Statistics New Zealand
TATAURANGA AOTEAROA

Housing in Auckland

Trends in housing from the Census of Population and Dwellings 1991 to 2013

Rosemary Goodyear

Angela Fabian

New Zealand Government

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Contact
Statistics New Zealand Information Centre: info@stats.govt.nz
Phone toll-free 0508 525 525
Phone international +64 4 931 4610
www.stats.govt.nz

For more information on the statistics in this paper, please contact Rosemary Goodyear (rosemary.goodyear@stats.govt.nz).

Contents

List of tables and figures

List of tables by chapter

List of figures by chapter

1 Purpose and key findings

Housing in Auckland: Trends in housing from the Census of Population and Dwellings 1991 to 2013 describes some of the changes that have occurred in housing in the Auckland region, including tenure, housing costs, and household crowding. There is a particular focus on how Auckland's rapid growth has affected housing. Some of the analysis focuses on comparisons between 2006 and 2013, or 2001 and 2013, but in other instances a longer time series has been used. A variety of official data sources have been used, including the Census of Population and Dwellings, Building Consents Issued, and the Household Economic Survey. The census is the main source of the data in this report.

While there is considerable interest in the level of homelessness in Auckland, this is not an easy or straightforward question to answer from census housing data alone. Research on severe housing deprivation (Amore, Viggers, Baker, and Howden-Chapman, 2013) used a combination of administrative and census data and applied a complex set of criteria to develop estimates of homelessness. According to the New Zealand definition, homelessness is "living situations where people with no other options to acquire safe and secure housing: are without shelter, in temporary accommodation, sharing accommodation with a household, or living in uninhabitable housing" (Statistics New Zealand, 2009).

This report does not estimate homelessness in Auckland. However, it uses the New Zealand definition of homelessness and the work of Amore et al (2013) to identify types of housing associated with severe housing deprivation and includes information on the numbers and characteristics of people living in these types of housing. These types of housing include severe crowding and people living in 'other' private dwelling types.

Scope of this report

The content of this report reflects consultation with the Auckland Council, the Auckland District Health Board, welfare agencies, and central government agencies, in particular the Ministry of Business, Innovation and Employment (MBIE). The report looks at changes in dwelling numbers, types, and density over time, and trends in home ownership, affordability, and household crowding.

Unless specified further, throughout this report the term 'Auckland' is used to refer to the Auckland region, and the term 'Aucklander' is used to refer to people who were usually resident in the Auckland region.

On 1 November 2010, Auckland Council became a unitary authority, when Auckland regional council area and seven territorial authority areas – Rodney district, North Shore city, Waitākere city, Auckland city, Manukau city, Papakura district, and Franklin district – amalgamated.

The Auckland region is made up of 21 local board areas, from Rodney at the northern end to Franklin at the southern end, as shown in figure 9. Data from the census has been back-cast so that a comparable time series can be produced. Therefore, even though the local boards have only been operational since 2010, we have included time series data for the boards.

Note on cancellation of 2011 Census

A census had been scheduled to take place in March 2011, but was abandoned because of the 22 February 2011 earthquake in Christchurch. The Government Statistician decided that a census could not be successfully completed in 2011 given the national state of emergency and the probable impact on census results. As a result, the gap between censuses was seven years, rather than the usual five-year interval. This means time series comparisons should be done with care.

Key findings

The following section lists the key findings of this report.

Building consents in Auckland are lower per head of population than for New Zealand overall

Building consents per head of population have decreased markedly in Auckland since the building boom years of the mid-2000s. From 2006 onwards, building consents in Auckland have been lower per head of population than for New Zealand overall. For example, in 2013, there were 358 building consents per 100,000 people compared with 423 building consents per 100,000 people in New Zealand overall. However, the number of building consents issued for new dwellings in Auckland has increased from the low point in 2009 to reach almost 7,000 in the year ended March 2014.

Since 2006, the number of occupied private dwellings in Auckland has increased by 7.6 percent but the population of Auckland has increased by 8.5 percent. Growth was highest in Upper Harbour, with a 20.7 percent increase in occupied private dwellings and a 25.2 percent increase in population. Auckland showed little spare housing capacity with the second lowest percentage (6.6 percent) of unoccupied dwellings in New Zealand and little change in the number of these dwellings since 2006.

Dwelling density in Auckland is increasing

Dwelling density and housing stock in Auckland has changed considerably since the 1990s. Dwelling density increased in Auckland between 2001 and 2013, from 85.5 to 102.0 dwellings per square kilometre. In 2013 the most dense area units (Auckland Central East and Auckland Central West) had over 5,000 dwellings per square kilometre.

Joined dwellings and dwellings in multi-storey buildings are becoming more common in Auckland. In 2013, nearly one in four occupied private dwellings in Auckland were joined to others, compared with one in five in 2001. Apartments made up 14.4 percent of occupied joined dwellings in 2013 compared with 10.2 percent in 2006.

More people in Auckland are living in ‘other private’ (temporary) dwellings

In 2013, there were 3,882 people living in ‘other private dwellings’ in Auckland, which was a 24.1 percent increase from 3,129 people in 2006. This includes dwellings that are mobile, in motor camps, or improvised.

Home ownership rates are lower in Auckland than elsewhere in New Zealand

In 1986 home ownership rates in Auckland were similar to the rest of New Zealand at 73.9 percent and 73.6 percent, respectively. Since then home ownership rates in Auckland have fallen relative to the rest of New Zealand. In 2013, 61.5 percent of Auckland households owned their home or held it in a family trust compared with 66.2 percent of households elsewhere in New Zealand.

Since 2001, home ownership has fallen across most ethnic groups, except the Middle Eastern/Latin American/African ethnic grouping. However, Pacific peoples had the largest decrease with a drop of 8.3 percentage points from 25.6 percent in 2001.

Auckland has the highest proportion of households in rental housing

The percentage of households who rented their home was higher in Auckland than in any other region of New Zealand and has increased, at 35.4 percent in 2013, compared with 32.4 percent in 2006.

An increasing proportion of children in Auckland live in rental housing

The proportion of children aged less than 15 years who lived in rental housing has increased since 2006. In Auckland, it rose from 39.8 percent (106,209 children) in 2006 to 43.7 percent (121,464 children) in 2013.

Auckland has high housing costs relative to the rest of New Zealand

Data from a range of sources shows that Auckland has high housing costs relative to the rest of New Zealand. Data from the Real Estate Institute of New Zealand has shown that Auckland experienced a longer, and more sustained, increase in house prices than other regions. The Household Economic Survey (HES) shows that households in Auckland spend more of their income on housing than households elsewhere in New Zealand. In 2013, households in Auckland that owned their home spent 15.2 percent of their income on housing compared with 12.0 and 10.6 percent in the Wellington and Canterbury regions, respectively. Households in Auckland who rented their home spent around a quarter of their income on rent, whereas households in Wellington and Canterbury spent just over a fifth of their income on rent.

Around half of crowded households in New Zealand are now in Auckland

While crowding has decreased in most of New Zealand since 1991, levels of crowding in Auckland have remained persistently high. This means that over time crowding has become increasingly concentrated in Auckland. In 1991, about a third (35.7 percent) of crowded households were in Auckland. By 2013 this proportion had increased to just under half (49.4 percent).

Crowding was highest in Māngere-Ōtāhuhu (42.6 percent or 26,949 people), followed by Ōtara-Papatoetoe (39.5 percent or 27,048 people). In the most crowded area units in Auckland, around 1 in 2 people were living in a crowded household.

Over 200,000 people in Auckland live in a crowded household

In 2013, 203,817 people in Auckland lived in a crowded household, of which 63,155 people were children aged less than 15 years. Young people aged 20–24 years were most likely to live in a crowded household. Crowding was highest among Pacific peoples with 45.3 percent living in a crowded household in 2013.

Auckland has the highest percentage of unheated private dwellings

Auckland had the highest percentage of private dwellings where no heating was used, at 5.9 percent. This was an increase from 4.5 percent in 2006. Over two thirds (68.0 percent) of Auckland households in unheated dwellings rented their home.

2 Housing affordability, housing supply, and Auckland

This chapter introduces research around housing affordability and supply in Auckland and covers:

Housing affordability

Auckland's housing issues have been prominent in recent years, both in the media and in research reports such as the New Zealand Productivity Commission's *Review of housing affordability*. The Auckland Plan discusses the following issues: a persistent under-supply of housing; a lack of housing choice; poor quality, unhealthy and overcrowded housing; and declining affordability and home ownership (Auckland Council, 2012).

In 2013, the government passed legislation to create special housing areas. These are areas identified by the government as having severe housing affordability problems. Under the special housing areas legislation, development can be fast-tracked. The aim is to produce more affordable housing for families and first home-buyers. Auckland Council and central government signed the first Housing Accord in 2013, which enables the creation of special housing areas (Auckland Council 2013).

Housing affordability in New Zealand, particularly in Auckland, has been a topic of growing concern for policy makers and researchers. There has been debate around the causes of rapidly rising house prices; the increasing disconnect between income levels, rent increases, and house prices; and the degree to which affordability is actually a significant problem. Researchers Bassett and Malpass (2013) attribute declining housing affordability to a range of factors, including changes in household size and composition, increased building costs, shifting government rules and local government regulations. The Productivity Commission (2012) in their Housing Affordability Enquiry noted a range of potential factors contributing to rising house prices 'such as land supply restrictions, the problems with achieving scale in new house construction and inefficiencies, costs, and delays in regulatory processes'. They also highlighted concern around affordability for renters (although rents have not increased at the same rate as house prices) and noted 'that the current approach to social housing in New Zealand will not provide sufficient support for many New Zealanders in need'.

Auckland is not alone among large cities world-wide in experiencing affordability problems. Treasury researcher, Mark Skidmore, notes in a 2014 working paper that cities in the United States that are similar to Auckland (with high amenities, growing populations, and physical constraints) have also experienced high rates of housing price growth.

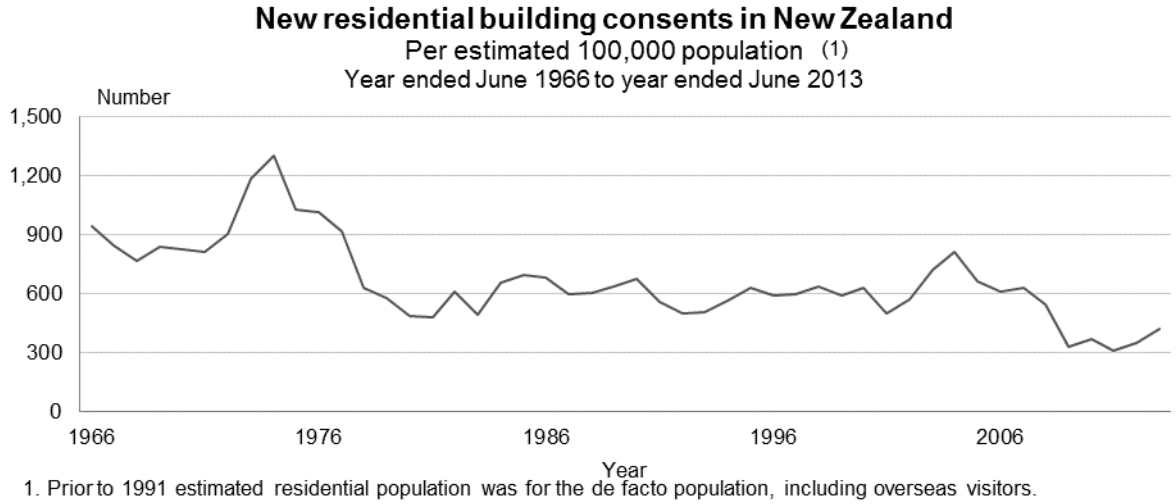
Some of the debate over housing in Auckland has been about whether enough houses are being built and to what extent new housing is affordable. There has also been some concern over whether new housing on the periphery will worsen Auckland's congestion and drive up transport costs for residents living there. Auckland's Proposed Unitary Plan has therefore adopted the quality compact city model, in which central areas with good access to high-frequency public transport and other facilities are targeted for higher density living.

The following section looks at trends in new dwellings using building consents data. For interest we have included building consents data per head of population back to the 1960s, which clearly shows the peak in residential building consents per head of population in the 1970s.

Trends in building consents

In recent years the number of building consents issued has been below the peak in the 1970s as figure 1 shows. Apart from a brief period in 2004, the subsequent rate of new building consents per head of population has been well below the rate in the 1960s and 1970s. Since the global financial crisis (GFC) there has been a slowing down in the growth of new dwellings in New Zealand.

Figure 1



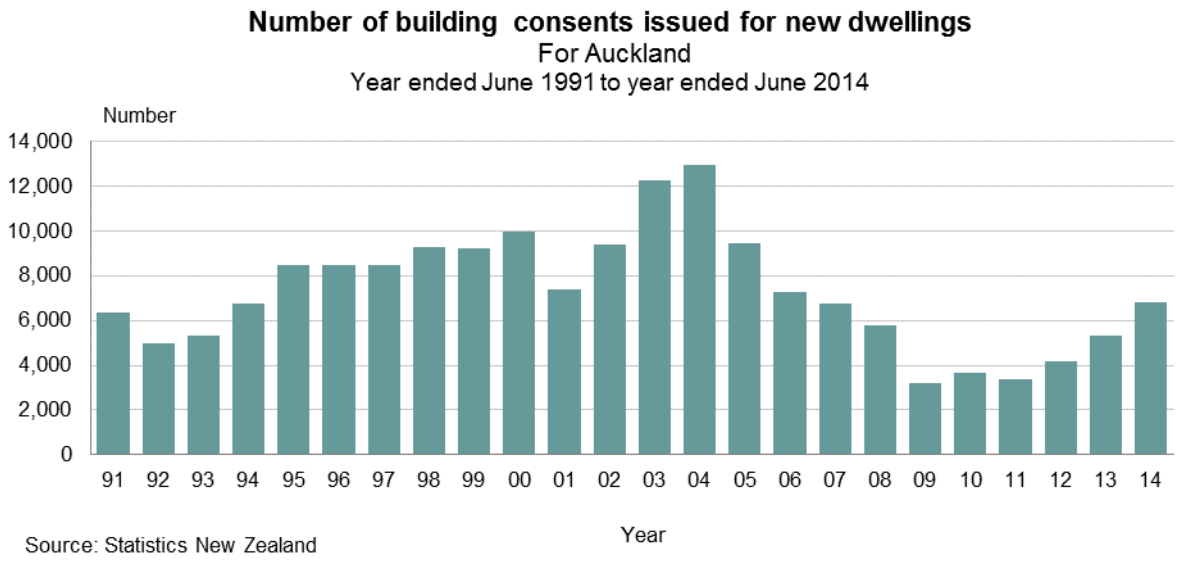
1. Prior to 1991 estimated residential population was for the de facto population, including overseas visitors. From 1991 onwards, estimated residential population includes New Zealanders temporarily overseas but excludes overseas visitors.

Source: Statistics New Zealand

Much of the 1970s housing boom was centred on smaller homes (around 90 to 100 square metres). Bassett and Malpass (2013) argue that low interest state advances loans, which until 1979 were only granted for new dwellings, helped to provide a market for these modest starter homes. Construction companies were able to benefit from economies of scale. They argued, however, that once people could buy existing houses the market for these smaller homes declined and building construction companies shifted their focus to other more lucrative building projects.

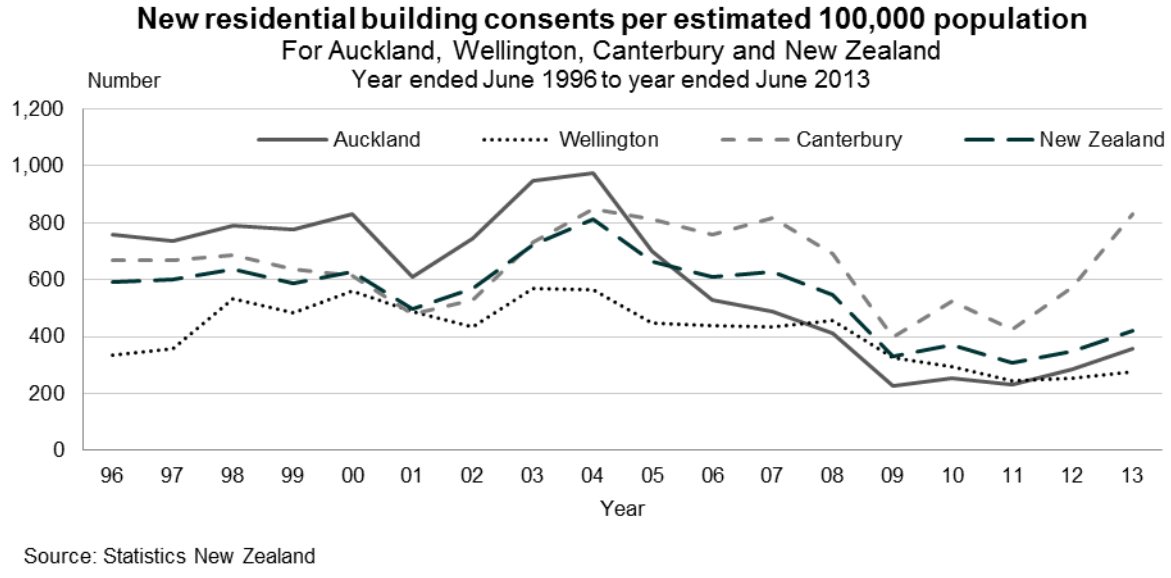
Figure 2 shows the number of building consents issued for new dwellings in Auckland, while figure 3 shows the number of consents for new dwellings per head of population between 1991 and 2014 for Auckland, Wellington, and Canterbury regions as well as New Zealand.

Figure 2



Data for more recent years (from 2006 onwards) shows that Auckland building consents have been lower per head of population than for New Zealand overall. For example, in 2013, there were 358 building consents per 100,000 people compared with 423 per 100,000 people nationally.

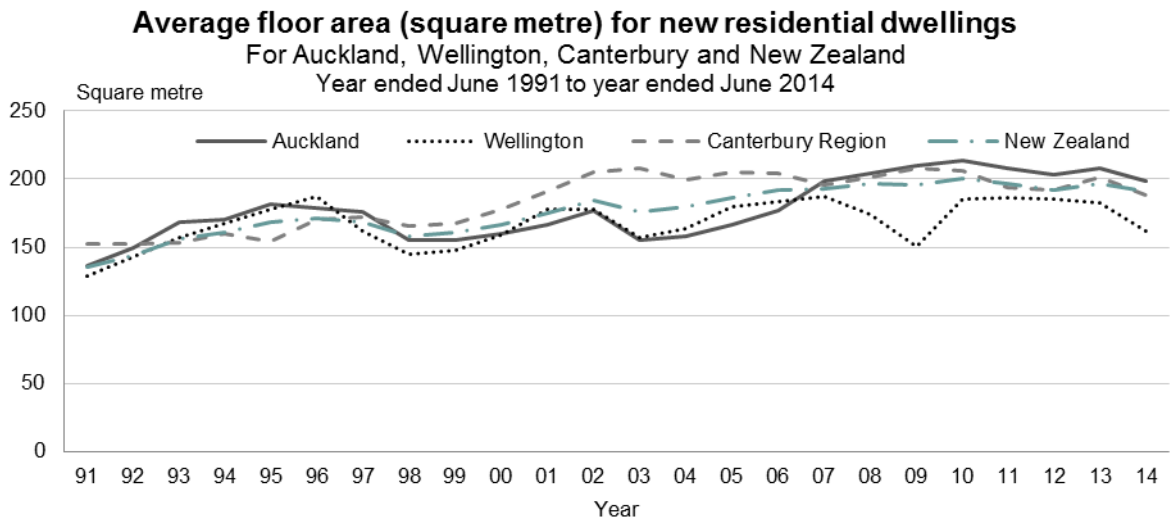
Figure 3



Since 2011, building consents increased, albeit at a slower rate than in previous booms.

Average floor size of new dwellings in Auckland was larger than in Wellington or Canterbury from 2007 onwards (see figure 4). Between the year ended June 2010 and year ended June 2014, floor size averaged at 205 square metres for Auckland, compared with 198 and 179 square metres for the Wellington and Canterbury regions, respectively.

Figure 4

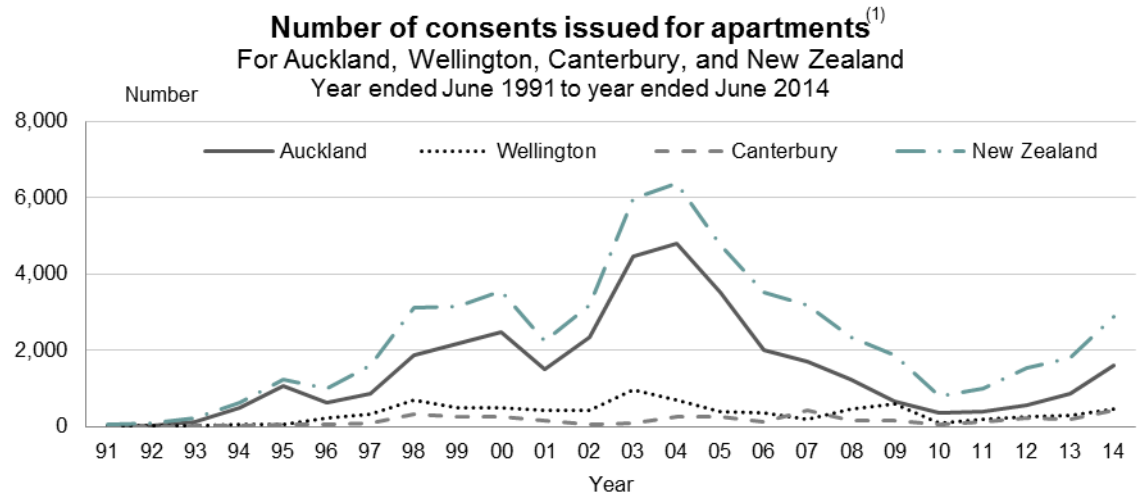


Source: Statistics New Zealand

Increasing number of building consents for apartments in Auckland

One feature of Auckland residential consents has been the rise in the number of consents issued for apartments. Although apartment consents can be volatile, over half of building consents issued for new apartments between the year ended June 1991 and June 2014, have been in the Auckland region. Note that the definition of apartments used in building consents refers to 10 or more units on one site, and can include a series of joined townhouses, retirement village complexes, as well as high rise dwellings.

Figure 5



1. Figures for new apartments are compiled from consents that have 10 or more attached new dwellings.

Source: Statistics New Zealand

There are further complexities when estimating the relationship between population growth and demand for housing as smaller households and more one-person households

can lead to an increase in housing demand without having an increase in population (New Zealand Productivity Commission, 2012). However, lack of supply can lead to constraints on the formation of new households. The following chapters investigate whether these constraints are appearing in Auckland.

3 Auckland's growing population

This chapter covers:

- Population growth and ethnic diversity in Auckland
- How Auckland's population is distributed
- Projected population growth in Auckland

Population growth and ethnic diversity in Auckland

Auckland is one of the fastest growing urban areas

In 1991, the Auckland region had a usually resident population totalling 943,773 people. Just over 9 out of 10 people (878,223) were living in the urban area. Urban areas are statistically defined areas and are designed to identify concentrated urban settlements, without the distortion of administrative boundaries. By 2013, the region's usually resident population totalled 1,415,550 people with 1,308,825 people living in the urban area. This represents an increase in the urban population of around 430,000 people since 1991, which is the equivalent of adding the populations of Christchurch and Palmerston North to Auckland urban area.

Auckland's urban area experienced a growth rate of just under 50 percent between 1991 and 2013. This growth rate was only surpassed by Tauranga, which experienced a 71.4 percent increase in population (an extra 50,151 people) over this period.

The population in Auckland's urban area has increased relative to the next largest urban areas of Wellington and Christchurch. In 1991, Auckland's urban area housed 2.9 times the population of Christchurch's urban area, but by 2013 it housed 3.7 times the population of Christchurch's urban area.

Figure 6 shows the size of Auckland's population relative to the other largest urban areas. Figure 7 shows the percentage change in population of these areas over the same time period.

Figure 6

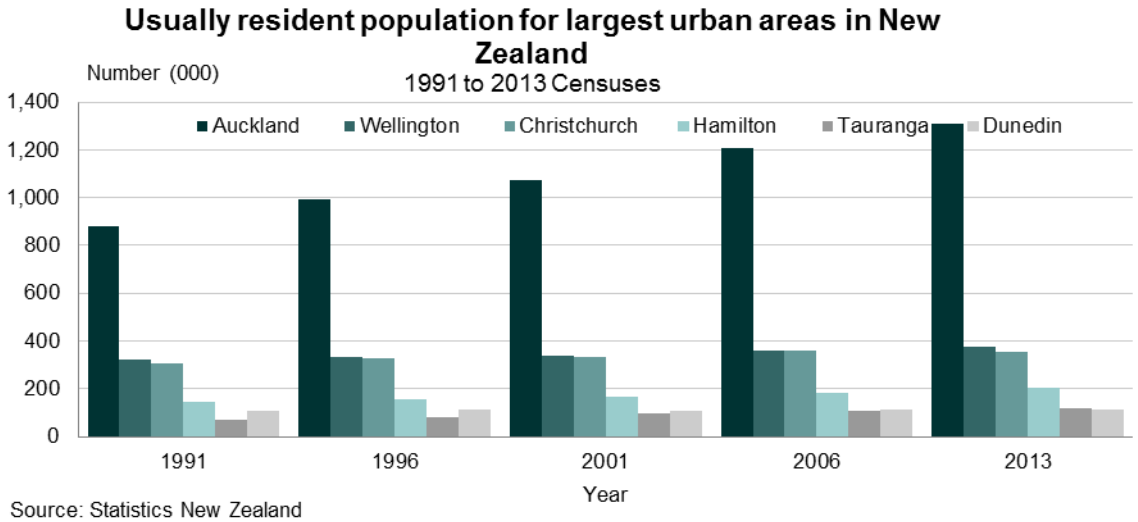
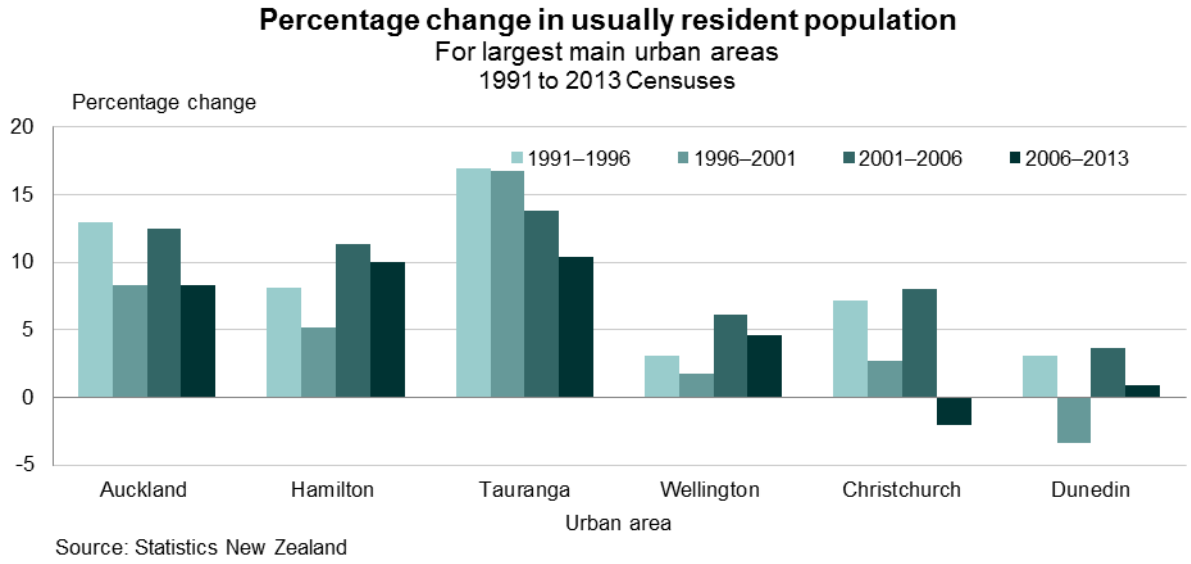


Figure 7

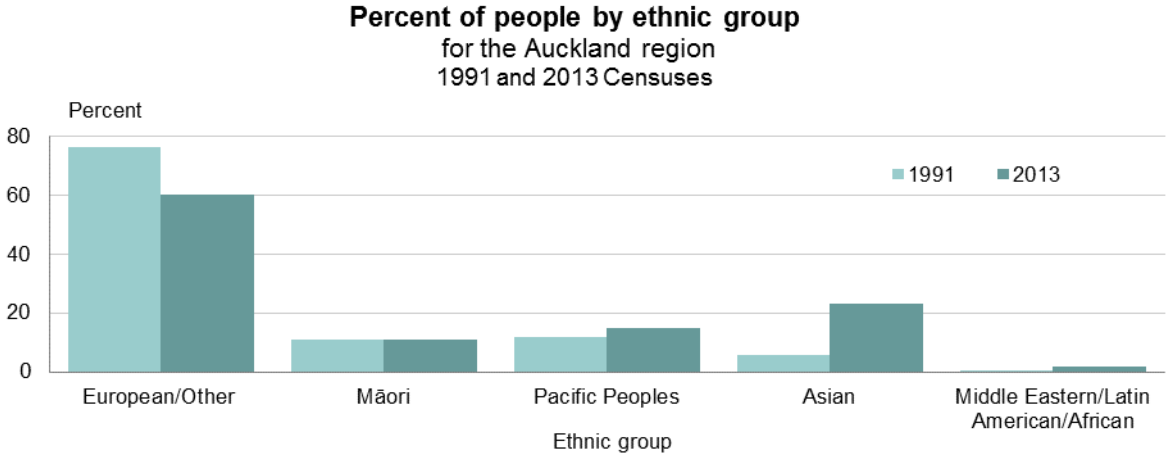


Source: Statistics New Zealand

Auckland's population has become increasingly diverse

Since the 1990s, Auckland has become the most ethnically diverse region in New Zealand. The most marked change has been in the proportion of people identifying with an Asian ethnicity, which rose by over 300 percent between 1991 and 2013. This rise compares with a 20 percent decline in the proportion of people identifying with a European ethnicity.

Figure 8



Note: For time series purposes 'Other' has been combined with European. The majority of the 'Other' response consists of New Zealander.

Source: Statistics New Zealand

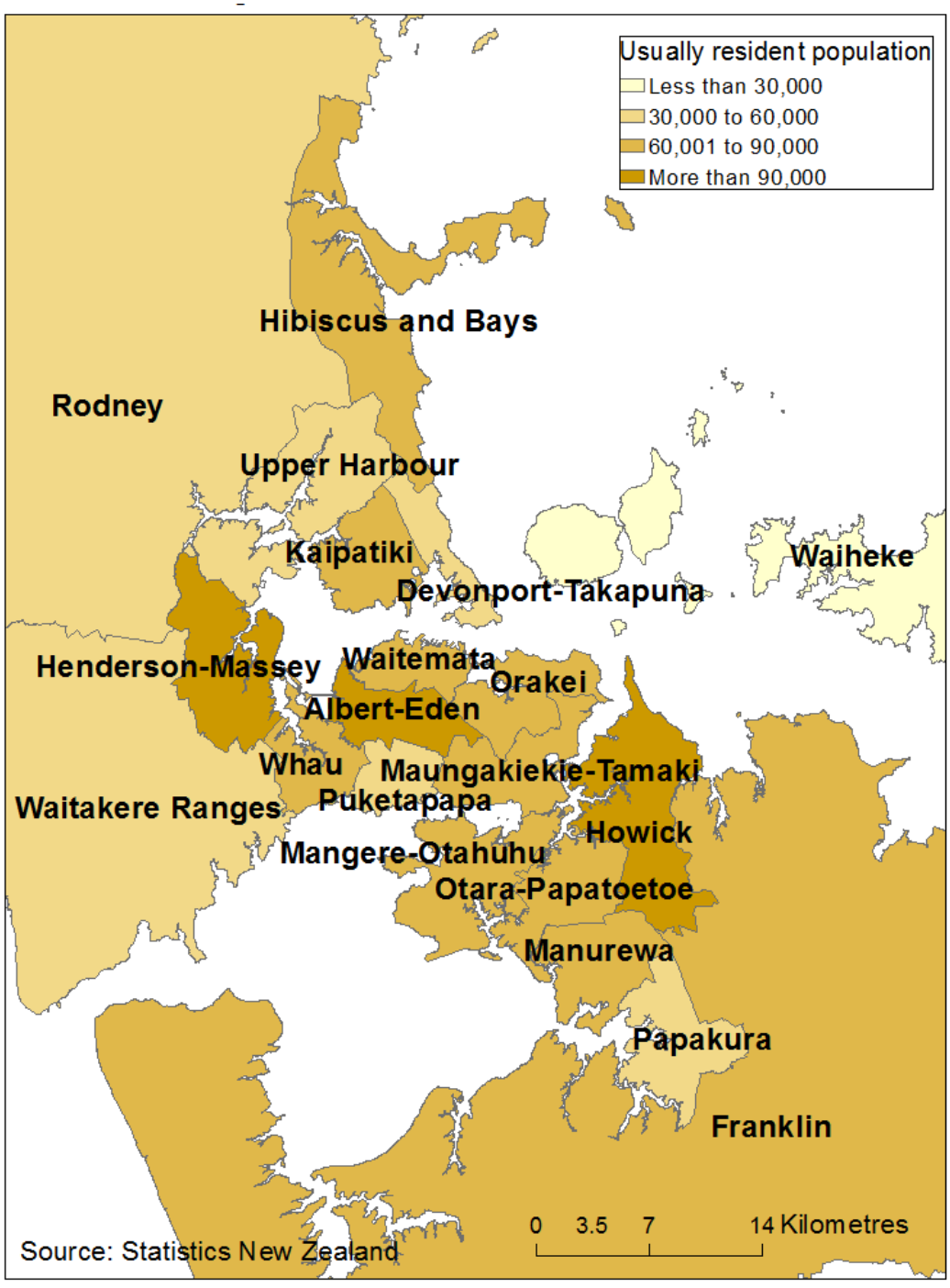
How Auckland's population is distributed

Figure 9 shows the distribution of Auckland's population by local board area. The most populous local boards were Howick with 127,125 people and Henderson-Massey with

107,682 people. Waiheke Island and Great Barrier Island (not pictured) had the lowest populations at 8,340 and 939 people, respectively.

