Waikato Region and Districts

Demographic Profile 1986-2031

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New Zealand Regional Demographic Profiles 1986-2031. No. 9
July 2013

National Institute of Demographic and Economic Analysis
Te Rūnanga Tātari Tatauranga
THE UNIVERSITY OF WAIKATO

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Te Whare Wānanga o Waikato

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Referencing information:

Jackson, N.O. with Pawar, S. (2013). Waikato Region and Districts: Demographic Profile 1986-2031. *New Zealand Regional Demographic Profiles 1986-2031. No. 9*. University of Waikato. National Institute of Demographic and Economic Analysis.

ISSN 2324-5484 (Print)

ISSN 2324-5492 (Online)

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EXECUTIVE SUMMARY

Population size and growth

1. The population of the Waikato Region has grown steadily over the past twenty-five years, from 325,220 in 1986 to approximately 416,200 in 2012, an increase of 28 per cent. Steady growth is anticipated to continue throughout the projection period, the population reaching approximately 469,910 by 2031 (13.8 per cent above 2011). Conversely the high and low variant assumptions would deliver a Waikato Region population in 2031 of either 519,050 or 421,770 respectively. Eighty-three per cent of the growth under the medium assumption is projected to be at 65+ years.
2. Hamilton City has consistently comprised the largest proportion of the region's population, increasing its share from 29.0 per cent in 1986 to 35.6 per cent in 2012. The city's population increased by 55.4 per cent over the period 1986-2012, thereby also contributing to the majority of the region's growth (58.0 per cent) and offsetting decline in South Waikato and Waitomo (19.7 and 9.3 per cent respectively). The greatest overall growth was experienced by Waikato District (77.4 per cent, contributing 31.0 per cent to the region's growth—a small portion of which reflects the 2010 boundary change), followed by Waipa which experienced growth of 29.9 per cent (contributing 11.7 per cent). Noticeable growth was also seen in Thames-Coromandel (24.3 per cent), Taupo (18.2 per cent), and Hauraki (17.9 per cent), which together contributed 14.7 per cent of the region's growth. Otorohanga experienced negligible growth (0.7 per cent).

Components of change

3. The main component of the Waikato Region's growth has been natural increase, with net migration losses in the early 1990s and across the 1997-2001 period partially offsetting that growth.
4. The greater than average growth over the 1986-2012 period for Hamilton City, Waikato, Waipa, and Thames-Coromandel is mainly due to their higher than average gains from net migration, although natural increase was also reasonably strong for Hamilton City, Waikato, and Waipa. Taupo, Hauraki, and Matamata-Piako experienced their more modest population increases primarily from high levels of natural increase while typically experiencing net migration loss. In the case of South Waikato, Waitomo, and Otorohanga, net migration loss exceeding natural increase has been the main driver of the declining or minimally growing population numbers.
5. Components of change by age that are free of cohort effects show that between 1996 and 2001, Waikato Region experienced notable net migration loss at 20-24 and 25-29 years of age, while between 2001 and 2006 the losses at these ages fell to minimal levels and notable net migration gains were experienced at ages 0-9 years and 30-49 years (ie the age of parents and children).

Age structure and population ageing

6. From a cross-sectional perspective (that is, change by age group rather than cohort), all age groups *above* 40 years (at regional level) grew across the period 1996-2012, while numbers in several younger age groups declined. The proportion aged 0-14 years declined monotonically, from 24.9 per cent in 1996 to 21.6 per cent in 2012, while the proportion aged 65+ years increased from 10.7 to 14.3 per cent. For Total New Zealand the proportion aged 65+ years in 2012 was 13.8 per cent, up from 11.5 per cent in 1996, making the Waikato Region's age structure a little older than that of the national population, and ageing slightly faster.
7. The age-sex structures of the TAs which comprise the Waikato Region differ greatly. Hamilton City has a disproportion of those in their twenties and thirties, while all other TA's show various degrees of an 'hourglass' age structure, typically—but not always—reflecting net migration loss at young adult ages. Otorohanga, South Waikato, Taupo, Waikato and Waitomo each have disproportions of children, while Thames-Coromandel, Hauraki, and Waipa have disproportions of elderly. However with the exception of Waikato, which experienced net gains at the key parenting and child ages, the apparent disproportion of children in Otorohanga, South Waikato, Taupo, and Waitomo is very much a reflection of the trends at other ages; each of these TAs show a sizeable decline in birth numbers over the period, in many cases reflecting the net loss of people of reproductive age.
8. Between 1996 and 2012, the trends resulted in most of the region's TAs experiencing decline in most age groups below age 40. By contrast, minimal change at 20-24 years reflects the (short-term) replacement of a smaller cohort by a larger one—those at 20-24 years representing a baby blip born around 1991.

Labour market implications of changing age structure

9. The changes by age have important implications for the labour market (and educational demand). The Labour Market 'entry/exit ratio' (for people aged 15-24 : 55-64 years) for the Waikato Region has fallen steadily since 1996, from 18.9 people at labour market entry age for every 10 in the 'retirement zone', to just 12.6 in 2012 (a decline of 33.0 per cent). This is similar to the national ratio, with Total New Zealand in 2012 having 12.8 people at entry age per 10 at exit age.
10. At TA level, all entry: exit ratios declined significantly over the period 1996-2012, the greatest declines in the region occurring for Waipa (38.8 per cent), Hamilton (36.1 per cent) and Taupo (35.6 per cent). In five of the ten TAs, the decline was greater than occurred nationally (29.9 per cent). Decline in this index was smallest for Waitomo (19.4 per cent), but in all other cases exceeded 20 per cent. The trends mean that in 2012, three of the Waikato Region TAs already had fewer people at labour market entry than exit age: Taupo (9.8 per 10), Hauraki (8.9 per 10) and Thames-Coromandel District (5.6 per 10).

Ethnic composition, size and growth

11. The number in each of the region's ethnic groups has grown, but somewhat less so for the European-origin population. Overall this group grew by just 6 per cent during the period 1996-2006, although accounting for about 45.7 per cent of the region's growth, while the Māori population grew by 7.9 per cent, accounting for 15.9 per cent of growth. The region's Pacific Island population grew by almost 25 per cent, contributing 6.7 per cent of growth. The region's Asian population doubled between 1996 and 2006, accounting for 27.7 per cent of growth, while the relatively small MELAA population grew by 135 per cent, contributing 4 per cent of the growth.
12. These trends conceal sizeable differences by TA in terms of each ethnic group's contribution to local growth. People of Asian origin made the greatest contribution to the growth of Hamilton City (34.4 per cent) and Matamata-Piako (59.0 per cent) while growth in the number of people of European origin made the greatest contribution to the growth of Taupo District (140.6 per cent), Thames Coromandel (57.1 per cent), Waikato (73.4 per cent) and Waipa (86.7 per cent). Four TAs (namely Hauraki, Otorohanga, South Waikato and Taupo) experienced underlying decline in the number of Māori and Pacific Peoples, while Otorohanga, South Waikato, Matamata-Piako and Waitomo also lost those of European-origin. Despite consistently high growth rates, the numerically smaller MELAA population made a relatively small contribution to growth in each TA.
13. In 2006, Hamilton City was home to the single- largest proportion of those of Asian and MELAA origin, irrespective of age, while the vast majority of Māori, Pacific Island and European/Other/NZ people, especially those aged 55-64 and 65+ years, lived outside the city. After Hamilton City, Pacific Island people of all ages are more likely to live in South Waikato than anywhere else, while Taupo and Waikato are favoured by Māori, and Waipa by those of European origin.

Ethnic age composition and ageing

14. As elsewhere in New Zealand, the age structures of the region's major ethnic groups differ markedly, with the European-origin population relatively old, the Māori and Pacific Island populations relatively young, and the Asian population falling in between, closer to the age structure of European. When considered together, the general picture is that the Māori and Pacific Island populations increase their share as age decreases, while the European-origin population increases its share as age increases. The picture is significantly less linear for the Asian population, where the largest shares are concentrated at 15-24 and 25-54 years. Within that picture, both Māori and European comprise a larger share of the Waikato Region's population than they do at a national level, and the situation is similar across all broad age groups. Pacific Island and Asian people on the other hand comprise a smaller share of the Waikato Region's population than they do at national level, and the situation is again similar by age.

Population projections

15. In addition to increasing by around 13.8 per cent between 2011 and 2031, the medium variant population projections indicate that more than four-fifths of the Waikato Region's projected growth will be at 65+ years, while decline is expected at 40-54 years of age as the baby boomer cohort ages.
16. The gains are not shared evenly across either the age distribution or by TA, with only Hamilton City projected to experience overall gains in all broad age groups, and all other TAs expected to see widespread decline across the younger and middle ages. Three TAs (Otorohanga, South Waikato, and Waitomo) are projected to experience decline in all age groups below 65 years, and a further three (Hauraki, Taupo, and Thames-Coromandel), in all but one age group below 65 years, while decline at 0-24 and 40-54 years is projected for Matamata-Piako. By contrast, all TAs are projected to experience substantial growth in both numbers and proportions at 65+ years, with this growth accounting for *all* growth (and/or offsetting decline) in all but Hamilton City and Waikato District. The trends imply a continuation of substantial growth for Hamilton City and Waikato (26.8 and 22.4 per cent respectively), low growth for Matamata-Piako, Taupo, and Thames-Coromandel (2.5, 3.7 and 1.4 per cent respectively), and decline for Hauraki, Otorohanga, South Waikato and Waitomo.
17. Projections to 2021 for the Waikato Region by major ethnic group (multiple count ethnicity) show the European/Other population growing only slightly (3.8 per cent) against a 13.0 per cent increase for Māori. The projected increases for the Pacific Island and Asian populations are somewhat larger (32.5 and 40.0 per cent respectively), in part reflecting their smaller bases. For the European, Māori, and Pacific Island populations, natural increase is the primary driver of growth, although for European and Māori this component declines over time. By 2016, natural increase for Māori is projected to be greater than for European/Other in absolute terms, despite their smaller population share, and this margin increases by 2021. For both groups the declining contribution from natural increase offsets accompanying net migration loss, together explaining the low projected rates of growth for these two populations. For Pacific Peoples and those of Asian origin, natural increase is projected to grow, while migration is stable for the former and declines for the latter.
18. There are again marked differences by ethnicity and age. The 65+ year European/Other population is projected to increase by 32.5 per cent, compared with 61.4 per cent for Māori, 83.3 per cent for the Pacific Island population and 131.3 per cent for the Asian population. For the European/Other population the increase in the elderly population accounts for the majority of that population's projected growth, with net declines projected at all ages below 65 years. Growth is projected at all ages for the other ethnic groups, but less so for Māori.
19. The data suggest only modest change in the overall ethnic composition of the region, with the European/ Other share falling by three percentage points to 67.7 per cent by 2021, Māori and Pacific Island shares increasing slightly (by 0.8 and 0.7 percentage points respectively), and the Asian population accounting for 7.3 per cent by 2021, up from 5.6 per cent in 2011. As is the case within

each group, there are greater differences in share by age, although the European/Other population will continue to account for the majority of each age group.

Labour market implications of projected change in age structure

20. The Waikato Region is likely to maintain more people at labour market 'entry' (15-24 years) than 'exit' (55-64 years) age across most of the projection period, falling from 1.3 (13 'entrants' per 10 'exits') in 2012, to parity (10 per 10) between 2016 and 2021, before returning to around 1.2 (12 per 10) in 2031; this is when the recently born baby blip will have reached the labour market. However these population-based ratios may say little about labour market availability, given the region's role as a centre for tertiary education.
21. Reflecting its disproportionate bulge at 20-24 years and its relative youth overall, Hamilton City currently (2012) has the highest ratio of people at labour market entry to exit age, while the significantly older Thames-Coromandel District has the lowest, already down to 6 people aged 15-24 for every 10 aged 55-64. Ratios for Hauraki are also already below 10 entrants per 10 exits. Ratios for all TAs fall steadily until between 2026 and 2031, when they again rise slightly (and temporarily) due to the arrival in the labour market of the recently born baby blip.

Natural increase implications of changing age structure

22. For the Waikato Region, the ratio of elderly (65+ years) to children (0-14 years) is projected to increase rapidly from its present 0.6 (6 elderly for every 10 children), to 1.1 by 2031 (11 for every 10). This profound shift to more elderly than children will by then be contributing to diminishing levels of natural increase, as will the slowly diminishing proportion projected to be at the key reproductive ages (24.6 per cent in 2031, down from 25.2 per cent in 2011).
23. For most of the Waikato Region's TAs, proportions at the key reproductive ages (20-39 years) decline steadily across the period, but in Hauraki, Otorohanga and Waitomo, rise slightly to end the period to just above their 2011 levels. The projected declines are greatest for South Waikato and Taupo. However more notable are the extremely low proportions already at these ages in Thames-Coromandel and Hauraki (17.7 and 18.0 per cent), and the fact that all Waikato TAs with the sole exception of Hamilton City have lower proportions than is the case nationally. As indicated, these low (and relatively low) proportions are correlated with the ending of natural increase.
24. The changing proportions at reproductive age are closely associated with shifts in the ratio of elderly to children, which are projected to rise substantially in all TAs. Both Hauraki and Thames-Coromandel already have more elderly than children. They will be joined by Matamata-Piako, Taupo, and Waipa around 2021, South Waikato around 2026, and Otorohanga around 2031. Hamilton City, Waikato and Waitomo will not experience more elderly than children by 2031, while the cross-over is projected to occur in both the Waikato Region and nationally from around 2026.

25. The general reduction in the proportion at the key reproductive ages, alongside the underlying assumptions regarding future birth and life expectancy rates which continue to change the ratio of old to young, result in a projected decline in natural increase for all TAs with the sole exception of Thames-Coromandel, where natural decline is already the case, and which increases across the period. Natural decline is also projected to begin for Hauraki around 2026. However it should be noted that the data are for five-year periods, thus the natural increase for Hauraki is presently around 30 per year (2011-2016), declining to an average 10 per year between 2016 and 2021.

Industrial Change

26. A special topic section provides an overview of the Waikato region's changing industrial age structure across the period 1996-2006, focusing on its overall labour force and four largest industries, and concluding with an overview of all industries employing more than 1,000 people (57 of 158 industries at 3-digit level). Despite the Waikato region's relative youth (*vis-à-vis* all but three of its regional counterparts), three of its four largest industries have somewhat older age structures than the total regional workforce, uppermost among them Sheep, Beef and Cattle farmers, pointing to forthcoming competition for labour force entrants, and urgency in succession planning.

What you need to know about these data

Data sources: All data used in this report have been sourced from Statistics New Zealand. Most have been accessed via Infoshare or Table Builder, while some have come from purchased, customised databases specially prepared for NIDEA by Statistics New Zealand. Because the data come from different collections and/or are aggregated in different ways, for example by ethnicity or labour force status, and small cell sizes have been rounded by Statistics New Zealand to protect individuals, they often generate different totals. While considerable care has been taken to ensure that such inter- and intra-collection discontinuities are acknowledged and accounted for, for example via footnotes to tables or in the text, the disparities are not usually large, and typically do not affect the story being told. The matter is drawn to the attention of readers who are often concerned when numbers which 'should' be the same, are not. The time-series data in Figures 1.1 and 1.2, collected under different methods of aggregation, are a particular case in point.

Ethnicity: The 'multiple count' method of enumerating the population by ethnic group is another case worthy of special note. The ethnic concept underlying data used in in this report is:

> *'the ethnic group or groups that people identify with or feel they belong to. Ethnicity is self-perceived and people can belong to more than one ethnic group. For example, people can identify with Māori ethnicity even though they may not be descended from a Māori ancestor. Conversely, people may choose to not identify with Māori ethnicity even though they are descended from a Māori ancestor'* (Statistics New Zealand 2010a).

Counting people more than once makes analysis of the data and its interpretation particularly difficult. Some analysts prefer to calculate proportions based on the summed numbers in each ethnic group, which is the approach taken here, while others prefer to use the total population count as the denominator (eg., for a region). The problem with the latter method is that proportions sum to well over 100 per cent, making it difficult to interpret the resulting graphs. The approach in this paper has been to identify the extent of the 'over count'.

Residual method for estimating total net migration: This paper uses a residual method for estimating net migration. First, deaths for a given observation (e.g., one single year) are subtracted from births to give an estimate of natural increase. Second, the population at one observation is subtracted from the population at the previous observation, to give an estimate of net change between the two observations. Third, natural increase for that observation is subtracted from net change, to give the component due to net migration.

Residual method for estimating inter-censal migration by age and sex: A similar method is used for estimating net migration by age between two observations for which there are existing data (e.g., five year census periods). First, numbers by age and sex for one observation are 'survived' based on the probability of surviving to the next age group (at national level). Second, births for each TA or region are apportioned male/female according to the sex ratio (105 males/100 females), and entered at age 0-4. Third, the survived numbers for each age/sex group are 'aged' by five years, to become the expected population for the next observation. Fourth, expected numbers for each age/sex group are subtracted from actual numbers at the next census, to derive an estimate of net migration for each age/sex.

Projections: The population projections used in this paper are in most cases based on Statistics New Zealand's (2009) medium set of assumptions, but comparison with the high and low variants have been included where useful. At national level the medium assumptions are that the total fertility rate (TFR) will decline from its present 2.1 births per woman to 1.9 births per woman by 2026; that life expectancy will continue to increase but at a decelerating rate, and that annual net international migration will be 12,000 per year. International and internal migration at the subnational level is also accounted for, the assumptions reflecting observed net migration during each five-year period 1981-2006. The assumptions are included at Appendix 3. When interpreting these data it is important to remember that demographic projections of future demand are not forecasts in the sense that they incorporate interventions that may change the demographic future. Rather, they simply indicate what future demand will be if the underlying assumptions regarding births, deaths, migration prevail.

Industry: The industry data used in the Special Topic (Section 7) are drawn from a time-series database developed by Statistics New Zealand to NIDEA specifications. They pertain to the employed population only. Data are given for three Census observations (1996, 2001 and 2006) and have been customised so that the industrial classification and geographic region is internally consistent across the period. The industrial classification is based on ANZSIC96 V4.1 at the three-digit level.

Feature Article – Population ageing in a nutshell

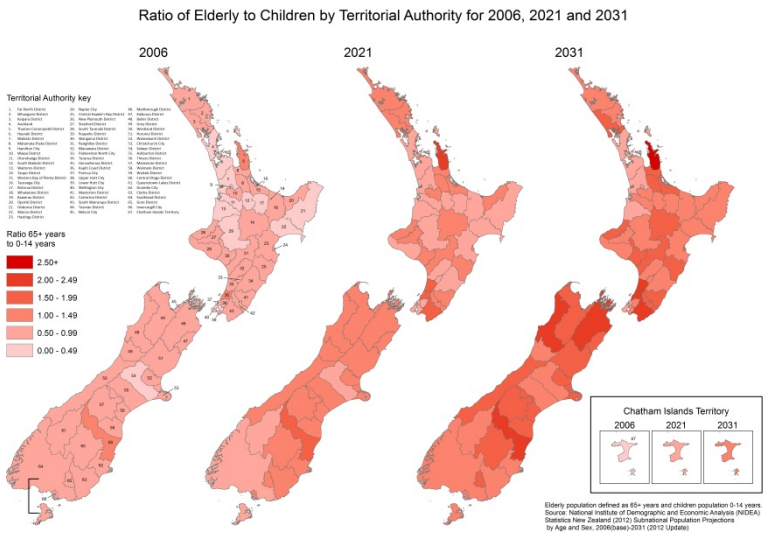
As elsewhere, population ageing is unfolding at markedly different rates across New Zealand. This diversity is caused by different mixes in the drivers of population ageing: birth rates, longevity (survivorship) and migration:

- Declining birth rates decrease the proportion of the population that is young and concomitantly increase the proportion at older ages.
- More people living longer adds to the numbers at older ages, and in the process further swells the proportion at those ages.
- When an area experiences net migration loss, which occurs mainly at 20-39 years, it removes both the young people themselves and their reproductive potential, further pushing up the median age.
- Where an area experiences net migration gains at retiree ages, both the numbers and proportions at those ages are further augmented, further accelerating structural ageing.

The overall outcome of these processes is an incremental—and in some cases rapid—shift to more elderly than children, more deaths than births, and to the end of growth and onset of what is expected to be permanent population decline, something not seen in modern populations until its recent onset in Japan and much of Europe.

Figure 1 provides an overview of the first of these trends (more elderly than children) at Territorial Authority level (TA). In 1996, no TA had more elderly than children. By 2003 that had become 3 TAs (4.5 per cent); by 2021 it is projected to be the case for 41 TAs (61.2 per cent); and by 2031, for 61 TAs (91.0) per cent.

Figure 1: Ratio of elderly (65+ years) to children (0-14 years), 2006, 2021 and 2031



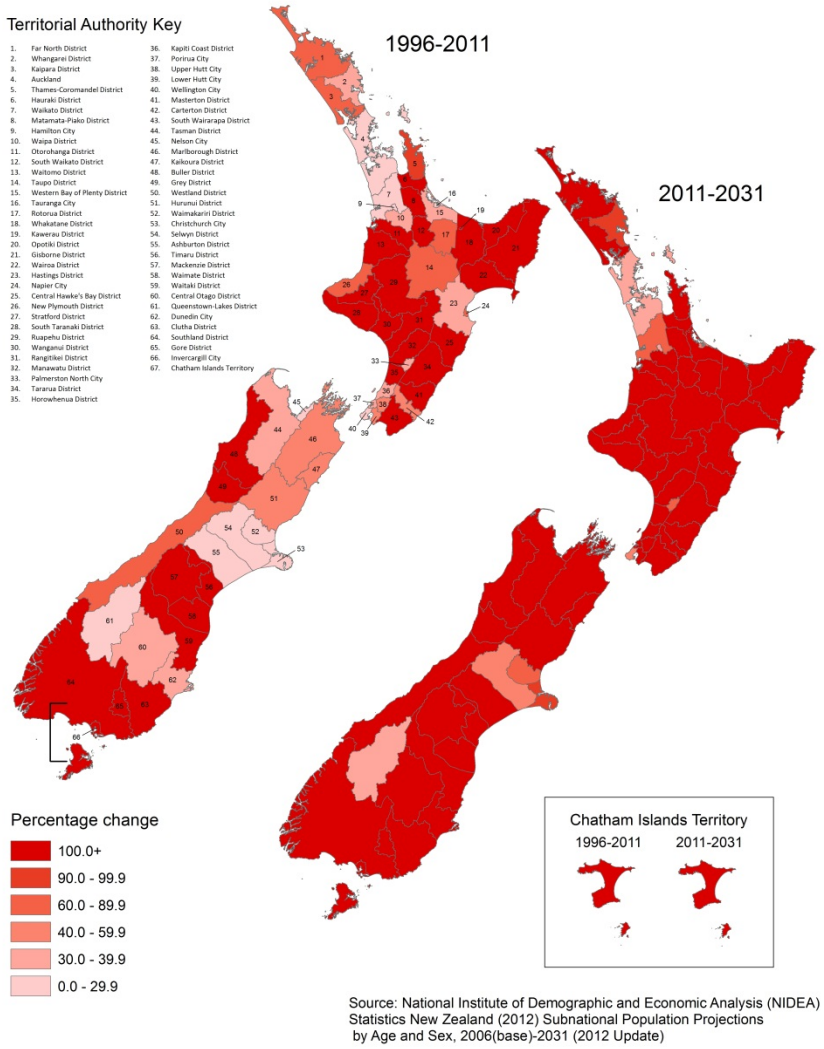
As indicated, the process of population ageing generates two even more profound shifts: from natural increase, where births exceed deaths—as they have for all of New Zealand's modern history—to natural decline, where deaths exceed births; and from absolute growth to absolute decline, once there are insufficient migrants to offset the 'lost' births and increased deaths. In New Zealand, the shift to natural decline is not expected to occur nationally until the second half of the Century. However, the crossover is already occurring in three TAs (Waitaki, Thames Coromandel, and Horowhenua) and is projected to be the case in 22 TAs (30 per cent) by 2031.

The final piece of jigsaw is a slow but equally inexorable shift from the 'old' form of population decline, which was caused by net migration loss that was greater than natural increase, to the 'new' form, where net migration loss is both accompanied by – and further contributes to – natural decline. Currently 24 (36 per cent) of New Zealand's TAs are declining in absolute terms, but only one TA (Waitaki) has yet experienced the new (dual) form of decline. By 2031, the dual form is projected to be the case for seven TAs (10 per cent), alongside a further 15 TAs (22 per cent) experiencing decline from net migration loss only, and one experiencing decline from natural decline only. While it is still some way off for most TAs, the new form of population decline will be especially challenging because it will be self-reinforcing: ever-fewer young adults to bear the children, and ever-more elderly who have completed their childbearing years.

In the interim, it is critical to understand that for 56 TAs (84 per cent), all future 'growth' to 2031 will be at 65+ years (Figure 2)—and that in 23 of these TAs, that growth will be insufficient to offset overall decline at other ages. While the number declining will actually be one fewer than between 1996 and 2011 (due to a higher net migration assumption going forward), there will also be some shift share effects, with six TAs coming marginally out of decline, and five entering it—meaning that in reality 29 TAs (43 per cent) are at the end of their growth stage.

Between 2011 and 2031, only eleven TAs are projected to see less than 100 per cent of their growth at 65+ years: Christchurch and Whangarei (each 95+ per cent at 65+ years), Waikato, Palmerston North City, and Waimakiriri (60-63 per cent), Wellington City, Selwyn and Tauranga City (44-46 per cent), and Auckland City, Hamilton City, and Queenstown (36-37 per cent). The trends are thus both pervasive and inexorable. At national level, they mean that two-thirds of growth will be at 65+ years, the underlying trends at subnational level concealed largely by Auckland.

Contribution to change by 65+ year old population by Territorial Authority,1996-2011 and 2011-2031



Source: National Institute of Demographic and Economic Analysis (NIDEA) Statistics New Zealand (2012) Subnational Population Projections by Age and Sex, 2006(base)-2031 (2012 Update)

To place New Zealand's situation in a global context, we can look at trends across the 58 More Developed Countries (MDCs) – of which New Zealand is one of the most youthful. Over the next 20 years, the population of the MDCs aged 65+ years will grow by around 98 million, while *all other age groups combined* will decline by 41 million. In anyone's language, those numbers will cause the scales to tip. Currently across the MDCs there is exactly one person aged 65+ years per child aged 0-14; by 2031 there will be 1.5. The shift is also unavoidable, because the 65+ population of 2031 is already 45+ years old. We know how many there are, and the rate at which they will die (and international migration at older ages is minimal). At the younger ages, only those aged less than 20 years are not yet born – but again we know approximately how many there will be in 2031 because we know how many people there will be at the key parenting ages (they are already teenagers) and we can be fairly certain that they are not going to return to having three or four children per woman as was the case during the baby boom (when their grandparents were born).

The global trends provide New Zealand with a salutary warning. The diminishing pool of youth in the other 57 OECD countries is the pool within which New Zealand competes for many of its skilled migrants. Increasing competition for these migrants will increasingly make it difficult for New Zealand to achieve the migration assumptions in the population projections drawn on above. Attention is increasingly being turned to the developing countries where there is still a significant excess supply of young people. However, attracting them to, and retaining them in New Zealand will require more attention to settlement issues and equity than is presently the case. As one of the youngest of the developed countries, those migrants whom New Zealand attracts *and trains* will be of ever-greater interest to our structurally older counterparts.

The following demographic profile for the Waikato Region should be read with this broad context in mind. While the region is still growing strongly overall, there are marked differences at TA level. They show that shift to the end of growth is a sequentially-unfolding phenomenon, with plenty of early warning signals. We can plot its course and plan ahead. However the clock is ticking and has been doing so for many years, as the retrospective elements of this profile will clearly identify. The crossing of any one of a handful of thresholds (see Box 1) by a TA means that it has entered the end of its growth phase. As indicated above, some regions may temporarily revert, but it is unlikely that they will resume significant or sustained growth. These issues are being investigated more deeply by researchers at the National Institute of Demographic and Economic Analysis (NIDEA) and their colleagues at Massey University:

***Nga Tangata Oho Mairangi**: Regional Impacts of Demographic and Economic Change* – 2013-2014: MBIE-funded project led by Professor Paul Spoonley (Massey University) and Professor Jacques Poot (NIDEA). Key Researchers: Associate Professor Robin Pearce and Dr Trudi Cain (Massey University), Professor Natalie Jackson, Dr Dave Mare and Dr Michael Cameron (NIDEA).

Box 1: Key thresholds indicating end of growth phase

- Onset of youth deficit (proportion of population aged 15-24 years declines below 15 per cent)
- Fewer people at labour market 'entry' than 'exit' age (15-24: 55-64 years; 20-29: 60-69 years)
- More elderly than children (65+ : 0-14 years)
- Key reproductive age population declines below 15 per cent of the population
- More deaths than births (natural decline)
- Absolute decline

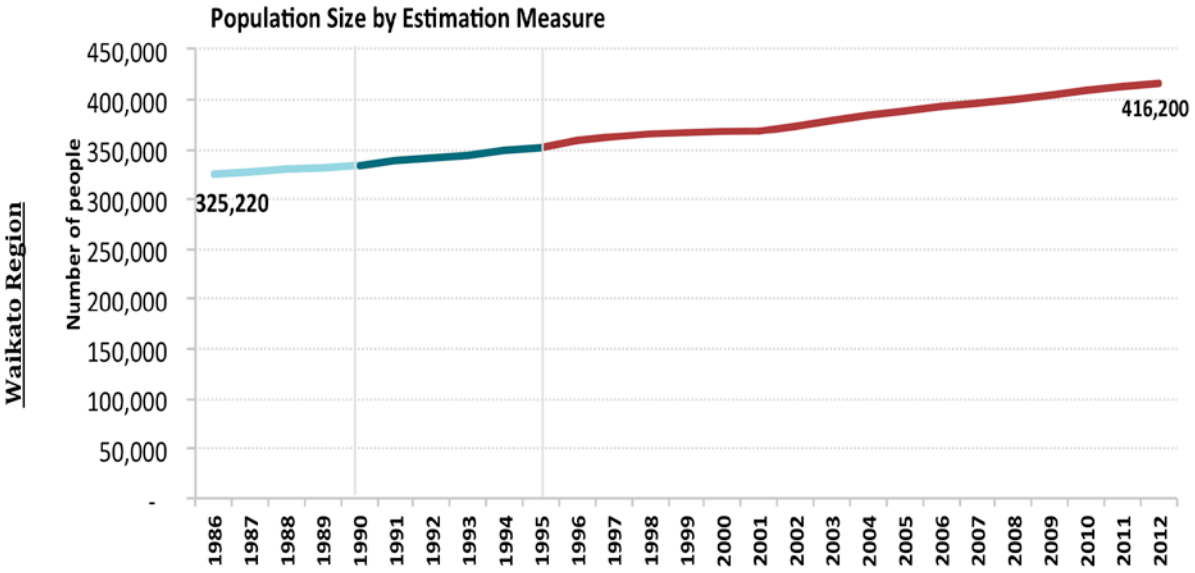
Natalie Jackson

1.0 Population Trends

1.1 Population Size and Growth

The population of the Waikato Region has grown steadily over the past twenty-five years, from 325,220 in 1986 to approximately 416,200 in 2012, an increase of 28 per cent (Figure 1.1.1; see Appendix 1.1 for underlying data). Differences in the timing and methods of estimating population size across the period mean that the trends cannot be presented as continuous; however there is sufficient correspondence to indicate that growth has been approximately as depicted.

Figure 1.1.1: Population of Waikato Region, 1986-2012



Source: Statistics New Zealand, Infoshare, Tables DPE052AA and DPE051AA

1986-1990: Census Night Resident Population (Census-Adjusted) Intercensal Estimates (March Years)

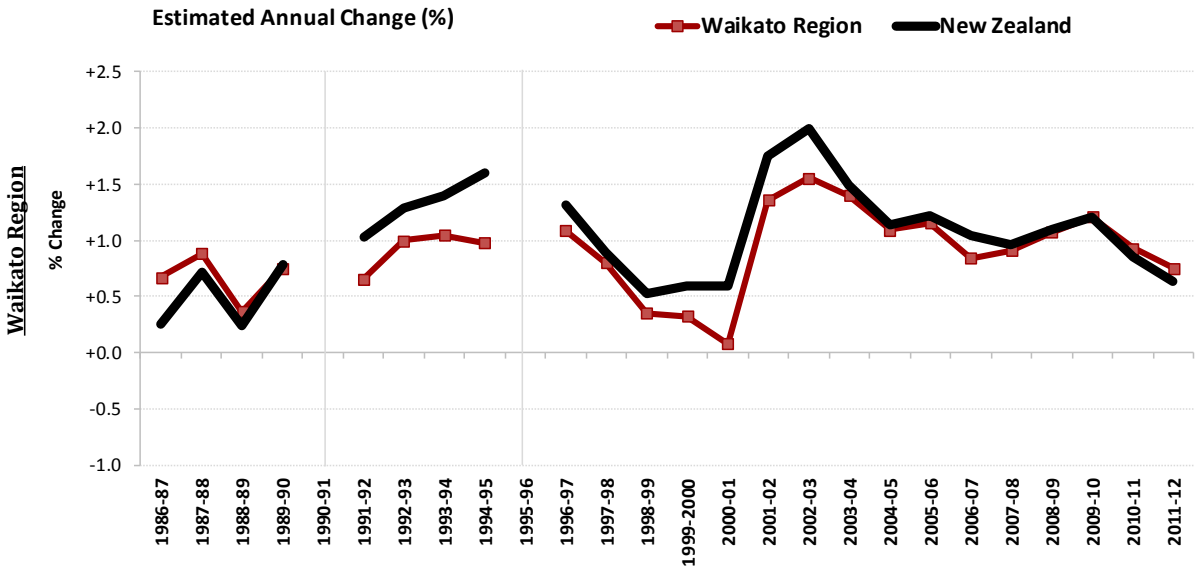
1991-1995: Census Night Resident Population (unadjusted for Census 1996) (March Years)

1996 onwards: Estimated Resident Population for Territorial Authority and Regional Council Areas, at 30 June (1996+) (Annual-Jun)

*Notes: *Changes in the timing and method of estimating Resident Population between 1991-1992 and 1995-1996 mean that the three sets of trends should be understood as discontinuous*

Figure 1.1.2 shows the trends in terms of annual growth rates, with the data collection discontinuities identified by gaps. Data are also compared with Total New Zealand. Growth for the Waikato Region has largely mirrored the national trend. In the mid-1980s, Waikato's growth was slightly above the national level, while since then it has mostly been a little lower, although higher the past two years.

Figure 1.1.2: Annual Population Growth Rate, Waikato Region and Total New Zealand, 1986-2012



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*Notes: *Changes in the timing and method of estimating Resident Population between 1991-1992 and 1995-1996 mean that the three sets of trends should be understood as discontinuous*

Table 1.1.1 compares the annual growth rates of the ten Territorial Authority (TA) areas which comprise the Waikato Region, and Table 1.1.2, the contribution of each TA to the region's population (see Appendix 1.2 for underlying numbers).

Hamilton City has consistently comprised the largest proportion of the region's population (in 2012 accounting for 35.6 per cent - Table 1.1.2). The city's population increased by 55.4 per cent over the period 1986-2012 (Table 1.1.1) and accounted for the majority of the region's growth (58.0 per cent) (Appendix 1.2). Among the other TAs, Waikato District (the second-largest TA) saw the overall highest growth of 77.4 per cent (contributing 31.0 per cent to the region's growth), followed by Waipa (the third-largest TA) which experienced growth of 29.9 per cent (contributing 11.7 per cent to the region's growth). Noticeable growth was also seen Thames-Coromandel (24.3 per cent), Taupo (18.2 per cent), and Hauraki (17.9 per cent), together contributing 14.7 per cent of the region's growth.

The Matamata-Piako and Otorohanga districts each experienced minor growth (8.8 and 0.7 per cent respectively), together contributing 2.9 per cent to overall growth, while the populations of South Waikato and Waitomo declined over the 1986-2012 period by 19.7 and 9.3 per cent respectively, reducing the region's growth by 7.2 per cent.

