



## Napier City

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# Demographic Profile 1986-2031

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National Institute of  
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*Te Rūnanga Tātari Tatauranga*

THE UNIVERSITY OF WAIKATO



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## EXECUTIVE SUMMARY

1. The population of Napier City has grown slowly over the past three decades, from just below 52,000 in 1981 to around 58,000 in 2011. It is projected to continue slow growth until around 2021, peaking at around 58,520 persons, then declining slightly. The population in 2031 is projected to be approximately 0.5 per cent larger than 2011. The trends are similar for Hawke's Bay, which is projected to increase by 1.9 per cent. In both cases all growth is at 65+ years.
2. Napier City has a larger proportion of those of European/New Zealand/Other ethnicity than either the Hawke's Bay region or Total New Zealand, and a smaller proportion of both Māori and Pacific Island than the Hawke's Bay. Napier also has substantially fewer of Asian origin. In all cases, the number in each ethnic group has grown, but substantially less so for the European/New Zealander/Other group, which actually declined slightly between 1996 and 2001. For both Napier City and the Hawke's Bay region, this group grew by less than 1.0 per cent during the period 1996-2006, while Māori grew by 13.1 and 4.3 per cent respectively, accounting for approximately 50 per cent of Napier's growth and 26 per cent of the Hawke's Bay's.
3. The main component of Napier City's growth is natural increase. Net migration loss across much of the 1990s and again across 2006-09 and in 2010-11 partially, and in some cases fully, offset that growth. The trends are similar for both the Hawke's Bay and Total New Zealand, albeit in the latter case net migration loss occurred only across the late 1990s and early 2000s.
4. Components of change by age (which are free of cohort size effects) show that most of Napier City's net migration loss between 1996 and 2006 was concentrated at 20-24 years of age. However between 2001 and 2006 Napier City also saw small net migration gains at 30-44 years, and at 65-69 years across both periods. The trends were similar for the Hawke's Bay region, the only real differences being small net migration gains at 0-4 and 5-9 years for Hawke's Bay during the 2001-2006 period, and more noticeable net migration losses at 15-19 years across both periods.
5. From a cross-sectional perspective (that is, change by age group rather than cohort), numbers for Napier City declined at most younger ages - the exceptions being at 10-14 and 15-19 years - and increased at all older ages, most particularly across the Baby Boomer age groups. The trends are highly similar for Total Hawke's Bay, while for Total New Zealand, net decline occurred at ages 5-9 and 30-34 years only. As noted these changes are partly due to cohort size effects.
6. As elsewhere, the population of Napier City is ageing. However like many 'rural' areas its ageing is being accelerated because sustained net migration loss at young adult ages has caused a deep bite to develop in the age structure across age 20-39 years. The minor gains at older ages also add to structural population ageing. The trends have been similar for the Hawke's Bay region.
7. The changes by age have important implications for the labour market. Napier City's Labour Market 'entry/exit ratio' (population aged 15-24 / 55-64 years) has fallen steadily since 1996, from 15.4 people at labour market entry age for every 10 in the retirement age zone, to just 10.4 in 2010. By comparison, Total New Zealand still has 13.2 people at entry age per 10 at exit age, while the Hawke's Bay Region, similar to Napier, has 10.6 per 10. Of note is that if older age groupings are used, for example 20-29 and 60-69 years, Napier City in 2010 had only 9.9 entrants per 10 exits, compared with 14.8 for Total New Zealand and 10.3 for Hawke's Bay. Again this is a reflection of Napier's older age structure and deeper bite in the age structure at ages 20-34.



8. As elsewhere in New Zealand, the age structures of Napier City's major ethnic groups differ markedly, with the European/New Zealander/Other population relatively old and the Māori and Pacific Island populations relatively young. The Asian population falls somewhere between, closer to the older age structure of European. There is a very strong correspondence between the overall bite in the age structure, and the age structure of the European population.
9. The very youthful age structure of Napier City's Māori population saw over one-third aged 0-14 years across the period 1996-2006. These proportions are in stark contrast to the Māori population's 15-17 per cent total population share and are clearly where the Māori population's contribution to Napier City's growth is concentrated. The data also indicate that Napier City's Māori population is slightly more youthful than its counterparts in the Hawke's Bay region and total New Zealand. At the same time, young Māori comprise a slightly smaller share of Napier City's youthful population than they do of the Hawke's Bay region's youth, but a somewhat greater share than for Total New Zealand. The situation at 15-24 years is similar.
10. As noted at point 1, the population of Napier City is projected to peak around 2021 and then decline slightly (medium assumptions). Overall population decline is projected for all age groups up to age 64, offset by significant growth at 65+ years. Similar losses and gains by age are also projected for the Hawke's Bay region. No losses at the younger ages are projected for Total New Zealand, although the gains are likely to be minimal, while those at older ages are somewhat greater than for both Napier City and the Hawke's Bay region.
11. Projections by major ethnic group show the Māori population increasing between 2011 and 2021 by approximately 16.5 per cent, and the European/Other population declining slightly (-0.6 per cent). There are, however, marked differences by age, with the 65+ year Māori population projected to increase by 60 per cent, and the 65+ European/Other population by 27 per cent. Significant increase is also projected for the Māori population aged 40-64 years, while significant decline is projected for the European/Other population at 15-39 years.
12. Data for the Hawke's Bay region suggest there will be relatively little change in the overall ethnic composition over time, but greater change by age. Young Māori, Pacific Island and Asian (0-14 years) are projected to slightly increase their share of the region's youthful population, while greater changes are evident for each successively older age group. In each case these result in a slightly diminished proportion of European.
13. The projections show Napier City's labour market entry / exit ratio falling below one (entrant per exit) between 2016 and 2021, depending on which age groupings are used. The trends are similar for Hawke's Bay and Total New Zealand, although for total New Zealand the ratio does not fall below one during the projection period.
14. The projections also show a rapid decline in Napier City's natural increase that has significant implications for future growth. The trend is driven by a cross-over to more elderly than children around 2016 (compared with 2021 for Hawke's Bay and 2026 for Total New Zealand), and a relatively small proportion projected to be at the key reproductive ages (21-22 per cent for both Napier City and Hawke's Bay) compared with 25-27 per cent for Total New Zealand.
15. A special topic section provides an overview of the Hawke's Bay region's changing industrial age structure across the 1996-2006 period, focussing on 18 industries which employ more than 1,000 people. Entry / exit ratios in key industries for the Hawke's Bay region are generally lower than for Total New Zealand and are declining at a faster rate, pointing to an urgent need to engage in succession planning, especially in the Government Administration and Marketing/Business Services industries.



## 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 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 2011).

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 (eg 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 (eg., 5 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. Second, known births are apportioned male/female according to the sex ratio (105 males / 100 females), and (using 5 year age group data) entered at age 0-4. Third, the survived numbers for each age/sex group are 'aged' by 5 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 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 10,000 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 for Napier City are included at Appendix 3. When interpreting these data it is important to remind readers 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 6) 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. Aggregation by employment status (employer, self-employed, paid employee etc.,) is another case where the totals in this report may differ from those in other collections.



## 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:

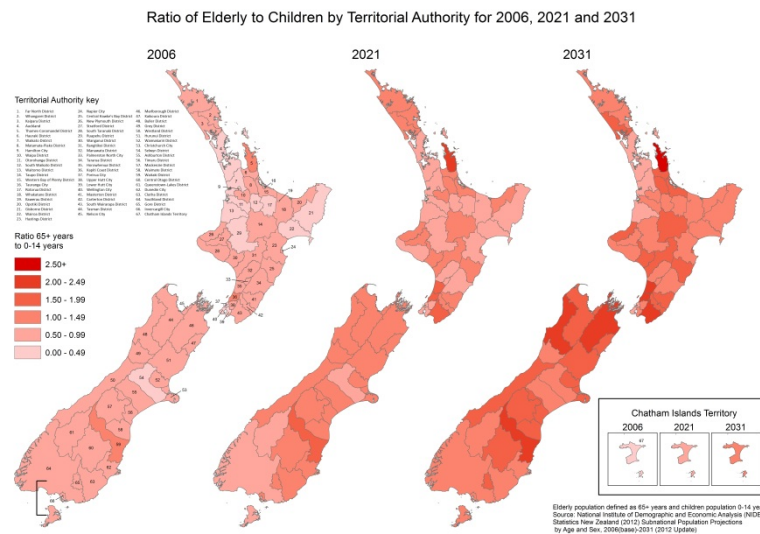
- Declining birth rates decrease the proportion of the population that is young and concomitantly increase the proportion at older ages.
- More people living longer adds to the numbers at older ages, and in the process further swells the proportion at those ages.
- When an area experiences net migration 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 the three TAs noted above are yet experiencing 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.