Figure 9

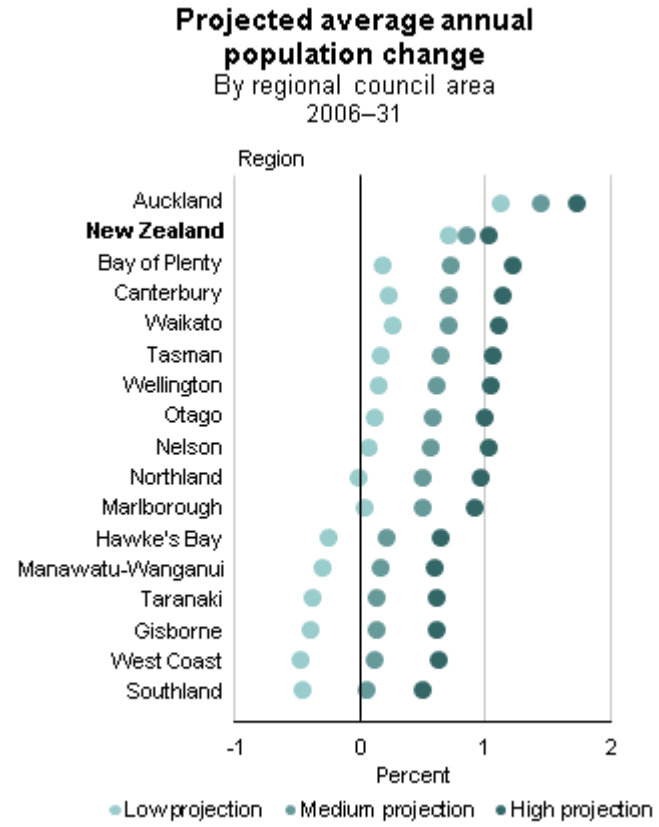
Population of local board area for Auckland region



Projected population growth in Auckland

Auckland's population is projected to continue to increase and could reach almost 2 million people by 2031 (subnational population projections, based on the 2006 Census). New population projections based on the 2013 Census are due to be released in February 2015 and are likely to vary from the projections presented here.

Figure 10



Source: Statistics New Zealand

This growth in population provides context for the dwelling information in the following chapter.

4 What the census shows us about changes in Auckland's housing

This chapter covers:

Growth in occupied private dwellings in Auckland

At the time of the 2013 Census, there were 473,448 occupied dwellings in Auckland. As elsewhere in New Zealand, the vast majority of these (472,041 dwellings) were private. There were 1,407 occupied non-private dwellings.

Between 2006 and 2013, the number of occupied private dwellings in Auckland increased by 7.6 percent (up 33,432 dwellings) from 438,609 dwellings in 2006. Over the same period, the population of Auckland increased by 8.5 percent to 1,415,550 people (up 110,589 people).

Average annual growth for occupied private dwellings in Auckland between 2006 and 2013 was 1.1 percent. This was around half the growth rate of 2001–06. The Wellington and Canterbury regions also showed lower growth between 2006 and 2013 than between 2001 and 2006.

Upper Harbour has the highest growth in occupied private dwellings

Of the local board areas, Upper Harbour had the highest percentage increase in occupied private dwellings since 2006, at 20.7 percent (2,937 dwellings) and the highest population growth since 2006, at 25.2 percent (10,797 people).

Waitematā had the second highest percentage increase in occupied private dwellings since 2006, at 19.7 percent (5.304 dwellings), and the second highest population growth since 2006, at 22.6 percent (14,208 people). However, the quality of the data for Waitematā may not be as high as that for other areas of Auckland due to difficulties in 2006 with determining whether high-rise apartments in this area were occupied or not. These difficulties with data collection may have contributed to the increases between 2006 and 2013 that the census data shows. In 2013, a new strategy for enumerating apartments was introduced that was effective in improving data quality (see appendix 3).

Other areas of Auckland with growth in occupied private dwellings of over 10 percent between 2006 and 2013 were: Rodney (14.0 percent), Franklin (13.9 percent), and Howick (10.3 percent). These areas also experienced population increases of over 10 percent, at 11.2 percent for Rodney, 11.5 percent for Franklin, and 12.0 percent for Howick.

Most local board areas in Auckland had lower growth in occupied private dwellings between 2006 and 2013 than between 2001 and 2006. This was especially noticeable for Upper Harbour, which had a 34.5 percent increase for the earlier period, and a 20.7 percent increase for the latter period.

Little change in number of unoccupied dwellings in Auckland

There was little change in the number of unoccupied dwellings in Auckland between the 2006 and 2013 Censuses, at 33,360 in 2013, compared with 33,333 in 2006, an increase of just 0.1 percent. In contrast, every other region in New Zealand had an increase in unoccupied dwellings. Canterbury had a large increase (56.3 percent) due to the earthquakes (see Housing in greater Christchurch after the earthquakes and 2013 Census QuickStats about greater Christchurch for more information). Elsewhere the increases ranged from 1.8 percent (Southland) to 24.6 percent (Hawke's Bay).

In 2013, unoccupied dwellings made up 6.6 percent of total dwellings in Auckland. This was the second lowest percentage in New Zealand. The only region with a lower percentage of unoccupied dwellings was Nelson, at 6.5 percent. Elsewhere in New Zealand, unoccupied dwellings were more common, with percentages ranging from 7.8 in the Wellington region to 18.6 in the Northland region. (Total dwellings is calculated by adding all occupied and unoccupied dwellings. Dwellings under construction are excluded.)

About one third of unoccupied dwellings in Auckland were classified as unoccupied because all the occupants were temporarily away at the time of the census, but about two thirds had no occupants at all. This category – unoccupied, empty – includes unoccupied holiday homes and dwellings being repaired or renovated.

Rodney and Waitematā had higher numbers of unoccupied dwellings than other Auckland local board areas, at 4,185 dwellings and 3,696 dwellings, respectively in 2013. Apart from Great Barrier, the lowest numbers of unoccupied dwellings were in Papakura, Māngere-Ōtāhuhu, Ōtara-Papatoetoe, and Puketāpapa.

In Auckland, as in all other regions except Canterbury, there were fewer dwellings under construction at the time of the 2013 Census than at the time of the 2006 Census. Auckland had 2,814 dwellings under construction in 2013, whereas in 2006 there were 3,981 dwellings under construction. This was a decrease of 29.3 percent.

The Auckland local board areas with the highest numbers of dwellings under construction in 2013 were: Hibiscus and Bays (378 dwellings), Howick (276 dwellings), and Orākei (261 dwellings).

Types of private dwellings

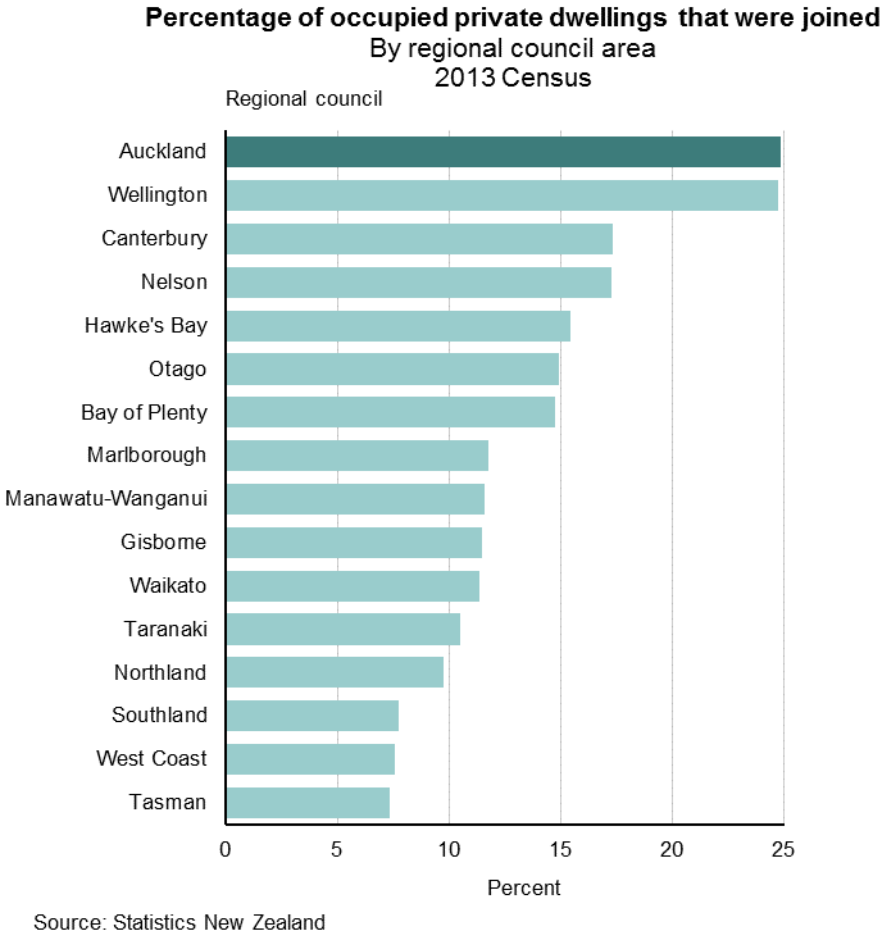
Auckland has the lowest percentage of private dwellings that are separate

At the time of the 2013 Census, separate dwellings made up about three quarters (74.7 percent) of occupied private dwellings in Auckland for which the type was indicated. This was slightly lower than in the Wellington region (74.9 percent), and lower than in any other region of New Zealand. There were 328,902 households living in these dwellings.

Of those for which the number of storeys was indicated, 62.3 percent of separate dwellings in Auckland were one storey (single level). This was much lower than elsewhere in New Zealand (80.4 percent for all other regions combined) and lower than in the Wellington region (66.8 percent).

The percentage of private dwellings in Auckland that were joined (24.8 percent) was very similar to that for the Wellington region (24.7 percent). As figure 11 shows, joined dwellings are less common elsewhere in New Zealand, ranging from 17.4 percent in Canterbury to 7.4 percent in Tasman. There were 108,438 Auckland households living in joined dwellings in 2013.

Figure 11



Source: Statistics New Zealand

Over half the joined dwellings in Auckland were in multi-storey buildings, with 39.7 percent in buildings with two or three storeys, and 14.4 percent in buildings with four or more storeys. The Wellington region had a very similar percentage of joined dwellings in buildings with four or more storeys (14.8 percent) but a higher percentage in buildings with two or three storeys (46.4 percent).

'Other private' dwellings – those that are mobile, in motor camps, or improvised – made up 0.4 percent of private dwellings in Auckland for which the type was known. See appendix 5 for more information about 'other private' dwellings. This was the second lowest percentage in New Zealand. The Wellington region had the lowest percentage, at 0.3 percent. The percentages of these dwellings were highest in Tasman (2.9 percent), West Coast (2.5 percent), and Northland (1.8 percent).

Trends in dwelling types and density

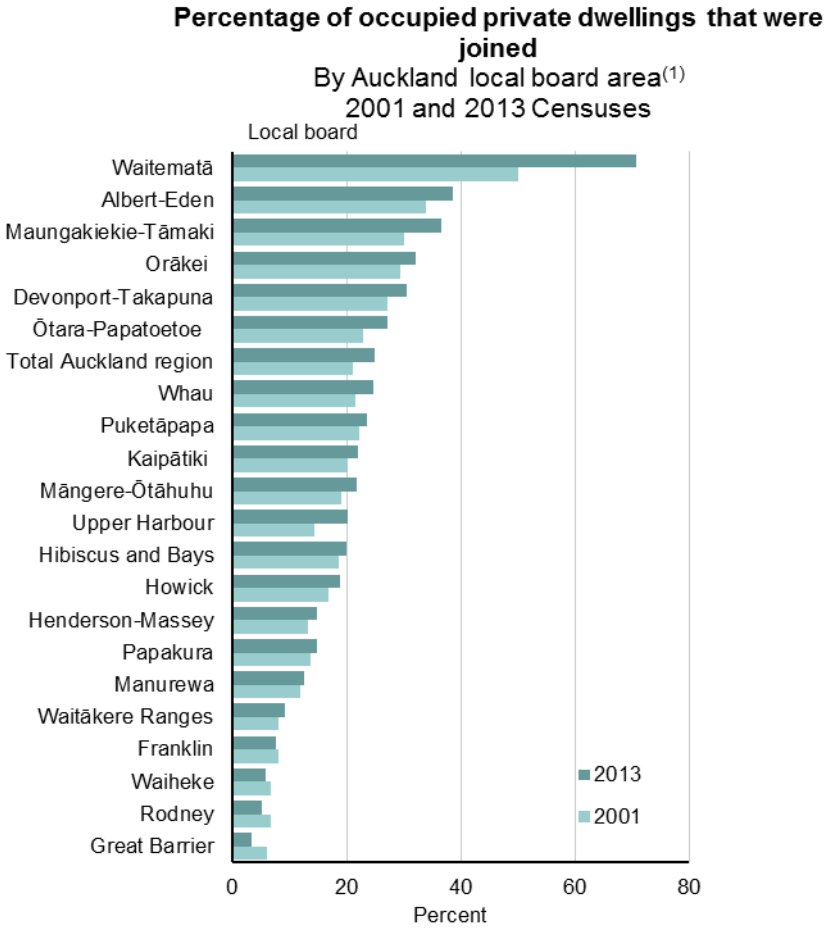
The percentage of private dwellings that are joined is increasing

The census data indicates that in Auckland, the percentage of private dwellings that are joined to others has increased from around 1 in 5 (21.1 percent) in 2001 to nearly 1 in 4 (24.8 percent) in 2013.

As figure 12 shows, the percentage of private dwellings that were joined has increased in most local board areas since 2001. The largest increase (in percentage points) was in

Waitematā, at 70.6 percent in 2013 compared with 50.1 percent in 2001, but enumeration difficulties may have contributed to this increase. The next largest percentage point increases in joined dwellings since 2001 were in: Maungakiekie-Tāmaki (by 6.5 percentage points to 36.6 percent), Upper Harbour (by 5.8 percentage points to 20.1 percent, and Albert-Eden (by 4.6 percentage points to 38.5 percent).

Figure 12



1. Auckland local board areas did not exist in 2001. The census data has been back-cast to to allow comparisons over time.

Source: Statistics New Zealand

The census data showed little change between 2006 and 2013 in the percentage of private dwellings that were joined, both for Auckland overall, and for most local board areas. This may be related to under-representation of joined dwellings in the 2013 data. (In the 2013 Census Information by Variable for occupied dwelling type it is stated that "the percentage of private dwellings that are joined is believed to be under-represented because incomplete information resulted in some of these dwellings being classified as 'Occupied private dwelling not further defined'.

Multi-storey dwellings are becoming more common in Auckland

Multi-storey private dwellings are becoming more common in Auckland. In 2013, 37.7 percent of separate dwellings in Auckland had two or more storeys, compared with 34.7 percent in 2006. Comparisons with 2001 are not possible because information on storeys was not collected for separate dwellings in 2001.

Since 2006, the proportion of separate dwellings that were multi-storey has increased in every local board area except Great Barrier. The largest increase (7.6 percentage points) was in Upper Harbour, at 56.2 percent in 2013, compared with 48.6 percent in 2006.

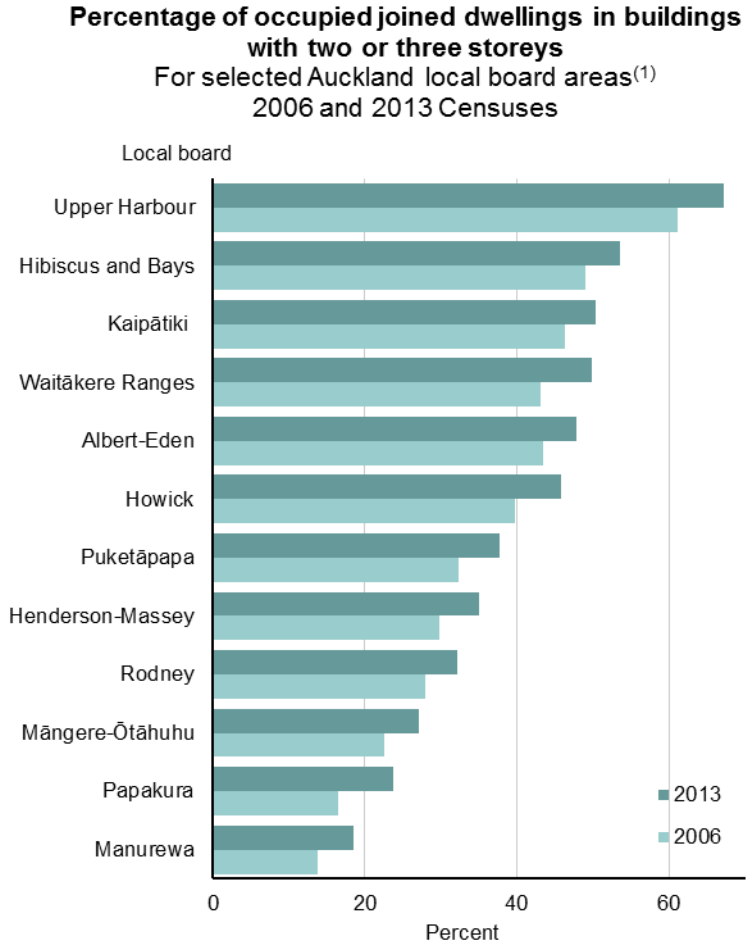
Multi-storey separate dwellings were most common in Orākei, making up 69.3 percent of separate dwellings in this area in 2013, which was an increase from 64.5 percent in 2006. Ōtara-Papatoetoe had the lowest percentage of multi-storey separate dwellings, at 11.6 percent in 2013, which was an increase from 9.8 percent in 2006.

For joined dwellings in Auckland, the percentage in buildings with two or three storeys increased to 39.7 percent in 2013 from 37.8 percent in 2006. Comparisons with 2001 are not possible because a different classification was used.

There was wide variation in the percentage of joined dwellings in two or three storey buildings in different local board areas. However, as figure 13 shows, many local board areas (including Papakura, Waitākere Ranges, and Upper Harbour) have had a substantial increase in this type of housing since 2006. Joined dwellings in two or three storey buildings were most common in Upper Harbour, at 67.1 percent in 2013, which was an increase of 6.1 percentage points from 61.0 percent in 2006.

Although the percentage of joined dwellings in two-or three-storey buildings decreased in Waitematā (at 27.7 percent in 2013 compared with 33.6 percent in 2006), this was related to a corresponding increase for those in four or more storey buildings, rather than any increase for those in one-storey buildings.

Figure 13



1. Auckland local board areas did not exist in 2006. The census data has been back-cast to to allow comparisons over time. Areas with a difference of less than four percentage points between 2006 and 2013 have been omitted from this graph.

Source: Statistics New Zealand

Number of apartments in Auckland increases to over 15,000

In 2013, the census counted 15,645 joined dwellings in buildings with four or more storeys (ie apartments) in Auckland, compared with 9,876 in 2006, which was a 58.4 percent increase. Apartments made up 14.4 percent of occupied joined dwellings in 2013, which was an increase from 10.2 percent in 2006.

Note, there is some evidence that apartments have been undercounted in the census due to respondent error, and that the actual number of these dwellings is higher than the census data indicates.

Although this increase may partly reflect enumeration difficulties in 2006, it is reinforced by building consents data, which shows that 7,813 consents were issued for apartments in Auckland from the year ended June 2006 to the year ended June 2013. It should be noted, however, that definitions of apartments in building consents data and census data are not entirely comparable. Figures for new apartments are compiled from consents that have 10 or more attached new dwellings (including retirement village complexes).

Census data for apartments in the Wellington region shows the same trend as for Auckland, but the increase was not as large. In the Wellington region, there were 6,132 apartments in 2013, compared with 4,992 in 2006, which was a 22.8 percent increase. In

Wellington, the percentage of occupied joined dwellings that were apartments was similar to Auckland, at 14.8 percent in 2013, which was an increase from 12.7 percent in 2006.

About three quarters of the apartments in Auckland were in Waitematā, with 11,991 apartments in this area in 2013. Apart from Waitematā, the areas of Auckland with the largest numbers of apartments were Albert-Eden (699) and Devonport-Takapuna (561).

Substantial increases in the number of apartments have occurred in certain areas of Auckland. The areas with the largest increases were Waitematā, Devonport-Takapuna, Maungakiekie-Tāmaki, and Albert-Eden.

Table 1

Occupied apartments[1] in Auckland

For selected local board areas[2] and the Auckland region

2006 and 2013 Censuses

Auckland local board area	Number of occupied apartments		Increase or decrease 2006–2013 Censuses[3]	
	2006	2013	Number	Percent
Hibiscus and Bays	192	321	129	67.2
Upper Harbour	99	108	9	9.1
Kaipātiki	81	81	0	0.0
Devonport-Takapuna	231	561	330	142.9
Henderson-Massey	87	207	120	137.9
Waitākere Ranges	48	45	-3	-6.3
Waitematā	7,635	11,991	4,356	57.1
Whau	177	318	141	79.7
Albert-Eden	483	699	216	44.7
Puketāpapa	30	66	36	120.0
Orākei	375	423	48	12.8
Maungakiekie-Tāmaki	168	408	240	142.9
Howick	36	81	45	125.0
Māngere-Ōtāhuhu	54	54	0	0.0
Ōtara-Papatoetoe	159	234	75	47.2
Papakura	15	30	15	100.0
Total, Auckland region	9,876	15,645	5,769	58.4

1. Joined dwellings in buildings with four or more storeys.
2. Auckland local board areas did not exist in 2006. The census data has been back-cast to allow comparisons over time. Local board areas with very small numbers of apartments have been omitted from this table.
3. Issues with enumeration of Waitematā apartments in 2006 may have contributed to the increase in this area.

Note: This data has been randomly rounded to protect confidentiality. Individual figures may not add up to totals, and values for the same data may vary in different tables.

Source: Statistics New Zealand

The census data indicates that there were 15,132 households living in apartments in Auckland in 2013. Of those for which household composition was stated, over a third (36.3 percent) consisted of a person living alone. Couples made up 29.3 percent, and

groups of unrelated people ('flatmates') a further 13.3 percent. Households including children were relatively uncommon. Couples with children made up 7.8 percent of these households, and one-parent families made up 4.7 percent.

Dwelling density in Auckland is increasing

As table 2 shows, there is wide variation across Auckland's local board areas with regard to dwelling density (number of dwellings per square kilometre) and population density (number of usual residents per square kilometre). In this table, dwelling density has been calculated by adding together occupied permanent private dwellings and unoccupied private dwellings. 'Other private' dwellings have been excluded.

Table 2

Population and dwellings by Auckland local board area

2013 Census

Area	Population		Dwellings	
	Usually resident population	Population density (people per square kilometre)	Total permanent dwellings[1]	Dwelling density (dwellings per square kilometre)
Rodney	54,882	24.1	24,072	10.6
Hibiscus and Bays	89,829	816.2	35,076	318.7
Upper Harbour	53,670	769.7	18,006	258.2
Kaipatiki	82,494	2,438.0	29,655	876.4
Devonport-Takapuna	55,470	2,765.9	21,765	1,085.3
Henderson-Massey	107,682	2,023.5	35,952	675.6
Waitakere Ranges	48,399	159.2	17,898	58.9
Great Barrier	939	2.9	915	2.9
Waiheke	8,340	53.9	5,484	35.4
Waitemata	77,136	3,978.9	35,877	1,850.6
Whau	72,597	2,703.4	25,050	932.8
Albert-Eden	94,695	3,341.1	33,732	1,190.2
Puketapapa	52,938	2,828.1	17,610	940.8
Orakei	79,539	2,465.9	31,101	964.2
Maungakiekie-Tamaki	70,005	1,922.3	25,311	695.0
Howick	127,125	1,824.2	42,843	614.8
Mangere-Otahuhu	70,959	1,352.4	18,168	346.3
Otara-Papatoetoe	75,663	2,041.8	20,727	559.3
Manurewa	82,242	2,215.7	23,718	639.0
Papakura	45,636	1,120.8	15,627	383.8
Franklin	65,319	54.5	24,837	20.7
Total Auckland	1,415,550	286.7	503,421	102.0

1. This total includes occupied private dwellings that are considered permanent structures and unoccupied dwellings.

All cells have been randomly rounded to base 3.

Source: Statistics New Zealand

Dwelling density increased in Auckland between 2001 and 2013, from 85.5 to 102.0 dwellings per square kilometre (refer to figure 14). In 2013, the most dense area units –

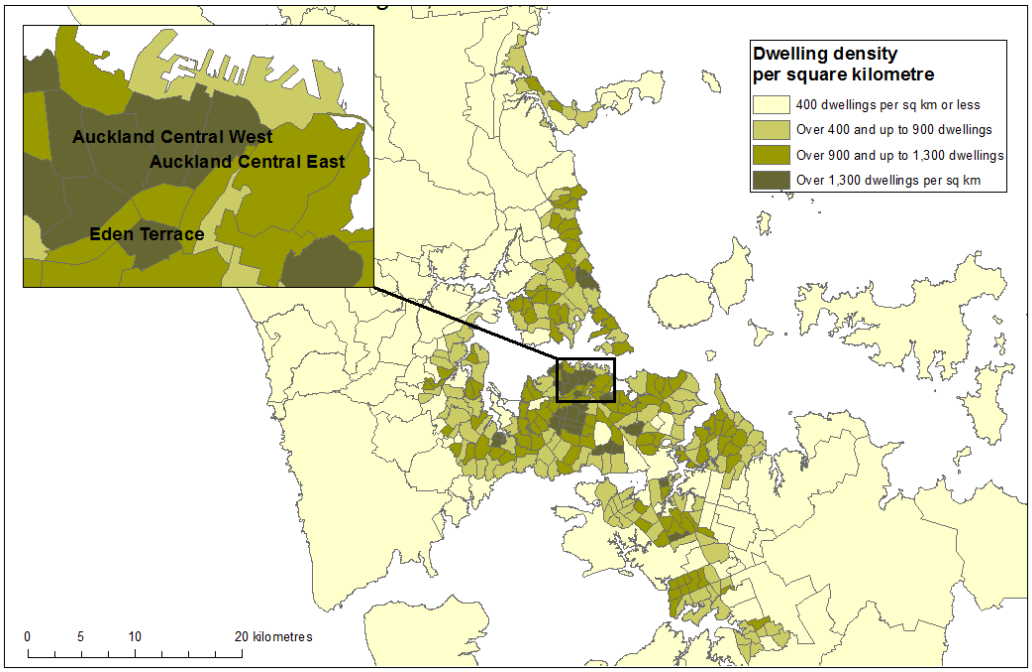
Auckland Central East and Auckland Central West – had over 5,000 dwellings per square kilometre. By contrast, in 2001 these areas had 1,879 and 1,504 dwellings per square kilometre, respectively.

It is not possible to make direct comparisons with 1991, as information for unoccupied dwellings is not available. However, data from 1991 indicates that the most dense area units (occupied permanent dwellings only) were Onehunga North West (1,633 occupied private dwellings per square kilometre) and Ponsonby East (1,516). In contrast, dwelling densities in Auckland Central East and Auckland Central West were comparatively low at just 272 and 198 dwellings per square kilometre, respectively.

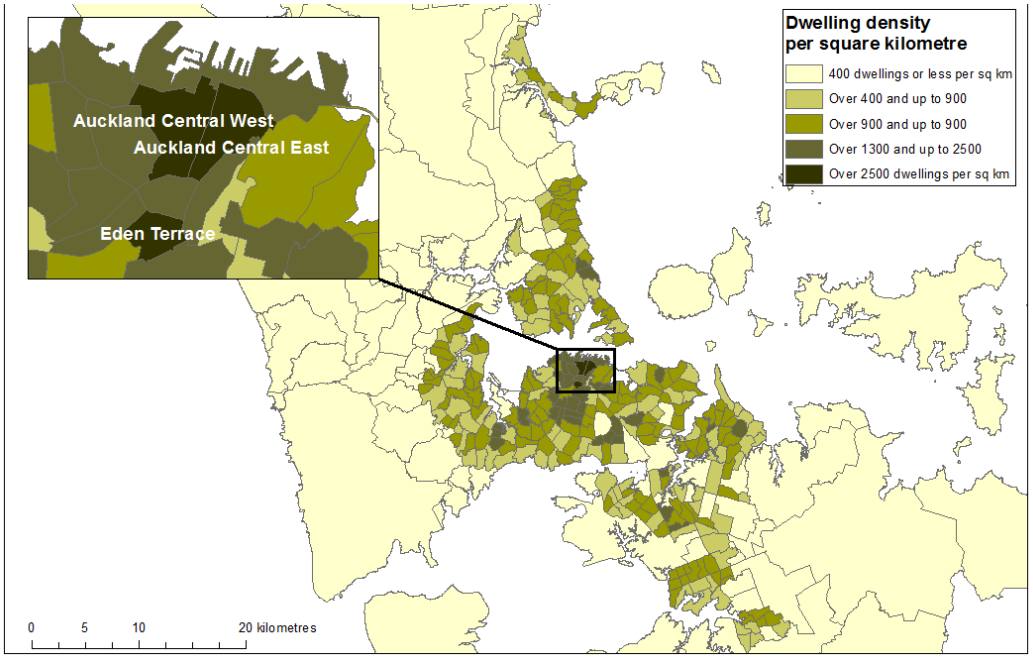
Figure 14

Number of dwellings per square kilometre, for Auckland area units, 2001 compared with 2013 Census

2001 Census



2013 Census

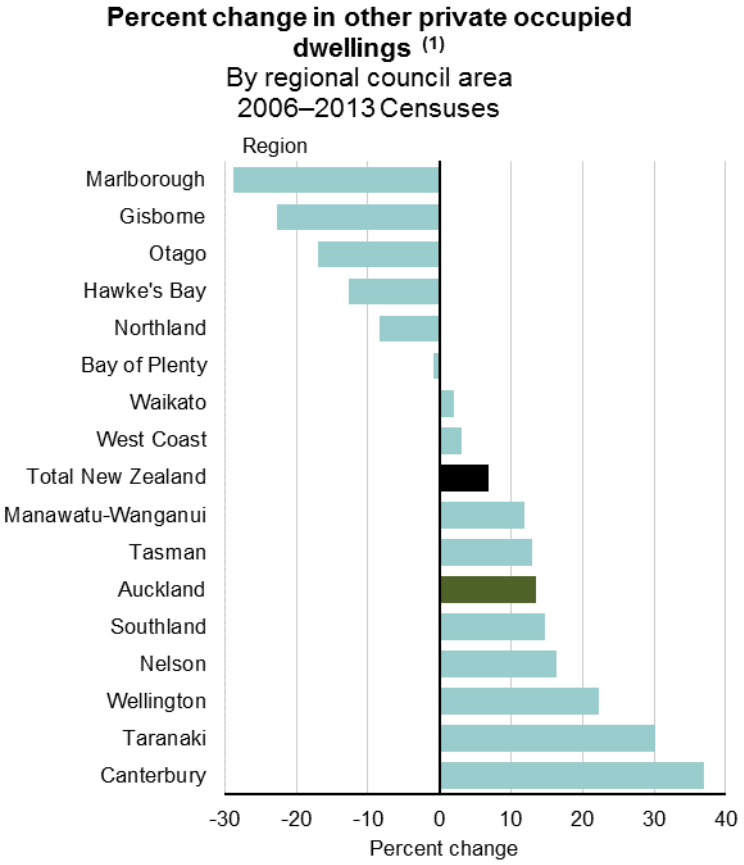


Use of ‘other private’ dwellings

Since 2006, the use of ‘other private’ dwellings (those that are mobile, in motor camps, or improvised) in Auckland has increased by 13.4 percent. There were 1,980 occupied dwellings of these types in 2013, compared with 1,746 dwellings in 2006.

An increase in use of these forms of housing also occurred in nine other regions of New Zealand, including Canterbury (which had the highest increase at 36.9 percent) and Wellington (22.2 percent). The increase in Auckland was nearly twice the overall national increase of 6.9 percent.

Figure 15



1. Consists of private dwellings in motor camps, mobile dwellings not in a motor camp, improvised dwellings or shelters, and roofless or rough sleepers.

Source: Statistics New Zealand

Although use of other private dwellings is associated with housing deprivation, not all people using these types of accommodation will be in need of housing. For example, some people – such as 'grey nomads' – may choose to live in mobile dwellings to suit their lifestyle. The term 'grey nomads' is commonly applied to 'older people who retire to caravans and motorhomes in places such as Nelson and Tasman, rather than to conventional houses or retirement homes' (Sutton, 2012).

In 2013, 1,851 households (3,882 people) lived in other private dwellings in Auckland, compared with 1,599 households (3,129 people) in 2006. This was a 15.8 percent increase for households and a 24.1 percent increase for people.

The Auckland local board areas that showed the largest increases in people living in these types of dwellings were: Henderson-Massey (144 more people), Māngere-Ōtāhuhu (111 more people), and Howick (102 more people).

Of people living in these forms of housing in Auckland, 45.9 percent were in a mobile dwelling not in a motor camp, 32.8 percent were in an improvised dwelling or shelter, and 21.2 percent were in a private dwelling in a motor camp. A very small number of roofless or rough sleepers made up the remainder of this category. Census counted only a very

small number of roofless or rough sleepers (six in Auckland and 27 nationally) owing to difficulties in enumerating this very transient population.

Some people living in these dwellings were relatively short-term residents, with about a third of those in Auckland (and nationally) having lived there for less than one year. However, there were also some longer-term residents. Of those in Auckland, 18.5 percent (663 people) had lived in that dwelling for five to nine years and 12.4 percent (444 people) had lived there for 10 to 19 years.