Table 1.1.1: Annual and Total Population Change (%), Waikato Region and its TAs, Total New Zealand 1986-2012

		Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	New Zealand
Census Night Resident Population (Census-Adjusted) Intercensal Estimates (March Years) [1]	1986	...	...	...	...	...	...	...	...	...	...	...	...
	1987	+1.1	+0.9	-0.0	+0.1	-1.3	+0.9	+2.7	+0.6	+0.7	-0.7	+0.7	+0.3
	1988	+1.2	+0.9	+0.0	+0.3	-1.4	+1.7	+2.7	+0.3	+0.8	-1.0	+0.9	+0.7
	1989	+0.7	+0.6	-0.3	-1.0	-1.8	+1.0	+1.7	+0.3	+0.6	-1.4	+0.4	+0.2
	1990	+1.2	+0.9	+0.0	-0.1	-1.5	+0.7	+2.6	+0.5	+0.8	-1.0	+0.8	+0.8
Census Night Resident Population (unadjusted for Census 1996) (March Years) [1]	1991	...	...	...	...	...	...	...	...	...	...	...	...
	1992	+1.0	+1.4	-0.0	-0.0	-1.5	+0.6	+2.2	+0.6	+0.7	-1.1	+0.7	+1.0
	1993	+1.1	+0.9	+0.7	+0.5	-1.2	+1.3	+2.0	+0.8	+1.3	-0.6	+1.0	+1.3
	1994	+1.4	+0.9	+0.7	+0.8	+0.0	+1.3	+1.9	+1.0	+1.3	-0.1	+1.0	+1.4
	1995	+1.5	+0.3	+0.0	+1.0	-0.8	+0.9	+1.9	+0.8	+1.0	-0.4	+1.0	+1.6
Estimated Usual Resident Population (June Years) [2]	1996	....	....	....	....	....	....	....	....	....	....	....	....
	1997	+2.3	-0.3	+0.3	-0.4	-0.4	+1.3	+1.6	+0.8	+0.8	-0.5	+1.1	+1.3
	1998	+1.7	+0.0	+0.0	-0.5	-0.4	+0.9	+0.4	+0.6	+1.0	+0.1	+0.8	+0.9
	1999	+1.1	-0.8	+0.0	-0.9	-2.0	+0.3	-0.4	+0.8	+0.8	-0.7	+0.4	+0.5
	2000	+0.9	-0.8	-0.3	-0.9	-1.6	+0.3	+0.0	+0.8	+1.0	-0.8	+0.3	+0.6
	2001	+0.6	-1.4	+0.0	-1.0	-2.0	+0.0	+0.0	+0.4	+0.5	-0.3	+0.1	+0.6
	2002	+2.3	+0.6	+0.3	-0.3	-0.8	+0.6	+0.8	+2.4	+1.5	-0.6	+1.4	+1.8
	2003	+2.5	+0.6	+0.7	-0.7	-0.4	+0.9	+0.8	+2.4	+2.0	+0.3	+1.6	+2.0
	2004	+2.3	+0.3	+1.0	-0.8	-0.4	+0.6	+0.8	+1.8	+1.7	-0.1	+1.4	+1.5
	2005	+1.8	+0.3	+0.6	-0.5	-0.8	+0.3	+0.4	+1.9	+2.1	-0.3	+1.1	+1.1
	2006	+1.9	+0.3	+0.3	-0.5	-1.7	+0.3	+0.8	+1.9	+1.6	-0.3	+1.2	+1.2
	2007	+1.6	+0.3	+0.0	-0.6	-1.3	+0.3	+0.4	+1.3	+1.1	-0.8	+0.8	+1.0
	2008	+1.4	+0.3	+0.6	-0.3	-0.4	-0.3	+0.0	+1.8	+1.1	+0.0	+0.9	+1.0
	2009	+1.7	+0.5	+0.6	+0.3	+0.0	+0.6	+0.0	+1.6	+0.9	+0.2	+1.1	+1.1
	2010	+1.6	+0.8	+0.6	+0.4	+0.4	+1.2	+0.7	+1.6	+1.3	+0.2	+1.2	+1.2
	2011	+1.5	+0.5	+0.6	+0.3	-0.4	+0.3	+0.0	+1.4	+0.9	-0.1	+0.9	+0.9
	2012	+1.8	+0.0	+0.0	+0.3	-0.4	+0.6	+0.0	+0.6	+0.2	-0.9	+0.8	+0.6
	1986-2012*	+55.4	+17.9	+8.8	+0.7	-19.7	+18.2	+24.3	+77.4	+29.9	-9.3	+28.0	+34.0

Source: (1) Statistics New Zealand, Infoshare, Tables DPE052AA and DPE051AA

(2) Statistics NZ, Infoshare, Estimated Resident Population for Territorial Authority and Regional Council Areas, at 30 June (1996+) (Annual-Jun) at 2010 Boundaries

*Notes: *Changes in the timing and method of estimating Resident Population between 1991-1992 and 1995-1996 mean that the three sets of trends should be understood as discontinuous*

Table 1.1.2: Contribution (%) to the Waikato Region's population by TA, 1986-2012

	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Residual **
1986	29.3	4.9	9.0	2.9	8.7	8.9	6.7	11.2	10.9	3.2	95.8	4.2
1987	29.4	4.9	9.0	2.8	8.5	8.9	6.8	11.2	10.9	3.2	95.8	4.2
1988	29.5	4.9	8.9	2.8	8.3	9.0	6.9	11.1	10.9	3.1	95.7	4.3
1989	29.7	4.9	8.8	2.8	8.1	9.1	7.0	11.1	11.0	3.1	95.6	4.4
1990	29.8	4.9	8.8	2.8	8.0	9.1	7.2	11.1	11.0	3.0	95.5	4.5
1991	29.9	5.0	8.7	2.7	7.7	9.1	7.4	11.1	10.9	3.0	95.5	4.5
1992	30.0	5.0	8.6	2.7	7.6	9.1	7.5	11.1	10.9	2.9	95.4	4.6
1993	30.1	5.0	8.6	2.7	7.4	9.1	7.6	11.1	11.0	2.9	95.3	4.7
1994	30.2	5.0	8.6	2.7	7.3	9.1	7.6	11.1	11.0	2.8	95.4	4.6
1995	30.3	5.0	8.5	2.7	7.2	9.1	7.7	11.0	11.0	2.8	95.3	4.7
1996	31.6	5.2	8.4	2.8	7.2	8.8	7.1	14.5	10.7	2.8	99.1	0.9
1997	32.0	5.1	8.4	2.7	7.1	8.8	7.1	14.4	10.7	2.7	99.1	0.9
1998	32.3	5.1	8.3	2.7	7.0	8.8	7.1	14.4	10.7	2.7	99.1	0.9
1999	32.5	5.0	8.3	2.7	6.8	8.8	7.0	14.5	10.7	2.7	99.1	0.9
2000	32.7	4.9	8.2	2.6	6.7	8.8	7.0	14.5	10.8	2.7	99.1	0.9
2001	32.9	4.9	8.2	2.6	6.6	8.8	7.0	14.6	10.9	2.7	99.1	0.9
2002	33.2	4.8	8.1	2.6	6.4	8.8	7.0	14.7	10.9	2.6	99.1	0.9
2003	33.5	4.8	8.1	2.5	6.3	8.7	6.9	14.8	10.9	2.6	99.1	0.9
2004	33.8	4.7	8.0	2.4	6.2	8.6	6.9	14.9	10.9	2.5	99.1	0.9
2005	34.0	4.7	8.0	2.4	6.1	8.6	6.8	15.0	11.1	2.5	99.2	0.8
2006	34.3	4.7	7.9	2.4	5.9	8.5	6.8	15.1	11.1	2.5	99.1	0.9
2007	34.5	4.6	7.9	2.3	5.8	8.4	6.8	15.2	11.1	2.4	99.1	0.9
2008	34.7	4.6	7.8	2.3	5.7	8.3	6.7	15.3	11.2	2.4	99.1	0.9
2009	34.9	4.6	7.8	2.3	5.6	8.3	6.6	15.4	11.2	2.4	99.1	0.9
2010	35.0	4.6	7.8	2.3	5.6	8.3	6.6	15.5	11.2	2.4	99.1	0.9
2011	35.2	4.5	7.7	2.3	5.5	8.3	6.5	15.6	11.2	2.3	99.2	0.8
2012	35.6	4.5	7.7	2.2	5.5	8.2	6.5	15.5	11.1	2.3	99.2	0.8
1986-2012*	58.0	3.1	2.8	0.1	-6.1	5.8	5.8	31.0	11.7	-1.1	100.0	...

Source: (1) Statistics New Zealand, Infoshare, Tables DPE052AA and DPE051AA

(2) Statistics NZ, Infoshare, Estimated Resident Population for Territorial Authority and Regional Council Areas, at 30 June (1996+) (Annual-Jun) at 2010 Boundaries

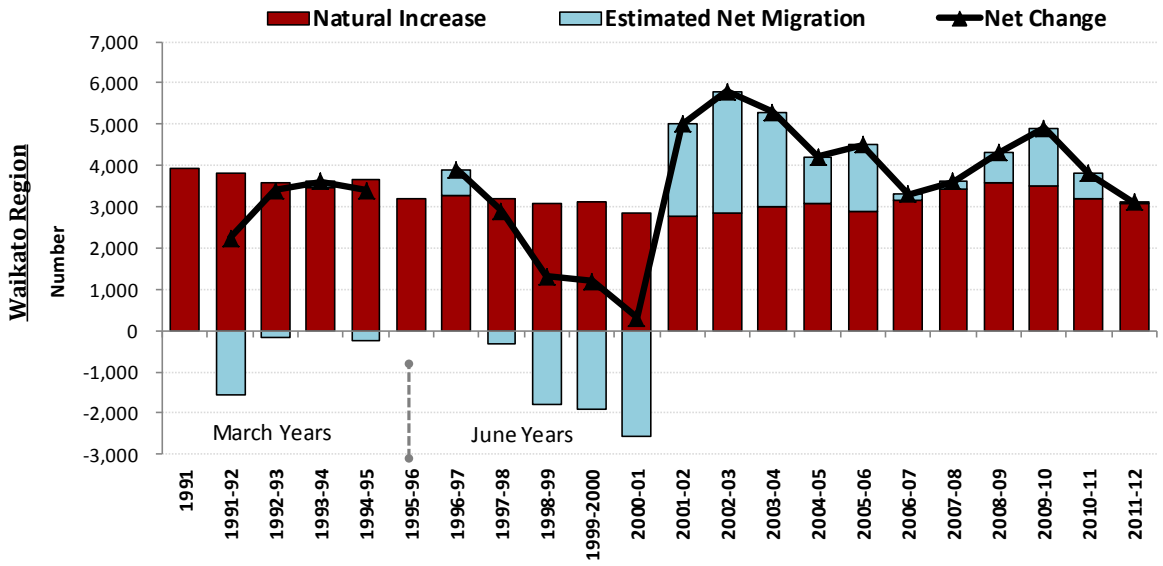
*Notes: *Changes in the timing and method of estimating Resident Population between 1991-1992 and 1995-1996 mean that the three sets of trends should be understood as discontinuous; NB. TA numbers do not sum to the RC level. The Residual is given***

2.0 Components of Change

2.1 Natural Increase and Net Migration

Figure 2.1.1 shows the estimated components of change contributing to growth for the Waikato Region across the period 1991-20112 (see Table 2.1.1 for underlying data, and note the lack of an estimate for residual migration for 1991 and the 1995-1996 period due to methodological changes in the underlying data collection). Clearly, natural increase (the difference between births and deaths) has been the major component of the region's growth since 1991. Net migration loss in the early 1990s and across the 1997-2001 period partially offset that growth.

Figure 2.1.1: Natural Increase, Net Migration and Net Change 1991-2012, Waikato Region



**Changes in timing and method of estimating Resident Population between 1995 and 1996 mean that only natural increase can be shown for that year*

Comparison with data for Total New Zealand (Figure 2.1.2) indicates similar trends, although the national contribution from net migration has been typically higher than for the Waikato Region, with positive net migration in the early 1990s when it was negative for the Waikato Region. At the same time, data for the most recent year (2011-2012) indicate a minor net migration gain for the Waikato Region compared to a net loss for Total New Zealand.

Table 2.1.1: Components of Change, 1991-2012, Waikato Region and Total New Zealand

		Waikato Region									New Zealand		
		Components of Change						Contribution to Net Change			Contribution to Net Change		
		Births	Deaths	Natural Increase	Estimated Resident Population (a)	Net Change	Estimated Migration	Estimated Natural Increase~ (%)	Estimated Migration* (%)	Net Change^ (%)	Estimated Natural Increase~ (%)	Estimated Migration* (%)	Net Change^ (%)
March Year	1991	6,181	2,257	3,924	338,959	...	...	...	...	...	...	...	...
	1992	6,229	2,423	3,806	341,200	2,241	-1,565	1.12	-0.46	0.66	0.95	0.08	1.03
	1993	5,903	2,332	3,571	344,600	3,400	-171	1.05	-0.05	1.00	0.89	0.40	1.28
	1994	5,890	2,434	3,456	348,200	3,600	144	1.00	0.04	1.04	0.87	0.53	1.40
	1995	6,010	2,361	3,649	351,600	3,400	-249	1.05	-0.07	0.98	0.84	0.76	1.60
June Year	1996	5,592	2,408	3,184	358,800	...	...	...	...	...	...	...	...
	1997	5,756	2,492	3,264	362,700	3,900	636	0.91	0.18	1.09	0.79	0.53	1.32
	1998	5,711	2,503	3,208	365,600	2,900	-308	0.88	-0.08	0.80	0.78	0.11	0.89
	1999	5,607	2,533	3,074	366,900	1,300	-1,774	0.84	-0.49	0.36	0.75	-0.22	0.53
	2000	5,719	2,593	3,126	368,100	1,200	-1,926	0.85	-0.52	0.33	0.79	-0.20	0.59
	2001	5,405	2,545	2,860	368,400	300	-2,560	0.78	-0.70	0.08	0.76	-0.17	0.59
	2002	5,320	2,548	2,772	373,400	5,000	2,228	0.75	0.60	1.36	0.67	1.08	1.75
	2003	5,323	2,482	2,841	379,200	5,800	2,959	0.76	0.79	1.55	0.69	1.30	1.99
	2004	5,598	2,607	2,991	384,500	5,300	2,309	0.79	0.61	1.40	0.74	0.76	1.50
	2005	5,688	2,612	3,076	388,700	4,200	1,124	0.80	0.29	1.09	0.72	0.41	1.14
	2006	5,549	2,654	2,895	393,200	4,500	1,605	0.74	0.41	1.16	0.75	0.48	1.23
	2007	5,930	2,765	3,165	396,500	3,300	135	0.80	0.03	0.84	0.79	0.25	1.04
	2008	6,237	2,819	3,418	400,100	3,600	182	0.86	0.05	0.91	0.84	0.12	0.96
	2009	6,373	2,805	3,568	404,400	4,300	732	0.89	0.18	1.07	0.80	0.30	1.10
	2010	6,249	2,740	3,509	409,300	4,900	1,391	0.87	0.34	1.21	0.82	0.39	1.20
	2011	6,093	2,901	3,192	413,100	3,800	608	0.78	0.15	0.93	0.76	0.09	0.86
	2012	5,988	2,918	3,070	416,200	3,100	30	0.74	0.01	0.75	0.71	-0.08	0.63

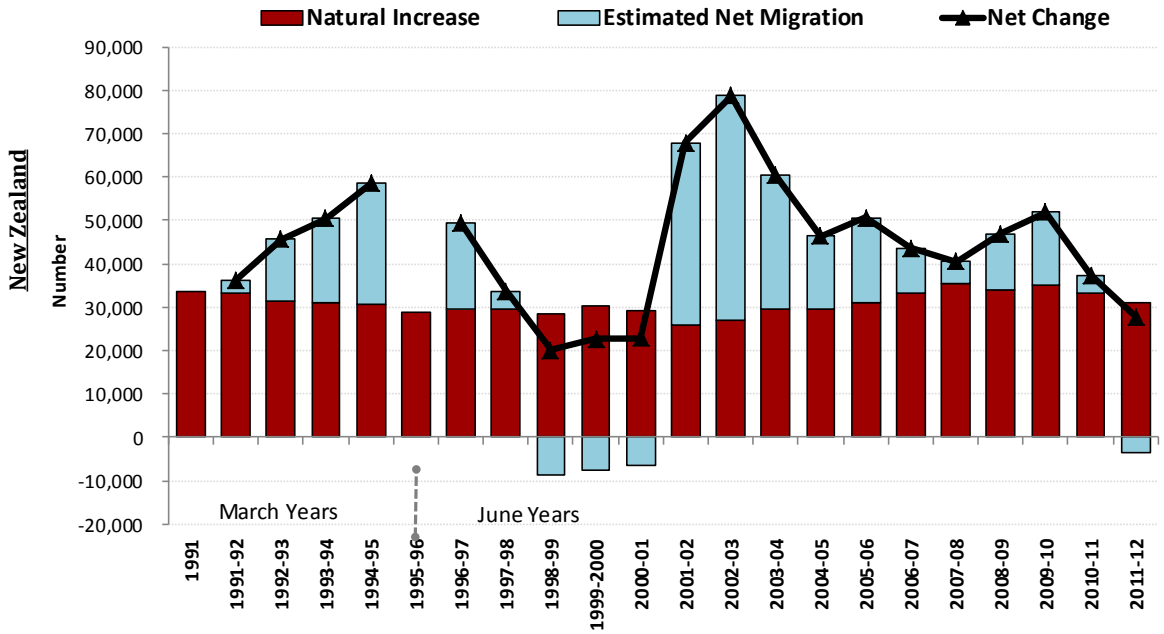
Source: Compiled from Statistics New Zealand Infoshare: Estimated Resident Population, Table DPE051AA; Births, Table VSB016AA; Deaths, Table VSD018AA

(a) 1991-1995 Estimated Defacto; 1996-2011 Estimated Usually Resident Population (URP)

~ Births minus Deaths ** Residual (Net Change minus Natural Increase)*

^ Natural Increase, Net Migration and Net Change as a percentage of previous year's URP

Figure 2.1.2: Natural Increase, Net Migration and Net Change 1991-2012, Total New Zealand

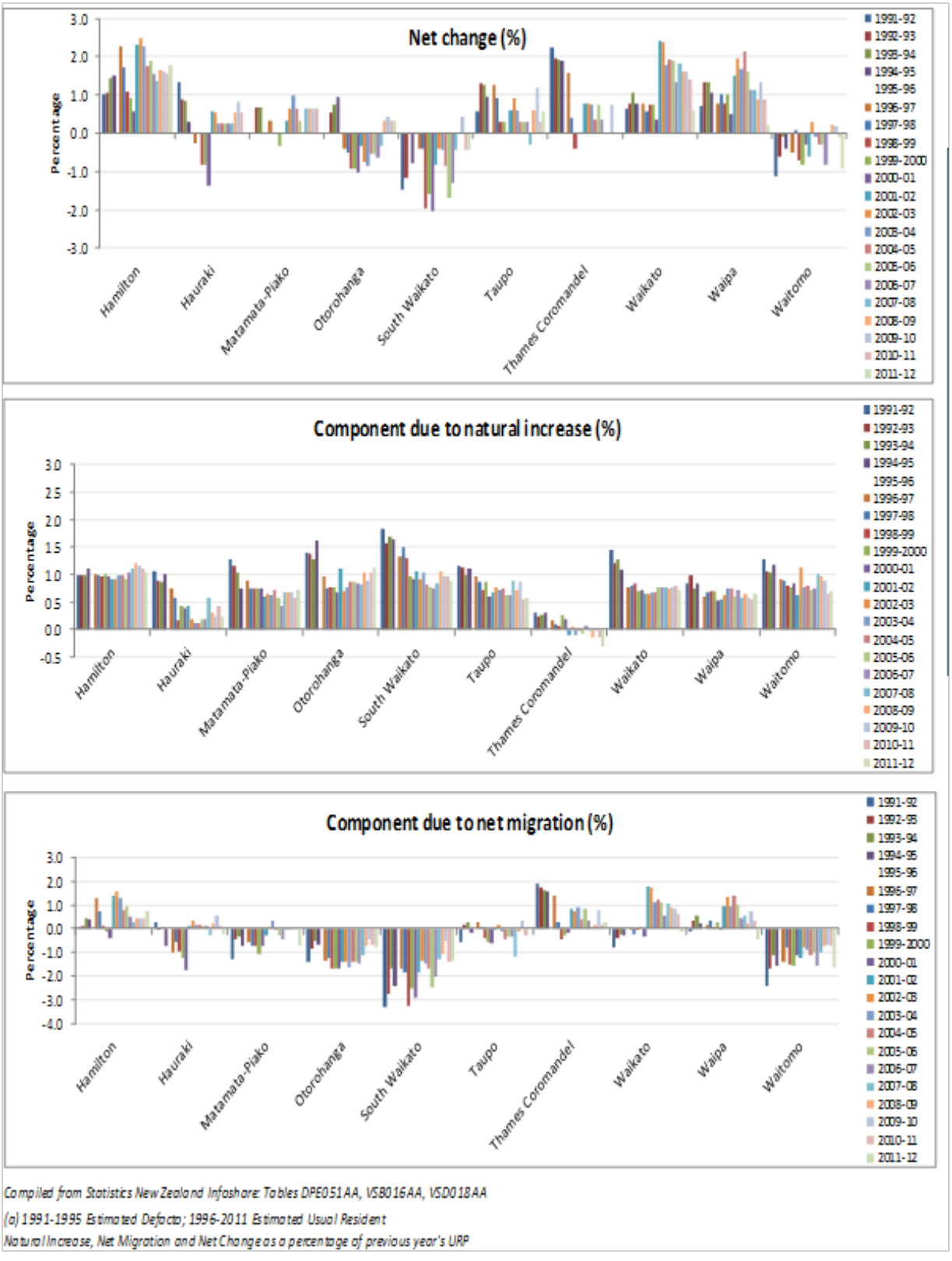


**Changes in timing and method of estimating Resident Population between 1995 and 1996 mean that only natural increase can be shown for that year*

Comparative data for the TAs comprising the Waikato Region are given in Figure 2.1.3 (see Appendices 1.3-1.4 for underlying data). The greater than average growth over the 1986-2012 period seen earlier in Table 1.1.1 for Hamilton City (55.4 per cent), Waikato (77.4 per cent), Waipa (29.9 per cent) and Thames-Coromandel (24.3 per cent) is mainly due to their higher than average contributions from net migration (see also Map 2.1.1). This is particularly true for the Thames-Coromandel district, which has experienced natural decline every year but one since 2002, meaning that net migration gain has had an increasing impact on net change.

The opposite is true for the moderate growth of Taupo (18.2 per cent), Hauraki (17.9 per cent) and Matamata-Piako (8.8 per cent) districts, which experienced their more modest increases primarily from high levels of natural increase. Similar can be said for the minor (recent) growth experienced by Otorohanga (0.7 per cent). In the case of South Waikato (-19.7 per cent) and Waitomo (-9.3 per cent), net migration loss has been the main driver for declining population, as both districts can be seen to have experienced sizeable natural increase.

Figure 2.1.3: Net change and components of change, TAs of the Waikato Region, 1991-2011

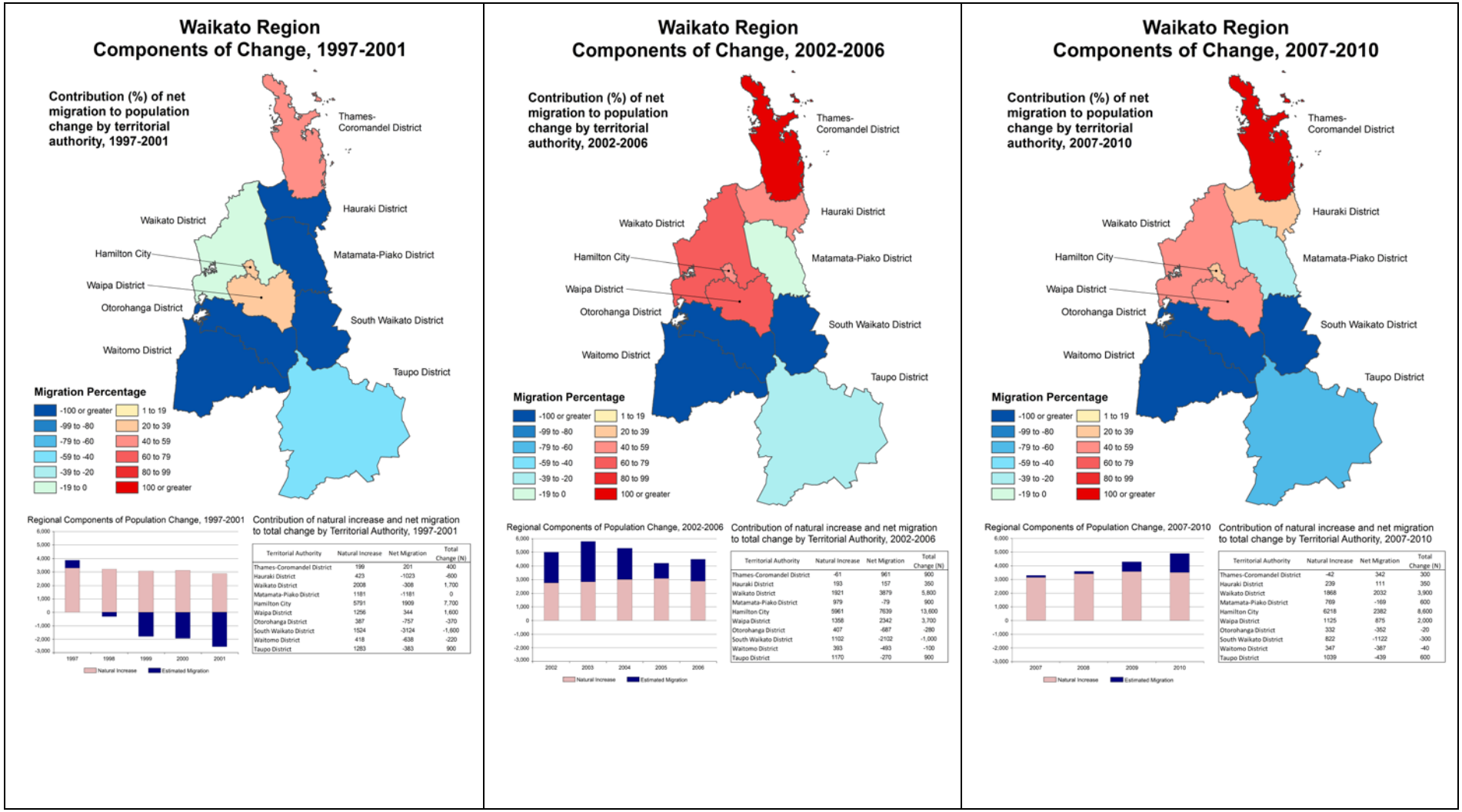


Compiled from Statistics New Zealand Infoshare: Tables DPE051AA, VSB016AA, VSD018AA

(a) 1991-1995 Estimated Defacto; 1996-2011 Estimated Usual Resident

Natural Increase, Net Migration and Net Change as a percentage of previous year's URP

Map 2.1.1: Contribution of net migration to the TAs of the Waikato Region, 1997-2001, 2002-2006, 2007-2010



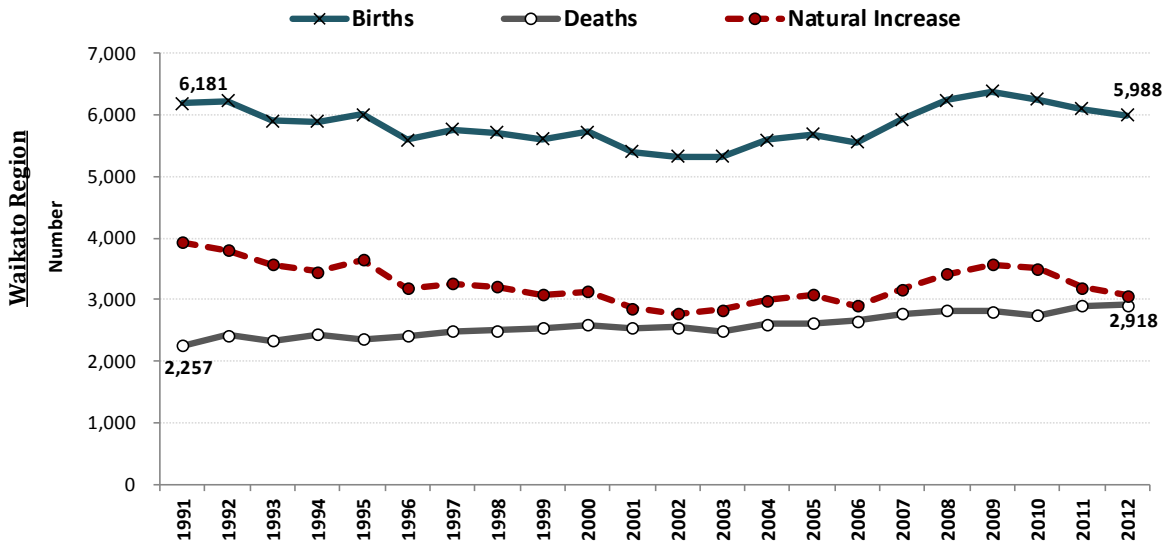
2.2 Births, Deaths and Natural Increase

Underlying the trends in natural increase shown above are those for births and deaths, depicted in Figure 2.2.1. Here as might be expected we see that the main driver of natural increase has been births which—as elsewhere in most of New Zealand—have increased since the early 2000s, peaking for the Waikato Region around 2009. For a number of reasons outlined below (most particularly the reducing size of the reproductive age cohort indicated in the section on age structures), birth numbers are unlikely to see major increase in the future.

There has also been a steady increase in the number of deaths across the period, from 2,257 in 1991 to 2,918 in 2012 (29.3 per cent increase). However, the increase will soon accelerate as the Baby Boomer wave moves through the older age groups.

As the projections further below will show, the overall outcome of these opposing trends will be a steady reduction in natural increase. As indicated above, this trend will have a negative impact on the region's longer-term potential for growth.

Figure 2.2.1: Births, Deaths and Natural Increase, Waikato Region 1991-2012



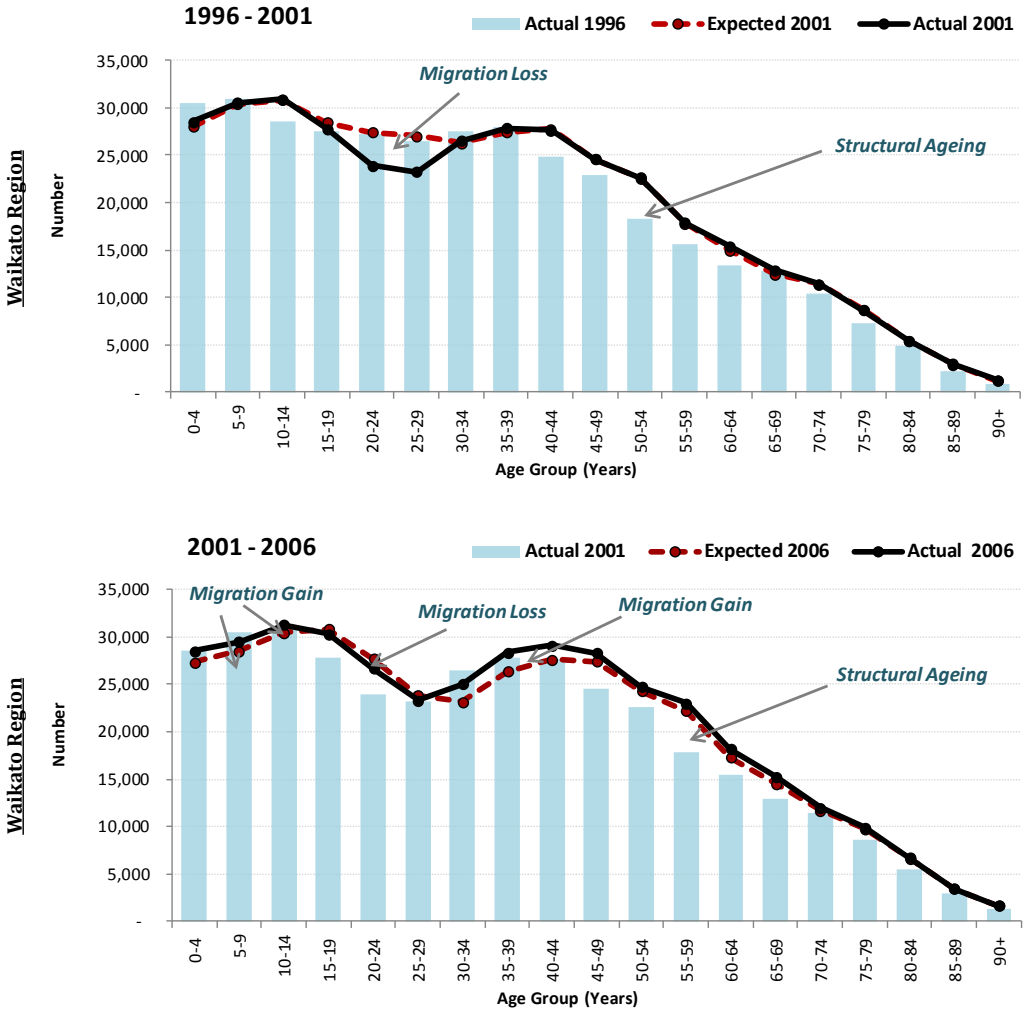
Compiled from Statistics New Zealand Infoshare: Births, Table VSB016AA; Deaths, Table VSD018AA

3.0 Components of Change by Age

3.1 Expected versus Actual Population

Using the residual method for estimating net migration described earlier, the components of change can be plotted by age. Figure 3.1.1 shows that between 1996 and 2001, net migration loss occurred at 20-24 and 25-29 years of age, while between 2001 and 2006, there was minimal loss at these ages and instead, net *gains* were widespread, occurring at ages 0-9 and 30-49 years and indicating the net arrival of parents and children. Notable also is the impact of structural ageing which shows at 50-54 years across the 1996-2001 period, and 55-59 years for 2001-2006. That is, the gap between numbers at the previous Census (columns) and Expected/Actual numbers at the subsequent Census reflects the movement of the Baby Boomer wave through the age structure (see Appendices 2.1 - 2.12 for data and TA graphs).

Figure 3.1.1: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Waikato Region

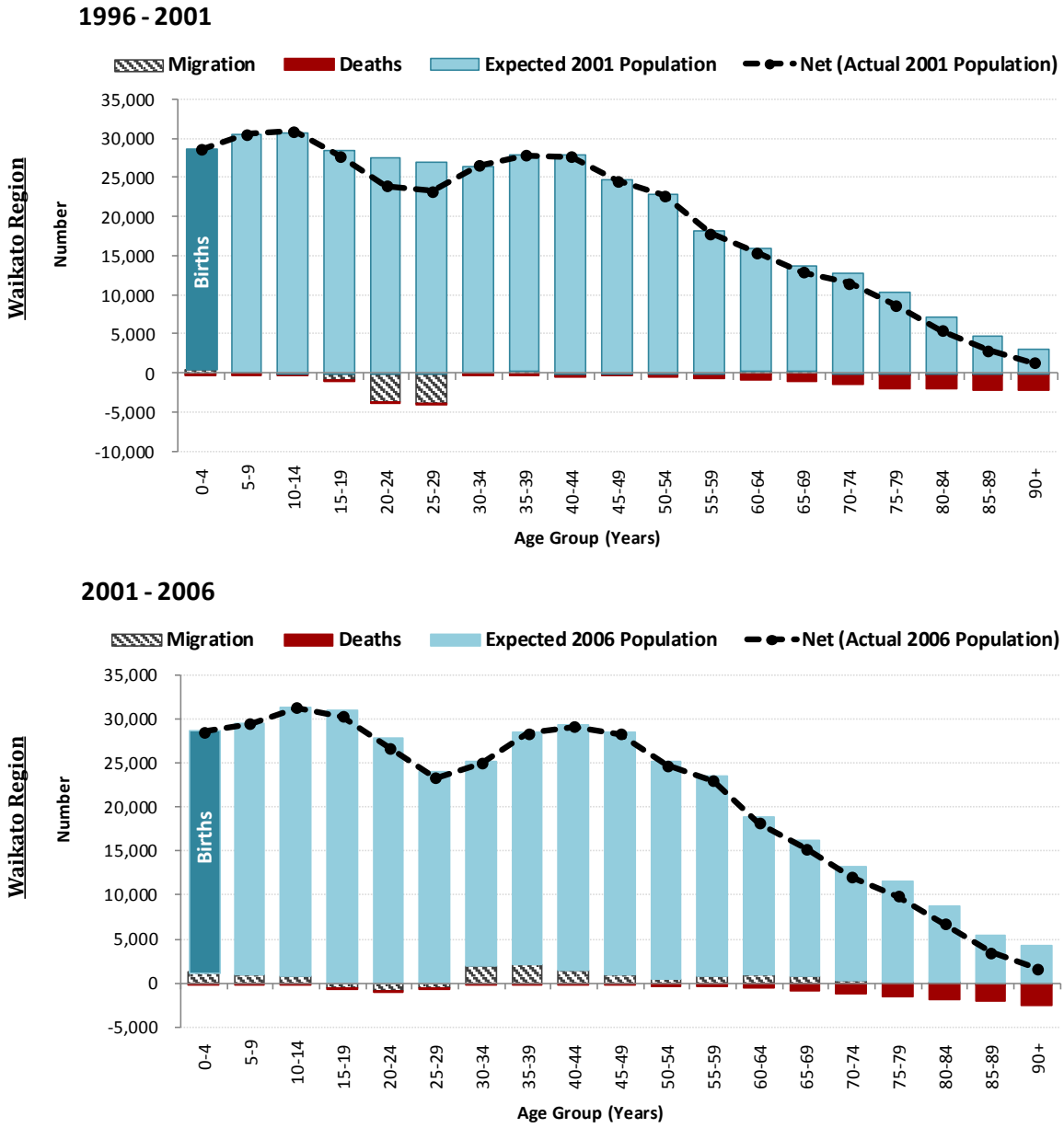


Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

3.2 Expected versus Actual Change by Component

The same data are plotted in Figure 3.2.1, this time to highlight the role of the other components of change (births and deaths). As indicated above, the primary driver increasing or decreasing expected numbers is migration, while at older ages, migration is negligible and numbers are reduced by deaths. The information in these graphs (Sections 3.1 and 3.2) is particularly valuable because it is free of change in cohort size.

Figure 3.2.1: Population Change by Age and Component, 1996-2001 and 2001-2006, Waikato RC



Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

4.0 Age Structure and Population Ageing

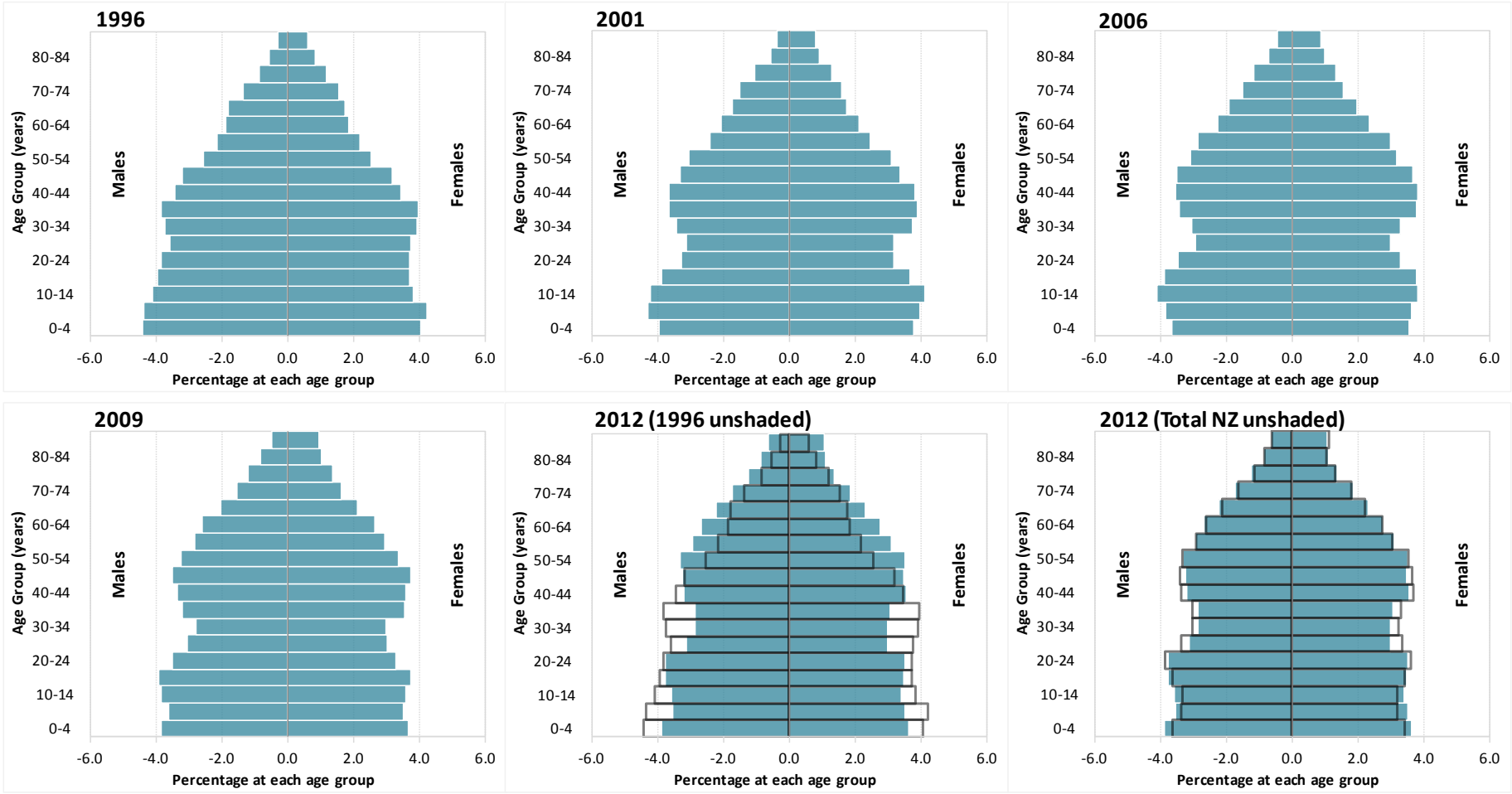
4.1 Numerical and Structural Ageing

By comparison with many other regional council areas, the age structure of the Waikato Region is relatively young (4th youngest of 16). Nevertheless, as elsewhere, the population is ageing. It is ageing numerically, as more people survive to older ages, and structurally, as lower birth rates deliver relatively fewer babies and children into the base of the age structure *vis-à-vis* the size of the parental generation. It is also ageing structurally as previous youthful migrants grow older. Together these dynamics cause the proportions at younger ages to decrease, and the increased numbers at older ages to also become increased proportions.