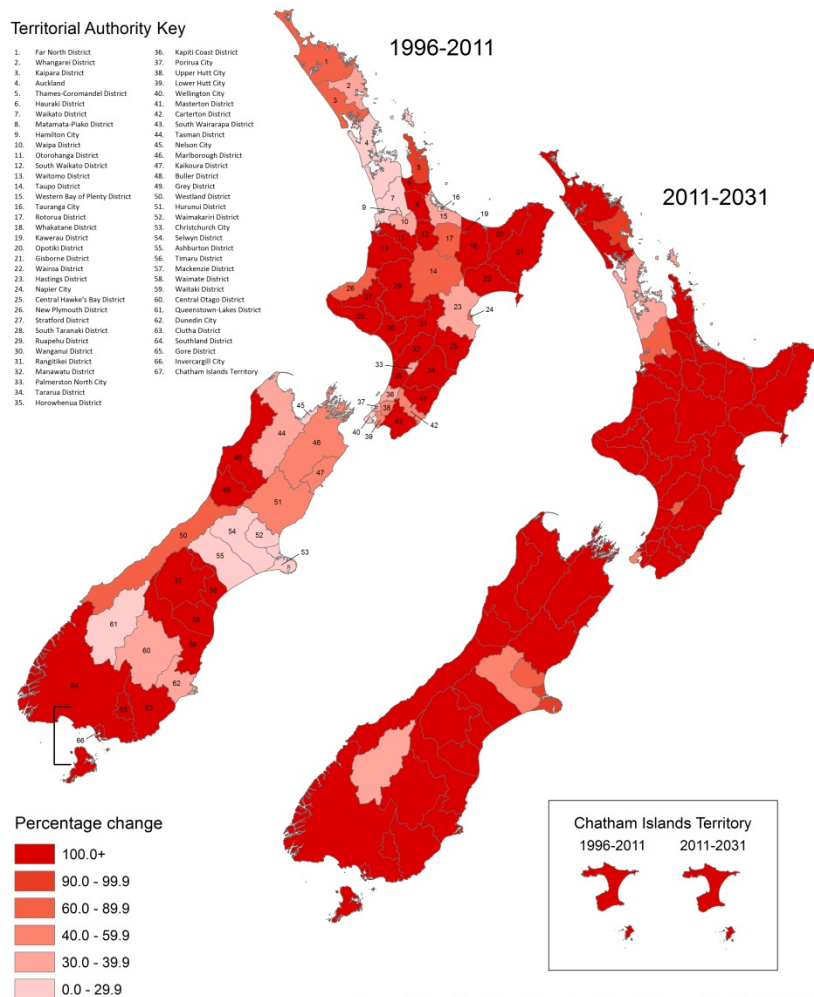
In the interim, it is critical to understand that for 56 TAs (84 per cent), all future ‘growth’ to 2031 will be at 65+ years (Figure 2)—and that in 23 of these TAs, that growth will be insufficient to offset overall decline at other ages. While the number declining will actually be one fewer than between 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 migrant whom New Zealand attracts *and trains* will be of ever-greater interest to our structurally older counterparts.

The following demographic profile for Napier City should be read with this broad context in mind. The 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

*Professor Natalie Jackson*

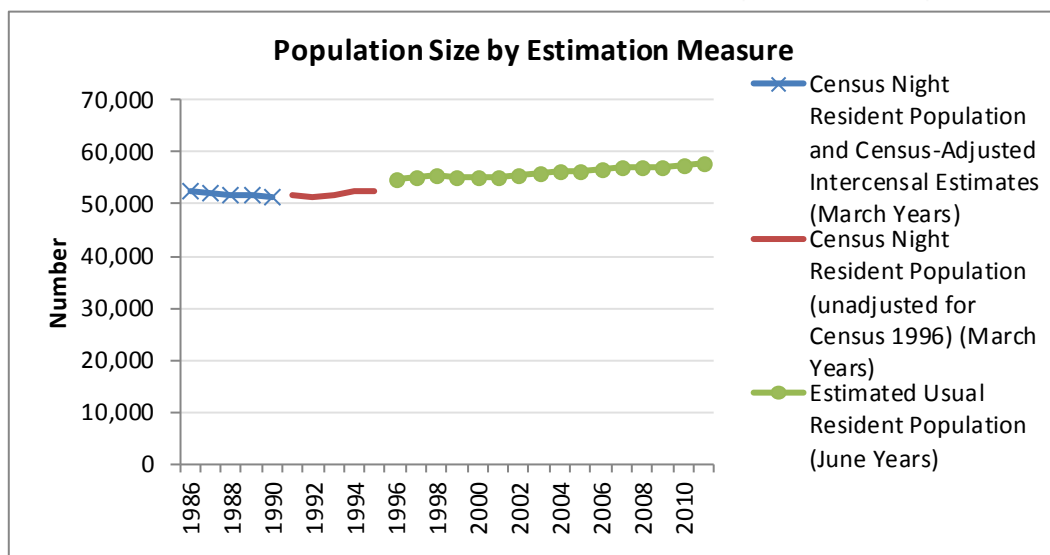


## 1.0 Population Trends

### 1.1 Population Size and Growth

The population of Napier City has grown slowly over the past three decades, from just below 52,000 in 1981 to around 58,000 in 2011 (Figure 1.1.1). 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 steady growth has occurred since the 1990s (see Appendix 1.0 for underlying data). The lowest points over the period 1996-2011 occurred between 1997 and 2001 when the usual resident population numbered between 55,200 and 55,400.

**Figure 1.1.1: Population of Napier City, 1986-2011**



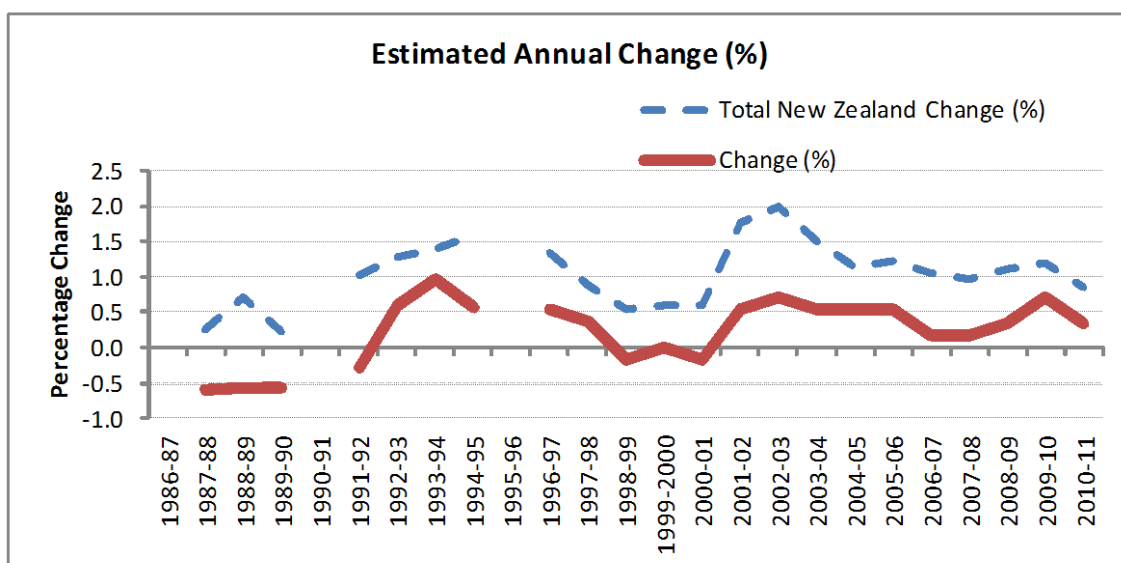
Source: Statistics New Zealand Infoshare, Tables DPE006AA; DPE051AA

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. For Napier, negative growth in the 1980s and again briefly around the late 1990s-early 2000s has been replaced by positive growth for the past decade (see Appendix 1.0 for data). Importantly, the trends mirror those for Total New Zealand, with national growth also very low across the 1998-2001 period.