Around half of Aucklanders in other private dwellings were aged from 30 to 64 years (53.1 percent, 2,061 people), but residents of these forms of housing in Auckland also included children aged under 15 years and people aged 65 years and over. For people whose family role information was available, nearly a quarter (939 people) were in a couple-only family, a further 23.5 percent (906 people) were children (of any age) living in a one- or two-parent family, and 22.1 percent (855 people) were living alone.

The labour force characteristics of people living in these forms of housing were not dramatically different from those of other people living in private dwellings (ie those living in separate or joined dwellings). However, people living in other private dwellings were less likely to be employed (57.5 percent), and more likely to be unemployed (7.4 percent) or not in the labour force (35.1 percent) than other people living in private dwellings. The comparable figures for people living in separate or joined dwellings were: 62.8 percent employed, 5.3 percent unemployed, and 31.9 percent not in the labour force.

In addition to those people living in private dwellings in motor camps, there were also 96 people in Auckland (and 882 people nationally) who were classified as being in a non-private motor camp complex and who indicated that this was their usual residence. These people tended to have lived at the motor camp for a shorter period than those classified as living in private dwellings in a motor camp, with around two thirds in Auckland (and almost half nationally) having lived there for less than one year.

Aucklanders living in non-private dwellings

A small percentage of the population live in non-private rather than private dwellings. In 2013, there were 22,953 Aucklanders whose usual residence was a non-private dwelling, making up 1.6 percent of the usually resident population of Auckland. (This figure excludes people who were away from the dwelling on census night.)

Nationally and in Auckland, the type of non-private dwelling with the largest number of usual residents was residential care for older people. Other types of non-private dwellings with large numbers of usual residents were: hotels, motels, and guest accommodation (which include dwellings providing long-term accommodation); educational institutions (eg student hostels); residential and community care facilities (eg group homes for people with disabilities); and boarding houses. The use of boarding houses is of particular interest as this form of accommodation is associated with housing deprivation.

Residential care for older people

Residential care for older people includes rest homes, rest home serviced apartments, and facilities providing medical or nursing care to older people, such as continuing care hospitals and geriatric hospitals. It excludes independent self-care units, villas, and houses within retirement villages, each of which is classified as a private dwelling.

Nationally, 31,899 people lived in residential care for older people in 2013, of which 8,535 people were in Auckland. Since 2006, the number of people living in residential care for older people increased by 15.4 percent in Auckland and 14.1 percent in New Zealand overall.

The proportion of Aucklanders aged 80 years and over who lived in residential care showed little change since the previous census, at 14.6 percent in 2013, and 14.8

percent in 2006. The national figures for the proportion of this age group living in residential care were similar to those for Auckland, at 14.9 percent in 2013, and 15.2 percent in 2006.

In Auckland and nationally, about two thirds of those in residential care for older people were female and the most common age group was 80 to 94 years. However, some much younger people also lived in these facilities, including 40 to 64-year-olds, and a small number aged less than 40 years.

Boarding houses

In the census, boarding houses are defined as dwellings that are mainly intended for boarders, have lockable bedrooms that are rented by the room, communal facilities, and can accommodate six or more boarders.

In 2013, 1,362 people in Auckland lived in dwellings that were identified as boarding houses in the census. This was about half the national figure of 2,715 people. These figures are believed to be an undercount as boarding houses can be difficult to identify and classify. Of the Auckland local board areas, the highest numbers of people living in boarding houses were in: Māngere-Ōtāhuhu (456 people), Albert-Eden (357 people), and Waitematā (207 people).

Half the people living in Auckland boarding houses had lived there for less than a year, but others were longer-term residents, with nearly a third having lived there for one to four years, and 1 in 10 having lived there for five to nine years.

In Auckland and nationally, boarding house residents were more likely to be male than female, with a two third/one third split. Most of those in Auckland were adults aged from 25 to 64 years, but there were also children (69 aged less than 15 years), teenagers (96 people), and people aged 65 years and over (81 people) living in these dwellings.

The percentages of boarding houses residents who were of Māori or Pacific peoples ethnicity were higher than the percentages of the overall population of Auckland who were Māori or Pacific peoples. Māori made up 10.7 percent of the population of Auckland, but 21.9 percent of boarding house residents. Pacific peoples made up 14.6 percent of the population of Auckland, but 29.3 percent of boarding house residents. The percentage of boarding house residents who were of Asian ethnicity (20.4 percent) was similar to the percentage in the overall population of Auckland (23.1 percent). People of European ethnicity made up 35.7 percent of boarding house residents, which was much lower than the percentage of people of European ethnicity in the overall population of Auckland (59.3 percent).

Of those aged 15 years and over, over three quarters in Auckland boarding houses did not have a partner. Both in Auckland and nationally, about half were employed and a third were not in the labour force.

Income levels of boarding house residents in Auckland tended to be lower than those of Aucklanders in general. Over half (60.2 percent) of Auckland boarding house residents aged 15 years and over had a personal income of $20,000 or less, compared with 39.0 percent of the overall population of Auckland aged 15 years and over. Relatively few Auckland boarding house residents had a personal income of over $50,000, at 6.3 percent, whereas 29.2 percent of the overall population of Auckland aged 15 years and over had this income level.

Some caution is needed in interpreting the data on boarding houses and their residents due to the undercount, and because they had relatively high non-response rates to some questions. For example, 19.5 percent of Auckland boarding house residents did not answer the income question.

5 Trends in home ownership and renting

This chapter covers:

- Falls in household home ownership in Auckland
- Changes in home ownership at the individual level
- Increase in use of rental housing in Auckland

Falls in household home ownership in Auckland

Census data on tenure at the household level

The information that the census provides on tenure of household indicates whether households in private occupied dwellings own the dwelling they live in, hold it in a family trust, rent it, or occupy it rent-free. This data captures the usual living situation of households. It focuses on the household (ie the person or people living in a private dwelling), rather than the dwelling (ie the physical structure in which they live).

Situations where the dwelling was unoccupied at the time of the census, only contained visitors and no usual residents, or was non-private, are excluded from this data. In general non-private dwellings are not – or cannot be – owned by the usual residents, and the usual residents of non-private dwellings do not function as a household. Another type of tenure information that is not provided by the census is whether a household owns any private dwellings that they do not live in, such as a rental property or a holiday home.

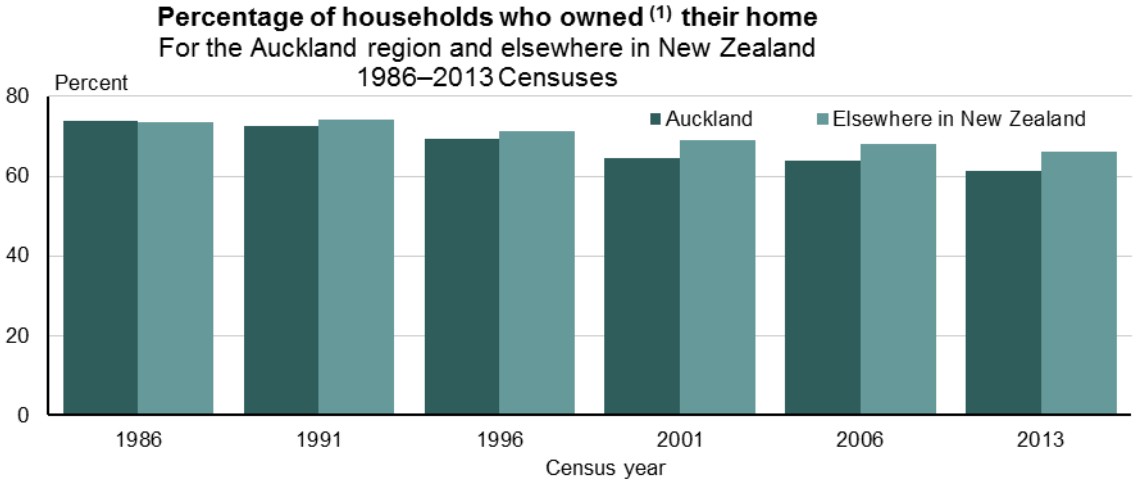
Holding a dwelling in a family trust is seen as a similar situation to direct ownership, and distinct from renting or occupying a dwelling rent-free, so households whose dwelling was in a family trust are often included with those who owned their home when home ownership rates are reported.

Household home ownership is lower in Auckland than elsewhere in New Zealand

As figure 15 shows, in 1986 the home ownership rate in Auckland was very similar to the rate for the rest of New Zealand, at 73.9 percent and 73.6 percent, respectively. Since then however, a gap has appeared between home ownership rates in Auckland and elsewhere in New Zealand, with lower rates in Auckland. In 2013, 61.5 percent of Auckland households owned their home or held it in a family trust, whereas elsewhere in New Zealand, 66.2 percent of households owned their home or held it in a family trust. The only region with a lower level of home ownership than Auckland was Gisborne, at 59.2 percent.

The general trend for Auckland is the same as for other regions, with a decrease in home ownership over the past 20 or so years. Although there were changes over time in how this data was collected and classified, the 2006 and 2013 data is still considered broadly comparable with earlier data, and so the trend shown by the data is believed to reflect real change.

Figure 16



1. With or without a mortgage. Figures for 2006 and 2013 include households whose home was in a family trust.

Source: Statistics New Zealand

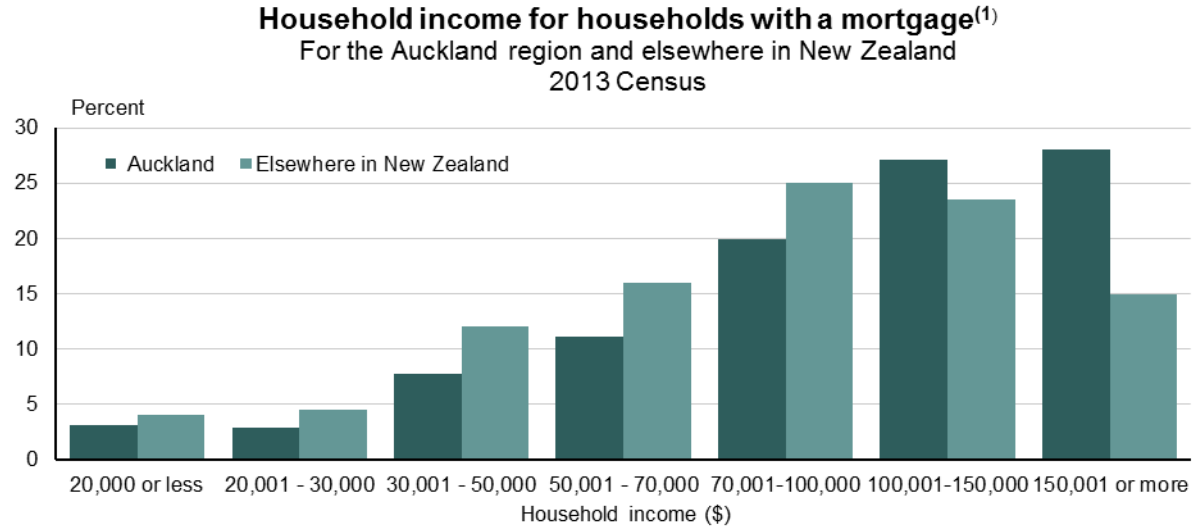
In Auckland and in New Zealand overall, the largest drops in home ownership over this period were between 1991 and 2001. Between 1991 and 1996, home ownership in Auckland fell by 3.5 percentage points followed by a 4.8 percentage point drop between 1996 and 2001. As figures 34 and 35 in chapter 5 show, there have been significant increases in the cost of housing, starting in the mid-1990s in Auckland.

Separate figures for households whose dwelling was in a family trust are available for 2006 and 2013. These households made up 25.1 percent (67,533 households) of the total owned category for Auckland in 2013, which was an increase from 20.5 percent (52,794 households) in 2006. The highest numbers of these households were in Orākei (8,115), Howick (7,116), and Hibiscus and Bays (6,456). All local board areas had an increase in the number of households whose dwelling was in a family trust.

Of households in Auckland who owned their home or had it in a family trust, 59.2 percent (154,224 households) made mortgage payments in 2013. This was higher than elsewhere in New Zealand (52.0 percent). From 1986 to 1996, the percentage of households in Auckland with a mortgage fell. It then increased, mainly between 2001 and 2006, before falling slightly in 2013. The pattern elsewhere in New Zealand over this time period was similar.

Households in Auckland who had a mortgage were concentrated in the highest income bands, being most likely to have an income of $100,001–150,000 (27.1 percent) or $150,001 or more (28.0 percent), as figure 16 shows. Households elsewhere in New Zealand who had a mortgage also tended to be in the higher income bands, although the pattern was less marked than for those in Auckland.

Figure 17



1. Households who owned their home with a mortgage, or held it in a family trust with a mortgage.

Source: Statistics New Zealand

People of European/other or Asian ethnicity were more likely to live in an owned home than people of Māori or Pacific peoples ethnicity. In 2013, 69.6 percent of people of European or other ethnicity who lived in a private dwelling in Auckland were in an owned home, as were 60.5 percent of people of Asian ethnicity. The comparable figures for Māori and Pacific peoples were 40.2 percent and 32.0 percent, respectively. The 'other' category (which is mainly 'New Zealander' responses) has been combined with European for time series purposes. See appendix 2 for more information.

These ethnic differences may be partly related to differences in the types of households that different ethnic groups live in, with Māori and Pacific peoples being more likely to live in households containing a family and others, multiple families, or a group of related or unrelated people who did not form a family. See the occupancy rates and crowding section.

Since 2001, the percentage in an owned home has decreased for most ethnic groups. However, the decrease was largest for Pacific peoples (a decrease of 5.6 percentage points from 37.6 percent in 2001), and there was only a slight decrease for people of Asian ethnicity (a decrease of 0.9 percentage points from 61.4 percent in 2001). Middle Eastern/Latin American/African was the only ethnic grouping to show an increase, at 36.7 percent in 2013, compared with 31.3 percent in 2001.

Table 3

Percentage of people living in an owned [1] home by ethnic group
For usual residents [2] in private dwellings in the Auckland region and New Zealand overall
2001, 2006, and 2013
Censuses

Ethnic group[3]	Auckland					
	Census year			Increase or decrease (percentage points)		
	2001	2006	2013	2001–2006	2006–2013	2001–2013
European/Other[4]	71.6	72.0	69.6	0.4	-2.4	-2.0
Māori	42.8	41.5	40.2	-1.3	-1.3	-2.6
Pacific peoples	37.6	35.7	32.0	-1.8	-3.7	-5.6
Asian	61.4	61.8	60.5	0.4	-1.3	-0.9
Middle Eastern/Latin American/African	31.3	38.0	36.7	6.7	-1.3	5.4

Ethnic group[3]	New Zealand					
	Census year			Increase or decrease (percentage points)		
	2001	2006	2013	2001–2006	2006–2013	2001–2013
European/Other[4]	72.8	72.3	70.1	-0.5	-2.2	-2.6
Māori	47.0	45.2	43.1	-1.8	-2.1	-3.8
Pacific peoples	38.2	36.6	33.1	-1.6	-3.6	-5.1
Asian	62.0	60.6	58.4	-1.4	-2.3	-3.6
Middle Eastern/Latin American/African	34.0	36.9	35.7	3.0	-1.2	1.8

1. With or without a mortgage. Figures for 2006 and 2013 include people whose home was in a family trust.

2. Excludes people who were away from home at the time of the census.

3. Includes all people who stated each ethnic group, whether as their only ethnic group or as one of several. Where a person reported more than one ethnic group, they have been counted in each applicable group.

4. For time series purposes 'Other' has been combined with European. The majority of the 'Other' response consists of New Zealander.

Source: Statistics New Zealand

Within Auckland, there was wide variation in the level of home ownership in different local board areas. In 2013, home ownership was highest in the Hibiscus and Bays local board area, at 74.1 percent, and lowest in Waitematā, at 39.1 percent. This wide variation between different areas of Auckland is not new. In 2001, home ownership levels ranged from 77.2 percent in the Waitākere Ranges to 46.0 percent in Waitematā.

Between 2006 and 2013, decreases in home ownership occurred in most Auckland local board areas. The biggest decreases were in Waitematā, Ōtara-Papatoetoe, Manurewa, and Māngere-Ōtāhuhu.

Table 4

Household home ownership[1] by Auckland local board area[2]
2001, 2006, and 2013
Censuses

Auckland local board area	Percentage of households who owned their home			Increase or decrease (percentage points)	
	2001 Census	2006 Census	2013 Census	2001–06	2006–13
Rodney	76.1	75.5	73.4	-0.6	-2.1
Hibiscus and Bays	74.6	74.8	74.1	0.2	-0.7
Upper Harbour	72.1	72.3	69.8	0.2	-2.5
Kaipātiki	66.4	66.6	65.8	0.1	-0.8
Devonport-Takapuna	66.5	68.6	67.3	2.1	-1.3
Henderson-Massey	66.8	64.6	61.3	-2.1	-3.4
Waitākere Ranges	77.2	75.2	73.3	-2.0	-1.9
Great Barrier	75.8	69.3	70.7	-6.5	1.4
Waiheke	68.8	67.2	65.9	-1.5	-1.3
Waitematā	46.0	44.2	39.1	-1.7	-5.1
Whau	63.8	62.6	59.9	-1.2	-2.7
Albert-Eden	55.5	55.6	55.5	0.1	-0.1
Puketāpapa	60.6	60.7	56.5	0.2	-4.2
Orākei	65.7	69.8	70.1	4.1	0.3
Maungakiekie-Tāmaki	47.6	47.6	47.1	0.0	-0.6
Howick	76.3	73.6	70.8	-2.7	-2.9
Māngere-Ōtāhuhu	48.7	46.3	41.6	-2.4	-4.7
Ōtara-Papatoetoe	55.0	51.1	46.2	-3.9	-4.9
Manurewa	62.2	59.4	54.7	-2.8	-4.7
Papakura	64.8	61.9	58.2	-2.9	-3.7
Franklin	74.6	73.7	71.9	-0.9	-1.8
Total Auckland local boards	64.4	63.8	61.5	-0.6	-2.4

1. With or without a mortgage. Figures for 2006 and 2013 include households whose home was in a family trust.

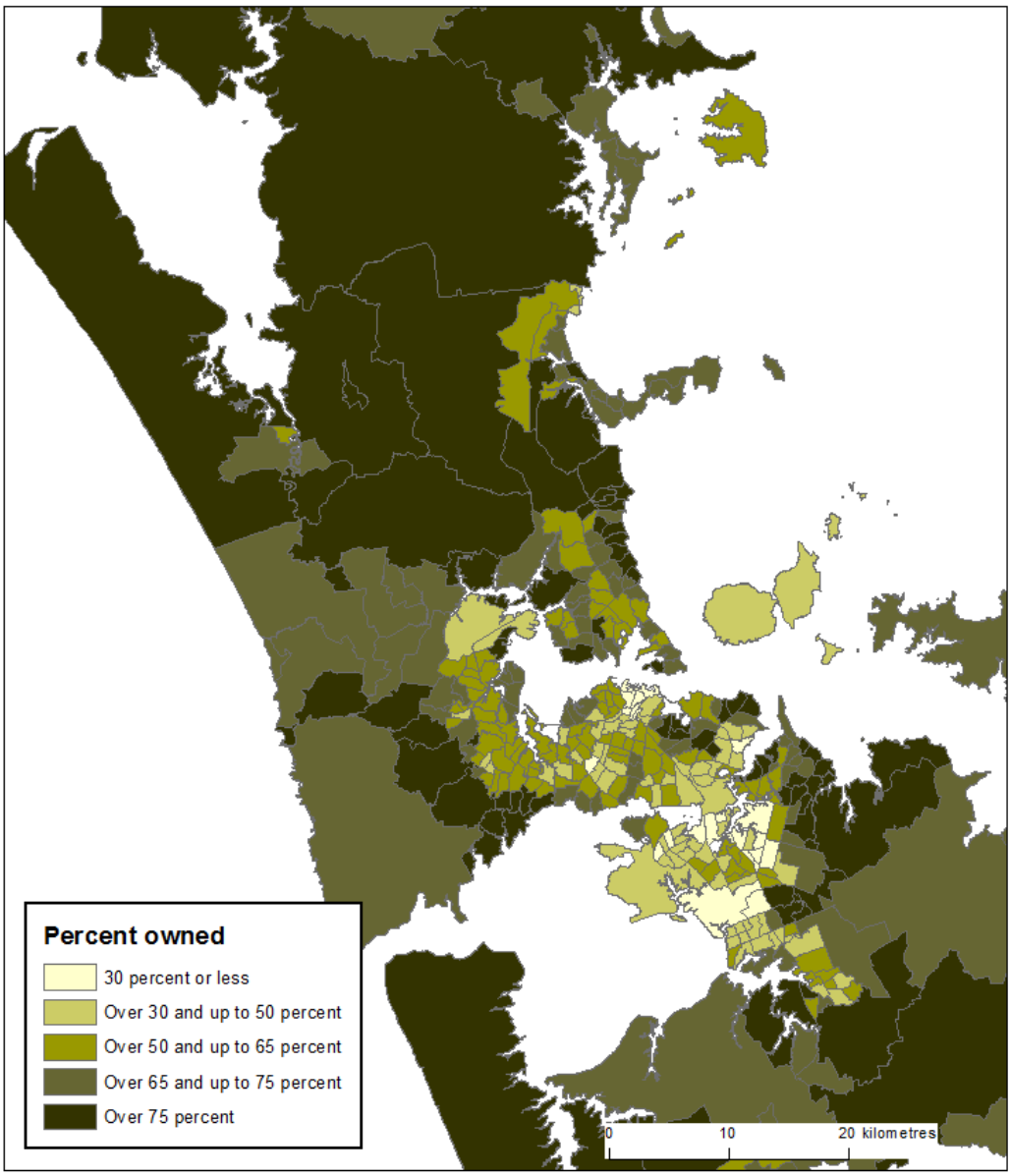
2. Auckland local board areas did not exist in 2001 or 2006. The census data has been back-cast to allow comparisons over time.

Source: Statistics New Zealand

As figure 18 shows, the percentages of households who owned their home were higher in the outlying areas of Auckland than in more central areas.

Figure 18

Percent of households that owned their home for area units in the Auckland region, 2013 Census



Unsurprisingly, there were large differences between the ownership rates of households with different income levels. For example, more than three quarters (77.6 percent) of Auckland households whose income was over $100,000 owned their home, whereas less than two thirds (63.4 percent) of those with income of $70,001 to $100,000 did so. Of households in Auckland with income of $50,001 to $70,000, only 57.0 percent owned their home.

At all income levels, households in Auckland were less likely to own their home than households in the Wellington and Canterbury regions. In the Wellington region, 67.7 percent of households with income of $70,001 to $100,000 owned their home and in the Canterbury region, 66.2 percent of households with income of $50,001 to $70,000 owned their home.

This income analysis provides only a broad indication of how household income relates to home ownership at the household level. It does not take household composition into account. The affordability section provides more in-depth analysis of the relationship

between household income and home ownership using equivalised income data, which does take household composition into account.

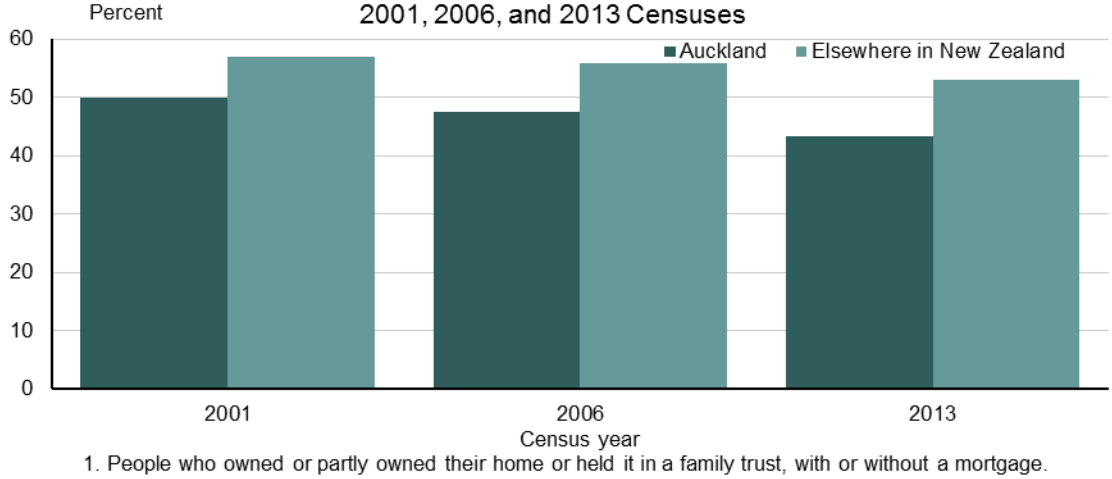
Changes in home ownership at the individual level

Data on home ownership at the individual level was collected in the 2001, 2006, and 2013 Censuses. This data is useful for looking at changes and trends in the personal characteristics of home owners and non-home owners (eg age and ethnicity). In a home that is owned, not all household members may be owners of it. For example, people aged in their 20s, 30s, or 40s (or older) may live in a home that is owned by their parents, and in households of unrelated people, only one household member may own the home. As this data is for all people aged 15 years and over, including teenagers living with parents, and people living in non-private dwellings, the figures are lower than for home ownership at the household level.

The percentage of people aged 15 years and over who owned their home was lower in Auckland, at 43.4 percent, than elsewhere in New Zealand, at 52.9 percent, which is a difference of 9.5 percentage points. These figures include those who owned or partly owned their home or held it in a family trust, with or without a mortgage. The gap between home ownership levels in Auckland and elsewhere in New Zealand has been increasing since 2001. In 2001, there was a gap of 7.2 percentage points (49.8 percent in Auckland, 57.0 percent elsewhere in New Zealand).

Figure 19

Percentage of people aged 15 years and over who owned [1] their home
For the Auckland region and elsewhere in New Zealand
2001, 2006, and 2013 Censuses



1. People who owned or partly owned their home or held it in a family trust, with or without a mortgage.

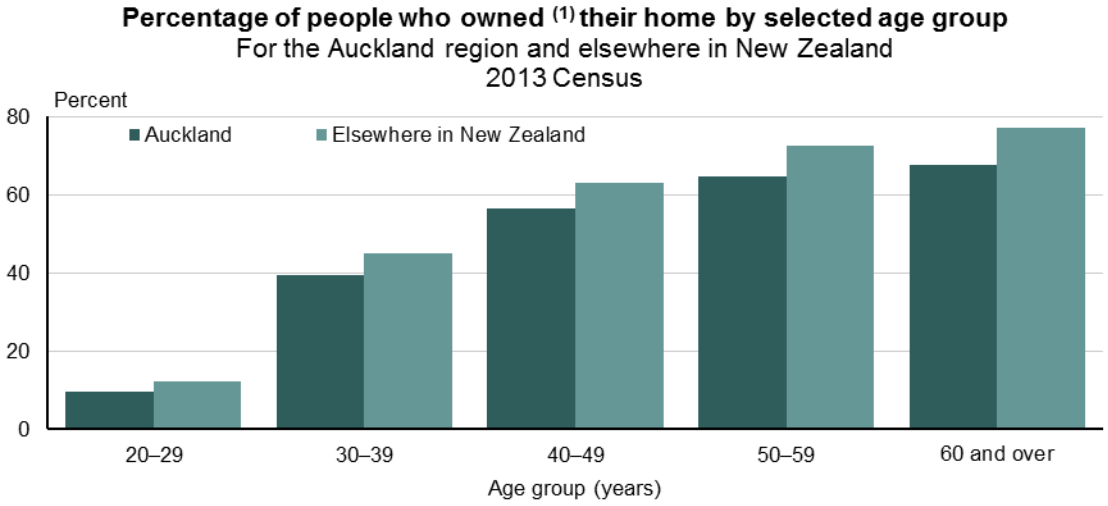
Source: Statistics New Zealand

Slightly more females than males in Auckland owned their home, at 44.2 percent for females compared with 42.5 percent for males. The same was true elsewhere in New Zealand – 53.9 percent of females and 52.0 percent of males who lived in other regions of New Zealand owned their home. This is likely to reflect the longer life expectancy of women.

As elsewhere in New Zealand, home ownership in Auckland was higher for older age groups. Aucklanders aged 60 years and over were more likely to own their home, at 67.6 percent, than Aucklanders in younger age groups. However, for all age groups from those aged in their 20s to those aged 60 years and over, the percentage of Aucklanders in that age group who owned their home was lower than for people in that age group who lived elsewhere in New Zealand. For example, 64.9 percent of Aucklanders aged in their 50s

owned their home whereas elsewhere in New Zealand, 72.5 percent of people in this age group owned their home. The greatest difference was for people aged over 60, with a difference of 9.6 percentage points (67.6 percent of Aucklanders owned their home compared with 77.2 percent of people living elsewhere in New Zealand).

Figure 20

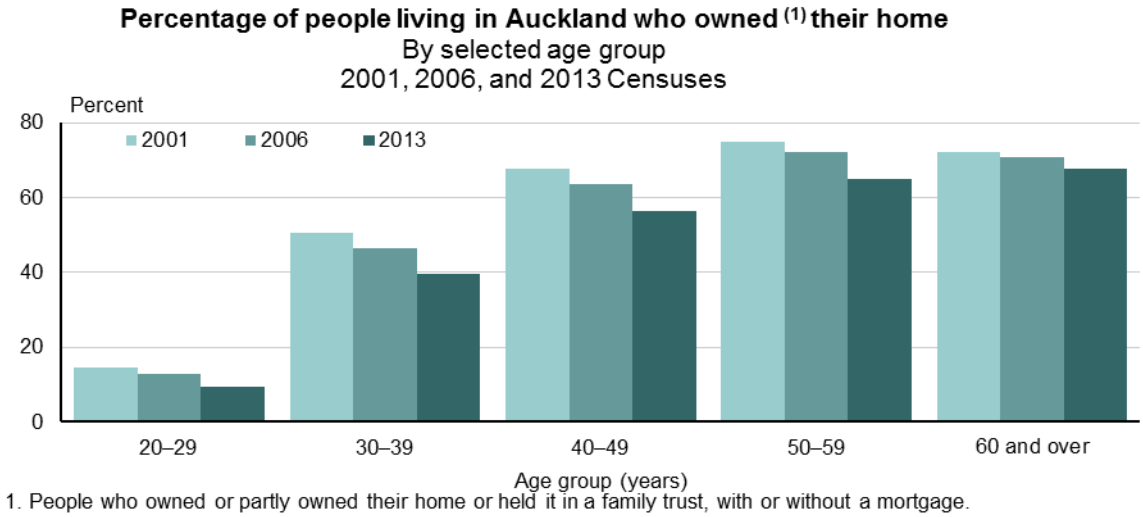


1. People who owned or partly owned their home or held it in a family trust, with or without a mortgage.

Source: Statistics New Zealand

Since 2001 there have been substantial drops in home ownership for Aucklanders aged in their 30s, 40s, and 50s. There were smaller declines in home ownership over this period for Aucklanders aged in their 20s and Aucklanders aged 60 years and over. For all age groups from those aged in their 20s to those aged 60 years and over, home ownership levels in Auckland fell more between 2006 and 2013 than between 2001 and 2006. This may be partly due to the longer period of time between the 2006 and 2013 Censuses than between the 2001 and 2006 Censuses. Elsewhere in New Zealand, the data shows a similar pattern of falling home ownership across all age groups from people aged in their 20s to those aged 60 years and over, but the decreases for those aged in their 50s, 60s, and over were lower than in Auckland.

Figure 21



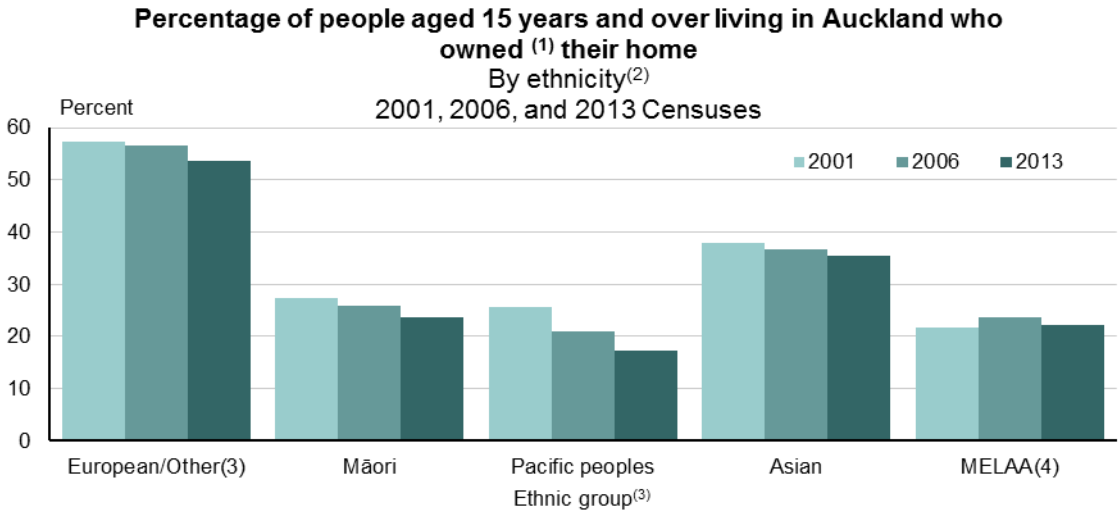
1. People who owned or partly owned their home or held it in a family trust, with or without a mortgage.

Source: Statistics New Zealand

As previously, Aucklanders of European or 'other' ethnicity were the most likely to own their home, with around half (53.5 percent) doing so, followed by Asians at around a third (35.3 percent). Māori in Auckland had a similar level of home ownership to Aucklanders in the Middle Eastern/Latin American/African ethnic grouping, at 23.7 percent and 22.2 percent, respectively. Home ownership was lowest for Pacific peoples living in Auckland, at 17.4 percent.

Since 2001, home ownership has fallen across most ethnic groups, except the Middle Eastern/Latin American/African ethnic grouping. However, Pacific peoples had the largest decrease with a drop of 8.3 percentage points from 25.6 percent in 2001. This is consistent with the finding of a bigger decrease for Pacific peoples in the percentage who lived in an owned home, compared with other ethnic groups.