The shifts can be detected in Figure 4.1.1 (see especially the lower middle panel which directly compares the region's age structure in 1996 and 2012). They are even clearer from Table 4.1.1, which shows that despite the recent increase in births the proportion of the Waikato Region population aged 0-14 years has declined quite steadily, from 24.9 per cent in 1996 to 21.6 per cent in 2012, while the proportion aged 65+ years has increased from 10.7 to 14.3 per cent (33 per cent). For Total New Zealand the proportion aged 65+ years in 2012 is 13.8 per cent, up from 11.7 per cent in 1996 (19.7 per cent increase), making the Waikato Region a little older than nationally, and ageing faster. Despite appearing as a small bulge in the age structure, the proportions at 15-24 years have also declined, from 15.2 per cent in 1996 to 14.5 per cent in 2012 (-4.5 per cent), as have those at 25-54 years, from 41.1 per cent in 1996 to 38.1 per cent in 2012 (-7.1 per cent). In sum, the gains at the younger ages from both past births and recent migration are slowing the pace of the Waikato Region's structural ageing, but are unable to prevent it.

Equally important as ageing *per se* in Figure 4.1.1 is the recent increase at age 0-4 years, resulting in the development of third 'wave' within the age structure, a phenomenon referred to as an (advanced) age-structural transition (AST). As the people in each of these waves grow older and are replaced by different sized cohorts, peaks and troughs move through the age structure. For example, the current peak at 15-24 years is presently being replaced by a trough which will deepen over the next 15 years; numbers will then again grow. This wave has significant implications, first for educational demand and then for the labour market.

Figure 4.1.1: Age-Sex Structure Waikato Region, 1996-2012, and 2012 compared with 1996



Source: Jackson, N.O (2012) Subnational Age Structure Resource 1996-2011, NIDEA, University of Waikato. Source data from Stats NZ Infoshare Estimated Subnational Population and TableBuilder: (RC, TA,AU) by Age and Sex at 30 June 1996, 2001, 2006-2011 (2006 Boundaries)

Table 4.1.1: Summary Indicators of Change by Age, 1996-2012, Waikato Region and Total New Zealand

Distribution of population over broad age groups									
Broad Age Group (Yrs)	Population					Average Annual Change (%)			Annual Change (%) 2011-12
	1996	2001	2006	2011	2012	1996-2001	2001-2006	2006-2011	
0-14	89,740	89,870	89,220	90,250	90,250	+0.0	-0.1	+0.2	+0.0
15-24	54,670	51,660	56,930	60,380	60,750	-1.1	+2.0	+1.2	+0.6
25-54	147,830	152,390	158,760	160,160	159,700	+0.6	+0.8	+0.2	-0.3
55-64	28,960	33,260	41,190	47,290	48,030	+3.0	+4.8	+3.0	+1.6
65+	38,680	42,640	49,110	57,250	59,910	+2.0	+3.0	+3.3	+4.6
Waikato Region	359,880	369,820	395,210	415,330	418,640	+0.6	+1.4	+1.0	+0.8
New Zealand	3,732,000	3,880,500	4,184,500	4,405,200	4,433,100	+0.8	+1.6	+1.1	+0.6
Broad Age Group (Yrs)	Percentage Distribution					Average Annual Change (%)			Annual Change (%) 2011-12
	1996	2001	2006	2011	2012	1996-2001	2001-2006	2006-2011	
0-14	24.9	24.3	22.6	21.7	21.6	-0.5	-1.4	-0.7	-0.8
15-24	15.2	14.0	14.4	14.5	14.5	-1.6	+0.6	+0.2	-0.2
25-54	41.1	41.2	40.2	38.6	38.1	+0.1	-0.5	-0.8	-1.1
55-64	8.0	9.0	10.4	11.4	11.5	+2.4	+3.2	+1.8	+0.8
65+	10.7	11.5	12.4	13.8	14.3	+1.5	+1.6	+2.2	+3.8
Waikato Region	100.0	100.0	100.0	100.0	100.0	...	...	...	+0.0
Total NZ 65+ yea	11.5	11.9	12.2	13.3	13.8	+0.6	+0.6	+1.8	+3.5
Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)									
	Ratio					Average Annual Change (%)			Annual Change (%) 2011-12
	1996	2001	2006	2011	2012	1996-2001	2001-2006	2006-2011	
Waikato Region	18.9	15.5	13.8	12.8	12.6	-3.5	-2.2	-1.5	-0.9
New Zealand	18.3	15.2	14.1	13.0	12.8	-3.3	-1.5	-1.5	-1.5
Ratio Elderly to Children (Number 65+ per Child 0-14)									
	Ratio					Average Annual Change (%)			Annual Change (%) 2011-12
	1996	2001	2006	2011	2012	1996-2001	2001-2006	2006-2011	
Waikato Region	0.4	0.5	0.6	0.6	0.7	+2.0	+3.2	+3.0	+4.6
New Zealand	0.5	0.5	0.6	0.7	0.7	+1.0	+1.9	+2.8	+4.4

Source: Jackson, N.O (2012) Subnational Age Structure Resource 1996-2011, National Institute of Demographic and Economic Analysis (NIDEA), University of Waikato

Notes: Source data from Stats NZ Infoshare Estimated Subnational Population (RC, TA,AU) by Age and Sex at 30 June 1996, 2001 and 2006-2011 (2006 Boundaries)

The age-sex structures of the TAs which comprise the Waikato Region differ markedly (Figure 4.1.2). Like other cities, Hamilton City has a disproportion of people aged in their twenties and thirties, while all other TA's show various degrees of an 'hourglass' age structure, typically—but not always—reflecting the net migration loss of young (mainly 15-29 year old) adults. Otorohanga, South Waikato, Taupo, Waikato and Waitomo each also have a disproportion of children.

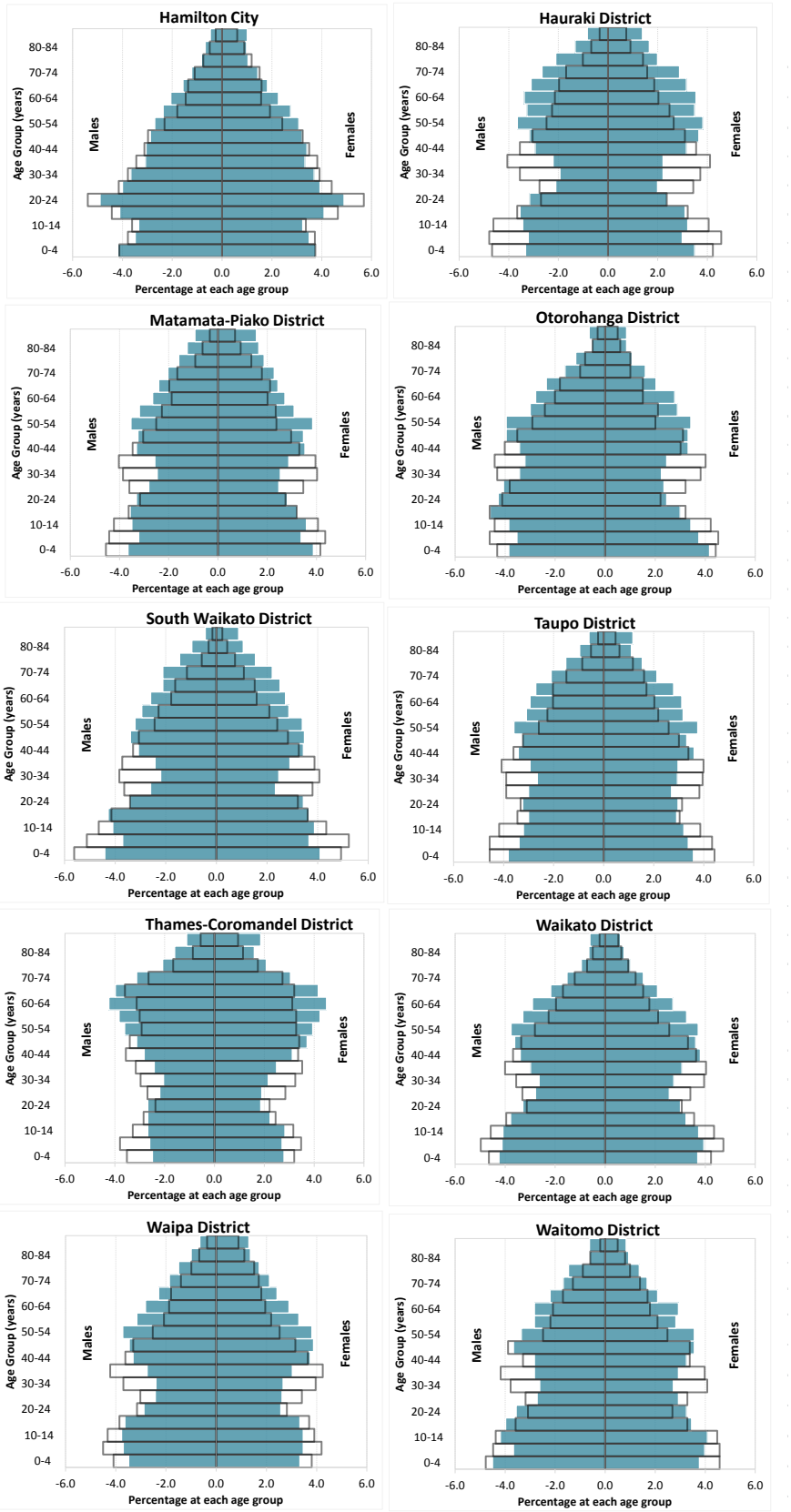
As indicated in Section 3.0 above, underlying these differences are different mixes of the components of population change (see Appendix 2). The bulge at 20-24 years for Hamilton City, for example, is due to sizeable net migration gains at these ages, accentuated by net migration losses at 25-29 years, albeit these losses were lower across the 2001-2006 period than 1996-2001 (see Appendix 2.3).

By contrast, the hourglass age structures of the remaining districts reflect net migration loss at these ages, which in most cases is quite pronounced, and in Otorohanga and South Waikato (Appendices 2.6 and 2.7) extends to several other age groups as well. Differing again, Thames-Coromandel has both net losses at 15-24 years, and net gains at most other ages, most profoundly at 55-64 years reflecting its attraction as a destination for retirees (Appendix 2.9). This situation is also becoming apparent for Hauraki and Waipa (Appendices 2.4 and 2.11). Sitting in between, the data for Waikato District show both net losses at 15-24 years, and net gains at the key parenting and childhood ages.

With the exception of Waikato District, the apparent disproportion of children in the Otorohanga, South Waikato, Taupo and Waitomo is thus very much a reflection of the trends at other ages: all four show a sizeable decline in birth numbers over the period, in many cases reflecting the net loss of people of reproductive age.

The underlying changes by age depicted in Figure 4.1.2 are given in Table 4.1.2. Here we see that between 1996 and 2012, seven out of the ten TAs of the Waikato Region experienced decline at the youngest age groups of 0-4, 5-9 and 10-14 years, while nine experienced decline at 25-29, 30-34 and 35-39 years. South Waikato experienced loss in all age groups below 49 years. The minimal changes at 20-24 years reflect the (temporary) replacement of a smaller cohort by a larger one, those at 20-24 years representing a baby blip born around 1991. However as the data for Waikato Region and Total New Zealand indicate, changing cohort size does not explain the substantial variance by TA.

Figure 4.1.2: Age-Sex Structures of the TAs of the Waikato Region in 2012 compared with 1996



Source: Jackson, N.O (2012) Subnational Age Structure Resource 1996-2011, NIDEA, University of Waikato. Source data from Stats NZ Infoshare Estimated Subnational Population and TableBuilder: (RC, TA,AU) by Age and Sex at 30 June 1996, 2001, 2006-2011 (2006 Boundaries)

Table 4.1.2: Change by Age (%), Waikato Region and Total New Zealand, 1996-2012

	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Total New Zealand
0-4	32.1	-22.2	-8.7	-13.8	-29.0	-10.6	-16.5	9.5	4.0	-16.0	3.7	5.8
5-9	21.7	-32.5	-20.7	-25.3	-37.5	-17.4	-22.3	1.8	-0.9	-19.8	-4.4	-1.5
10-14	23.5	-22.1	-9.6	-20.9	-22.0	-13.4	-9.2	7.2	5.7	-11.2	2.6	7.4
15-19	18.2	-1.6	4.8	-9.0	-10.0	-1.0	-1.5	14.2	11.0	2.9	10.1	14.9
20-24	15.6	11.1	9.5	0.0	-8.8	4.4	5.2	24.5	10.0	12.1	12.2	17.8
25-29	21.3	-32.7	-21.0	-14.3	-41.7	-19.7	-21.4	-2.6	-5.7	-16.9	-3.5	4.6
30-34	25.1	-41.9	-33.1	-34.6	-48.0	-22.6	-28.0	-12.3	-20.4	-35.4	-11.0	-8.2
35-39	15.3	-44.8	-28.1	-36.9	-38.3	-20.4	-21.9	-7.7	-17.8	-32.9	-11.6	-5.2
40-44	27.7	-12.7	6.8	-10.0	-12.4	9.0	-8.6	20.4	16.8	-13.4	14.0	18.4
45-49	28.3	12.8	18.1	3.0	2.6	14.7	7.0	32.8	36.7	-5.5	23.0	25.5
50-54	59.9	48.4	59.5	40.8	20.0	53.7	29.3	70.4	79.4	32.0	56.5	58.3
55-59	79.8	45.2	43.6	22.2	16.8	53.6	36.5	83.0	81.7	25.6	61.9	60.3
60-64	86.5	68.9	45.8	48.6	39.1	62.5	48.7	84.0	79.6	41.0	70.5	72.6
65-69	50.5	66.2	25.0	24.2	29.6	60.2	27.3	62.8	58.0	20.6	47.6	41.4
70-74	33.3	72.4	32.7	50.0	69.0	48.0	22.1	53.1	54.6	18.5	43.8	31.9
75-79	26.0	72.1	60.9	16.7	100.0	64.1	30.2	45.5	54.2	42.1	46.8	29.3
80-84	56.1	92.9	97.9	18.2	142.1	97.2	68.6	50.0	58.0	7.1	67.3	48.3
85+	124.5	110.5	158.1	75.0	200.0	172.7	110.5	100.0	87.5	100.0	120.1	93.9
Total	30.8	1.7	5.6	-6.1	-12.0	8.5	6.3	22.4	20.3	-5.0	16.3	18.8

Source: Jackson, N.O (2012) Subnational Age Structure Resource 1996-2012, NIDEA, University of Waikato

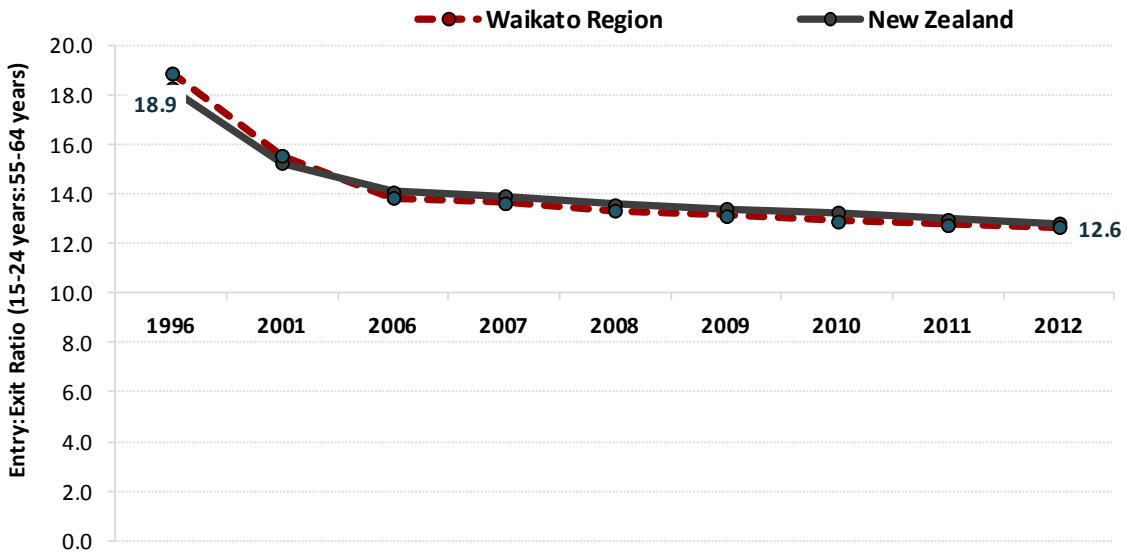
Notes: Source data from Stats NZ TableBuilder Estimated Subnational Population by Age and Sex at 30 June

4.2 Labour Market Implications

Reflecting structural population ageing, Table 4.1.1 (above) showed that the Waikato Region's Labour Market 'entry: exit ratio' has fallen since 1996, from 18.9 people at labour market entry age (15-24 years) for every 10 in the retirement age zone (55-64 years), to 12.6 per 10 in 2012 (illustrated here in Figure 4.2.1 – note differences in periodicity, the seemingly sharp decline at the beginning of the period reflecting five year observations which then shift to annual). However as Figure 4.2.1 shows, the entry: exit ratio for the Waikato Region is virtually identical to that for Total New Zealand, although it has fallen slightly faster.

If older age groupings are used, for example 20-29 and 60-69 years (not shown here), a difference is noted. The Waikato Region in 2012 had just 13.4 entrants per 10 exits, while Total New Zealand had 14.7 (not shown on Table 4.1.1). Despite the relative youth of the region and its bulge at the labour market entry ages in Hamilton City, the remainder of the region still tends to lose those at young adult years, while nationally (disproportionately Auckland) they tend to be gained from international migration.

Figure 4.2.1: Labour Market Entry/Exit Ratio at 15-24 and 55-64 Years, Waikato Region and Total New Zealand, 1996-2012



Source: Jackson, N.O (2012) Subnational Age Structure Resource 1996-2012, NIDEA, University of Waikato. Source data from Stats NZ Infoshare Estimated Subnational Population (RC, TA,AU) by Age and Sex at 30 June 1996, 2001, 2006-2012 (2006 Boundaries)

Table 4.2.1 gives the data for the TAs which comprise the Waikato Region along with that for Total New Zealand. All entry: exit ratios declined significantly over the period 1996-2012, the greatest declines in the Waikato Region occurring for Waipa (38.8 per cent), Hamilton (36.1 per cent), Taupo (35.6 per cent), Waikato (35.2 per cent), and Hauraki 33.6 per cent). In these five TAs, the decline was also greater than occurred nationally (29.9 per cent). The trends also mean that in 2012, three of the Waikato Region's TAs had fewer people at labour market entry than exit age: Taupo (9.8 per 10), Hauraki (8.9 per 10) and Thames-Coromandel District (5.6 per 10). For Waipa in 2012, the number of people at entry age was just above the number in the retirement zone.

Table 4.2.1: Labour Market Entry/Exit Ratio (15-24:55-64 years), Waikato Region and its Territorial Authorities compared with Total New Zealand, 1996-2012 (entrants per 10 exits)

	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Total New Zealand
1996	29.9	13.4	15.0	17.6	18.6	15.3	7.9	16.9	16.7	15.5	18.9	18.3
2001	24.7	9.8	12.8	16.8	13.8	12.0	6.1	14.3	13.4	13.8	15.5	15.2
2006	22.1	8.6	12.1	13.1	12.3	10.7	5.8	12.3	11.5	11.9	13.8	14.1
2007	21.5	8.7	12.2	12.6	12.6	10.6	5.7	12.3	11.3	12.1	13.6	13.9
2008	20.6	8.8	12.0	12.7	12.8	10.3	5.8	12.1	11.0	12.5	13.3	13.6
2009	20.1	8.9	11.7	13.1	13.3	10.2	5.7	11.8	10.7	12.5	13.1	13.4
2010	19.6	8.9	11.6	12.9	13.6	10.2	5.7	11.5	10.5	12.4	12.9	13.2
2011	19.4	8.8	11.1	12.5	13.5	10.0	5.5	11.4	10.3	12.4	12.8	13.0
2012	19.1	8.9	11.1	12.5	13.3	9.8	5.6	11.0	10.2	12.5	12.6	12.8
Change 1996-2012 (%)	-36.1	-33.6	-26.0	-28.9	-28.4	-35.6	-28.7	-35.2	-38.8	-19.4	-33.0	-29.9

Source: Jackson, N.O (2012) Subnational Age Structure Resource 1996-2012, NIDEA, University of Waikato

Source data from Stats NZ Infoshare Estimated Subnational Population (RC, TA,AU) by Age and Sex at 30 June 1996, 2001, 2006-2012

5.0 Ethnic Composition and Growth

5.1 Ethnic Composition and Growth

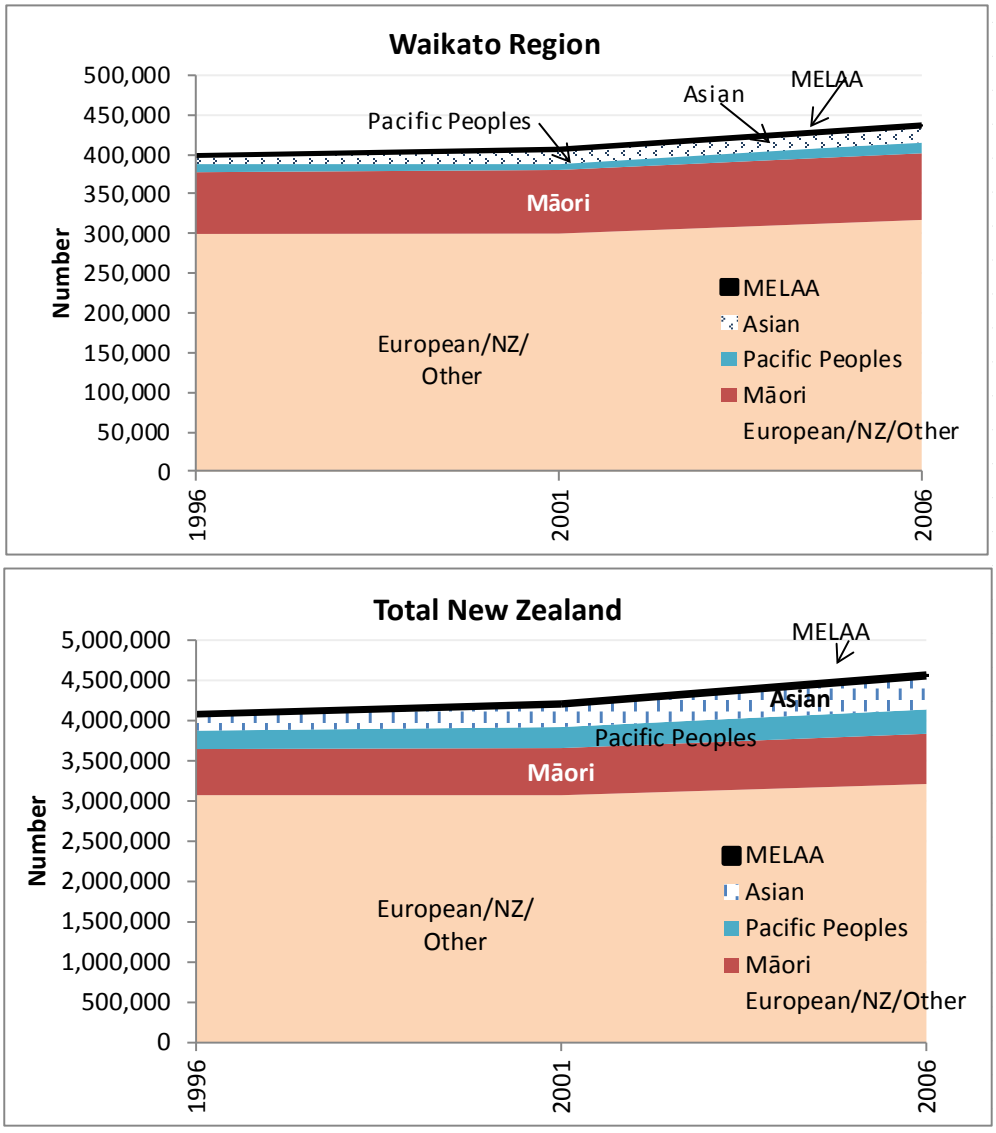
Figure 5.1.1 indicates the extent to which the major ethnic groups comprise and have contributed to the Waikato Region's growth over the period 1996-2006 (see also Table 5.1.1). These 'multiple ethnic group' data[1] show that those identifying as European/New Zealander/Other – hereafter European - in the region grew in number (5.9 per cent), but declined as a proportion over the decade, from 75.1 per cent in 1996 to 72.5 per cent in 2006. This is a slightly smaller change than for Total New Zealand, with the proportion European reducing from 75.2 to 70.1 per cent (a decline of 6.8 per cent).

The region's Maori population also grew numerically (by 7.9 per cent), but its share declined marginally from 19.5 per cent in 1996 to 19.2 per cent in 2006. In contrast, the three remaining ethnic groups each increased both numbers and share of the region's population. People of Pacific Island origin increased their share from 2.7 to 3.0 per cent (13.5 per cent increase), those identifying as Asian, from 2.5 to 4.7 per cent (44 per cent increase), and those identifying as Middle Eastern/Latin American/African (MELAA), from 0.3 to 0.6 per cent (57 per cent increase).

Despite reducing its share of the region's population, the dominant size of the European population means that it still accounted for 45.7 per cent of the region's growth (compared with just 28.2 per cent of national growth) (Table 5.1.1). The region's Māori population accounted for 15.9 per cent of growth compared to 10.4 per cent nationally, and Pacific Peoples, for 6.7 per cent compared to 14.7 per cent nationally. Between 1996 and 2006 the Asian-origin population accounted for more than one-quarter (27.7 per cent) the region's growth, compared with 42.6 per cent for Total New Zealand, while the numerically smaller MELAA population accounted for 4.0 and 4.1 per cent of growth respectively.

[1] The multiple ethnic group method of enumeration means that a proportion of people are counted more than once. Table 1.2.1 gives an approximation of the extent to which the method results in an over-count. Of the 565,329 people identifying with Māori ethnicity at the 2006 Census, 47 per cent (266,934) also identified with non-Māori ethnicities (Statistics New Zealand 2010a).

Figure 5.1.1: Population by Major Ethnic Group (Multiple Count), Waikato Region and Total New Zealand 1996, 2001, 2006



Statistics New Zealand, Estimated Subnational Ethnic Population (RC,TA) by Age and Sex at 30 June 1996, 2001 and 2006

*Notes: *People may be counted in more than one ethnic group*

Table 5.1.1: Population by Major Ethnic Group* (Multiple Count), Waikato Region and Total New Zealand 1996-2006

	1996	2001	2006	Change (%)	1996	2001	2006	Contribution to Change 1996-2006	
	NUMBER				DISTRIBUTION (%)*			Number	(%)
Waikato Region									
European/NZ/Other	299,600	300,080	317,290	5.9	75.1	73.7	72.5	17,690	45.7
Māori	77,880	80,220	84,030	7.9	19.5	19.7	19.2	6,150	15.9
Pacific Peoples	10,620	11,650	13,220	24.5	2.7	2.9	3.0	2,600	6.7
Asian	9,870	13,400	20,600	108.7	2.5	3.3	4.7	10,730	27.7
MELAA#	1,155	1,850	2,720	135.5	0.3	0.5	0.6	1,565	4.0
TOTAL	399,125	407,200	437,860	9.7	100.0	100.0	100.0	38,735	100.0
Total without multiple count	359,800	369,800	395,100	9.8	...	...	...		
Ethnic 'overcount' (%)	10.9	10.1	10.8	-1.0	...	...	...		
TOTAL NEW ZEALAND									
European/NZ/Other	3,074,610	3,074,010	3,213,330	4.5	75.2	72.8	70.1	138,720	28.2
Māori	573,180	585,970	624,310	8.9	14.0	13.9	13.6	51,130	10.4
Pacific Peoples	229,280	261,820	301,640	31.6	5.6	6.2	6.6	72,360	14.7
Asian	194,750	272,440	404,320	107.6	4.8	6.5	8.8	209,570	42.6
MELAA#	18,450	27,660	38,550	108.9	0.5	0.7	0.8	20,100	4.1
TOTAL	4,090,270	4,221,900	4,582,150	12.0	100.0	100.0	100.0	491,880	100.0
Total without multiple count	3,732,000	3,880,500	4,184,500	12.1	...	...	...	...	...
Ethnic 'overcount' (%)	9.6	8.8	9.5	-1.0	...	...	...	...	...

Source: Statistics New Zealand, Estimated Subnational Ethnic Population (RC,TA) by Age and Sex at 30 June 1996, 2001 and 2006

*Notes: *Multiple Count means that people may be counted in more than one ethnic group - see Ethnic 'overcount' rows*

 # MELAA = Middle Eastern/Latin American/African

Table 5.1.2 gives these data for the region's TAs. Across the 1996-2006 period the European-origin population declined in five TAs, namely Hauraki, Matamata-Piako, Otorohanga, South Waikato and Waitomo (notably all TA's but Matamata-Piako also declined in absolute terms). In the five remaining TAs, European numbers increased over this period but with growth rates consistently the lowest (Taupo, Hamilton and Thames-Coromandel) or second-lowest (Waipa and Waikato) compared with other ethnic groups.

Except for Hamilton City, the region's Māori populations also experienced comparatively low growth over the period, including negative in Hauraki (-2.0 per cent), Otorohanga (-11.3 per cent), South Waikato (-8.5 per cent) and Taupo (-7.1 per cent).

By contrast, the Asian and MELAA populations each experienced large increases in almost every TA in both absolute numbers and population share (the sole exception being Waitomo where the very small MELAA population declined). In particular, MELAA numbers more than doubled in Hamilton, Hauraki, Matamata-Piako, Otorohanga, South Waikato, Waikato and Waipa. Asian numbers also more than doubled in Hamilton and Matamata-Piako and grew by more than 50 per cent in Hauraki, South Waikato and Waikato.

Trends for Pacific-origin populations were mixed. Growth rates rank in the middle of those for the other ethnic groups; however, they range from comparatively high in Hamilton City (62.5 per cent) and Waikato (43.6 per cent), to low in Waipa (16.5 per cent). South Waikato and Otorohanga also saw in a decline in the number of Pacific peoples.

These trends conceal sizeable differences by TA in terms of each ethnic group's contribution to local growth. People of Asian origin made the greatest contribution in the growth of Hamilton City (34.4 per cent) and Matamata-Piako (59.0 per cent), while growth in the European origin population made the greatest contribution to the growth of Taupo District (140.6 per cent), offsetting the decline in numbers of Māori and Pacific people. Those of European-origin also made the single-greatest contribution to growth in Thames-Coromandel (57.1 per cent), Waikato (73.4 per cent) and Waipa (86.7 per cent). Despite high growth rates, the numerically smaller MELAA population made a relatively small contribution to growth in each TA.

NB. The issue of ethnic 'over-count' should be kept in mind when interpreting these data; as high as 17.2 per cent for South Waikato in 2006. That is, the aggregate population for each area is inflated by the given proportion as the result of multiple counting by ethnicity, and is generally (but not definitively) higher where the proportion Māori is higher (2006 Pearson's correlation $r = 0.47$).

Table 5.1.2: Population by Major Ethnic Group* (Multiple Count), TA's of Waikato RC 1996-2006

		1996	2001	2006	Change (%)	1996	2001	2006	Change 1996-2006	
		NUMBER				DISTRIBUTION (%)*			Number	(%)
Hamilton City	European/NZ/Other	93,020	94,070	99,860	7.4	74.5	70.6	66.7	6840	27.6
	Māori	21,340	24,290	27,210	27.5	17.1	18.2	18.2	5870	23.7
	Pacific Peoples	3,550	4,470	5,770	62.5	2.8	3.4	3.9	2220	9.0
	Asian	6,200	9,040	14,710	137.3	5.0	6.8	9.8	8510	34.4
	Middle Eastern/Latin America	745	1,430	2,060	176.5	0.6	1.1	1.4	1315	5.3
	TOTAL	124,855	133,300	149,610	19.8	100.0	100.0	100.0	24755	100.0
	Total without multiple count	113,000	120,800	134,400	18.9	...	...	...	...	...
	Ethnic 'overcount' (%)	10.5	10.3	11.3	7.9	...	...	...	...	...
Hauraki	European/NZ/Other	15,610	15,010	15,390	-1.4	79.6	79.3	78.8	-220	-314.3
	Māori	3,470	3,340	3,400	-2.0	17.7	17.6	17.4	-70	-100.0
	Pacific Peoples	310	290	390	25.8	1.6	1.5	2.0	80	114.3
	Asian	210	280	340	61.9	1.1	1.5	1.7	130	185.7
	Middle Eastern/Latin America	5	5	15	200.0	0.0	0.0	0.1	10	14.3
	TOTAL	19,605	18,925	19,535	-0.4	100.0	100.0	100.0	-70	-100.0
	Total without multiple count	17,750	17,250	17,600	-0.8	...	...	...	...	...
	Ethnic 'overcount' (%)	10.5	9.7	11.0	5.2	...	...	...	...	...
Matamata-Piako	European/NZ/Other	27,730	27,020	27,660	-0.3	85.8	84.1	83.2	-70	-7.7
	Māori	3,920	4,100	4,230	7.9	12.1	12.8	12.7	310	33.9
	Pacific Peoples	260	315	310	19.2	0.8	1.0	0.9	50	5.5
	Asian	395	655	935	136.7	1.2	2.0	2.8	540	59.0
	Middle Eastern/Latin America	10	20	95	850.0	0.0	0.1	0.3	85	9.3
	TOTAL	32,315	32,110	33,230	2.8	100.0	100.0	100.0	915	100.0
	Total without multiple count	30,300	30,300	31,200	3.0	...	...	...	...	...
	Ethnic 'overcount' (%)	6.7	6.0	6.5	-2.2	...	...	...	...	...
Otorohanga	European/NZ/Other	8,060	7,460	7,480	-7.2	72.0	70.8	72.5	-580	-66.3
	Māori	2,830	2,780	2,510	-11.3	25.3	26.4	24.3	-320	-36.6
	Pacific Peoples	180	150	145	-19.4	1.6	1.4	1.4	-35	-4.0
	Asian	115	140	170	47.8	1.0	1.3	1.6	55	6.3
	Middle Eastern/Latin America	5	10	10	100.0	0.0	0.1	0.1	5	0.6
	TOTAL	11,190	10,540	10,315	-7.8	100.0	100.0	100.0	-875	-100.0
	Total without multiple count	9,960	9,580	9,310	-6.5	...	...	...	...	...
	Ethnic 'overcount' (%)	12.3	10.0	10.8	-12.6	...	...	...	...	...
South Waikato	European/NZ/Other	18,770	17,060	16,550	-11.8	74.5	70.6	66.7	-2220	-73.1
	Māori	7,970	7,540	7,290	-8.5	17.1	18.2	18.2	-680	-22.4
	Pacific Peoples	3,260	3,120	2,910	-10.7	2.8	3.4	3.9	-350	-11.5
	Asian	325	375	515	58.5	5.0	6.8	9.8	190	6.3
	Middle Eastern/Latin America	20	25	45	125.0	0.6	1.1	1.4	25	0.8
	TOTAL	30,345	28,120	27,310	-10.0	100.0	100.0	100.0	-3035	-100.0
	Total without multiple count	25,800	24,200	23,300	-9.7	...	...	...	...	...
	Ethnic 'overcount' (%)	17.6	16.2	17.2	-2.3	...	...	...	...	...
Taupo	European/NZ/Other	24,390	25,160	26,400	8.2	67.6	69.1	70.4	2010	140.6
	Māori	10,210	9,740	9,480	-7.1	28.3	26.7	25.3	-730	-51.0
	Pacific Peoples	1,020	980	955	-6.4	2.8	2.7	2.5	-65	-4.5
	Asian	415	505	625	50.6	1.1	1.4	1.7	210	14.7
	Middle Eastern/Latin America	55	50	60	9.1	0.2	0.1	0.2	5	0.3
	TOTAL	36,090	36,435	37,520	4.0	100.0	100.0	100.0	1430	100.0
	Total without multiple count	31,600	32,600	33,400	5.7	...	...	...		
	Ethnic 'overcount' (%)	14.2	11.8	12.3	-13.2	...	...	...		
Thames-Coromandel	European/NZ/Other	23,350	23,630	24,110	3.3	83.5	83.3	82.3	760	57.1
	Māori	4,020	3,980	4,360	8.5	14.4	14.0	14.9	340	25.6
	Pacific Peoples	260	390	335	28.8	0.9	1.4	1.1	75	5.6
	Asian	285	315	410	43.9	1.0	1.1	1.4	125	9.4
	Middle Eastern/Latin America	50	55	80	60.0	0.2	0.2	0.3	30	2.3
	TOTAL	27,965	28,370	29,295	4.8	100.0	100.0	100.0	1330	100.0
	Total without multiple count	25,300	25,800	26,600	5.1	...	...	...		
	Ethnic 'overcount' (%)	10.5	10.0	10.1	-3.8	...	...	...		
Waikato	European/NZ/Other	31,660	32,120	35,890	13.4	71.1	70.6	71.4	4230	73.4
	Māori	11,230	11,460	11,830	5.3	25.2	25.2	23.5	600	10.4
	Pacific Peoples	780	935	1,120	43.6	1.8	2.1	2.2	340	5.9
	Asian	780	930	1,300	66.7	1.8	2.0	2.6	520	9.0
	Middle Eastern/Latin America	65	60	135	107.7	0.1	0.1	0.3	70	1.2
	TOTAL	44,515	45,505	50,275	12.9	100.0	100.0	100.0	5760	100.0
	Total without multiple count	40,200	41,400	45,500	13.2	...	...	...	...	...
	Ethnic 'overcount' (%)	10.7	9.9	10.5	-2.2	...	...	...	...	...
Waipa	European/NZ/Other	34,890	36,160	39,730	13.9	84.2	84.3	84.5	4840	86.7
	Māori	5,510	5,570	5,890	6.9	13.3	13.0	12.5	380	6.8
	Pacific Peoples	425	460	495	16.5	1.0	1.1	1.1	70	1.3
	Asian	555	615	800	44.1	1.3	1.4	1.7	245	4.4
	Middle Eastern/Latin America	40	75	90	125.0	0.1	0.2	0.2	50	0.9
	TOTAL	41,420	42,880	47,005	13.5	100.0	100.0	100.0	5585	100.0
	Total without multiple count	38,400	40,000	43,700	13.8	...	...	...		
	Ethnic 'overcount' (%)	7.9	7.2	7.6	-3.8	...	...	...		
Waitomo	European/NZ/Other	7,340	6,830	6,640	-9.5	64.0	62.6	60.7	-700	-135.9
	Māori	3,820	3,820	3,930	2.9	33.3	35.0	35.9	110	21.4
	Pacific Peoples	170	180	230	35.3	1.5	1.6	2.1	60	11.7
	Asian	120	80	140	16.7	1.0	0.7	1.3	20	3.9
	Middle Eastern/Latin America	10	5	5	-50.0	0.1	0.0	0.0	-5	-1.0
	TOTAL	11,460	10,915	10,945	-4.5	100.0	100.0	100.0	-515	-100.0
	Total without multiple count	10,050	9,780	9,670	-3.8	...	...	...	...	...
	Ethnic 'overcount' (%)	14.0	11.6	13.2	-6.0	...	...	...	...	...