**Figure 1.1.2: Annual Population Growth Rate, Napier City and Total New Zealand, 1986-2011**



Source: Statistics New Zealand Infoshare, Tables DPE006AA; DPE051AA

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

## 1.2 Ethnic Composition and Growth

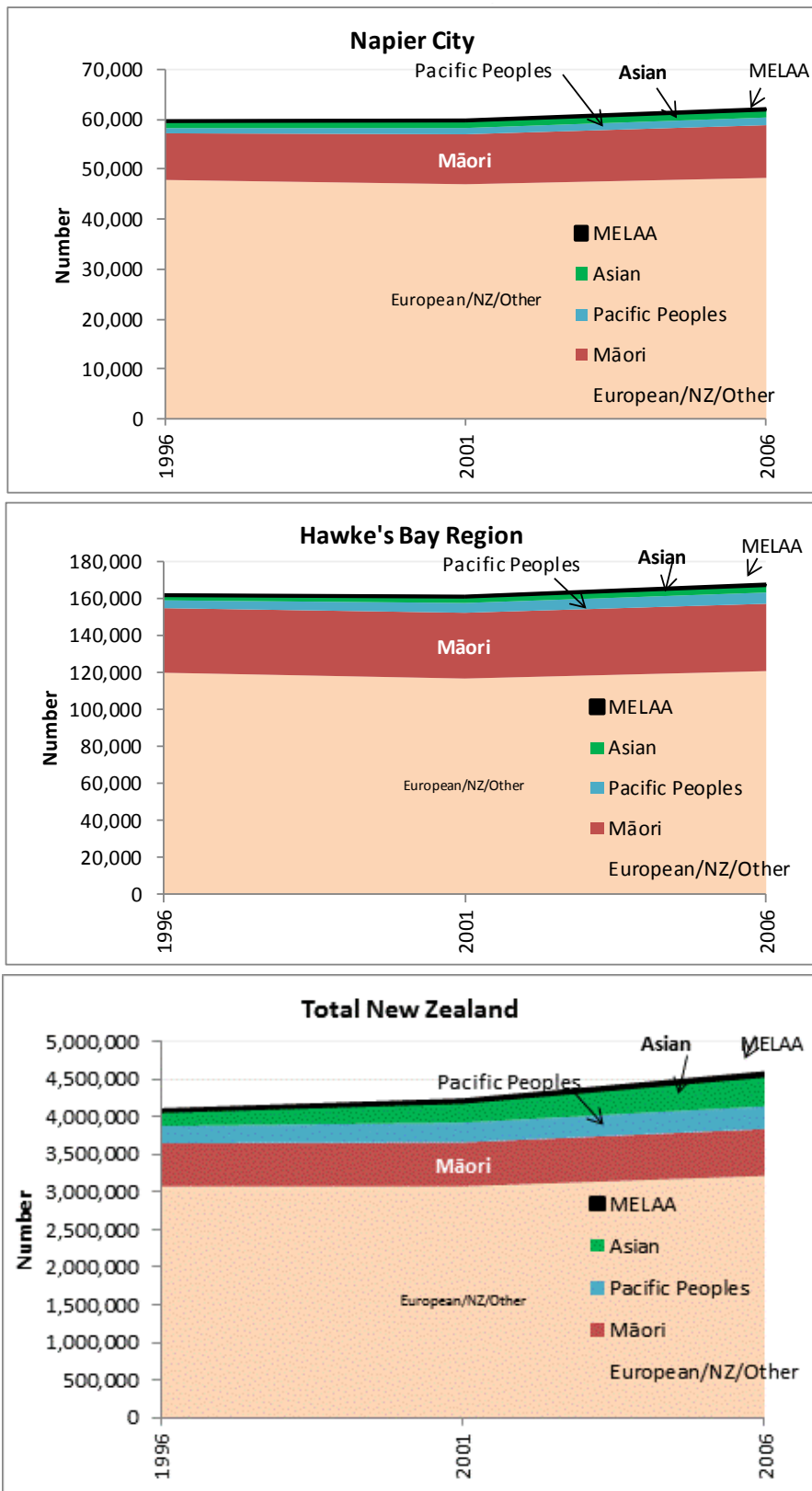
Figure 1.2.1 provides an indication of the extent to which the major ethnic groups have contributed to the region's growth (see also Table 1.2.1). Very clear from these 'multiple ethnic group' data<sup>1</sup> is that Napier City has a larger proportion of those of European/New Zealand/Other ethnicity than either the Hawke's Bay Region or Total New Zealand, and a smaller proportion of both Māori and Pacific Island than the Hawke's Bay. Napier also has substantially fewer people of Asian origin.

In all cases, the number in each ethnic group has grown, but substantially less so for the European/New Zealander/Other group. For both Napier City and the Hawke's Bay region, this group grew by less than 1.0 per cent during the period 1996-2006 (declining between 1996 and 2001), while Māori grew by 13.1 and 4.3 per cent respectively, accounting for approximately 50 per cent of Napier's growth and 26 per cent of the Hawke's Bay's (Table 1.2.2). Pacific Peoples also experienced significant growth, above 40 per cent in each case, but, like the Asian-origin and Middle Eastern/Latin American/African (MELAA) population, the higher growth rate reflects a relatively small base.

<sup>1</sup> 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.



**Figure 1.2.1: Population by Major Ethnic Group\* (Multiple Count), Napier City, Hawke's Bay Region, and Total New Zealand 1996-2006**



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 1.2.1: Population by Major Ethnic Group\* (Multiple Count), Napier City, Hawke's Bay Region, and Total New Zealand 1996-2006**

	1996	2001	2006	Change (%)	1996	2001	2006
	NUMBER				DISTRIBUTION (%)*		
<b>Napier City</b>							
European/NZ/Other	47,830	46,970	48,240	0.9	80.2	78.6	77.7
Māori	9,320	9,990	10,540	13.1	15.6	16.7	17.0
Pacific Peoples	1,040	1,255	1,535	47.6	1.7	2.1	2.5
Asian	1,350	1,440	1,525	13.0	2.3	2.4	2.5
Middle Eastern/Latin American/African (MELA)	105	130	220	109.5	0.2	0.2	0.4
<b>TOTAL</b>	<b>59,645</b>	<b>59,785</b>	<b>62,060</b>	<b>4.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Total without multiple count	54,900	55,200	56,800	3.5	...	...	...
Ethnic 'overcount' (%)	8.6	8.3	9.3	7.1	...	...	...
<b>Hawke's Bay Region</b>							
European/NZ/Other	119,860	116,720	120,730	0.7	74.0	72.4	72.0
Māori	34,880	35,520	36,380	4.3	21.5	22.0	21.7
Pacific Peoples	4,210	5,300	6,060	43.9	2.6	3.3	3.6
Asian	2,650	3,270	3,870	46.0	1.6	2.0	2.3
Middle Eastern/Latin American/African (MELA)	295	325	625	111.9	0.2	0.2	0.4
<b>TOTAL</b>	<b>161,895</b>	<b>161,135</b>	<b>167,665</b>	<b>3.6</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Total without multiple count	146,600	147,300	152,100	3.8	...	...	...
Ethnic 'overcount' (%)	10.4	9.4	10.2	-1.9	...	...	...
<b>TOTAL NEW ZEALAND</b>							
European/NZ/Other	3,074,610	3,074,010	3,213,330	4.5	75.2	72.8	70.1
Māori	573,180	585,970	624,310	8.9	14.0	13.9	13.6
Pacific Peoples	229,280	261,820	301,640	31.6	5.6	6.2	6.6
Asian	194,750	272,440	404,320	107.6	4.8	6.5	8.8
Middle Eastern/Latin American/African (MELA)	18,450	27,660	38,550	108.9	0.5	0.7	0.8
<b>TOTAL</b>	<b>4,090,270</b>	<b>4,221,900</b>	<b>4,582,150</b>	<b>12.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
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



**Table 1.2.2: Contribution to Change by Major Ethnic Group\* (Multiple Count), Napier City, Hawke's Bay Region, and Total New Zealand 1996-2006**

	Contribution to Change			Number	(% )
	1996	2001	2006		
<b>NUMBER</b>					
<b>Napier City</b>					
European/NZ/Other	47,830	46,970	48,240	410	17.0
Māori	9,320	9,990	10,540	1220	50.5
Pacific Peoples	1,040	1,255	1,535	495	20.5
Asian	1,350	1,440	1,525	175	7.2
Middle Eastern/Latin American/African (MELAA)	105	130	220	115	4.8
<b>TOTAL</b>	<b>59,645</b>	<b>59,785</b>	<b>62,060</b>	<b>2415</b>	<b>100.0</b>
<b>Hawke's Bay Region</b>					
European/NZ/Other	119,860	116,720	120,730	870	15.1
Māori	34,880	35,520	36,380	1500	26.0
Pacific Peoples	4,210	5,300	6,060	1850	32.1
Asian	2,650	3,270	3,870	1220	21.1
Middle Eastern/Latin American/African (MELAA)	295	325	625	330	5.7
<b>TOTAL</b>	<b>161,895</b>	<b>161,135</b>	<b>167,665</b>	<b>5770</b>	<b>100.0</b>
<b>TOTAL NEW ZEALAND</b>					
European/NZ/Other	3,074,610	3,074,010	3,213,330	138720	28.2
Māori	573,180	585,970	624,310	51130	10.4
Pacific Peoples	229,280	261,820	301,640	72360	14.7
Asian	194,750	272,440	404,320	209570	42.6
Middle Eastern/Latin American/African (MELAA)	18,450	27,660	38,550	20100	4.1
<b>TOTAL</b>	<b>4,090,270</b>	<b>4,221,900</b>	<b>4,582,150</b>	<b>491880</b>	<b>100.0</b>