Figure 22



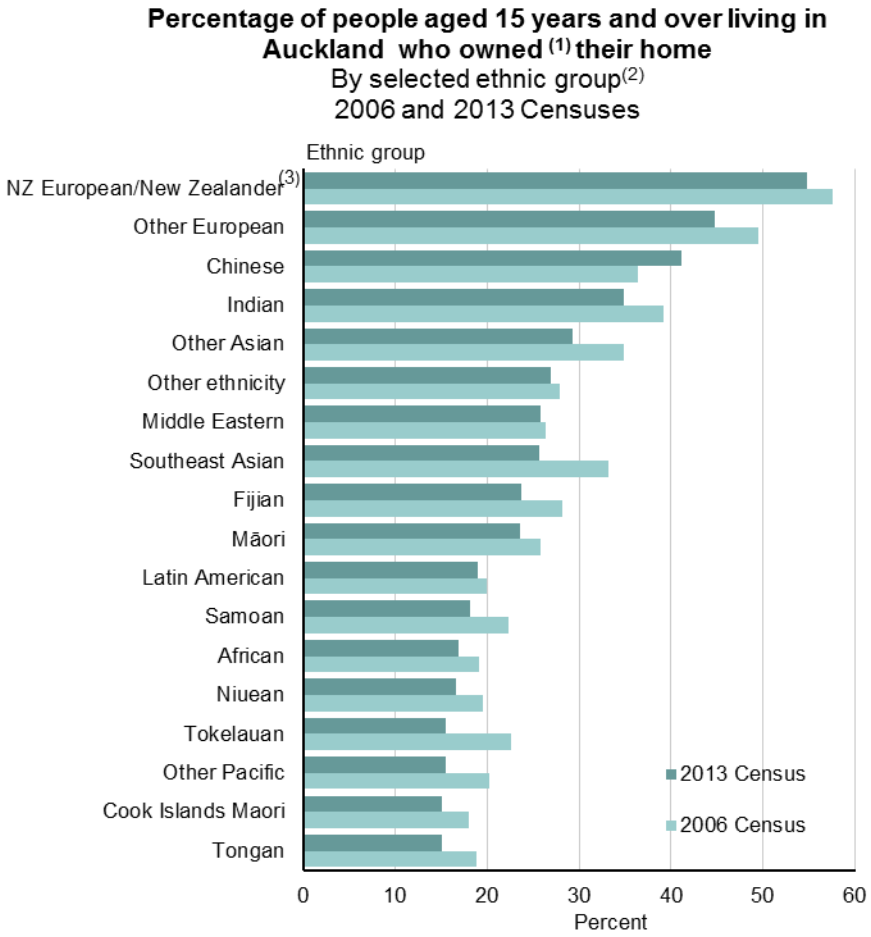
1. People who owned or partly owned their home or held it in a family trust, with or without a mortgage.
2. People were able to identify with more than one ethnic group.
3. For time series purposes 'Other' has been combined with European. The majority of the 'Other' response consists of New Zealander.
4. Middle Eastern/Latin American/African.

Source: Statistics New Zealand

Using more detailed ethnicity data shows variations within the broad ethnic groupings, particularly for Asian peoples. People of Chinese ethnicity had a higher level of home ownership, at 41.1 percent, than those of Indian (34.9 percent) or Southeast Asian (25.7 percent) ethnicity. Within the Pacific peoples ethnic grouping, home ownership was highest for Fijians (23.8 percent) and lowest for Cook Islands Maori and Tongans (both 15.1 percent). People of Middle Eastern ethnicities were more likely to own their home, at 25.9 percent, than those of African ethnicities (16.9 percent). Home ownership for people of New Zealand European or New Zealander ethnicity was about 10 percent higher than for those of other European ethnicities (54.7 percent and 44.8 percent, respectively).

Figure 23 shows that since 2006, the percentage who owned their home decreased for all these ethnic groups except Chinese. The largest decreases were for the Southeast Asian (down 7.5 percentage points) and Tokelauan (down 7.1 percentage points) groups.

Figure 23

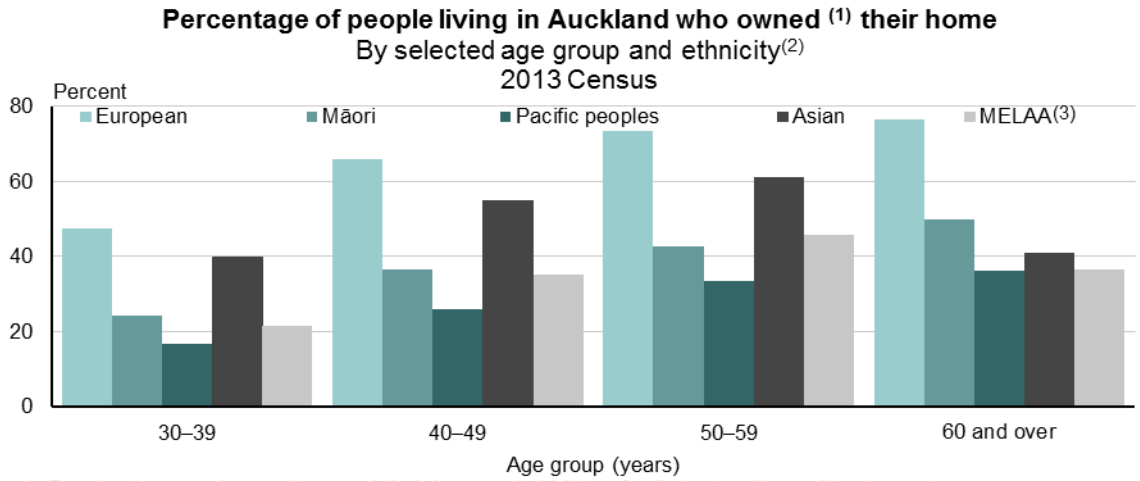


1. People who owned or partly owned their home or held it in a family trust, with or without a mortgage.
2. People were able to identify with more than one ethnic group.
3. For time series purposes New Zealander has been combined with NZ European.

Source: Statistics New Zealand

As home ownership tends to increase with age, and the Māori and Pacific peoples populations are relatively youthful compared with Europeans, it might be expected that lower home ownership among Māori and Pacific peoples is related to their relative youthfulness. However, comparing people of different ethnicities who were in the same age group (30s, 40s, 50s, and 60 years and over) still showed these differences in home ownership levels. About two-thirds of Europeans in their 40s who lived in Auckland owned their home, compared with about one quarter of Pacific peoples in this age group who lived in Auckland. Of people aged 60 years and over who lived in Auckland, 76.7 percent of Europeans owned their home, compared with 49.8 percent of Māori and 36.3 percent of Pacific peoples.

Figure 24



1. People who owned or partly owned their home or held it in a family trust, with or without a mortgage.
2. People were able to identify with more than one ethnic group.
3. Middle Eastern/Latin American/African.

Home ownership levels for Asians were lower than for Europeans of the same age, but higher than for Pacific peoples, or Middle Eastern/Latin American/African people of the same age. Asians also had higher home ownership than Māori of the same age, except for the 60 and over age group, where home ownership was higher for Māori than for Asians.

In contrast to Europeans, Māori, and Pacific peoples, home ownership for Asians was highest for those aged in their 50s, rather than those aged in their 60s, with a noticeable drop from 61.3 percent for 50 to 59 year-olds, to 40.8 percent for those aged 60 years and over. This appears to be related to their living arrangements. Asian Aucklanders aged 60 years and over who did not own their home were most likely (at 63.8 percent) to live in a household containing multiple families or other people in addition to a family, and more likely to live in this type of household than those aged in their 50s.

People of Middle Eastern, Latin American, or African ethnicity who were aged 60 years or over also had a lower home ownership rate than people in this ethnic grouping who were in their 50s, and were more likely to live in a multi-family household or household containing other people in addition to a family than those aged in their 50s.

Increase in use of rental housing in Auckland

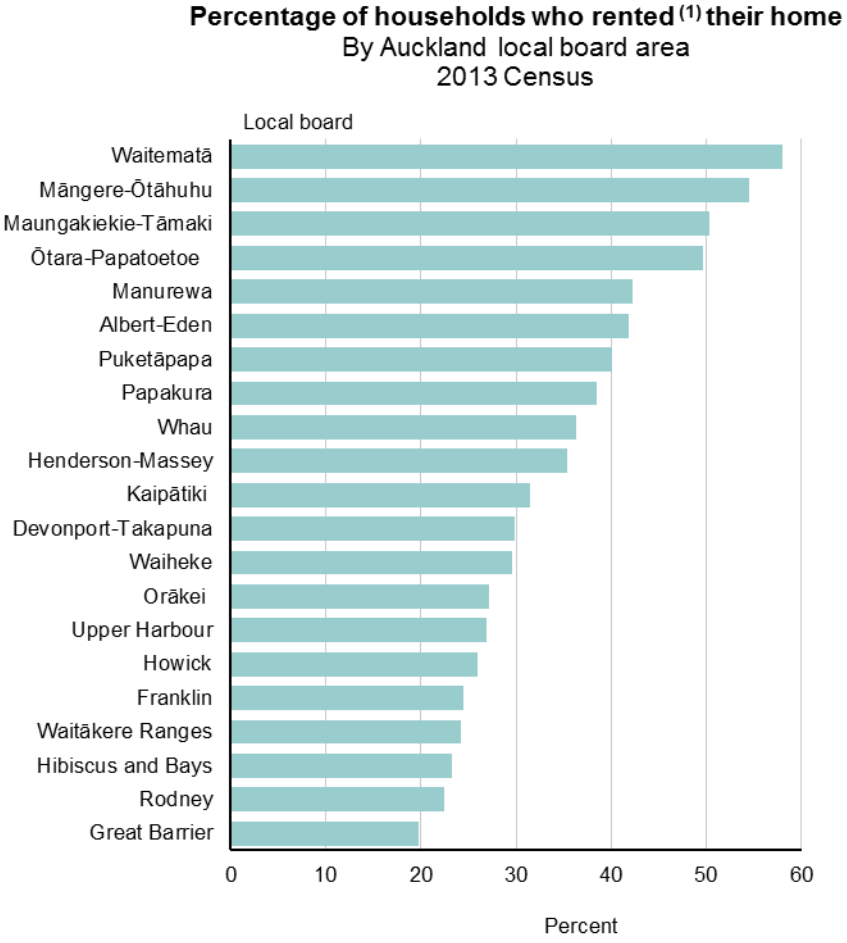
The percentage of households who rented their home (ie paid rent) was higher in Auckland than in any other region of New Zealand, at 35.4 percent in 2013. This was an increase from 32.4 percent in 2006. The denominator used to calculate these figures was total households for whom tenure was stated, excluding those who did not own their home but did not indicate whether they paid rent. Some of these households may own residential property that they do not live in (eg rental properties or holiday homes), in Auckland or elsewhere in New Zealand.

Between 2006 and 2013, the number of Auckland households who rented their home increased by 18.5 percent, from 130,227 in 2006 to 154,347 households in 2013. This was a higher increase than in the Wellington (12.2 percent increase) or Canterbury (11.7 percent increase) regions, but lower than in several other regions, including Southland (with the highest increase, at 27.2 percent), Northland (20.0 percent), and Bay of Plenty (19.0 percent).

As figure 25 shows, the percentage of households who rented varied widely across different local board areas, from around half or more in Waitematā, Māngere-Ōtāhuhu,

Maungakiekie-Tāmaki, and Ōtara-Papatoetoe, to less than a quarter in Franklin, Waitākere Ranges, Hibiscus and Bays, and Rodney.

Figure 25



1. Households who did not own their home or have it in a family trust, and who made rent payments.

Source: Statistics New Zealand

Since 2006 however, the percentage who rented has increased in nearly all local board areas. The largest increases (in percentage points) were in: Māngere-Ōtāhuhu (by 6.3 percentage points to 54.5 percent in 2013), Waitematā (by 5.8 percentage points to 58.0 percent in 2013), and Ōtara-Papatoetoe (by 5.7 percentage points to 49.6 percent in 2013).

The household composition distribution for Auckland households who rented was similar to that for Auckland households overall. One-family households were most common, making up 2 out of 3 (66.6 percent) households who rented. These are households that contain one family nucleus, which can be a couple, couple with children, or one parent with children. Other people who do not form a family, and who can be related or unrelated to the family may also be present in the household. This household type made up 69.8 percent of Auckland households overall. One-person households were the second most common, making up 18.4 percent of households who rented in Auckland, and 19.0 percent of Auckland households overall. Other multi-person households (eg unrelated people ‘flatting’ together) were relatively rare, making up 8.9 percent of Auckland households who rented, and 5.2 percent of Auckland households overall.

The proportion of children in rental housing is increasing

The proportion of children aged less than 15 years who lived in rental housing has increased since 2006. In Auckland, it rose from 39.8 percent (106,209 children) in 2006 to 43.7 percent (121,464 children) in 2013. Elsewhere in New Zealand, the percentage of children in rental housing was lower than in Auckland, but also increased, at 38.3 percent in 2013 (206,616 children) compared with 33.5 percent (182,805 children) in 2006.

Auckland children aged zero to four years were the most likely to live in rental housing, at 46.5 percent in 2013. However, the percentages of older children and teenagers living in rental housing in Auckland were also substantial, at 40.8 percent of those aged 10 to 14 years, and 40.4 percent of those aged 15 to 19 years.

Renting households have lower incomes

Households in Auckland who rented their home generally had lower incomes than those who owned their home or had it in a family trust. Most noticeable is the difference in the percentages with income over $100,000. Of Auckland households who rented, 23.1 percent had income over $100,000, compared with 44.9 percent of those who owned their home or had it in a family trust. However, the percentages with an income of $70,001–$100,000 were very similar, at 18.2 percent of households who rented and 17.8 percent of households who owned their home or had it in a family trust.

More households are renting privately than in 2001

As elsewhere in New Zealand, most households who rented in Auckland were renting privately, at 81.4 percent (116,571 households) in 2013.

There were 23,589 households in Auckland who reported in the census that they rented from Housing New Zealand, making up 16.5 percent of households renting in this region. This figure is estimated to be an undercount of about 18 percent based on a comparison with Housing New Zealand's administrative records, so the total number of households renting from Housing New Zealand in Auckland in 2013 is likely to have been around 28,000. The undercount could be due to several factors, such as tenants being away on census night and poorer quality response to the census from these households.

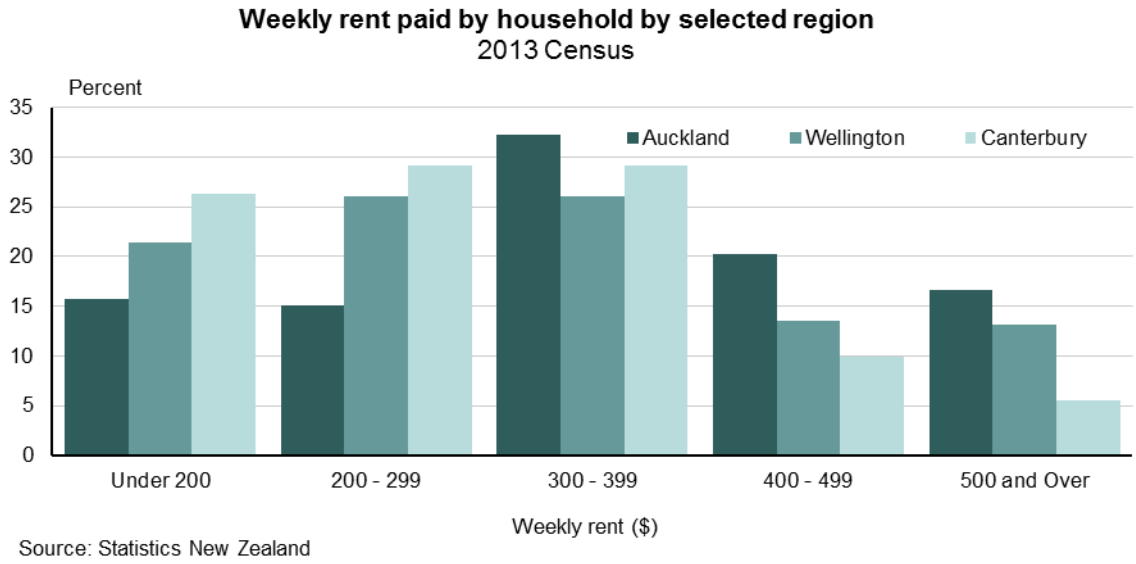
The number of Auckland households who rented from a local authority or city council was relatively small, at 1,560, making up 1.1 percent of Auckland households who rented. There was also a small number (1,413 households) renting from another state-owned corporation, enterprise, government department, or ministry.

Since 2001, the percentage of households renting privately in Auckland has increased, while the percentages renting from Housing New Zealand, or a local authority or city council have both fallen. In 2001, 76.9 percent of households in Auckland rented privately, 19.0 percent rented from Housing New Zealand, and 2.6 percent rented from a local authority or city council. Elsewhere in New Zealand, the trend was the same, with those renting privately making up 84.9 percent of renting households in 2013, compared with 79.0 percent in 2001.

Rents highest in Auckland

Rents in Auckland were higher than in the Wellington and Canterbury regions. Over a third (36.8 percent) of households renting in Auckland paid $400 or more weekly, compared with 26.7 percent of those in the Wellington region, and 15.4 percent of those in the Canterbury region.

Figure 26



The percentages of Auckland households who paid $500 or more were highest in Orākei (38.0 percent), Upper Harbour (35.9 percent), and Devonport-Takapuna (31.7 percent).

People in households who rent more likely to have moved in the last year

People in households who rented their home were more likely to have moved at least once during the previous year than those in households who owned their home. In Auckland, over a third (35.0 percent) of people in households who rented had lived there for less than one year compared with 14.4 percent of those in households who owned their home or held it in a family trust.

For children in rented homes, 28.1 percent of five- to nine- year-olds and 25.4 percent of 10- to 14-year-olds had moved at least once within the last year. Children in these age groups who lived in homes that were owned or in a family trust were less likely to have experienced one or more moves during the previous year, at 12.4 percent for five- to nine-year-olds and 10.5 percent for 10- to 14-year-olds.

Some information on the quality of housing – including rental housing – is available from the New Zealand General Social Survey (GSS) and the Building Research Institute of New Zealand (BRANZ). These surveys have shown that rental housing was generally of poorer quality than owned housing according to subjective measures (GSS 2010) and objective measures (BRANZ 2010).

6 Housing affordability

This chapter covers:

Defining low income populations using equivalised household income

There is currently no official definition of poverty or of low income in New Zealand. Researchers such as Bryan Perry use a combination of different thresholds to measure poverty, such as 50 or 60 percent of median equivalised household income. Another approach is simply to take the bottom quintile (or bottom two deciles) of equivalised household income distributions. The latter approach is used here, as income information in the census is collected in bands and therefore lacks the precision to produce a threshold measure. Equivalised household information is used as it is a means of standardising household incomes in terms of household size and composition so that the relative material well-being of households of different sizes and compositions can be compared. The adjustment also makes comparisons over time more meaningful because it takes into account changes over time in the composition and average size of households.

Perry (2013) notes there is no universally accepted set of equivalence scales (methodology to equivalised household income) and there has been some debate in New Zealand as to which set of equivalence scales is appropriate (see Easton, 2002). However, both Perry and the New Zealand Deprivation Researchers (Salmond, Crampton, and Atkinson (2014)) prefer the Revised Jensen scale 1988 as a measure of income equivalisation. Poverty researchers (Stephens et al 1997) note that it is the best available measure to determine poverty.

Jensen Equivalised Annual Household (JEAH) income is the equivalised income measure used here. It is derived from the Jensen equivalisation scale. While a number of different equivalisation scales have been developed, the JEAH income scale is widely used in New Zealand. For example, the revised Jensen scale is one of the components making up the New Zealand Deprivation Index and is used in the Ministry of Social Development's Social Reports. The distribution of JEAH income by quintile enables us to compare how households in the lower JEAH income quintiles fared in 2013, compared with 2006. Using this measure we can show the distribution of equivalised household income and identify the proportion of low-income households in Auckland.

There are limits in measuring housing affordability using income alone, as Perry (2013) notes:

> The level and quality of financial and physical assets, assistance from support networks and government services, and special demands on the household budget can all have significant positive or negative effects on living standards, over and above the effect of current income. As these factors fall differently across different households, households with the same or similar equivalised incomes can have different living standards. For these reasons, current household income, even when adjusted for household size and composition, can only be a rough indicator of actual household living standards.

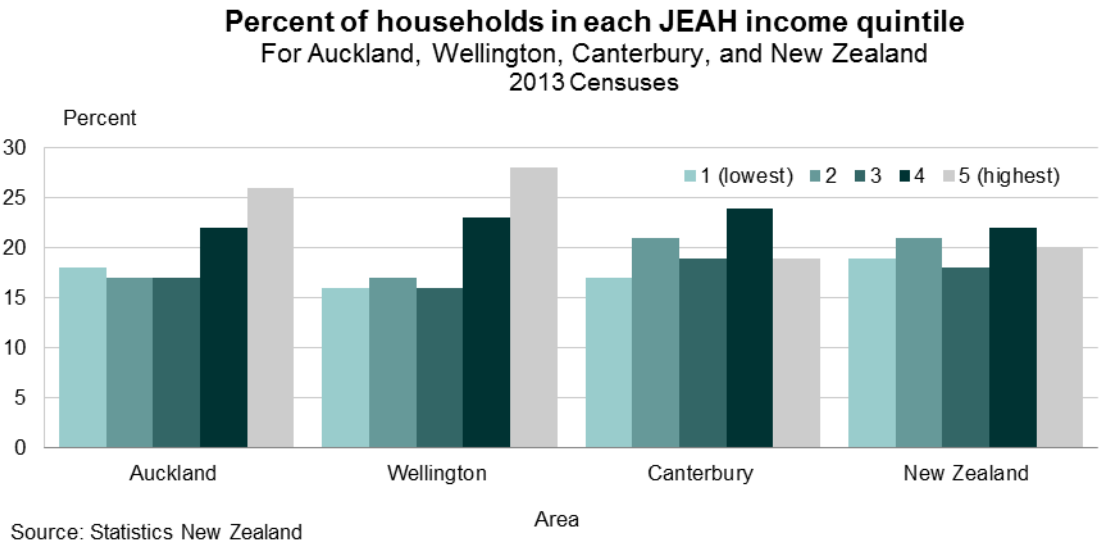
Some caveats must also be applied to the use of household income data from the census; these are discussed in more depth in the section on rental affordability. Census data on household income is rated as poor, largely because of high non-response (see Census 'Information by Variable', available from www.stats.govt.nz). Non-response is particularly high for some ethnic groups and for large and complex households. For Auckland, non-response was 16.5 percent, slightly higher than the national non-response rate of 15.0 percent. Response rates varied across the region, with non-response rates highest in Māngere-Ōtāhuhu and Ōtara-Papatoetoe local board areas (at 31.0 and 28.1 percent of households, respectively). Care should be taken when interpreting results. Census data on income – especially for small areas – should be viewed as approximate only.

While Statistics NZ's household surveys, such as the Household Economic Survey and the New Zealand Income Survey have more accurate income data, their sample sizes are not sufficient to generate income data at territorial authority level or below.

Auckland has a high proportion of households in the highest JEAH income quintiles

Auckland had a higher proportion of households in the lowest equivalised income quintile (18 percent) than Wellington (16 percent) or Canterbury (17 percent) but the second highest proportion of households in the highest income quintile (26 percent), compared with other regions, as figure 27 shows.

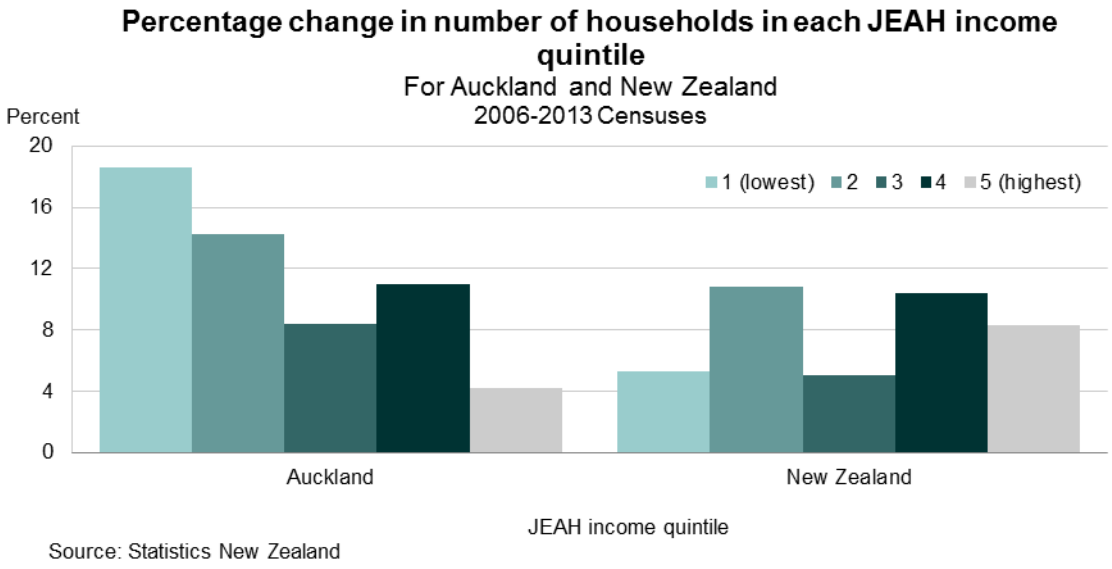
Figure 27



Note: Quintiles have been calculated using the actual distribution of income based on a dollar threshold for each household. Therefore the numbers of households in each quintile are not even, with quintile 4 having the largest number of households (287,650) and quintile 3 the lowest number (237,847). The boundaries for JEAH quintiles in 2013 were: quintile 1 – less than $32,350; quintile 2 – between $32,350 and $48,600, quintile 3 – between $48,600 and $69,000; quintile 4 – between $69,000 and 104,000, and quintile 5 – $104,000 and over.

The proportion of households in the lowest equivalised household income quintile has increased more in Auckland compared with New Zealand overall since 2006, as figure 28 shows.

Figure 28



Census data shows that Auckland experienced a smaller than average increase in median income between 2006 and 2013 Censuses. Median household income rose in Auckland by 1.2 percent when adjusted for inflation, which was lower than the national increase of 4.1 percent.

Table 5

Median annual household income[1] from all sources
For the Auckland region and New Zealand
2006 and 2013 Censuses

Area	2006 (in 2006 $)	2006 inflation-adjusted[2] (in 2013 $)	2013 ($)	Percentage change 2006–13	Percentage change 2006–13 (inflation-adjusted)
Auckland	63,400	75,600	76,500	20.7	1.2
Total, New Zealand	51,400	61,300	63,800	24.1	4.1

1. A household's total income from all sources in the 12 months ending 31 March 2006 and 31 March 2013.

2. Consumers price index inflation was 19.2 percent between Quarter 1 of 2006 and Quarter 1 of 2013.

Note: This time series is irregular. Because the 2011 Census was cancelled after the Canterbury earthquake on 22 February 2011, the gap between this census and the last one is seven years. The change in the data between 2006 and 2013 may be greater than in the usual five-year gap between censuses. Be careful when comparing trends.

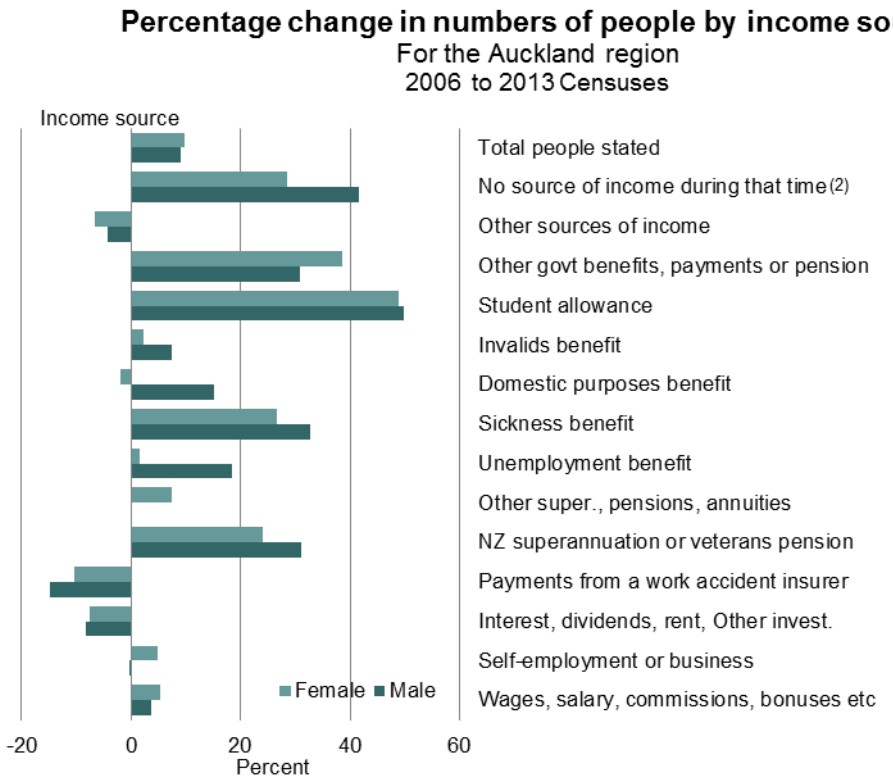
Median household income has been rounded to the nearest $100.

Source: Statistics New Zealand

There could be a range of reasons for this situation, including the increasingly diverse population and the high proportion of young people. Figure 29 shows only a small increase in the numbers of people receiving wages and salary, but a larger increase in people receiving student allowances, sickness benefits, and males receiving the

unemployment benefit. There was also an increase in the numbers of people with no source of income.

Figure 29

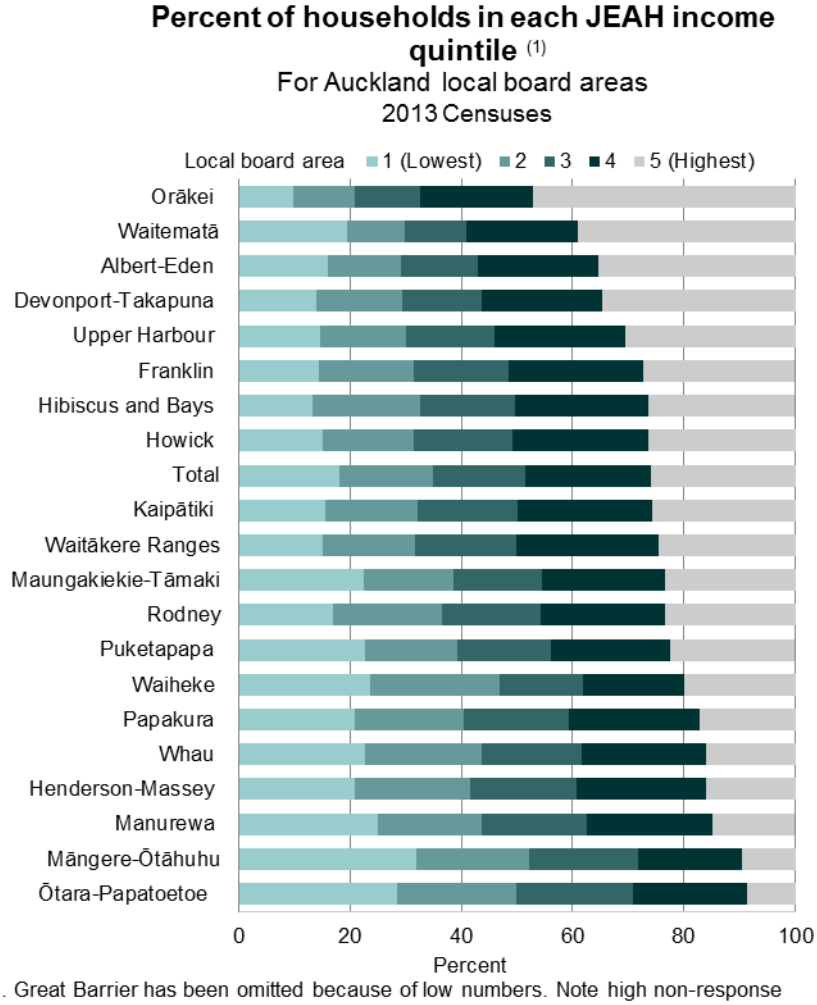


1. Since this is a total response variable, people can be counted in more than one category.
2. Where a respondent has ticked no income and at least one other valid response, only the valid response(s) has been retained.

Source: Statistics New Zealand

Distribution of equivalised household income varies by Auckland local board area with Orākei and Waitematā having the highest proportion of households in the highest JEAH income quintile. In contrast, Māngere-Ōtāhuhu, Ōtara-Papatoetoe had very low proportions of households in the highest JEAH income quintile. However, these areas had high rates of non-response, probably because of high proportions of complex households (such as those containing a family and other people, or more than one family). Data for these local boards must be treated with caution.

Figure 30



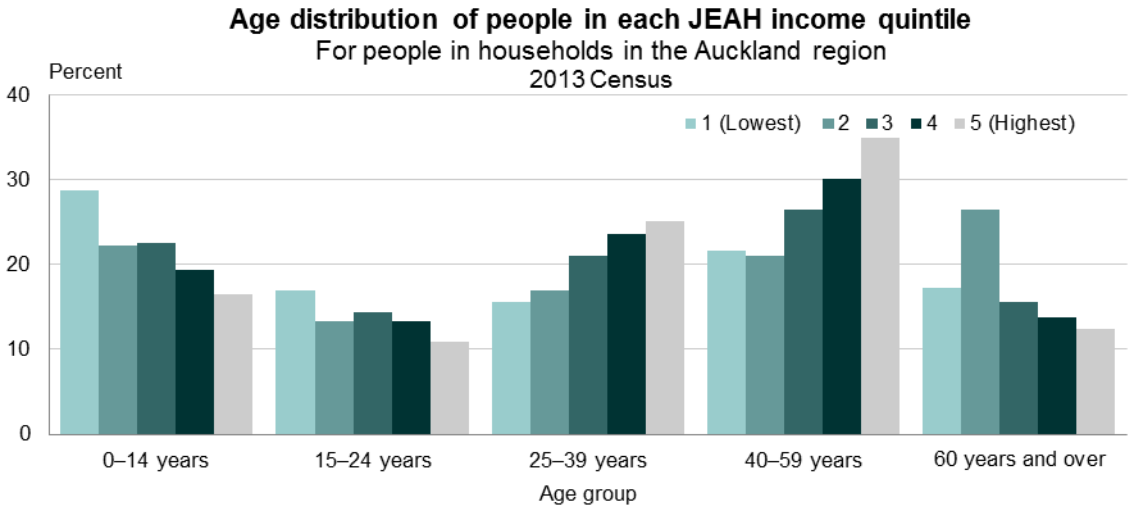
1. Great Barrier has been omitted because of low numbers. Note high non-response for some areas.