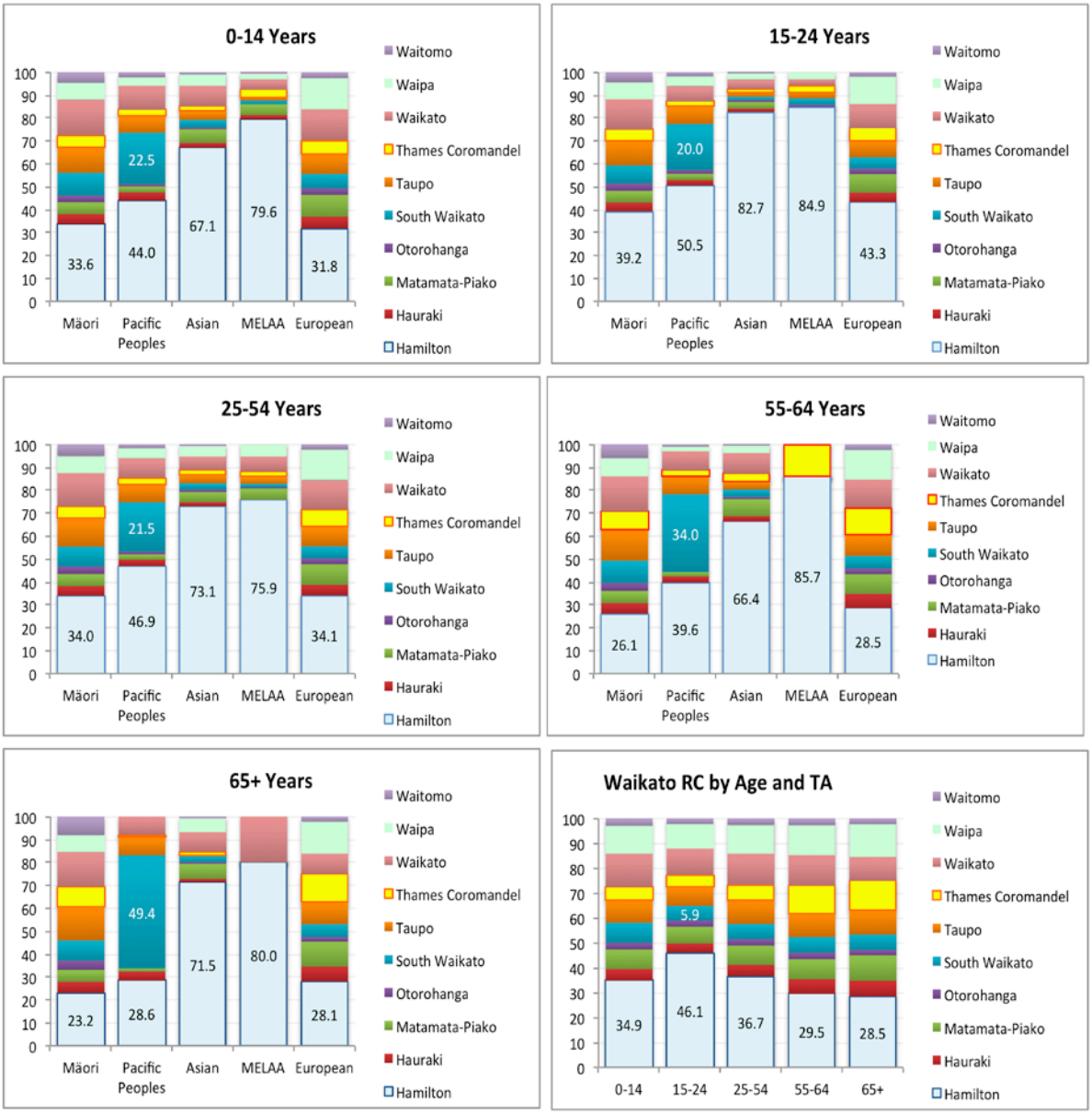
Source: Statistics New Zealand, Estimated Subnational Ethnic Population (RC,TA) by Age and Sex at 30 June 1996, 2001 and 2006

*Notes: *Multiple Count means that people may be counted in more than one ethnic group - see Ethnic 'overcount' rows*

 # MELAA = Middle Eastern/Latin American/African

Figure 5.1.2 provides a spatial overview by broad age group and ethnic group, as of 2006. Unsurprisingly, Hamilton City is home to the single- largest proportion of all age groups (lower right hand panel) and to the majority of those of Asian and MELAA origin, irrespective of age (all other panels). However it is clear that the vast majority of Māori, Pacific Island and European/Other/NZ people, especially those aged 55-64 and 65+ years, live outside the city. After Hamilton City, Pacific Island people of all ages are more likely to live in South Waikato than anywhere else, while Taupo and Waikato are favoured by Māori, and Waipa by those of European origin.

Figure 5.1.2: Spatial Distribution of Waikato Region Population by Age and Ethnicity*, 2006



Source: Jackson, N.O (2011) Subnational Ethnic Age Structure Resource 1996, 2001, 2006, NIDEA. Source data: Statistics New Zealand, Estimated Subnational Ethnic Population (RC,TA) by Age and Sex at 30 June

*Notes: *Multiple count ethnicity means that people may be counted in more than one ethnic group*

5.2 Ethnic Age Composition and Ageing

Figure 5.2.1 provides a comparison of the Waikato Region's major ethnic groups in 2006 by age. As was indicated in Table 5.1.1 above, this method of enumeration means that a portion of the population is counted in more than one ethnic group. In the Waikato Region's case, the over-count for 2006 (when the totals by ethnic group are summed) was approximately 10.8 per cent. However, as can be seen by the markedly different age structures of each group in Figure 5.2.1, this methodological complexity would have very little impact on the story by age composition.

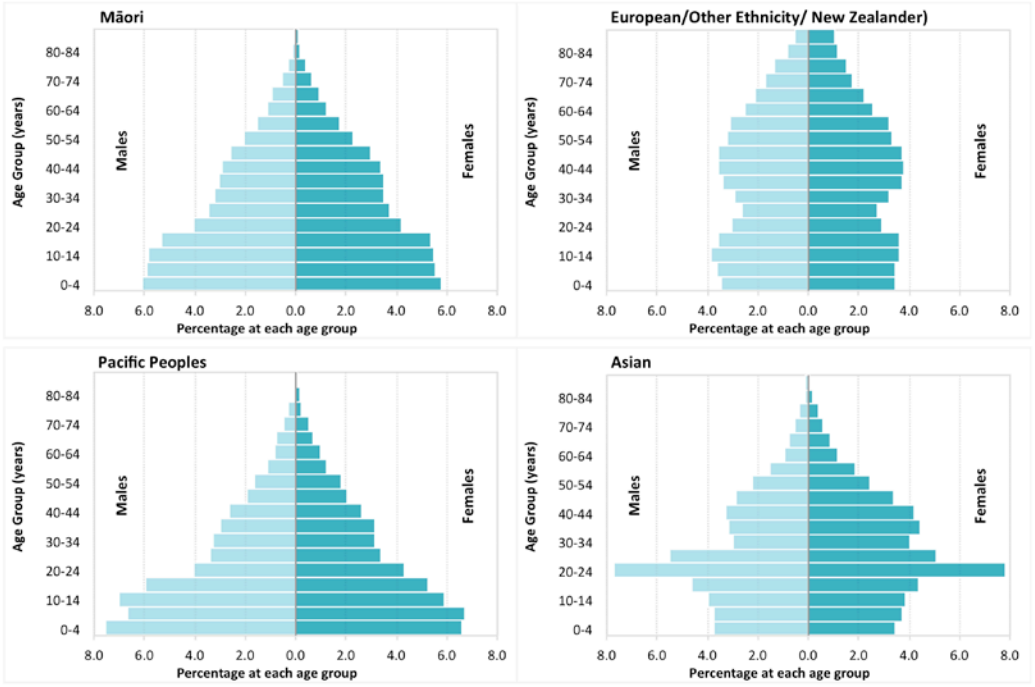
The data identify that the relative youthfulness of the region's population discussed above is very much contributed to by the extremely youthful Māori and Pacific Island populations, which at 0-14 and 15-24 years greatly exceed their total share, accounting for 32 per cent at age 0-14 (see Table 5.2.1). The significant 'wings' on the Asian population at 20-24 years (presumably reflecting education-related migration) also stand in marked contrast to the others, and account for 7.7 per cent of the population at that age.

Figure 5.2.2 provides comparative data for Total New Zealand. In each case the age structures for each ethnic group are very similar to those for the Waikato Region. However, at national level the Pacific Island population is slightly younger.

Table 5.2.1 provides an overview of each group's population share by age for 2006. The general picture is that the Māori and Pacific Island populations increase their share as age decreases, while the European-origin population increases its share as age increases. The picture is significantly less linear for the Asian population, where the largest shares are concentrated at 15-24 and 25-54 years.

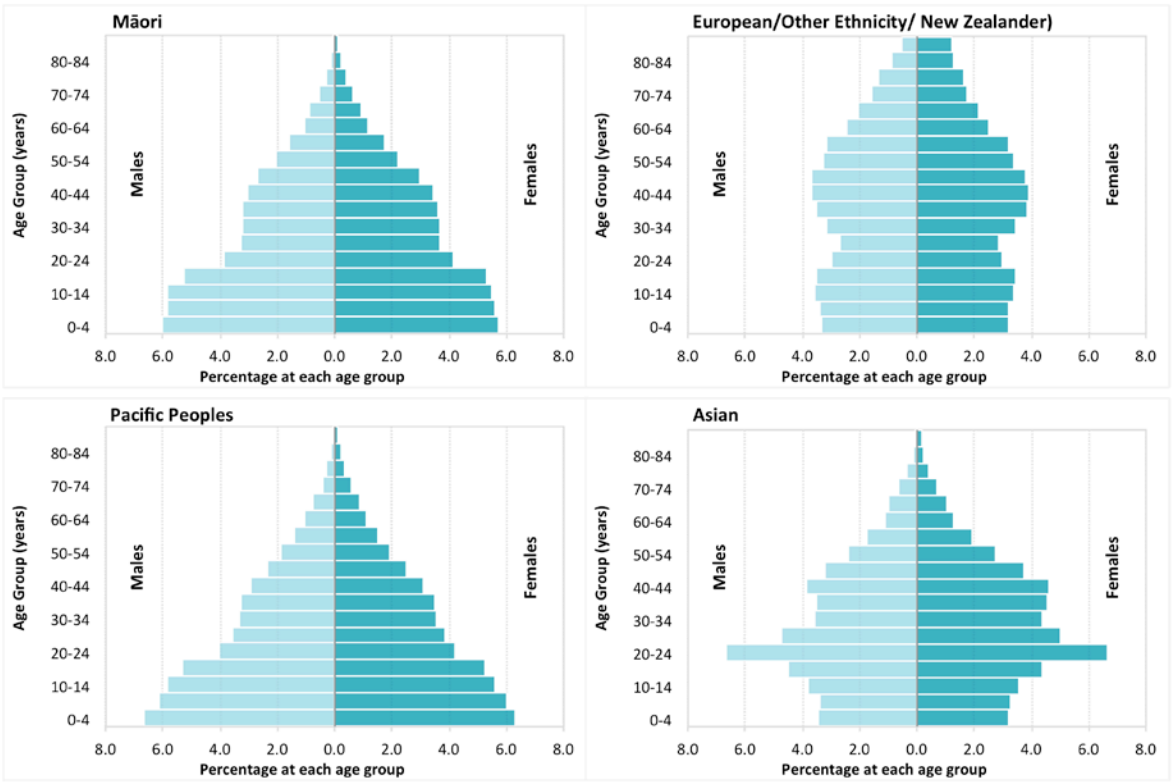
Within that picture, young Māori comprise a larger share of the Waikato Region's youth (26.9 per cent) than they do at a national level (20.2 per cent), and the situation is similar at each older age. The Pacific Island and Asian populations on the other hand comprise a smaller share of the Waikato Region's youth (5.0 and 4.3 per cent respectively) than they do at a national level (10.4 and 7.9 per cent respectively), and again the situation is similar at each older age. By contrast, the Waikato Region's European population claims a larger share of each age group than it does nationally, despite its larger share of Māori, primarily because of the region's smaller shares of Pacific Island and Asian.

Figure 5.2.1: Age-Sex Structure by Major Ethnic Group*, Waikato Region, 2006



Source: Statistics New Zealand, Estimated Subnational Ethnic Population (RC,TA) by Age and Sex at 30 June 2006
*Notes: *Multiple count ethnicity means that people may be counted in more than one ethnic group*

Figure 5.2.2: Age-Sex Structure by Major Ethnic Group*, Total New Zealand, 2006



Source: Statistics New Zealand, Estimated Subnational Ethnic Population (RC,TA) by Age and Sex at 30 June 2006
*Notes: *Multiple count ethnicity means that people may be counted in more than one ethnic group*

Table 5.2.1: Ethnic Group* Percentage Share by Age Group and Region, 2006

	Māori	Pacific Island	Asian	MELAA	European/NZ/ Other	Total*	Number*
Waikato Region							
0-14	26.9	5.0	4.3	0.9	62.9	100.0	108,200
15-24	24.3	4.0	7.7	0.8	63.2	100.0	65,540
25-54	17.9	2.5	5.2	0.6	73.7	100.0	171,540
55-64	11.1	1.3	2.7	0.2	84.8	100.0	42,580
65+	7.1	0.9	1.6	0.1	90.3	100.0	50,000
Total	19.2	3.0	4.7	0.6	72.5	100.0	437,860
Total NZ							
0-14	20.2	10.4	7.9	1.0	60.6	100.0	1,064,730
15-24	17.0	8.3	13.1	1.1	60.5	100.0	684,330
25-54	12.4	5.8	10.0	1.0	70.8	100.0	1,870,490
55-64	7.9	3.4	5.6	0.4	82.7	100.0	442,280
65+	4.9	2.2	3.6	0.2	89.0	100.0	520,320
Total	13.6	6.6	8.8	0.8	70.1	100.0	4,582,150

Source: Jackson, N.O (2011) Subnational Ethnic Age Structure Resource 1996, 2001, 2006, NIDEA

Source data: Statistics New Zealand, Estimated Subnational Ethnic Population (RC,TA) by Age and Sex at 30 June

*Notes: *Multiple count ethnicity means that people may be counted in more than one ethnic group*

Tables 5.2.2 to 5.2.5 provide summary data for the Waikato Region's Māori, Pacific Island, Asian, and European origin populations by age across the period 1996-2006. Data for the MELAA population are not presented because of relatively small numbers by age.

Table 5.2.2 shows that the very youthful age structure of the Waikato Region's Māori population results in more than one-third aged 0-14 years across all three observations, falling from 37.7 per cent in 1996 to 34.7 per cent in 2006. These proportions are in stark contrast to that population's 19.2 per cent total share in 2006 shown above in Table 5.1.1, and, despite the small decline, are clearly where the Māori population's contribution to the region's growth is concentrated. The population's relative youth is also evidenced in its very high labour market entry exit ratio in 2006 of 33.8 at labour market entry age per 10 in the retirement zone (by comparison the 'all ethnic groups combined' ratio was 12.6 per 10 both nationally and for the Waikato Region). However the region's Māori population is also ageing, with the labour market entry: exit ratio having fallen from 42.0 per 10 in 1996 (see also Section 6 on this topic). At 65+ years, both numbers and proportions have grown, albeit the proportion in 2006 is still only 4.2 per cent, fractionally greater than its national counterpart.

Table 5.2.2: Summary Indicators, Waikato Region Māori Population, 1996, 2001, 2006

Māori	1996	2001	2006	...	1996-2001	2001-2006	1996-2006
	Number				Change (%) over 5 years		(10 years)
Broad Age Group							
0-14	29,330	29,870	29,130	...	1.8	-2.5	-0.7
15-24	15,040	14,650	15,920	...	-2.6	8.7	5.9
25-54	27,560	29,120	30,730	...	5.7	5.5	11.5
55-64	3,580	3,820	4,710	...	6.7	23.3	31.6
65+	2,370	2,760	3,540	...	16.5	28.3	49.4
Waikato Region	77,880	80,220	84,030	...	3.0	4.7	7.9
Total NZ Māori	573,180	585,970	624,310	...	2.2	6.5	8.9
	Percentage						
0-14	37.7	37.2	34.7	...	-1.1	-6.9	-8.0
15-24	19.3	18.3	18.9	...	-5.4	3.7	-1.9
25-54	35.4	36.3	36.6	...	2.6	0.7	3.3
55-64	4.6	4.8	5.6	...	3.6	17.7	21.9
65+	3.0	3.4	4.2	...	13.1	22.4	38.4
Waikato Region	100.0	100.0	100.0	...	...	...	...
Total NZ Māori % 65+ years	3.0	3.4	4.1	...	11.8	22.0	36.4

Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)

	1996	2001	2006	...	1996-2001	2001-2006	2001-2006
	Number				Change (%) over 5 years		
Waikato Region	42.0	38.4	33.8	...	-8.7	-11.9	-19.5
Total NZ Māori	42.0	36.9	33.1	...	-12.1	-10.2	-21.1

Ratio Elderly to Children (Number 65+ per Child 0-14)

	1996	2001	2006	...	1996-2001	2001-2006	2001-2006
	Number				Change (%) over 5 years		
Waikato Region	0.08	0.09	0.12	...	14.4	31.5	50.4
Total NZ Māori	0.08	0.09	0.12	...	11.8	30.5	45.9

Source: Jackson, N.O. (2011) Subnational Age Structure Resource 1996, 2001, 2006, NIDEA, University of Waikato.

Notes: Source data from Stats NZ TableBuilder Estimated Subnational Population (RC,TA,AU) by Age and Sex at 30 June 96,01,06.

Notes: Multiple count ethnicity means that people may be counted in more than one ethnic group

The Pacific Island population of the Waikato Region has an even greater proportion at the youngest ages than Māori, 40.6 per cent in 2006 (Table 5.2.3), and a smaller proportion aged 65+ years (3.3 per cent). The latter was also a little lower than for the national Pacific Island population (3.8 per cent). As can be seen from Tables 5.2.2 and 5.2.3, both populations are also ageing, and, as was the case for Māori, the Pacific Island population's contribution to the growth of the region is clearly also heavily concentrated at the youngest ages.

Table 5.2.3: Summary Indicators, Waikato Region Pacific Island Population, 1996, 2001, 2006

Pacific Island	1996	2001	2006	...	1996-2001	2001-2006	1996-2006
	Number				Change (%) over 5 years		(10 years)
Broad Age Group							
0-14	4,380	4,920	5,370	...	12.3	9.1	22.6
15-24	2,190	2,190	2,600	...	0.0	18.7	18.7
25-54	3,340	3,780	4,270	...	13.2	13.0	27.8
55-64	420	440	550	...	4.8	25.0	31.0
65+	290	320	430	...	10.3	34.4	48.3
Waikato Region	10,620	11,650	13,220	...	9.7	13.5	24.5
Total NZ Pacific Island	229,280	261,820	301,640	...	14.2	15.2	31.6
	Percentage						
0-14	41.2	42.2	40.6	...	2.4	-3.8	-1.5
15-24	20.6	18.8	19.7	...	-8.8	4.6	-4.6
25-54	31.5	32.4	32.3	...	3.2	-0.5	2.7
55-64	4.0	3.8	4.2	...	-4.5	10.2	5.2
65+	2.7	2.7	3.3	...	0.6	18.4	19.1
Waikato Region	100.0	100.0	100.0	...	...	...	...
Total NZ Pacific Island % 65+ years	3.1	3.4	3.8	...	11.8	11.8	25.0

Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)							
	1996	2001	2006	...	1996-2001	2001-2006	2001-2006
	Number				Change (%) over 5 years		
Waikato Region	52.1	49.8	47.3	...	-4.5	-5.0	-9.3
Total NZ Pacific Island	47.1	40.0	37.2	...	-14.9	-7.0	-20.9

Ratio Elderly to Children (Number 65+ per Child 0-14)							
	1996	2001	2006	...	1996-2001	2001-2006	2001-2006
	Number				Change (%) over 5 years		
Waikato Region	0.07	0.07	0.08	...	-1.8	23.1	20.9
Total NZ Pacific Island	0.08	0.09	0.10	...	12.0	16.8	30.8

Source: Jackson, N.O (2011) Subnational Ethnic Age Structure Resource 1996, 2001, 2006, NIDEA

Notes: Source data from Stats NZ TableBuilder Estimated Subnational Population (RC,TA,AU) by Age and Sex at 30 June 96,01,06.

Notes: Multiple count ethnicity means that people may be counted in more than one ethnic group

As noted above, the region's Asian population has a significantly different age structure to the Māori and Pacific island populations, with a little over one-fifth aged 0-14 years in 2006, but only 4.0 per cent aged 65+ years (Table 5.2.4), the latter lower than its national counterpart (4.7 per cent). Indeed the most distinctive feature of the region's Asian population is its particularly large disproportion at 20-24 years, as noted above presumably reflecting the pursuit of higher education, and a somewhat larger and stable proportion at 25-54 years. At 44: 10 in 2006, the ratio of Asian people at labour market entry to exit age was strongly positive; however for the Waikato Region this index says little about labour market availability, with so many young Asian people known to be studying.

Table 5.2.4: Summary Indicators, Waikato Region Asian Population, 1996, 2001, 2006

Asian	1996	2001	2006	…	1996-2001	2001-2006	1996-2006
	Number				Change (%) over 5 years		(10 years)
Broad Age Group							
0-14	2,890	3,390	4,630	…	17.3	36.6	60.2
15-24	2,110	3,180	5,050	…	50.7	58.8	139.3
25-54	4,200	5,610	8,960	…	33.6	59.7	113.3
55-64	390	740	1,140	…	89.7	54.1	192.3
65+	280	480	820	…	71.4	70.8	192.9
Waikato Region	9,870	13,400	20,600	…	35.8	53.7	108.7
Total NZ Asian	194,750	272,440	404,320	…	39.9	48.4	107.6
	Percentage						
0-14	29.3	25.3	22.5	…	-13.6	-11.2	-23.2
15-24	21.4	23.7	24.5	…	11.0	3.3	14.7
25-54	42.6	41.9	43.5	…	-1.6	3.9	2.2
55-64	4.0	5.5	5.5	…	39.8	0.2	40.1
65+	2.8	3.6	4.0	…	26.3	11.1	40.3
Waikato Region	100.0	100.0	100.0	…	…	…	…
Total NZ Asian % 65+ years	3.0	4.2	4.7	…	37.9	11.4	53.6
Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)							
	1996	2001	2006	…	1996-2001	2001-2006	2001-2006
	Number				Change (%) over 5 years		
Waikato Region	54.1	43.0	44.3	…	-20.6	3.1	-18.1
Total NZ Asian	51.0	37.5	36.3	…	-26.3	-3.3	-28.7
Ratio Elderly to Children (Number 65+ per Child 0-14)							
	1996	2001	2006	…	1996-2001	2001-2006	2001-2006
	Number				Change (%) over 5 years		
Waikato Region	0.10	0.14	0.18	…	46.1	25.1	82.8
Total NZ Asian	0.12	0.19	0.23	…	58.7	21.6	93.0

Source: Jackson, N.O (2011) Subnational Ethnic Age Structure Resource 1996, 2001, 2006, NIDEA

Notes: Source data from Stats NZ TableBuilder Estimated Subnational Population (RC,TA,AU) by Age and Sex at 30 June 96,01,06.

Notes: Multiple count ethnicity means that people may be counted in more than one ethnic group

The data for the Waikato Region's European-origin population (Table 5.2.5) also stand in stark contrast to that for the other ethnic groups. With 14.2 per cent aged 65+ years in 2006, the European-origin population of the Waikato Region is much older than each of the other ethnic groups, but simultaneously a little younger than its national counterpart (14.4 per cent); however it is ageing somewhat faster. This disparity is also evident in the entry: exit ratio for the region's European-origin population, at just 11.5 people at entry age per 10 at exit age in 2006. The ratio has fallen from 16.9 across the period, the decline being slightly more pronounced than at national level.

Table 5.2.5: Summary Indicators, Waikato Region European/New Zealand/Other Population, 1996, 2001, 2006

European/NZ/Other	1996	2001	2006	...	1996-2001	2001-2006	1996-2006
	Number				Change (%) over 5 years		(10 years)
Broad Age Group							
0-14	70,520	68,780	68,110	...	-2.5	-1.0	-3.4
15-24	43,350	38,650	41,440	...	-10.8	7.2	-4.4
25-54	123,490	123,880	126,490	...	0.3	2.1	2.4
55-64	25,690	29,090	36,090	...	13.2	24.1	40.5
65+	36,550	39,680	45,160	...	8.6	13.8	23.6
Waikato Region	299,600	300,080	317,290	...	0.2	5.7	5.9
Total NZ European/Other/NZ	3,074,610	3,074,010	3,213,330	...	0.0	4.5	4.5
	Percentage						
0-14	23.5	22.9	21.5	...	-2.6	-6.3	-8.8
15-24	14.5	12.9	13.1	...	-11.0	1.4	-9.7
25-54	41.2	41.3	39.9	...	0.2	-3.4	-3.3
55-64	8.6	9.7	11.4	...	13.1	17.3	32.7
65+	12.2	13.2	14.2	...	8.4	7.6	16.7
Waikato Region	100.0	100.0	100.0	...	...	...	...
Total NZ European/Other/NZ % 65+ y	13.2	13.8	14.4	...	4.6	4.1	8.8

Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)

	1996	2001	2006	...	1996-2001	2001-2006	2001-2006
	Number				Change (%) over 5 years		
Waikato Region	16.9	13.3	11.5	...	-21.3	-13.6	-32.0
Total NZ European/Other/NZ	15.9	12.7	11.3	...	-20.1	-11.0	-28.9

Ratio Elderly to Children (Number 65+ per Child 0-14)

	1996	2001	2006	...	1996-2001	2001-2006	2001-2006
	Number				Change (%) over 5 years		
Waikato Region	0.52	0.58	0.66	...	11.3	14.9	27.9
Total NZ European/Other/NZ	0.61	0.65	0.72	...	6.1	10.0	16.7

Source: Jackson, N.O (2011) Subnational Ethnic Age Structure Resource 1996, 2001, 2006, NIDEA

Notes: Source data from Stats NZ TableBuilder Estimated Subnational Population (RC,TA,AU) by Age and Sex at 30 June 96,01,06.

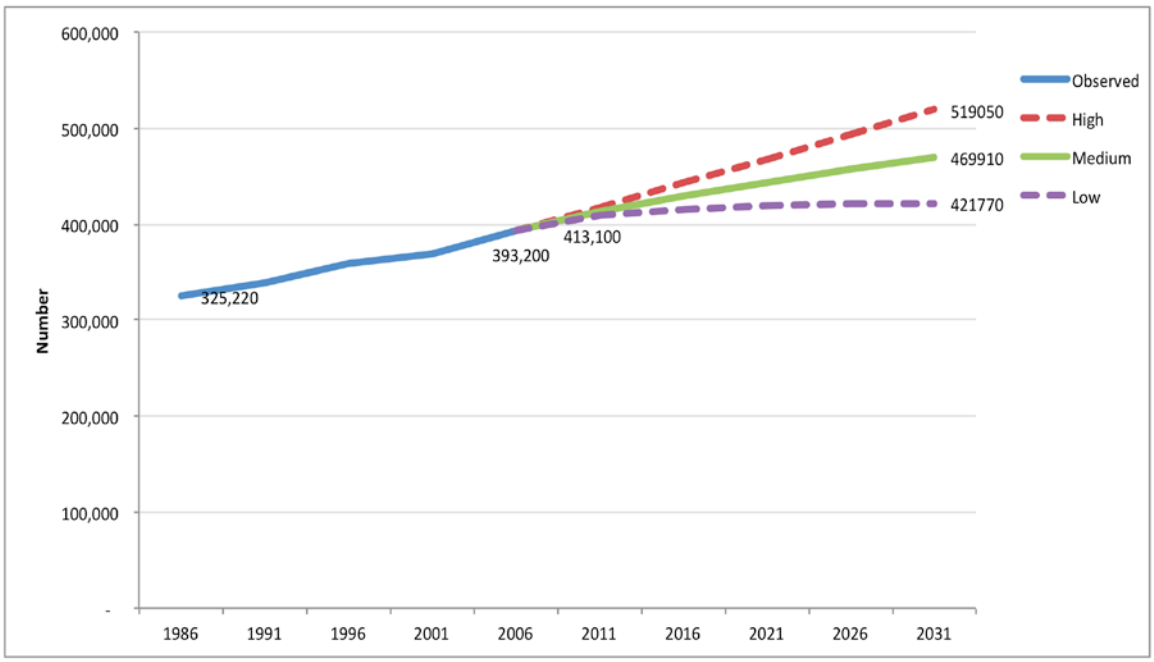
Notes: Multiple count ethnicity means that people may be counted in more than one ethnic group

6.0 Population Projections

6.1 Size, Growth and Population Ageing

Under the medium series assumptions, the population of the Waikato Region is projected to continue to grow steadily, reaching approximately 469,910 by 2031, an increase of 13.8 per cent over 2011 (Figure 6.1.1 and Table 6.1.1). The high variant projections produce a 2031 population of 519,050 (an increase of 24.4 per cent), and the low projections, 421,770 (3.1 per cent) (see Appendices 3.1 and 3.2 for assumptions).

Figure 6.1.1: Observed and Projected Population Change by Projection Series, Waikato Region



Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

The gains are not shared evenly across the age distribution (Table 6.1.1 and Figure 6.1.2), with overall growth for all but those aged 40-54 years, where numbers decline by 7.5 per cent as the baby boomers age. By contrast, the population aged 65+ years is anticipated to grow both numerically (by 83.6 per cent between 2011 and 2031) and structurally (from 13.7 per cent in 2011 to 22.1 per cent by 2031), with the changes even more marked at 75+ and 85+ years.

However, between 2011 and 2031, some important inter-censal changes occur. At 0-14 years, for example, numbers grow across the 2011-2016 and 2016-2021 periods, but then decline between 2021 and 2026 (by 1,220). At 15-24 years numbers decline between 2011 and 2016 (by 1,000) and between 2016 and 2021 (by a further 2,270), then growth resumes as the recently born baby blip reaches those ages. These age structural transitions have important planning implications.

Table 6.1.1: Projected Population, Waikato Region, 2006-2021 (Medium Series)

	Numbers by age						Change (%) 2011-2031
	2006	2011	2016	2021	2026	2031	
0-14 years	88,740	**89,830**	90,180	91,790	90,570	90,570	+0.8
15-24 years	56,740	**60,180**	59,180	56,910	59,100	60,550	+0.6
25-39 years	76,280	**74,630**	78,470	84,340	86,500	84,790	+13.6
40-54 years	81,630	**84,720**	80,990	76,020	74,170	78,390	-7.5
55-64 years	40,980	**47,040**	51,770	55,310	55,050	51,550	+9.6
65-74 years	27,180	**31,940**	38,860	44,810	49,610	53,320	+66.9
75-84 years	16,560	**18,310**	21,170	25,440	31,640	37,110	+102.7
85+ years	5,110	**6,440**	7,770	8,890	10,920	13,630	+111.6
Total	393,220	**413,090**	428,390	443,510	457,560	469,910	+13.8
65+ years	48,850	**56,690**	67,800	79,140	92,170	104,060	+83.6

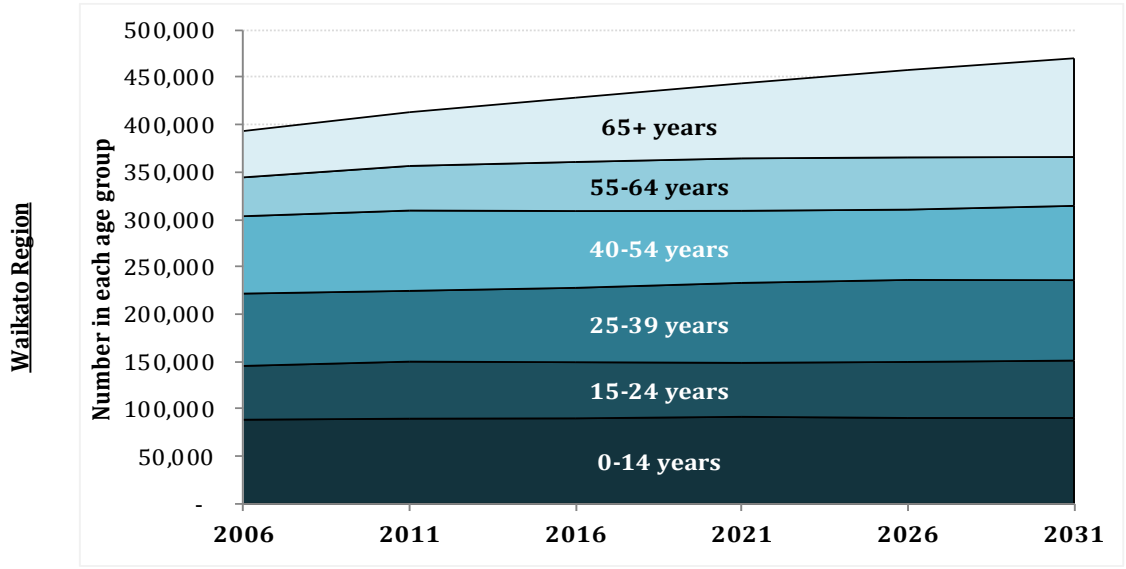
	Intercensal Change by Age (Numbers)						Change (N)) 2011-2031
		2006-2011	2011-2016	2016-2021	2021-2026	2026-2031	
0-14 years	...	**1,090**	350	1,610	(1,220)	00	740
15-24 years	...	**3,440**	(1,000)	(2,270)	2,190	1,450	370
25-39 years	...	**(1,650)**	3,840	5,870	2,160	(1,710)	10,160
40-54 years	...	**3,090**	(3,730)	(4,970)	(1,850)	4,220	(6,330)
55-64 years	...	**6,060**	4,730	3,540	(260)	(3,500)	4,510
65-74 years	...	**4,760**	6,920	5,950	4,800	3,710	21,380
75-84 years	...	**1,750**	2,860	4,270	6,200	5,470	18,800
85+ years	...	**1,330**	1,330	1,120	2,030	2,710	7,190
Total	...	**19,870**	15,300	15,120	14,050	12,350	56,820
65+ years	...	**7,840**	11,110	11,340	13,030	11,890	47,370

	Age Distribution (% at each age group)						Change (%) 2011-2031
	2006	2011	2016	2021	2026	2031	
0-14 years	22.6	**21.7**	21.1	20.7	19.8	19.3	-11.4
15-24 years	14.4	**14.6**	13.8	12.8	12.9	12.9	-11.6
25-39 years	19.4	**18.1**	18.3	19.0	18.9	18.0	-0.1
40-54 years	20.8	**20.5**	18.9	17.1	16.2	16.7	-18.7
55-64 years	10.4	**11.4**	12.1	12.5	12.0	11.0	-3.7
65-74 years	6.9	**7.7**	9.1	10.1	10.8	11.3	+46.8
75-84 years	4.2	**4.4**	4.9	5.7	6.9	7.9	+78.2
85+ years	1.3	**1.6**	1.8	2.0	2.4	2.9	+86.1
Total	100.0	**100.0**	100.0	100.0	100.0	100.0	+0.0
65+ years	12.4	**13.7**	15.8	17.8	20.1	22.1	+61.4

	Summary Measures						Change (%) 2011-2031
	2006	2011	2016	2021	2026	2031	
LM Entrants/Exits							
(15-24/55-64 years)	1.4	**1.3**	1.1	1.0	1.1	1.2	-8.2
(20-29/60-69 years)	1.5	**1.4**	1.3	1.1	1.0	1.1	-22.5
Elderly/Children	0.6	**0.6**	0.8	0.9	1.0	1.1	+82.1
Reproductive (20-39 yrs)	26.2	**25.2**	25.4	25.5	25.0	24.6	-2.2
Proportion 65+ years	12.4	**13.7**	15.8	17.8	20.1	22.1	+61.4
Proportion 75+ years	5.5	**6.0**	6.8	7.7	9.3	10.8	+80.2
Growth (%) in 5 years	...	**+5.1**	+3.7	+3.5	+3.2	+2.7	+13.8
Annual average growth (%)	...	**+1.0**	+0.7	+0.7	+0.6	+0.5	+0.7

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

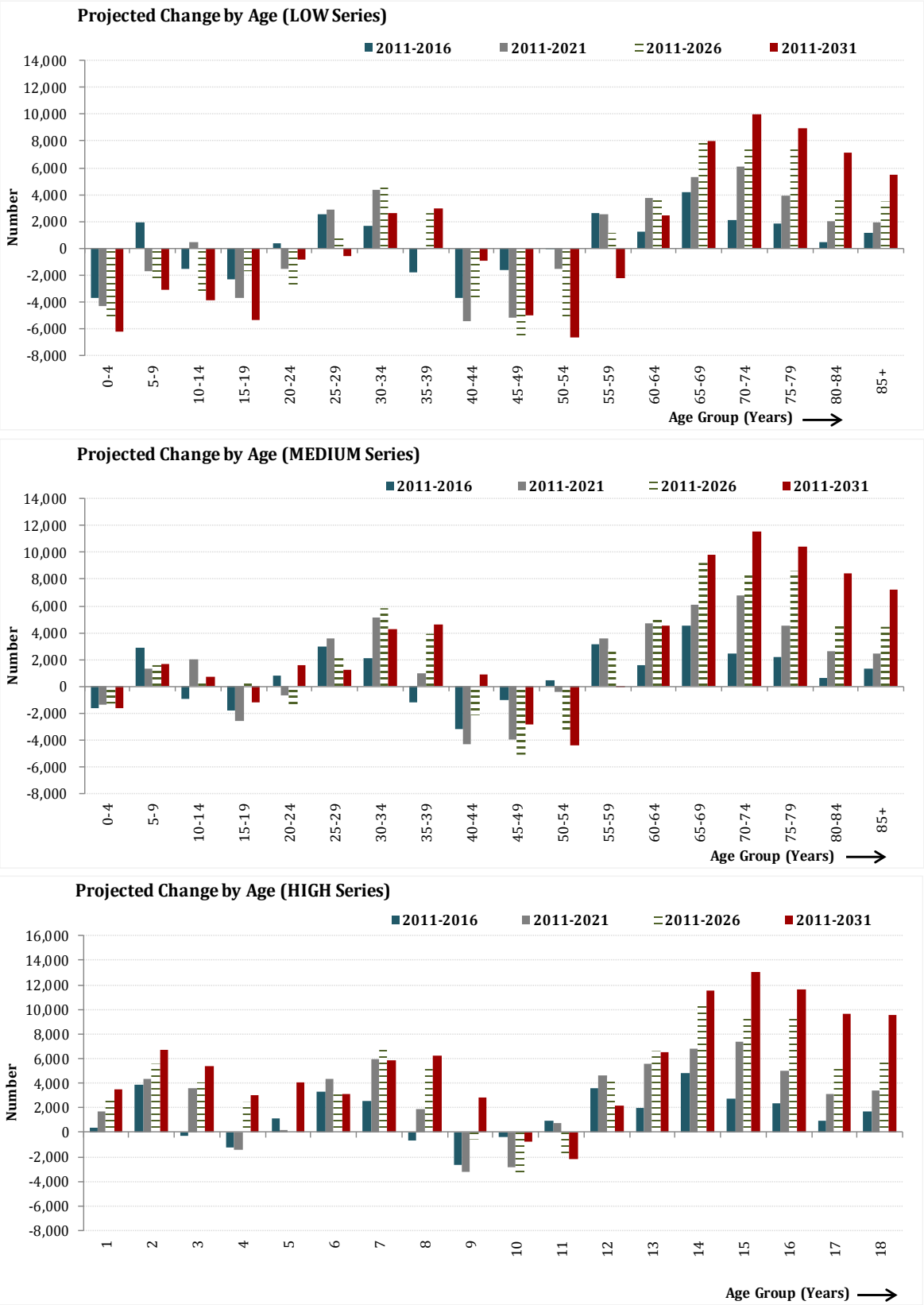
Figure 6.1.2: Projected Change in Numbers by Broad Age Group, Waikato Region, 2006-2031, Medium Series



Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

Figure 6.1.3 compares these changes under the low, medium and high variant assumptions. Under the low variant projections, very few gains are projected below 55 years, and only a few more under the medium variant, while growth is overwhelmingly at 65+ years irrespective of the projection assumptions. Only under the high assumptions is growth spread more evenly across the younger, middle, and older age groups—although caution should be exercised in using this variant as the data include not only higher net migration gains but also higher birth rates and life expectancy. Also of note is the inter-censal ebbing and flowing among the age groups as noted above; this is also the case nationally and reflects the passage of the different size cohorts through the age structure.

