



External Research Report
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Can Work, Cannot Afford to Buy the Intermediate Housing Market

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Livingston and Associates Ltd funded by the Building Research Levy





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RESEARCH REPORT

Can Work, Cannot Afford to Buy the Intermediate Housing Market

Research Funded by BRANZ
from the Building Research Levy

August 2015

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Preface

This research proposal will improve the understanding of BRANZ's third objective within their Industry Research Strategy – "Meeting the housing needs of New Zealanders and housing affordability". The relative size of the intermediate housing market is an important indicator of first home buyer affordability and represents a growing part of our society. Understanding the attributes and characteristics of this segment of the housing continuum and how they have changed over time will assist policy and decision makers and councils develop strategies to assist this segment of our communities.

Acknowledgements

Livingston and Associates would like to acknowledge BRANZ's support in funding this research project via the Building Research Levy. In addition, we are grateful to the constructive comments provided by the research reference group.

Intended Audience

The growth in the intermediate housing market has implications for both central and local government. There are fiscal implications for central government as the housing market impacts on housing support policies such as the accommodation supplement. Trends within this segment will also provide local government with an indication of the relative affordability of their housing markets and the impact their policies and planning environment has on an area's housing outcomes. Consequently the results of this research will be of interest to both potential social housing providers and government agencies with an interest in the sector. These include The Treasury, Ministry of Business, Innovation and Employment, Ministry of Social Development, and Housing New Zealand Corporation.

Reference

Livingston and Associates Ltd. (2015). Can Work, Cannot Afford to Buy – The Intermediate Housing Market. A Research Report Funded by BRANZ under the Building Research Levy.

Abstract

The intermediate housing market¹ is the fastest growing segment of the housing continuum and focuses on the households, who, under current market conditions, are unable to purchase a dwelling. The number of households in the intermediate housing market has increased over the past 24 years by approximately 102% nationally and 182% in the Auckland region. There are now 181,500 intermediate households nationally and 85,400 of these are located in Auckland. Growth in the size of the intermediate market has not been evenly distributed around the country. A total of 47% of all intermediate households are now located in Auckland compared to 34% in 1991 and 37% in 2001.

The size of the intermediate market has increased despite interest rates falling. The increase has been driven by an increase in the size of the rental market and house prices increasing at a faster rate than household incomes. Between 2006 and 2015, the faster growth in house prices over household incomes accounted for 81% of the growth in Auckland's intermediate housing market.

Looking forward over the next decade, an increasing proportion of Auckland's renters are likely to be priced out of the home ownership market if house prices continue to increase at a faster rate than household incomes. To some extent the current low interest rates have masked Auckland's deterioration in housing affordability. The proportion of renters unable to purchase a dwelling significantly increases if interest rates return to their long term average.

Report Peer Review

Note: We did not include a peer review in the research proposal. Rather we, on BRANZ's suggestion, included a reference group.

¹ The intermediate housing market is defined as private sector renter households with at least one member in paid employment who are unable to affordably (using no more than 30% of their gross household income to service mortgage expenses) purchase a dwelling at the lower quartile house sale price.

1. Executive Summary

The aim of this research is to improve understanding of trends in the intermediate housing market in New Zealand and to investigate the market and policy implications of these trends. The objective of this research is to profile and size the nature of the intermediate housing market in New Zealand and ways it may develop over the next 16 years to 2031.

The size of the intermediate housing market, in both absolute terms and relative to the total private rental market, is one measure of housing affordability for first home buyers. In the context of this report the intermediate housing market is defined as households:

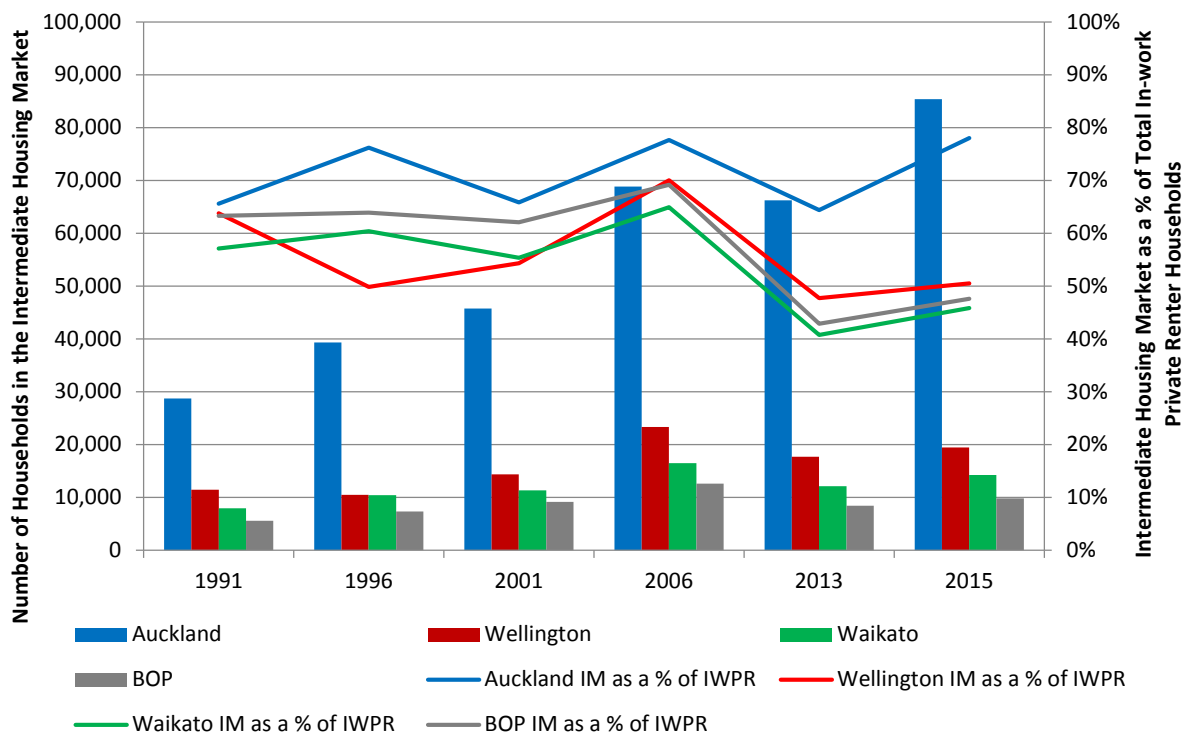
- Currently in the private rental market;
- That have at least one member of the household in paid employment; and
- That cannot afford to buy a house at the lower quartile house price under standard bank lending criteria².

The number of households in the intermediate housing market has increased over the past 24 years by approximately 102% nationally and 182% in the Auckland region. There are now 181,500 intermediate households nationally and 85,400 of these are located in Auckland. A total of 47% of all intermediate households are located in Auckland compared to 34% in 1991 and 37% in 2001. The size of the intermediate market has increased despite interest rates falling. This increase has been driven by an increase in the size of the rental market and house prices increasing at a faster rate than household incomes. Between 2006 and 2015, the faster growth in house prices over household incomes accounted for 81% of the growth in Auckland's intermediate housing market.

Post global financial crisis some of the imbalances which resulted in the growth in the intermediate market between 2001 and 2006 eased. Figure 1.1 presents the trend in the number of intermediate housing market households in Auckland, Waikato, Bay of Plenty and Wellington regions together with the ratio of intermediate housing market households to in-work private renter households. Scenario 2 was selected for this comparison as it included both the long term average interest rates and house price growth rates.

² For the purposes of this analysis bank lending criteria is assumed to include; a 10% deposit, no more than 30% of the household's gross income paid in mortgage expenses.

Figure 1.1: Intermediate Housing Market Households and the Ratio to In-Work Private Renter Households in Auckland, Waikato, Bay of Plenty and Wellington Regions



Sourced: Modelled from data sourced from Corelogic, MBIE, RBNZ, and Statistics New Zealand

In Auckland, the intermediate market as a proportion of in-work private sector renters increased to 78% in 2015 while Wellington, Waikato and Bay of Plenty all experienced a significant decline between 2006 and 2013 and only a small increase between 2013 and 2015. The key difference between Auckland and the three other regions was the growth in house sale prices between 2006 and 2015.

Intermediate renters have become a more diverse group incorporating more households consisting of couples-with-children and older renters. Increasingly the people living in these households are typically employed in higher paid occupations such as managerial positions and in white collar professions. As these households remain in the market for longer they have the potential to out-compete other households. This means that there is a real possibility that those households that have traditionally relied on the private rental sector could be increasingly marginalised as fewer households transition to owner occupation. The housing circumstance of these households could become more problematic and may result in increased overcrowding and increased demands for housing assistance.

There is a number of key variables which will impact on the future size of the intermediate housing market and these include:

- The growth in the number of households in each housing market was assumed to increase in line with Statistics New Zealand medium growth scenario and current pattern of tenure change continues through to 2031;
- Household incomes were assumed to grow at 3.5% per annum;
- Both the current level of mortgage interest rates³ and their 10 year average; and
- House price growth scenarios used included the housing markets' average annual rate over the last 25 years, 5.0% per annum, 3.5% per annum and 1.5% per annum.

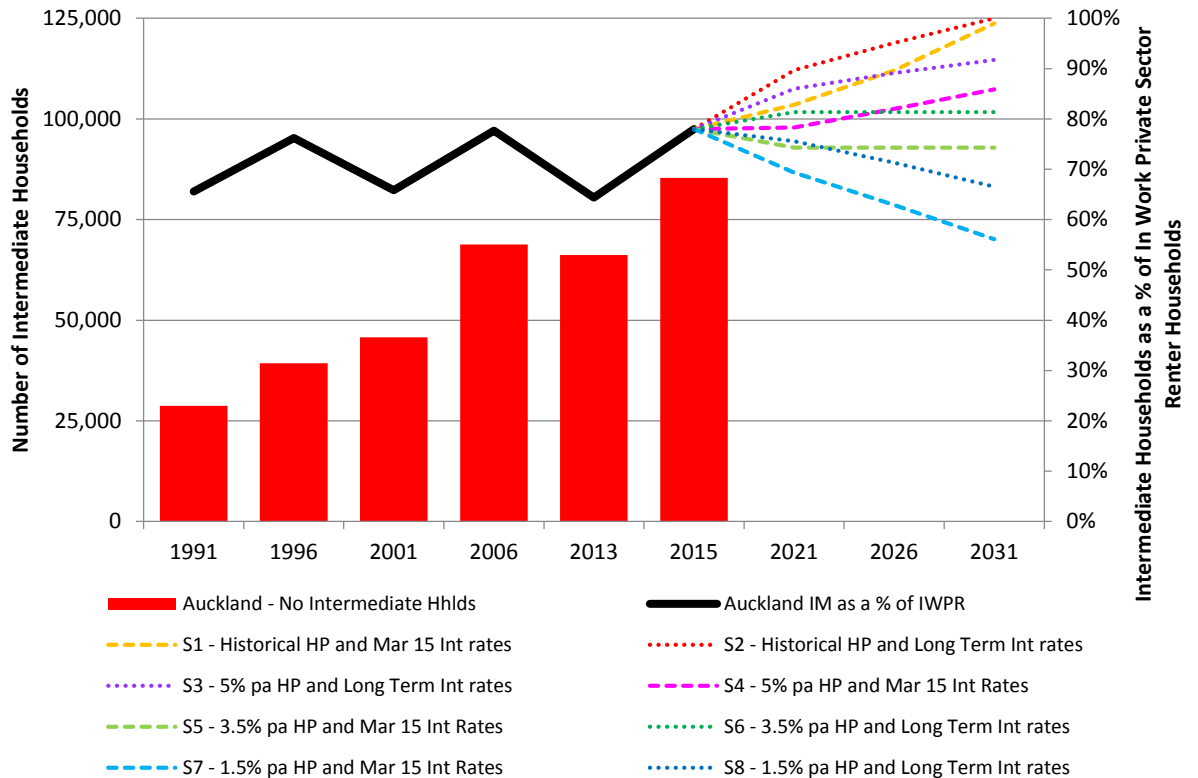
A total of eight different scenarios were modelled (4 house price variations combined with two different interest rates while the assumptions around population growth and household income were held constant). Scenario 2 produced the strongest growth in the intermediate market. This assumed house prices increased at their long term historical average and interest rates increased to their 10 year average. Although there was considerable regional variation in the outcomes of the analysis (intermediate to in-work private sector renters ratio), in all regions, (with the exception of Auckland) the ratio remained within their historical ranges between 2015 and 2031. Typically Auckland has had higher ratios (intermediate households to in-work private sector renter households), implying housing is less affordable for renters to buy than other regions.

Under the majority of the scenarios an increasing proportion of Auckland's renters were priced out of the home ownership market. The relationship between growth in household incomes relative to the growth in house sale prices was the key determinant of the long term outcome. To some extent the current low interest rates have masked Auckland's deterioration in housing affordability. The proportion of renters unable to purchase a dwelling significantly increases if interest rates return to their long term average.

Figure 1.2 presents the trend in the ratio of intermediate market to total in-work private sector renters in Auckland under all eight scenarios.

³ Fixed first mortgage interest rate for new customers.

Figure 1.2: The Ratio of Intermediate Housing Market to Total In-work Private Sector Renters in Auckland



Source: Modelled based on data from Statistics New Zealand, Corelogic, RBNZ

If house prices increase at a faster pace than household incomes at best the current ratio of intermediate market households to total in-work private sector renters will remain constant and even under these assumptions interest rates need to remain at their current levels to achieve this outcome. Auckland's historical rate of house price growth is 6.5% per annum. In the year to March 2015 Auckland's house prices increased by 14.9% and anecdotal evidence suggests that the rate of growth has not slowed since. This implies Auckland renters are rapidly being priced out of the market with an unsustainable market dynamic developing. One potential outcome could be further significant declines in the rate of owner occupation (home ownership rate) as higher income households remain renters for longer.

Clearly the current market trends in Auckland are unsustainable. The objective of the scenarios is not to forecast the future rather the goal is to give an insight into potential market outcomes taking into account variation in key market drivers. Ultimately, if dwellings are to become more affordable to private sector renters, house prices have to increase at a lower rate than household incomes. An increase in the supply of more affordable smaller dwellings in different dwelling typologies could assist with this adjustment.

The growth in the intermediate housing market and need for adequate affordable housing has implications for economic development. Failure to provide adequate, affordable, local housing options for those in the intermediate housing market can impact upon not only the efficiency of the local labour market and in particular labour availability, but also can lead to sub-optimal settlement and commuter patterns.

The economic consequences of a growing intermediate housing market for the mainstream economy include the growing inability of workers in “essential” occupations such as police, nurses and teachers to buy in areas in which they work. Again, failure to provide the desired local housing options for these “key workers” can impact upon the efficiency of the local labour market and in particular labour availability in these key occupations.

Declines in renters’ ability to purchase dwellings and subsequent falls in home ownership rates impact on the traditional notions of housing careers. Increasingly renter households are unable to transition to home ownership. Over the last two decades New Zealand has done well increasing the supply of the dwellings in the private rental stock at a pace which has limited the growth in rents to close to the rate at which household incomes have been increasing. To some extent Government has achieved this by not overly regulating the market. Changes in regulations focused on the private rental market could potentially slow the growth in the private rental housing stock and consequently have a positive impact on the rate of growth in rents.

The breakdown of the traditional housing pathway in Auckland is likely to result in a growing number of households who will never attain home ownership. Renter households on fixed incomes, particularly those with people aged 65 years and older, are particularly vulnerable to changes in the level of market housing costs (rents). Consequently one of the issues in need of consideration is how to ensure that there is appropriate affordable housing available to these households. In addition the growth in the number of renter households could place ongoing pressure for the accommodation supplement.

Traditionally, home ownership and the stability it provides has been associated with a range of positive educational, health and social outcomes. A key challenge for government housing policy is how, in the context of a growing intermediate housing market, with growing numbers of life-long renters, these benefits might also be secured by those unable for reasons of affordability to secure home ownership.

Home ownership has also been one of households' key wealth building strategies. Growth in the intermediate housing market limits the ability of those households (in the intermediate housing market) ability to save and accumulate wealth for old age via home ownership. This has implications for the quantum and type of consumption support Government may have to provide during old age for those confined for most of their lives to the private rental market.

Many of the factors contributing to housing affordability problems arise within the housing system such as the failure to provide an adequate supply of well-located affordable housing. Other contributing factors arise from outside the housing system and housing policy settings. There are no easy answers in developing the appropriate policy responses to these trends, particularly in an Auckland context. It is important that future policy development considers their impact on the housing market whether it relates to issues directly associated with the housing market or in a more general economic context.

2. Introduction

The objective of this section of the report is to present the results of our analysis of the intermediate housing market. The intermediate housing market is a relative measure of the affordability of housing for first home buyers. The intermediate housing market is defined as those households:

- Currently in the private rental market;
- That have at least one member of the household in paid employment; and
- That cannot afford to buy a house at the lower quartile house price under standard bank lending criteria.

Household income as a demographic characteristic across the intermediate housing market has not been considered as income is implicit in the intermediate housing market calculation.

First, we present an overview of the key trends in the intermediate housing market. In addition to the number of in-work private renter households unable to affordably buy at the low quartile house price (intermediate housing market households), the number of households unable to affordably pay the lower quartile, median and upper quartile rents and unable to affordably buy at the median house sale price are also identified. Second, the trends in the intermediate market at a sub national level are presented along with their demographic characteristics for 2001, 2006 and 2013. This analysis is based on census data. The household demographic characteristics included in the analysis are age of the reference person, household composition and the occupation group of the reference person. The projected growth in the intermediate housing market is also discussed under a range of scenarios. Last, the implications of these trends in a housing market and policy context are discussed.

3. The Intermediate Housing Market

3.1 Introduction

The objective of this section of the report is to provide an overview of key trends in the intermediate housing market and includes:

- Definition of key terms;
- Trends in the size of the intermediate housing market; and
- Affordability trends for in-work private sector renters.

3.2 Definition

There is a number of key terms used in this report. They are defined as follows:

- Ability to “affordably” rent or buy a dwelling;
- Intermediate housing market; and
- Sub-groups within the housing continuum.