Source: Statistics New Zealand

Over a quarter of people in lowest equivalised income quintile were children

In Auckland, the distribution of equivalised incomes varies markedly by age and ethnic group as figures 31 and 32 show. Children aged under 15 years made up a higher proportion of people in Auckland (28.7 percent) living in households in the lowest JEAH household income quintile (quintile 1), while people aged 60 years and over made up 26.4 percent of people in quintile 2. People in the prime earning years of 40 to 59 made up the largest proportion of people in the highest JEAH income quintiles (4 and 5).

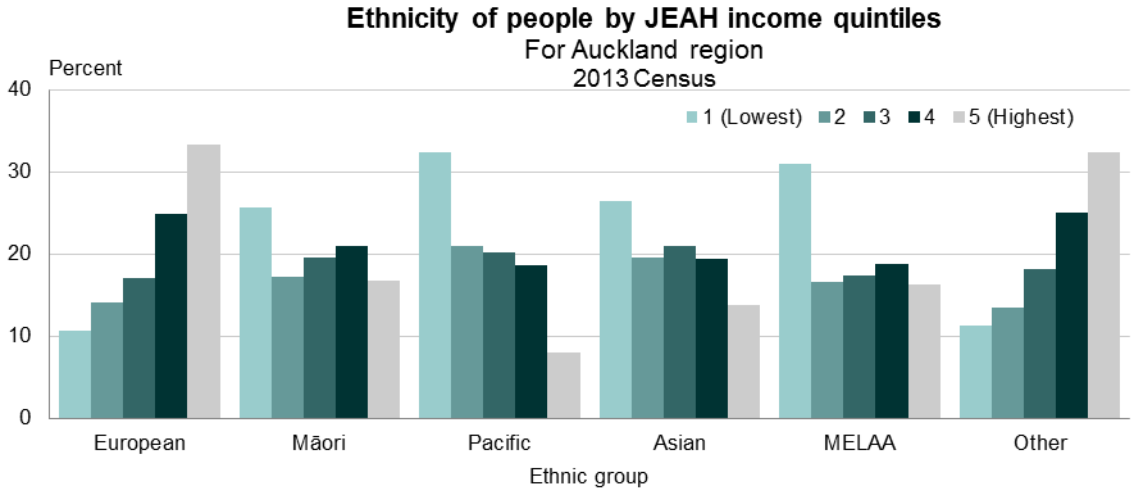
Figure 31



Source: Statistics New Zealand

Higher proportions of people of Pacific or Middle Eastern, Latin American, and African (MELAA) ethnicities were living in households in the lowest JEAH income quintiles. Note however, that non-response to the income question was especially high for people of Pacific ethnicity (11.3 percent), Māori ethnicity (8.2 percent) and MELAA ethnicity (7.5 percent) in 2013.

Figure 32



Source: Statistics New Zealand

Auckland's high housing costs

Data from the Real Estate Institute of New Zealand (REINZ) shows the substantial increase in house prices in Auckland relative to the rest of New Zealand from 1992 onwards (see figure 33). Because of inflation, a house price index is one of the best ways to track real movement in house prices. The REINZ uses a stratified price index, which is a more sophisticated measure of house price changes that takes into account differences

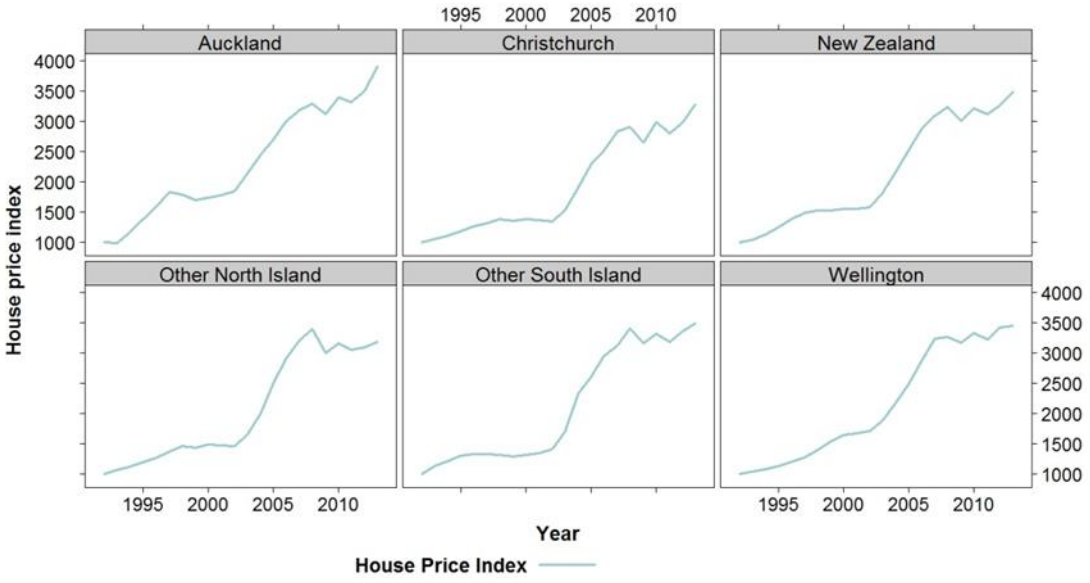
between suburbs and locations. It was developed in conjunction with the Reserve Bank to better capture market trends (see www.reinz.co.nz).

For example, the stratified median house price in 1992 in Auckland was $140,325 (an equivalent dollar value to $222,182 for the first quarter of 2013 using CPI inflation of 58.3 percent) compared with $121,400 in Wellington city ($192,218 in 2013 $) and $117,188 in Christchurch city ($185,548 in 2013 $). In comparison, actual stratified median house prices in these areas in 2013 were $548,750 in Auckland, $418,942 in Wellington, and $383,100 in Christchurch.

In the REINZ index, 1992 is the base year and the index starts at 1000. By the first month of 2013, the House Price index for Auckland had reached 3910.6, compared with 3450.9 in Wellington city and 3269.1 in Christchurch. The upward price movement in Auckland was more pronounced than in other regions and increased earlier. House prices have continued to climb except during a few periods, such as the global financial crisis of 2008.

Figure 33

REINZ Stratified House Price index by region
1992–2013



Source: REINZ

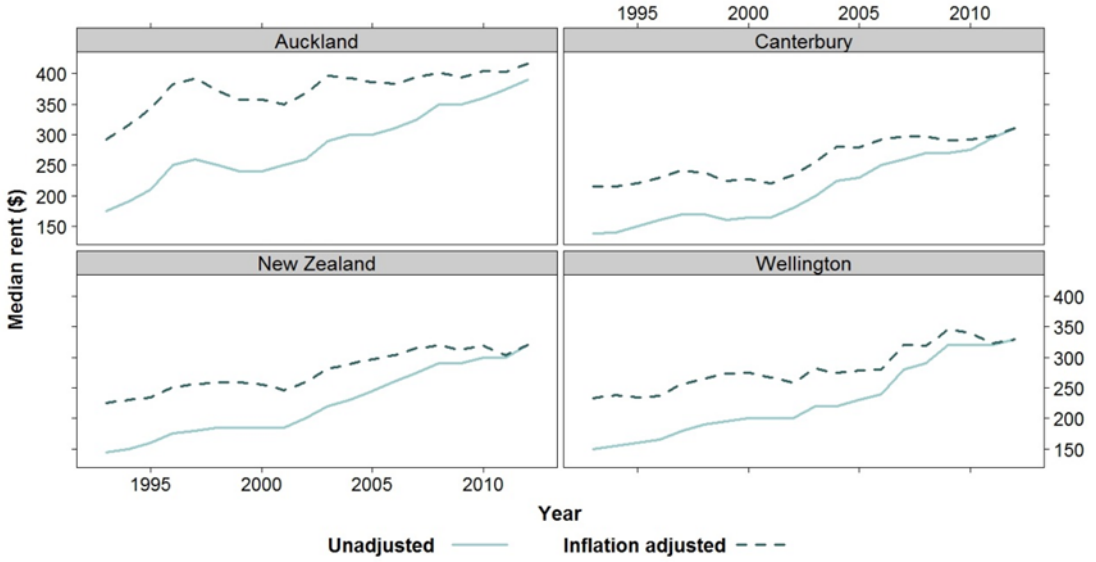
Increase in rents not as sharp as house price increases

Tenancy bond data shows the increase in median rents for rental properties that had bonds lodged against them. Tenancy bond coverage has improved over time so data for later years is likely to be more accurate. Figure 34 shows that while overall rents have increased since 1993, they have not increased nearly as sharply as house prices. When the period between 1993 and 2012 is compared, house prices (unadjusted) increased by 258 percent in Auckland, compared with an increase of 123 percent for rents (unadjusted).

Rents in Auckland have shown some volatility, rising sharply in the 1990s, before falling in the 2000s. The introduction of market rents for state housing in the 1990s was likely to have contributed to this rise in rents. Rent data from tenancy bond information will not exactly align with rents from census data as not all dwellings will have a bond lodged against them. For example, households renting from friends or family or long standing tenants may be renting at less than market rates (see appendix 1 for more details).

Figure 34

Median rent for selected regions (Tenancy bond data) 1993 to 2012



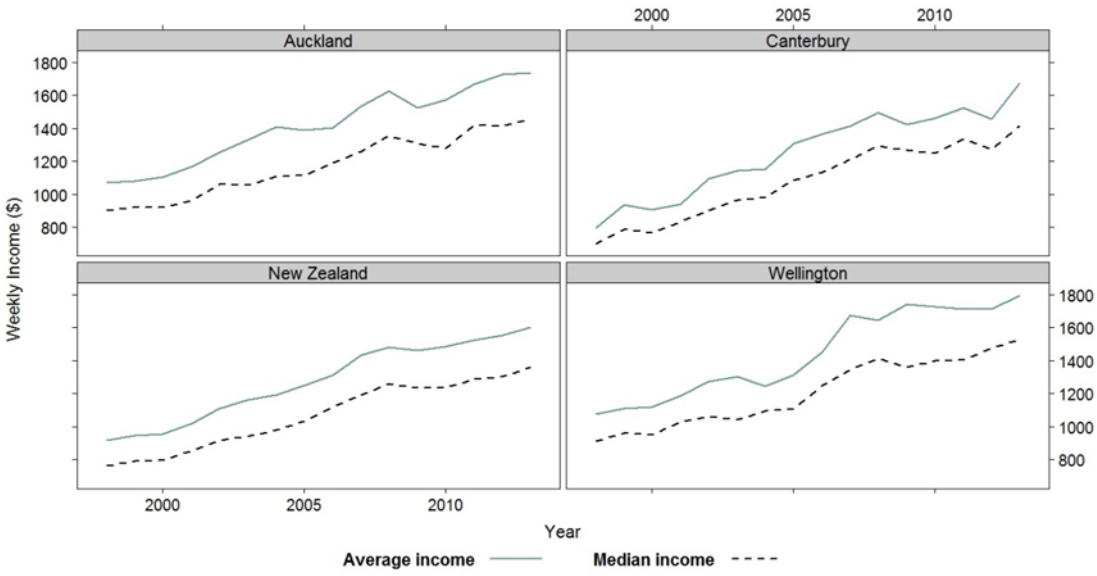
Source: Tenancy Bond Database, MBIE.

How the rise in house prices and rents compares with changes in household incomes

Apart from the census, the best regional time series on household income comes from the New Zealand Income Survey (NZIS), which is a supplement to the Household Labour Force Survey. Household income is available from the NZIS from 1998 onwards. Between 1998 and 2012, gross (before tax) median household incomes increased by 56.8 percent in Auckland, which was less than the (unadjusted) increase in house prices (95.6 percent) over the same period, but around the same amount as the increase in median rent (56.0 percent).

Figure 35

NZIS income, by selected region, 1998–2013



Source: Statistics New Zealand

The effect of increased house prices and rents on housing affordability

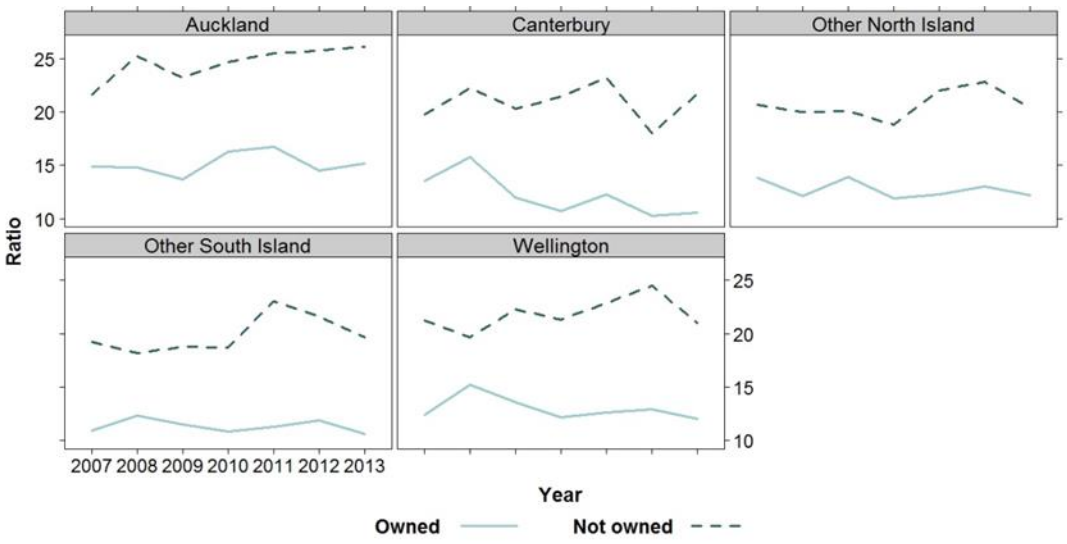
We can look at actual – as opposed to theoretical – housing affordability through the Household Economic Survey (HES), and to some extent through the census (for renting households only). The time series shown in figure 37 is from HES is for the period 2007 to 2013, which was a period of relatively low inflation.

The HES collects annual information around housing costs and income for both owners and renters. The sample is fairly small (with 5,000 households and a response rate of around two-thirds of households) so there can be some volatility in comparing results from year to year, particularly when the survey is broken down below the national level. Figure 36 shows that housing cost to household income ratios were higher for households that did not own their dwelling and owners within Auckland than in other regions. While there is some volatility between HES years, the underlying trend is an increase in housing costs to household income in Auckland compared with a small decline in other regions. Figure 36 also clearly shows that affordability is worse for renters.

In 2013, households in Auckland that owned their home spent 15.2 percent of their income on housing compared with 12.0 and 10.6 percent in the Wellington and Canterbury regions, respectively. Households in Auckland who rented their home spent around a quarter of their income on rent, whereas households in Wellington and Canterbury spent just over a fifth of their income on rent.

Figure 36

Housing cost to household income ratios, HES 2007–13



Note:: Diary expenditure excluded for full HES years to be compatible with HES income years.

Source: Statistics New Zealand

Despite the highly publicised increase in house prices in Auckland, the median ratio of housing costs to household income remained largely unchanged for owners between over this period. The data will include households that may have paid off their mortgage, or bought their house years ago when house prices were cheaper, as well as recent owners who may have higher mortgage costs. In contrast, there was a significant increase in rent-to-household income ratios over this time period.

While the proportion of household income spent on housing has shown little change for home owners, rising house prices may have other effects, such as making individuals and households delay or forgo home ownership. As chapter 4 has shown, home ownership rates have fallen in Auckland in relation to the rest of New Zealand, and have generally fallen in all age groups from people aged in their 20s to their 60s.

High rental costs can also have other effects that may mute the measured impacts on affordability. People mitigate the effects of a tight rental market in different ways. Young people may remain at home for longer, or people may move in with other families or rent inadequate housing. The following section, 'Limitations of census data for calculating rental affordability' uses census data to look at rent-to-household income ratios at Auckland local board level and for different demographic groups.

Using the census to produce detailed rental affordability indicators is an approach used by some researchers in New Zealand and Australia. Ford (2013) uses the census to explore the spatial distribution of housing affordability in Melbourne. He notes that although census data has less depth than specific household surveys, affordability calculations show broadly similar results to data from household surveys.

Limitations of census data for calculating rental affordability

Census data on rents can provide a much more detailed breakdown at sub-regional level and for different types of people and households. Some caveats must be applied when comparing rent-to-household income ratios from the census. These indicators cannot really tell us whether renting was considered affordable by the household, but allow us to compare how rents varied in relation to household incomes in Auckland over time and in relation to other areas. Household income has high non-response in the census. If personal income information is missing for an individual aged 15 years and over in a household, then household income is allocated to 'not stated' unless the combined incomes of all people recorded in the household fall into the highest income bracket of $150,001 or more. This situation results in high non-response rates for household income, especially for large and complex low-income households. See appendix 1 for further information about data sources for affordability and calculating the indicators.

Rent-to-household-income indicators

The two indicators used in this report look at rent as a proportion of gross household income (calculated using the midpoints for each income band) and Jensen equivalised weekly gross household income after rent is deducted. Weekly household income has been rounded to the nearest $50. The after-housing-cost income has been adjusted by the number of adults and children in the household (see appendix 6 for an explanation about how equivalised incomes are calculated). Medians and distributions will be explored for both these measures to examine the changes in rent-to-household income ratios.

As table 6 shows, the median proportion of gross household income spent on rent was higher in Auckland than in Wellington or Christchurch cities. Proportions are slightly higher than those measured in the Household Economic Survey in figure 36. The percentages have been rounded to the nearest whole number as a reflection of the lack of precision in these calculations when rent is compared with household income data from the census. The Jensen weekly equivalised household incomes stated here are for income that has been equivalised after housing costs.

Table 6

Median rents, rent-to-income, and equivalised after-housing-costs income for territorial authorities with the highest median rents and New Zealand

For households in rented dwellings, 2013 Census

Area	Median rent ($)		Percentage of gross household income spent on rent		Median JEAH equivalised gross household income after housing costs ($)	
	All rented dwellings	Private[1]	All rented dwellings	Private[1]	All rented dwellings	Private[1]
Wellington city	370	390	25	24	1,050	1,150
Auckland	350	380	28	29	750	850
Christchurch city	300	320	26	26	750	850
Tauranga city	300	310	29	30	600	650
Hamilton city	290	300	27	27	650	700
Total, New Zealand	280	300	26	27	700	750

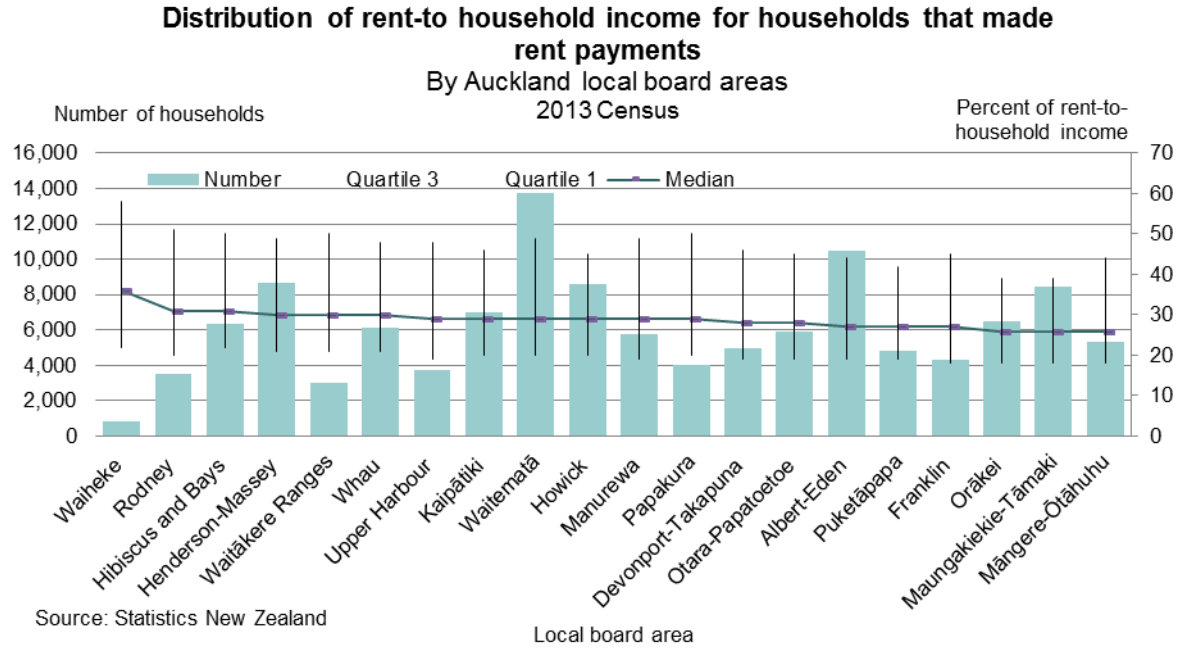
1. Includes private landlord business or trust.
Note: ordered by median rent for private landlord, business or trust.

Source: Statistics New Zealand

Distribution of housing costs by local board area

When we disaggregated this data below territorial authority level (to local board level) rent-to-household income ratios appeared similar in different areas of Auckland as figure 37 shows. The median percent of income spent on rent ranged from 26 percent in Orākei, Māngere-Ōtāhuhu and Maungakiekie-Tāmaki to 36 percent in Waiheke. In figure 37, the right-hand axis shows median weekly rent as a percentage of gross weekly household income, while the left-hand axis shows the number of households. Waiheke Island had the highest rent-to-household income ratio at 36 percent, but this is for a comparatively small number of households (less than a thousand) compared with other local board areas. Great Barrier Island has been omitted because of the small number of households.

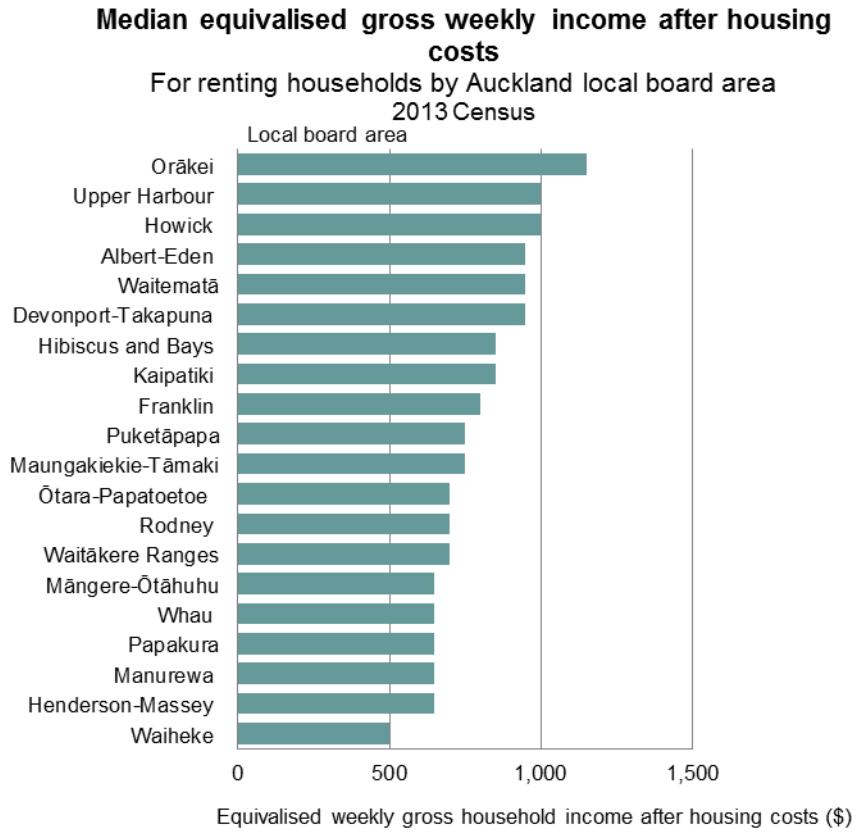
Figure 37



It seems likely that households largely rent in areas they can afford, or find strategies to mitigate high rental costs, such as taking in flatmates or boarders to help pay the rent. People may end up in situations where they crowd together in order to make renting affordable.

However, while households in different areas may pay a similar percentage of their gross household income on rent, equivalised income after-housing-costs varied considerably between areas due to disparities in income. For example, Orākei had the highest equivalised median weekly income after rental costs are deducted, of $1,150. In comparison, Waiheke and Henderson-Massey had the lowest equivalised incomes after rental costs (at $500 and $650, respectively).

Figure 38

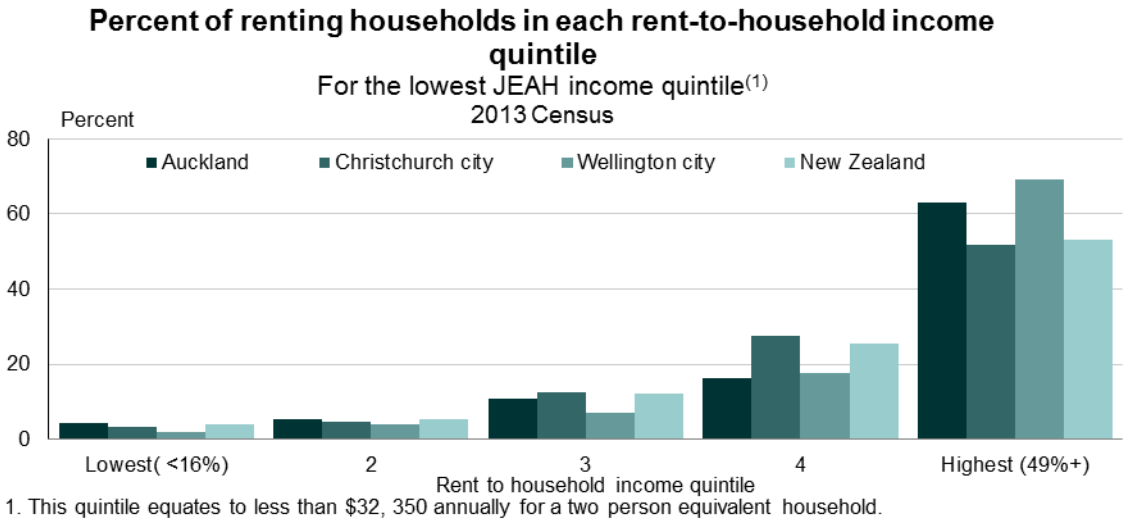


Note: Incomes have been rounded to the nearest $50.

Source: Statistics New Zealand

Nationally, households in the lowest two JEAH income quintiles paid the largest proportion of their income in rent (between 32 and 49 percent for quintile 4 and 49 percent and over for quintile 5). This pattern also occurred in Auckland.

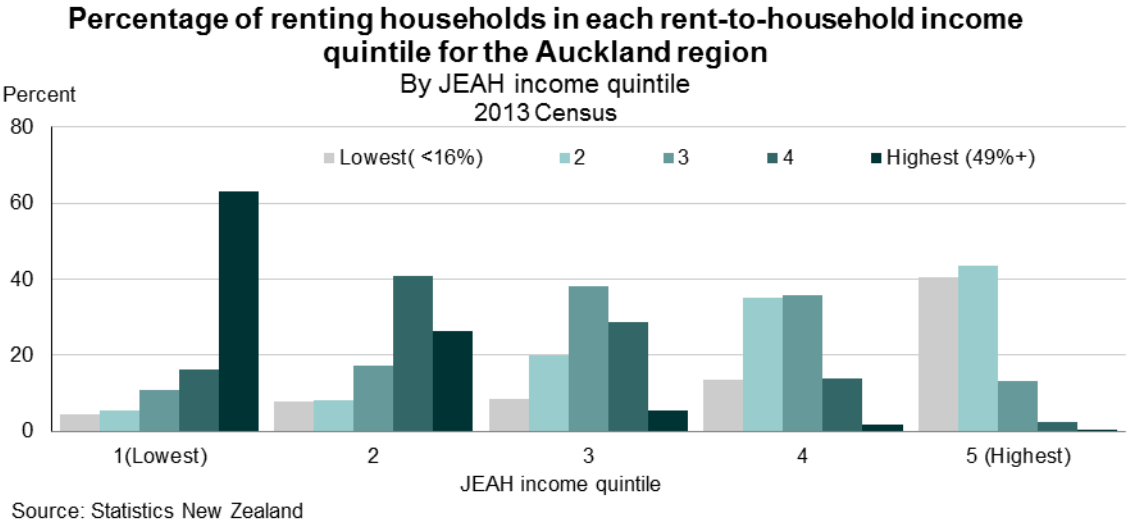
Figure 39



1. This quintile equates to less than $32, 350 annually for a two person equivalent household.

Source: Statistics New Zealand

Figure 40



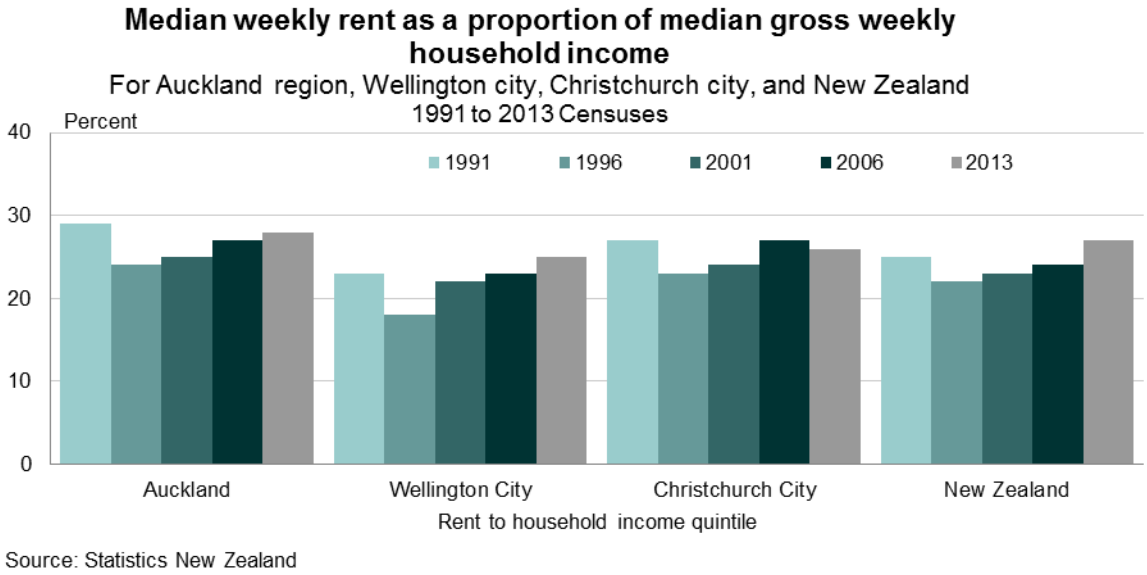
Source: Statistics New Zealand

Figure 39 shows that in Auckland, around 6 in 10 households in the lowest JEAH income quintile were in the highest rent-to-household income quintiles (with around half of their gross household income being spent on rent). This compares with around 5 in 10 households nationally.

Census data allows us to examine how rent-to-household income has changed over a longer time period than other data sources such as the HES, however, it is likely to be slightly less accurate as income information is collected in bands rather than as dollar amounts.

Generally census data shows median rent takes up a slightly higher proportion of median gross income than HES data (with ratios in Auckland around 26.1 percent compared with 28 percent in the census). However both sources show an increase in rent-to-household income ratios in Auckland in recent years.

Figure 41



Source: Statistics New Zealand

High rental costs and low income after-housing-costs can affect the ability of households to pay for other essentials, such as heating. Households in Auckland that were not using any heating are discussed in chapter 9.

7 Household size, composition and crowding in Auckland

This chapter covers:

Average household size

Auckland has the highest average household size in New Zealand

Auckland's divergence from the rest of New Zealand also emerges when household size and composition are considered. Households in Auckland are larger on average. As in the 2001 and 2006 Censuses, in the 2013 Census Auckland had the highest average household size in New Zealand, at 3.0 usual residents per household. Elsewhere in New Zealand, average household size in 2013 ranged from 2.3 in the West Coast region to 2.7 in the Gisborne region. In Wellington it was 2.6 and in Canterbury it was 2.5.

Auckland experienced a slight increase in average household size from 2.9 in 2006 and 2001. This is different from the trend seen in other regions of New Zealand, where average household size either fell slightly or remained stable over the period from 2001 to 2013. As in 2001 and 2006, the Auckland local board area with the highest average household size in 2013 was Māngere-Ōtāhuhu, at 4.0, followed by Ōtara-Papatoetoe, at 3.8, and Manurewa, at 3.6. Eleven of the 21 Auckland local board areas showed a slight increase in average household size since 2006.

Table 7

Average household size by Auckland local board area[(1)]
2001, 2006, and 2013
Censuses

	2001	2006	2013
Rodney	2.7	2.7	2.7
Hibiscus and Bays	2.7	2.7	2.7
Upper Harbour	3.0	3.0	3.1
Kaipatiki	2.8	2.8	2.9
Devonport-Takapuna	2.5	2.6	2.7
Henderson-Massey	3.1	3.1	3.1
Waitakere Ranges	2.9	2.9	2.9
Great Barrier	2.2	1.9	2.0
Waiheke	2.2	2.2	2.2
Waitemata	2.3	2.2	2.3
Whau	2.9	3.0	3.0
Albert-Eden	2.7	2.8	2.9
Puketapapa	3.0	3.1	3.2
Orakei	2.6	2.6	2.7
Maungakiekie-Tamaki	2.8	2.9	2.9
Howick	3.0	3.0	3.1
Mangere-Otahuhu	3.9	4.0	4.0
Otara-Papatoetoe	3.6	3.7	3.8
Manurewa	3.4	3.5	3.6
Papakura	2.9	3.0	3.0
Franklin	2.9	2.8	2.8
Total Auckland local board areas	2.9	2.9	3.0

1. Auckland local board areas did not exist in 2001 or 2006. The census data has been back-cast to allow comparisons over time.