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

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



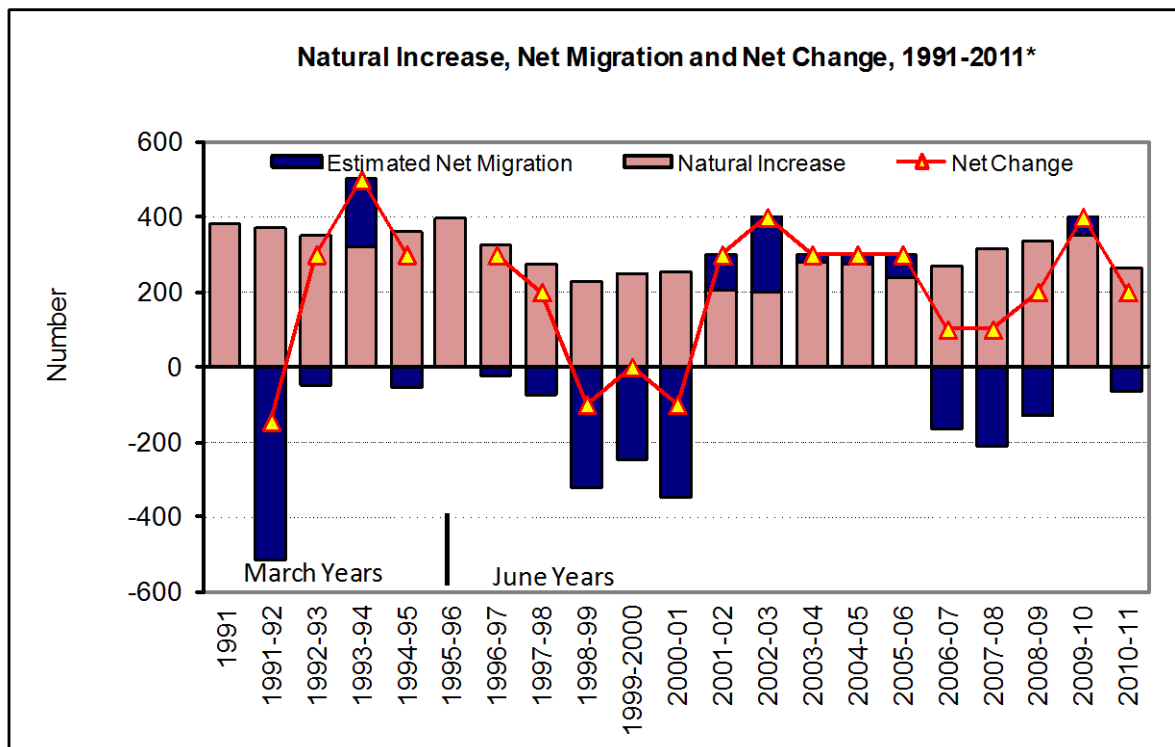
## 2.0 Components of Change

### 2.1 Natural Increase and Net Migration

Figure 2.1.1 shows the components of change contributing to growth for Napier City across the period 1991-2011 (see Table 2.1.1 for underlying data). Overwhelmingly the main component of growth has been natural increase (the difference between births and deaths). Reflecting the total population trends above, net migration loss across much of the 1990s and again across 2006-09 and in 2010-11 partially, and in some cases fully, offset that growth.

Data for Hawke’s Bay and Total New Zealand (Figures 2.1.2 and 2.1.3) place these trends in context, with the important - but often poorly acknowledged - role of natural increase relatively similar in both cases, and net migration loss also the driver of low overall growth across the 1998-2001 period, and of slow growth more recently.

**Figure 2.1.1: Natural Increase, Net Migration and Net Change 1991-2011, Napier City**



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



Figure 2.1.2: Natural Increase, Net Migration and Net Change 1991-2011, Hawke's Bay RC

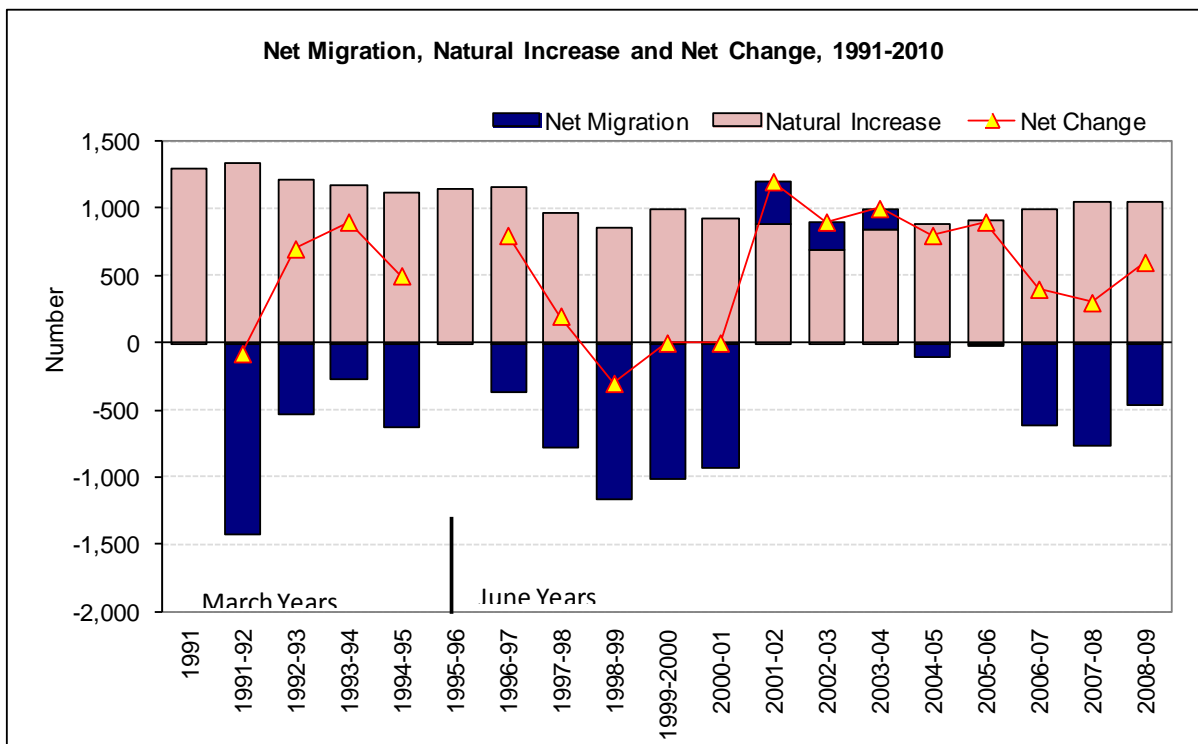
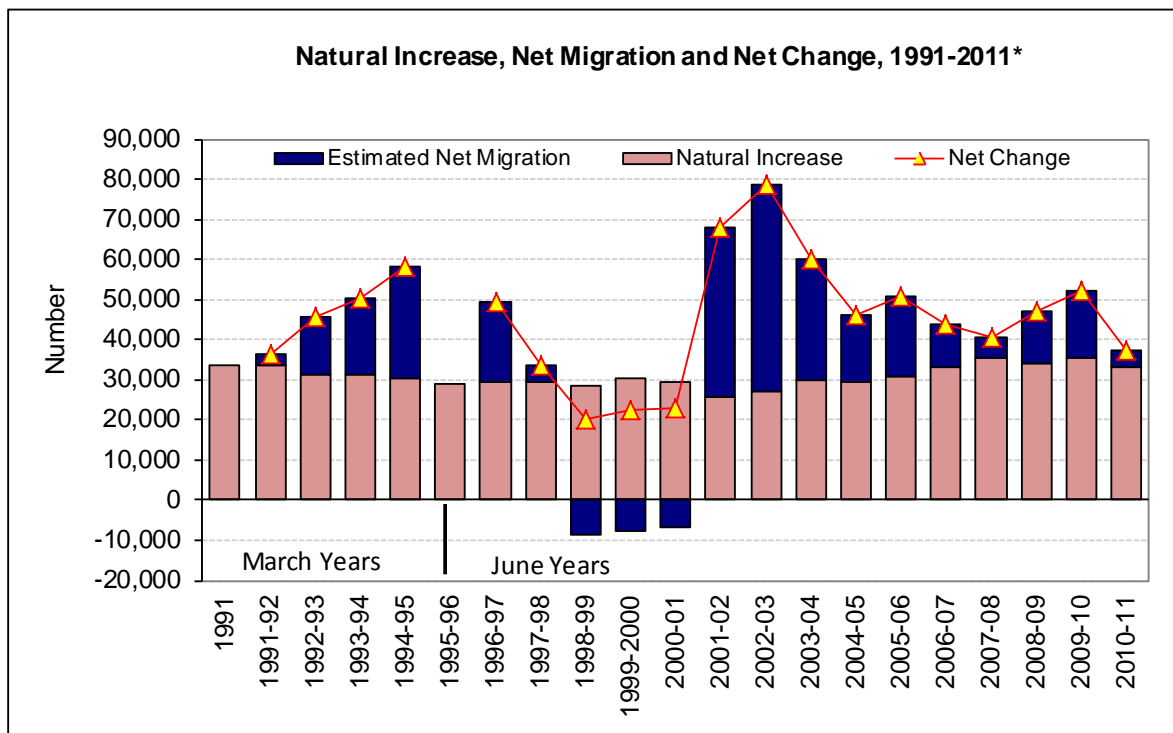