The Ability to Affordably Rent or Buy a Dwelling

In the context of this report the ability of a household to “affordably” rent or buy a dwelling assumes no more than 30% of gross household income from all sources is used to meet its housing costs whether they rent or service a mortgage. Consequently housing is unaffordable when households are spending more than 30% of their gross household income to meet their housing costs whether it’s paying the lower quartile rent, or servicing a mortgage as a consequence of buying at the lower quartile house sale price.

Intermediate Housing Market

The concept of the intermediate housing market was developed in the United Kingdom largely by Stephen Wilcox of the Centre for Housing Policy at the University of York. He published a number of reports between 2003 and 2010 which developed the concept which focusing on the geographical distribution of affordable and unaffordable housing and the ability of working households to become home owners. DTZ (2008) adopted this approach to housing affordability analysis and adapted it to a New Zealand context taking into account data availability. DTZ defined the intermediate housing market in a New Zealand context as “*private renter households with at least one person in paid employment, unable to affordably purchase a house at the lower quartile house sale price for the local authority area at standard bank lending conditions.*”

Standard bank lending conditions were defined as a 25 year table mortgage assuming no more than 30% of the household's gross income is used to service the debt, a 10% deposit, and the one year fixed mortgage interest rate. A 10% deposit rate was used to ensure the 2013 results were comparable with previous reports.

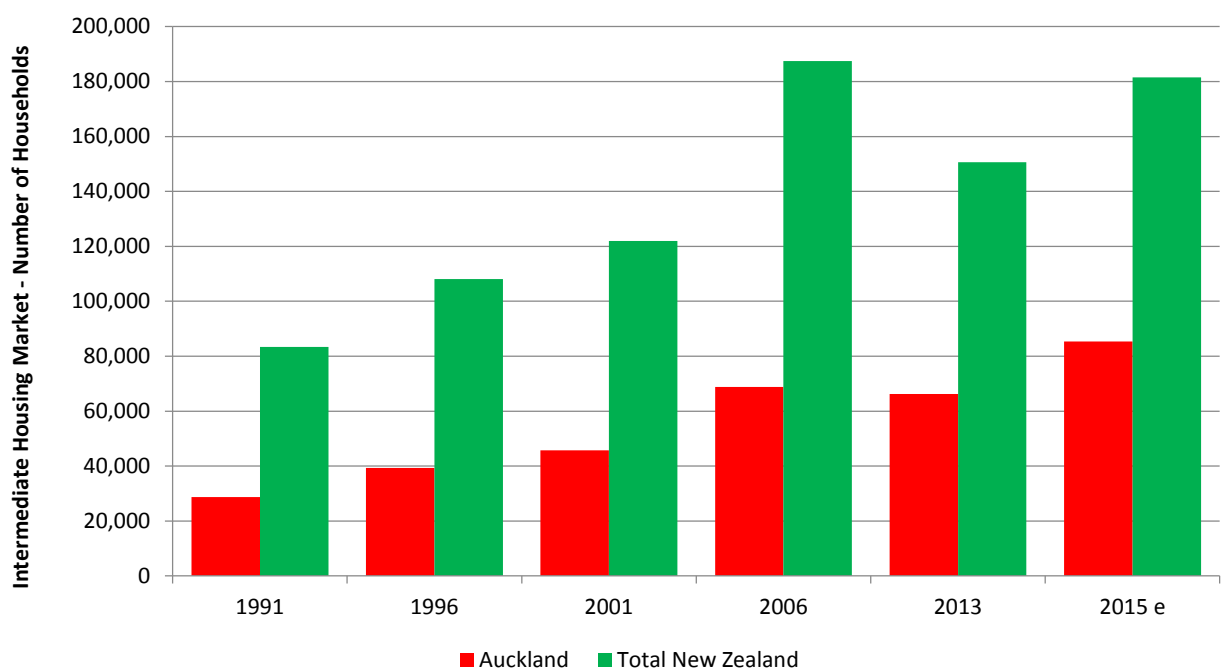
Sub-Groups within the Housing Continuum.

There is a number of ways in which households can be divided into different sub-groups to analyse the housing continuum, from social renters at one end of the spectrum to owner occupied households at the other. In the context of this report the housing continuum is divided into a number of sub-groups based on, tenure (social renters, private sector rents, and owner occupied households), their ability to affordably pay lower quartile, median or upper quartile rent or purchase a dwelling at the lower quartile or upper quartile house sale price.

3.3 Trends in the Intermediate Housing Market

The number of households in the intermediate housing market has increased over the past 24 years by approximately 102% nationally and 182% in the Auckland region. There are now 181,500 intermediate households nationally and 85,400 of these are located in Auckland. Figure 3.1 presents the trends in the size of the intermediate housing market nationally and in the Auckland region between 1991 and 2015.

Figure 3.1: Intermediate Housing Market 1991 to 2015



Sourced: Modelled from data sourced from Corelogic, RBNZ, and Statistics New Zealand

The proportion of intermediate households located in the Auckland region has increased from 34% in 1991 to 48% of the national total in 2015.

The number of intermediate renter households fell between 2006 and 2013 by 36,800. A number of factors influenced the decline. Interest rates fell from 9.55% in March 2006 to 5.86% in March 2013 and household incomes also increased over the seven years between 2006 and 2013. Both of these drivers had a downward impact on the number of intermediate renter households. A number of other drivers had a positive impact on the size of the intermediate market. Population growth and the fall in the home ownership rate both increased the number of intermediate households. At the same time lower quartile house sale prices increased by 25% (on average) between 2006 and 2013.

Table 3.1 presents analysis of the quantum of the impact of the key drivers of the change in the size of the intermediate housing market between 2006 and 2015.

Table 3.1: Key Drivers of the Change in the Size of the Intermediate Housing Market 2006 to 2015

Driver	Change in the Number of Intermediate Households			
	New Zealand		Auckland	
	06 to 13	13 to 15	06 to 13	13 to 15
Growth in total households	+12,400	+3,600	+5,600	+2,800
Growth as a result of tenure change (excluding population growth)	+18,700	+5,500	+5,000	+2,400
Change in interest rates	-44,800	+13,500	-16,700	+4,100
House sale price appreciation	+33,400	+20,600	+22,600	+14,100
Income growth and change in distribution	-56,500	-12,300	-19,200	-4,200
Total change	-36,800	+30,900	-2,700	+19,200

Key trends include:

- The fall in interest rates and growth in household income between 2006 and 2013 more than offset the impact of house sale price appreciation, population growth and a fall in homeownership rates on the size of the intermediate housing market;
- The majority of the positive impact of house sale price appreciation (86% of the total) resulted from the escalation of house sale prices in Auckland;
- Growth in the size of Auckland's intermediate market between 2013 and 2015 account for 62% of the national increase.
- Between 2013 and 2015, house price appreciation account for 73% of the growth in the intermediate market in Auckland and 67% nationally.

3.4 Affordability Trends for In-work Private Renters

The intermediate housing market reflects only one portion of the housing continuum. Figure 3.2 presents a more detailed view of the housing continuum.

Figure 3.2: The Housing Continuum

Social Renters	Private Renters							Owner Occupiers
	Not in-work	In-work						
		Unable to affordably					Able to affordably	
		Pay rent at the			Buy at			
		lower quartile	median	upper quartile	lower quartile house sale price	median house sale price	buy at median house sale price	
Social Renters	Not in-work Private renters	The Intermediate Housing Market				Relatively Well Off Private Sector Renters		Owner Occupiers

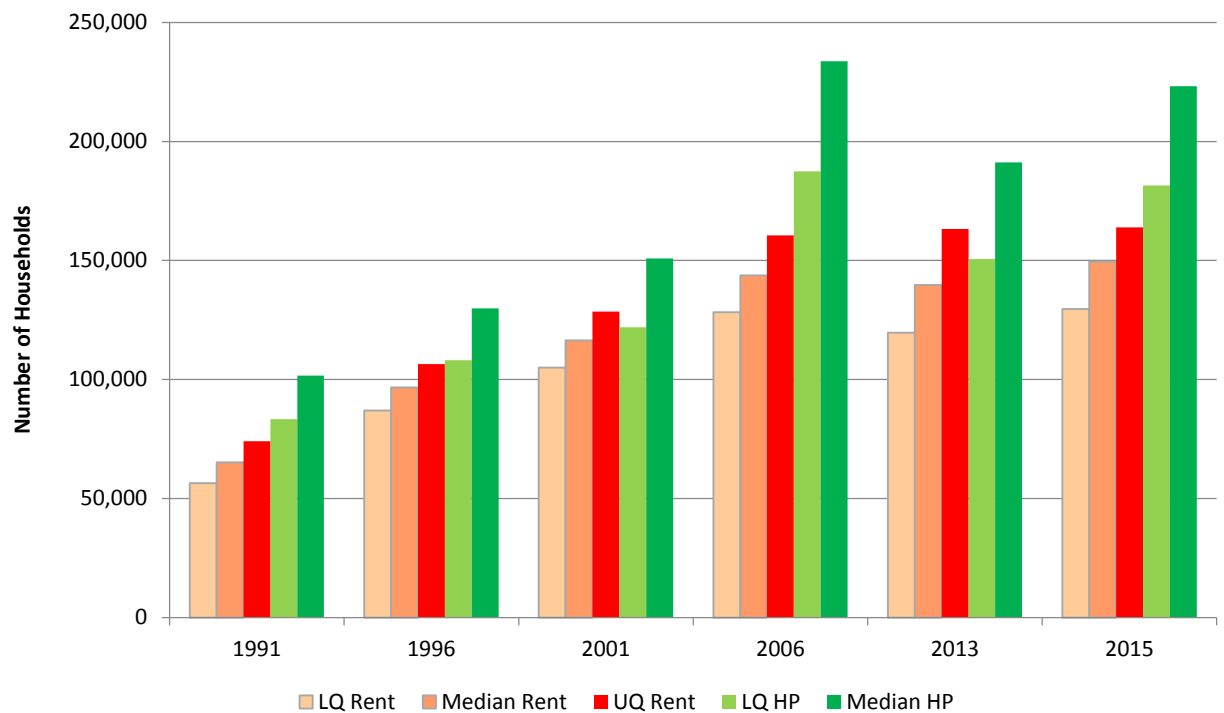
NB: Note that this diagram is not to scale and does not represent the relative size of each sub group

Analysis of these different groups within the housing continuum can provide additional insight into the relative affordability of rents and house prices in different locations around the country.

Figures 3.3 and 3.4 present the number of private renter households, with at least one person in paid employment, who are unable to affordably⁴ pay lower quartile rent (LQ), median rent, upper quartile rent (UQ) or buy a dwelling at the lower quartile house price (LQHP) or median house price (median HP) nationally (all regions combined) and in the Auckland region respectively.

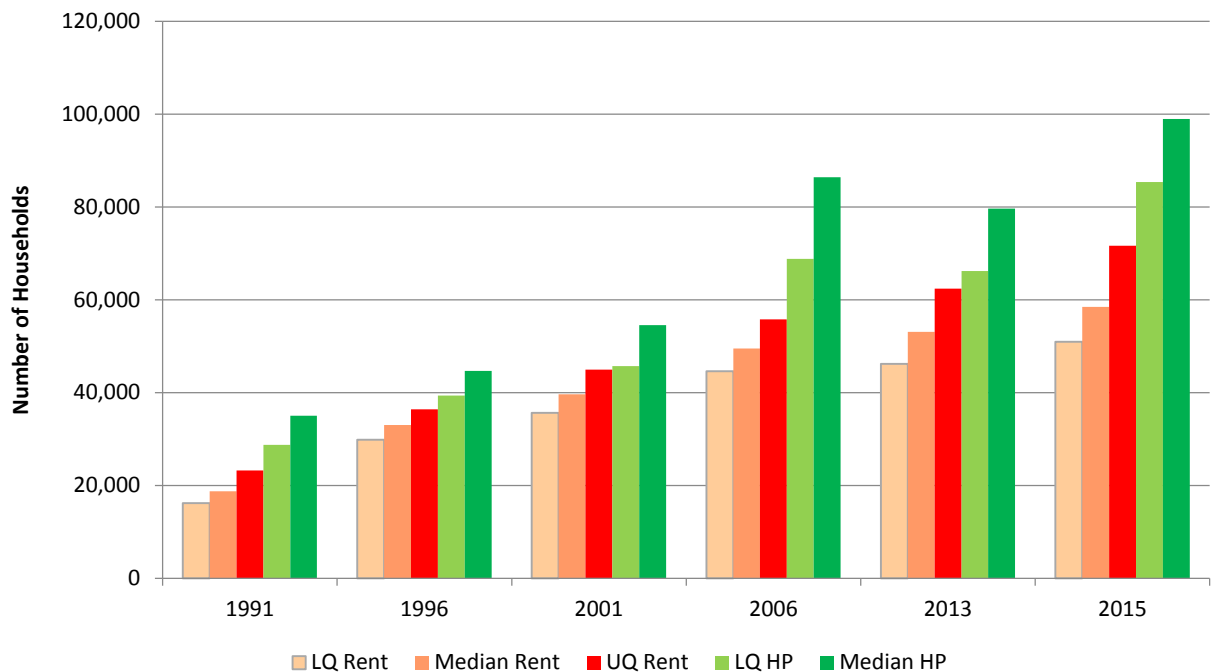
⁴ Affordably pay is defined as paying no more than 30% of their household income in either rent or mortgage servicing.

Figure 3.3: New Zealand – Housing Continuum 1991 to 2015



Sourced: Modelled from data sourced from Corelogic, MBIE, RBNZ, and Statistics New Zealand

Figure 3.4: Auckland Region – Housing Continuum 1991 to 2015

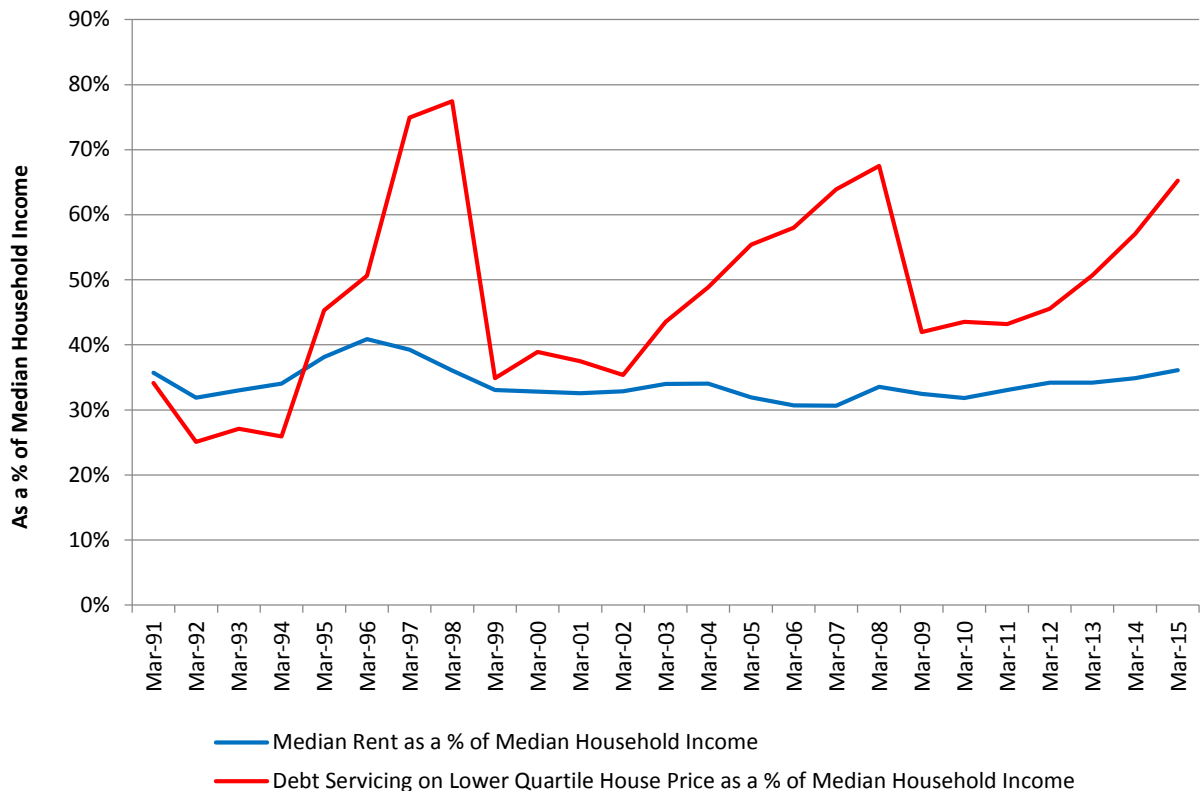


Sourced: Modelled from data sourced from Corelogic, MBIE, RBNZ, and Statistics New Zealand

Nationally the size of the intermediate housing market fell from 187,400 households in March 2006 to 150,600 in March 2013 and then increased to 181,500 by March 2015, in total a decline of 5,900 households. However over the same time period the number of private sector renter households unable to affordably pay the median rent for a three bedroom dwelling increased from 143,700 in March 2006 to 149,500 by March 2015. This represents a 4% increase over the 9 years to 2015. The Auckland region followed a similar trend although the decline in intermediate households between 2006 and 2013 was significantly smaller and the subsequent increase from 2013 to 2015 was higher. In Auckland the number of private sector renter households unable to affordably pay the median rent for a three bedroom dwelling increased from 49,500 in March 2006 to 58,500 by March 2015. This represents an 18% increase over the 9 years to 2015. Over the same time period the number of intermediate households increased by 24,400 households or 24%.

Figure 3.5 presents Auckland's median market rent for a three bedroom house and the debt serving on the purchase of a dwelling at the lower quartile house sale price as a percentage of median household income in Auckland between 1991 and 2015.