Figure 6.1.3: Projected Population Change by Age and Projection Series, Waikato Region



Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

Table 6.1.2 and Figure 6.1.4 summarise the projected changes by age for the region's TAs under the medium variant assumptions (see Appendix 3.3 for assumptions and 3.4 for underlying numbers).

Only Hamilton City is projected to experience gains in every age group, with three TAs (Otorohanga, South Waikato, and Waitomo) projected to experience decline in all age groups below 65 years. A further three TAs (Hauraki, Taupo, and Thames-Coromandel) are projected to experience decline in all but one age group below 65 years, while decline at 0-24 and 40-54 years is projected for Matamata-Piako.

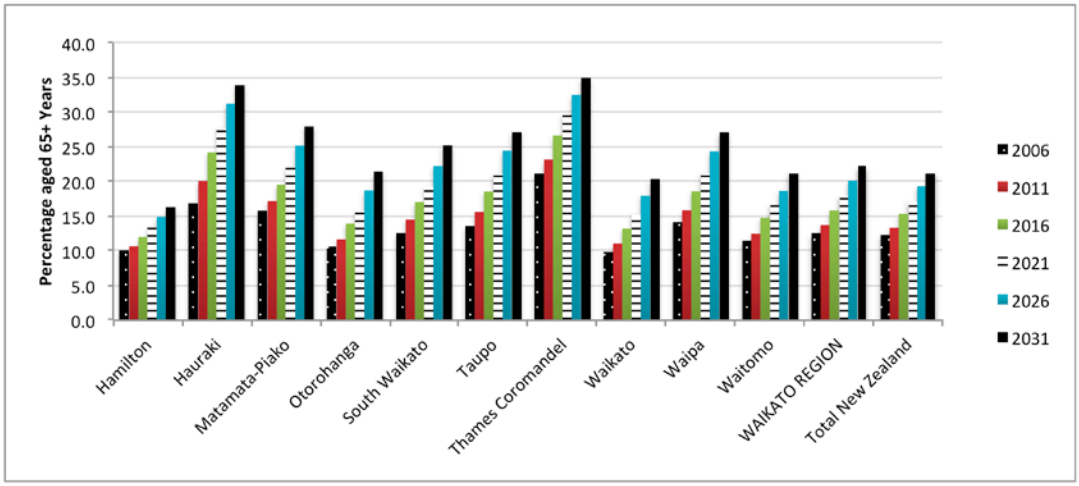
By contrast, all TAs are projected to experience substantial growth in both numbers (Table 6.1.2) and proportions at 65+ years (Figure 6.1.4 and Table 6.1.3), with this growth accounting for *all* growth (and/or offsetting decline) in all but Hamilton City and Waikato. The trends thus imply a continuation of substantial growth for Hamilton City and Waikato (26.8 and 22.4 per cent respectively), low growth for Matamata-Piako, Taupo, and Thames-Coromandel (2.5, 3.7 and 1.4 per cent respectively), and decline for Hauraki, Otorohanga, South Waikato and Waitomo.

Table 6.1.2: Projected Change (%) in Numbers by Broad Age Group, Waikato Region, its TAs and Total New Zealand, 2011-2031, Medium Series

	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	WAIKATO REGION	Total New Zealand
0-14	14.6	-10.1	-11.4	-19.6	-25.0	-9.9	-13.5	6.5	-2.6	-13.9	0.8	4.5
15-24	21.7	-23.5	-22.0	-22.2	-38.4	-20.3	-24.6	-1.5	-5.9	-22.2	0.6	-1.1
25-39	19.0	9.1	4.9	-4.7	-6.8	-3.9	1.1	27.4	14.4	-0.6	13.6	20.7
40-54	17.0	-36.0	-22.9	-30.5	-40.4	-19.7	-21.0	-1.8	-18.4	-27.7	-7.5	-1.2
55-64	26.5	-20.8	2.5	-16.0	-13.6	4.5	-12.6	25.6	8.6	-20.7	9.6	14.2
65-74	83.8	34.6	57.6	50.8	24.1	58.5	32.2	103.4	80.1	44.4	66.9	74.8
75-84	108.5	100.8	68.0	87.9	63.9	104.2	79.0	167.7	102.0	76.3	102.7	107.2
85+	97.0	156.4	106.0	90.9	148.0	135.2	85.9	131.3	114.0	80.0	111.6	101.5
Total	26.8	-0.3	2.5	-9.2	-15.7	3.7	1.4	22.4	12.7	-7.5	13.8	17.9
65+	93.7	68.9	67.2	66.1	46.4	80.7	52.9	124.2	92.2	57.5	83.6	88.5

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

Figure 6.1.4: Projected Percentage Aged 65+ Years, Waikato Region, its TAs and Total New Zealand, 2016-2031, Medium Series



Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

Table 6.1.3: Projected Percentage Aged 65+ Years, Waikato Region, its TAs and Total New Zealand, 2006-2031, Medium Series

	Percentage Aged 65+ Years						Change (%) 2011-2031
	2006	2011	2016	2021	2026	2031	
Hamilton	10.0	**10.7**	12.0	13.4	14.9	16.3	52.7
Hauraki	16.8	**20.1**	24.2	27.8	31.3	34.0	69.3
Matamata-Piako	15.7	**17.2**	19.5	22.0	25.2	28.0	63.1
Otorohanga	10.5	**11.7**	13.9	15.8	18.7	21.3	82.9
South Waikato	12.5	**14.5**	17.0	19.4	22.2	25.2	73.7
Taupo	13.6	**15.6**	18.5	21.2	24.5	27.3	74.2
Thames Coromandel	21.2	**23.2**	26.6	29.6	32.5	35.0	50.8
Waikato	9.7	**11.1**	13.2	15.4	18.0	20.3	83.1
Waipa	14.3	**15.9**	18.6	21.3	24.3	27.1	70.6
Waitomo	11.4	**12.5**	14.8	16.6	18.7	21.2	70.2
WAIKATO REGION	12.4	**13.7**	15.8	17.8	20.1	22.1	61.4
Total New Zealand	12.2	**13.3**	15.3	17.2	19.3	21.3	59.9

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

The data confirm Thames-Coromandel's standing as the region's oldest TA throughout the projection period, but the relatively advanced ageing of Hauraki should also be noted. By 2031 both TAs are projected to have in excess of 30 per cent aged 65+. They will be closely followed by Matamata-Piako with 28.0 per cent, and Taupo and Waipa, both with over 27 per cent.

6.2 Projections by Ethnicity

While counting population by ethnicity is difficult, projecting populations based on ethnic affiliation is even more difficult. The following projections have many caveats attached to them and should be read as indicative only. Among them is their multiple count base, the high degree of rounding of numbers, and, for some groups, low reliability of data by age because of small cell sizes. It should especially be noted that equivalent projection data are not available for the MELAA population and thus the distributions are indicative only.

Table 6.2.1 shows the European/Other population of the Waikato Region growing only slightly (3.8 per cent) between 2011 and 2021 against a 13.0 per cent increase for Māori. The projected increases for the Pacific Island and Asian populations (32.5 and 40.0 per cent respectively) are somewhat larger, in part reflecting their smaller bases.

For the European, Māori, and Pacific Island populations, natural increase remains the primary driver of growth, although for European and Māori this component declines over time. By 2016, natural increase for Māori is projected to be greater than for European/Other in absolute terms (9,700

compared with 8,600) despite its much smaller population share, and this margin increases by 2021. In both cases the declining natural increase offsets accompanying net migration loss, together explaining the low projected rates of growth for these two populations.

For Pacific Peoples and those of Asian origin, natural increase is projected to grow, while migration is stable for the former and declines for the latter.

There are marked differences by age. The 65+ year European/Other population is projected to increase by 32.5 per cent, compared with 61.4 per cent for Māori, 83.3 per cent for the Pacific Island population and 131.3 per cent for the Asian population. For the European/Other population the increase in the elderly population accounts for the majority of that population's overall 3.8 per cent projected growth, with net declines projected at all ages below 65 years. Growth is projected at all ages for all other ethnic groups, but less so for Māori.

By 2021 the median age of the European/Other population will be approximately 41.5 years, ten years greater than for the region's Asian population (31.7 years), 17 years greater than for Māori (24.8 years) and 21 years greater than for Pacific Islanders (20.6 years), the gaps slightly increased for Māori and Pacific Islanders and slightly reduced for Asian.

Table 6.2.1: Population Projections for Waikato Region by Ethnic Group and Broad Age Group

Waikato region	Population[2, 3] by age group (years) at 30 June					Projected components of population change, five years ended 30 June					Median age[5] (years) at 30 June
	0–14	15–39	40–64	65+	All ages	Births	Deaths	Natural increase	Net migration	Inter-ethnic mobility[4]	
European/Other											
1996	70,500	109,900	82,700	36,600	299,600	0	0	0	0	0	33.3
2001	68,800	99,800	91,800	39,700	300,100	0	0	0	0	0	35.8
2006 (base)	68,100	100,600	103,400	45,200	317,300	0	0	0	0	0	37.8
2011	68,500	99,000	109,700	52,300	329,500	23,100	12,100	11,000	1,300	0	39.3
2016	68,500	97,600	109,700	61,000	336,800	21,700	13,100	8,600	-1,300	0	40.6
2021	68,000	97,600	106,900	69,300	341,900	21,000	14,000	7,000	-1,800	0	41.5
Change 2011-2021 (%)	*-0.7*	*-1.4*	*-2.6*	*+32.5*	*+3.8*	...	...	...	...	...	...
Māori											
1996	29,300	32,800	13,300	2,400	77,900	0	0	0	0	0	21.2
2001	29,900	32,000	15,600	2,800	80,200	0	0	0	0	0	21.8
2006 (base)	29,100	33,100	18,300	3,500	84,000	0	0	0	0	0	22.8
2011	31,000	34,500	20,600	4,400	90,500	12,300	2,100	10,100	-2,400	-1,300	23.1
2016	32,900	35,900	22,200	5,600	96,700	12,000	2,300	9,700	-2,100	-1,300	23.9
2021	34,600	37,300	23,300	7,100	102,300	11,800	2,600	9,200	-2,100	-1,400	24.8
Change 2011-2021 (%)	*+11.6*	*+8.1*	*+13.1*	*+61.4*	*+13.0*	...	...	...	...	...	...
Pacific Peoples											
1996	4,400	4,400	1,600	300	10,600	0	0	0	0	0	19.0
2001	4,900	4,600	1,800	300	11,600	0	0	0	0	0	18.8
2006 (base)	5,400	5,200	2,300	400	13,300	0	0	0	0	0	19.2
2011	6,300	6,000	2,800	600	15,700	2,500	200	2,300	300	-100	19.7
2016	7,300	6,800	3,200	800	18,200	2,700	300	2,400	300	-200	20.2
2021	8,300	7,700	3,700	1,100	20,800	2,900	300	2,600	300	-200	20.6
Change 2011-2021 (%)	*+31.7*	*+28.3*	*+32.1*	*+83.3*	*+32.5*	...	...	...	...	...	...
Asian											
1996	2,900	4,700	2,000	300	9,800	0	0	0	0	0	24.7
2001	3,400	6,300	3,200	500	13,400	0	0	0	0	0	25.6
2006 (base)	4,600	10,200	4,900	800	20,600	0	0	0	0	0	26.4
2011	5,600	12,400	6,400	1,600	26,000	2,100	200	1,900	3,700	-200	28.4
2016	6,900	14,300	7,300	2,500	31,100	2,600	300	2,300	3,100	-300	30.3
2021	8,500	15,400	8,800	3,700	36,400	2,900	400	2,500	3,100	-300	31.7
Change 2011-2021 (%)	*+51.8*	*+24.2*	*+37.5*	*+131.3*	*+40.0*	...	...	...	...	...	...

Source: Statistics New Zealand, Subnational Ethnic Population Projections (2006 Base - 2009 Update) Tables 4e, 4m, 4p, 4a

(1) Boundaries at 30 June 2009.

(2) These projections have as a base the estimated resident population of each ethnicity, of each area, at 30 June 2006 and incorporate medium fertility, medium migration, medium mortality, and medium inter-ethnic mobility assumptions for each area. Population estimates for 1996–2006 are derived from the respective 1996–2006 census usually resident population counts.

(3) Numbers reflect the multiple count enumeration methodology and their sum is somewhat greater than the total projection for the TA. Projections are not available for all ethnic groups for all TA's.

(4) The net effect of people changing their ethnic identity.

(5) Half the population is younger, and half older, than this age.

Table 6.2.2 and Figure 6.2.1 provide an overview in terms of resulting population share by age (again the lack of data for the MELAA population should be recalled). The data suggest only modest change in the overall ethnic composition of the region, with the European/Other share falling by three percentage points to 67.7 per cent by 2021, Māori and Pacific Island shares increasing slightly (by 0.8 and 0.7 percentage points respectively), and the Asian population reaching 7.3 per cent by 2021, up from 5.6 per cent in 2011. As is the case within each ethnic group, there are greater differences by age, although the European/Other population will continue to account for the majority of each age group.

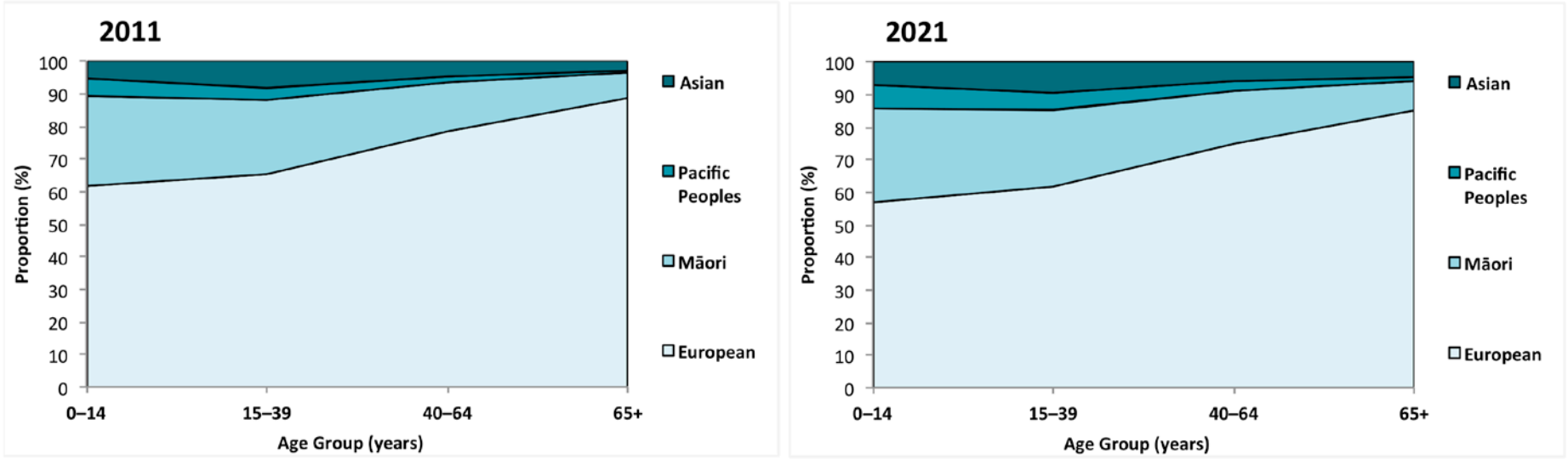
Table 6.2.2: Projected Population Share (%) by Broad Age Group and Ethnic Group*, Waikato Region, 2011-2021

	0–14	15–39	40–64	65+	All ages
2011					
European	61.5	65.2	78.6	88.8	71.4
Māori	27.8	22.7	14.8	7.5	19.6
Pacific Peoples	5.7	3.9	2.0	1.0	3.4
Asian	5.0	8.2	4.6	2.7	5.6
Total	100.0	100.0	100.0	100.0	100.0
Number [(1)]	111,400	151,900	139,500	58,900	461,700
2016					
European	59.3	63.1	77.0	87.3	69.8
Māori	28.5	23.2	15.6	8.0	20.0
Pacific Peoples	6.3	4.4	2.2	1.1	3.8
Asian	6.0	9.2	5.1	3.6	6.4
Total	100.0	100.0	100.0	100.0	100.0
Number [(1)]	115,600	154,600	142,400	69,900	482,800
2021					
European	57.0	61.8	74.9	85.3	68.2
Māori	29.0	23.6	16.3	8.7	20.4
Pacific Peoples	7.0	4.9	2.6	1.4	4.1
Asian	7.1	9.7	6.2	4.6	7.3
Total	100.0	100.0	100.0	100.0	100.0
Number [(1)]	119,400	158,000	142,700	81,200	501,400

Source and Notes same as Table 6.2.1

**(1) Underlying numbers reflect the multiple count enumeration methodology and their sum is somewhat greater than the total projection for the region. Projections not available for all ethnic groups for all regions.*

Figure 6.2.1: Projected Population of the Waikato Region by Major Ethnic Group* and Broad Age Group, 2011 and 2021



Source: Statistics New Zealand, Subnational Ethnic Population Projections (2006 Base - 2009 Update) Tables 4e, 4m, 4p, 4a

(1) Boundaries at 30 June 2009.

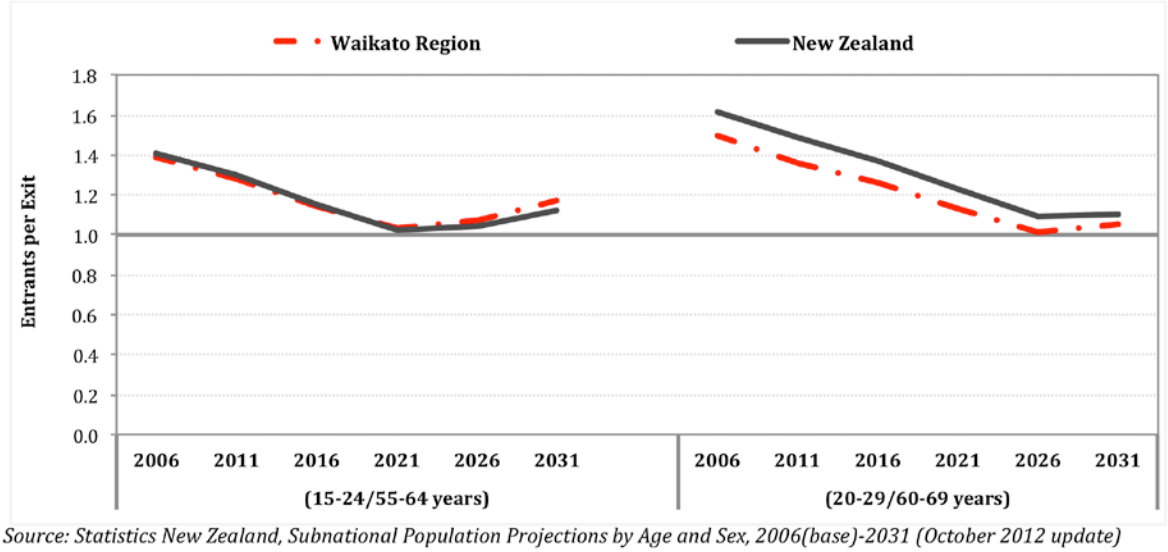
(2) These projections have as a base the estimated resident population of each ethnicity, of each area, at 30 June 2006 and incorporate medium fertility, medium migration, medium mortality, and medium inter-ethnic mobility assumptions for each area. Population estimates for 1996–2006 are derived from the respective 1996–2006 census usually resident population counts.

**(3) The underlying numbers reflect the multiple count enumeration methodology and their sum is somewhat greater than the total projection for the region.*

6.3 Labour Market Implications of Changing Age Structure

As noted earlier, population ageing drives other important demographic changes. One of the most important is change in the ratio of people at labour market entry age to those at 'exit' age. Various age groupings can be employed to calculate this ratio; here we use two: people aged 15-24 to those 55-64 years, and people aged 20-29 to those 60-69 years (Figure 6.3.1). Based on the first of these indices, the picture for the Waikato Region is almost identical to that at national level, with more people at 'entry' than 'exit' age across most of the projection period. However for Waikato the ratio falls from 1.3 (13 'entrants' per 10 'exits') in 2011 to parity (10 per 10) between 2016 and 2021, before returning to around 1.2 (12 per 10) in 2031; this is when the recently born baby blip will have reached the labour market (see also Table 6.1.1 above). When the ratio is based on those aged 20-29 and 60-69 years, it is both lower than for Total New Zealand and falls further, dropping to parity five years later (see also Appendix 3.3). However as noted earlier, these population-based ratios say little about future labour market availability, given the region's role as a centre of tertiary education. All are also linked in a national (and international) labour market that will see increased competition for the participation of the young and greater need to encourage the retention of older workers. This demographically-tight labour market will have significant implications for labour costs as it unfolds. This will be particularly so for industries which have older age structures and are ageing faster than average, as outlined in the following special topic (Section 7.0), and for non-urban areas.

Figure 6.3.1: Projected Ratio of People at Labour Market Entry Age to Those Approaching Exit Age, Waikato Region and Total New Zealand, 2006-2031 (Medium Variant Assumptions)



Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

Table 6.3.1 provides similar information for the TAs which comprise the Waikato Region. As noted earlier, Hamilton City currently (2011) has the highest ratio of people at labour market entry to exit age under both scenarios (that is, for both younger and older age groupings), a reflection of its disproportions at 15-19 and 20-24 years. The ratios for Thames-Coromandel are the lowest, already down to 6 people aged 15-24 for every 10 aged 55-64, and 5 aged 20-29 per ten aged 60-69; those for Hauraki are also already below 10 entrants per 10 exits. All ratios fall steadily until either 2026 or 2031, at which time the recently born baby blip will be swelling numbers in the younger labour market ages—however it should be noted that national projections beyond 2031 indicate that this rise will be temporary, as the largest baby boom cohorts will by then be leaving the labour market.

Table 6.3.1: Projected Ratio of People at Labour Market Entry Age to Those Approaching Exit Age, Waikato Region and its Territorial Authority Areas, 2006-2031 (Medium Variant Assumptions)

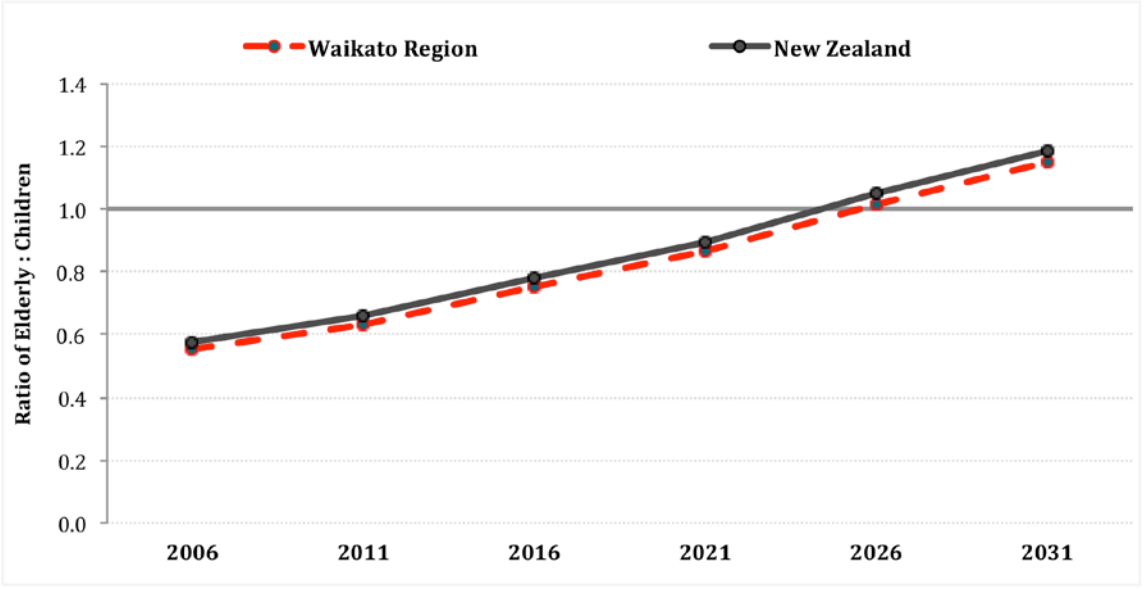
	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Total New Zealand
(15-24 years per person aged 55-64 years)												
2006	2.2	0.9	1.2	1.3	1.2	1.1	0.6	1.2	1.2	1.2	1.4	1.4
2011	**1.9**	**0.9**	**1.1**	**1.3**	**1.4**	**1.0**	**0.6**	**1.1**	**1.0**	1.2	1.3	1.3
2016	1.8	0.7	0.9	1.1	1.2	0.8	0.5	0.9	0.9	1.1	1.1	1.2
2021	1.7	0.6	0.8	0.9	0.9	0.7	0.4	0.8	0.8	0.9	1.0	1.0
2026	1.8	0.7	0.8	1.0	0.8	0.7	0.5	0.8	0.8	1.0	1.1	1.0
2031	1.9	0.8	0.9	1.2	1.0	0.8	0.5	0.9	0.9	1.2	1.2	1.1
2011-2031 (% change)	-3.8	-3.3	-23.9	-7.4	-28.7	-23.8	-13.7	-21.6	-13.4	-28.6	-8.2	-22.5
(20-29 years per 10 aged 60-69 years)												
2006	2.8	0.7	1.1	1.5	1.1	1.1	0.5	1.2	1.1	1.3	1.5	1.6
2011	**2.4**	**0.7**	**1.1**	**1.3**	**1.2**	**1.1**	**0.5**	**1.1**	1.0	1.2	1.4	1.5
2016	2.1	0.7	1.0	1.3	1.3	1.0	0.5	1.1	0.9	1.2	1.3	1.4
2021	1.9	0.6	0.8	1.1	1.1	0.8	0.4	0.9	0.8	1.1	1.1	1.2
2026	1.8	0.6	0.7	0.9	0.8	0.7	0.4	0.8	0.7	0.9	1.0	1.1
2031	1.8	0.6	0.7	1.0	0.8	0.7	0.4	0.8	0.7	1.0	1.1	1.1
2011-2031 (% change)	-21.5	-12.5	-37.4	-23.9	-35.3	-35.6	-21.1	-30.6	-28.6	-20.8	-22.5	-25.4

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

6.4 Natural Increase Implications of Changing Age Structure

For the Waikato Region, the ratio of elderly (65+ years) to children (0-14 years) is projected to increase rapidly from its present 0.6 (6 elderly for every 10 children), to 1.1 by 2031 (11 for every 10 - Figure 6.4.1). This profound shift to more elderly than children (the cross-over coinciding with that for Total New Zealand around 2026) will by then be contributing to diminishing levels of natural increase (Figure 6.4.2), as will the slowly diminishing proportion projected to be at the key reproductive ages (24.6 per cent in 2031, down from 25.2 per cent in 2011) compared with Total New Zealand (25-27 per cent) (Figure 6.4.3).

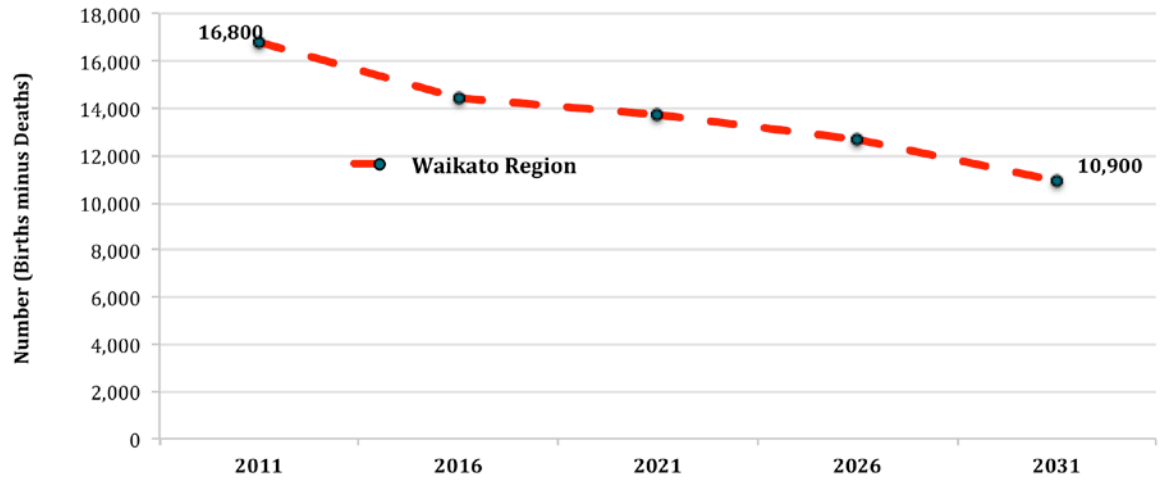
Figure 6.4.1: Projected Ratio of Elderly (65+ Years) to Children (0-14 Years), Waikato Region and Total New Zealand, 2006-2031 (Medium Variant Assumptions)



Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

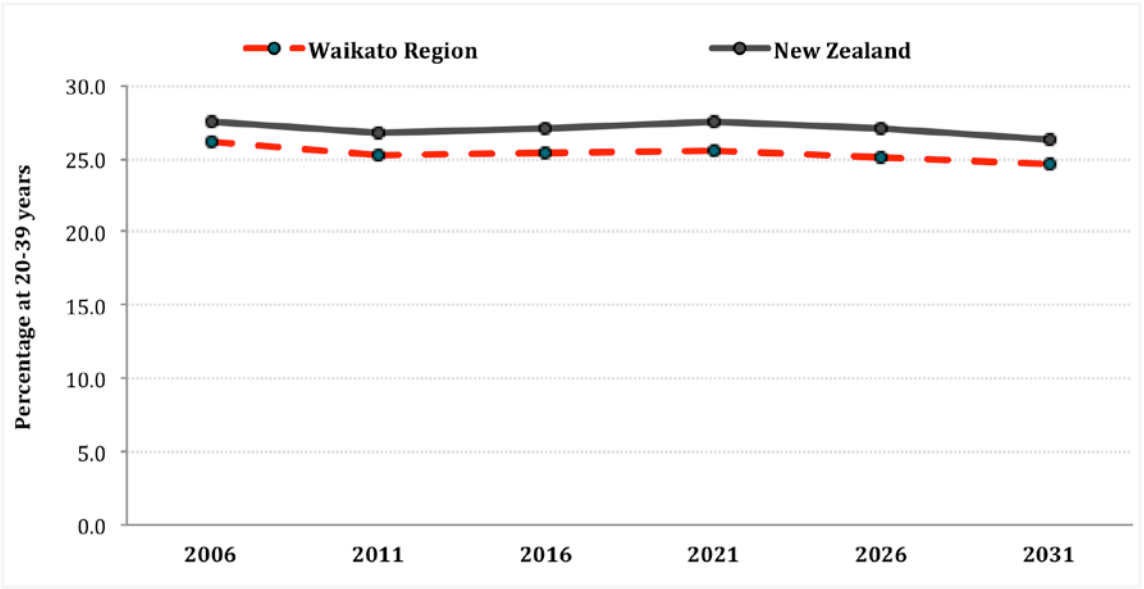
The proportion at key reproductive ages (Figure 6.4.3) appears to be a particularly critical indicator of future growth. As noted in the short article at the beginning of this report, one-third of New Zealand's TAs have either stopped growing or declined in size since 1996. All had proportions aged 20-39 years lower than the national average, and thereby severe 'hour-glass' shaped age structures which are no longer conducive to sustained natural growth. Referring back to Section 2, natural increase is currently the major component of the Waikato Region's growth and particularly of some of its TAs. As that component declines, growth – or maintenance of population size - will become ever more dependent on migration.

Figure 6.4.2: Projected Natural Increase, Waikato Region, 2011-2031 (Medium Variant Assumptions)



Source: Subnational Projected Population Characteristics, 2006(base)-2031 (October 2012 update)

Figure 6.4.3: Projected Proportion at Key Reproductive Ages (20-39 Years), Waikato Region and Total New Zealand, 2006-2031 (Medium Variant Assumptions)



Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

Tables 6.4.1 to 6.4.3 give the data for the TAs which comprise the Waikato Region, beginning with the proportion of each TA at the key reproductive ages (Table 6.4.1). For most TAs, these proportions decline steadily across the period, but in Hauraki, Otorohanga and Waitomo, they rise slightly at the end of the period to just above their 2011 levels. The projected declines are greatest for South Waikato and Taupo (11.2 and 13.4 per cent). However the most notable features of Table 6.4.1 are the extremely low proportions already at these ages in Thames-Coromandel and Hauraki (17.7 and 18.0 per cent), and the fact that all Waikato TAs with the sole exception of Hamilton City have lower proportions than is the case nationally. As indicated below, these low (and relatively low) proportions drive the end of natural increase.

Table 6.4.1: Projected Proportion at Key Reproductive Ages (20-39 Years), Waikato Region and its Territorial Authority Areas, 2006-2031 (Medium Variant Assumptions)

	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Total New Zealand
2006	32.6	19.3	22.9	25.8	24.9	20.8	18.4	23.8	22.9	23.5	26.2	27.5
2011	**31.4**	**18.0**	**21.9**	**24.8**	**23.5**	**20.5**	**17.7**	**22.9**	**21.6**	23.4	25.2	26.8
2016	31.2	18.7	22.3	25.7	23.3	20.9	17.7	23.1	21.5	24.3	25.4	27.1
2021	30.6	19.2	23.0	26.0	23.0	20.6	18.0	23.6	21.8	24.9	25.5	27.5
2026	29.7	19.2	22.2	25.5	22.0	19.6	17.6	23.4	21.6	24.6	25.0	27.0
2031	29.9	18.5	21.0	25.2	20.9	17.8	16.6	22.5	21.1	23.9	24.6	26.3
2011-2031 (% change)	-4.7	2.3	-4.1	1.6	-11.2	-13.4	-5.9	-1.6	-2.0	2.3	-2.2	-2.0

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

The changing proportions at reproductive age are closely associated with shifts in the ratio of elderly to children (Table 6.4.2), which are projected to rise substantially in all TAs. Notably both Hauraki and Thames-Coromandel already have more elderly than children. They are projected to be joined by Matamata-Piako, Taupo, and Waipa by 2021, South Waikato by 2026, and Otorohanga by 2031. Hamilton City, Waikato and Waitomo do not experience the crossover to more elderly than children over the next two decades, while it is projected to occur for both the Waikato Region and Total New Zealand around 2026.

