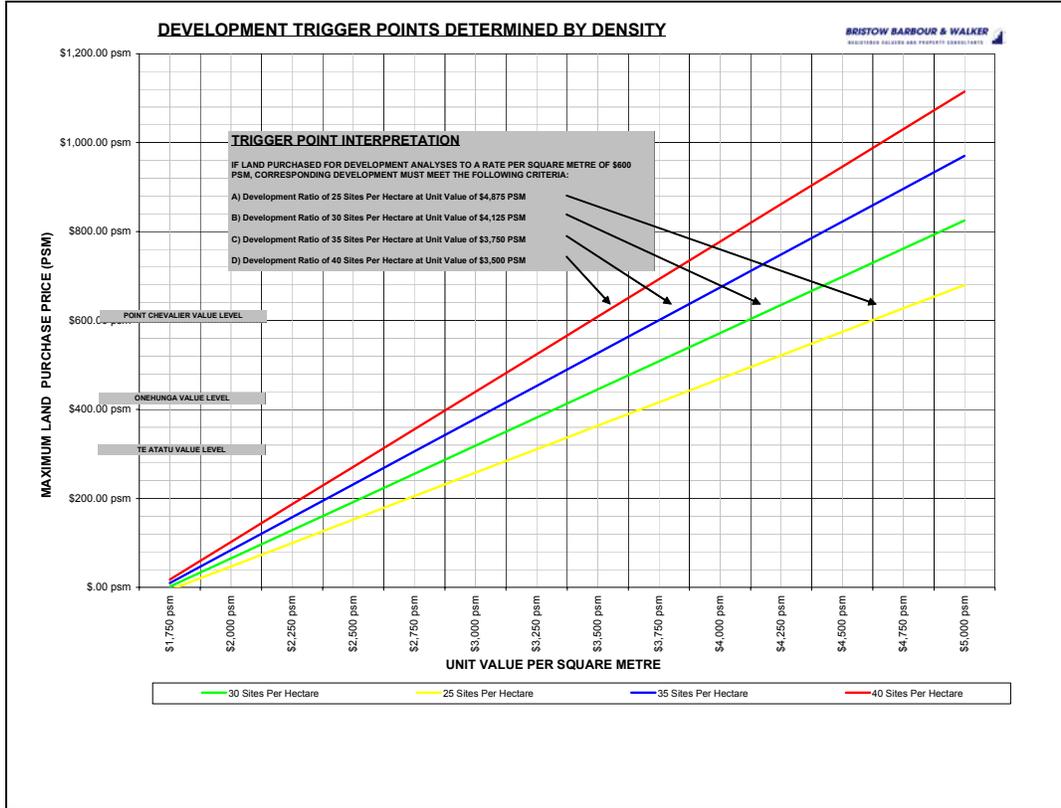
1. At a fixed land purchase price, what density is required, at a given retail unit value, to produce a feasible outcome.
2. At a fixed retail unit value and given variable density, the impact on underlying land value.
3. At a fixed density and land value, the retail unit value required to be achieved in order to develop feasibly.

Obviously there are inter-relationships between these key variables, and iterations based on combinations of variables. These graphs, however, are the clearest way to indicate the complex variable inter-relationship on a graphical and generic basis.

KEY FINDINGS

The key findings of the trigger point analysis are as follows: -

- At a density of 50 units per Ha an increase in sales value of \$500 psm allows for an increased land cost of \$200 psm. Correspondingly at 25 units per Ha an increase in sales value of \$500 psm allows for an increased land cost of \$115 psm.
- Assuming a fixed land cost, to achieve feasible development unit sales value must be \$ 4 875 psm for 25 units per Ha and \$3,500 psm at a density of 40 units per Ha.



APPENDIX TWO

Comparison of different forms of development

This table considers different styles of urban development.

Density (square metres) per house	Number of units per ha (gross)	Type of building	Total building coverage (sqm) per ha	Total site coverage (sqm) per ha	Total ground coverage (sqm) per ha	Green space (sqm) per ha	% of ha green space per ha
600	17	Stand-alone house	2,500	5,000	8,000	2,000	20%
250	40	Terrace house	3,000	6,000	9,000	1,000	10%
100	100	4-storey apartment	3,125	4,375	7,375	2,625	26%
50	200	10-storey apartment	2,500	3,500	6,500	3,500	35%

The diagrams on the following page display two forms of development on the same site. Current development involves 41 stand alone houses, covering 33% of the site. 47% of the site is in permeable surfaces. Population density is around 1 person per 172 sqm of site area. Impermeable area per person is 91 sqm.

The second example is of an apartment development. In this development, building coverage comes to 25% of the site, with permeable areas covering 50%. Population density is around 1 person per 28 sqm of site area. Impermeable areas equal 14 sqm per person.



Existing Site Development

Total Area 1.8796 ha
No. of Households 41
Average Occupancy rate 2.67
Average Population 109
Household Density 1 unit per 458m²

Areas	Dwelling Site Coverage	6280m ²	33.5%
	Impermeable Surfacing	3620m ²	19.0%
	Permeable Surface	8896m ²	47.5%
	Total	18796m²	100%



Areas	Building Coverage	25%
	Impermeable Surface	25%
	Permeable Surface	50%
	Total	100%

Multistorey Redevelopment

Total Site Area 1.8796 ha
Buildings 6 Storeys high with underground carpark
No of Households 246
Average Occupancy Rate 2.67
Average Population 656
Household Density 1 Unit per 75m²