Figure 3.5: Median Rent and Debt Servicing on the LQ House Price as a Percentage of Median Household Income in the Auckland Region 1991 to 2015



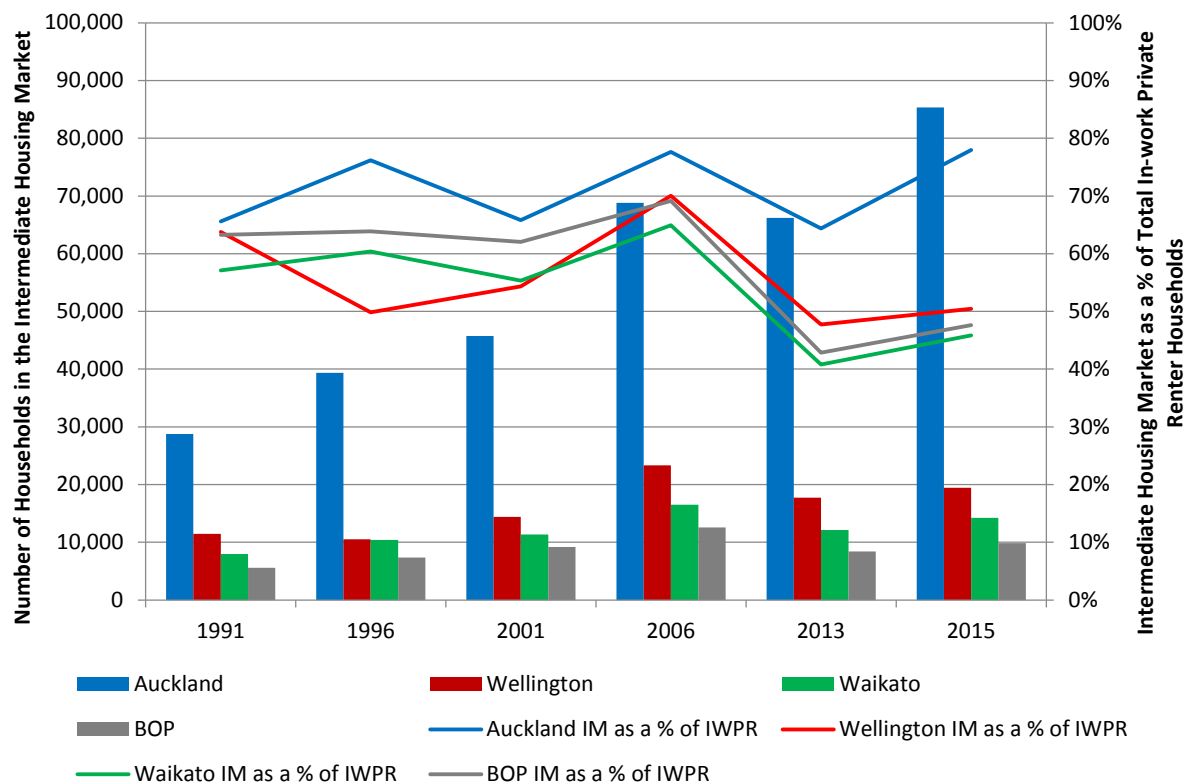
Sourced: Modelled from data sourced from Corelogic, MBIE, RBNZ, and Statistics New Zealand

Median rents as a percentage of median household income have been relatively stable when compared to the variation in debt servicing on a dwelling priced at the lower quartile house sale price as a percentage of median household income. The large variation in debt servicing as a percentage of household income reflects the variation in interest rates and periods when the escalation in house sale prices have varied from the growth in household incomes.

There has been a slow, steady increase in median rents as a percentage of median household incomes, 31% in March 2007 to 36% in March 2015. To some extent, the lack of regulation in the market by Government may have assisted with the ability of the market to increase the stock of units available for rent which has tempered the impact on rental affordability. This of course does not imply that a proportion of low income individuals and families do not have significant rental affordability issues and crowd together (effectively increasing their household income) so they can afford the housing costs or that the quality of the housing is suitable.

Figure 3.6 presents the trend in the number of intermediate housing market households in Auckland, Waikato, Bay of Plenty and Wellington regions together with the ratio of intermediate housing market households to in-work private renter households.

Figure 3.6: Intermediate Housing Market Households and the Ratio to In-Work Private Renter Households in Auckland, Waikato, Bay of Plenty and Wellington Regions



Sourced: Modelled from data sourced from Corelogic, MBIE, RBNZ, and Statistics New Zealand

Auckland's intermediate market as a proportion of in-work private sector renters increased to 78% in 2015 while Wellington, Waikato and Bay of Plenty all experienced a significant decline between 2006 and 2013 and only a small increase between 2013 and 2015. The key difference between Auckland and the three other regions was the growth in house sale prices between 2006 and 2015.

4. Sub-National and Demographic Trends in the Intermediate Housing Market

4.1 Introduction

The objective of this section of the report is to present the detailed analysis of the intermediate housing market by region and demographic characteristics between 2001 and 2015. The analysis initially presents the results by region followed by additional analysis by region and demographic characteristics and includes:

- Trends in the number of intermediate households (IH) by region, the number of IH households as a percentage of in-work private sector renter households (IWPSRH) and as a percentage of all households in the region;
- Age of the reference person;
- Household composition;
- Age and household composition;
- Occupation; and
- Distribution of intermediate households within key urban areas.

4.2 Intermediate Housing Market by Region

The relative size of the intermediate housing market varies by region. The relativities of household income, house prices and the size of the in-work private sector renters within the housing continuum all are important drivers. In addition, variations in interest rates also play a key role.

Table 4.1 presents the trend in the intermediate housing market by region in 2001, 2006, 2013 and 2015 and includes the number of households as well as the intermediate housing market as a percentage of in-work private sector renter households and all households.

Table 4.1: The Intermediate Housing Market by Region 2001 to 2015

Region	Intermediate Households (IH)				IH as a % of IWPRH ⁵				IH as a % of all Households			
	2001	2006	2013	2015	2001	2006	2013	2015	2001	2006	2013	2015
Northland	4,000	5,100	3,600	4,000	59%	61%	42%	45%	8%	9%	6%	7%
Auckland	45,700	68,800	66,200	85,400	66%	78%	64%	78%	12%	16%	14%	18%
Waikato	11,300	16,500	12,100	14,300	55%	65%	41%	46%	9%	12%	8%	9%
BOP	9,200	12,600	8,400	9,900	62%	69%	43%	48%	11%	13%	8%	9%
Gisborne	900	1,400	700	800	41%	56%	26%	26%	6%	9%	5%	5%
Hawkes Bay	4,200	6,100	4,100	4,500	55%	69%	42%	44%	8%	11%	7%	8%
Taranaki	2,100	3,400	2,500	2,800	40%	57%	37%	40%	5%	9%	6%	7%
Man- Wanganui	4,900	7,800	4,600	4,900	40%	53%	31%	33%	6%	9%	5%	6%
Wellington	14,400	23,300	17,700	19,400	54%	70%	48%	50%	9%	14%	10%	11%
Tasman	1,300	2,100	1,700	1,900	68%	84%	65%	70%	9%	13%	9%	10%
Nelson	1,700	2,700	2,000	2,200	61%	81%	59%	63%	11%	16%	11%	12%
Marlborough	1,000	1,400	1,200	1,300	53%	58%	45%	46%	7%	9%	7%	7%
West Coast	300	700	400	500	23%	38%	22%	22%	3%	6%	3%	3%
Canterbury	15,100	24,700	17,900	21,500	54%	72%	47%	54%	8%	12%	9%	10%
Otago	4,600	8,800	6,100	6,900	41%	65%	43%	46%	7%	12%	8%	9%
Southland	1,000	1,800	1,100	1,200	22%	37%	19%	19%	3%	5%	3%	3%
Total	121,900	187,400	150,600	181,500	56%	70%	50%	57%	9%	13%	10%	11%

Sourced: Modelled from data sourced from Corelogic, MBIE, RBNZ, and Statistics New Zealand

Intermediate households as a percentage of in-work private sector renters provides a relative measure of home buyer affordability for renter households. As the percentage of intermediate households increase, the relative affordability declines. Auckland region's affordability is currently (as at 2015) comparable with 2006 and is the only region where affordability has not improved over this time period. The regions with the next least affordable housing ratios are Tasman and Nelson regions. Gisborne, West Coast, and Southland regions had the most affordable housing ratios in 2015.

⁵ IWPSRH – In-work private sector renter households

4.3 Age of Household Reference Person

Table 4.2 presents the trend in the number of intermediate households by age of the household reference person for 2001, 2006, and 2013.

Table 4.2: Intermediate Housing Market by Household Reference Person's Age

	2001		2006		2013	
	Households	% of Total	Households	% of Total	Households	% of Total
Total New Zealand						
Less than 30 years	44,200	36.3%	61,900	33.0%	41,300	27.4%
30 to 39 years	37,400	30.7%	56,700	30.3%	40,400	26.8%
40 to 49 years	23,200	19.0%	39,000	20.8%	34,300	22.8%
50 to 64 years	15,000	12.3%	25,600	13.7%	28,500	18.9%
Over 65 years	2,100	1.7%	3,900	2.1%	6,100	4.1%
Total	121,900	100.0%	187,400	100.0%	150,600	100.0%
Auckland Region						
Less than 30 years	14,100	30.9%	20,000	29.1%	16,500	25.0%
30 to 39 years	15,200	33.3%	22,500	32.7%	19,100	28.9%
40 to 49 years	9,400	20.6%	15,300	22.2%	16,100	24.4%
50 to 64 years	6,000	13.2%	9,400	13.7%	11,800	17.9%
Over 65 years	900	2.0%	1,600	2.3%	2,600	3.9%
Total	45,600	100.0%	68,800	100.0%	66,100	100.0%

Nationally, between 2001 and 2006 the number of intermediate households increased in all age groups. However between 2006 and 2013, only households with reference people aged 50 years and over increased. Households with reference people aged 39 years or younger declined from 67.0% of all intermediate households to 63.3% in 2006 and 54.2% in 2013. This represents a total combined fall of 12.8 percentage points.

Auckland region followed a similar trend. The proportion of intermediate households aged less than 39 years of age fell from 64.2% in 2001 to 61.8% in 2006 and 54.7% in 2013, a fall of 9.5 percentage points between 2001 and 2013.

4.4 Household Composition

Table 4.3 presents the trends in the number of intermediate households by household composition for 2001, 2006, and 2013.

Table 4.3: Intermediate Housing Market by Household Composition

	2001		2006		2013	
	Households	% of Total	Households	% of Total	Households	% of Total
Total New Zealand						
Couples without children	18,300	15.0%	38,700	20.7%	27,800	18.5%
Couples with children	23,500	19.3%	45,000	24.0%	37,000	24.6%
One parent	26,800	22.0%	32,300	17.2%	30,600	20.3%
One person	41,800	34.3%	49,100	26.2%	44,200	29.3%
Other	10,200	8.4%	22,200	11.9%	9,800	6.5%
Unidentified	1,300	1.1%	0.0%	0.0%	1,200	0.8%
Total	121,900	100.0%	187,300	100.0%	150,600	100.0%
Auckland Region						
Couples without children	7,000	15.4%	15,300	22.2%	13,500	20.4%
Couples with children	11,000	24.2%	20,200	29.3%	20,900	31.6%
One parent	9,000	19.8%	10,300	14.9%	10,900	16.5%
One person	13,500	29.7%	15,400	22.4%	14,000	21.1%
Other	4,900	10.8%	7,700	11.2%	6,900	10.4%
Unidentified	100	0.2%	0.0%	0.0%	0.0%	0.0%
Total	45,500	100.0%	68,900	100.0%	66,200	100.0%

Nationally, the number of intermediate households increased in all the key household composition categories between 2001 and 2013. Auckland region experienced a similar trend. However, both nationally and in Auckland region, as a percentage of all intermediate households both couples with and without children increased whilst one parent and one person households declined. For example, nationally the proportion of couples without children households increased by 3.5 percentage points and couple with children households increased by five percentage points. The proportion of one person households experienced the strongest fall of five percentage points.

4.5 Intermediate Market Households by Age and Household Composition

Table 4.4 presents the proportion of intermediate market households by age of the reference person and household composition in 2013.

Table 4.4: The Proportion of Intermediate Market Households by Age and Household Composition 2013

	Less than 30 yrs		30 to 39 yrs		40 to 49 yrs		50 to 64 yrs		65+ yrs		Total	
	Hhld	%	Hhld	%	Hhld	%	Hhld	%	Hhld	%	Hhld	%
Total New Zealand												
Couples without children	11,400	7.6%	5,200	3.5%	2,600	1.7%	5,100	3.4%	1,700	1.1%	26,900	17.9%
Couples with children	8,700	5.8%	14,700	9.8%	9,400	6.2%	3,100	2.1%	200	0.1%	36,700	24.4%
One parent	5,100	3.4%	9,100	6.0%	10,200	6.8%	4,300	2.9%	300	0.2%	29,500	19.6%
One person	6,900	4.6%	8,700	5.8%	9,700	6.4%	13,300	8.8%	2,800	1.9%	41,800	27.8%
Other	9,200	6.1%	2,800	1.9%	2,400	1.6%	2,600	1.7%	1,100	0.7%	15,600	10.4%
Unidentified	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	41,200	27.4%	40,400	26.8%	34,300	22.8%	28,400	18.9%	6,100	4.1%	150,600	100.0%
Auckland Region												
Couples without children	5,500	8.3%	3,200	4.8%	1,400	2.1%	2,400	3.6%	900	1.4%	13,500	20.4%
Couples with children	4,000	6.0%	8,300	12.5%	6,200	9.4%	2,200	3.3%	200	0.3%	20,900	31.6%
One parent	1,700	2.6%	2,900	4.4%	4,000	6.0%	2,000	3.0%	200	0.3%	10,900	16.5%
One person	2,000	3.0%	3,300	5.0%	3,400	5.1%	4,200	6.3%	1,100	1.7%	14,000	21.1%
Other	3,300	5.0%	1,300	2.0%	1,100	1.7%	1,000	1.5%	300	0.5%	6,900	10.4%
Unidentified	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	16,500	24.9%	19,100	28.9%	16,100	24.3%	11,800	17.8%	2,600	3.9%	66,200	100.0%

The trends in the composition of the intermediate housing market by composition and age of the reference person include:

- Nationally, there are a significant number of couples with children and one parent households aged between 30 and 39 years of age;
- Nationally the number of one parent households increases with age up to 50 years and older;
- The number and proportion of one person households also increases with age up to 65 years and older; and
- Auckland followed a similar pattern with a slightly higher portion of couples with children aged between 30 and 49 years of age.

4.6 Occupation

Tables 4.5 and 4.6 present the trends in the number of intermediate market households by the occupation of the reference person for 2001 and 2013 nationally and in the Auckland region respectively.

Table 4.5: Intermediate Housing Market by the Occupation of the Reference Person – Total New Zealand

	2001		2013		Change 2001 to 2013	
	Households	% of Total	Households	% of Total	Households	% of Total
Total New Zealand						
Legislators and Administrators	300	0%	500	0%	200	0%
Corporate Managers	9,800	8%	16,700	11%	6,900	3%
Total Managers	10,100	8%	17,200	11%	7,100	3%
Physical, Mathematical & Engineering	2,300	2%	4,700	3%	2,400	1%
Life Science and Health	2,300	2%	2,800	2%	500	0%
Teaching	4,300	4%	6,400	4%	2,100	1%
Other	3,800	3%	5,700	4%	1,900	1%
Physical Science & Eng. Associate	2,700	2%	3,500	2%	800	0%
Life Science and Health Associate	1,100	1%	1,300	1%	200	0%
Other Associate	10,200	8%	17,300	11%	7,100	3%
Total Professionals	26,700	22%	41,700	28%	15,000	6%
Office Clerks	11,800	10%	12,000	8%	200	-2%
Customer Services Clerks	5,500	5%	5,400	4%	-100	-1%
Total Clerks	17,300	14%	17,400	12%	100	-3%
Personal and Protective Services	16,100	13%	20,200	13%	4,100	0%
Salespersons, Demonstrators	9,600	8%	9,700	6%	100	-1%
Total service and sales	25,700	21%	29,900	20%	4,200	-1%
Agricultural and Fishery Workers	6,900	6%	6,500	4%	-400	-1%
Building Trades	4,800	4%	5,500	4%	700	0%
Metal and Machinery Trades	2,700	2%	2,800	2%	100	0%
Precision Trades	600	0%	500	0%	-100	0%
Other Craft and Related Trades	1,400	1%	1,300	1%	-100	0%
Total Trades	9,500	8%	10,100	7%	600	-1%
Industrial Plant Operators	800	1%	700	0%	-100	0%
Stationary Machine and Assemblers	5,700	5%	4,400	3%	-1,300	-2%
Drivers and Mobile Machinery	4,100	3%	4,600	3%	500	0%
Building and Related Workers	500	0%	600	0%	100	0%
Total Plant and Related workers	11,100	9%	10,300	7%	-800	-2%
Labourers and Elementary Service	9,900	8%	11,800	8%	1,900	0%
Not Elsewhere Included	4,700	4%	5,800	4%	1,100	0%
	121,900	100%	150,700	100%	28,800	0%

Table 4.6: Intermediate Housing Market by the Occupation of the Reference Person – Auckland Region

	2001		2013		Change 2001 to 2013	
	Households	% of Total	Households	% of Total	Households	% of Total
Auckland Region						
Legislators and Administrators	200	0.4%	300	0.5%	100	0.0%
Corporate Managers	4,500	9.8%	9,000	13.6%	4,500	3.8%
Total Managers	4,700	10.3%	9,300	14.0%	4,600	3.8%
Physical, Mathematical & Engineering	1,200	2.6%	2,800	4.2%	1,600	1.6%
Life Science and Health	1,000	2.2%	1,600	2.4%	600	0.2%
Teaching	1,800	3.9%	3,200	4.8%	1,400	0.9%
Other	1,800	3.9%	3,100	4.7%	1,300	0.7%
Physical Science & Eng. Associate	1,300	2.8%	1,900	2.9%	600	0.0%
Life Science and Health Associate	500	1.1%	700	1.1%	200	0.0%
Other Associate	4,300	9.4%	8,500	12.8%	4,200	3.4%
Total Professionals	11,900	26.0%	21,800	32.9%	9,900	6.9%
Office Clerks	5,200	11.4%	5,800	8.8%	600	-2.6%
Customer Services Clerks	2,200	4.8%	2,400	3.6%	200	-1.2%
Total Clerks	7,400	16.2%	8,200	12.4%	800	-3.8%
Personal and Protective Services	4,500	9.8%	6,900	10.4%	2,400	0.6%
Salespersons, Demonstrators	3,200	7.0%	3,500	5.3%	300	-1.7%
Total service and sales	7,700	16.8%	10,400	15.7%	2,700	-1.1%
Agricultural and Fishery Workers	1,000	2.2%	1,100	1.7%	100	-0.5%
Building Trades	2,000	4.4%	2,200	3.3%	200	-1.0%
Metal and Machinery Trades	1,200	2.6%	1,500	2.3%	300	-0.4%
Precision Trades	400	0.9%	300	0.5%	-100	-0.4%
Other Craft and Related Trades	700	1.5%	700	1.1%	0	-0.5%
Total Trades	4,300	9.4%	4,700	7.1%	400	-2.3%
Industrial Plant Operators	400	0.9%	400	0.6%	0	-0.3%
Stationary Machine and Assemblers	1,900	4.2%	1,600	2.4%	-300	-1.7%
Drivers and Mobile Machinery	1,500	3.3%	1,900	2.9%	400	-0.4%
Building and Related Workers	300	0.7%	300	0.5%	0	-0.2%
Total Plant and Related workers	4,100	9.0%	4,200	6.3%	100	-2.6%
Labourers & Elementary Service	3,000	6.6%	4,100	6.2%	1,100	-0.4%
Not Elsewhere Included	1,600	3.5%	2,400	3.6%	800	0.1%
	45,750	100.0%	66,200	100.0%	20,450	0.0%

A total of 77% of the increase in the size of the intermediate housing market was in households with the reference person employed as either a manager or in a profession. Corporate managers, engineers, and teachers all experienced strong growth in the count of intermediate market households. A similar pattern was experienced in Auckland where managers and professionals accounted for 71% of the growth in the intermediate housing market. Managers and professionals living in Auckland accounted for 50% of the total national growth in the intermediate housing market. These traditional higher paying areas of employment are likely to increasingly account for growth in the intermediate housing market if the affordability of buying a dwelling continues to decline.