Figure 2.1.3: Natural Increase, Net Migration and Net Change 1991-2011, Total New Zealand



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



**Table 2.1.1: Components of Change, 1991-2011, Napier City and Total New Zealand**

	Napier City							Total New Zealand				
	Components					Contribution to Net Change		Contribution to Net Change				
	Births	Deaths	Natural Increase	Estimated Resident Population (a)	Estimated Net Change	Estimated Migration	Estimated Natural Increase~ (%)	Estimated Migration* (%)	Net Change (%)	Estimated Natural Increase~ (%)	Estimated Migration* (%)	Net Change (%)
March Year												
1991	867	488	379	51,645	...	...	...	...	...	...	...	...
1992	869	499	370	51,500	-145	-515	0.72	-1.00	-0.28	0.95	0.08	1.03
1993	822	472	350	51,800	300	-50	0.68	-0.10	0.58	0.89	0.40	1.28
1994	801	482	319	52,300	500	181	0.62	0.35	0.97	0.87	0.53	1.40
1995	854	496	358	52,600	300	-58	0.68	-0.11	0.57	0.84	0.76	1.60
June Year												
1996	882	486	396	54,900								
1997	852	527	325	55,200	300	-25	0.59	-0.05	0.55	0.79	0.53	1.32
1998	784	509	275	55,400	200	-75	0.50	-0.14	0.36	0.78	0.11	0.89
1999	735	509	226	55,300	-100	-326	0.41	-0.59	-0.18	0.75	-0.22	0.53
2000	775	528	247	55,300	0	-247	0.45	-0.45	0.00	0.79	-0.20	0.59
2001	728	477	251	55,200	-100	-351	0.45	-0.63	-0.18	0.76	-0.17	0.59
2002	722	519	203	55,500	300	97	0.37	0.18	0.54	0.67	1.08	1.75
2003	716	518	198	55,900	400	202	0.36	0.36	0.72	0.69	1.30	1.99
2004	776	499	277	56,200	300	23	0.50	0.04	0.54	0.74	0.76	1.50
2005	776	505	271	56,500	300	29	0.48	0.05	0.53	0.72	0.41	1.14
2006	762	525	237	56,800	300	63	0.42	0.11	0.53	0.75	0.48	1.23
2007	795	526	269	56,900	100	-169	0.47	-0.30	0.18	0.79	0.25	1.04
2008	809	496	313	57,000	100	-213	0.55	-0.37	0.18	0.84	0.12	0.96
2009	815	483	332	57,200	200	-132	0.58	-0.23	0.35	0.80	0.30	1.10
2010	858	511	347	57,600	400	53	0.61	0.09	0.70	0.82	0.39	1.20
2011	790	526	264	57,800	200	-64	0.46	-0.11	0.35	0.76	0.10	0.86

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 Usual Resident

~ Births minus Deaths

\* Residual (Net Change minus Natural Increase)

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



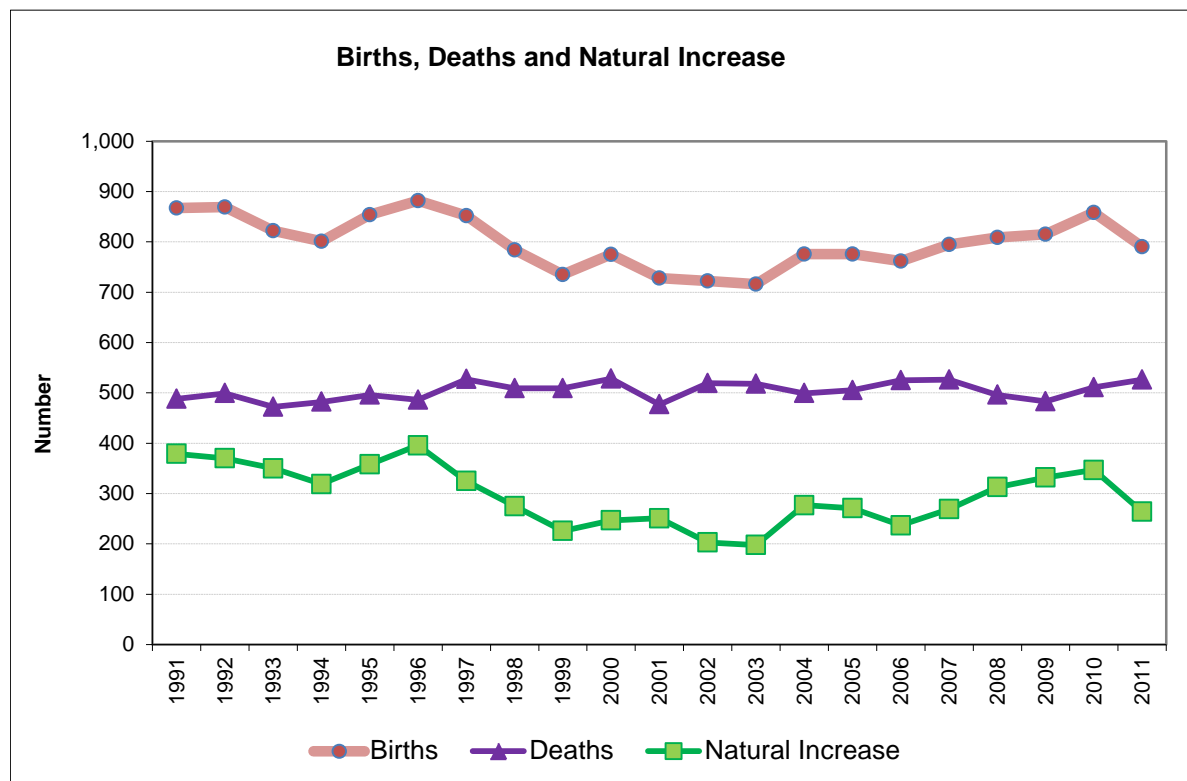
## 2.2 Births, Deaths and Natural Increase

Underlying the trends in natural increase shown above are those for births and deaths, depicted in Figure 2.2.1. Here we see that the main driver of natural increase has been a reasonably steady stream of births. Numbers fell somewhat during the late 1990s and early 2000s, and then – as elsewhere in most New Zealand – increased, peaking in 2010. For a number of reasons outlined below (most significantly the reducing size of the reproductive age cohort indicated in the section on age structures), birth numbers are not likely to see major increase in the future.

Deaths have also remained remarkably stable across the period, ranging annually between the high 400's and low 500's. However, the overall trend is a slow increase, which 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.