Source: Statistics New Zealand

Household composition

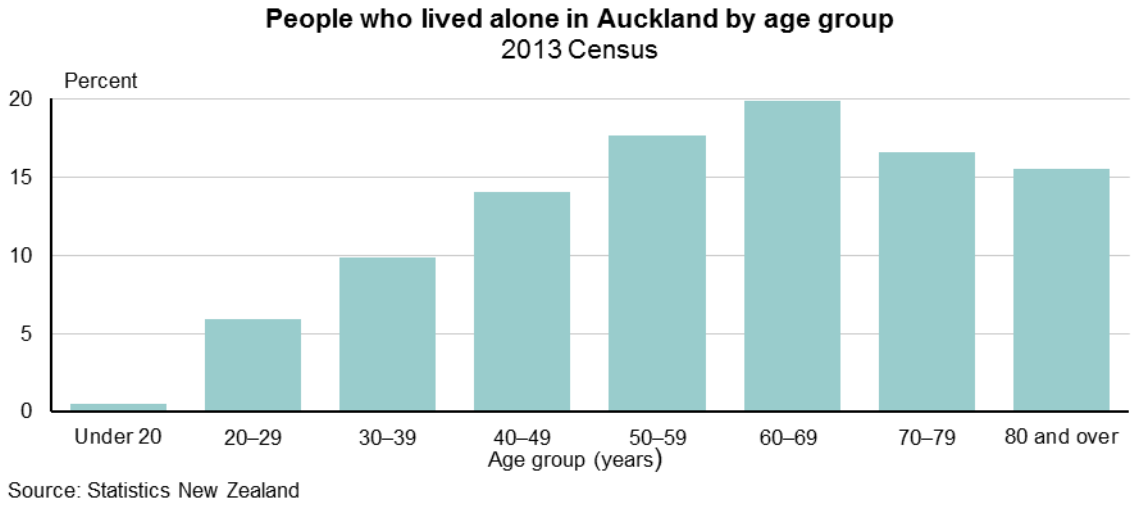
Auckland has the lowest percentage of one-person households

The percentage of one-person households was lower in Auckland, at 19.0 percent, than in any other region. Elsewhere in New Zealand, the percentage of one-person households ranged from 23.4 percent in the Tasman region to 30.7 percent in the West Coast region.

There were 86,544 Aucklanders who lived alone in 2013. Waitematā stands out as having a much higher number living alone, at 9,324, than any other area of Auckland. As figure 42 shows, Aucklanders who lived alone generally tended to fall into the older age groups. They were most likely to be in their 50s (17.7 percent) or 60s (19.9 percent), with

only 5.9 percent in their 20s, and 9.8 percent in their 30s. This was not true for those in Waitematā, however, many of whom were in their 20s, 30s, or 40s. People living alone elsewhere in New Zealand had a similar age distribution to those living alone in Auckland.

Figure 42



Source: Statistics New Zealand

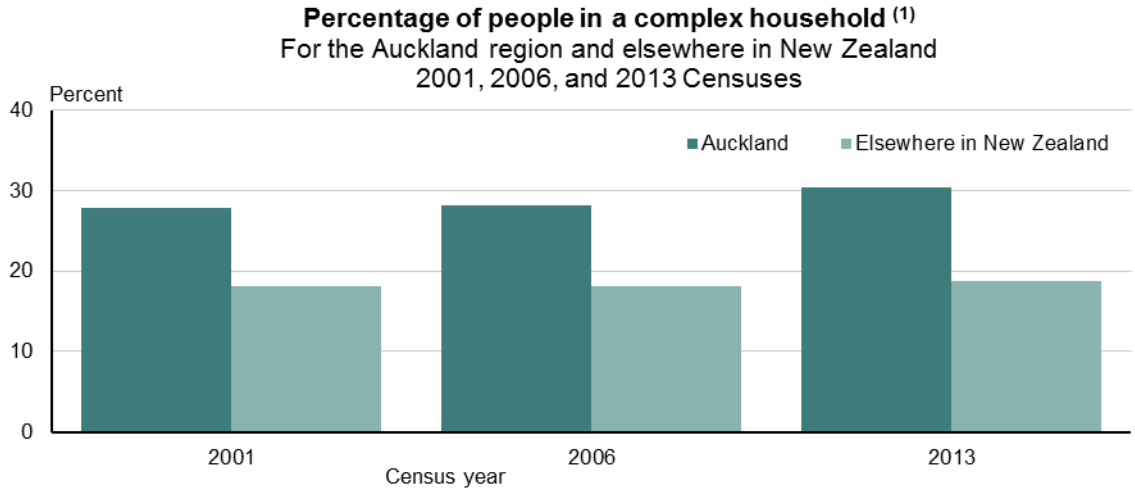
About a third (33.4 percent) of Aucklanders living alone were separated or divorced, and a similar percentage (36.2 percent) had never been married. Just over a quarter (26.4 percent) were widowed. Most were of European ethnicity (82.8 percent). Although people living alone tended to be in the older age groups, many (41.4 percent) did not own their home.

Auckland has a higher percentage of complex households

Aucklanders were more likely to live in a complex household than people living elsewhere in New Zealand, at 30.4 percent for those in Auckland in 2013 compared with 18.8 percent for those living elsewhere. (Complex households are those containing a family and other people; more than one family; a group of unrelated people; or a group of related people who did not form a family, such as siblings.)

Since 2001, the percentage of Aucklanders living in these types of households has increased (from 27.8 percent in 2001). Elsewhere in New Zealand there was only a slight increase from 18.2 percent in 2001.

Figure 43



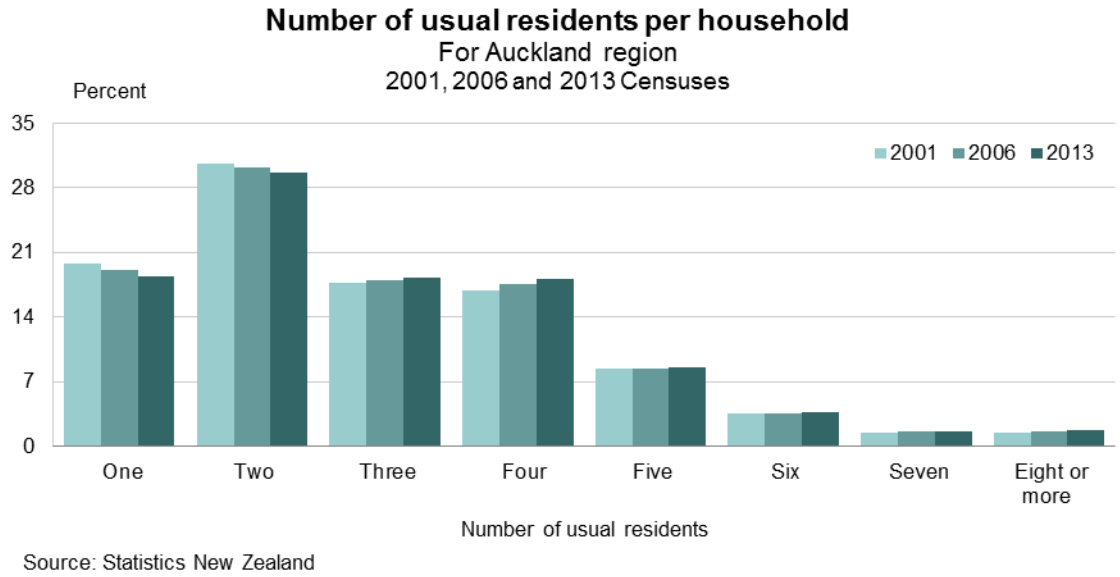
1. Those containing a family and other people, multiple families, a group of unrelated people, or a group of related people who did not form a family.

Source: Statistics New Zealand

Aucklanders of Māori, Pacific peoples, or Asian ethnicity were much more likely to live in complex households than those of European or other ethnicity. In 2013, close to half of Pacific peoples, about 2 in 5 people with Māori and Asian ethnicity, lived in a complex household, compared with about 1 in 5 people of European or other ethnicity.

An increase in the proportion of complex households, and increased occupancy rates do not necessarily indicate an increase in crowding, but they can indicate increasing pressure on households. Figure 44 indicates that there has been a small decrease in one- and two-person households since 2001 and a very small increase in households with four or more people.

Figure 44



In the following section we can see whether this has also resulted in an increase in household crowding.

Crowding rates for households and people

How is crowding measured?

The Canadian National Occupancy Standard (CNOS) has been used for most of the analysis on crowding in this report (see appendix 7 for more information). Of the various crowding measures available, CNOS provides the best fit for the New Zealand social context, although it may not fully align with all social and cultural norms (Goodyear, Fabian, & Hay, 2012). In this standard, children under 5 of either sex may share a bedroom but children between 5 and 18 should only share a bedroom if they are of the same sex. Couples and people 18 and other are also allocated a bedroom. The household is defined as crowded if these conditions are not met.

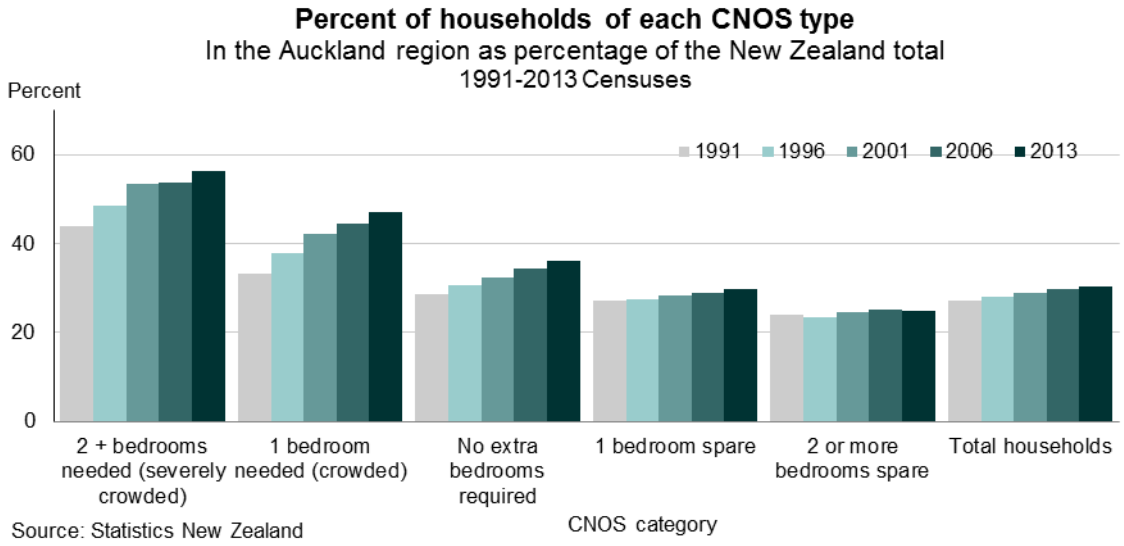
It is important to remember that while cultural norms about how crowding is perceived may vary, the same levels of physiological stress as a result of crowding occur for different ethnic groups regardless of whether they perceive themselves as crowded or not (Lepore, Evans, & Palsane, 1991). A study of healthy housing (Lynch 2000) found that "After a period of time living in overcrowded accommodation the stress of overcrowding becomes so overwhelming that people no longer have the emotional strength to move out of the situation."

It is likely that any estimate of crowding from the census will be lower than actual crowding, especially for some groups. A report by the Auckland Regional Public Health Service (2005) noted that "the most crowded households are often the most reluctant to tell officials about their living arrangements, especially if they include over-stayers and illegal immigrants". Households may also be subject to temporary crowding if they host people who cannot find accommodation, but these people may not regard that dwelling as their usual residence. People who were not identified as usual residents are not included when the crowding index is calculated. If some information is missing, such as the number of bedrooms, then crowding cannot be calculated. Crowding could not be calculated for 5.7 percent of households in Auckland.

Around half of people in crowded households in 2013 lived in Auckland

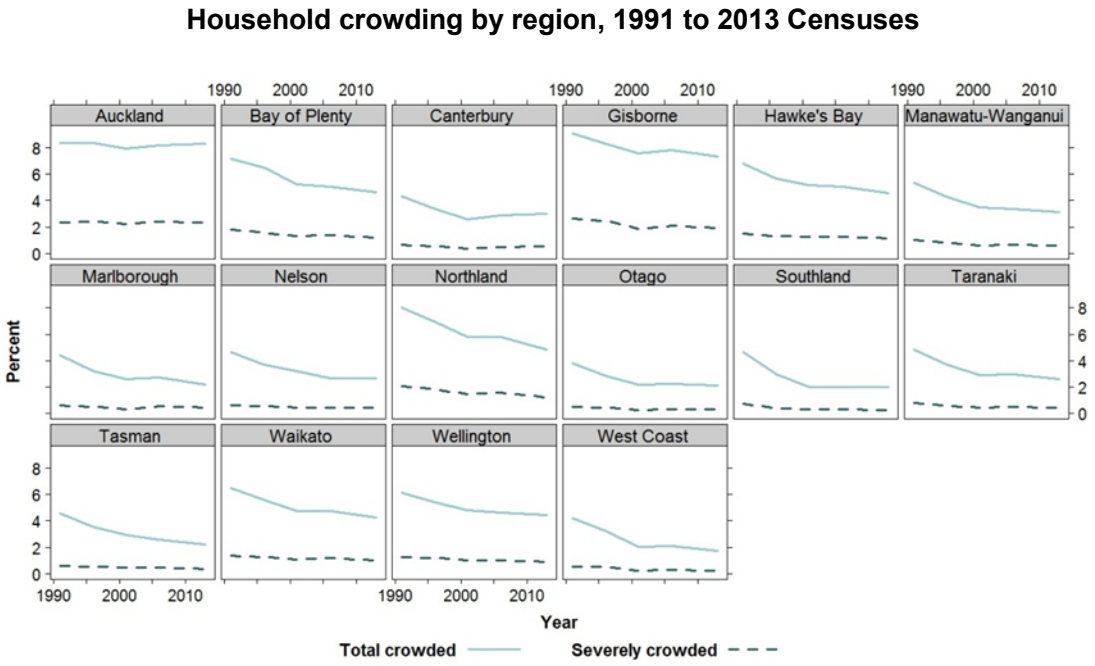
In 2013, 36,594 households in Auckland (8.3 percent of households) were crowded and 203,817 people (15.5 percent of people in households) were living in crowded conditions in Auckland. Auckland had around half (49.4 percent) of all crowded households in New Zealand, even though it had just under a third (30.3 percent) of all households. Auckland's share of crowded households has increased markedly over time as figure 45 shows. In 1991, there were 26,331 crowded households in Auckland, which was 35.7 percent of all crowded households in New Zealand.

Figure 45



As can be seen in figure 46, household crowding has reduced considerably in most regions, but not in Auckland. In Auckland it fell slightly in 2001 then rose slightly again in 2006 and 2013.

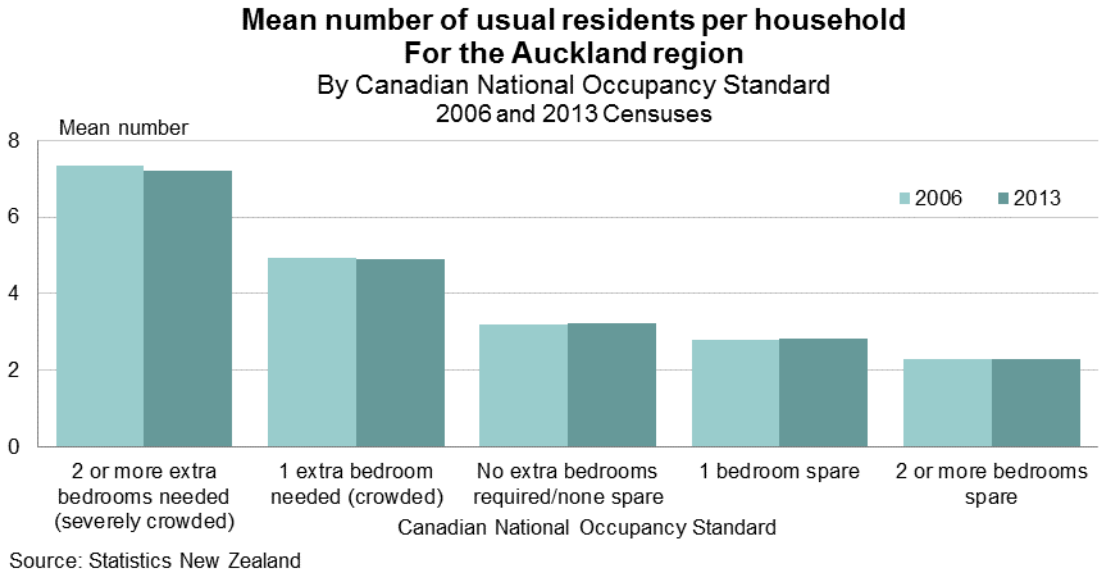
Figure 46



Source: Statistics New Zealand

Although the percentage of crowded households in Auckland rose very slightly from 8.2 to 8.3 percent between 2006 and 2013, the percentage of people in a crowded household fell slightly from 15.7 to 15.5 percent of people. This is due to a slight decline in the mean number of people in crowded households as shown in figure 47.

Figure 47



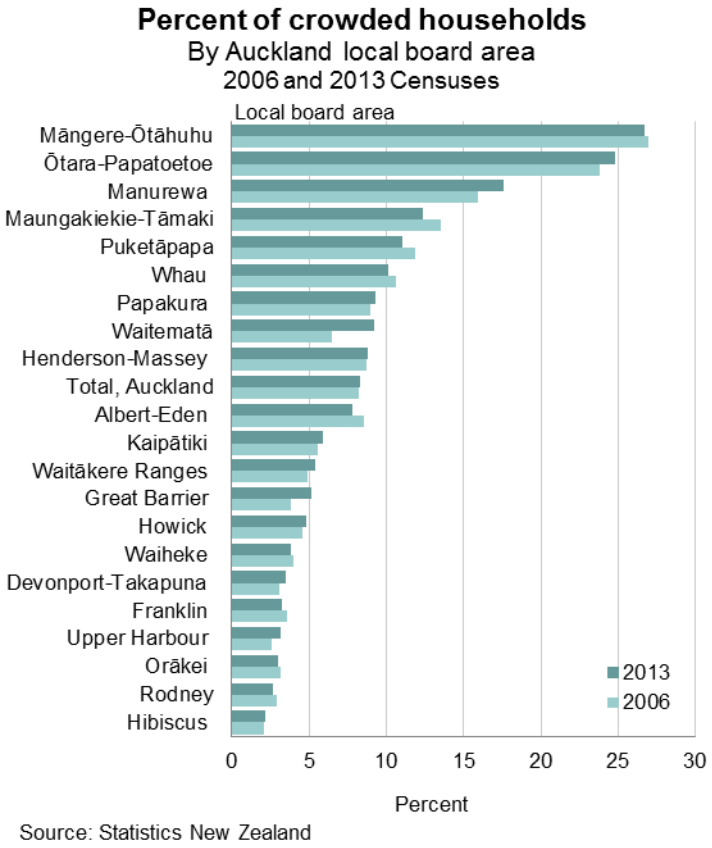
Source: Statistics New Zealand

How crowding is distributed within Auckland

In 2013, levels of crowding in Auckland varied considerably by area. The greatest levels of crowding were in southern areas of Auckland (largely the former Manukau city). While local boards have only been in existence since 2010 as part of the amalgamation of Auckland territorial authorities, data has been back-cast so we can look at change over time. In the Māngere-Ōtāhuhu local board area, 42.6 percent of people were living in a crowded household, followed by 39.5 percent of people in Ōtara-Papatoetoe, see figure 48. These local board areas also had the largest numbers of people living in crowded households. Ōtara-Papatoetoe had 27,048 people living in a crowded household, followed by Māngere-Ōtāhuhu (26,949 people) and Manurewa (22,713 people).

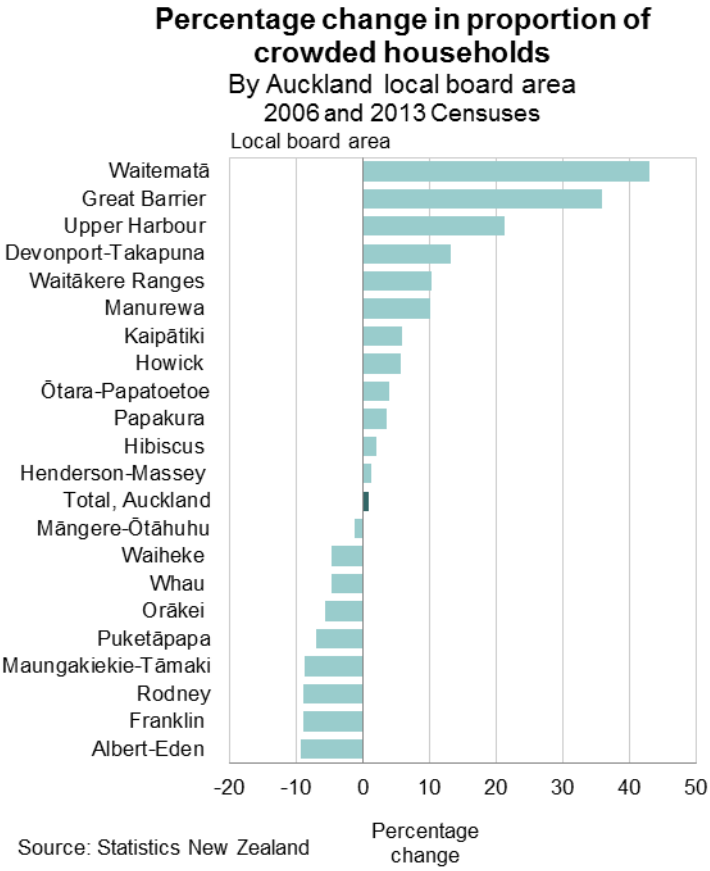
When looking at household crowding, Hibiscus and Bays had the lowest percentage of crowded households (2.1 percent or 675 households).

Figure 48



Waitematā experienced the greatest increase in crowding between 2006 and 2013, with household crowding increasing from 6.5 to 9.2 percent of households. This change could be partly due to enumeration problems with apartments in 2006. Note that Great Barrier has a small number of households, so even small changes in numbers of crowded households are going to affect percentage change figures.

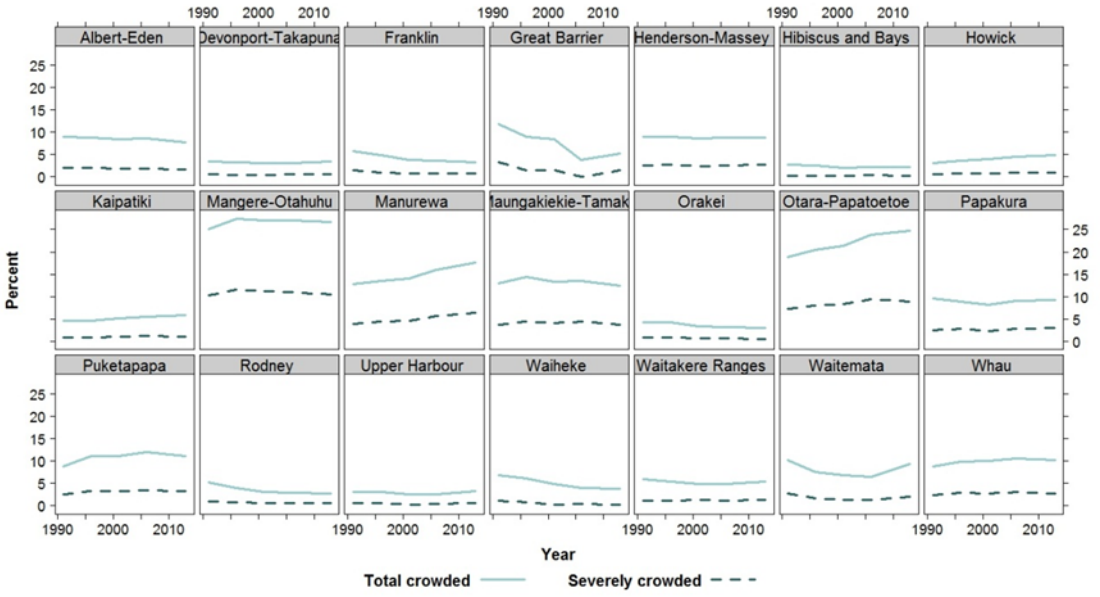
Figure 49



These differences in levels of crowding have remained fairly consistent over time, with Māngere-Ōtāhuhu showing the highest levels. Crowding has increased steadily in Manurewa and Ōtara-Papatoetoe since the 1990s.

Figure 50

Percent of crowded households (total crowded and severely crowded)
For Auckland local board areas
1991 to 2013 Censuses



Source: Statistics New Zealand

In the area units with the highest proportions of crowded households in Auckland, around 1 in 2 people were living in a crowded household compared with around 1 in 10 people nationally. Figure 51 shows the most crowded area units in 2006 and 2013. Although levels of crowding reduced slightly in some of these area units between 2006 and 2013, they were still extremely crowded.

Figure 51

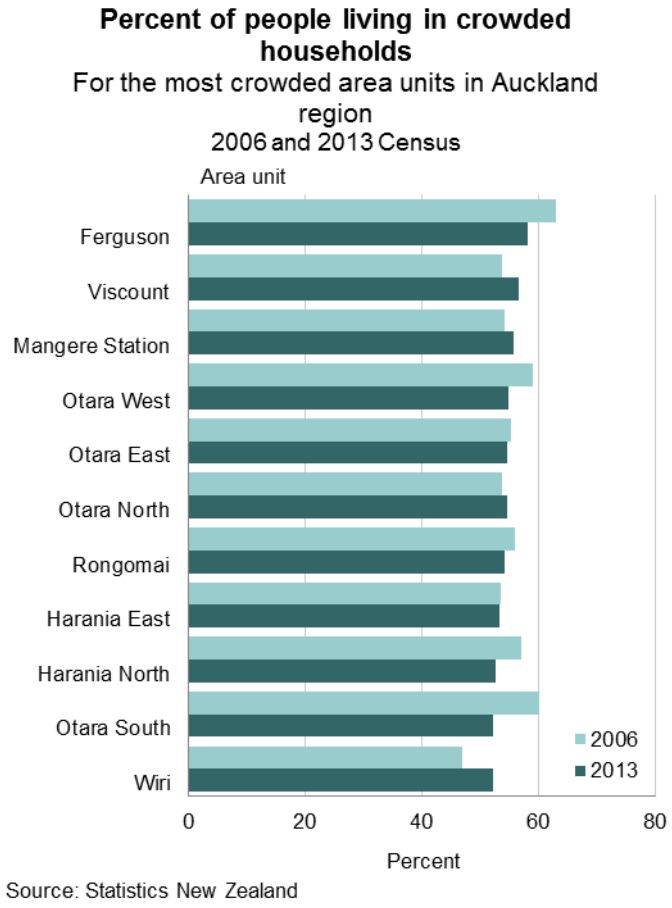


Figure 52 maps crowding in New Zealand, while figure 53 maps the most crowded areas in Auckland.

Figure 52

Percent of people living in a crowded household in New Zealand, 2013 Census

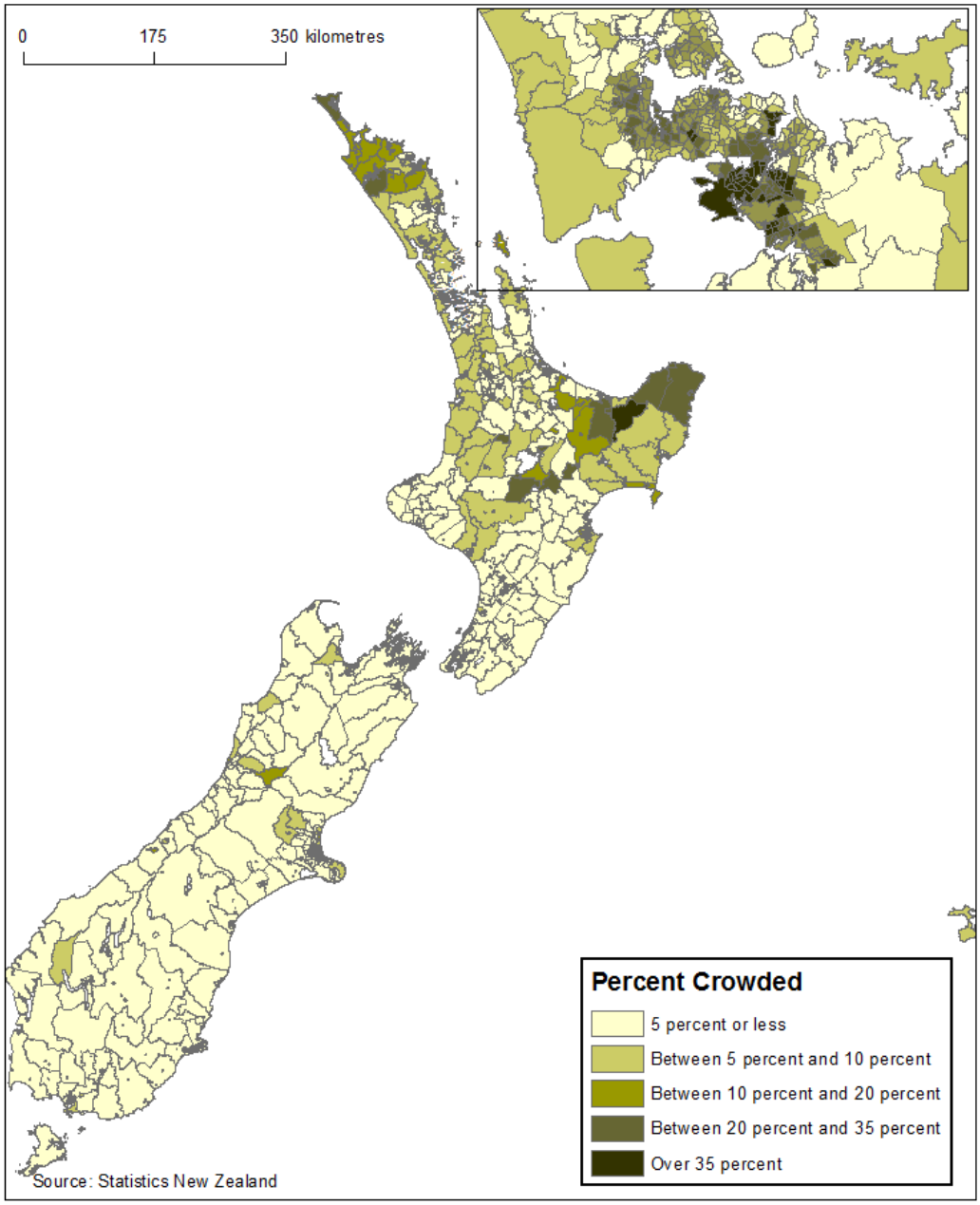


Figure 53

Percent of people living in a crowded household for Auckland region, 2013

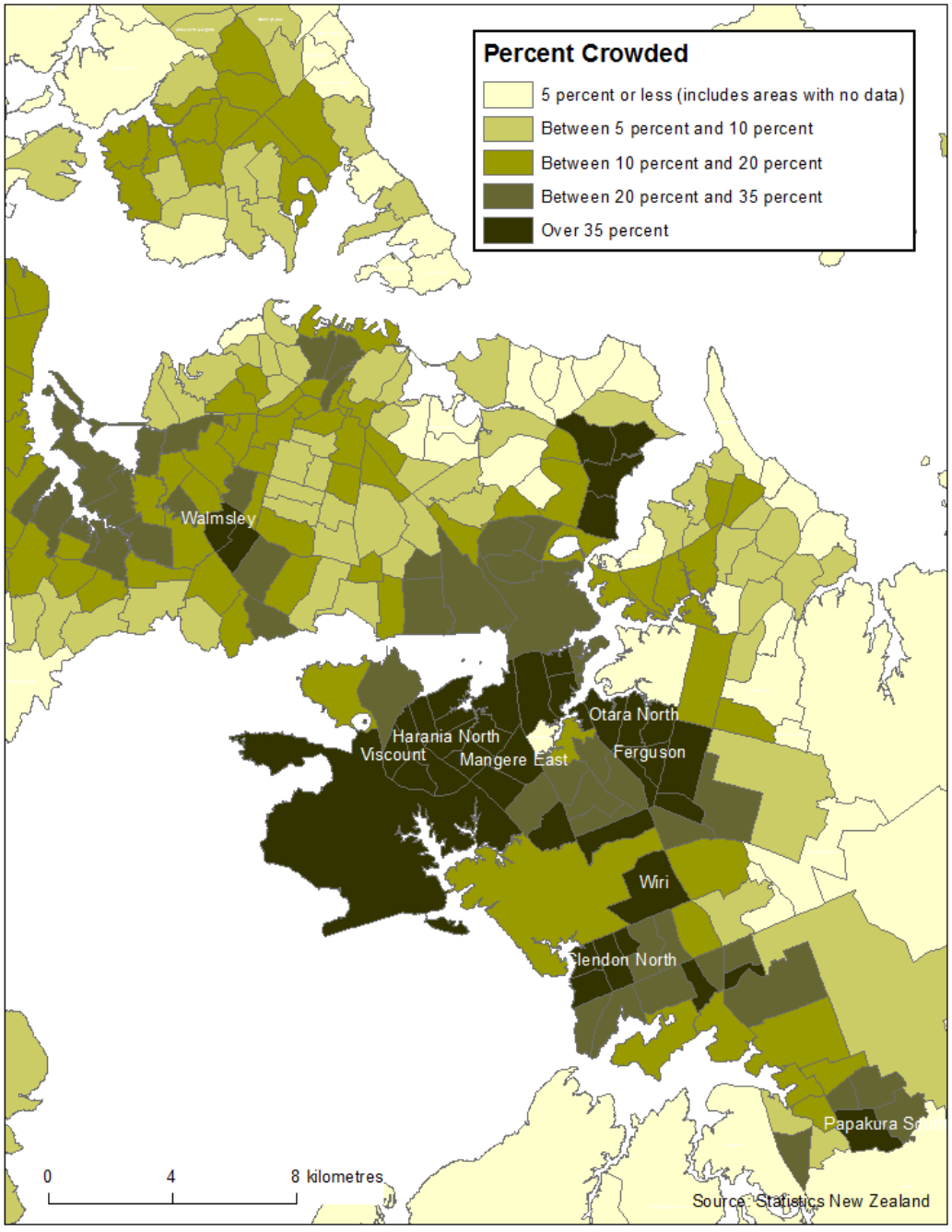
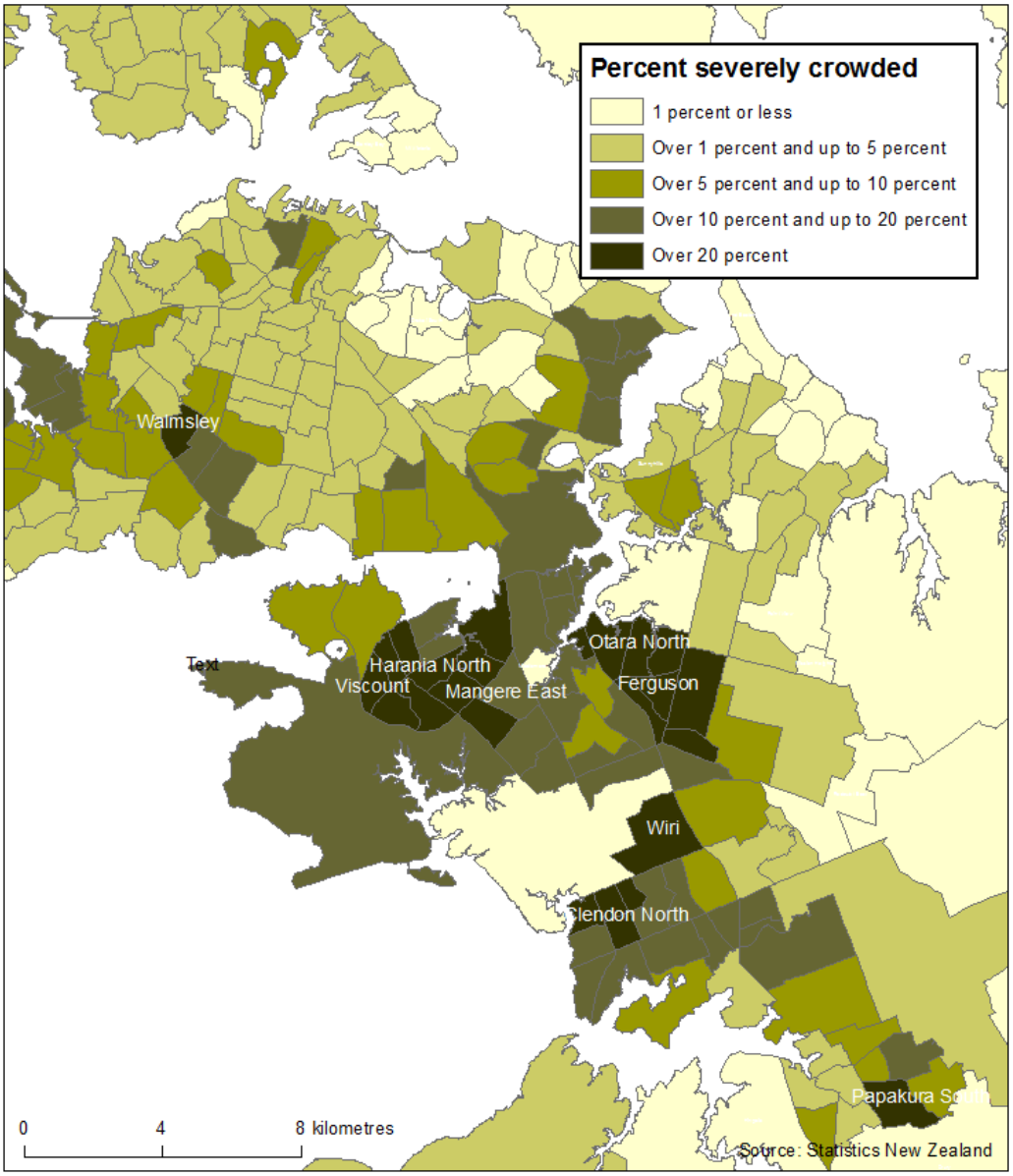


Figure 54 shows severe crowding (where a household requires two or more extra bedrooms to meet the Canadian National Occupancy Standard).