A significant proportion of the change in the composition of the intermediate housing market both nationally and in Auckland can be explained by the changes in the overall composition of the labour market by occupation. However some of the changes in the proportion of different occupations are larger in the intermediate housing market.

In Auckland the proportion of professionals as a percentage of all intermediate market households increased by 6.9 percentage points between 2001 and 2013. Over the same time period the ratio of professionals in the intermediate housing market increased by 5.4 percentage points for all in-work private sector renters and 5.8 percentage point for all households in Auckland. Consequently professional intermediate market households are increasing at a faster rate than across the market as a whole. This pattern is repeated across the majority of occupations with households with people employed in the typically higher paid occupations increasing as a proportion of total intermediate market households whilst the households with people in the lower paid occupations, while increasing in total number, are falling as a proportion of total intermediate housing households.

4.7 Distribution of Intermediate Market Households within the Main Urban Areas

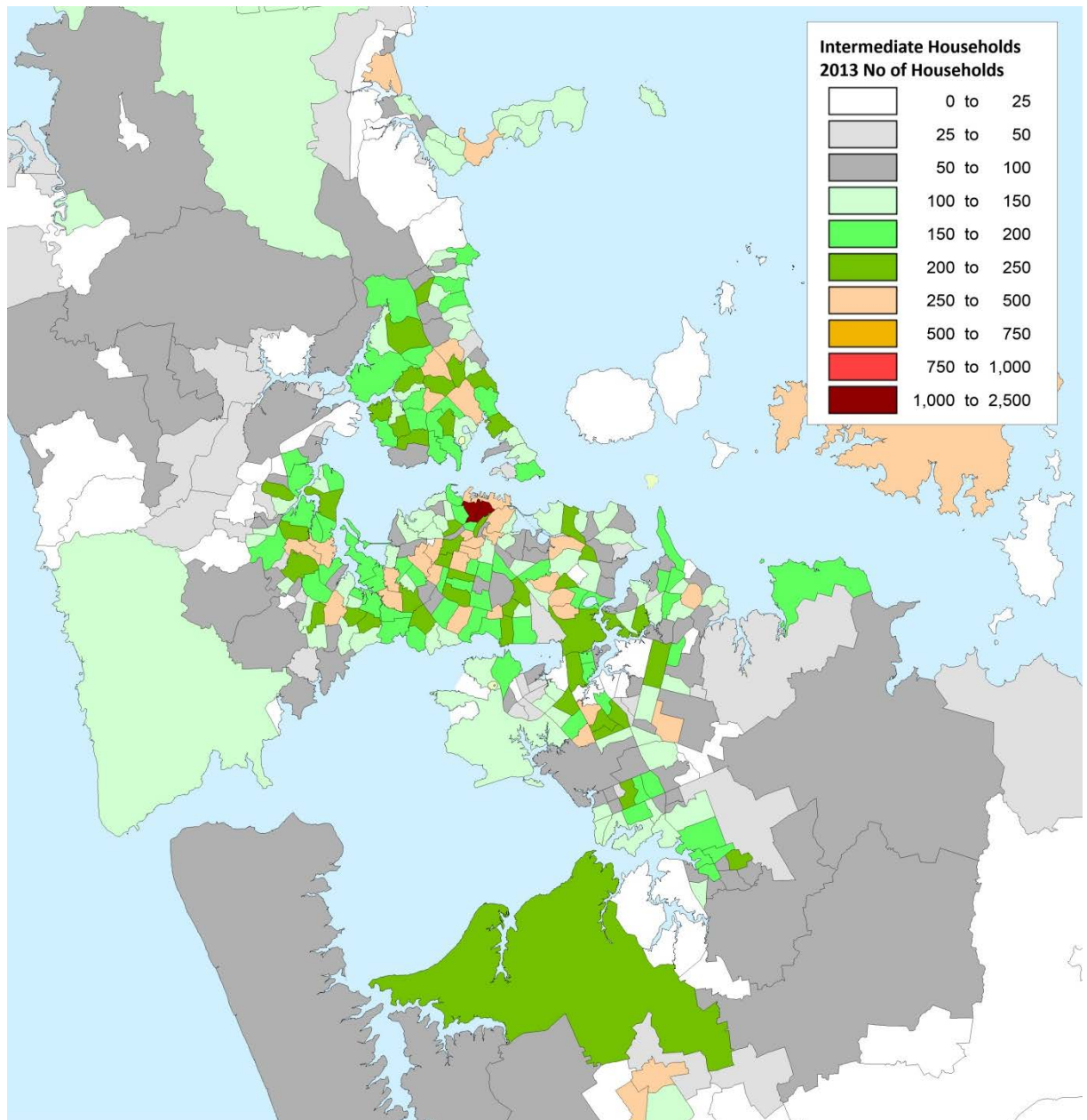
Intermediate market households are not evenly distributed across different urban areas. The objective of this section of the report is to present analysis of where these households live in the Auckland, Hamilton, and Wellington housing markets. The analysis is presented in a series of four maps which presents the results of the analysis by census area unit. These include:

- The number of intermediate market households calculated as at March 2013;
- The growth in the number of intermediate market households between 2001 and 2013;
- Intermediate market households as a percentage of in-work private sector renters as at March 2013; and
- The percentage point change in the ratio of intermediate market households to in-work private sector renters between 2001 and 2013.

Figures 4.1 to 4.4 present the distribution of intermediate market households in the Auckland housing market and includes the number of intermediate market households, the growth in the number of intermediate market households between 2001 and 2013, the ratio of intermediate market households to in-work private sector renters at 2013 and the percentage point change in the ratio of intermediate market households to in-work private sector renters between 2001 and 2013, respectively.

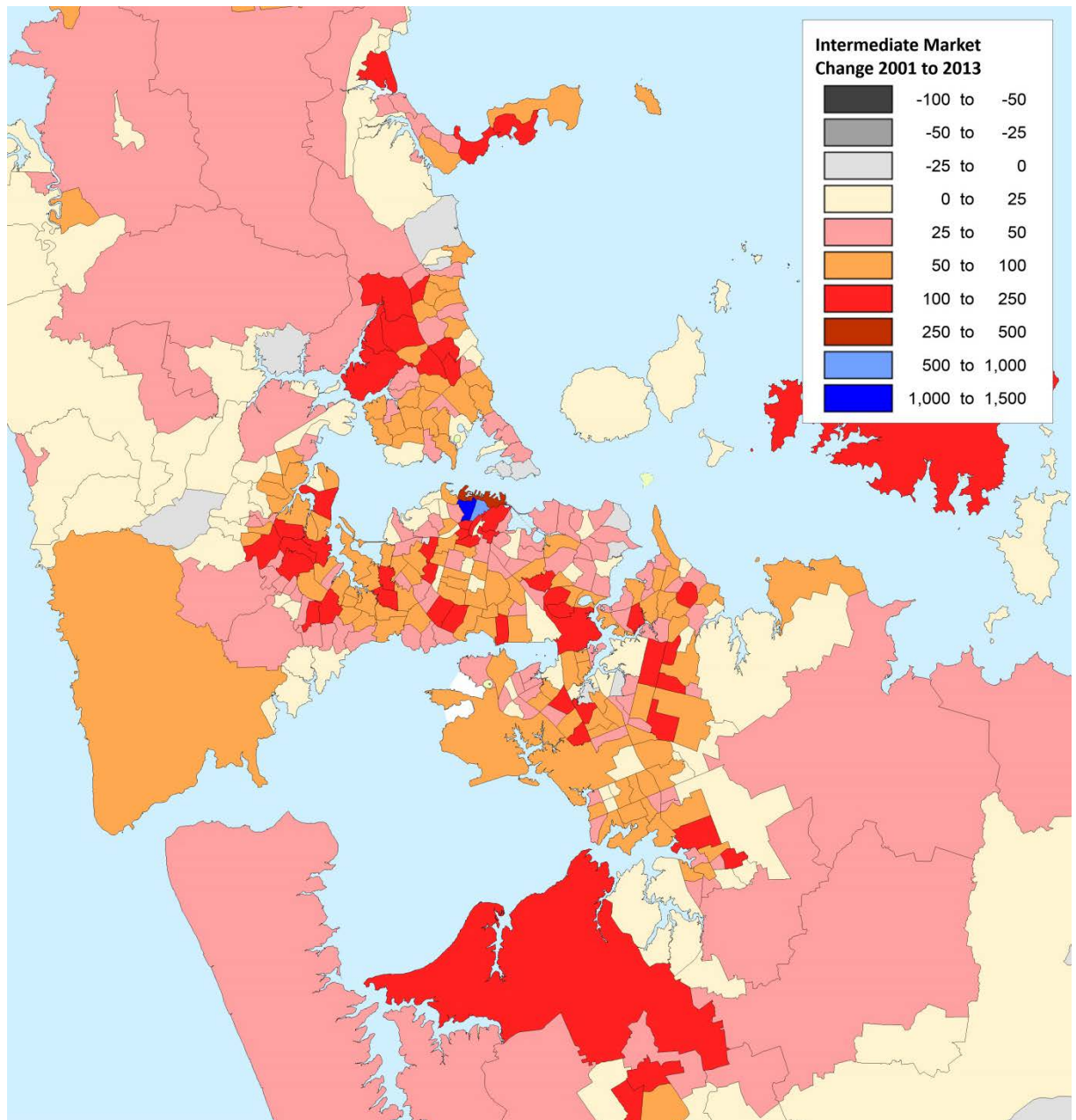
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Figure 4.1: The Number of Intermediate Housing Market Households as at March 2013 in Auckland



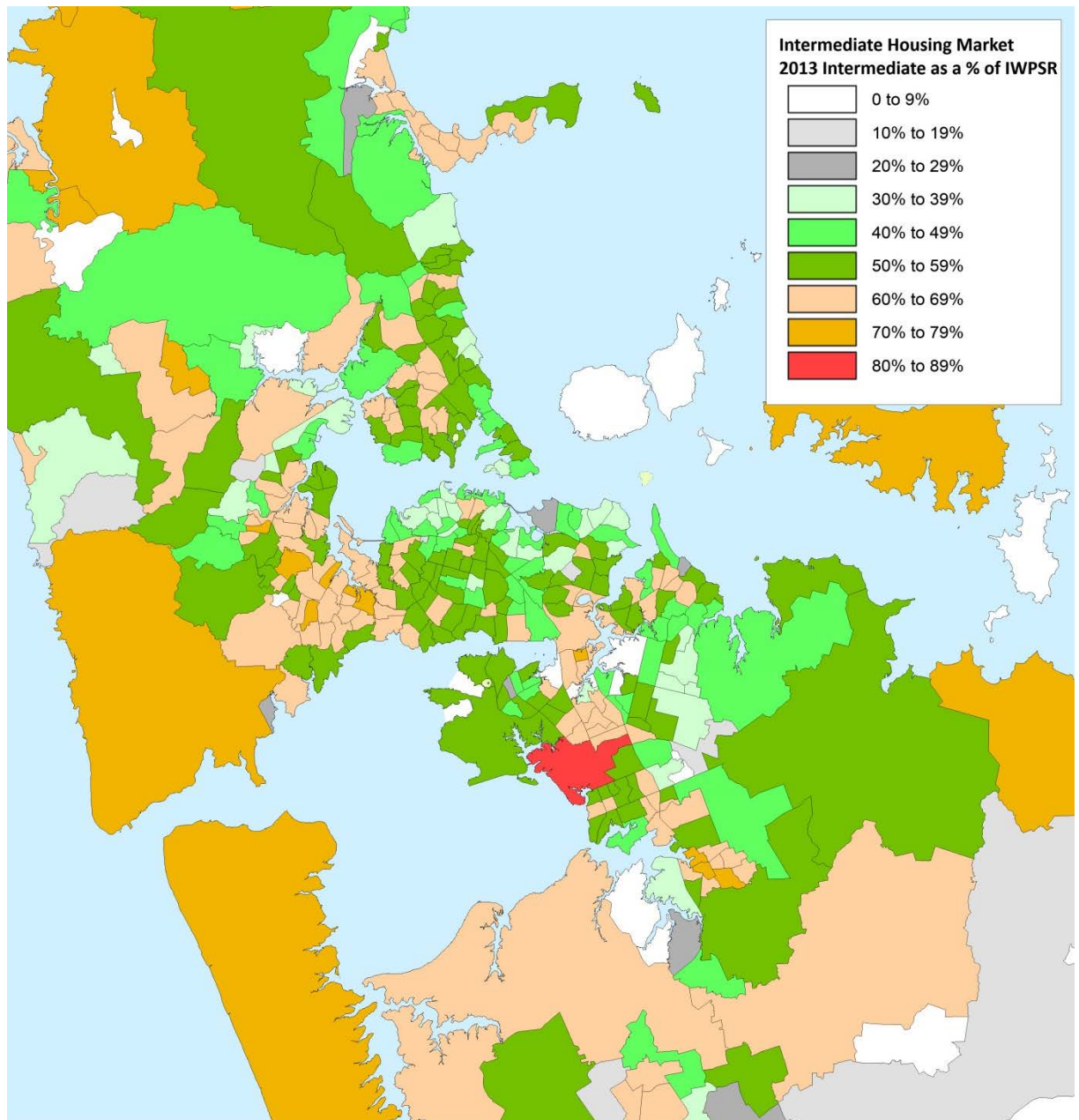
Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.2: The Change in the Number of Intermediate Housing Market Households 2001 to 2013 in Auckland



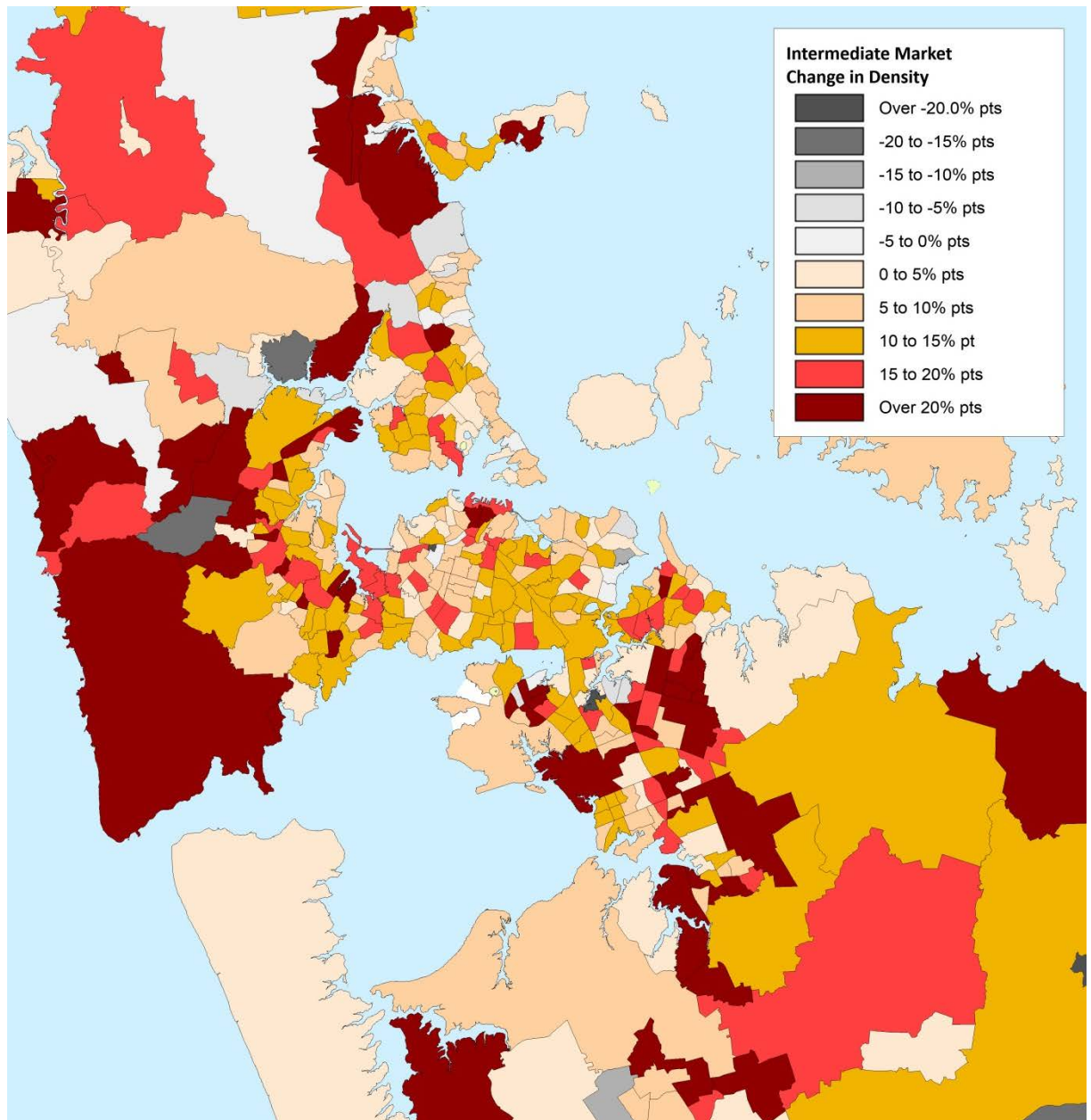
Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.3: The Ratio of Intermediate Housing Market Households to In-work Private Sector Renters at March 2013 in Auckland



Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.4: The Change in the Ratio of Intermediate Market Households to In-work Private Sector Renters March 2001 to March 2013 in Auckland



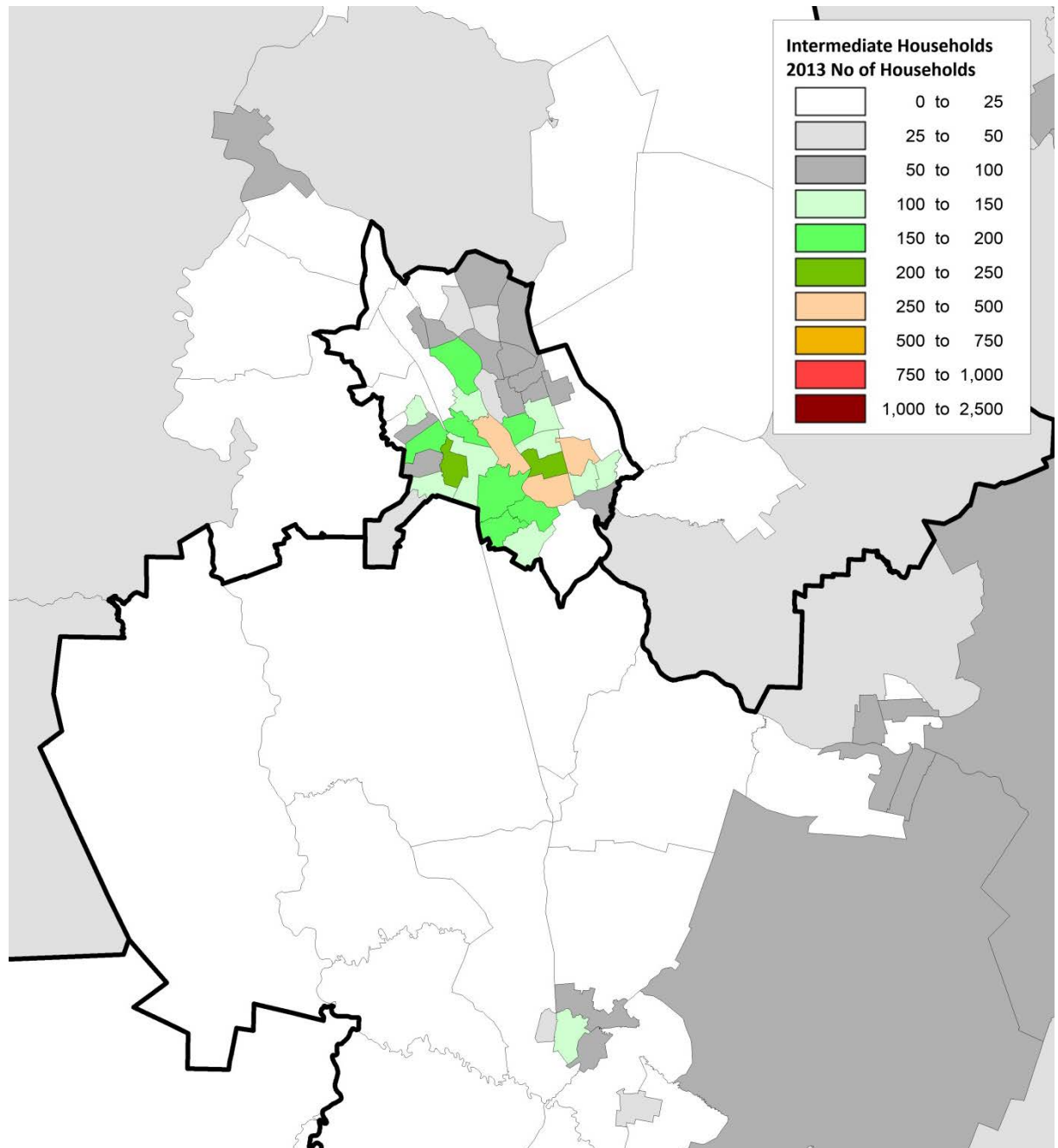
Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Trends included:

- The highest number of intermediate market households are located in Auckland's CBD and surrounding suburbs. Other areas with significant numbers of intermediate market households include West Auckland, Whangaparoa and non coastal North Shore suburbs. Typically the higher value suburbs had fewer intermediate market households;
- The CBD and surrounds experienced the strongest growth in the number of intermediate market households. Other areas experiencing strong growth included north western North Shore, west Auckland, lower cost areas in the southern isthmus, and Papakura;
- The average ratio of intermediate market to in-work private sector renter households in Auckland as at March 2013 was 64%. Areas with higher than average ratios include west Auckland, CBD, Onehunga through to Manurewa, and Whangaparora; and
- Areas which experienced strong growth in the ratio of intermediate market households to in-work private sector renters included the CBD, west Auckland and lower cost areas of Manukau.

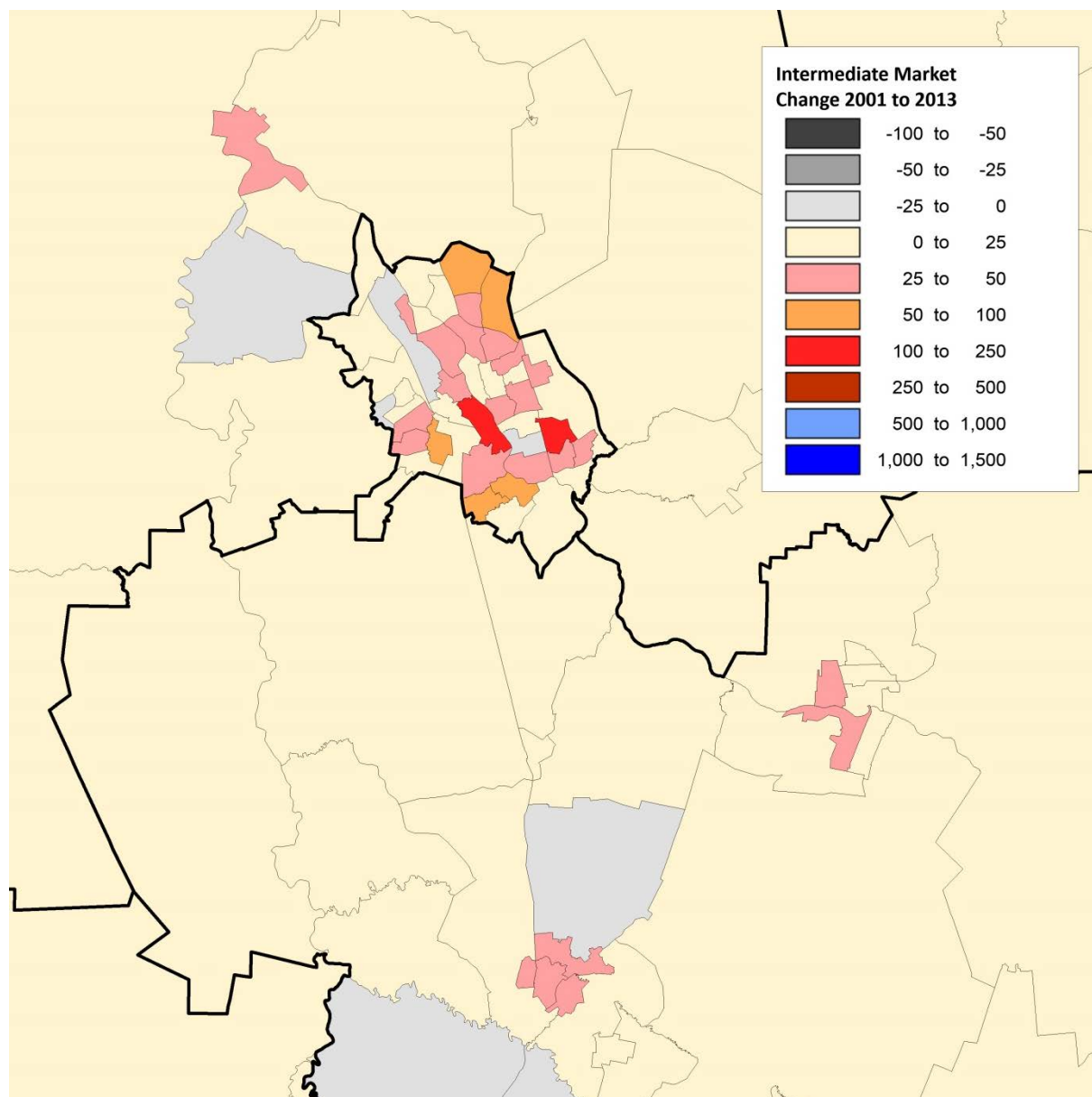
Figures 4.5 to 4.8 present the distribution of intermediate market households in the Hamilton housing market and includes the number of intermediate market households, the growth in the number of intermediate market households between 2001 and 2013, the ratio of intermediate market households to in-work private sector renters at 2013 and the percentage point change in the ratio of intermediate market households to in-work private sector renters between 2001 and 2013 respectively.

Figure 4.5: The Number of Intermediate Market Households at March 2013 in the Hamilton Housing Market



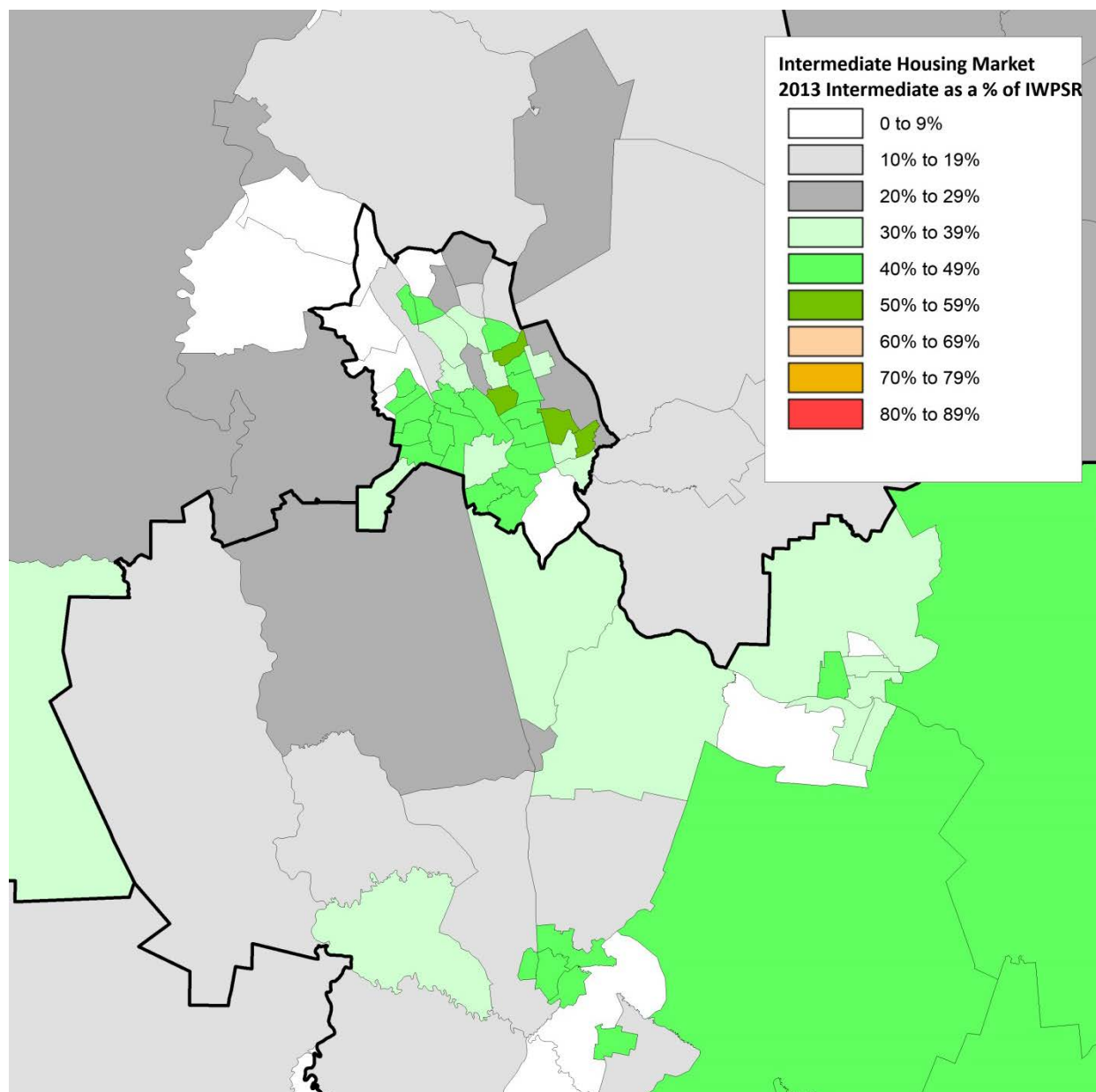
Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.6: The Change in the Number of Intermediate Market Households 2001 to 2013 in the Hamilton Housing Market



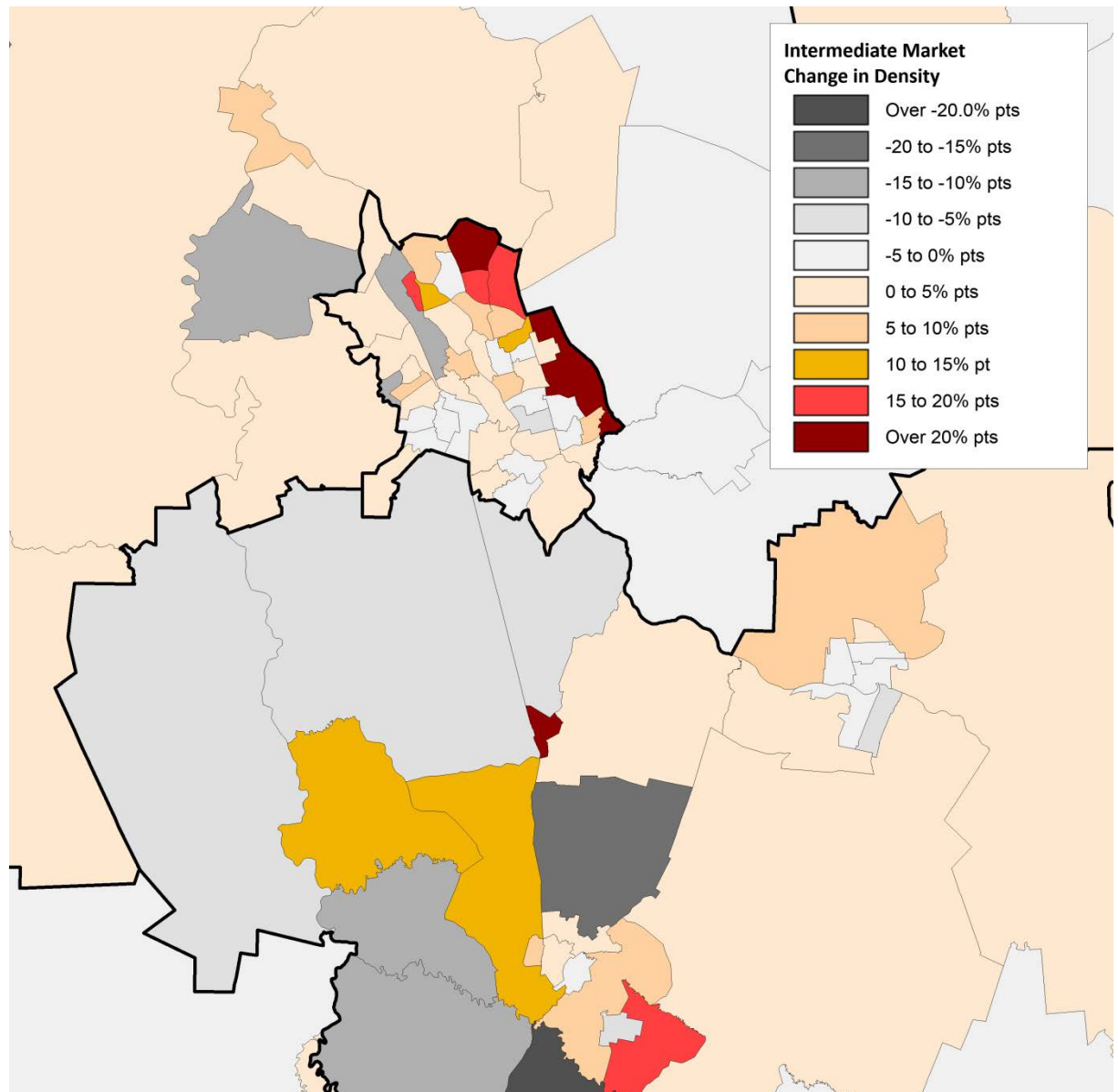
Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.7: The Ratio of Intermediate Market Households to In-work Private Sector Renters at March 2013 in the Hamilton Housing Market



Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.8: The Change in the Ratio of Intermediate Market Households to In-work Private Sector Renters Mar 01 to Mar13 in the Hamilton Housing Market

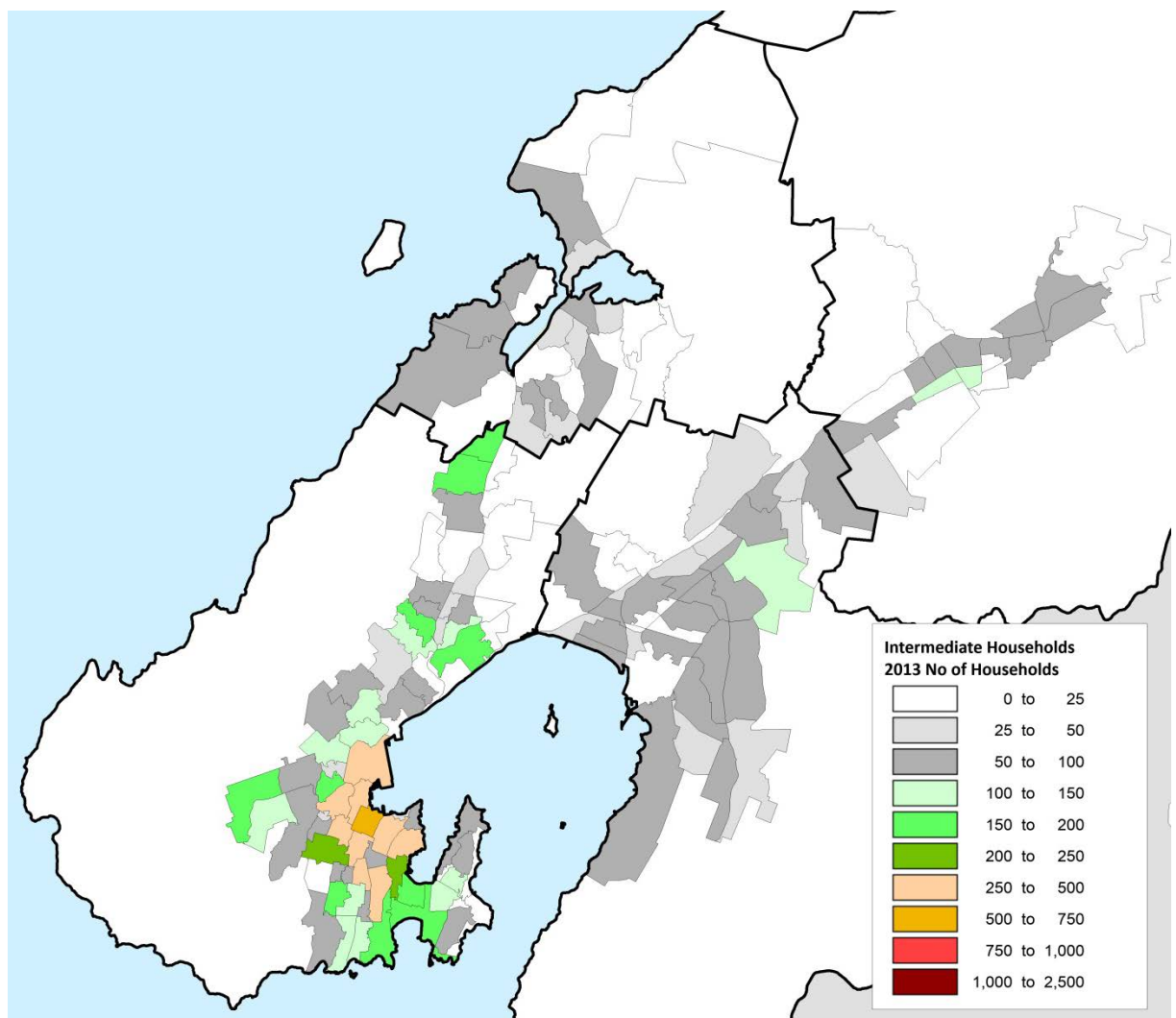


Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

There is a cluster of intermediate market households living in south eastern Hamilton with the growth in numbers between 2001 and 2013 reasonably evenly spread across the city. There is also growth in Cambridge and Otorohunga. The ratio of intermediate market households to in-work private sector renters suggests intermediate market households are evenly spread across the city. Growth in the ratio of intermediate market households to in-work private sector renters was strongest in the city's eastern suburbs.

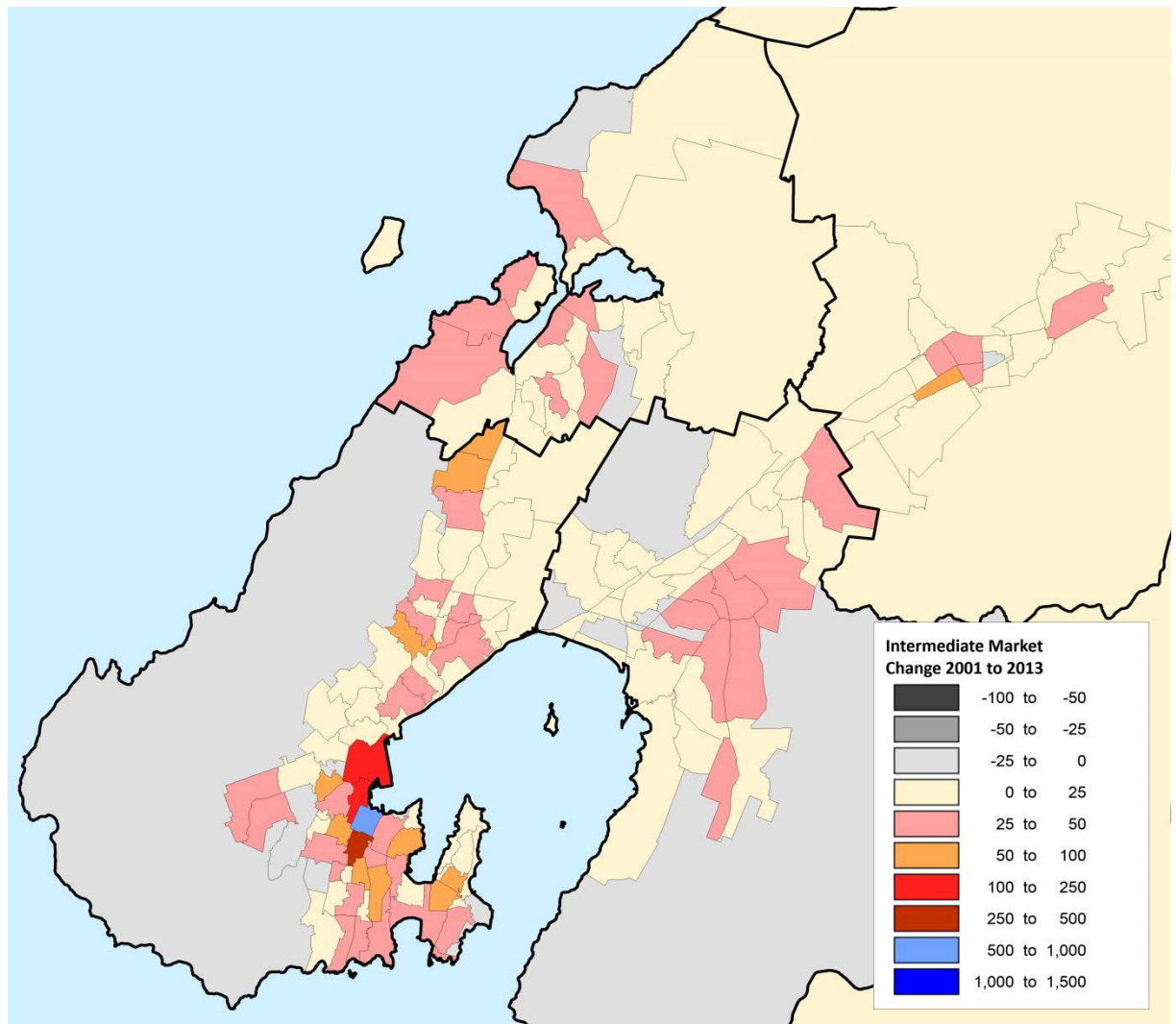
Figures 4.9 to 4.12 present the distribution of intermediate market households in the Wellington housing market and includes the number of intermediate market households, the growth in the number of intermediate market households between 2001 and 2013, the ratio of intermediate market households to in-work private sector renters at 2013 and the percentage point change in the ratio of intermediate market households to in-work private sector enters between 2001 and 2013, respectively.

Figure 4.9: The Number of Intermediate Market Households at March 2013 in the Wellington Housing Market



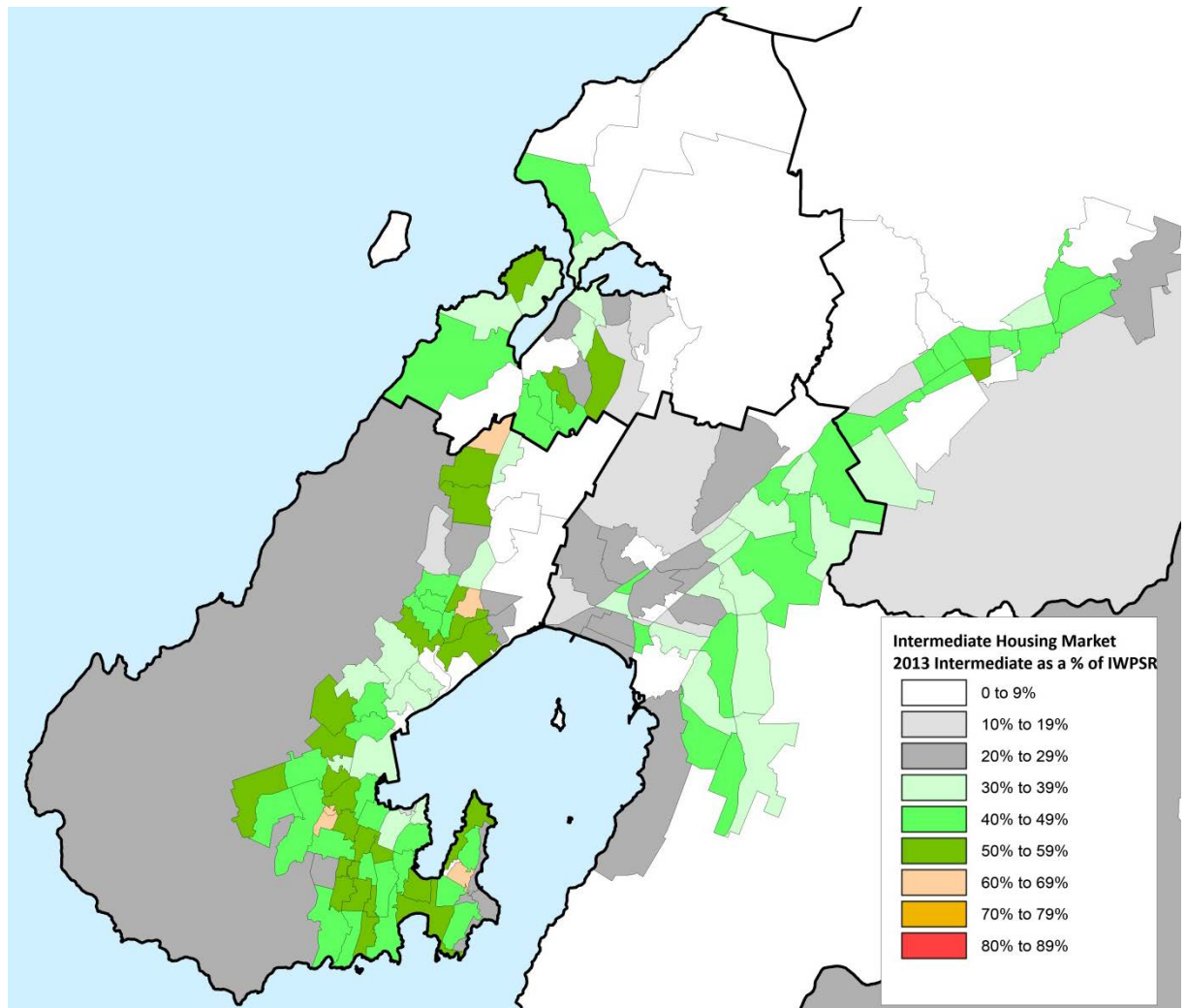
Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.10: The Change in the Number of Intermediate Market Households 2001 to 2013 in the Wellington Housing Market



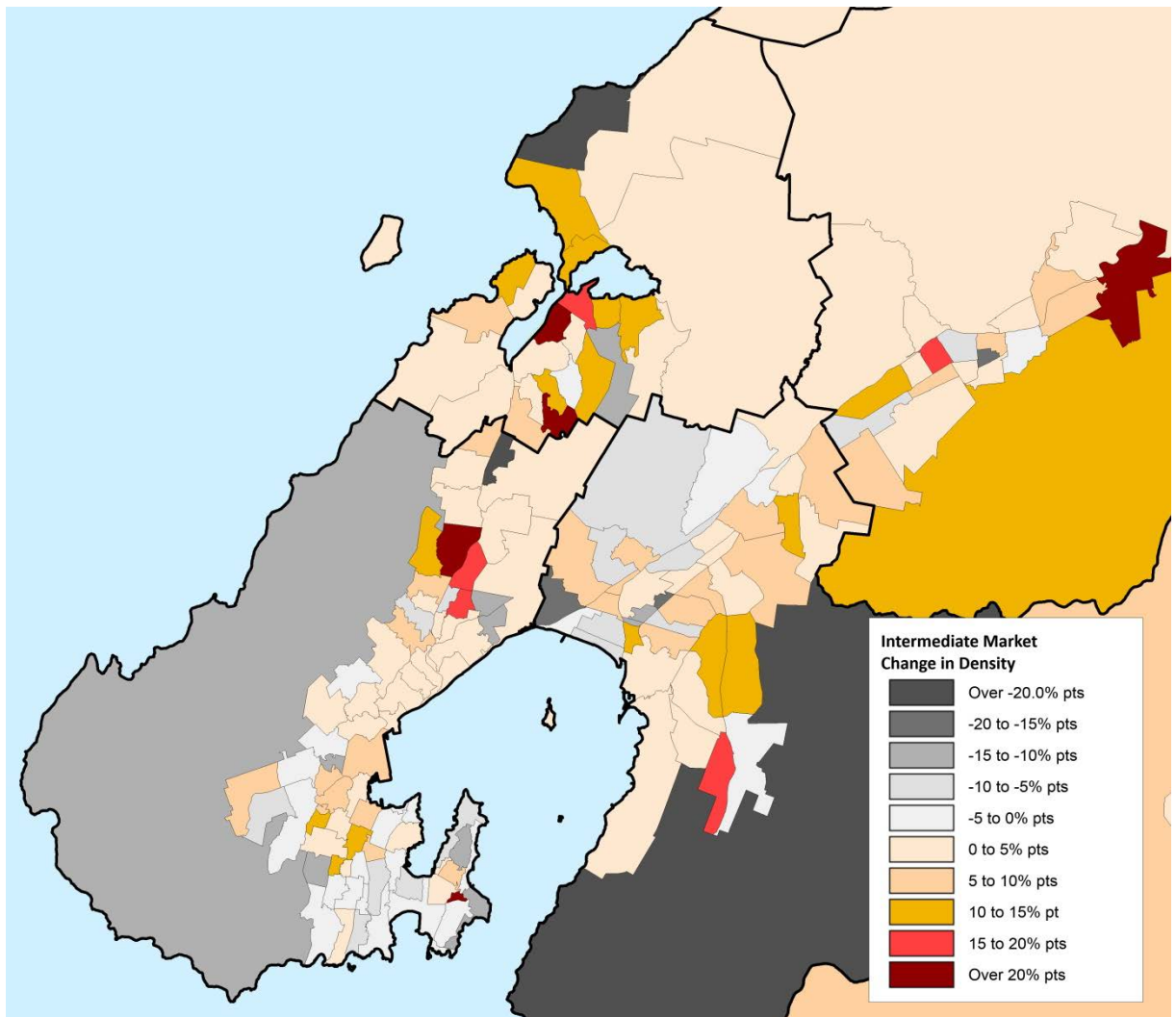
Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.11: The Ratio of Intermediate Market Households to In-work Private Sector Renters at March 2013 in the Wellington Housing Market



Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

Figure 4.12: The Change in the Ratio of Intermediate Market Households to In-work Private Sector Renters Mar 01 to Mar 13 in the Wellington Housing Market



Source: Modelled from data sourced from Statistics New Zealand, Corelogic and RBNZ

There is a cluster of intermediate market households living in the central city and immediately surrounding suburbs. The growth in the number of intermediate market households is spread across the wider housing market with minor concentrations around the central city, Tawa and Upper Hutt. The average ratio of intermediate market households to in-work private renters across the housing market in 2013 was 48%. Overall this analysis suggests intermediate market households are distributed across the urban area without major concentrations. The suburbs experiencing the most significant change in the ratio of intermediate market households to in-work private sector renters include Tawa and parts of Porirua and Upper Hutt.

In summary, intermediate households are distributed across the whole urban area in all three centres. Auckland and Wellington had significant concentrations of intermediate households in the central city suburbs and outside the CBD there were also higher concentrations in medium/low cost suburbs.

5. Intermediate Housing Market Growth Scenarios

5.1 Introduction

The objective of this section of the report is to present the results of analysis of future trends in the relative size of the intermediate housing market by region under a number of different scenarios. The goal is to identify potential market outcomes under a range of scenarios rather than to try and predict the future. This section of the report includes:

- A summary of the scenarios used;
- Results of the scenario analysis; and
- Discussion on the results

5.2 Scenario overview

There is a number of key variables which will impact on the future size of the intermediate housing market and these include:

- Level of population growth and rate of household formation by region;
- Trends in household tenure;
- Growth in household incomes;
- Mortgage interest rates; and
- House sale price growth rates.