Figure 2.2.1: Births, Deaths and Natural Increase, Napier City 1991-2011

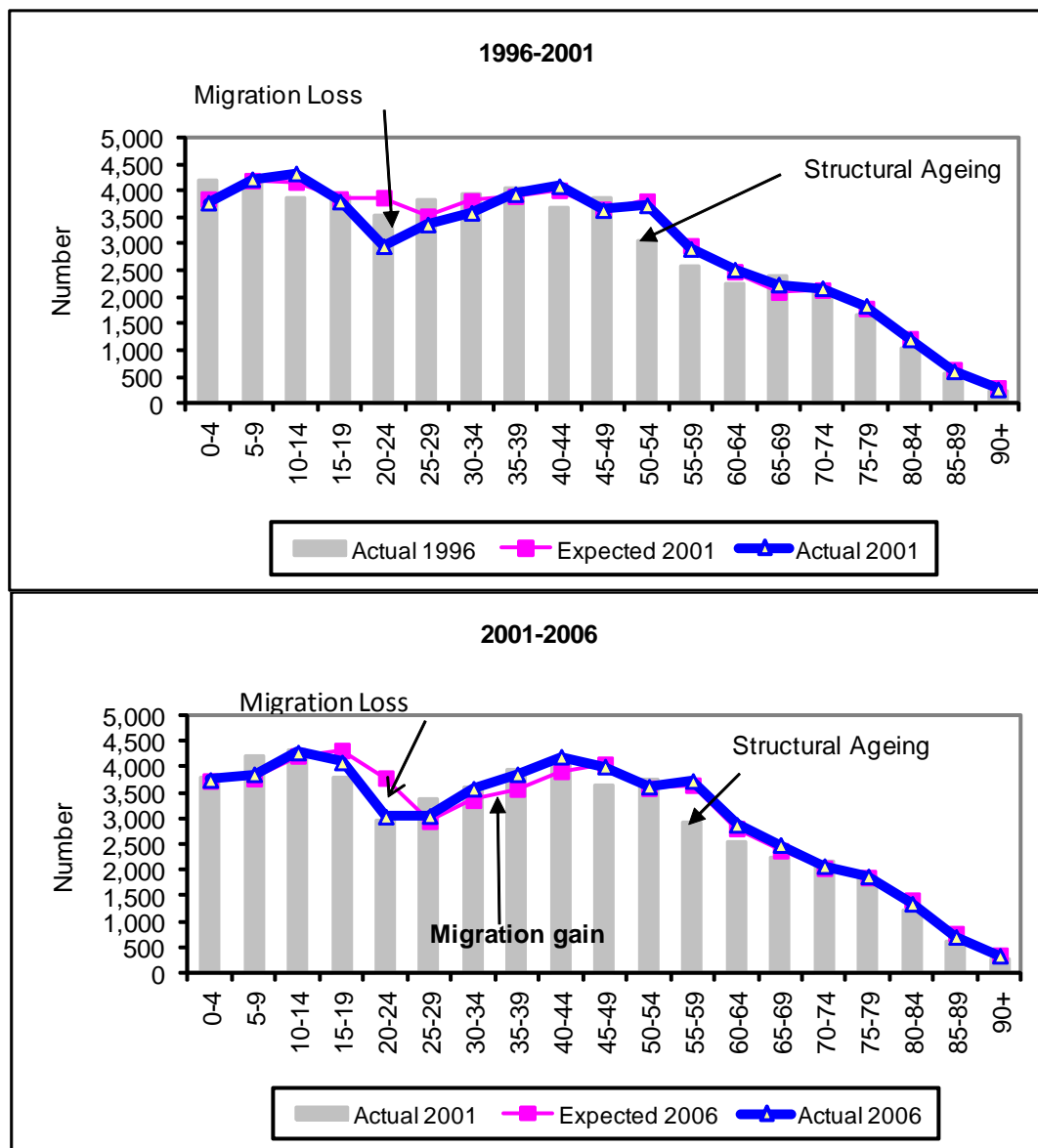


### 3.0 Components of Change by Age

#### 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 the net migration losses indicated earlier in Figure 2.1.1 (see also Table 1.1.1) have occurred primarily at age 20-24, while between 2001 and 2006, gain was experienced at 30-44 years.

Figure 3.1.1: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Napier City



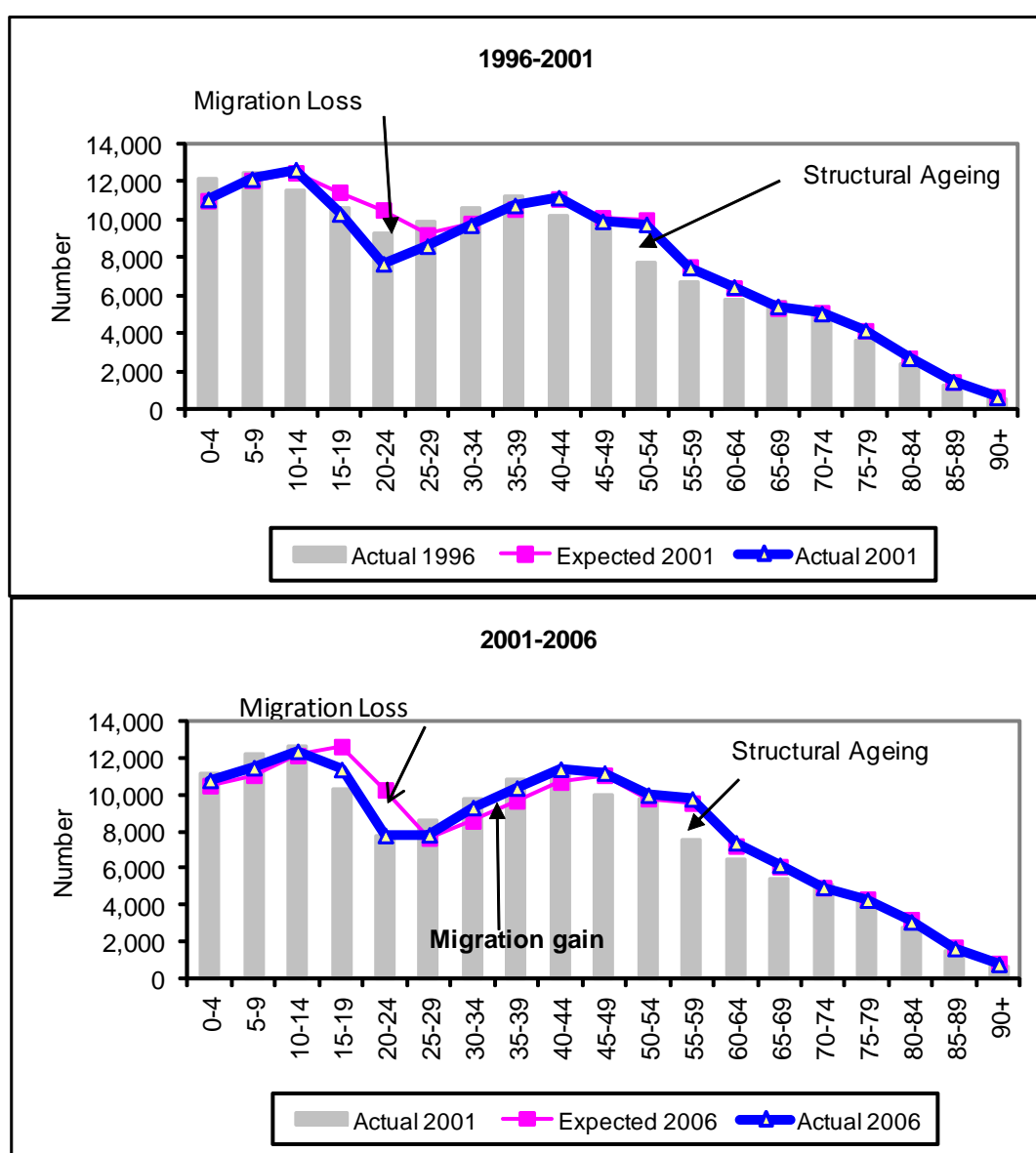
Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorship 1995-2007



Data for the Hawke's Bay Region are almost identical (Figure 3.1.2). The only real differences are small net migration gains at 0-4 and 5-9 years for Hawke's Bay during the 2001-2006 period, and more noticeable net migration losses at 15-19 years across both periods (for data see Appendix 2).

Of note for both regions 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.

**Figure 3.1.2: Expected and Actual Population by Age, 1996-2001 and 2001-2006, Hawke's Bay RC**



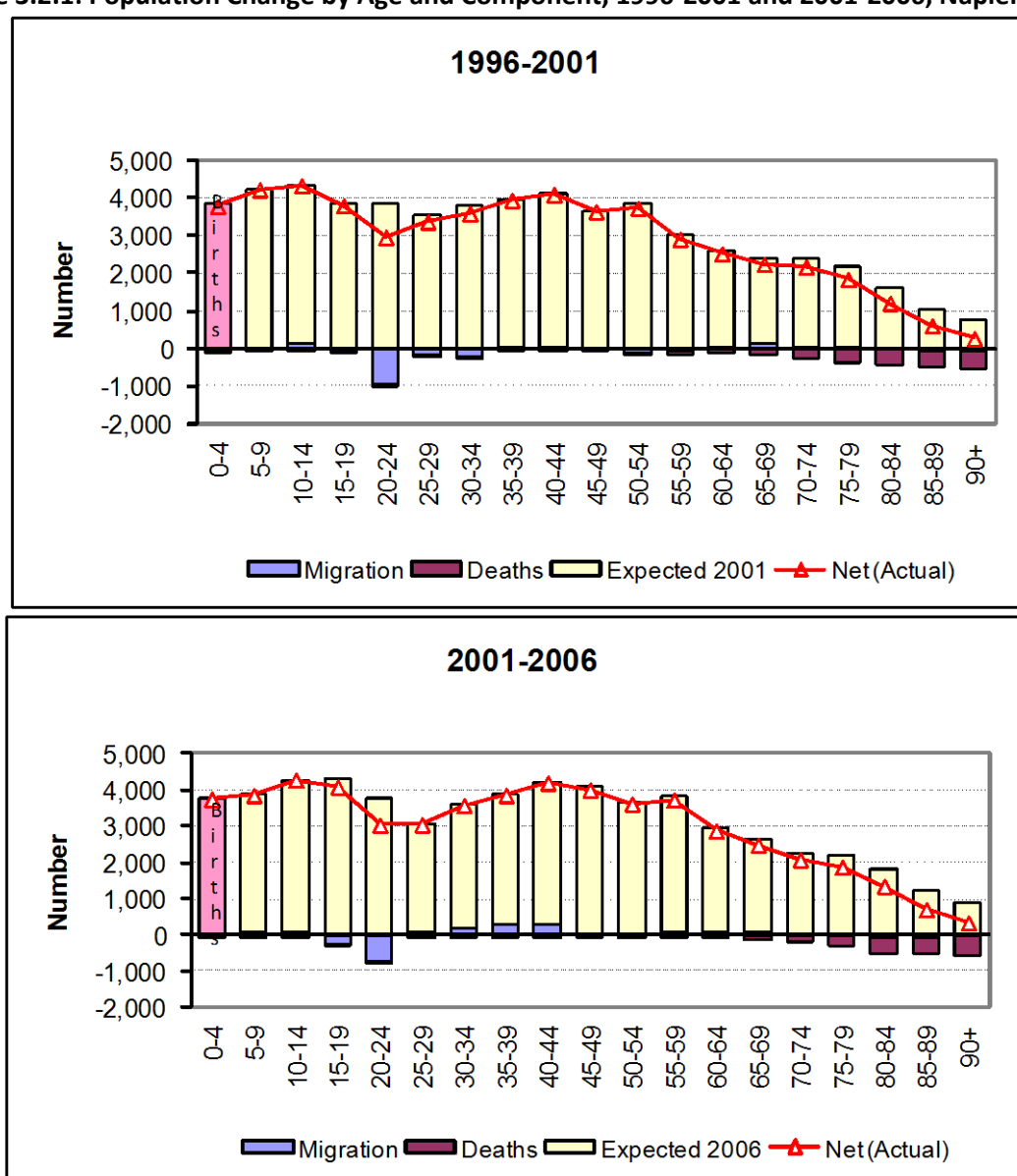
Source: Jackson/from Statistics New Zealand ERP and New Zealand Survivorship 1995-2007