Figure 54

Percent of people living in a crowded household for Auckland region



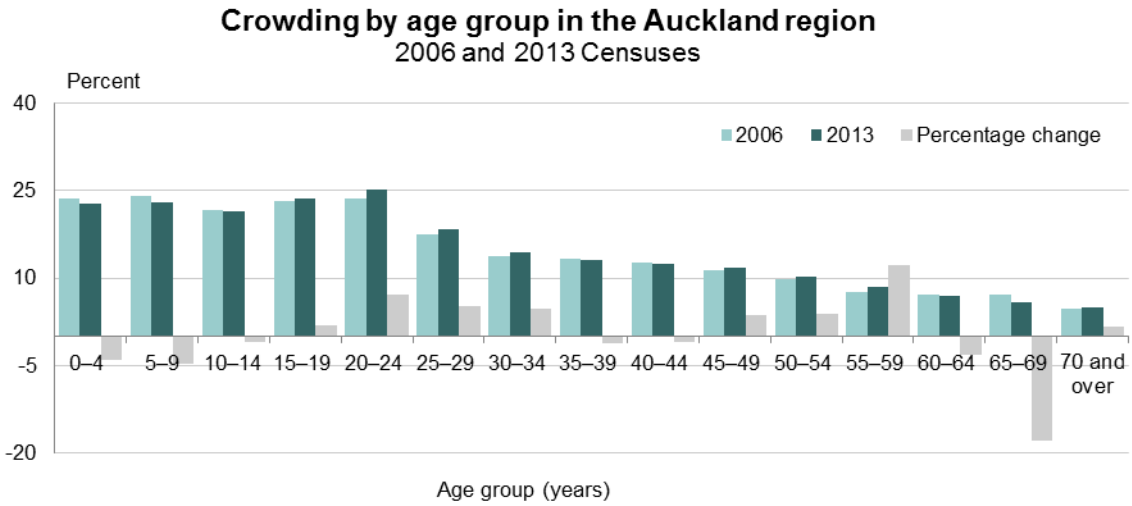
Characteristics of people living in crowded households

Rate of crowding fell for children in Auckland but increased for people aged 20–24 years and people aged 55–59 years

Changes in the composition and structure of Auckland's population are likely to have had an influence on crowding rates. Crowding tends to be more concentrated among people in some ethnic groups and be higher among young people. *Crowded Housing in New Zealand 1986–2006* showed that crowding increased sharply with the number of dependent children. In 2006, less than 2 percent of households with no dependent children experienced crowding, but 8 out of every 10 households with seven or more dependent children were crowded.

Like most areas in New Zealand, Auckland experienced a rise in median age in the seven years between 2006 and 2013, from 33.9 years to 35.1 years. The proportion of children aged less than 15 years declined slightly from 22.5 to 21.3 percent of the population. The age distribution of crowding also changed slightly between 2006 and 2013 with crowding rising among 20 to 24 year-olds (from 23.6 in 2006 to 25.2 percent in 2013) and people aged 55 to 59 years (from 7.5 percent in 2006 to 8.4 percent in 2013). A total of 63,155 children aged less than 15 years were crowded.

Figure 55

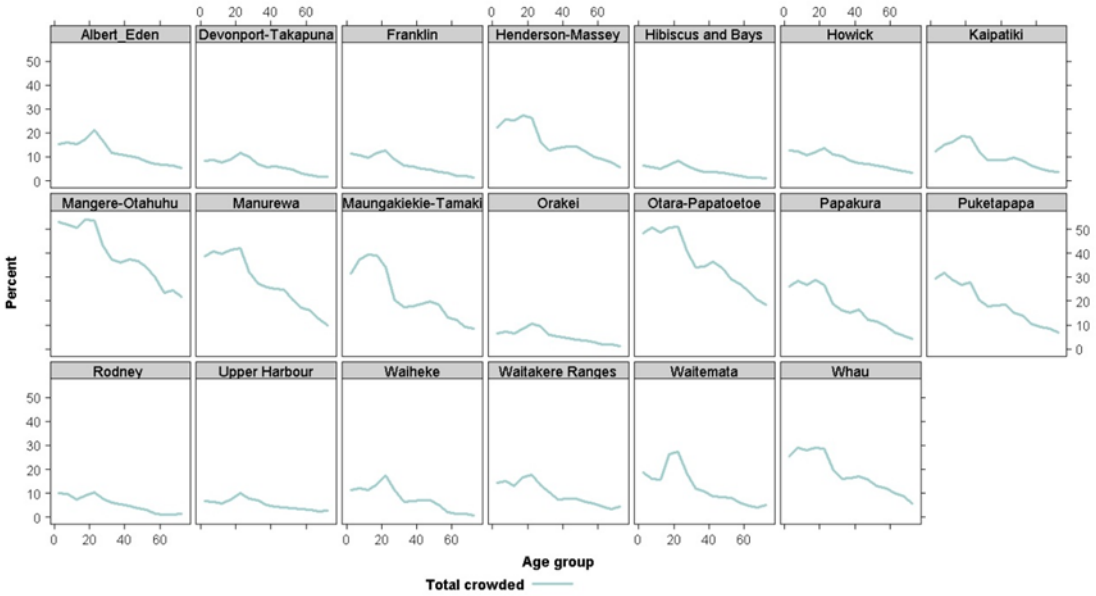


Source: Statistics New Zealand

The age structure of crowding varied considerably between local board areas, largely because of differences in their age structure. Waitematā, for example, has a distinctive age structure, with almost a third of its people in households aged 20 to 29 years. This age group also experienced the highest level of crowding in Waitematā, with around a quarter of this age group living a crowded household. In Māngere-Ōtāhuhu and Ōtara-Papatoetoe, around half of people aged 20 to 24 years lived in a crowded household. In all areas, crowding was lower among older age groups.

Figure 56

Crowding by five-year age group and Auckland local board area
2013 Census



Source: Statistics New Zealand

Ethnic variation in crowding in Auckland

Applying multivariate analysis techniques to the data showed that ethnicity was the most important factor in explaining differences in crowding. This is similar to the findings of research carried out in the United States. A study in California (Moller, Johnson, & Dardia, 2002) noted that black, American Indian, Asian, and Hispanic populations in the United States had much higher levels of crowding. This difference remained significant even when controlling for factors such as low income.

Auckland's increasingly diverse population, combined with relatively higher housing costs, may also be contributing to the high and persistent levels of crowding.

Most ethnic groups in Auckland experienced a small decline in crowding between 2006 and 2013 as table 8 shows.

Table 8

Number and percent of people living in a crowded household
By ethnic group (grouped total responses) for
the Auckland region
2006 and 2013 Censuses

Ethnicity	2006		2013	
	Number	Percent	Number	Percent
European/Other[1]	38,787	5.2	39,939	5.2
Māori	33,735	26.8	33,702	25.4
Pacific peoples	78,015	47.8	81,642	45.3
Asian	47,508	21.5	57,294	19.5
Middle Eastern/Latin American/African	4,059	23.7	4,392	18.8

1. For time series purposes 'Other' has been combined with European. The majority of the 'Other' response consists of 'New Zealander.

Note: All cells have been randomly rounded to base 3.

Source: Statistics New Zealand

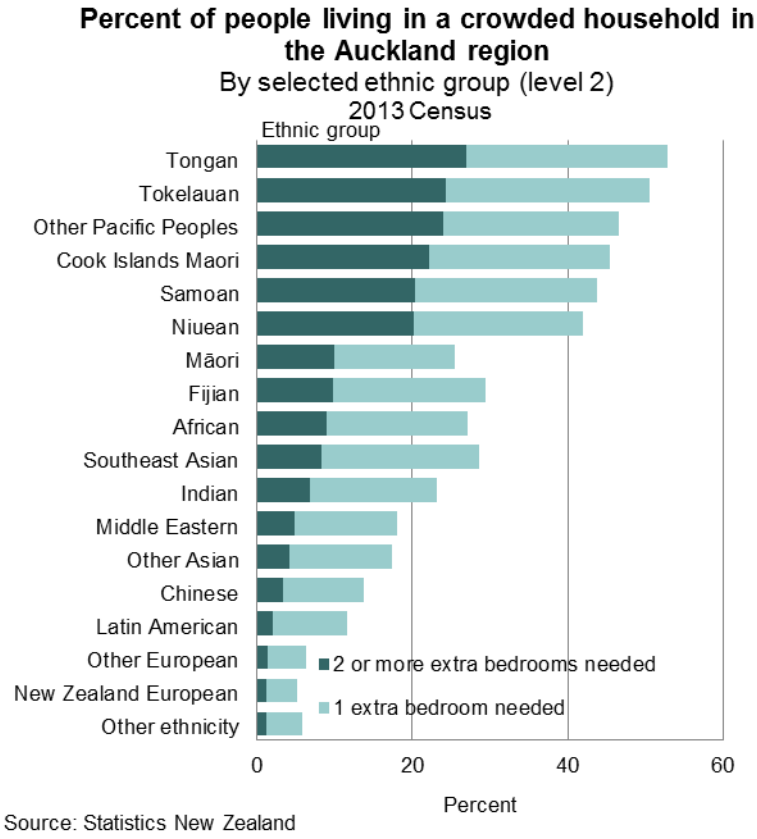
Pacific peoples experienced the highest levels of crowding

Pacific peoples have consistently experienced the highest crowding levels over time (Statistics NZ, 2012). This pattern continued in 2013 although the proportion of people of Pacific ethnicity living in a crowded household fell slightly in Auckland between 2006 and 2013. There were over 80,000 people identifying with a Pacific ethnicity who lived in a crowded household in Auckland.

There can be considerable differences in the distribution of crowding when ethnicity is broken down to a more detailed level. Figures 57 and 58 show the distribution of crowding at more detailed levels of the ethnic classification. See appendix 2 for a diagram of the ethnic classification.

Of Pacific peoples, Tongan and Tokelauan peoples have been consistently the most crowded since the 1980s. This pattern continued in 2013, with 52.8 percent of Tongan people in Auckland and 50.2 percent of Tokelauan people in Auckland living in a crowded household.

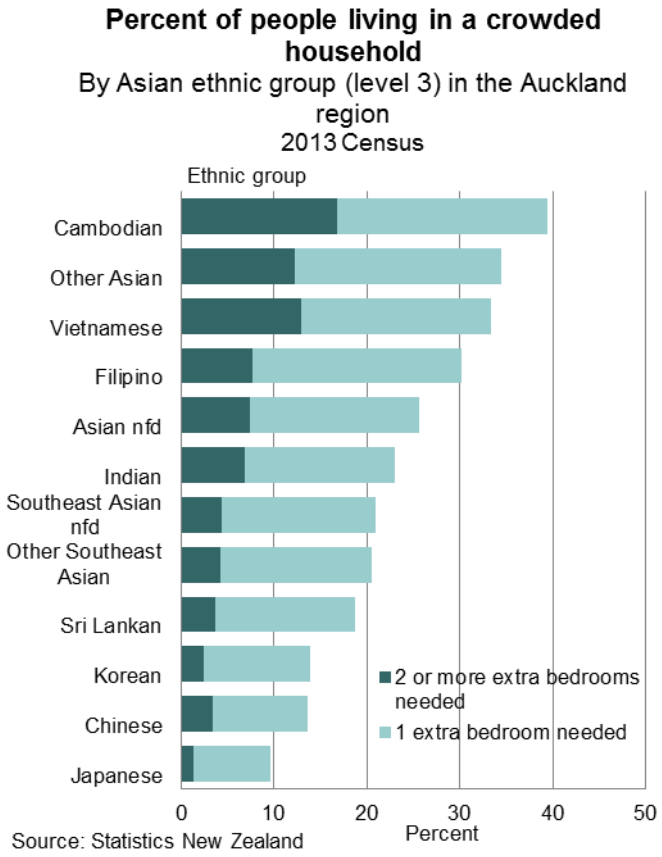
Figure 57



Figures 57 and 58 shows ethnic groups in order of severity of crowding.

The broad Asian ethnic grouping contains a number of diverse groups. Looking at Asian ethnic groups at a more detailed level (level 3), shows considerable variation in crowding. In 2013, crowding was highest among Cambodian people and lowest for people with Japanese ethnicity.

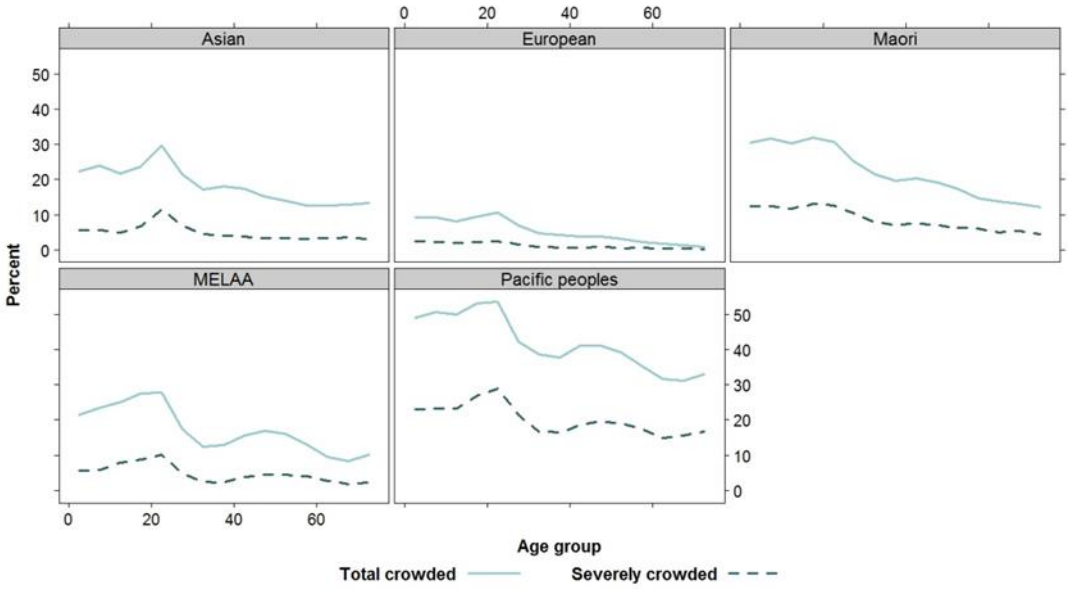
Figure 58



When we compared the distribution of crowding by age and ethnic group, clear differences emerged between groups. Young people and children in Auckland experienced the highest levels of crowding in 2013. For people identifying with an Asian ethnicity, crowding peaked markedly among the 20 to 24 year-old-age group. In the Asian ethnic group, 29.6 percent of 20 to 24 year olds lived in a crowded household as did 22.4 percent of children aged less than five years. Crowding remained high for all age groups within the Pacific peoples ethnic group, although again the highest levels were experienced by young people. Half of people of Pacific ethnicity aged zero to 24 years in Auckland were living in a crowded household.

Figure 59

Age distribution of crowding by selected ethnic group
For the Auckland region
2013 Census



The characteristics of crowded households have remained fairly stable over time as table 9 shows. However, home ownership rates for crowded households fell at a greater rate than for households that were not crowded (by 13.0 percent for severely crowded households, compared with 3.4 percent for households that were not crowded). This may reflect the greater decline in home ownership among some ethnic groups, such as Pacific peoples, who make up a large proportion of crowded households. The mean number of dependent children per crowded household also fell. Multi-family households have increased as a proportion of both severely crowded households (from 42.1 to 45.1 percent) and households where one extra bedroom is required (from 17.7 to 20.0 percent of the total). Crowded households appear to have fewer financial resources available. Median JEAH income was lower for crowded households ($42,300 in 2013 compared with $69,100 for households that were not crowded).

Table 9

Characteristics of crowded households using Canadian National Occupancy Standard (CNOS)

For Auckland region

2006 and 2013 Censuses

Characteristics of households	2 or more extra bedrooms needed (Severely crowded)		1 extra bedroom needed		Not crowded	
	2006	2013	2006	2013	2006	2013
Number of households	9,939	10,401	23,727	26,193	377,490	405,942
Number of people	73,179	75,090	116,892	128,727	1,020,513	1,113,954
Mean number of people per household	7.4	7.2	4.9	4.9	2.7	2.7
Mean number of children under 15	2.5	2.3	1.6	1.5	0.6	0.5
Percentage of households that owned their dwelling [2]	31.6	27.5	33.4	29.9	66.7	64.4
Percentage of households that did not own their dwelling [3]	68.4	72.5	66.0	70.1	33.3	35.6
Percent renting from private landlord, business or trust	45.9	50.7	66.2	69.0	84.3	84.9
Percent renting from Housing New Zealand Corporation [4]	52.2	47.8	32.2	29.6	13.2	13.0
Percentage of households in lowest JEAH income quintile[5]	23.9	34.3	27.8	35.7	16.0	16.6
Multi-family households as proportion of total CNOS category	42.1	45.1	17.7	20.0	2.9	4.1
One parent households as proportion of total CNOS category	6.2	5.8	14.8	14.3	9.4	9.0
One family and other people households as proportion of total CNOS category	32.7	27.6	27.2	25.0	4.3	4.7
Percentage of couple with children households as proportion of total CNOS category	13.7	13.0	30.2	29.4	31.2	31.2

1. Canadian National Occupancy Standard. This standard states:
   1. there should be no more than two people per bedroom
   2. parents or couples share a room
   3. children under five years, either of same or opposite sex, may reasonably share a bedroom
   4. children under 18 years of the same sex may reasonably share a bedroom
   5. a child aged five to 17 years should not share a bedroom with one under five of the opposite sex
   6. single adults 18 years and over and any unpaired children require a separate bedroom.

2. Includes households that owned their dwelling with or without a mortgage or held it in a family trust.

3. Includes households that made rent payments, households that did not make rent payments and households that did not specify whether they made rent payments.

4. While sector of landlord information is generally of high quality, there is a considerable undercount of Housing New Zealand properties in census data. In 2013, this undercount was estimated to be approximately 18 percent compared with an estimated 25 percent in 2006. It is not possible to give exact figures, as some tenants could have been absent on census night.

5. Note that there was a very high rate of non-response (33.8%) for crowded households, so information can only be regarded as approximate.

All cells have been randomly rounded to base

3.

Source: Statistics New Zealand

Crowding increased among households in the lowest JEAH income quintile between 2006 and 2013

Between 2006 and 2013, the housing situation of people in the lowest income JEAH quintile changed more than for the other quintiles in Auckland. Crowding increased by 30.5 percent, while this group also experienced the greatest decline in home ownership of 16.6 percent. Note that while crowding was extremely low for households in the highest JEAH income quintile, this group experienced a rise in crowding from 1.0 to 1.4 percent.

Table 10

Change in crowding and home ownership by JEAH income quintiles

For the Auckland region
2006 and 2013 Censuses

JEAH income quintile	Percentage crowded			Percentage owning[1]		
	2006	2013	Percentage change	2006	2013	Percentage change
1 (Lowest)	9.5	12.4	30.5	48.1	40.1	-16.6
2	9.0	8.9	-1.1	58.4	58.5	0.2
3	8.0	7.5	-6.3	64.1	62.1	-3.1
4	5.4	4.2	-22.2	69.5	68.2	-1.9
5 (Highest)	1.0	1.4	40.0	79.1	78.9	-0.3

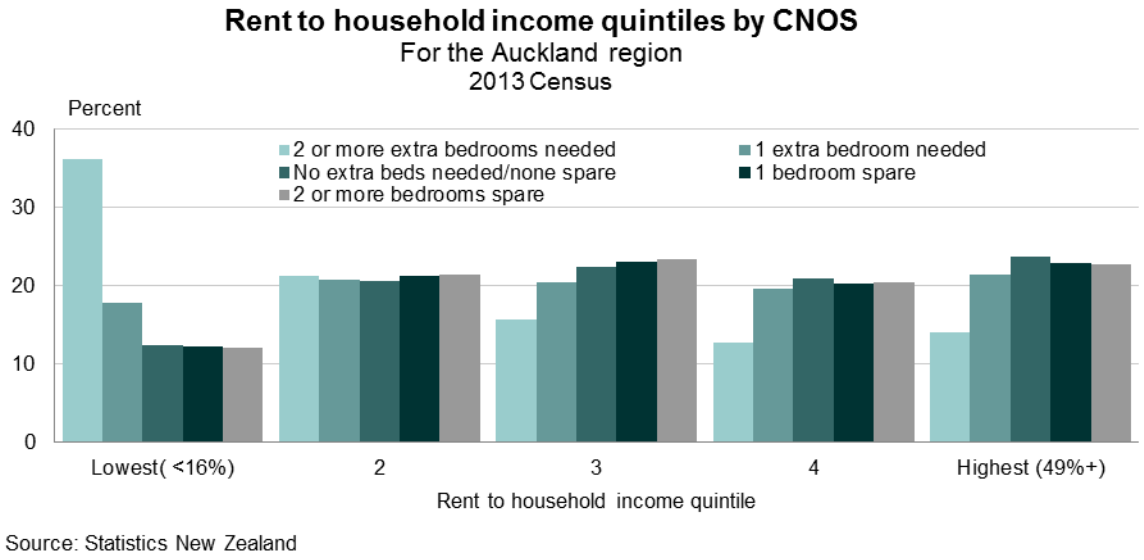
1. Includes households that owned their dwelling with or without a mortgage or held it in a family trust.

Source: Statistics New Zealand

Rental affordability for crowded households

Having more people in the household can be an effective way of reducing the cost of renting, but can also lead to household crowding. Over a third of severely crowded households were in the lowest rent-to-household-income quintile – that is, they were paying a low proportion of their income in rent. However, larger and more complex households, such as severely crowded households, have very high rates of non-response to the income question, so figure 60 is indicative only.

Figure 60



Source: Statistics New Zealand

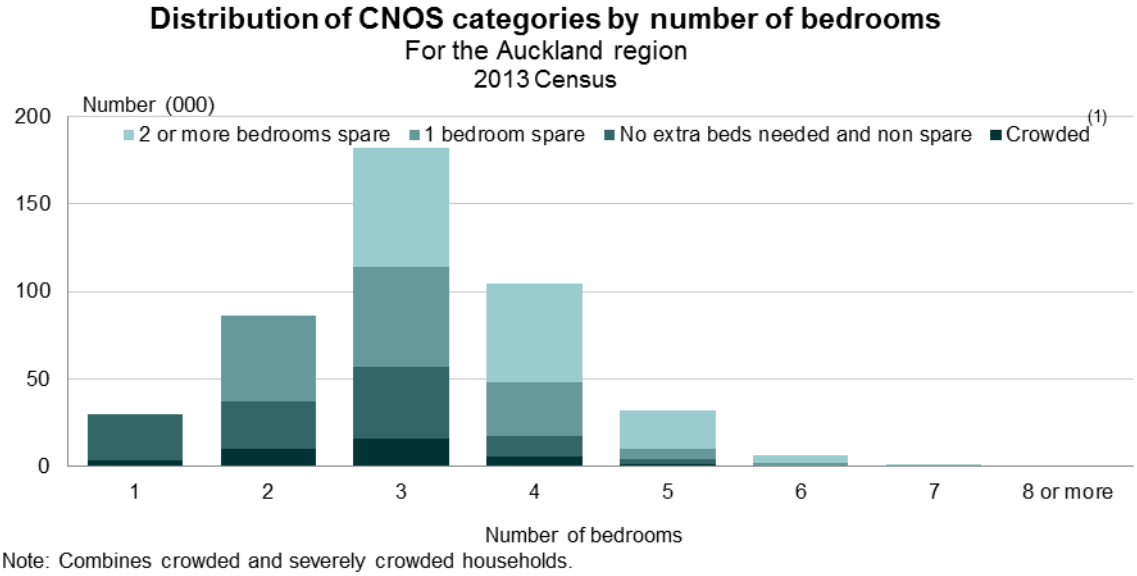
In 2013, crowded households where families were sharing with others, experienced lower rent-to-household-income ratios.

8 Underutilisation of dwellings in Auckland

When we undertook the consultation for this report, some government agencies were interested in underutilisation of dwellings, in order to see where there is spare capacity in housing. Figure 61 shows the number of bedrooms by CNOS categories.

When considering underutilisation it is advisable to use the two bedrooms or more category when analysing. Under CNOS some children can share bedrooms according to their age and sex, but if a household has spare bedrooms they may choose to give children a bedroom of their own. Therefore a dwelling could be categorised as one bedroom spare under CNOS but all the bedrooms are actually utilised (because all children have their own rooms). It is also important to remember the issue of shared care where parents may maintain a larger house in order to have space for their children when they stay. Children are only counted in one household in census but some children divide their time between two households.

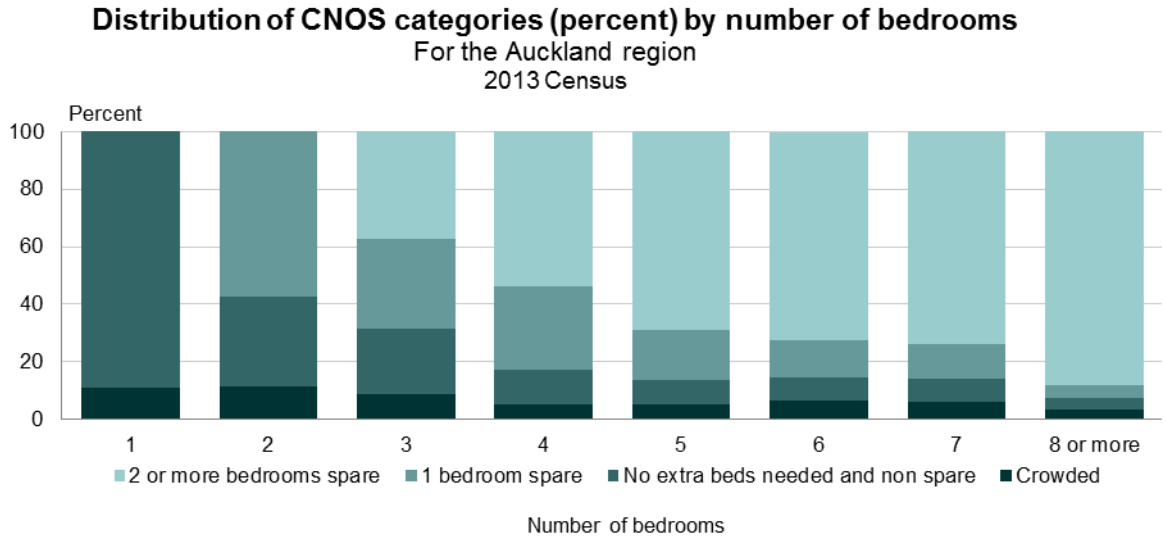
Figure 61



Note: Combines crowded and severely crowded households.

Source: Statistics New Zealand

Figure 62



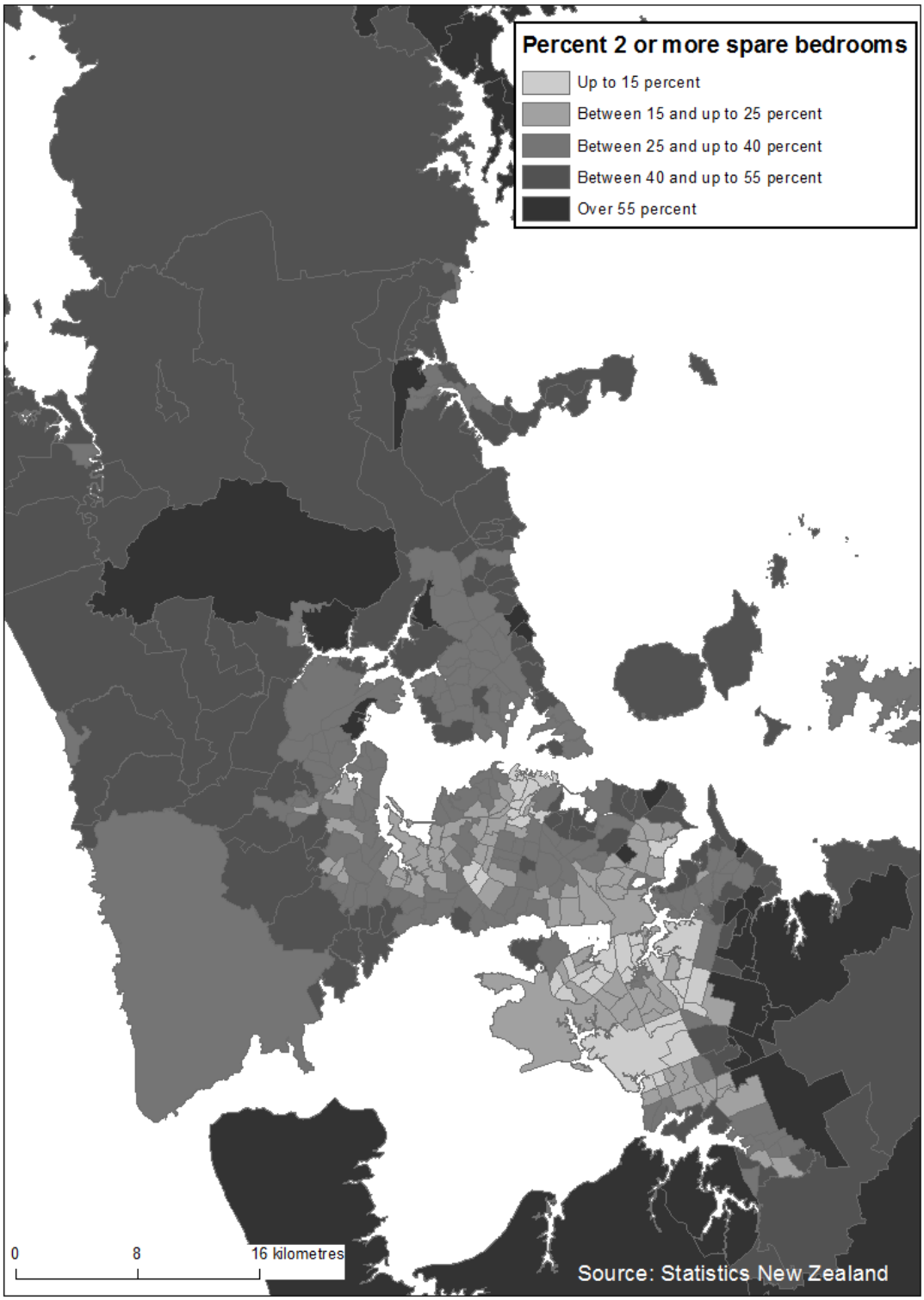
Source: Statistics New Zealand

It is clear there is some underutilisation of space, particularly in larger houses, but less than for New Zealand as a whole. In Auckland just over half (53.8 percent) of all four bedroom dwellings had two or more bedrooms spare according to CNOS, compared with 62.0 percent nationally.