Level of population growth, rate of household formation by region and trends in household tenure

Statistics New Zealand's medium growth scenario was used to estimate the future population growth and rate of household formation. Trends in household tenure used are consistent with the projections included in Livingston and Associates (2015).

Table 5.1 summarises the projected trend in tenure by region.

Table 5.1: Rate of Owner Occupation by Region

Region	Home Ownership Rate					% Point Change			
	2001	2013	2016 (p)	2021 (p)	2026 (p)	2001 to 2013		2013 to 2026	
						Total	Pa	Total	pa
Northland	70.5%	66.2%	64.8%	62.2%	59.6%	-4.3%	-0.4%	-6.6%	-0.5%
Auckland	64.6%	61.5%	60.4%	58.5%	56.9%	-3.1%	-0.3%	-4.6%	-0.4%
Waikato	67.6%	62.7%	61.9%	60.1%	58.3%	-4.9%	-0.4%	-4.4%	-0.3%
Bay of Plenty	68.4%	64.7%	63.5%	61.2%	58.8%	-3.7%	-0.3%	-5.9%	-0.5%
Gisborne	63.2%	59.2%	57.8%	55.4%	52.7%	-4.0%	-0.3%	-6.5%	-0.5%
Hawke's Bay	67.8%	65.9%	64.9%	63.0%	60.9%	-1.9%	-0.2%	-5.0%	-0.4%
Taranaki	72.2%	68.0%	67.0%	65.5%	63.9%	-4.2%	-0.3%	-4.1%	-0.3%
Manawatu-Wanganui	67.9%	65.2%	64.2%	61.9%	59.7%	-2.7%	-0.2%	-5.5%	-0.4%
Wellington	66.9%	64.9%	64.2%	63.0%	61.7%	-2.0%	-0.2%	-3.2%	-0.2%
Marlborough	73.7%	70.9%	70.7%	69.5%	67.7%	-2.8%	-0.2%	-3.2%	-0.2%
Nelson	68.7%	68.4%	67.8%	66.0%	64.6%	-0.3%	0.0%	-3.8%	-0.3%
Tasman	76.1%	75.0%	74.3%	72.1%	69.6%	-1.1%	-0.1%	-5.4%	-0.4%
West Coast	72.6%	68.1%	66.3%	64.4%	62.5%	-4.5%	-0.4%	-5.6%	-0.4%
Canterbury	71.4%	68.3%	67.1%	64.5%	61.9%	-3.1%	-0.3%	-6.4%	-0.5%
Otago	69.6%	68.0%	67.3%	65.3%	63.1%	-1.6%	-0.1%	-4.9%	-0.4%
Southland	75.6%	69.7%	68.4%	65.3%	62.1%	-5.9%	-0.5%	-7.6%	-0.6%

Source: Livingston and Associates (2015)

Growth in Household Incomes

Household incomes are assumed to increase at 3.5% per annum. A constant growth rate was used across all regions and scenarios. This level of growth is similar to historical growth in median household incomes recorded in the census.

Mortgage interest rates

In the context of this analysis two mortgage interest rates were used in the analysis. These were the long term average for floating interest rate mortgages at 7.45% per annum and 5.9% per annum which reflects the mortgage interest rates as at March 2015.

House sale price growth rates

A number of house sale price growth rates were included in the analysis. These included annual growth rates of 1.5%, 3.5% (same as the assumption of growth in household income), 5.0%, and the historical growth rates of house values between 1989 and 2015 by local authority. Table 5.2 presents a summary of the historical growth rates by local authority area.

Table 5.2: Historical Nominal House Sale Price Growth Rates – 1989 to 2015

Local Authority	Dec 1989 to Mar 2015		Local Authority	Dec 1989 to Mar 2015	
	Total	% pa		Total	% pa
Total New Zealand	312%	5.8%	Wanganui District	134%	3.4%
Auckland Area	395%	6.5%	Rangitikei District	134%	3.4%
Far North District	142%	3.6%	Manawatu District	151%	3.7%
Whangarei District	208%	4.6%	Palmerston North City	128%	3.3%
Kaipara District	262%	5.2%	Taranua District	192%	4.3%
Auckland - Rodney	321%	5.9%	Horowhenua District	132%	3.4%
Auckland - North Shore	351%	6.2%	Kapiti Coast District	125%	3.3%
Auckland - Waitakere	408%	6.6%	Porirua City	170%	4.0%
Auckland - City	533%	7.6%	Upper Hutt City	143%	3.6%
Auckland - Manukau	324%	5.9%	Hutt City	150%	3.7%
Auckland - Papakura	267%	5.3%	Wellington City	239%	5.0%
Auckland - Franklin	310%	5.7%	Masterton District	153%	3.7%
Thames Coromandel District	247%	5.1%	Carterton District	235%	4.9%
Hauraki District	208%	4.6%	South Wairarapa District	263%	5.2%
Waikato District	348%	6.1%	Tasman District	274%	5.4%
Matamata Piako District	325%	5.9%	Nelson City	240%	5.0%
Hamilton City	230%	4.8%	Marlborough District	208%	4.6%
Waipa District	243%	5.0%	Kaikoura District	378%	6.4%
Otorohanga District	259%	5.2%	Buller District	242%	5.0%
South Waikato District	136%	3.5%	Grey District	221%	4.7%
Waitomo District	152%	3.7%	Westland District	389%	6.5%
Taupo District	180%	4.2%	Hurunui District	259%	5.2%
Western Bay of Plenty District	219%	4.7%	Waimakariri District	312%	5.8%
Tauranga District	223%	4.8%	Christchurch City	317%	5.8%
Rotorua District	186%	4.2%	Selwyn District	378%	6.4%
Whakatane District	183%	4.2%	Ashburton District	291%	5.6%
Kawerau District	71%	2.1%	Timaru District	350%	6.1%
Opotiki District	126%	3.3%	MacKenzie District	388%	6.5%
Gisborne District	207%	4.5%	Waimate District	322%	5.9%
Wairoa District	106%	2.9%	Waitaki District	294%	5.6%
Hastings District	260%	5.2%	Central Otago District	291%	5.5%
Napier City	214%	4.6%	Queenstown Lakes District	413%	6.7%
Central Hawkes Bay District	248%	5.1%	Dunedin City	226%	4.8%
New Plymouth District	301%	5.7%	Clutha District	250%	5.1%
Stratford District	260%	5.2%	Southland District	271%	5.3%
South Taranaki District	253%	5.1%	Gore District	201%	4.5%
Ruapehu District	139%	3.5%	Invercargill City	222%	4.7%

Source: Corelogic

Summary of the scenarios

Table 5.3 presents a summary of the scenarios used in the analysis.

Table 5.3: Scenario Summary

Scenario No	House Price Growth Rate	Interest Rate
1	Historical growth rate by local authority	5.9%
2	Historical growth rate by local authority	7.45%
3	5.0% pa	5.9%
4	5.0% pa	7.45%
5	3.5% pa	5.9%
6	3.5% pa	7.45%
7	1.5% pa	5.9%
8	1.5% pa	7.45%

Household income is assumed to increase at 3.5% per annum under all the scenarios listed above. In addition the assumptions associated with the relative level of owner occupation are included in Table 5.1.

5.3 Scenario analysis results

Table 5.4 presents the results of the scenario analysis summed for total New Zealand (regional results summed to give a national trend).

Table 5.4: Scenario Analysis Results – Total New Zealand

Scenario	Intermediate Market Households					Intermediate Households as a % of IWPSR			
	2015	2021	2026	2031	Chge 15 to 31	2015	2021	2026	2031
Total New Zealand									
1	181,500	219,900	269,500	323,300	141,800	57%	60%	66%	71%
2	181,500	248,800	299,000	355,100	173,600	57%	68%	73%	78%
3	181,500	244,500	291,500	342,200	160,700	57%	67%	71%	75%
4	181,500	214,300	258,200	307,400	125,900	57%	59%	63%	68%
5	181,500	197,700	223,700	251,300	69,800	57%	54%	55%	55%
6	181,500	226,400	255,300	285,600	104,100	57%	62%	62%	63%
7	181,500	176,000	178,000	177,300	-4,200	57%	48%	43%	39%
8	181,500	203,100	209,100	212,600	31,100	57%	55%	51%	47%

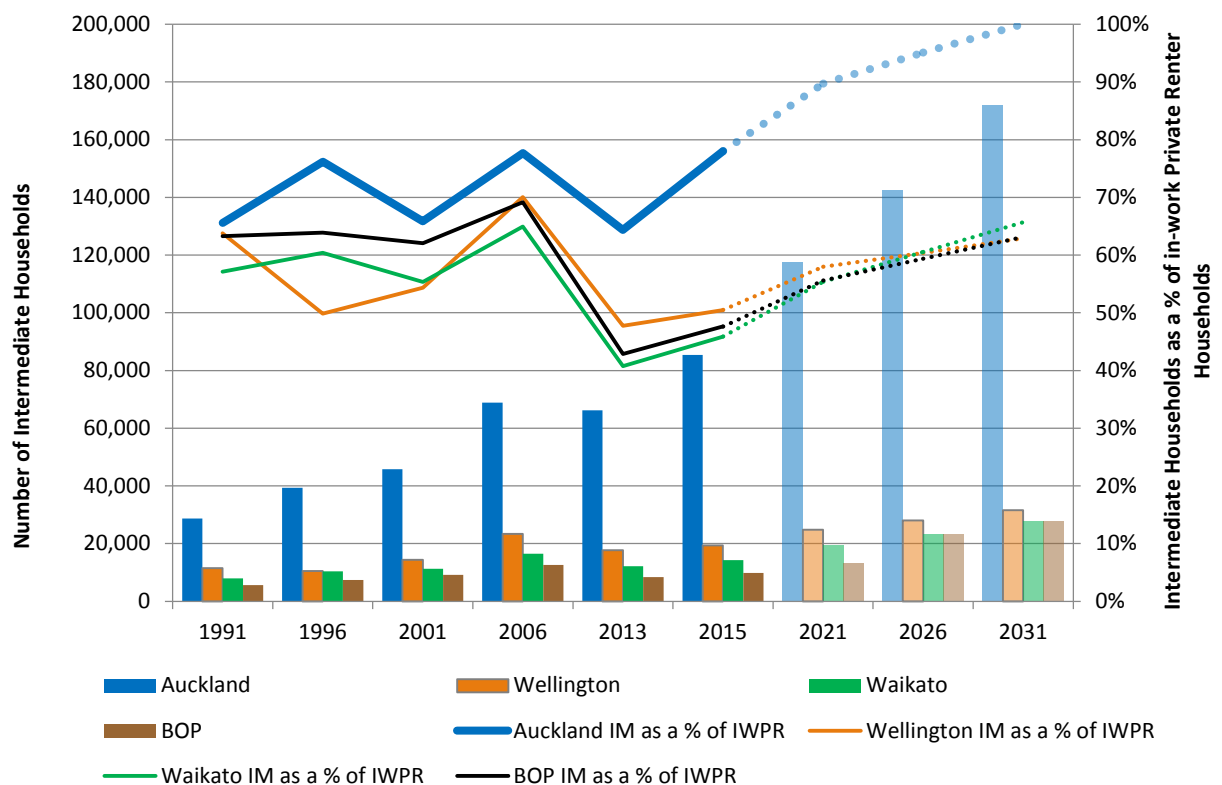
Source: Modelled based on data from Statistics New Zealand, Corelogic, RBNZ

Analysis by Region and scenario is included in Appendix 1

Under all but one of the scenarios the total number of intermediate market households is expected to increase. Between 1991 and 2015 intermediate market households as a percentage of in-work private sector renters (IWPSR) varied between 50% and 70% nationally. There has been considerable regional variation in this ratio. Typically Auckland has had higher ratios, implying housing is less affordable for renters to buy than other regions. Renters will increasingly be priced out of the market if house sale prices continue to increase at the same pace as the last 25 years. The relationship between growth in household incomes relative to the growth in house sale prices will be a key determinant of the long term outcome. To some extent the current level of interest rates has masked the deterioration in housing affordability. The proportion of renters unable to purchase a dwelling significantly increases if interest rates return to their long term average.

Figure 5.1 presents the results of the scenario analysis for Auckland, Waikato, Bay of Plenty, and Wellington Regions under scenario 2 assumptions. Scenario 2 was selected for this comparison as it included long term average interest rates and house price growth rates.

Figure 5.1: Intermediate Housing Market Outlook – Scenario 2

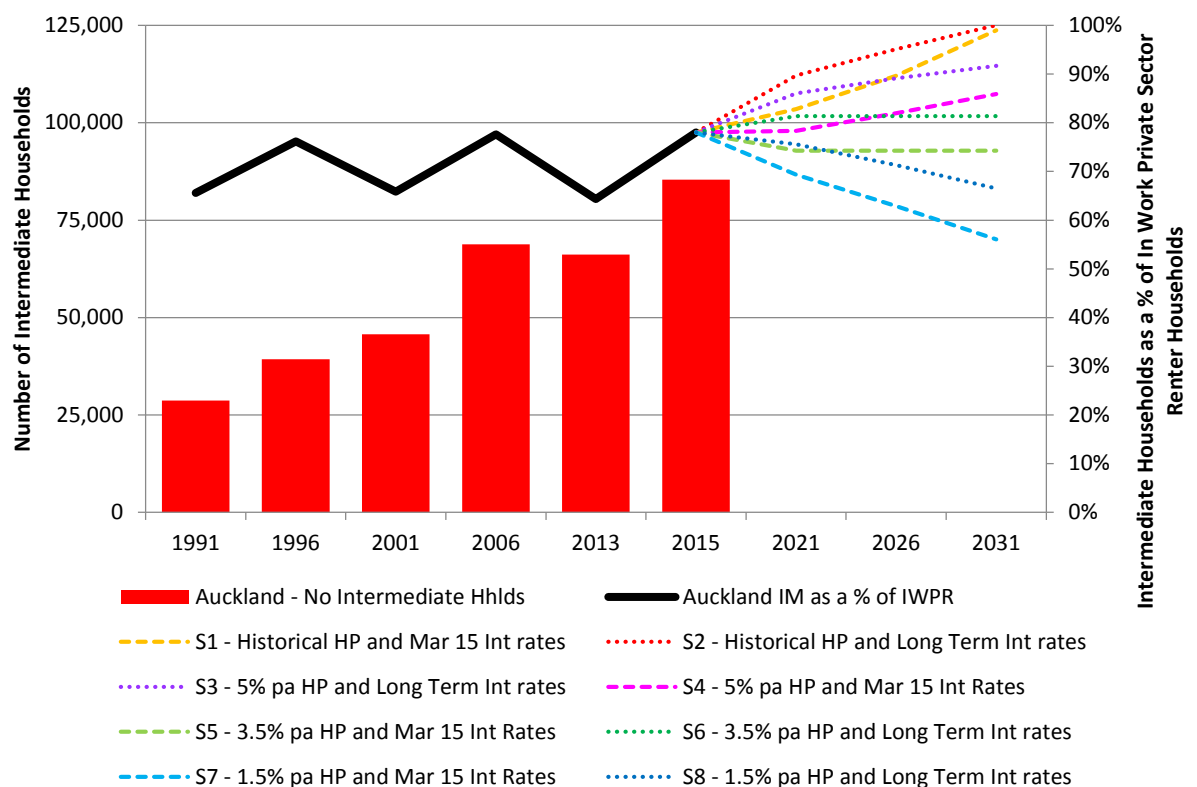


Source: Modelled based on data from Statistics New Zealand, Corelogic, RBNZ

Auckland has a significantly higher relative size of the intermediate housing market than other regions. Under scenario 2 (historical growth rates and interest rates) Auckland effectively runs out of renters able to buy dwellings at the lower quartile house price. This suggests that the assumptions associated with tenure change may be too conservative under this scenario. Alternatively, under scenario 2 the other three regions included in the analysis are still within their historical margins.

Figure 5.2 presents the trend in the ratio of intermediate market to total in-work private sector renters in Auckland under all eight scenarios.

Figure 5.2: The Ratio of Intermediate Housing Market to Total In-work Private Sector Renters in Auckland



Source: Modelled based on data from Statistics New Zealand, Corelogic, RBNZ

If house prices increase at a faster pace than household incomes at best the current ratio of intermediate market households to total in-work private sector renters will remain constant and even under these assumptions interest rates need to remain at their current levels to achieve this outcome. Auckland's historical rate of house price growth is 6.5% per annum. In the year to March 2015 Auckland's house prices increased by 14.9% and anecdotal evidence suggests that the rate of growth has not slowed since. This implies Auckland renters are rapidly being priced out of the market with an unsustainable market dynamic developing. One potential outcome could be further significant declines in the rate of owner occupation as more, higher income households remain renters.

6. Implications in a Housing Market and Policy Context

6.1 Introduction

The housing market outcomes experienced by different communities around the country reflect the changing economic and institutional environment in which they operated. During the 2000s and into the second decade of this century housing markets around the country experienced a significant cycle which peaked in 2008 and subsequently declined. Trends in the relative size of the intermediate housing market reflect renter households' ability to become owner occupiers.

The results of this analysis suggest nationally housing affordability was poorest in the middle of the last decade before improving over the next seven years. However, not all regions have followed the same pathway. Auckland is now significantly out of cycle with the rest of the country and has experienced declines in affordability since 2013. These trends have a number of housing market and policy implications. The objective of this section of the report is to highlight some of these areas.

6.2 Housing Market and Policy Implications

Trends in the relative size of the intermediate housing market indicate there has been a significant readjustment in the relative level of affordability of housing purchase for renter households since 2006. The notable exception to this trend is the Auckland region where the analysis suggests current market trends are unsustainable in both the short to long term.

Key drivers in the relative size of the intermediate market are interest rates and growth in dwelling sale prices relative to household incomes. Interest rates are currently low by historical standards and consequently have had a positive impact reducing the size of the intermediate market and improving housing affordability. If house prices continue to increase at rates significantly higher than the growth in household incomes very few renter households will be able to afford to buy a dwelling in Auckland.