Table 6.4.2: Projected Ratio of Elderly (65+ Years) to Children (0-14 Years), Waikato Region and its Territorial Authority Areas, 2006-2031 (Medium Variant Assumptions)

	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Total New Zealand
2006	0.47	0.76	0.69	0.44	0.47	0.62	1.22	0.39	0.64	0.4	0.6	0.6
2011	**0.49**	**1.00**	**0.80**	**0.51**	**0.60**	**0.75**	**1.43**	**0.46**	**0.74**	0.5	0.6	0.7
2016	0.56	1.26	0.97	0.63	0.75	0.93	1.75	0.58	0.91	0.6	0.8	0.8
2021	0.63	1.46	1.11	0.72	0.85	1.08	2.00	0.70	1.08	0.7	0.9	0.9
2026	0.74	1.71	1.32	0.90	1.02	1.31	2.30	0.85	1.29	0.8	1.0	1.0
2031	0.84	1.88	1.51	1.05	1.17	1.51	2.53	0.97	1.47	0.9	1.1	1.2
2011-2031 (% change)	69.1	87.9	88.7	106.6	95.3	100.5	76.7	110.5	97.4	83.0	82.1	80.4

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

The general reduction in the proportion of the population at the key reproductive ages, alongside the underlying assumptions regarding future birth and life expectancy rates which change the ratio of old to young, result in a projected decline in natural increase for all TAs with the sole exception of Thames-Coromandel, where natural decline is already the case, and increases across the period (Table 6.4.3). Natural decline is also projected to begin for Hauraki around 2026. However it should be noted that these data are for five-year periods, thus the natural increase for Hauraki is presently a mere 30 per year (2011-2016), declining to an average 10 per year between 2016 and 2021.

Table 6.4.3: Projected Natural Increase (Five Year Period) Waikato Region and its Territorial Authority Areas, 2006-2031 (Medium Variant Assumptions)

	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Total New Zealand
2006	...	...	...	...	...	...	...	...	...			
2011	7800	350	900	420	1100	1200	-100	3000	1400	410	16800	171200
2016	7400	150	700	340	800	1000	-300	2700	1000	360	14400	153100
2021	7400	50	600	320	700	800	-300	2700	900	350	13700	151800
2026	7200	-50	500	280	600	600	-400	2700	700	320	12700	146400
2031	7100	-200	300	230	400	300	-500	2400	500	250	10900	130100
2011-2031 (% change)	-9.0	-157.1	-66.7	-45.2	-63.6	-75.0	400.0	-20.0	-64.3	-39.0	-35.1	-24.0

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

As outlined throughout this profile, the trends mean that the Waikato Region will continue to grow, although at a decreasing rate. As elsewhere in New Zealand, the region's overall growth will also become increasingly patchy at TA level, as its underlying drivers – births, deaths and migration - change.

7.0 Industrial Change 1996-2006 – Special Topic 1

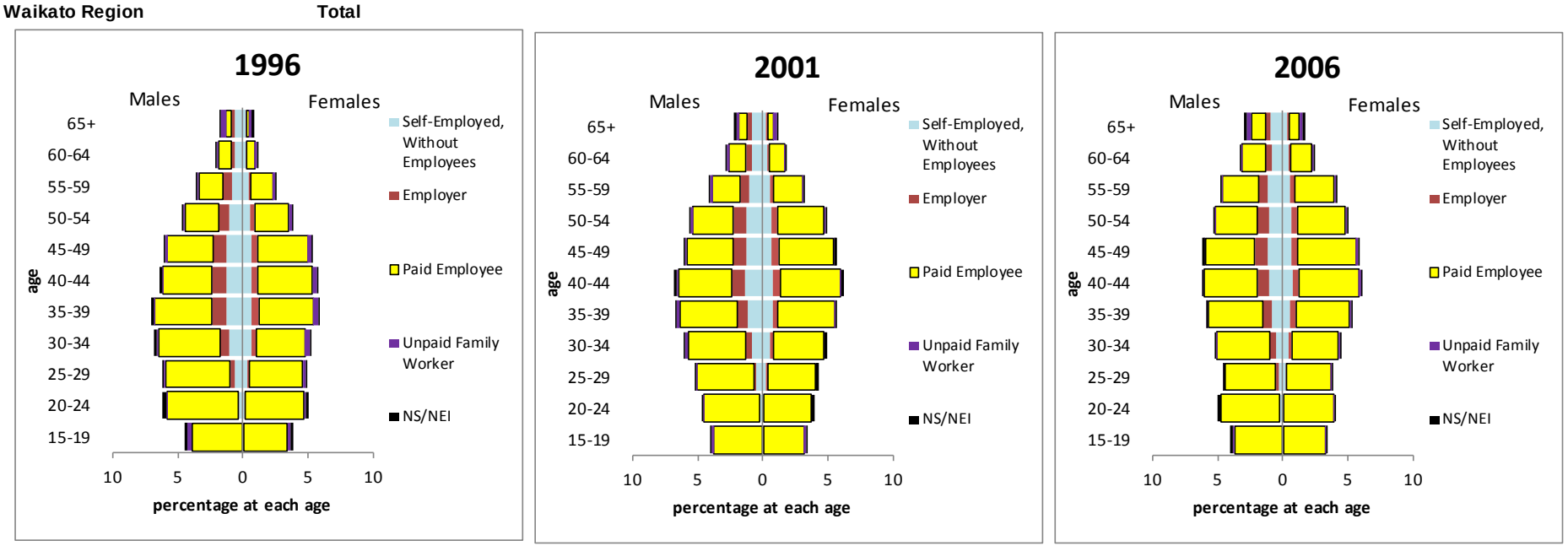
The extent (and speed) of population ageing and its impact on labour force entry: exit ratios also differ by industry. Industries which employ large proportions of younger people, such as supermarkets and grocery stores, by definition have youthful age structures; those employing large proportions of older people (especially in senior management positions) have older age structures. However industrial employment patterns by age are not of interest simply because they differ, but rather, in the context of population ageing, they provide important information for issues such as future labour supply and succession planning.

This section provides an overview of the changing age-sex structure of the Waikato Region's employed labour force by employment status (self-employed, employer, paid employee etc.), first for the total labour force, then for the region's four largest industries (in 2006) at the three digit level: Dairy Cattle Farming; School Education; Building and Construction; and Grain, Sheep and Beef Farming (see also Appendix 4). The data have been customised by Statistics New Zealand to be consistent in terms of industry and employment status across time. The section concludes with a brief overview of change in all Waikato RC industries employing more than 1,000 people in 2006.

Figure 7.1.1 provides data for the Waikato Region's total employed labour force (see also Appendix 4.1). Reflecting the trends outlined above, the average age of employed persons at each census was respectively 38.3, 40.3 and 41.4 years, an overall increase of 3.1 years (8.1 per cent). This is almost identical to the average age for the Total New Zealand employed labour force at each observation: 38.3, 40.1 and 41.2 years (an increase of 2.9 years, 7.6 per cent). However the Waikato Region's labour force is ageing at a slightly faster rate. The speed of this change is similarly evidenced in the increasing proportion aged 55+ years, from just 12.1 per cent in 1996 to 19.5 per cent in 2006 (61.0 per cent), and the ratio of those at labour force entry to exit age (here 15-24: 55+ years) falling from 16 per 10 in 1996, to just 8 per 10 in 2006.

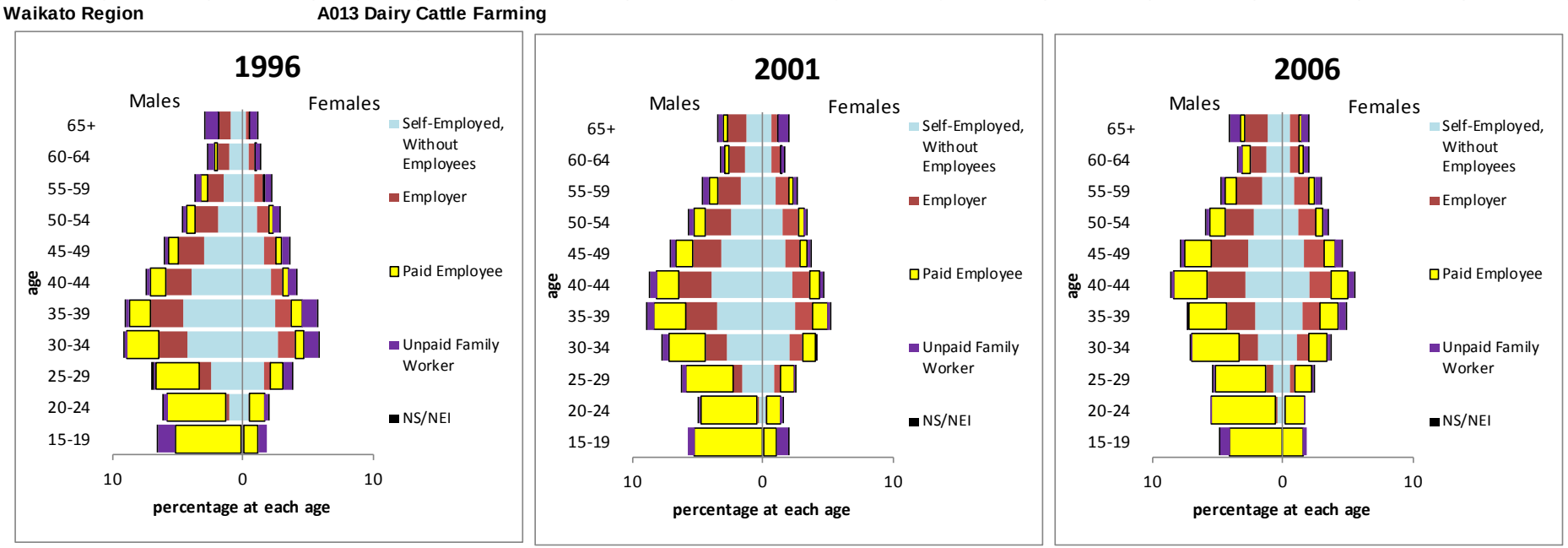
Differing somewhat from the total employed labour force is the region's single largest industrial grouping, Dairy Cattle Farming (ANZSIC96 V4.1 code AO13), which is heavily masculinised (Figure 7.1.2)—albeit the sex ratio (males per female) has reduced slightly over time, from 1.8 in 1996 to 1.7 in 2006 (Appendix 4.2). The average age of Waikato persons employed in this industry (41.9 years in 2006) is only slightly greater than the region's total labour force, and has shifted upwards since 1996 by 3.0 years (7.8 per cent). This is a somewhat greater rate of structural ageing than for the Total New Zealand Dairy Farming workforce (5.3 per cent), but only fractionally greater than for the Total New Zealand workforce (7.5 per cent).

Figure 7.1.1: Age-Sex Structure and Employment Status of Employed Labour Force 1996, 2001, 2006, Waikato Region



Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006

Figure 7.1.2: Age-Sex Structure and Employment Status of the Dairy Cattle Farming Industry [AO13] 1996, 2001, 2006, Waikato Region



Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006

Contrasting completely with the region's male dominated dairy farming industry is the region's second largest industry, School Education, disproportionately employing females (Figure 7.1.3, Appendix 4.3). Although not unfolding quite as rapidly, structural ageing in this industry is also more advanced than in the dairy industry, with an average age in 2006 of 45.0 years (having increased by 2.6 years since 1996, 6.1 per cent). In 1996, just 12.2 per cent of those employed in this industry were aged 55+ years, while by 2006 that had increased to 21.5 per cent (a 76.0 per cent increase). The trends resulted in the labour force entry: exit ratio (15-24: 55+ years) falling from 6 entrants per 10 in the retirement zone in 1996, to just 2 per 10 in 2006.

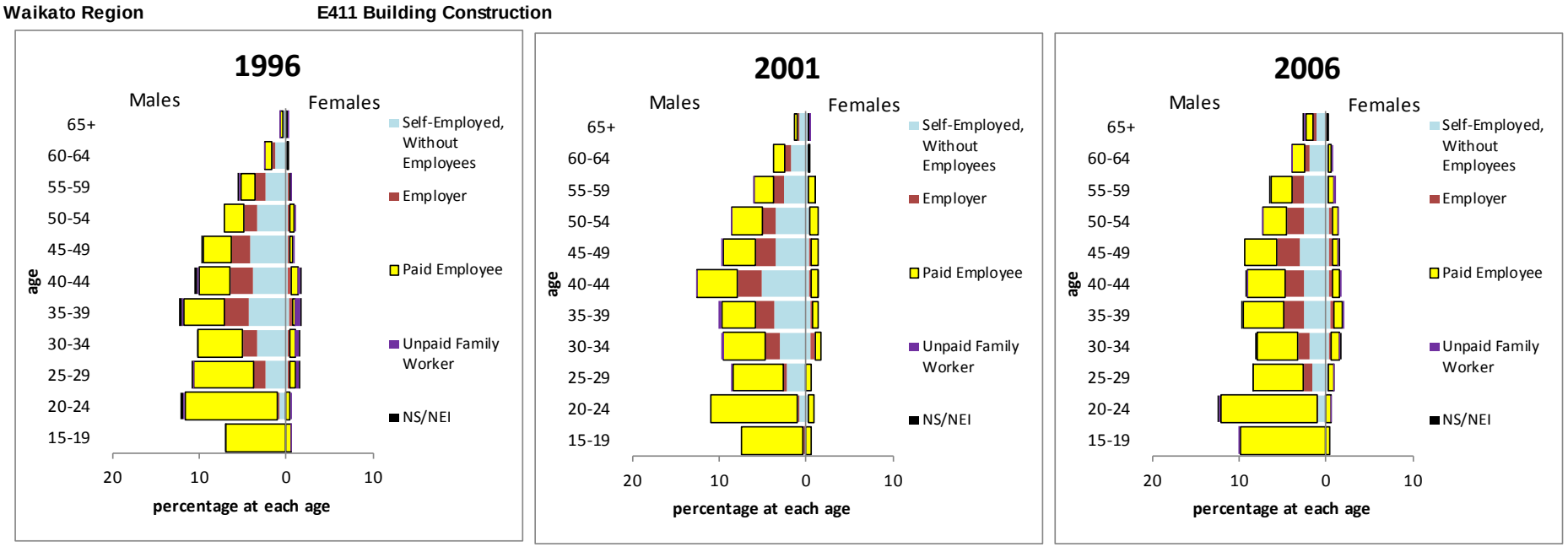
Significantly younger and substantially more masculinised, the region's third largest industry (in 2006 employing 4,680) is Building and Construction (Figure 7.1.3, Appendix 4.4). The average age of employees in this industry increased from 37.4 years in 1996 to 38.5 years in 2006 (1.1 years, 3.0 per cent), although it declined fractionally between 2001 and 2006. This relatively slow ageing reflects the enormous increase in this industry, which in 1996 employed just 2,682 persons, a 75 per cent increase, taking it from eleventh largest in 1996 to third in 2006. Nevertheless it should be noted that the industry's entry: exit ratio fell from 21 per 10 (entrants per those in the retirement zone) in 1996, to 16 per 10 in 2006.

The region's fourth largest industry is Grain, Sheep and Beef Cattle Farming, in 2006 employing 4,593 people (Figure 7.1.4, Appendix 4.5), only fractionally more than in 1996 (4,410) and explaining its fall from third to fourth position. Its age-sex structure contrasts substantially with those for the three largest industries, albeit like dairy farming it is also heavily masculinised (sex ratio in 2006, 1.9 males per female, down from 2.0 in 1996). Widely understood as one of the oldest industries in terms of age structure, the average age of the Waikato Region's Grain, Sheep and Beef Farmers increased from 44.6 years in 1996 to 49.3 years in 2006 (4.8 years, 10.7 per cent), making it the region's third oldest industry of the 158 measured at 3-digit level. Relatedly the proportion aged 55+ years increased from 26.5 to 41.6 per cent. The data show that the industry's labour force entry: exit ratio has fallen from an already low 5 people at labour market entry age in 1996 per 10 aged 55+ years, to just 2 per 10 in 2006. Notably also, the region's farmers are a little older on average than their New Zealand counterparts. The relatively small proportion at the younger ages *vis-à-vis* the bulk of self-employed and employers at older ages has significant implications for the succession of these farms.

Figure 7.1.3: Age-Sex Structure and Employment Status, School Education Industry [N842] 1996, 2001, 2006, Waikato Region

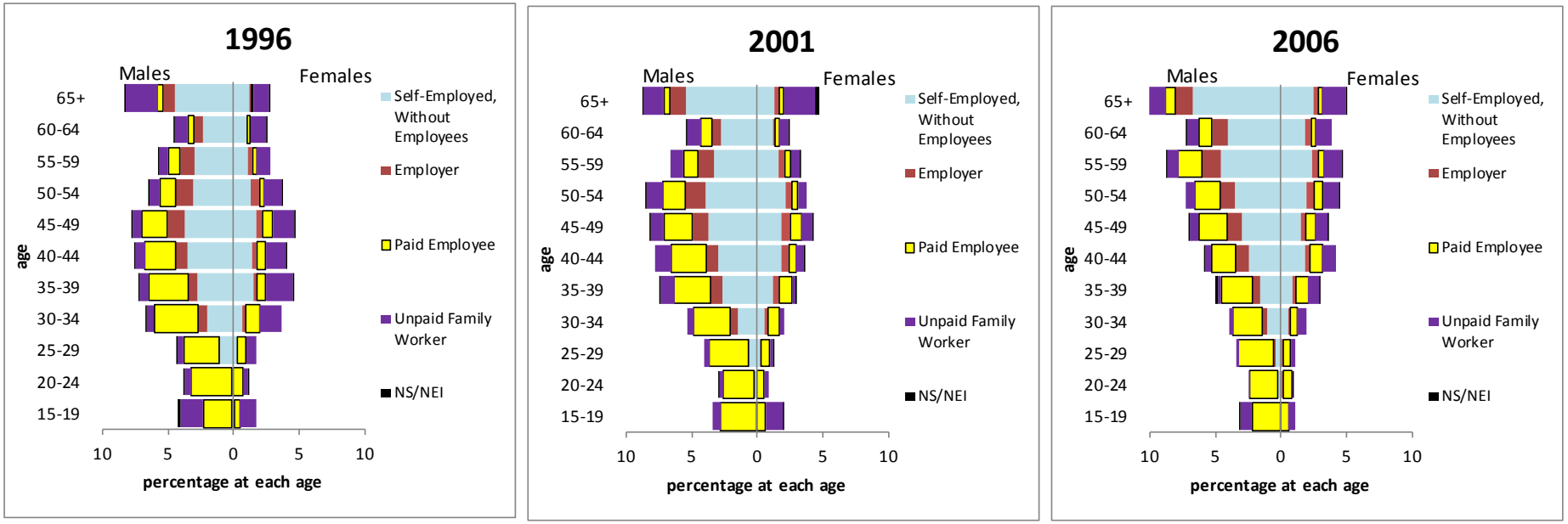
Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006

Figure 7.1.4: Age-Sex Structure and Employment Status, Building and Construction Industry [E411] 1996, 2001, 2006, Waikato Region



Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006

Figure 7.1.5: Age-Sex Structure and Employment Status, Grain, Sheep and Beef Cattle Farming Industry [A012] 1996, 2001, 2006, Waikato Region



Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006

Table 7.1.1 gives data for all Waikato industries employing over 1,000 people in 2006 (accounting for 79 per cent of the region's employed workforce). As indicated above, the region's largest, second-largest and fourth-largest industries all have average ages above that of the total employed workforce, with the latter (Grain, Sheep and Beef Farming) having the third-oldest average age of all 158 industries at 3-digit level. Offsetting this workforce ageing to some extent are the below-average ages of the three next-largest industries: Building and Construction (3rd largest), Supermarket and Grocery Stores (5th largest), and Cafes and Restaurants (6th largest). However, it goes without saying that people and skills are not exact replacements for each other. While the region's overall population remains relatively young, it is critical that the rapid ageing of its workforce is urgently engaged with.

Table 7.1.1: Waikato Industries Employing over 1,000 persons in 2006, Number, Average Age, and Change (%) 1996, 2001 and 2006 (Ranked largest to smallest in 2006)

	Number Employed				Average Age (Years)			
Waikato Region	1996	2001	2006	Change 1996-2006 (%)	1996	2001	2006	Change 1996-2006 (%)
A013 Dairy Cattle Farming	12879	11991	10953	-15.0	38.8	41.0	41.9	7.9
N842 School Education	6582	7914	8139	23.7	42.5	43.9	45.0	6.0
E411 Building Construction	2670	2790	4680	75.3	37.3	39.0	38.5	3.0
A012 Grain, Sheep and Beef Cattle Farming	4410	3840	4593	4.1	44.6	46.6	49.3	10.6
G511 Supermarket and Grocery Stores	3726	4059	4467	19.9	29.7	31.6	33.8	13.9
H573 Cafes and Restaurants	3141	3663	4383	39.5	30.4	31.2	30.9	1.4
M811 Government Administration	4374	4083	4371	-0.1	39.7	42.0	42.9	8.0
L786 Other Business Services	2694	3174	4329	60.7	38.9	40.6	41.2	5.9
O863 Other Health Services	1497	4005	4305	187.6	40.6	43.0	44.2	9.0
G532 Motor Vehicle Services	3609	3798	4023	11.5	34.3	36.1	37.7	9.8
O861 Hospitals and Nursing Homes	4191	3414	3813	-9.0	40.2	42.7	44.5	10.5
O872 Community Care Services	2385	3096	3732	56.5	40.9	44.4	46.7	14.3
I611 Road Freight Transport	2505	2811	3288	31.3	38.5	40.2	42.9	11.6
H571 Accommodation	2298	2727	3246	41.3	40.2	41.5	42.1	4.7
G525 Other Personal and Household Good Retailing	2493	2625	3177	27.4	39.4	40.9	41.6	5.7
G512 Specialised Food Retailing	2772	2685	3093	11.6	33.4	33.9	33.9	1.4
E423 Installation Trade Services	1851	2262	3048	64.7	37.1	39.3	39.4	6.4
L785 Marketing and Business Management Services	1275	2001	2913	128.5	38.8	40.0	41.7	7.4
L784 Legal and Accounting Services	2295	2454	2880	25.5	37.7	40.2	41.5	10.2
Q952 Other Personal Services	2439	2268	2790	14.4	35.9	38.9	40.7	13.4
A021 Services to Agriculture	1608	2121	2454	52.6	35.6	39.2	40.8	14.7
E424 Building Completion Services	1584	1794	2400	51.5	37.4	39.3	39.1	4.6
C211 Meat and Meat Product Manufacturing	2046	2373	2364	15.5	34.8	36.8	37.4	7.6
L782 Technical Services	1221	1473	2304	88.7	39.4	41.4	42.1	6.8
C286 Industrial Machinery and Equipment Manufactu	2094	1989	2280	8.9	37.2	39.4	40.6	9.1
F461 Machinery and Equipment Wholesaling	1620	1878	2193	35.4	36.6	39.2	41.5	13.5
P931 Sport	1368	1518	2106	53.9	37.1	38.4	39.1	5.4
N843 Post School Education	1926	2343	2097	8.9	40.3	42.7	43.5	7.9
Q963 Public Order and Safety Services	1503	1851	2019	34.3	38.8	40.4	42.8	10.3
L771 Property Operators and Developers	1599	1641	2001	25.1	41.0	43.7	44.5	8.5
E412 Non-Building Construction	1470	1623	1986	35.1	39.9	41.8	42.8	7.3
G523 Furniture, Houseware and Appliance Retailing	1524	1542	1917	25.8	38.9	39.6	39.4	1.3
L772 Real Estate Agents	1392	1314	1842	32.3	44.7	46.9	47.3	5.8
N844 Other Education	1215	1383	1806	48.6	40.3	41.3	44.1	9.6
O862 Medical and Dental Services	1218	1401	1695	39.2	40.8	43.3	44.7	9.3
C212 Dairy Product Manufacturing	1596	1296	1680	5.3	36.8	40.0	40.3	9.5
K732 Deposit Taking Financiers	2010	1461	1665	-17.2	35.5	39.4	40.5	14.1
G531 Motor Vehicle Retailing	1599	1518	1569	-1.9	36.5	38.4	39.5	8.2
A015 Other Livestock Farming	1722	2271	1563	-9.2	43.1	45.1	45.9	6.5
A011 Horticulture and Fruit Growing	2127	1872	1542	-27.5	38.8	41.1	43.9	13.2
G522 Clothing and Soft Good Retailing	1347	1227	1533	13.8	39.3	40.5	38.5	-2.0
C231 Log Sawmilling and Timber Dressing	1536	1716	1521	-1.0	36.5	38.2	39.6	8.7
F453 Builders Supplies Wholesaling	1038	1080	1476	42.2	36.8	39.3	39.1	6.2
C232 Other Wood Product Manufacturing	1314	1155	1365	3.9	35.8	38.2	40.2	12.3
J711 Postal and Courier Services	1089	1215	1320	21.2	37.1	39.4	42.3	14.1
N841 Preschool Education	579	807	1203	107.8	37.0	39.5	39.8	7.6
E422 Building Structure Services	603	717	1182	96.0	36.2	36.2	35.7	-1.4
G524 Recreational Good Retailing	909	1098	1176	29.4	35.1	37.0	38.1	8.4
A030 Forestry and Logging	1761	1674	1167	-33.7	34.4	36.2	38.7	12.4
F471 Food, Drink and Tobacco Wholesaling	1065	1107	1152	8.2	36.6	37.9	39.1	6.8
L783 Computer Services	288	639	1107	284.4	37.3	37.0	38.4	2.8
G521 Department Stores	918	1161	1086	18.3	28.8	29.8	31.9	10.9
Q962 Interest Groups	744	1038	1074	44.4	40.2	42.7	44.3	10.3
O871 Child Care Services	459	648	1029	124.2	34.3	36.3	36.9	7.5
E421 Site Preparation Services	501	699	1026	104.8	38.3	41.9	41.7	8.8
L781 Scientific Research	831	891	1026	23.5	37.5	39.3	40.7	8.6
C276 Fabricated Metal Product Manufacturing	936	930	1005	7.4	37.0	39.3	40.5	9.6
All employing over 1,000 persons	118446	128124	146154	23.4				
Total Waikato employed Labour Force	155457	162963	185691	19.4	38.3	40.3	41.4	8.0

Source: Jackson/Statistics NZ Customised Database, Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006

Appendices

Appendix 1.1: Population Size and Growth, Waikato Region and Total New Zealand 1986-2012

		Waikato Region		New Zealand	
		Population Number	% Change from previous year	Population Number	% Change from previous year
Census Night Resident Population (Census-Adjusted) Intercensal Estimates (March Years) [1]	1986	325,220	...	3,307,084	...
	1987	327,400	+0.7	3,315,410	+0.3
	1988	330,300	+0.9	3,339,160	+0.7
	1989	331,500	+0.4	3,347,140	+0.2
	1990	334,000	+0.8	3,373,400	+0.8
Census Night Resident Population (unadjusted for Census 1996) (March Years) [1]	1991	338,959	...	3,515,980	...
	1992	341,200	+0.7	3,552,240	+1.0
	1993	344,600	+1.0	3,597,850	+1.3
	1994	348,200	+1.0	3,648,260	+1.4
	1995	351,600	+1.0	3,706,710	+1.6
Estimated Usual Resident Population (June Years) [2]	1996	358,800	....	3,732,000	....
	1997	362,700	+1.1	3,781,300	+1.3
	1998	365,600	+0.8	3,815,000	+0.9
	1999	366,900	+0.4	3,835,100	+0.5
	2000	368,100	+0.3	3,857,700	+0.6
	2001	368,400	+0.1	3,880,500	+0.6
	2002	373,400	+1.4	3,948,500	+1.8
	2003	379,200	+1.6	4,027,200	+2.0
	2004	384,500	+1.4	4,087,500	+1.5
	2005	388,700	+1.1	4,133,900	+1.1
	2006	393,200	+1.2	4,184,600	+1.2
	2007	396,500	+0.8	4,228,300	+1.0
	2008	400,100	+0.9	4,268,900	+1.0
	2009	404,400	+1.1	4,315,800	+1.1
	2010	409,300	+1.2	4,367,800	+1.2
	2011	413,100	+0.9	4,405,200	+0.9
	2012	416,200	+0.8	4,433,000	+0.6
	1986-2012*	90,980	+28.0	1,125,916	+34.0

Source: (1) Statistics New Zealand, Infoshare, Tables DPE052AA and DPE051AA

(2) Statistics NZ, Infoshare, Estimated Resident Population for Territorial Authority and Regional Council Areas, at 30 June (1996+) (Annual-Jun)

*Notes: *Changes in the timing and method of estimating Resident Population between 1991-1992 and 1995-1996 mean that the three sets of trends should be understood as discontinuous*

Appendix 1.2: Population Size and Growth, Waikato Region and its Territorial Authorities, 1986-2012

		Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region
Census Night Resident Population (Census-Adjusted) Intercensal Estimates (March Years) [1]	1986	95,388	15,904	29,409	9,282	28,266	29,027	21,715	36,475	35,553	10,522	325,220
	1987	96,400	16,050	29,400	9,290	27,900	29,300	22,300	36,700	35,800	10,450	327,400
	1988	97,600	16,200	29,400	9,320	27,500	29,800	22,900	36,800	36,100	10,350	330,300
	1989	98,300	16,300	29,300	9,230	27,000	30,100	23,300	36,900	36,300	10,200	331,500
	1990	99,500	16,450	29,300	9,220	26,600	30,300	23,900	37,100	36,600	10,100	334,000
Census Night Resident Population (unadjusted for Census 1996) (March Years) [1]	1991	101,448	16,921	29,408	9,231	26,186	30,721	25,037	37,556	37,031	10,074	338,959
	1992	102,500	17,150	29,400	9,230	25,800	30,900	25,600	37,800	37,300	9,960	341,200
	1993	103,600	17,300	29,600	9,280	25,500	31,300	26,100	38,100	37,800	9,900	344,600
	1994	105,100	17,450	29,800	9,350	25,500	31,700	26,600	38,500	38,300	9,890	348,200
	1995	106,700	17,500	29,800	9,440	25,300	32,000	27,100	38,800	38,700	9,850	351,600
Estimated Usual Resident Population (June Years) [2]	1996	113,500	18,550	30,300	9,960	25,800	31,600	25,400	52,000	38,400	10,000	358,800
	1997	116,100	18,500	30,400	9,920	25,700	32,000	25,800	52,400	38,700	9,950	362,700
	1998	118,100	18,500	30,400	9,870	25,600	32,300	25,900	52,700	39,100	9,960	365,600
	1999	119,400	18,350	30,400	9,780	25,100	32,400	25,800	53,100	39,400	9,890	366,900
	2000	120,500	18,200	30,300	9,690	24,700	32,500	25,800	53,500	39,800	9,810	368,100
	2001	121,200	17,950	30,300	9,590	24,200	32,500	25,800	53,700	40,000	9,780	368,400
	2002	124,000	18,050	30,400	9,560	24,000	32,700	26,000	55,000	40,600	9,720	373,400
	2003	127,100	18,150	30,600	9,490	23,900	33,000	26,200	56,300	41,400	9,750	379,200
	2004	130,000	18,200	30,900	9,410	23,800	33,200	26,400	57,300	42,100	9,740	384,500
	2005	132,300	18,250	31,100	9,360	23,600	33,300	26,500	58,400	43,000	9,710	388,700
	2006	134,800	18,300	31,200	9,310	23,200	33,400	26,700	59,500	43,700	9,680	393,200
	2007	136,900	18,350	31,200	9,250	22,900	33,500	26,800	60,300	44,200	9,600	396,500
	2008	138,800	18,400	31,400	9,220	22,800	33,400	26,800	61,400	44,700	9,600	400,100
	2009	141,100	18,500	31,600	9,250	22,800	33,600	26,800	62,400	45,100	9,620	404,400
	2010	143,400	18,650	31,800	9,290	22,900	34,000	27,000	63,400	45,700	9,640	409,300
	2011	145,600	18,750	32,000	9,320	22,800	34,100	27,000	64,300	46,100	9,630	413,100
	2012	148,200	18,750	32,000	9,350	22,700	34,300	27,000	64,700	46,200	9,540	416,200
	1986-2012*	52,812	2,846	2,591	68	-5,566	5,273	5,285	28,225	10,647	-982	90,980

Source: (1) Statistics New Zealand, Infoshare, Tables DPE052AA and DPE051AA

(2) Statistics NZ, Infoshare, Estimated Resident Population for Territorial Authority and Regional Council Areas, at 30 June (1996+) (Annual-Jun) at 2010 Boundaries

*Notes: *Changes in the timing and method of estimating Resident Population between 1991-1992 and 1995-1996 mean that the three sets of trends should be understood as discontinuous*

Appendix 1.3: Percentage Point Contribution to Annual Net Change due to Natural Increase, Waikato Region and its Territorial Authorities, 1991-2012

		Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Total New Zealand
March Year	1991												
	1992	1.00	1.06	1.28	1.40	1.82	1.15	0.32	1.44	0.84	1.28	1.12	0.95
	1993	0.99	0.90	1.16	1.38	1.57	1.12	0.23	1.21	0.99	1.06	1.05	0.89
	1994	0.99	0.86	1.04	1.27	1.68	0.99	0.26	1.27	0.75	1.04	1.00	0.87
	1995	1.11	1.02	0.73	1.63	1.65	1.10	0.31	1.08	0.84	1.17	1.05	0.84
June Year	1996	...	...	...	...	...	...	...	...	...	...	...	...
	1997	1.00	0.75	0.90	0.96	1.32	0.97	0.16	0.78	0.61	0.92	0.91	0.79
	1998	0.99	0.57	0.75	0.74	1.49	0.86	0.09	0.79	0.67	0.89	0.88	0.78
	1999	0.96	0.16	0.74	0.77	1.30	0.71	0.08	0.84	0.70	0.80	0.84	0.75
	2000	1.01	0.43	0.75	0.78	0.95	0.85	0.26	0.69	0.71	0.76	0.85	0.79
	2001	0.96	0.38	0.75	0.68	0.92	0.60	0.19	0.71	0.53	0.84	0.78	0.76
	2002	0.90	0.44	0.61	1.11	1.05	0.68	-0.09	0.64	0.56	0.61	0.75	0.67
	2003	0.90	0.20	0.65	0.69	0.91	0.76	0.04	0.64	0.64	1.12	0.76	0.69
	2004	0.99	0.12	0.63	0.77	1.04	0.73	-0.11	0.68	0.74	0.78	0.79	0.74
	2005	0.98	0.13	0.72	0.87	0.83	0.74	-0.02	0.68	0.74	0.80	0.80	0.72
	2006	0.91	0.19	0.58	0.85	0.78	0.63	-0.06	0.78	0.60	0.72	0.74	0.75
	2007	1.05	0.19	0.44	0.84	0.74	0.63	0.06	0.77	0.72	0.75	0.80	0.79
	2008	1.10	0.57	0.68	0.81	0.83	0.89	-0.04	0.77	0.58	1.00	0.86	0.84
	2009	1.21	0.30	0.67	1.04	1.07	0.72	-0.16	0.75	0.65	0.96	0.89	0.80
	2010	1.16	0.25	0.66	0.90	0.95	0.86	-0.02	0.77	0.58	0.89	0.87	0.82
	2011	1.11	0.44	0.58	1.02	0.96	0.56	-0.15	0.79	0.56	0.65	0.78	0.76
	2012	1.03	0.24	0.73	1.13	0.89	0.58	-0.31	0.72	0.65	0.70	0.74	0.71

Compiled from Statistics New Zealand Infoshare: Usual Resident Population, Table DPE051AA; Births, Table VSB016AA; Deaths, Table VSD018AA.

(a) 1991-1995 Estimated Defacto; 1996-2011 Estimated Usual Resident

~ Natural Increase = Births minus Deaths

Appendix 1.4: Percentage Point Contribution to Annual Net Change due to Net Migration, Waikato Region and its Territorial Authorities, 1991-2012

		Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region	Total New Zealand
March Year	1991												
	1992	0.04	0.30	-1.31	-1.41	-3.30	-0.57	1.93	-0.79	-0.12	-2.41	-0.46	0.08
	1993	0.09	-0.02	-0.48	-0.83	-2.73	0.17	1.73	-0.42	0.35	-1.67	-0.05	0.40
	1994	0.45	0.01	-0.36	-0.52	-1.68	0.29	1.65	-0.22	0.58	-1.14	0.04	0.53
	1995	0.42	-0.73	-0.73	-0.66	-2.43	-0.15	1.57	-0.30	0.20	-1.58	-0.07	0.76
June Year	1996	...	...	...	...	...	...	...	...	...	...	...	...
	1997	1.29	-1.02	-0.57	-1.37	-1.71	0.29	1.41	-0.01	0.17	-1.42	0.18	0.53
	1998	0.73	-0.57	-0.75	-1.24	-1.88	0.08	0.30	-0.22	0.36	-0.79	-0.08	0.11
	1999	0.14	-0.97	-0.74	-1.68	-3.25	-0.40	-0.46	-0.08	0.07	-1.51	-0.49	-0.22
	2000	-0.09	-1.25	-1.08	-1.70	-2.55	-0.55	-0.26	0.06	0.31	-1.57	-0.52	-0.20
	2001	-0.38	-1.75	-0.75	-1.71	-2.95	-0.60	-0.19	-0.34	-0.02	-1.14	-0.70	-0.17
	2002	1.41	0.12	-0.28	-1.42	-1.88	-0.06	0.86	1.78	0.94	-1.23	0.60	1.08
	2003	1.60	0.35	0.01	-1.42	-1.33	0.15	0.73	1.73	1.33	-0.81	0.79	1.30
	2004	1.29	0.16	0.35	-1.61	-1.46	-0.12	0.87	1.10	0.95	-0.88	0.61	0.76
	2005	0.79	0.15	-0.07	-1.40	-1.67	-0.44	0.39	1.24	1.40	-1.11	0.29	0.41
	2006	0.98	0.09	-0.26	-1.39	-2.47	-0.33	0.82	1.10	1.03	-1.03	0.41	0.48
	2007	0.51	0.09	-0.44	-1.48	-2.03	-0.33	0.31	0.57	0.42	-1.58	0.03	0.25
	2008	0.29	-0.29	-0.04	-1.14	-1.27	-1.19	0.04	1.05	0.55	-1.00	0.05	0.12
	2009	0.45	0.24	-0.04	-0.72	-1.07	-0.12	0.16	0.88	0.25	-0.75	0.18	0.30
	2010	0.47	0.56	-0.03	-0.46	-0.51	0.33	0.76	0.83	0.75	-0.69	0.34	0.39
	2011	0.43	0.10	0.05	-0.70	-1.39	-0.27	0.15	0.63	0.32	-0.76	0.15	0.09
	2012	0.76	-0.24	-0.73	-0.80	-1.32	0.01	0.31	-0.10	-0.43	-1.63	0.01	-0.08

Compiled from Statistics New Zealand Infoshare: Usual Resident Population, Table DPE051AA; Births, Table VSB016AA; Deaths, Table VSD018AA.