Figure 63 shows that households on the periphery of Auckland were more likely to have spare bedrooms, a pattern similar to the home ownership map (figure 18).

Figure 63

Percent of households with two or more spare bedrooms (CNOS) for the Auckland region, 2013 Census



9 Unheated housing in Auckland

This chapter covers:

- The relationship between heating, deprivation, and health
- The prevalence and distribution of unheated housing in Auckland
- Characteristics of households who did not heat their homes

The relationship between heating, deprivation, and health

Lack of heating in the home can be used as an indicator of deprivation. For example, researchers Lawson and Williams (Centre for Sustainability, University of Otago, nd) note that 'over the last twenty years there has been increasing concern expressed about the ability of many households, even in developed economies, to afford adequate fuel with which to maintain their dwellings at a healthy temperature and humidity'. Their research showed that self-reported measures of fuel poverty (where the household indicated they did not use heating to save money) were very good indicators of poverty. They found that poorer households (using a crude equivalised income measure) were much more likely to go without heating to save money. Research evidence (He Oranga Kainga Health Housing) shows that:

> New Zealand has a high rate of excess winter mortality compared with other OECD countries and fuel poverty is a likely contributor to this. A study linking census and mortality data showed a statistically increased risk of dying in winter among low-income people, those living in rented accommodation, and those living in cities.

The Better Public Service Rheumatic Fever Government Reference Group is also concerned about the relationship between home heating and 'functional crowding' – where families sleep in one room to keep warm, either with or without heating. This situation can exacerbate disease transmission and respiratory problems. The Rheumatic Fever Government Reference Group has the target of reducing rheumatic fever incidence in New Zealand by 2017. One of its aims is to reduce household crowding, as rheumatic fever incidence is higher among children living in crowded households (Better Public Service Rheumatic Fever Prevention Programme 2013).

The following section looks at the location and characteristics of private dwellings where no heating was used.

The prevalence and distribution of unheated housing in Auckland

Auckland has the highest percentage of unheated dwellings in New Zealand

Private dwellings in which no heating fuels were ever used were located in every region of New Zealand, but the percentage was highest in Auckland, at 5.9 percent in 2013. Northland had the next highest percentage, at 5.3 percent. Nationally these dwellings made up 3.0 percent of occupied private dwellings in 2013. Although Auckland has a warmer climate than much of New Zealand, it experiences average minimum daily temperatures of less than 10 degrees Celsius in the winter, and Auckland homes – especially uninsulated ones – will generally require heating in the winter to keep them at a healthy temperature.

The number of private dwellings in which no heating fuels were ever used has been increasing. Auckland had 25,854 of these dwellings in 2013, which was a 39.7 percent increase from 18,513 dwellings in 2006. This was higher than the national increase of 35.1 percent (44,832 dwellings in 2013, compared with 33,177 dwellings in 2006).

Unheated dwellings are most common in Waitematā, Māngere-Ōtāhuhu, and Ōtara-Papatoetoe

Of the local board areas, private dwellings in which no heating fuels were used were most common in Waitematā (15.8 percent, 4,671 dwellings), followed by Māngere-Ōtāhuhu (12.3 percent, 1,851 dwellings) and Ōtara-Papatoetoe (10.6 percent, 1,863 dwellings).

Apart from Waitematā, where difficulties enumerating apartments in 2006 may have contributed to changes in the data, the areas with the highest numerical increases in unheated dwellings since 2006 were Manurewa, Māngere-Ōtāhuhu, Henderson-Massey, and Ōtara-Papatoetoe. Compared with 2006, in 2013 there were around 600 more unheated dwellings in Manurewa, and around 500 more unheated dwellings in Māngere-Ōtāhuhu, in Henderson-Massey, and in Ōtara-Papatoetoe.

Table 11

Private dwellings in which no heating fuels were ever used

for Auckland local board areas[1]

2006 and 2013 Censuses

Auckland local board area	2006		2013		Change from 2006 to 2013	
	Number	Percent	Number	Percent	Number	Percentage points
Rodney	390	2.3	516	2.7	126	0.4
Hibiscus and Bays	768	2.6	1,053	3.3	285	0.7
Upper Harbour	441	3.2	648	3.9	207	0.7
Kaipātiki	843	3.2	1,161	4.3	318	1.1
Devonport-Takapuna	504	2.6	609	3.1	105	0.5
Henderson-Massey	1,251	4.2	1,779	5.6	528	1.3
Waitākere Ranges	363	2.5	495	3.2	132	0.7
Great Barrier	27	6.4	33	7.6	6	1.3
Waiheke	132	3.9	141	4.0	9	0.1
Waitematā	2,625	11.2	4,671	15.8	2,046	4.7
Whau	1,122	5.3	1,404	6.3	282	1.0
Albert-Eden	1,356	4.5	1,506	5.0	150	0.4
Puketāpapa	666	4.4	861	5.5	195	1.1
Orākei	597	2.2	681	2.4	84	0.2
Maungakiekie-Tāmaki	1,338	6.2	1,557	7.1	219	0.9
Howick	1,320	3.7	1,806	4.6	486	0.9
Māngere-Ōtāhuhu	1,320	9.2	1,851	12.3	531	3.1
Ōtara-Papatoetoe	1,350	7.8	1,863	10.6	513	2.7
Manurewa	1,110	5.6	1,722	8.5	612	2.9
Papakura	495	3.8	804	5.8	309	2.0
Franklin	492	2.6	696	3.2	204	0.6
Total Auckland local boards	18513	4.5	25,854	5.9	7,341	1.4

1. Auckland local board areas did not exist in 2001. Census data has been back-cast to allow comparisons over time.

Note: All cells have been randomly rounded to base 3.

Source: Statistics New Zealand

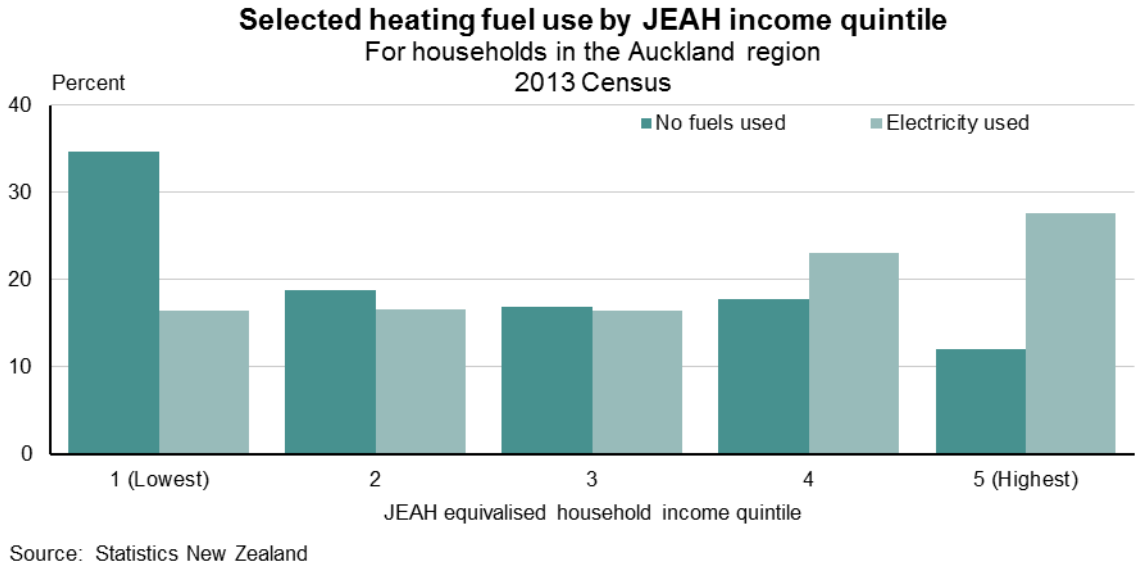
In Auckland and nationally, no use of heating fuels was most common in joined dwellings in buildings with four or more storeys (apartments). In Auckland, no heating fuels were used in 22.9 percent of these dwellings. The figure for New Zealand overall was similar, at 19.4 percent.

Characteristics of households who did not heat their homes

Over two-thirds (68.0 percent) of Auckland households living in unheated dwellings rented their home. Elsewhere in New Zealand, 71.5 percent of households in unheated dwellings rented their home.

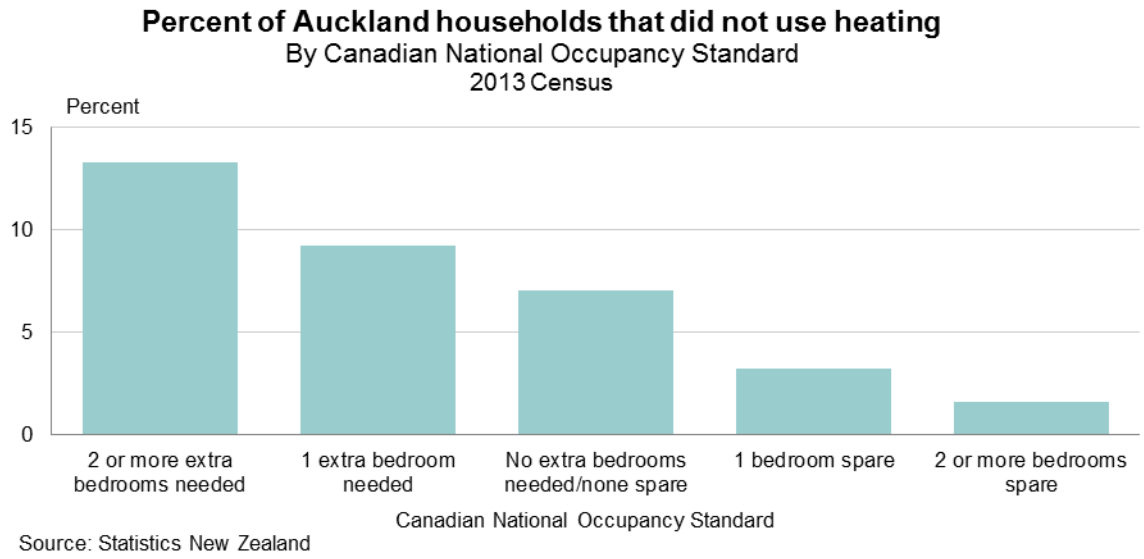
Census data shows that households who did not heat their homes were more likely to have an equivalised household income in the lowest income quintile (under $32,400) than other households. This is a similar distribution to the Lawson and Williams study (nd). About a third of Auckland households who did not use heating had an equivalised household income of less than $32,500, whereas only 16.5 percent of households who used electricity for heating had this income level. However, there were some households with relatively high incomes who did not use heating – 12.0 percent of those in unheated homes had an equivalised household income of over $104,000. This suggests that heating may not be necessary in some private dwellings as the home is sufficiently warm without it.

Figure 64



The distribution of households that did not use heating by the Canadian National Occupancy Standard shows that severely crowded households were over eight times more likely to not use heating than households with two or more bedrooms spare. This is likely to exacerbate the health effects of crowding.

Figure 65


Percent of Auckland households that did not use heating
By Canadian National Occupancy Standard
2013 Census
Percent
15
10
5
0
2 or more extra bedrooms needed
1 extra bedroom needed
No extra bedrooms needed/none spare
1 bedroom spare
2 or more bedrooms spare
Canadian National Occupancy Standard
Source: Statistics New Zealand

10 What have been the major changes in Auckland's housing?

Since the early 1990s, housing in Auckland has changed markedly and is now distinct from most other areas in New Zealand. There has been a considerable increase in the numbers and proportion of joined dwellings and multi-storey dwellings. Home ownership rates have fallen and are lower than elsewhere in New Zealand. Data from a range of sources shows that housing costs are higher in Auckland and house prices have risen to much higher levels than in the rest of New Zealand.

What has remained largely unchanged, however, are levels of household crowding. While crowding fell in other regions in New Zealand, there has been very little change in crowding rates in Auckland, which remain among the highest in the country. There are a number of potential reasons for this situation. High housing costs could be a factor but the growing ethnic diversity in Auckland is also likely to play a part. In this paper when multivariate analysis was applied to the data, ethnicity emerged as the most important factor for explaining crowding. American studies have produced similar results (Moller et al, 2002). It is likely that this difference is related to the higher proportion of large and complex households among some ethnic groups, larger numbers of children, and also because much of the housing stock is unsuitable for these large households. Crowding has increased among households in the lowest JEAH income quintiles since 2006.

Auckland also shows little spare capacity in dwelling stock with a low proportion of unoccupied dwellings (which has hardly changed since 2006), the lowest proportion of one-person households, and the second lowest proportion of households with two or more spare bedrooms. Auckland has also experienced growth in the number of households living in 'other private' dwellings, which include those in motor camps, mobile dwellings, and improvised dwellings.

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Appendix 1: Sources of data for housing costs and housing affordability

Information about housing costs is available from a range of sources. All sources have some advantages and disadvantages and relate to different aspects of housing affordability.

The Real Estate Institute and Quotable Value New Zealand publish regular information around house prices and various agencies publish information around affordability for first home buyers by region.

The REINZ housing price index

The REINZ housing price index is used in this paper. The index is put together using a technique known as stratification. Basically this is an average of sale prices for common groups. This index was developed by the Reserve Bank of New Zealand. They stratify the REINZ data to give an average sale price for common groups. It therefore avoids the distortions that arise when there are sudden shifts in the type of houses being sold, especially in times of low volume. See www.reinz.co.nz for more information. The following website – www.interest.co.nz has a useful summary.

The Household Economic Survey

The Household Economic Survey (HES) is an annual survey and collects information on housing costs for households that own, and do not own, their dwelling. It is the most comprehensive source of information around actual housing costs, as opposed to theoretical assumptions around affordability. However, the small size of the HES sample means that only limited regional disaggregation is possible. See www.stats.govt.nz for more information.

Rent information from tenancy bond data

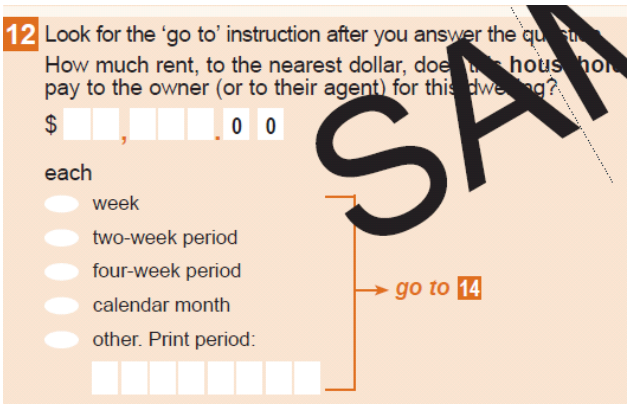
The Ministry for Business, Innovation and Employment (MBIE) collects tenancy bond data and is able to publish regular information around rents. It is essentially a census of all bonds lodged but does not include properties that are not owned for which no bond is lodged. The source of this data is the Tenancy Bond database, which is administered by MBIE under the Residential Tenancies Act 1986. Under this Act, any landlord who wishes to require a bond from their tenant must lodge that bond with MBIE. The bond is held in trust during the tenancy and is refunded on the agreement of tenant and landlord, or (in the event of a dispute) an order by the Tenancy Tribunal. MBIE collects some basic tenancy information when the bond is lodged, including weekly rent paid, number of bedrooms and landlord type. The Census of Population and Dwellings provides the most information about dwellings that are not owned, as it also includes dwellings where no bond is lodged. See www.mbie.govt.nz for current tenancy bond data and downloadable files.

Rent information from the census

The census asked how much rent households pay and the period the amount applies to.

Figure 66

Rent question in 2013 census



Rent information is collected as dollar amounts and output as weekly rent.

Comparing census information on rents with tenancy bond data

Evidence from the census may not always align exactly with other sources. The census aims to count every person and dwelling in New Zealand, whether information from other sources may be a sample or a subset of the total. Information about rents from tenancy bond data and census will not align exactly because not all rental properties have bonds lodged against them. It is difficult to give exact coverage figures as the number of active bonds may include situations where multiple bonds may be lodged against a property. However, tenancy bond coverage in Auckland appears fairly high, at about 97 percent of total renting households. Tenants may not have to pay a bond if they rent from friends and family, or if they are very long-term tenants. Therefore mean and median rents from the census, even when social housing is excluded, are likely to be lower than those recorded in tenancy bond data of private rentals. Median rents from Tenancy Bond Data are also for new bonds lodged. Tenancy bond data is still based on 2001 areas so the information presented here is for the old territorial authority boundaries.

Notes on calculating the indicators

Income is collected in bands is calculated as annual income. To calculate the indicators, annual household income has been divided by 52 to create a nominal weekly amount. Income information is only collected and presented in bands, so there is no information about the actual dollar value of income for households. People are asked for their annual income before tax, so the income measure collected in the census is gross (pre-tax) rather than net (after tax) income. Medians or means for income are calculated using midpoints for each range, which have been determined by using information from household surveys.

While the income bands are fairly narrow at the lower end of the income range (eg $0 to $5,000), the last three income bands are much broader ($70,001 to $100,000, $100,001 to $150,000, and $150,001 and over). This means that such measures will be less precise for higher-income households. The introduction of additional bands in 2013

means that calculations made on 2013 data are likely to be slightly more precise than those made on 2006 data.

Appendix 2: Defining and describing ethnicity

Current definition of ethnicity

The current Official Statistics Ethnicity Standard (Statistics NZ, 2005), defines ethnicity as the ethnic group or groups that people identify with or feel they belong to. New Zealand is often seen as unique in the way that it approaches the concept of ethnicity, both in the conceptualisation of ethnicity, and in the collection of ethnicity data. Ethnicity is a concept quite separate and distinct from race, ancestry, nationality, or citizenship although it can incorporate elements of these concepts. There is an underlying assumption that an ethnic group is a group because of a shared similarity and is more about cultural affiliation than race. Indeed, in defining ethnicity, the Ethnicity Standard explains that an ethnic group is made up of people who have some or all of the following characteristics:

- a common proper name
- one or more elements of common culture which need not be specified, but may include religion, customs, or language
- a unique community of interests, feelings, and actions
- a shared sense of common origins or ancestry
- a common geographic origin.

In the census people can choose up to six ethnic groups although in practice most people affiliate with one or two. In the 2006 Census, less than 2 percent of the population listed three or more ethnic affiliations. There is some variation in other official collections but increasingly other agencies are attempting to harmonise the collection of ethnicity in order to increase the comparability of ethnic data.

Level 1 ethnic categories

As detailed in the Ethnicity Standard (Statistics NZ, 2005), six high level (level 1) ethnic groups are used when summarising data. The six high level ethnic groupings in order of their population size are European, Māori, Other ethnicity, Asian, Pacific peoples, and MELAA.

The ‘other’ category includes responses of ‘New Zealander’ and mainly consisted of ‘New Zealander’ responses in 2006. Large changes in the number of ‘New Zealander’ responses over the last three censuses have affected the size of the European group for different census years. For this reason, European and ‘other’ have been combined together for time series analysis in this report.

While the Asian ethnic group was previously aggregated with other ethnicities into an ‘other’ grouping, and is still grouped in ‘other’ in some small survey situations, over time the number of people identifying with ethnicities in the Asian ethnic grouping has increased and it is generally now identified separately.

Figure 67 shows the relationship between level 1 and 2 hierarchies. The ethnic classification has four levels of output.

Figure 67

Hierarchy of level 1 and level 2 ethnic groups

1 European
- 10 European not further defined
- 11 New Zealand European
- 12 Other European

2 Māori
- 21 Māori

3 Pacific peoples
- 30 Pacific peoples not further defined
- 31 Samoan
- 32 Cook Islands Maori
- 33 Tongan
- 34 Niuean
- 35 Tokelauan
- 36 Fijian
- 37 Other Pacific peoples

4 Asian
- 40 Asian not further defined
- 41 Southeast Asian
- 42 Chinese
- 43 Indian
- 44 Other Asian

5 Middle Eastern/Latin American/African
- 51 Middle Eastern
- 52 Latin American
- 53 African

6 Other Ethnicity
- 61 Other ethnicity

9 Residual Categories
- 94 Don’t know
- 95 Refused to answer
- 96 Repeated value
- 97 Response unidentifiable
- 98 Response outside scope
- 99 Not stated

Appendix 3: Apartment strategy

Need for special strategy

During the 2006 Census, we identified an issue referred to as ‘no signs of life’ (NSL). In many cases, collectors could not contact apartment dwellers – which also made it difficult to determine the occupancy status of the apartments. These issues had significant potential to negatively affect the quality of census data.

For the 2013 Census, the challenges when collecting data for apartments were:

- correctly identifying the address and the individual dwellings within the address
- determining whether dwellings were private or non-private
- making contact with occupants and soliciting a response
- establishing whether a dwelling was occupied or unoccupied.

We developed an apartment strategy to improve the response rates and data quality from apartment buildings in specific parts of Auckland and Wellington (areas with many apartments).

Key elements of the apartment strategy

Coverage
The apartment strategy covered the following areas:

- Area 03 – Waitematā
- Area 17 – Wellington

It covered all dwellings within the designated apartment areas, including apartments, non-private dwellings (such as hotels and motels), and other private dwellings.

Networking with organisations and people associated with apartments
To eliminate or minimise the cold-call effect of collection, field staff were required to network with associations and building managers – to gain cooperation and access to apartments – and language schools and universities, as many apartment dwellers attend these institutions.

Special delivery and collection process
Special collectors did not use the standard delivery and collection methods for private dwellings (including regular dwellings within the apartment district).

Instead, they did a ‘delivery drop’ at each dwelling, which included recording the address of the dwelling, attempting to make contact with the occupant(s), and leaving census forms, an Internet Access Code, a freepost envelope, guide notes, and a letter to apartment dwellers.

Collection began on 8 March 2013 after a lag of two days post-census. This was to allow respondents to complete their forms online or to mail them back.

Collection visits continued until a minimum response rate of 90 percent per subdistrict was achieved, or until 24 March 2013.

Collectors left reminder cards that asked people to complete their census forms at dwellings where they could not make contact.

Collectors were trained and given tools to establish an 'occupancy status' for all apartments they could not make contact with. The occupancy status categories were: away, empty, under construction, and occupied on census night. Occupancy status is important as it is used (along with census forms) to determine the final count of dwellings in New Zealand.

Extra resources available for apartment dwellers
To increase awareness of census among apartment dwellers, extra resources were available. These included advertising material, targeted media releases, community stories, language brochures, and a letter to apartment dwellers explaining that the census is coming and how census information is used.

Internet and mail encouraged as primary response modes
Completing forms online or mailing back forms were encouraged as primary response modes. The two-day collection lag allowed willing and able respondents to complete their census forms without intervention.

See 2013 Census Collection Methods at www.stats.govt.nz for more details about the apartment strategy.

Appendix 4: Auckland's special housing areas

This appendix includes a brief discussion of Auckland's special housing areas as they reflect a government response to housing stresses in Auckland.

In 2013, Auckland Council and central government signed the first Housing Accord, which enables the creation of special housing areas. See www.aucklandcouncil.govt.nz for more information. Special housing areas are being developed on an ongoing basis. On 9 October 2013, the Government announced the following special housing areas:

- Addison, Papakura – 500 homes
- Alexander Crescent, East Tāmaki – 148 homes
- Anselmi Ridge, Pukekohe – 64 homes
- Flat Bush Murphys Road, East Tāmaki – 275 homes
- Flat Bush School Road, East Tāmaki – 300 homes
- Hobsonville (Catalina Precinct and Marine Industry Precincts) – 1,000 homes
- Huapai Triangle, Kumeu – 2,000 homes
- McWhirter Block, West Harbour – 166 homes
- Orākei, Auckland City – 75 homes
- Wesley College, Pukekohe – 1,000 homes
- Weymouth, South Auckland – 280 homes.

See www.andersonlloyd.co.nz

Housing accords
Housing accords are agreements between a territorial authority in a scheduled area and the Government, to work collaboratively towards addressing housing supply and affordability.

Where a housing accord exists it will enable territorial authorities to operate under the new regulatory powers provided by the Housing Accords and Special Housing Areas Act 2013, and may also include non-regulatory initiatives. An Accord will specify how the parties will work together to achieve the purpose of the Act and set agreed targets for residential developments. It may also provide for the Minister and the territorial authority to work together across a wide range of housing issues.

Special housing areas
Once scheduled regions and districts are identified then special housing areas can be created. Where a housing accord is in place in a scheduled area, the Minister will only recommend the establishment of a special housing area on the recommendation of the territorial authority. If an agreement cannot be reached between the council and the Government, the Act gives the Government the ability to declare an area to be a special housing area.

The Auckland Housing Accord prescribes the following criteria for qualifying developments:

Predominantly residential:

- Capacity for 50 or more dwellings or 50 or more vacant residential sites in new greenfield areas.
- Capacity for five or more dwellings or five or more vacant residential sites in brownfield areas.
- A maximum of six storeys, or alternatively, the height provisions in accordance with the Auckland Unitary Plan, whichever is the lowest.

Appendix 5: Understanding dwelling data in the census

How are dwellings classified in the census?

In the census, dwellings are classified as occupied, unoccupied, or under construction. Occupied dwellings are classified as private or non-private. Unoccupied dwellings are classified as residents away or empty.

Private dwellings are those that accommodate a person or group of people living together and are not available to the public. Non-private dwellings are those that provide communal or transitory accommodation.

Private dwellings are further classified according to whether they are separate (ie a separate house or townhouse), joined to others (ie flats, units, apartments, joined townhouses, and terraced housing), or 'other'. Non-private dwellings are classified according to their purpose. Examples include hotels, boarding houses, and hospitals.

There are subcategories for separate and joined dwellings that indicate the number of storeys. For separate dwellings, this is the number of storeys that the dwelling has. For joined dwellings, it is the number of storeys for the entire building that the dwelling is part of.

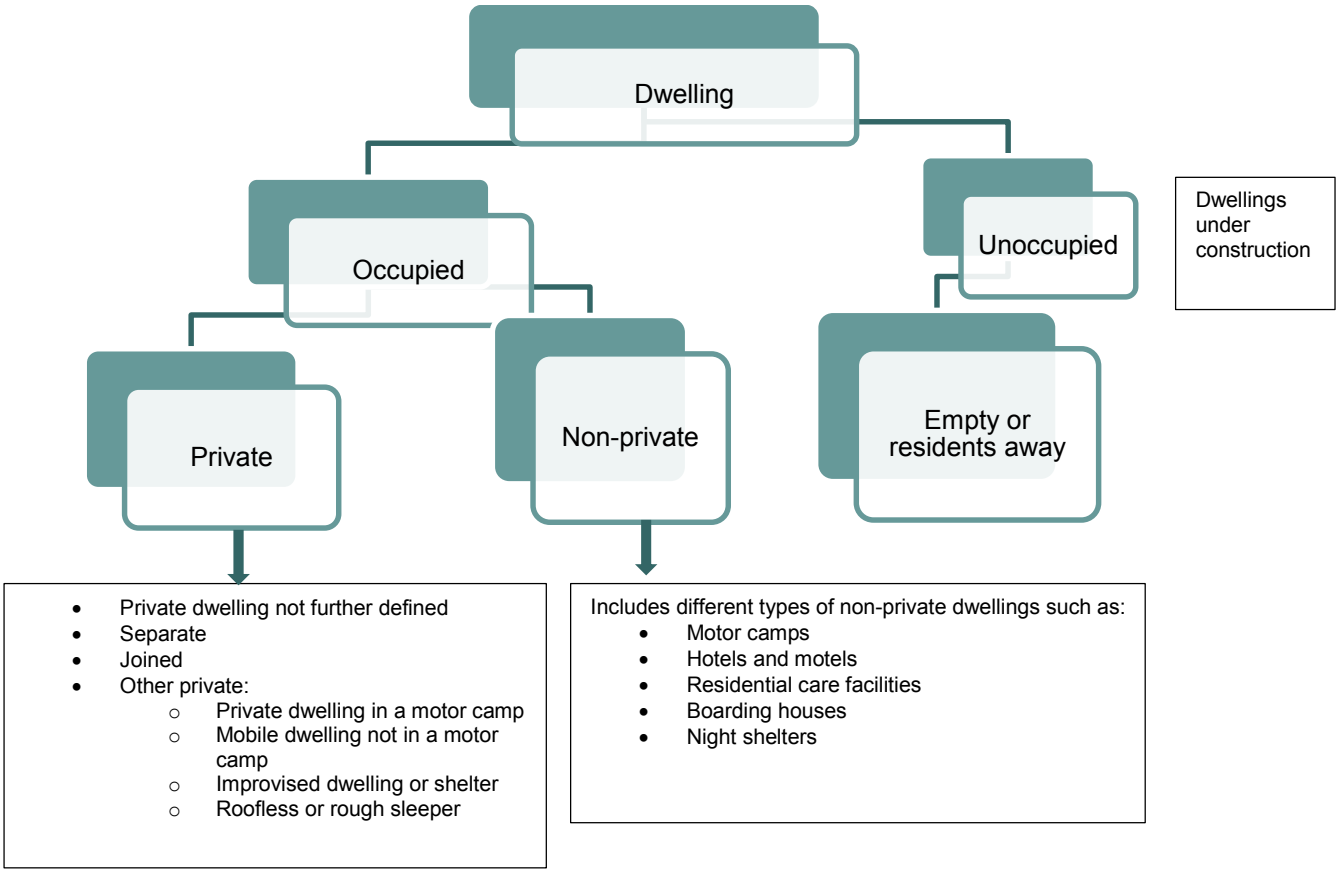
The separate dwelling category includes dwellings on traditionally-sized sections as well as those on smaller sections that are close – but not attached – to other dwellings and have smaller amounts of private outdoor space, such as a courtyard. Therefore, this dwelling type does not indicate a particular level of dwelling density, and does not necessarily indicate that dwelling density is low.

The 'other private' category consists of: private dwellings in motor camps (eg cabins, caravans, and tents); mobile dwellings that are not in a motor camp (eg boats, yachts, campervans, and tents); improvised dwellings or shelters (those lacking amenities such as lighting, bathroom, and cooking facilities, such as garages and cars); and roofless or rough sleepers.

Private dwellings that cannot be classified as separate, joined, or 'other' are classified as 'occupied private dwelling not further defined'. Private dwellings joined to businesses or shops are included in this category.

Figure 68

Understanding dwelling data in the census



Appendix 6: Revised Jensen Scale and Jensen Equivalised Annual Household Income

Annual household income, derived by summing annual personal income for all household members, provides basic information about household wealth. However, as an indicator of relative standard of living, median annual household income is inadequate. For example, a one-adult household with an annual household income of $35,000 is likely to be able to access a higher standard of living than a household of 10 people with that income.

To allow household income to be compared across household types, a scale can be used to equivalise annual household income for household composition. Equivalised income is a ranked measure of income. The equivalence scale used in this paper is the RJS, developed by John Jensen of the (then) Department of Social Welfare (1988).

The scale is constructed so that a two-adult household has a rating of 1. Households with fewer members score less than 1, those with more score more than 1. The scale also accounts for children being likely to require less income than adults to maintain a similar standard of living. JEAH income is calculated for individual households by reweighting household income to a two-adult household.

$$\text{Jensen Equivalised Annual Household Income} = \frac{\text{Annual Household Income}}{\text{Jensen Rating}}$$

where

$$\text{Jensen Rating} = \frac{[a + xc + yt]^z}{2^z}$$

with

- a = number of adults in household
- c = number of children in household
- t = total age of children in household

(x, y, z are constants).

For example, a two-adult household with an annual total income of $35,000 will also have a JEAH income of $35,000, since its Jensen Rating is 1.

If this household included a seven-year-old child, its Jensen Rating would increase to 1.19 and its JEAH would be:

$$\frac{\$35,000}{1.19} = \$29,400 \text{ (rounded to nearest \$100)}$$

Appendix 7: Defining crowding using the Canadian National Occupancy Standard (CNOS)

CNOS provides information about underutilisation (spare bedrooms) as well as crowding and severe crowding. The level of crowding according to this standard can be measured consistently over time (from 1986 onwards in New Zealand). Under CNOS the following criteria apply:

- There should be no more than two people per bedroom; parents or couples share a bedroom.
- Children aged less than five years, either of the same or opposite sex, may reasonably share a bedroom.
- Children aged less than 18 years, of the same sex, may reasonably share a bedroom.
- A child aged five to 17 years should not share a bedroom with another child aged less than five years of the opposite sex.
- Single adults aged 18 years and over, and any unpaired children require a separate bedroom. (Unpaired children are those for whom there is no other child they can share a bedroom with, according to these criteria.)

Households are defined as crowded if they require at least one extra bedroom according to these criteria. If two or more bedrooms are required, then the household is considered severely crowded.