## 3.2 Expected versus Actual Change by Component

Similar data are plotted in Figure 3.2.1 for Napier City only, this time to highlight the role of each component. As indicated above, the primary driver reducing the expected numbers at younger ages is migration, while at older ages it is deaths. By contrast, minor net migration gain is detectable at 30-44 years between 2001 and 2006 and at 65-69 years across both periods. The information is important because it is free of cohort size effects, which have already been accounted for in the methodology.

**Figure 3.2.1: Population Change by Age and Component, 1996-2001 and 2001-2006, Napier City**



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



## 4.0 Age Structure and Population Ageing

### 4.1 Numerical and Structural Ageing

---

As elsewhere, the population of Napier City is ageing. It is ageing numerically, as more people survive to older ages, and structurally, as falling birth rates and reducing numbers at the key reproductive ages deliver fewer babies into the base of the age structure, causing the proportions at younger ages to decrease and the increased numbers at older ages to also become increased proportions.

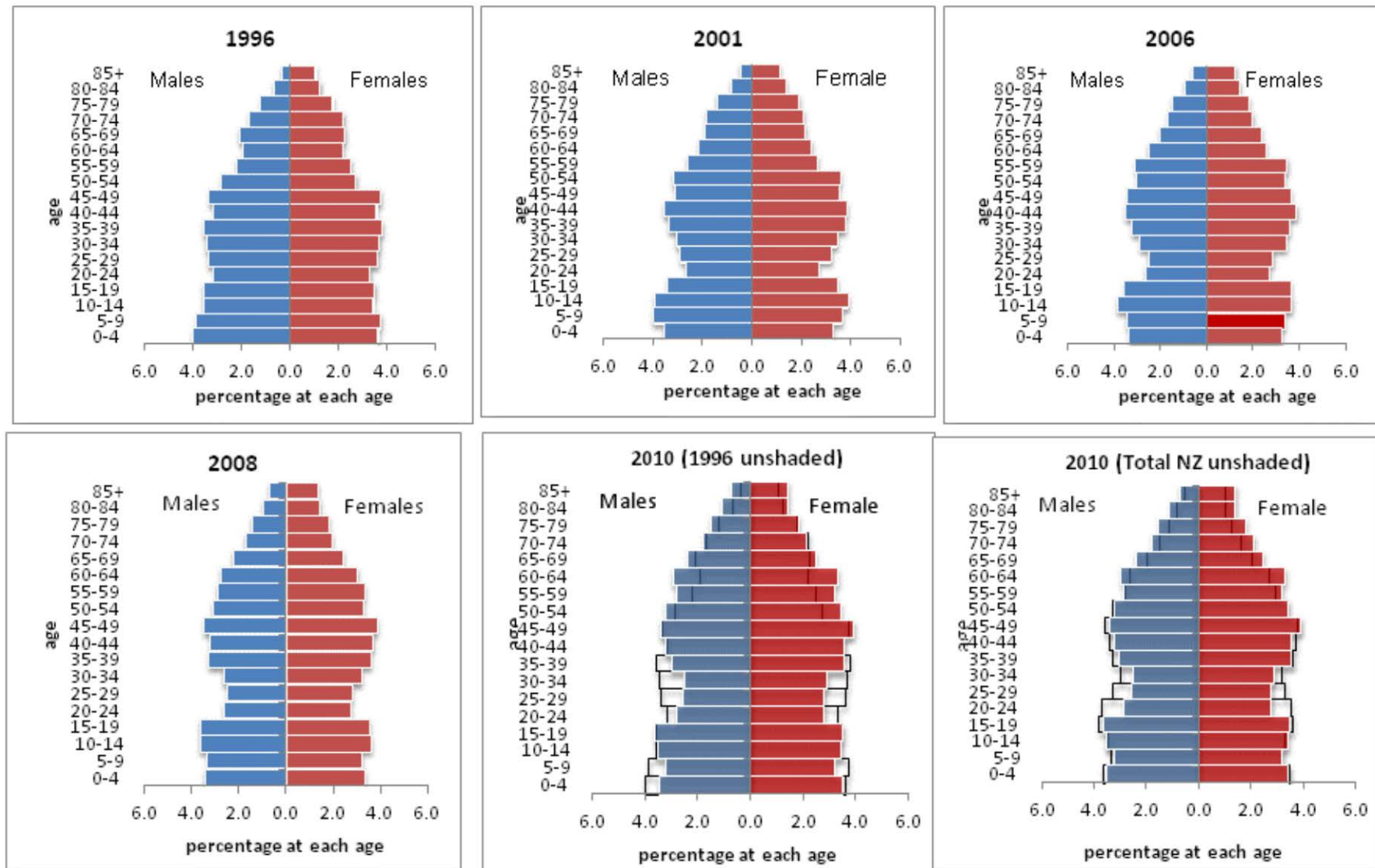
Migration is also playing a role. As indicated above, Napier's structural ageing is accelerated in the first instance because of net migration loss at the young adult ages, particularly 20-24 years. The loss of people at these youthful ages accelerates the structural ageing process in two ways, firstly as a direct result of the reduction in their own numbers; secondly because it removes their reproductive potential, along with any children they may have. It is accelerated in the second instance by modest net gains at older ages, which add to both numerical and structural ageing.

Figure 4.1.1 illustrates the outcome of these trends over the period 1996-2010 (see Table 4.1.1 for summary data). Most obvious from Figure 4.1.1 is the shift from a relatively youthful age structure in 1996 to a deeply waisted ('hour glass') structure by 2001, indicating significant net migration loss at 20-34 years. The bite deepens at each observation until 2008, while in 2010 there is evidence of a minor increase at 20-24 and 25-29 years (reflected also in a small numerical increase). Importantly, Napier is not alone in experiencing this youthful deficit, which is evident across most of New Zealand's non-urban regions, and which is also partly a reflection of declining birth rates at the time the current population aged 20-34 years was born. The bite is, however, significantly deeper for Napier City than for Total New Zealand, as can be seen in the lower right-hand panel.

Compression at the youngest ages due to declining birth rates over the period 1996-2006 is clear, followed by a small resurgence in births since 2008, although the proportion at the youngest ages (0-4 years) in 2010 is slightly smaller for Napier than Total New Zealand – in part reflecting the relative lack of people at the key reproductive ages, and in part, larger proportions at older ages. As Table 4.1.1 shows, Napier's population aged 65+ years has increased from 14.6 per cent in 1996 to 16.7 per cent in 2010, making it somewhat older than both Total New Zealand (13 per cent), and the Hawke's Bay Region (15 per cent). However Napier is currently ageing at a somewhat slower rate.