If Auckland's current market trend is maintained there are likely to be a number of housing market outcomes. First, home ownership rates are likely to continue to decline in Auckland, potentially at a faster rate than over the last decade. In 2013 Auckland's upper quartile household income of a private renter was \$91,000 and with the current low interest rates they would be able to affordably borrow approximately \$350,000 to \$360,000. The lower quartile house sale price is approximately \$610,000. Auckland's house prices would need to fall by 27% or incomes increase by 37% before an upper quartile renter household could affordably purchase a dwelling at the lower quartile house price.

DPMC (2008) analysed the long term average median house price to median household income ratio at approximately 3.5. Auckland's current house price to income ratio is approximately 9.5. This also suggests a significant imbalance. If this ratio was to fall to 5.0, which is still significantly higher than the long term average, it would require house prices to fall by approximately 50%. The pressures within Auckland's housing market will continue to increase while house prices increase at a faster rate than household incomes.

Table 6.1 presents the trends in household incomes and house sale prices between 2001 and 2013.

Table 6.1: House Price and Household Income Growth 2001 to 2013

	House Price Growth			Household Income Growth			Difference		
	01 to 06	06 to 13	01 to 13	01 to 06	06 to 13	01 to 13	01 to 06	06 to 13	01 to 13
Auckland	79%	32%	137%	29%	21%	56%	50%	11%	80%
Hamilton	94%	10%	114%	31%	21%	59%	63%	-11%	55%
Tauranga	81%	-2%	78%	36%	23%	67%	45%	-25%	11%
Wellington	71%	18%	103%	25%	23%	53%	46%	-4%	49%
Christchurch	94%	31%	155%	32%	35%	79%	62%	-4%	76%
Dunedin	127%	10%	151%	34%	25%	67%	94%	-15%	83%
New Zealand	89%	22%	131%	30%	24%	61%	60%	-2%	69%

Source: Statistics New Zealand and Corelogic

It is also important to note that Auckland's house prices have increased by another 30% since 2013 further eroding renter households' ability to purchase. The analysis presented on the intermediate housing market presented in this report has a number of potential implications in a housing market context. These include:

- The current low interest rates have assisted in reducing the size of the intermediate housing market. If interest rates were to increase to their long term average the size of the intermediate market would increase by approximately 7 to 8 percentage points;
- With the exception of Auckland the relative size of the immediate market is lower than at the peak of the market in 2006.
- House prices in Auckland would need to increase at a rate 2 percentage points lower than the growth in household income to have a significant impact on the relative size of the intermediate market over the next decade, assuming no change in interest rates.
- The current deterioration in the ability of renter households to buy a dwelling implies Auckland's home ownership rates are likely to continue to fall.

These trends are likely to have policy implications. Government agencies have a number of potential strategies. First they can develop policies that address the issues associated with the decline in affordability and second implement longer term strategies to address the causes in the decline in Auckland renter's ability to purchase.

Renters have become a more diverse group incorporating more households consisting of couples-with-children and older renters. As these households remain in the market for longer they have the potential for out-competing other households. This means that there is a real possibility that those households that have traditionally relied on the private rental sector could be increasingly marginalised in the market as fewer households transition to owner occupation. The housing circumstance of these households could become more problematic and may result in increased overcrowding and increased demands for housing assistance.

The growth in the intermediate housing market and need for adequate affordable housing has implications for economic development. Failure to provide adequate, affordable, local housing options for those in the intermediate housing market can impact upon not only the efficiency of the local labour market and in particular labour availability, but also can lead to sub-optimal settlement and commute patterns.

The economic consequences of a growing intermediate housing market for the mainstream economy include the growing inability of workers in essential occupations such as police, nurses

and teachers to buy in areas in which they work. Again, failure to provide the desired local housing options for these key workers can impact upon the efficiency of the local labour market and in particular labour availability in these key occupations.

Declines in renter's ability to purchase dwellings and subsequent falls in home ownership rates impacts on the traditional notions of housing careers. Increasingly renter households are unable to transition to home ownership. Over the last two decades New Zealand has done well increasing the supply of the dwellings in the private rental stock at a pace which has limited the growth in rents to close to the rate at which household incomes have been increasing. To some extent Government has achieved this by not overly regulating the market. Changes in regulations focused on the private rental market could potentially slow the growth in the private rental housing stock and consequently have a positive impact on the rate of growth in rents.

The breakdown of the traditional housing pathway in Auckland is likely to result in a growing number of households who will never attain home ownership. Renter households on fixed incomes, particularly those with people aged 65 years and older, are particularly vulnerable to changes in the level of market housing costs (rents). Consequently one of the issues in need of consideration is how to ensure that there is appropriate affordable housing available to these households. In addition the growth in the number of renter households could place ongoing pressure for the accommodation supplement.

Low income owner occupied households are eligible for the accommodation supplement. However the income and asset threshold tests are likely to disqualify the majority of households. For example, the maximum allowable income in zone 1 (highest income areas) for the accommodation supplement is a gross household income of \$77,012 per annum and \$45,812 per annum in zone 4 (lowest income threshold. These are significantly lower than the incomes required to purchase a dwelling at the lower quartile house price in the majority of locations. However, in some of the smaller lower cost provincial centres it may have a small impact around the margins in terms of the number of intermediate households.

Traditionally, home ownership and the stability it provides has been associated with a range of positive educational, health and social outcomes. A key challenge for government housing policy is how, in the context of a growing intermediate housing market, with growing numbers of life-long renters, these benefits might also be secured by those unable for reasons of affordability to secure home ownership.

Home ownership has also been one of households' key wealth building strategies. Growth in the intermediate housing market limits the ability of those households (in the intermediate housing market) ability to save and accumulate wealth for old age via home ownership. This has implications for the quantum and type of consumption support Government may have to provide during old age for those confined for most of their lives to the private rental market.

Many of the factors contributing to housing affordability problems arise within the housing system such as the failure to provide an adequate supply of well-located affordable housing. Other contributing factors arise from outside the housing system and housing policy settings. There are no easy answers in developing the appropriate policy responses to these trends, particularly in an Auckland context. It is important that future policy development considers their impact on the housing market whether it relates to issues directly associated with the housing market or in a more general economic context.

6.3 Areas for Further Research

Future areas of research need to focus on improving our understanding of the supply of affordable housing particularly in an Auckland context. This could include research into:

- The nature and evolution of the supply of affordable housing in Auckland. Prior to the 1990s, the majority of the supply of affordable housing came from the recycling of the existing housing stock as households sold and traded up releasing older cheaper dwellings back onto the market. Since 2000, this market filtering system has stalled as demand increased faster than supply. Consequently understanding the nature, distribution and typology of Auckland's affordable housing stock will improve our current knowledge about the market mechanisms at play;
- The strategies adopted by Australian cities that have boosted the supply of affordable multi-unit dwellings over the last ten years, how applicable they are in a New Zealand context and their impact on housing affordability outcomes;
- The role of development corporations in redevelopment and intensifying inner city sites along with their role in increasing affordable housing within existing urban areas and whether they add economic value in a regional context; and
- The role of shared equity providers to assist higher income renters' transition to home ownership including the conditions required to assist them to move to scale and have a significant impact on the market.

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Appendix One: Intermediate Housing Market Scenarios by Region

Scenario	Number of Intermediate Households					Intermediate Households as a % of IWPSR			
	2015	2021	2026	2031	Change 15 to 31	2015	2021	2026	2031
Northland									
1	4,000	4,500	5,300	6,200	2,200	45%	43%	45%	48%
2	4,000	5,400	6,400	7,400	3,400	45%	52%	54%	57%
3	4,000	5,700	7,000	8,300	4,300	45%	54%	59%	64%
4	4,000	4,700	5,800	7,000	3,000	45%	45%	50%	54%
5	4,000	4,200	4,700	5,200	1,200	45%	40%	40%	40%
6	4,000	5,100	5,700	6,300	2,300	45%	49%	49%	49%
7	4,000	3,500	3,300	3,800	-200	45%	33%	28%	30%
8	4,000	4,400	4,200	4,000	0	45%	42%	36%	31%
Auckland									
1	85,400	108,700	134,300	161,300	75,900	78%	83%	90%	99%
2	85,400	117,700	142,500	172,000	86,600	78%	90%	95%	99%
3	85,400	112,900	133,600	155,600	70,200	78%	86%	89%	92%
4	85,400	102,800	122,900	145,800	60,400	78%	78%	82%	86%
5	85,400	97,500	111,300	126,100	40,700	78%	74%	74%	74%
6	85,400	106,800	121,900	138,000	52,600	78%	81%	81%	81%
7	85,400	91,000	94,200	95,200	9,800	78%	69%	63%	56%
8	85,400	99,200	106,900	112,900	27,500	78%	76%	71%	67%
Waikato									
1	14,300	16,500	20,000	24,000	9,700	46%	47%	52%	57%
2	14,300	19,500	23,400	27,800	13,500	46%	55%	61%	66%
3	14,300	19,400	23,200	27,700	13,400	46%	55%	60%	65%
4	14,300	16,500	19,900	23,800	9,500	46%	47%	51%	56%
5	14,300	14,600	16,200	18,000	3,700	46%	42%	42%	42%
6	14,300	17,700	19,700	21,700	7,400	46%	50%	51%	51%
7	14,300	12,300	11,900	11,300	-3,000	46%	35%	31%	27%
8	14,300	15,200	14,700	14,100	-200	46%	43%	38%	33%
Bay of Plenty									
1	9,900	11,400	13,800	16,500	6,600	48%	47%	51%	54%
2	9,900	13,400	16,200	19,200	9,300	48%	56%	59%	63%
3	9,900	13,800	16,900	20,500	10,600	48%	57%	62%	67%
4	9,900	11,800	14,500	17,700	7,800	48%	49%	53%	58%
5	9,900	10,500	12,000	13,500	3,600	48%	43%	44%	44%
6	9,900	12,600	14,300	16,200	6,300	48%	52%	53%	53%
7	9,900	8,900	9,400	9,500	-400	48%	37%	34%	31%
8	9,900	10,900	10,900	10,700	800	48%	45%	40%	35%

Scenario	Number of Intermediate Households					Intermediate Households as a % of IWPSR			
	2015	2021	2026	2031	Chage 15 to 31	2015	2021	2026	2031
Gisborne									
1	800	800	1,000	1,100	300	26%	25%	27%	30%
2	800	1,000	1,200	1,400	600	26%	32%	35%	38%
3	800	1,100	1,300	1,600	800	26%	34%	38%	42%
4	800	900	1,000	1,300	500	26%	26%	30%	34%
5	800	700	800	800	0	26%	23%	23%	23%
6	800	900	1,000	1,100	300	26%	29%	29%	29%
7	800	800	900	1,000	200	26%	24%	26%	27%
8	800	800	700	1,200	400	26%	24%	20%	32%
Hawkes Bay									
1	4,500	5,000	6,000	7,100	2,600	44%	45%	49%	54%
2	4,500	6,000	7,200	8,400	3,900	44%	54%	59%	64%
3	4,500	6,100	7,200	8,500	4,000	44%	54%	59%	64%
4	4,500	5,100	6,000	7,200	2,700	44%	45%	49%	54%
5	4,500	4,500	4,900	5,300	800	44%	40%	40%	40%
6	4,500	5,500	6,000	6,500	2,000	44%	48%	49%	49%
7	4,500	3,800	3,600	3,300	-1,200	44%	34%	29%	25%
8	4,500	4,700	4,500	4,200	-300	44%	42%	37%	32%
Taranaki									
1	2,800	3,300	4,000	4,600	1,800	40%	43%	49%	54%
2	2,800	3,900	4,600	5,300	2,500	40%	51%	57%	62%
3	2,800	3,800	4,300	5,000	2,200	40%	50%	54%	58%
4	2,800	3,100	3,700	4,300	1,500	40%	41%	45%	50%
5	2,800	2,900	3,100	3,400	600	40%	38%	39%	40%
6	2,800	3,400	3,600	3,800	1,000	40%	44%	45%	45%
7	2,800	2,500	2,400	2,300	-500	40%	32%	29%	26%
8	2,800	3,000	2,900	2,800	0	40%	39%	36%	33%
Manawatu-Wanganui									
1	4,900	5,300	6,200	7,100	2,200	33%	32%	34%	36%
2	4,900	6,100	6,800	7,500	2,600	33%	36%	37%	38%
3	4,900	5,300	6,200	7,200	2,300	33%	32%	34%	37%
4	4,900	6,100	6,900	7,600	2,700	33%	37%	38%	39%
5	4,900	6,900	8,500	10,100	5,200	33%	41%	46%	51%
6	4,900	5,900	7,000	8,500	3,600	33%	35%	38%	43%
7	4,900	4,500	4,600	5,000	100	33%	27%	25%	25%
8	4,900	5,600	5,700	5,700	800	33%	33%	31%	29%

Scenario	Number of Intermediate Households					Intermediate Households as a % of IWPSR			
	2015	2021	2026	2031	Chage 15 to 31	2015	2021	2026	2031
Wellington									
1	19,400	21,000	24,400	27,500	8,100	50%	49%	52%	55%
2	19,400	24,800	28,100	31,600	12,200	50%	58%	60%	63%
3	19,400	25,700	29,800	34,300	14,900	50%	60%	64%	68%
4	19,400	21,800	26,100	30,200	10,800	50%	51%	56%	60%
5	19,400	19,400	21,200	22,900	3,500	50%	45%	46%	46%
6	19,400	23,600	25,700	27,900	8,500	50%	55%	55%	55%
7	19,400	16,400	15,600	14,500	-4,900	50%	38%	34%	29%
8	19,400	20,200	19,200	18,000	-1,400	50%	47%	41%	36%
Tasman									
1	1,900	2,300	2,800	3,400	1,500	70%	71%	75%	79%
2	1,900	2,500	3,100	3,700	1,800	70%	78%	82%	87%
3	1,900	2,500	3,000	3,600	1,700	70%	77%	80%	84%
4	1,900	2,300	2,800	3,300	1,400	70%	70%	73%	77%
5	1,900	2,100	2,400	2,700	800	70%	63%	63%	63%
6	1,900	2,400	2,700	3,100	1,200	70%	73%	73%	73%
7	1,900	1,800	1,800	1,800	-100	70%	55%	49%	43%
8	1,900	2,100	2,200	2,200	300	70%	65%	58%	52%
Nelson									
1	2,200	2,500	2,900	3,300	1,100	63%	64%	68%	72%
2	2,200	2,900	3,200	3,700	1,500	63%	72%	75%	79%
3	2,200	2,900	3,200	3,700	1,500	63%	72%	76%	80%
4	2,200	2,500	2,900	3,300	1,100	63%	64%	68%	72%
5	2,200	2,300	2,500	2,700	500	63%	58%	58%	58%
6	2,200	2,700	2,900	3,100	900	63%	68%	68%	68%
7	2,200	2,000	1,900	1,800	-400	63%	50%	44%	38%
8	2,200	2,400	2,300	2,200	0	63%	60%	53%	47%
Marlborough									
1	1,300	1,400	1,700	2,000	700	46%	45%	48%	52%
2	1,300	1,700	2,100	2,400	1,100	46%	55%	59%	63%
3	1,300	1,800	2,200	2,500	1,200	46%	57%	63%	67%
4	1,300	1,500	1,800	2,200	900	46%	47%	52%	57%
5	1,300	1,300	1,400	1,600	300	46%	41%	41%	41%
6	1,300	1,600	1,800	1,900	600	46%	51%	51%	51%
7	1,300	1,100	1,000	900	-400	46%	34%	29%	25%
8	1,300	1,400	1,300	1,200	-100	46%	43%	37%	32%

Scenario	Number of Intermediate Households					Intermediate Households as a % of IWPSR			
	2015	2021	2026	2031	Change 15 to 31	2015	2021	2026	2031
West Coast									
1	500	600	600	800	300	22%	25%	27%	32%
2	500	700	800	1,000	500	22%	30%	34%	39%
3	500	600	700	900	400	22%	28%	32%	36%
4	500	500	600	700	200	22%	24%	25%	28%
5	500	500	500	600	100	22%	21%	22%	23%
6	500	500	600	600	100	22%	25%	25%	25%
7	500	500	500	600	100	22%	21%	23%	25%
8	500	500	500	700	200	22%	22%	23%	29%
Canterbury									
1	21,500	26,900	34,500	43,500	22,000	54%	58%	65%	73%
2	21,500	31,600	39,500	47,000	25,500	54%	68%	75%	79%
3	21,500	30,000	36,800	43,900	22,400	54%	64%	70%	74%
4	21,500	25,500	31,400	38,100	16,600	54%	55%	59%	64%
5	21,500	23,000	26,100	29,300	7,800	54%	49%	49%	49%
6	21,500	27,300	31,000	34,700	13,200	54%	58%	59%	59%
7	21,500	19,300	18,800	17,900	-3,600	54%	41%	35%	30%
8	21,500	23,800	23,600	22,800	1,300	54%	51%	45%	39%
Otago									
1	6,900	8,300	10,300	12,800	5,900	46%	49%	55%	61%
2	6,900	9,600	11,700	14,000	7,100	46%	57%	62%	67%
3	6,900	9,400	11,300	13,600	6,700	46%	55%	60%	65%
4	6,900	8,100	10,000	12,000	5,100	46%	48%	53%	57%
5	6,900	7,300	8,400	9,500	2,600	46%	43%	44%	45%
6	6,900	8,600	9,800	11,100	4,200	46%	51%	52%	53%
7	6,900	6,300	6,300	6,300	-600	46%	37%	33%	30%
8	6,900	7,600	7,800	7,800	900	46%	45%	41%	37%
Southland									
1	1,200	1,400	1,700	2,200	1,000	19%	19%	23%	26%
2	1,200	1,800	2,200	2,700	1,500	19%	25%	28%	32%
3	1,200	1,800	2,200	2,700	1,500	19%	25%	28%	32%
4	1,200	1,400	1,800	2,100	900	19%	20%	23%	25%
5	1,200	1,600	2,000	2,600	1,400	19%	22%	26%	31%
6	1,200	1,600	1,700	1,900	700	19%	22%	22%	23%
7	1,200	1,400	1,600	1,900	700	19%	20%	21%	23%
8	1,200	1,300	1,900	2,200	1,000	19%	19%	24%	26%