(a) 1991-1995 Estimated Defacto; 1996-2011 Estimated Usual Resident

** Residual Migration (Net Change minus Natural Increase)*

Appendix 2.1: Components of Change by age (Waikato Region 1996-2001)

	Actual (Observed) 1996	Expected 2001	Actual (Observed) 2001	Actual (Observed) change 1996-2001	Change due to migration	Change due to Deaths	Change to cohort size	Actual (Observed) change (1996-2001)	Change due to migration ~	Change due to Deaths~	Change to cohort size~
	Number							Percentage			
0-4	30,410	28,009	28,530	**-1,880**	521	-189	-2,212	**-6.2**	1.7	-0.6	-7.3
5-9	30,860	30,365	30,480	**-380**	115	-45	-450	**-1.2**	0.4	-0.1	-1.5
10-14	28,470	30,835	30,860	**2,390**	25	-25	2,390	**8.4**	0.1	-0.1	8.4
15-19	27,540	28,405	27,760	**220**	-645	-65	930	**0.8**	-2.3	-0.2	3.4
20-24	27,130	27,419	23,900	**-3,230**	-3,519	-121	410	**-11.9**	-13.0	-0.4	1.5
25-29	26,390	27,006	23,250	**-3,140**	-3,756	-124	740	**-11.9**	-14.2	-0.5	2.8
30-34	27,520	26,272	26,460	**-1,060**	188	-118	-1,130	**-3.9**	0.7	-0.4	-4.1
35-39	27,970	27,383	27,800	**-170**	417	-137	-450	**-0.6**	1.5	-0.5	-1.6
40-44	24,770	27,792	27,630	**2,860**	-162	-178	3,200	**11.5**	-0.7	-0.7	12.9
45-49	22,930	24,530	24,590	**1,660**	60	-240	1,840	**7.2**	0.3	-1.0	8.0
50-54	18,250	22,568	22,660	**4,410**	92	-362	4,680	**24.2**	0.5	-2.0	25.6
55-59	15,610	17,776	17,870	**2,260**	94	-474	2,640	**14.5**	0.6	-3.0	16.9
60-64	13,350	14,953	15,390	**2,040**	437	-657	2,260	**15.3**	3.3	-4.9	16.9
65-69	12,790	12,448	12,880	**90**	432	-902	560	**0.7**	3.4	-7.1	4.4
70-74	10,440	11,423	11,440	**1,000**	17	-1367	2,350	**9.6**	0.2	-13.1	22.5
75-79	7,350	8,713	8,640	**1,290**	-73	-1727	3,090	**17.6**	-1.0	-23.5	42.0
80-84	4,920	5,476	5,460	**540**	-16	-1874	2,430	**11.0**	-0.3	-38.1	49.4
85-89	2,240	2,977	2,928	**688**	-50	-1943	2,680	**30.7**	-2.2	-86.7	119.6
90+	940	1,220	1,292	**352**	72	-1960	2,240	**37.5**	7.6	-208.5	238.4
Total	359,880	375,570	369,820	**9,940**	-5,750	-12508	28,198	**2.8**	-1.6	-3.5	7.8

Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

Notes: ~As a percentage of Previous Observed Population

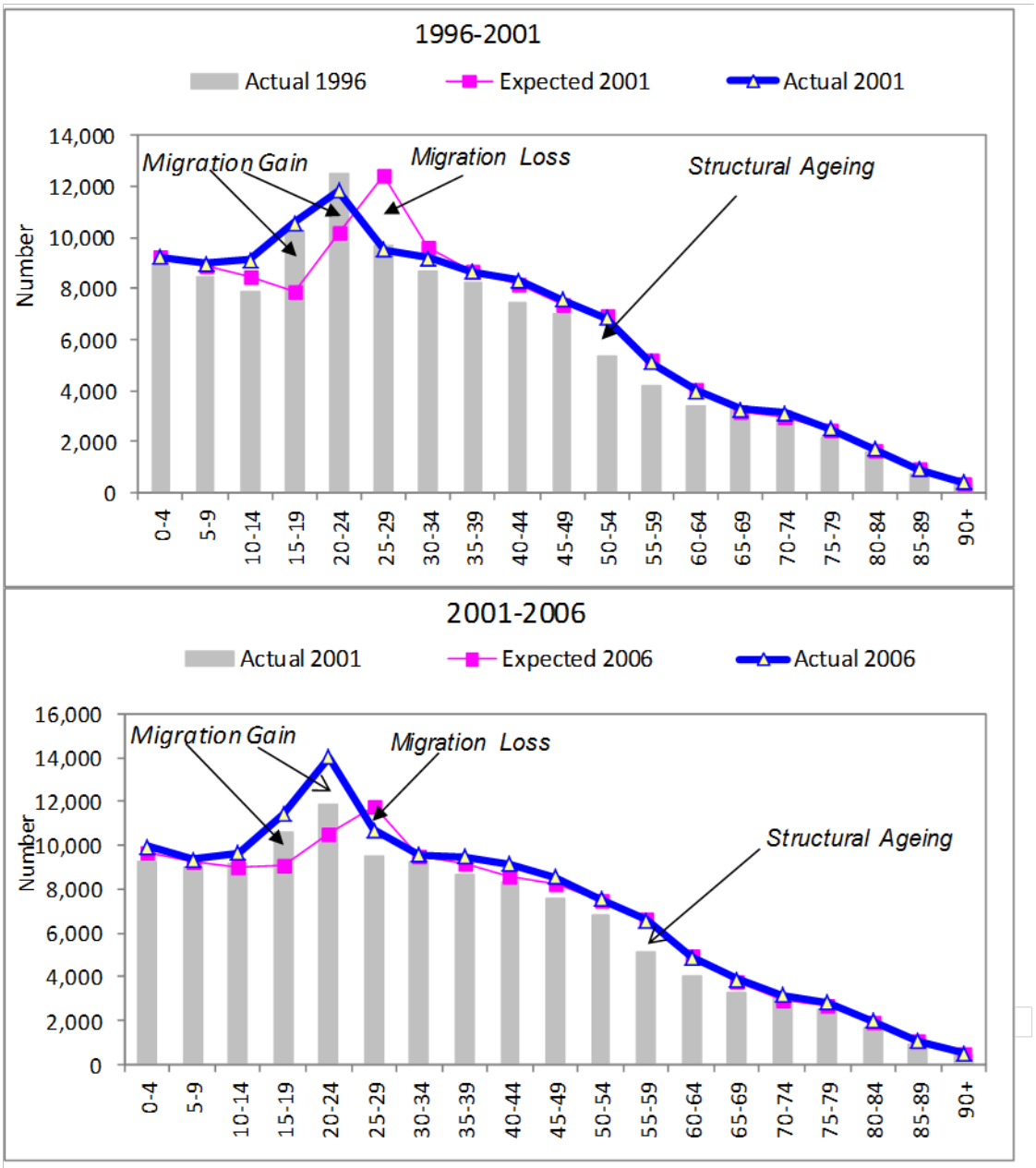
Appendix 2.2: Components of Change by age (Waikato Region 2001-2006)

	Actual (Observed) 2001	Expected 2006	Actual (Observed) 2006	Actual (Observed) change 2001-06	Change due to migration	Change due to Deaths	Change to cohort size	Actual (Observed) change (2001-2006)	Change due to migration ~	Change due to Deaths~	Change to cohort size~
	Number							Percentage			
0-4	28,530	27,318	28,500	**-30**	1,182	-160	-1,052	**-0.1**	4.1	-0.6	-3.7
5-9	30,480	28,494	29,480	**-1,000**	986	-36	-1,950	**-3.3**	3.2	-0.1	-6.4
10-14	30,860	30,459	31,240	**380**	781	-21	-380	**1.2**	2.5	-0.1	-1.2
15-19	27,760	30,802	30,260	**2,500**	-542	-58	3,100	**9.0**	-2.0	-0.2	11.2
20-24	23,900	27,662	26,670	**2,770**	-992	-98	3,860	**11.6**	-4.2	-0.4	16.2
25-29	23,250	23,810	23,300	**50**	-510	-90	650	**0.2**	-2.2	-0.4	2.8
30-34	26,460	23,161	25,000	**-1,460**	1,839	-89	-3,210	**-5.5**	7.0	-0.3	-12.1
35-39	27,800	26,340	28,370	**570**	2,030	-120	-1,340	**2.1**	7.3	-0.4	-4.8
40-44	27,630	27,630	29,090	**1,460**	1,460	-170	170	**5.3**	5.3	-0.6	0.6
45-49	24,590	27,382	28,270	**3,680**	888	-248	3,040	**15.0**	3.6	-1.0	12.4
50-54	22,660	24,253	24,730	**2,070**	477	-337	1,930	**9.1**	2.1	-1.5	8.5
55-59	17,870	22,169	23,000	**5,130**	831	-491	4,790	**28.7**	4.6	-2.7	26.8
60-64	15,390	17,246	18,190	**2,800**	944	-624	2,480	**18.2**	6.1	-4.1	16.1
65-69	12,880	14,526	15,290	**2,410**	764	-864	2,510	**18.7**	5.9	-6.7	19.5
70-74	11,440	11,720	12,010	**570**	290	-1160	1,440	**5.0**	2.5	-10.1	12.6
75-79	8,640	9,785	9,900	**1,260**	115	-1655	2,800	**14.6**	1.3	-19.2	32.4
80-84	5,460	6,658	6,710	**1,250**	52	-1982	3,180	**22.9**	1.0	-36.3	58.2
85-89	2,928	3,482	3,450	**522**	-32	-1978	2,532	**17.8**	-1.1	-67.6	86.5
90+	1,292	1,694	1,670	**378**	-24	-2526	2,928	**29.3**	-1.9	-195.5	226.6
Total	369,820	384,591	395,130	**25,310**	10,539	-12707	27,478	**6.8**	2.8	-3.4	7.4

Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

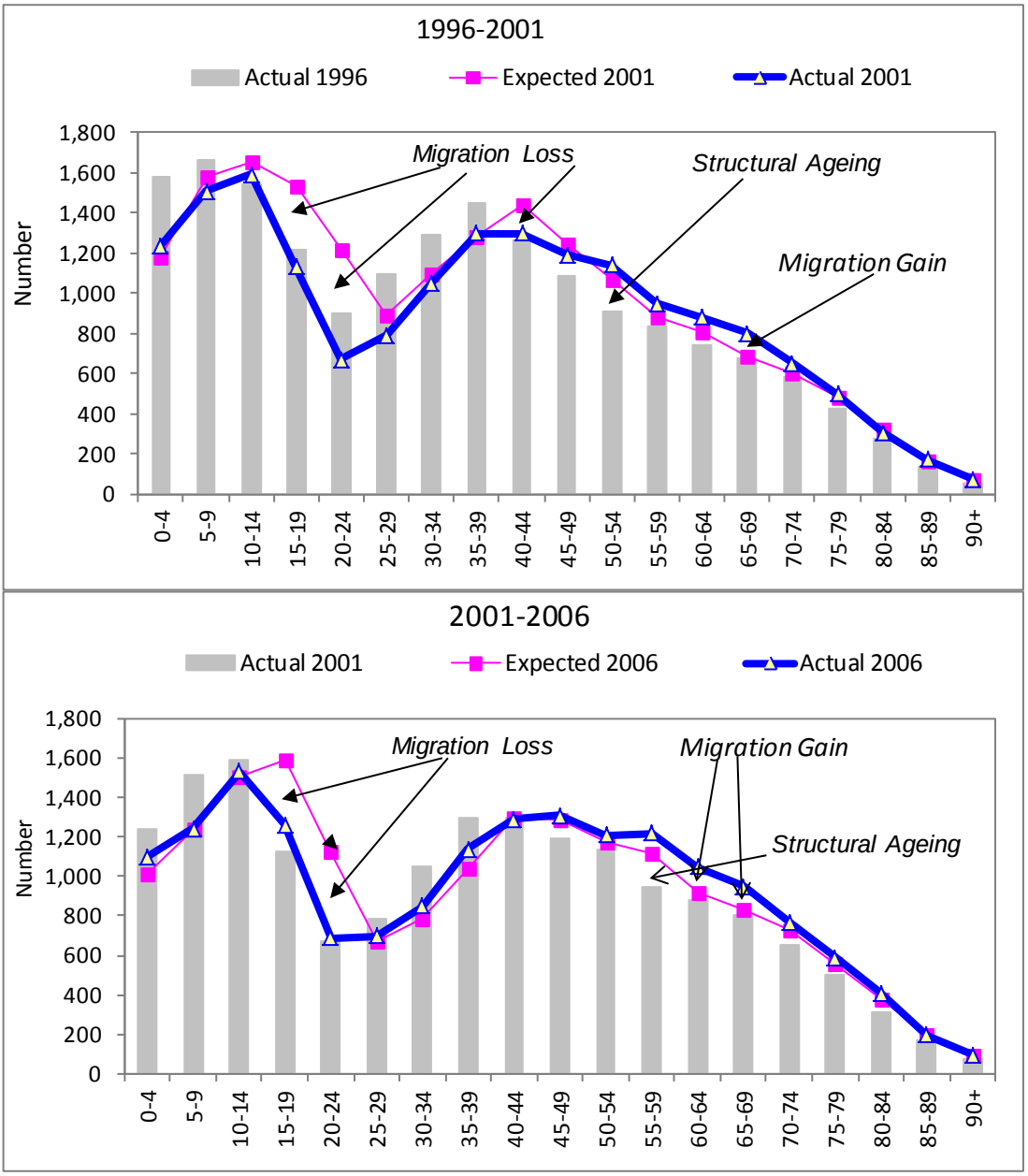
Notes: ~As a percentage of Previous Observed Population

Appendix 2.3: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Hamilton City



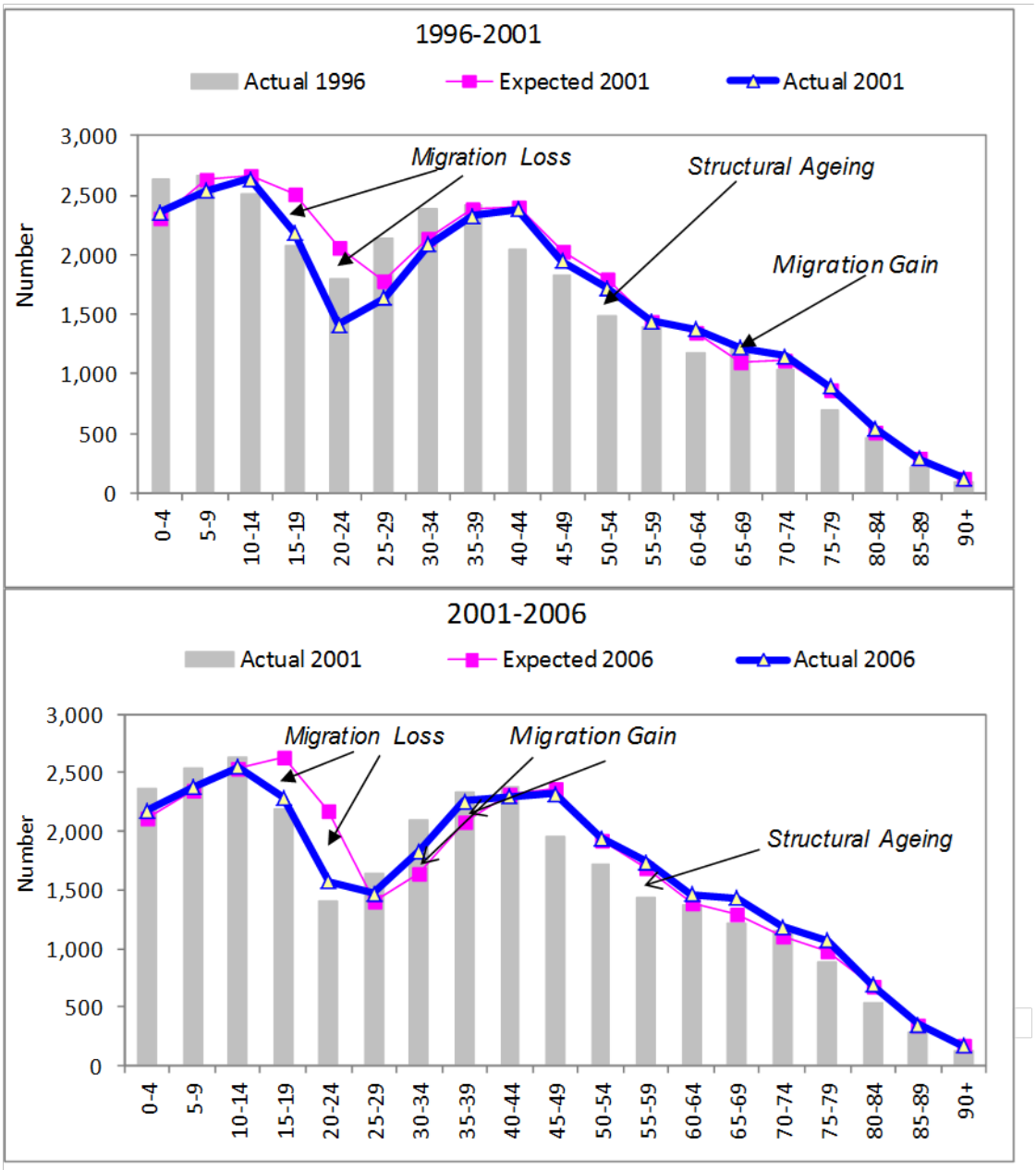
Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

Appendix 2.4: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Hauraki District



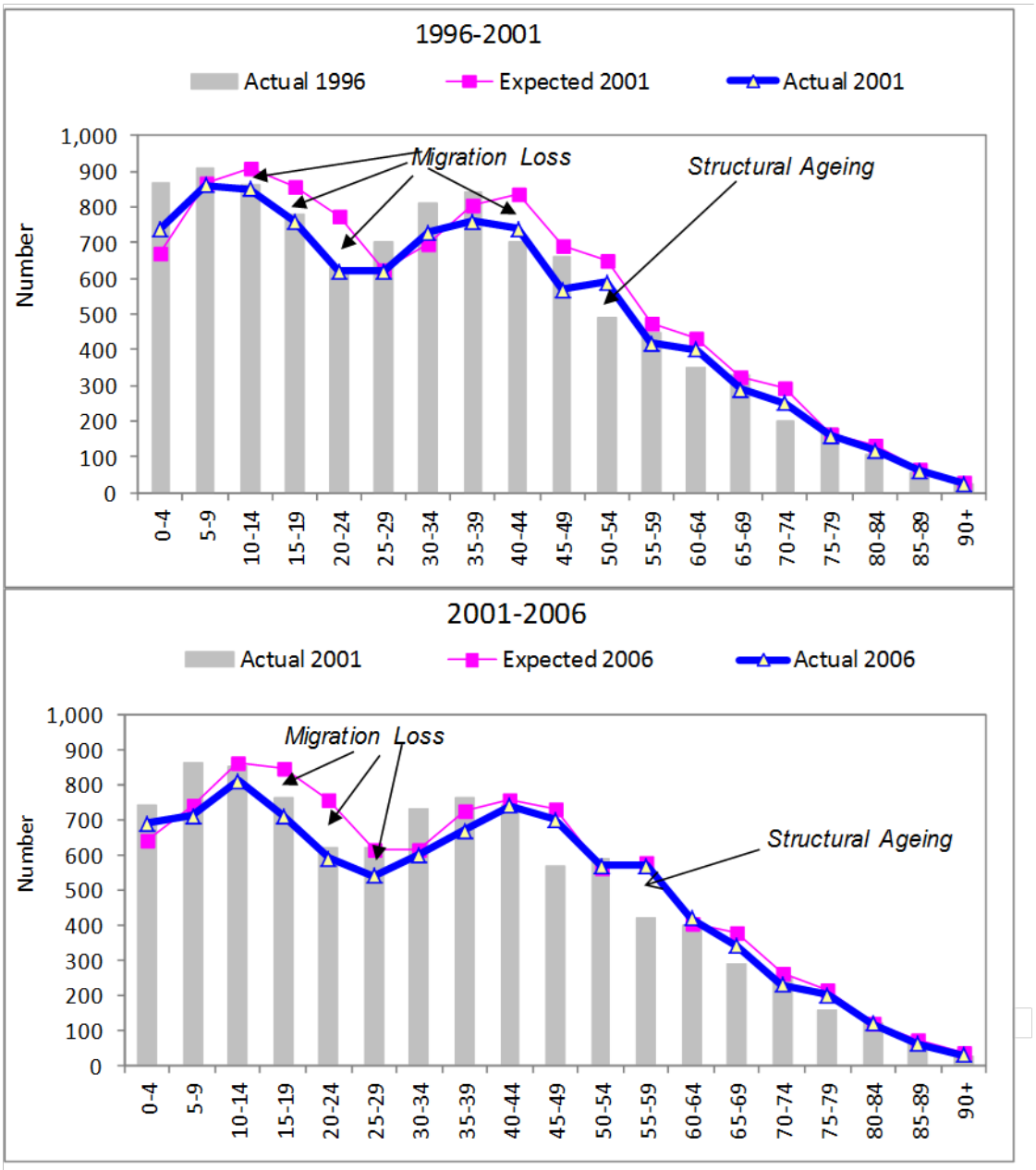
Source: *Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007*

Appendix 2.5: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Matamata-Piako District



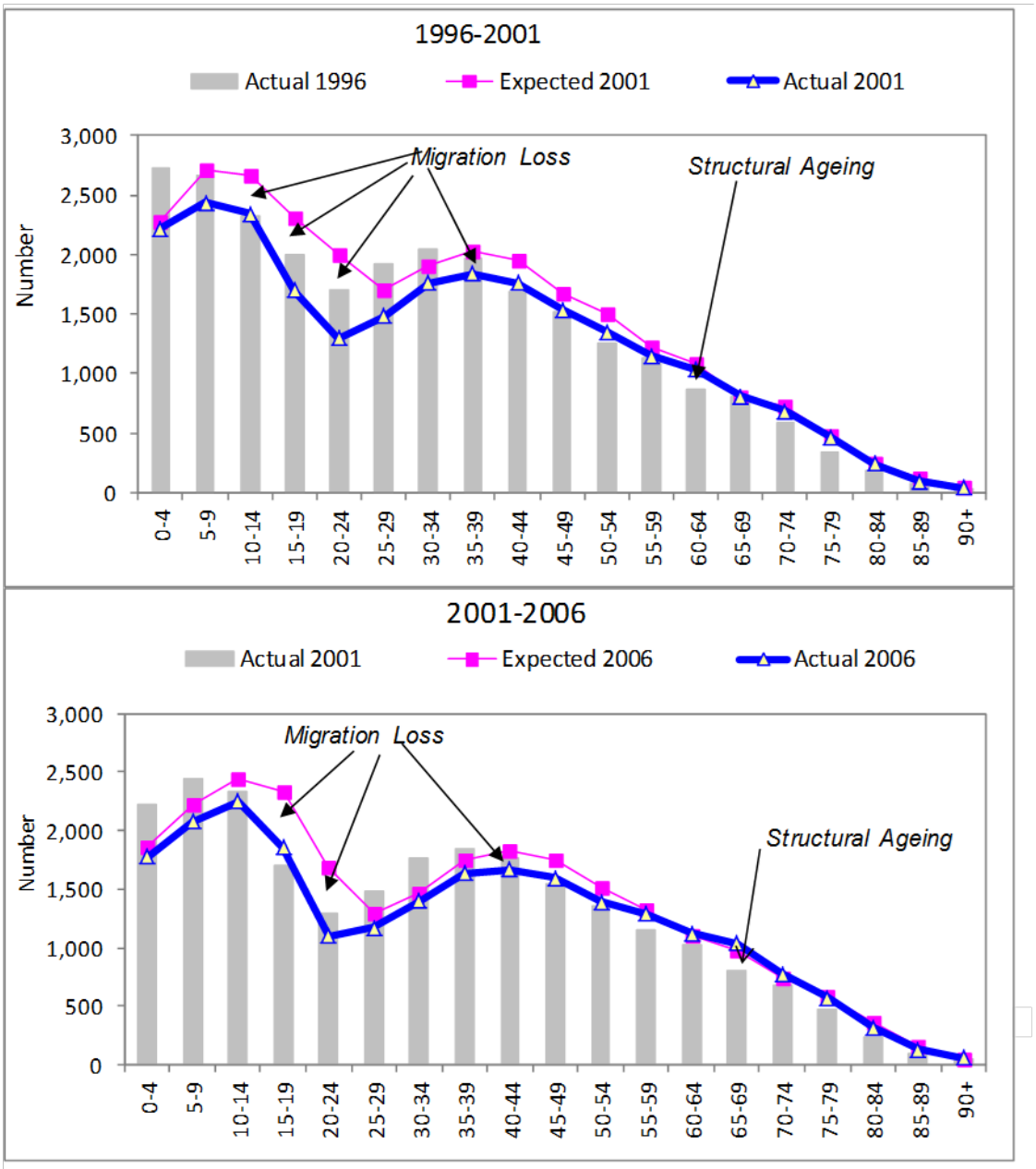
Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

Appendix 2.6: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Otorohanga District



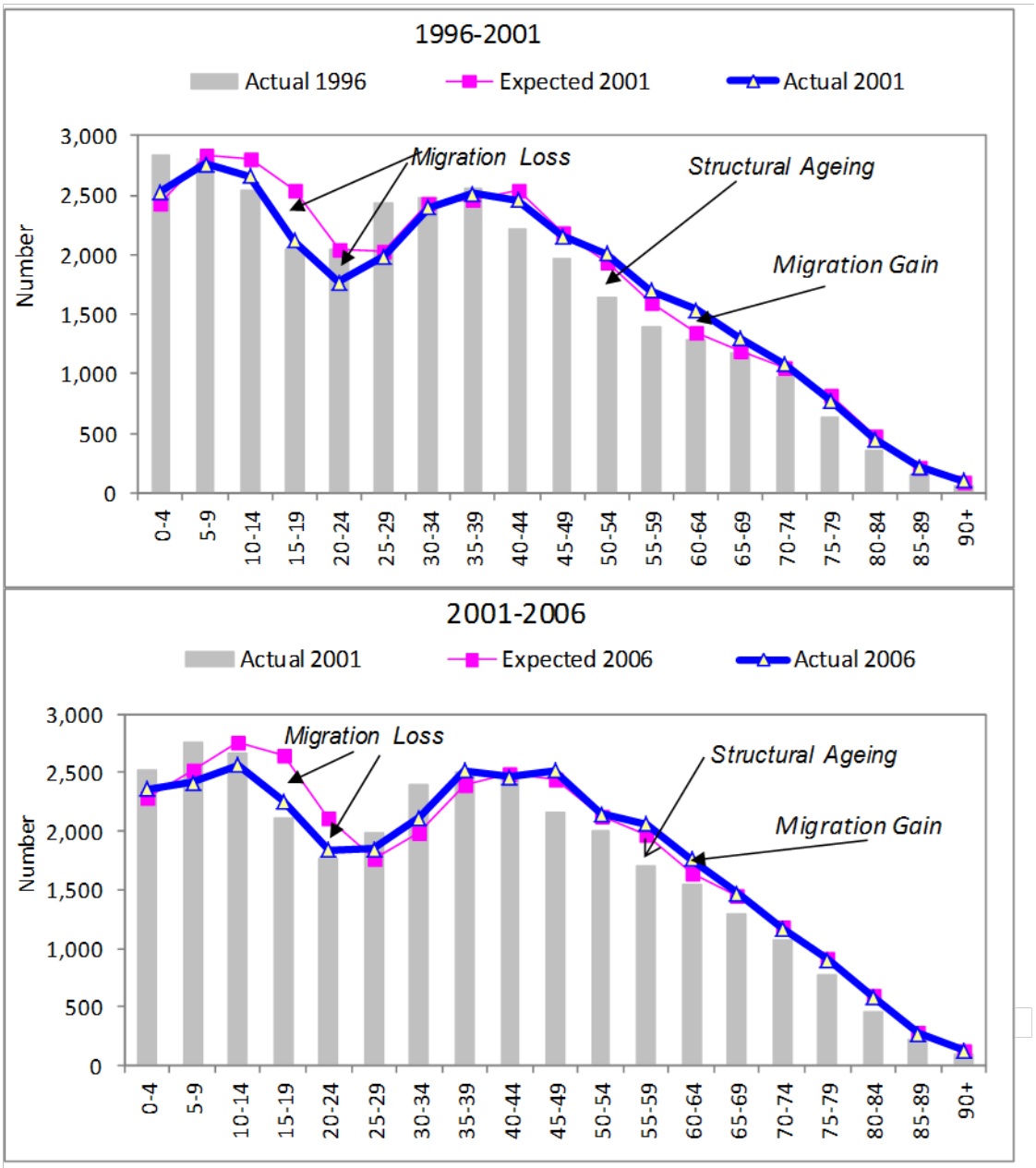
Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

Appendix 2.7: Expected and Actual Population by Age, 1996-2001 and 2001-2006, South Waikato District



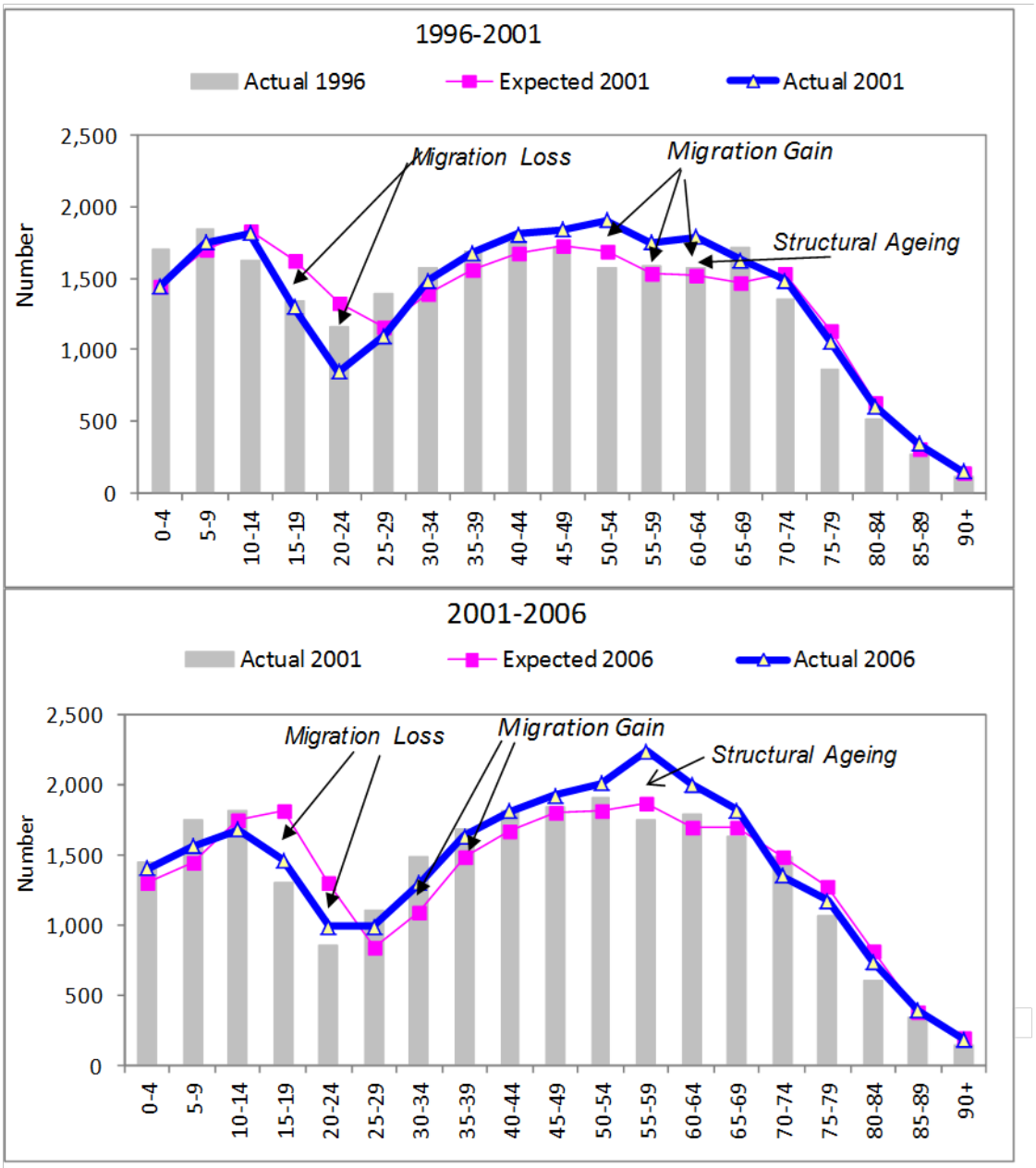
Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

Appendix 2.8: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Taupo District



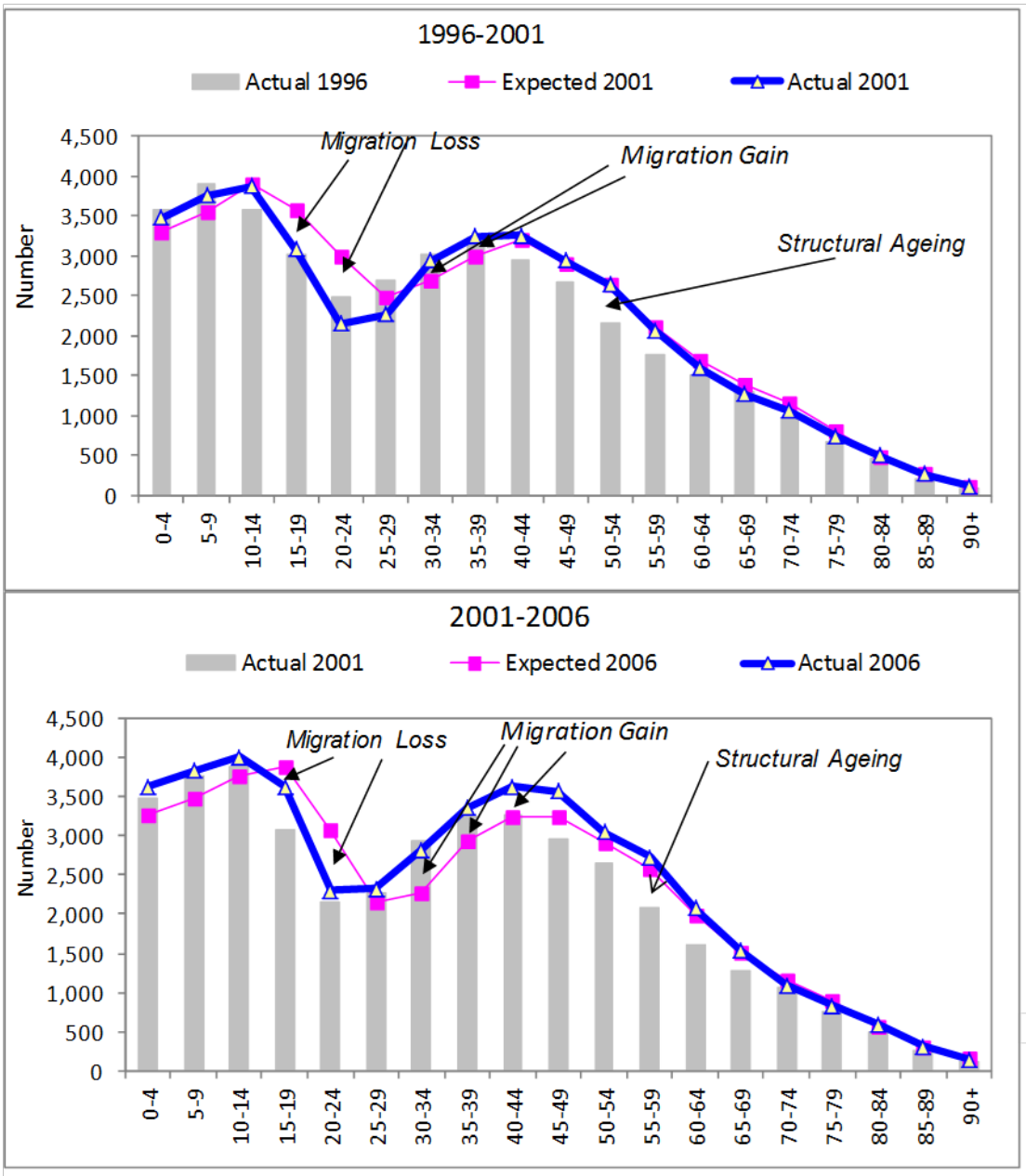
Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

Appendix 2.9: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Thames-Coromandel District



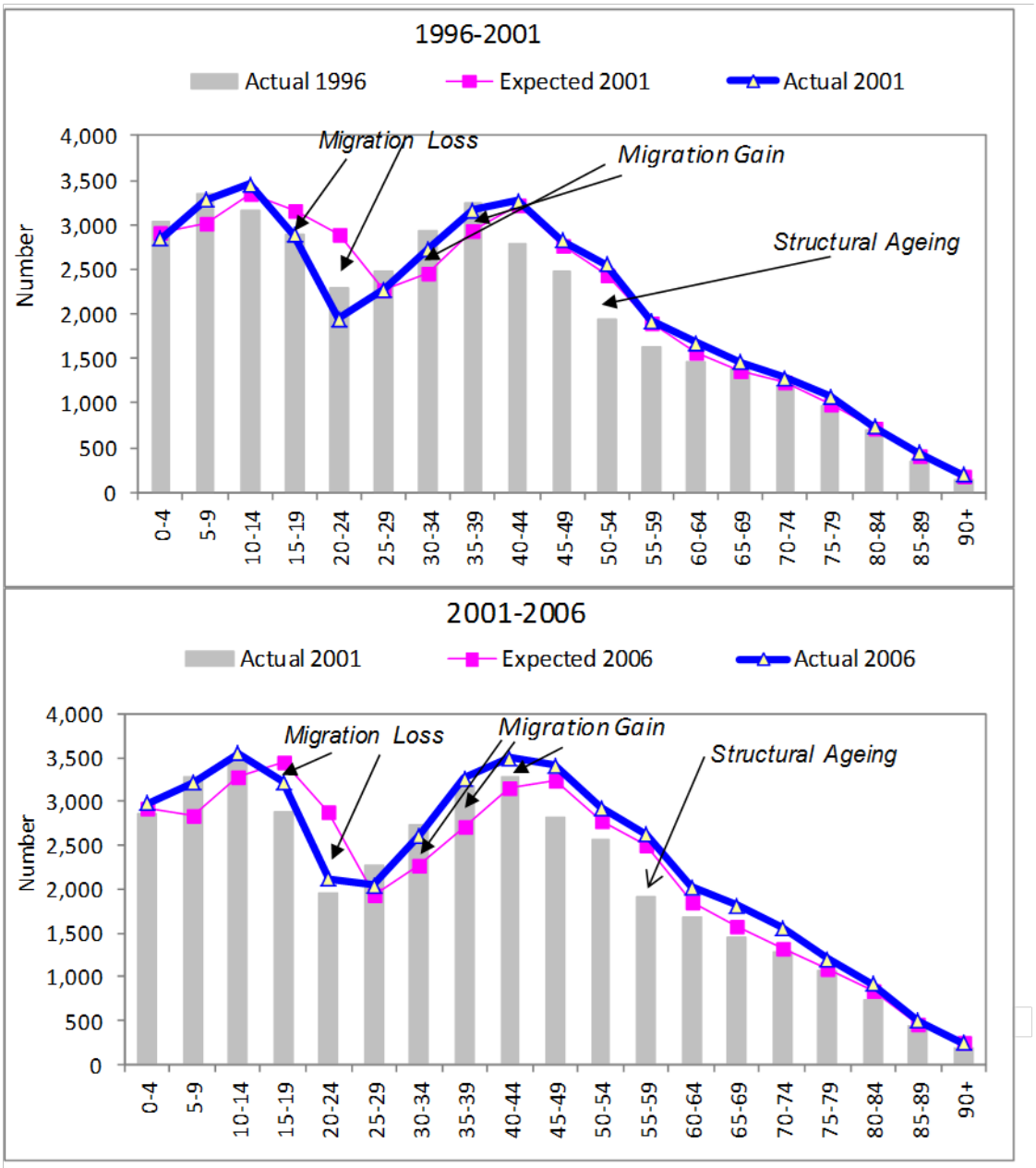
Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

Appendix 2.10: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Waikato District



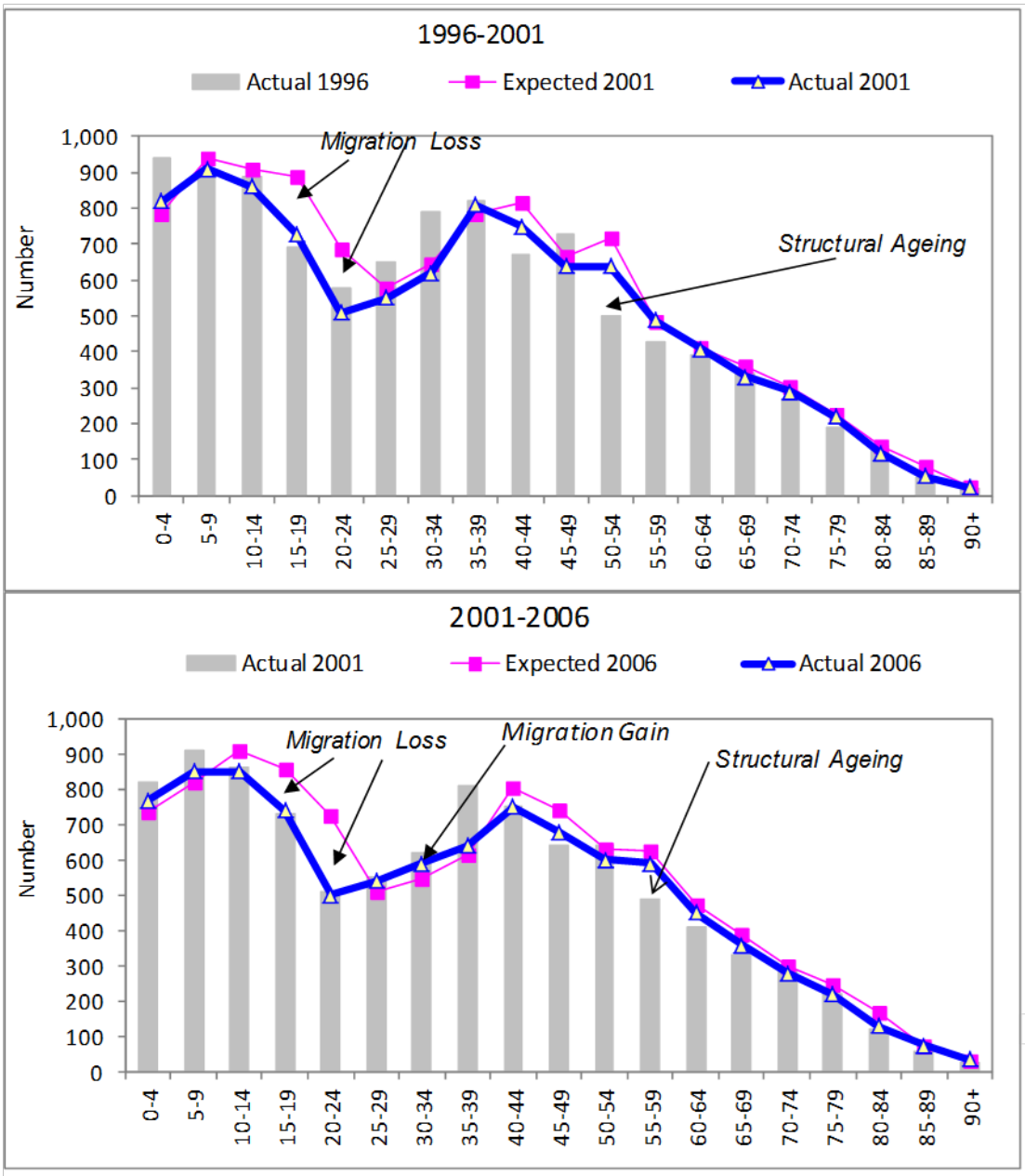
Source: *Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007*

Appendix 2.11: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Waipa District



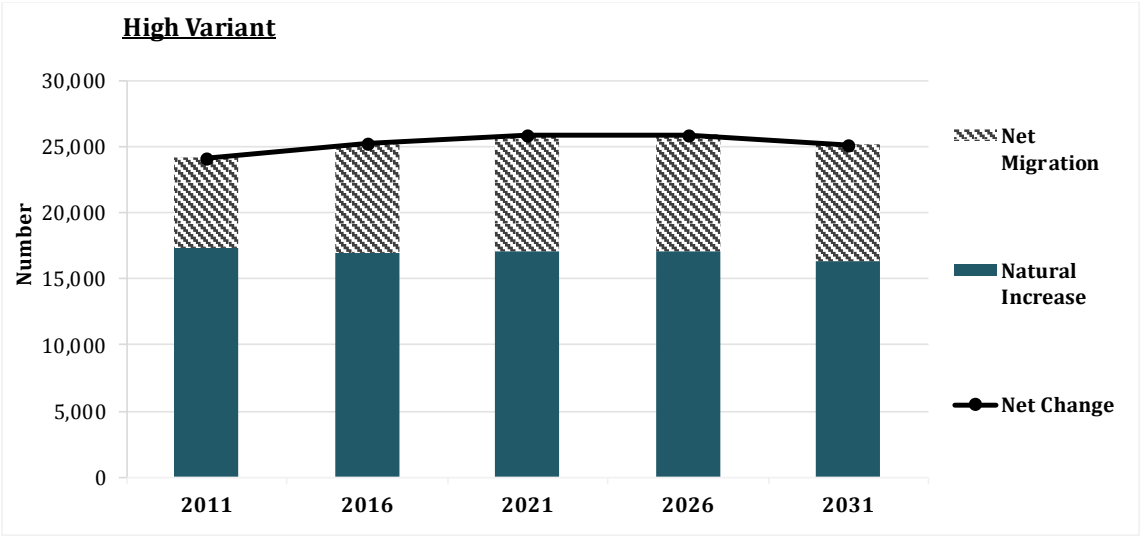
Source: *Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007*

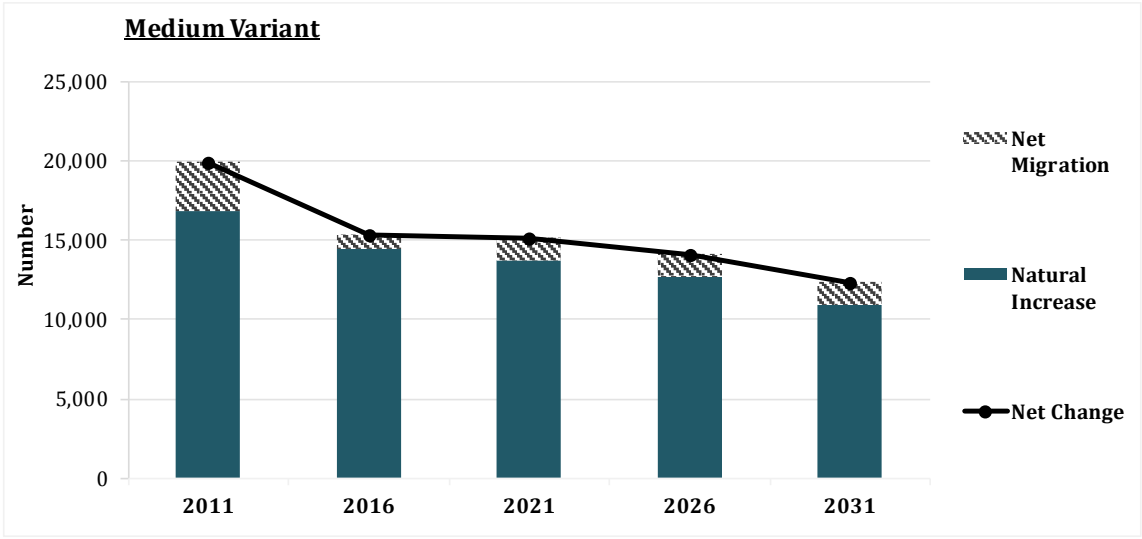
Appendix 2.12: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Waitomo District

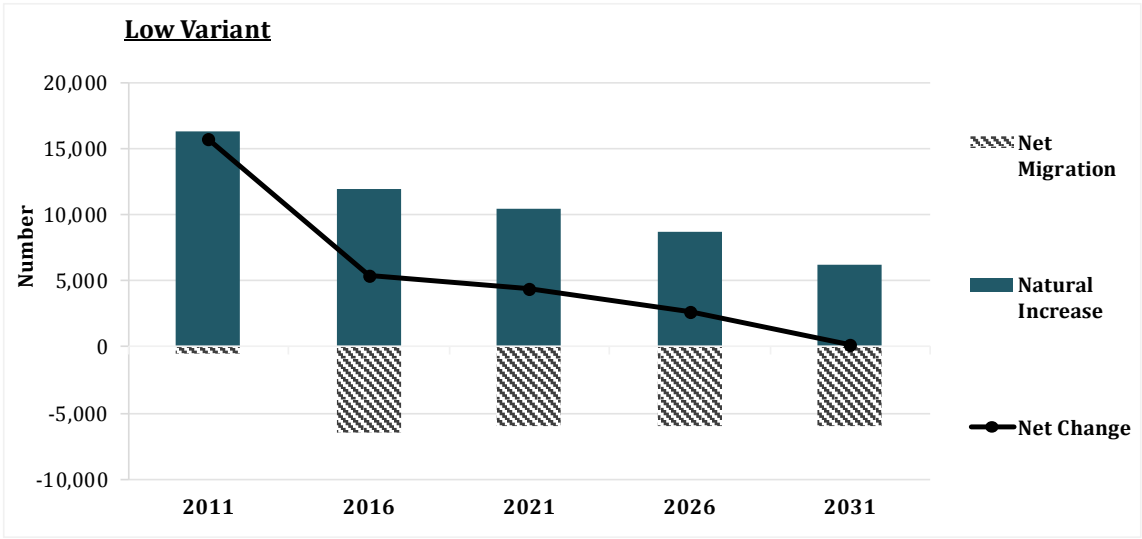


Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorshp 1995-2007

Appendix 3.1: Projected Assumptions by Projection Variant, Waikato Region







Source: Subnational Projected Population Characteristics, 2006(base)-2031 (October 2012 update)

Appendix 3.2: Projection Assumptions by Variant, Waikato Region

Waikato Region	2011	2016	2021	2026	2031	Change 2011-2031 (%)
			HIGH			
Births (Live) - 5 years ended 30 June	31300	31500	32800	33900	34600	**10.5**
Deaths - 5 years ended 30 June	14000	14600	15800	16800	18300	**30.7**
Natural Increase - 5 years ended 30 June	17300	16900	17000	17100	16300	**-5.8**
Net Migration - 5 years ended 30 June	6800	8300	8800	8800	8800	**29.4**
Population at 30 June	417300	442400	468100	494000	519100	**24.4**
Median Age (Years) at 30 June	36.4	37	37.5	38.3	39.1	**7.4**
			MEDIUM			
Births (Live) - 5 years ended 30 June	30900	29400	29700	29700	29400	**-4.9**
Deaths - 5 years ended 30 June	14100	15000	15900	17000	18500	**31.2**
Natural Increase - 5 years ended 30 June	16800	14400	13700	12700	10900	**-35.1**
Net Migration - 5 years ended 30 June	3100	900	1400	1400	1400	**-54.8**
Population at 30 June	413100	428400	443500	457600	469900	**13.7**
Median Age (Years) at 30 June	36.4	37.2	37.9	38.7	39.8	**9.3**
			LOW			
Births (Live) - 5 years ended 30 June	30500	27200	26700	25900	24700	**-19.0**
Deaths - 5 years ended 30 June	14200	15400	16300	17200	18500	**30.3**
Natural Increase - 5 years ended 30 June	16300	11900	10400	8700	6200	**-62.0**
Net Migration - 5 years ended 30 June	-600	-6500	-6000	-6000	-6000	**900.0**
Population at 30 June	408900	414400	418800	421500	421800	**3.2**
Median Age (Years) at 30 June	36.5	37.4	38.2	39.2	40.6	**11.2**

Source: Subnational Projected Population Characteristics, 2006(base)-2031 (October 2012 update)

Appendix 3.3: Projected Population, Total New Zealand, 2006-2031 (Medium Series)

	Numbers by age						Change (%) 2011-2031
	2006	2011	2016	2021	2026	2031	
0-14 years	888,320	**894,460**	895,880	918,410	922,190	934,760	+4.5
15-24 years	604,740	**642,420**	627,810	604,110	620,770	635,360	-1.1
25-39 years	858,960	**856,580**	912,400	1,004,920	1,045,250	1,033,890	+20.7
40-54 years	891,290	**930,220**	903,540	854,150	852,610	919,050	-1.2
55-64 years	429,670	**494,440**	544,290	592,840	596,600	564,790	+14.2
65-74 years	275,700	**325,440**	400,300	465,990	518,940	568,860	+74.8
75-84 years	177,780	**188,510**	215,810	261,810	330,290	390,510	+107.2
85+ years	58,140	**73,110**	86,190	95,790	117,780	147,350	+101.5
Total	4,184,600	**4,405,180**	4,586,220	4,798,020	5,004,430	5,194,570	+17.9
65+ years	511,620	**587,060**	702,300	823,590	967,010	1,106,720	+88.5

	Intercensal Change by Age (Numbers)						Change (N)) 2011-2031
		2006-2011	2011-2016	2016-2021	2021-2026	2026-2031	
0-14 years	...	**6,140**	1,420	22,530	3,780	12,570	40,300
15-24 years	...	**37,680**	(14,610)	(23,700)	16,660	14,590	(7,060)
25-39 years	...	**(2,380)**	55,820	92,520	40,330	(11,360)	177,310
40-54 years	...	**38,930**	(26,680)	(49,390)	(1,540)	66,440	(11,170)
55-64 years	...	**64,770**	49,850	48,550	3,760	(31,810)	70,350
65-74 years	...	**49,740**	74,860	65,690	52,950	49,920	243,420
75-84 years	...	**10,730**	27,300	46,000	68,480	60,220	202,000
85+ years	...	**14,970**	13,080	9,600	21,990	29,570	74,240
Total	...	**220,580**	181,040	211,800	206,410	190,140	789,390
65+ years	...	**75,440**	115,240	121,290	143,420	139,710	519,660

	Age Distribution (% at each age group)						Change (%) 2011-2031
	2006	2011	2016	2021	2026	2031	
0-14 years	21.2	**20.3**	19.5	19.1	18.4	18.0	-11.4
15-24 years	14.5	**14.6**	13.7	12.6	12.4	12.2	-16.1
25-39 years	20.5	**19.4**	19.9	20.9	20.9	19.9	+2.4
40-54 years	21.3	**21.1**	19.7	17.8	17.0	17.7	-16.2
55-64 years	10.3	**11.2**	11.9	12.4	11.9	10.9	-3.1
65-74 years	6.6	**7.4**	8.7	9.7	10.4	11.0	+48.2
75-84 years	4.2	**4.3**	4.7	5.5	6.6	7.5	+75.7
85+ years	1.4	**1.7**	1.9	2.0	2.4	2.8	+70.9
Total	100.0	**100.0**	100.0	100.0	100.0	100.0	+0.0
65+ years	12.2	**13.3**	15.3	17.2	19.3	21.3	+59.9

	Summary Measures						Change (%) 2011-2031
	2006	2011	2016	2021	2026	2031	
LM Entrants/Exits							
(15-24/55-64 years)	1.4	**1.3**	1.2	1.0	1.0	1.1	-13.4
(20-29/60-69 years)	1.6	**1.5**	1.4	1.2	1.1	1.1	-25.4
Elderly/Children	0.6	**0.7**	0.8	0.9	1.0	1.2	+80.4
Reproductive (20-39 yrs)	27.5	**26.8**	27.1	27.5	27.0	26.3	-2.0
Proportion 65+ years	12.2	**13.3**	15.3	17.2	19.3	21.3	+59.9
Proportion 75+ years	5.6	**5.9**	6.6	7.5	9.0	10.4	+74.3
Growth (%) in 5 years	...	**+5.3**	+4.1	+4.6	+4.3	+3.8	+17.9
Annual average growth (	...	**+1.1**	+0.8	+0.9	+0.9	+0.8	+0.9

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

Appendix 3.4: Projection Assumptions, Waikato Region TAs, 2011-2031 (Medium Series)

	2011	2016	2021	2026	2031	Change 2011-2031 (%)
Hamilton City						
Births (Live) - 5 years ended 30 June	11800	11600	11900	12000	12300	4.2
Deaths - 5 years ended 30 June	4000	4200	4500	4800	5200	30.0
Natural Increase - 5 years ended 30 J	7800	7400	7400	7200	7100	-9.0
Net Migration - 5 years ended 30 Jun	3100	2500	2500	2500	2500	-19.4
Population at 30 June	145700	155600	165500	175200	184800	26.8
Median Age (Years) at 30 June	31.5	32.2	32.9	33.7	34.5	9.5
Hauraki District						
Births (Live) - 5 years ended 30 June	1200	1100	1100	1100	1050	-12.5
Deaths - 5 years ended 30 June	850	950	1050	1150	1250	47.1
Natural Increase - 5 years ended 30 J	350	150	50	-50	-200	-157.1
Net Migration - 5 years ended 30 Jun	100	0	0	0	0	-100.0
Population at 30 June	18750	18900	18950	18850	18650	-0.5
Median Age (Years) at 30 June	43.9	46.6	48.2	48.8	48.7	10.9
Matamata-Piako District						
Births (Live) - 5 years ended 30 June	2200	2100	2100	2000	1900	-13.6
Deaths - 5 years ended 30 June	1300	1400	1500	1600	1700	30.8
Natural Increase - 5 years ended 30 J	900	700	600	500	300	-66.7
Net Migration - 5 years ended 30 Jun	-200	-300	-300	-300	-300	50.0
Population at 30 June	31900	32300	32600	32800	32700	2.5
Median Age (Years) at 30 June	39.7	41.1	42.0	42.8	44.2	11.3
Otorohanga District						
Births (Live) - 5 years ended 30 June	670	600	580	550	510	-23.9
Deaths - 5 years ended 30 June	250	260	260	270	290	16.0
Natural Increase - 5 years ended 30 J	420	340	320	280	230	-45.2
Net Migration - 5 years ended 30 Jun	-400	-500	-500	-500	-500	25.0
Population at 30 June	9330	9170	8990	8770	8500	-8.9
Median Age (Years) at 30 June	35.4	35.8	36.5	37.6	38.8	9.6
South Waikato District						
Births (Live) - 5 years ended 30 June	1900	1700	1700	1600	1400	-26.3
Deaths - 5 years ended 30 June	900	900	1000	1000	1050	16.7
Natural Increase - 5 years ended 30 J	1100	800	700	600	400	-63.6
Net Migration - 5 years ended 30 Jun	-1400	-1600	-1500	-1500	-1500	7.1
Population at 30 June	22900	22100	21300	20400	19300	-15.7
Median Age (Years) at 30 June	36.1	37.2	37.6	38.5	40.5	12.2

Source: Subnational Projected Population Characteristics, 2006(base)-2031 (October 2012 update)

Appendix 3.4: Projection Assumptions, Waikato Region TAs, 2011-2031 (Medium Series) (cont.)

	2011	2016	2021	2026	2031	Change 2011-2031 (%)
Taupo District						
Births (Live) - 5 years ended 30 June	2500	2300	2300	2200	2100	-16.0
Deaths - 5 years ended 30 June	1300	1400	1500	1600	1700	30.8
Natural Increase - 5 years ended 30 June	1200	1000	800	600	300	-75.0
Net Migration - 5 years ended 30 June	-600	-600	-300	-300	-300	-50.0
Population at 30 June	34100	34400	35000	35300	35300	3.5
Median Age (Years) at 30 June	39.5	41.2	42.5	43.7	45.0	13.9
Thames-Coromandel District						
Births (Live) - 5 years ended 30 June	1400	1300	1200	1200	1200	-14.3
Deaths - 5 years ended 30 June	1500	1500	1600	1600	1700	13.3
Natural Increase - 5 years ended 30 June	-100	-300	-300	-400	-500	400.0
Net Migration - 5 years ended 30 June	400	400	500	500	500	25.0
Population at 30 June	27000	27100	27300	27400	27400	1.5
Median Age (Years) at 30 June	48.4	50.7	52.4	53.7	54.7	13.0
Waikato District						
Births (Live) - 5 years ended 30 June	4800	4700	4900	5000	5100	6.3
Deaths - 5 years ended 30 June	1900	2000	2200	2400	2700	42.1
Natural Increase - 5 years ended 30 June	3000	2700	2700	2700	2400	-20.0
Net Migration - 5 years ended 30 June	1800	1000	1000	1000	1000	-44.4
Population at 30 June	64300	67900	71600	75300	78700	22.4
Median Age (Years) at 30 June	36.8	37.8	38.5	39.3	40.7	10.6
Waipa District						
Births (Live) - 5 years ended 30 June	3100	2900	3000	3000	2900	-6.5
Deaths - 5 years ended 30 June	1700	1900	2100	2300	2400	41.2
Natural Increase - 5 years ended 30 June	1400	1000	900	700	500	-64.3
Net Migration - 5 years ended 30 June	1000	700	700	700	700	-30.0
Population at 30 June	46000	47800	49300	50700	51900	12.8
Median Age (Years) at 30 June	40.0	41.5	42.3	43.0	43.9	9.8
Waitomo District						
Births (Live) - 5 years ended 30 June	790	740	730	700	660	-16.5
Deaths - 5 years ended 30 June	390	370	380	390	400	2.6
Natural Increase - 5 years ended 30 June	410	360	350	320	250	-39.0
Net Migration - 5 years ended 30 June	-450	-500	-500	-500	-500	11.1
Population at 30 June	9630	9490	9340	9160	8910	-7.5
Median Age (Years) at 30 June	35.2	35.4	35.5	36.6	37.8	7.4

Source: Subnational Projected Population Characteristics, 2006(base)-2031 (October 2012 update)

Appendix 3.5: Projected Change by Broad Age Group (Numbers), Waikato Region and TAs, 2011-2031 (Medium Series)

Projected Change in Numbers by Age and Region, 2011-2031

	Hamilton	Hauraki	Matamata-Piako	Otorohanga	South Waikato	Taupo	Thames Coromandel	Waikato	Waipa	Waitomo	Waikato Region
0-14	4,590	-380	-780	-420	-1,390	-700	-590	1,000	-260	-330	740
15-24	5,710	-540	-900	-300	-1,310	-860	-630	-130	-340	-300	370
25-39	6,020	220	250	-80	-240	-230	40	2,990	1,080	-10	10,160
40-54	4,590	-1,390	-1,540	-610	-1,860	-1,430	-1,180	-260	-1,870	-540	-6,330
55-64	3,620	-550	90	-170	-340	190	-580	1,970	480	-230	4,510
65-74	7,060	740	1,660	330	480	1,820	1,160	4,590	3,060	320	21,380
75-84	5,600	1,240	1,320	290	690	1,750	1,540	3,370	2,540	290	18,800
85+	1,920	610	710	100	370	730	610	880	1,140	80	7,190
Total	39,110	-50	810	-860	-3,600	1,270	370	14,410	5,830	-720	56,820
65+	14,580	2,590	3,690	720	1,540	4,300	3,310	8,840	6,740	690	47,370

Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 (October 2012 update)

Appendix 4.1: Average Age of Employed Labour Force by Employment Status, Waikato Region, 1996, 2001, 2006

Employment Status by Sex Total Waikato Region	Males	Females	Total	Sex Ratio Males /Females	Average Age (Total)*
1996					
Self Employed, no employee	14,181	7,023	21,204	2.0	44.5
Employer	9,825	4,473	14,298	2.2	44.8
Paid Employee	56,388	51,375	107,763	1.1	36.0
Unpaid Family Worker	2,775	4,086	6,861	0.7	42.3
NS/NEI	2,916	2,424	5,340	1.2	38.3
Total	**86,085**	**69,381**	**155,466**	**1.24**	**38.3**
2001					
Self Employed, no employee	15,009	8,028	23,037	1.9	46.9
Employer	10,092	5,058	15,150	2.0	46.8
Paid Employee	58,578	56,586	115,164	1.0	37.9
Unpaid Family Worker	1,959	2,931	4,890	0.7	45.0
NS/NEI	2,556	2,166	4,722	1.2	40.3
Total	**88,194**	**74,769**	**162,963**	**1.18**	**40.3**
2006					
Self Employed, no employee	15,177	8,709	23,886	1.7	48.6
Employer	10,791	5,529	16,320	2.0	47.7
Paid Employee	68,460	67,134	135,594	1.0	39.0
Unpaid Family Worker	1,953	2,808	4,761	0.7	47.2
NS/NEI	2,751	2,364	5,115	1.2	41.4
Total	**99,132**	**86,544**	**185,676**	**1.15**	**41.4**

Change 1996-2006	Males	Females	Total
Number	13,047	17,163	30,210
(%)	15.2	24.7	19.4

Employment Entry/Exit Ratio	1996	2001	2006	Change 1996-2006 (%)
15-24: 55+ years	1.6	1.0	0.8	-47.7

Percentage aged 55+ Years	12.1	15.5	19.5	61.1

Sex Ratio by age (males/females)	1996	2001	2006	Change 1996-2006 (%)
15-19	1.2	1.1	1.2	-1.7
20-24	1.2	1.2	1.2	1.7
25-29	1.3	1.2	1.2	-3.8
30-34	1.3	1.2	1.2	-8.8
35-39	1.2	1.2	1.1	-7.9
40-44	1.1	1.1	1.0	-7.5
45-49	1.1	1.1	1.0	-8.1
50-54	1.2	1.1	1.1	-12.6
55-59	1.4	1.3	1.1	-19.4
60-64	1.8	1.6	1.3	-27.3
65+	2.1	1.8	1.7	-21.4
TOTAL*	**1.2**	**1.2**	**1.1**	**-7.7**

Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006
** Age not available for small cell sizes, thus summed totals by employment status are lower than summed total*

Appendix 4.2: Average Age of Employed Labour Force by Employment Status, Waikato Region, 1996, 2001, 2006 Dairy Cattle Farming [A013]

Employment Status by Sex

A013 Dairy Cattle Farming Waikato Region	Males	Females	Total	Sex Ratio Males/Females	Average Age (Total)*
1996					
Self Employed, no employee	3,168	1,779	4,947	1.8	41.2
Employer	1,881	924	2,805	2.0	44.5
Paid Employee	2,658	795	3,453	3.3	29.8
Unpaid Family Worker	588	888	1,476	0.7	40.7
NS/NEI	138	66	204	2.1	38.8
Total	**8,433**	**4,452**	**12,885**	**1.89**	**38.8**
2001					
Self Employed, no employee	2,658	1,608	4,266	1.7	44.4
Employer	1,911	1,053	2,964	1.8	46.8
Paid Employee	2,823	912	3,735	3.1	31.8
Unpaid Family Worker	378	513	891	0.7	43.2
NS/NEI	72	63	135	1.1	41.0
Total	**7,842**	**4,149**	**11,991**	**1.89**	**41.0**
2006					
Self Employed, no employee	1,860	1,116	2,976	1.7	46.0
Employer	1,896	1,086	2,982	1.7	47.6
Paid Employee	2,958	1,170	4,128	2.5	33.8
Unpaid Family Worker	342	456	798	0.8	46.3
NS/NEI	39	42	81	0.9	41.9
Total	**7,095**	**3,870**	**10,965**	**1.83**	**41.9**

Change 1996-2006	Males	Females	Total
Number	-1,338	-582	-1,920
(%)	-15.9	-13.1	-14.9

Employment Entry/Exit Ratio	1996	2001	2006	Change 1996-2006 (%)
15-24: 55+ years	1.2	0.8	0.7	-39.4

Percentage aged 55+ Years	13.9	17.7	19.4	39.6

Sex Ratio by age (males/females)	1996	2001	2006	Change 1996-2006 (%)
15-19	3.5	2.9	2.6	-26.5
20-24	3.1	3.2	3.2	1.9
25-29	1.9	2.4	2.2	18.3
30-34	1.6	1.9	1.9	19.4
35-39	1.6	1.7	1.5	-3.9
40-44	1.8	1.9	1.5	-14.1
45-49	1.7	1.9	1.7	2.5
50-54	1.6	1.7	1.7	3.6
55-59	1.7	1.8	1.6	-4.1
60-64	2.0	1.9	1.7	-15.3
65+	2.6	1.7	2.1	-21.1
TOTAL*	**1.9**	**1.9**	**1.8**	**-3.5**

Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006
** Age not available for small cell sizes, thus summed totals by employment status are lower than summed total*

Appendix 4.3: Average Age of Employed Labour Force by Employment Status, Waikato Region, 1996, 2001, 2006 School Education [N842]

N842 School Education Waikato Region	Males	Females	Total	Sex Ratio Males/Females	Average Age (Total)*
1996					
Self Employed, no employee	6	3	9	2.0	64.2
Employer	-	-	-		
Paid Employee	1,794	4,773	6,567	0.4	42.4
Unpaid Family Worker	-	-	-		
NS/NEI	-	3	3	0.0	42.5
Total	**1,800**	**4,779**	**6,579**	**0.38**	**42.5**
2001					
Self Employed, no employee	78	120	198	0.7	47.4
Employer	9	36	45	0.3	43.8
Paid Employee	1,887	5,700	7,587	0.3	43.8
Unpaid Family Worker	3	24	27	0.1	41.9
NS/NEI	21	51	72	0.4	43.9
Total	**1,998**	**5,931**	**7,929**	**0.34**	**43.9**
2006					
Self Employed, no employee	48	81	129	0.6	50.9
Employer	6	24	30	0.3	44.0
Paid Employee	1,815	6,138	7,953	0.3	45.0
Unpaid Family Worker	6	6	12	1.0	27.5
NS/NEI	6	15	21	0.4	45.0
Total	**1,881**	**6,264**	**8,145**	**0.30**	**45.0**

Change 1996-2006	Males	Females	Total
Number	81	1,485	1,566
(%)	4.5	31.1	23.8

Employment Entry/Exit Ratio	1996	2001	2006	Change 1996-2006 (%)
15-24: 55+ years	0.6	0.4	0.2	-61.4

Percentage aged 55+ Years	12.2	15.9	21.5	76.0

Sex Ratio by age (males/females)	1996	2001	2006	Change 1996-2006 (%)
15-19	0.8	0.9	0.6	-23.1
20-24	0.2	0.3	0.3	20.1
25-29	0.3	0.3	0.3	1.2
30-34	0.3	0.4	0.3	-4.8
35-39	0.3	0.3	0.3	-10.2
40-44	0.3	0.2	0.2	-44.0
45-49	0.4	0.3	0.2	-44.2
50-54	0.5	0.4	0.3	-32.8
55-59	0.5	0.5	0.4	-27.8
60-64	0.7	0.6	0.5	-26.4
65+	0.9	1.0	0.7	-16.7
TOTAL*	**0.4**	**0.3**	**0.3**	**-20.3**

Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006
** Age not available for small cell sizes, thus summed totals by employment status are lower than summed total*

Appendix 4.4: Average Age of Employed Labour Force by Employment Status, Waikato Region, 1996, 2001, 2006 Building and Construction [E411]

E411 Building Construction Waikato Region	Males	Females	Total	Sex Ratio Males/Females	Average Age (Total)*
1996					
Self Employed, no employee	705	45	750	15.7	43.2
Employer	375	45	420	8.3	42.1
Paid Employee	1,239	123	1,362	10.1	32.6
Unpaid Family Worker	30	66	96	0.5	39.7
NS/NEI	42	12	54	3.5	37.4
Total	**2,391**	**291**	**2,682**	**8.22**	**37.4**
2001					
Self Employed, no employee	750	69	819	10.9	44.3
Employer	378	54	432	7.0	43.6
Paid Employee	1,311	171	1,482	7.7	34.5
Unpaid Family Worker	3	36	39	0.1	42.9
NS/NEI	6	-	6		38.9
Total	**2,448**	**330**	**2,778**	**7.42**	**38.9**
2006					
Self Employed, no employee	984	105	1,089	9.4	45.7
Employer	645	117	762	5.5	44.7
Paid Employee	2,418	294	2,712	8.2	33.7
Unpaid Family Worker	27	63	90	0.4	42.7
NS/NEI	21	6	27	3.5	38.5
Total	**4,095**	**585**	**4,680**	**7.00**	**38.5**

Change 1996-2006	Males	Females	Total
Number	1,704	294	1,998
(%)	71.3	101.0	74.5

Employment Entry/Exit Ratio	1996	2001	2006	Change 1996-2006 (%)
15-24: 55+ years	2.1	1.5	1.6	-24.1

Percentage aged 55+ Years	10.0	13.0	15.0	50.7

Sex Ratio by age (males/females)	1996	2001	2006	Change 1996-2006 (%)
15-19	10.5	13.8	22.3	112.2
20-24	21.8	12.8	21.4	-1.6
25-29	6.9	15.8	8.3	19.1
30-34	6.6	6.0	4.8	-26.3
35-39	6.9	7.2	4.6	-33.4
40-44	5.9	9.0	5.3	-9.9
45-49	11.0	7.0	6.1	-44.3
50-54	7.1	6.7	5.2	-27.1
55-59	10.0	5.6	5.6	-43.9
60-64	11.5	11.7	6.2	-46.1
65+	3.5	3.0	13.3	281.0
TOTAL*	**8.5**	**7.4**	**7.1**	**-16.4**

Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006
** Age not available for small cell sizes, thus summed totals by employment status are lower than summed total*

Appendix 4.5: Average Age of Employed Labour Force by Employment Status, Waikato Region, 1996, 2001, 2006 Grain, Sheep and Beef Cattle Farming [A012]

A012 Grain, Sheep and Beef Cattle Waikato Region	Males	Females	Total	Sex Ratio Males/Females	Average Age (Total)*
1996					
Self Employed, no employee	1,146	450	1,596	2.5	49.8
Employer	348	123	471	2.8	49.7
Paid Employee	951	261	1,212	3.6	36.1
Unpaid Family Worker	444	621	1,065	0.7	44.1
NS/NEI	45	21	66	2.1	44.6
Total	**2,934**	**1,476**	**4,410**	**1.99**	**44.6**
2001					
Self Employed, no employee	1,038	468	1,506	2.2	51.6
Employer	333	132	465	2.5	50.5
Paid Employee	861	252	1,113	3.4	37.1
Unpaid Family Worker	324	384	708	0.8	47.9
NS/NEI	33	24	57		46.6
Total	**2,589**	**1,260**	**3,849**	**2.05**	**46.6**
2006					
Self Employed, no employee	1,269	624	1,893	2.0	54.3
Employer	390	150	540	2.6	52.5
Paid Employee	957	300	1,257	3.2	39.1
Unpaid Family Worker	390	465	855	0.8	51.3
NS/NEI	27	21	48	1.3	49.3
Total	**3,033**	**1,560**	**4,593**	**1.94**	**49.3**

Change 1996-2006	Males	Females	Total
Number	99	84	183
(%)	3.4	5.7	4.1

Employment Entry/Exit Ratio	1996	2001	2006	Change 1996-2006 (%)
15-24: 55+ years	0.4	0.3	0.2	-55.1

Percentage aged 55+ Years	26.5	31.1	41.6	56.8

Sex Ratio by age (males/females)	1996	2001	2006	Change 1996-2006 (%)
15-19	2.4	1.7	2.8	18.4
20-24	3.3	3.5	2.5	-23.1
25-29	2.4	3.1	3.3	34.1
30-34	1.8	2.7	2.0	12.0
35-39	1.6	2.4	1.7	7.3
40-44	1.9	2.1	1.4	-25.4
45-49	1.7	1.9	1.9	15.6
50-54	1.7	2.2	1.6	-7.8
55-59	2.0	2.0	1.8	-9.8
60-64	1.8	2.2	1.9	5.5
65+	3.1	1.9	2.4	-21.2
TOTAL*	**2.0**	**2.1**	**1.9**	**-2.2**

Source: Jackson/Statistics NZ Customised Database,
Area of Usual Residence, Industry (ANZSIC96 V4.1) and Status in Employment by Age Group and Sex for the Employed Census Usually Resident Population Count Aged 15+ Years, 1996, 2001, 2006
** Age not available for small cell sizes, thus summed totals by employment status are lower than summed total*

Appendix 4.6: Pearson's Co-efficient

The Pearson's correlation coefficient (*r*) measures the strength of association between two arrays of data on a scale ranging from -1.0 to +1.0. An *r* of 1.0 would indicate that both indices moved in the same direction at the same rate; an r of -1.0, that each moved in the opposite direction at the same rate. In the present case, an *r* of 0.47 indicates that the higher the proportion Māori, the higher the level of multiple counting.

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