Figure 4.1.1: Age-Sex Structure Napier 1996-2010, and compared with New Zealand 2010



**Table 4.1.1: Summary Indicators of Change by Age, 1996-2010, Napier City and Key Comparisons**

	1996	2001	2006	2007	2008	2009	2010	1996-2001	2001-2006	2006-07	2007-08	2008-09	2009-10
	Number							Av. Annual Change (%)		Annual Change (%)			
<b>Broad Age Group</b>													
0-14	12,230	12,330	11,890	11,790	11,740	11,700	11,680	0.2	-0.7	-0.8	-0.4	-0.3	-0.2
15-24	7,430	6,760	7,130	7,180	7,170	7,230	7,340	-1.8	1.1	0.7	-0.1	0.8	1.5
25-54	22,400	22,360	22,320	22,220	22,010	21,880	21,920	0.0	0.0	-0.4	-0.9	-0.6	0.2
55-64	4,840	5,430	6,610	6,730	6,880	7,000	7,070	2.4	4.3	1.8	2.2	1.7	1.0
65+	7,990	8,340	8,850	9,010	9,170	9,360	9,610	0.9	1.2	1.8	1.8	2.1	2.7
<b>Napier City</b>	<b>54,890</b>	<b>55,220</b>	<b>56,800</b>	<b>56,930</b>	<b>56,970</b>	<b>57,170</b>	<b>57,620</b>	<b>0.1</b>	<b>0.6</b>	<b>0.2</b>	<b>0.1</b>	<b>0.4</b>	<b>0.8</b>
Total NZ	3,731,970	3,880,500	4,184,600	4,228,330	4,315,770	4,268,870	4,367,780	0.8	1.6	1.0	1.0	1.1	1.2
Hawke's Bay Region	146,630	147,340	152,100	152,560	152,790	153,460	154,770	0.1	0.6	0.3	0.2	0.4	0.9
	Percentage							Av. Annual Change (%)		Annual Change (%)			
0-14	22.3	22.3	20.9	20.7	20.6	20.5	20.3	0.0	-1.3	-1.1	-0.5	-0.7	-1.0
15-24	13.5	12.2	12.6	12.6	12.6	12.6	12.7	-1.9	0.5	0.5	-0.2	0.5	0.7
25-54	40.8	40.5	39.3	39.0	38.6	38.3	38.0	-0.2	-0.6	-0.7	-1.0	-0.9	-0.6
55-64	8.8	9.8	11.6	11.8	12.1	12.2	12.3	2.3	3.7	1.6	2.2	1.4	0.2
65+	14.6	15.1	15.6	15.8	16.1	16.4	16.7	0.8	0.6	1.6	1.7	1.7	1.9
<b>Napier City</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>
Total NZ %65+ years	11.5	11.9	12.2	12.5	12.8	12.6	13.0	0.6	0.6	1.9	2.8	-1.6	3.4
Hawkes Bay Region	12.6	13.3	13.8	14.1	14.4	14.7	15.0	1.0	0.8	2.4	1.7	2.1	2.2
<b>Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)</b>													
	1996	2001	2006	2007	2008	2009	2010	1996-2001	2001-2006	2006-07	2007-08	2008-09	2009-10
	Number							Av. Annual Change (%)		Annual Change (%)			
Napier City	15.4	12.4	10.8	10.7	10.4	10.3	10.4	-3.8	-2.7	-1.1	-2.3	-0.9	0.5
Total NZ	18.3	15.2	14.1	13.9	13.4	13.6	13.2	-3.3	-1.5	-1.2	-2.3	-1.5	-1.1
Hawke's Bay Region	15.9	12.9	11.2	11.0	10.8	10.7	10.6	-3.8	-2.7	-1.2	-1.9	-1.4	-0.5
<b>Ratio Elderly to Children (Number 65+ per Child 0-14)</b>													
	1996	2001	2006	2007	2008	2009	2010	1996-2001	2001-2006	2006-07	2007-08	2008-09	2009-10
	Number							Av. Annual Change (%)		Annual Change (%)			
Napier City	0.65	0.68	0.74	0.76	0.78	0.80	0.82	0.7	2.0	2.7	2.2	2.4	2.8
Total NZ	0.50	0.53	0.58	0.59	0.62	0.60	0.64	1.0	1.9	2.9	2.0	2.5	2.6
Hawke's Bay Region	0.51	0.54	0.61	0.63	0.64	0.66	0.68	1.2	2.3	3.4	2.5	2.9	2.9

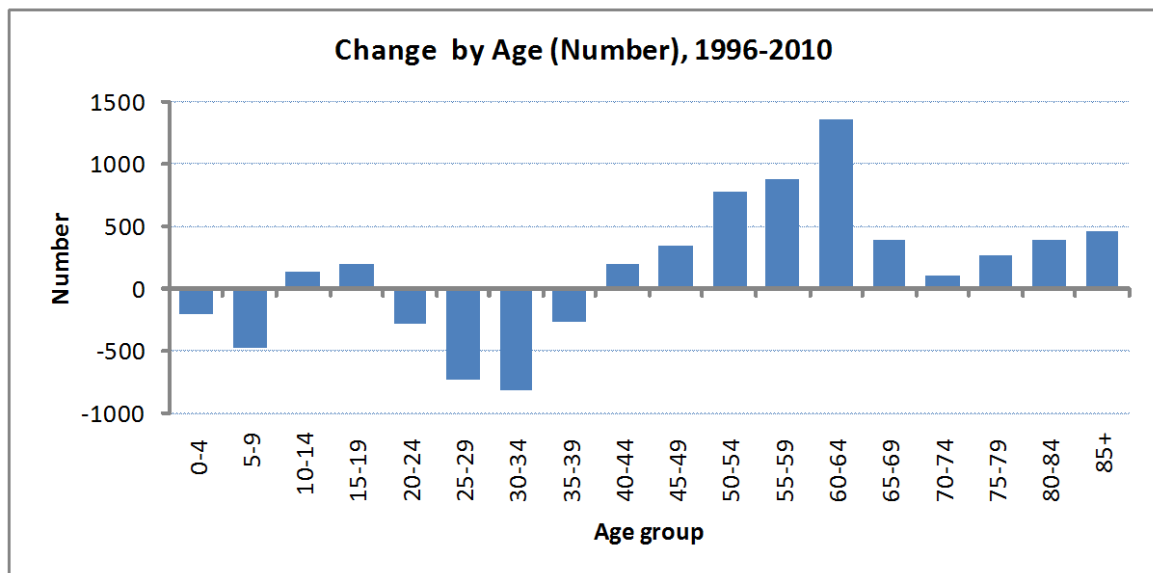
Source: Jackson, N.O (2011) Subnational Age Structure Resource 1996-2010, National Institute of Demographic and Economic Analysis (NIDEA), University of Waikato

Notes: Source data from Stats NZ Infoshare Estimated Subnational Population (RC, TA,AU) by Age and Sex at 30 June 1996, 2001 and 2006-2010



Overall trends by five-year age group are summarised in Figure 4.1.2 (see Table 4.1.2 for comparison with Total New Zealand and Hawke’s Bay). Between 1996 and 2010, numbers for Napier City declined at most younger ages (the exceptions being at 10-14 and 15-19 years) and increased at all older ages, most particularly across the Baby Boomer age groups. Importantly, as indicated in Section 3 (above), some of these changes reflect cohort size effects, with smaller cohorts replacing larger cohorts at the younger ages, and vice-versa at older ages; however the data provide important information for planning and resource allocation. The trends are highly similar for Total Hawke’s Bay, while for Total New Zealand, net decline has occurred at ages 5-9 and 30-34 years only.

**Figure 4.1.2: Change by Age (Number), Napier City 1996-2010**



Source: Jackson, N.O (2011) *Subnational Age Structure Resource 1996-2010*, 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, 2006-2010*



**Table 4.1.2: Change by Age (%), Napier City, Hawke's Bay, and Total New Zealand, 1996-2010**

	Napier City		Hawke's Bay	Total New Zealand
	Change 1996-2010			
	Number	%	%	%
0-4	(200)	-4.8	-4.5	5.8
5-9	(480)	-11.5	-13.3	-3.0
10-14	130	3.4	2.0	10.0
15-19	200	5.1	5.6	19.0
20-24	(290)	-8.2	-3.7	12.5
25-29	(740)	-19.3	-20.2	1.2
30-34	(810)	-20.7	-23.3	-10.8
35-39	(260)	-6.4	-12.0	1.8
40-44	200	5.4	1.6	18.0
45-49	350	9.0	14.1	29.4
50-54	780	25.6	37.6	51.1
55-59	870	33.6	44.8	52.8
60-64	1,360	60.4	60.5	67.5
65-69	400	16.7	23.8	30.5
70-74	100	4.7	9.8	18.4
75-79	270	16.5	22.8	25.6
80-84	390	37.1	36.1	43.1
85+	460	59.7	65.0	78.8
<b>Total</b>	<b>2,700</b>	<b>4.9</b>	<b>5.6</b>	<b>17.0</b>

Source: Jackson, N.O (2011) *Subnational Age Structure Resource 1996-2010*, 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

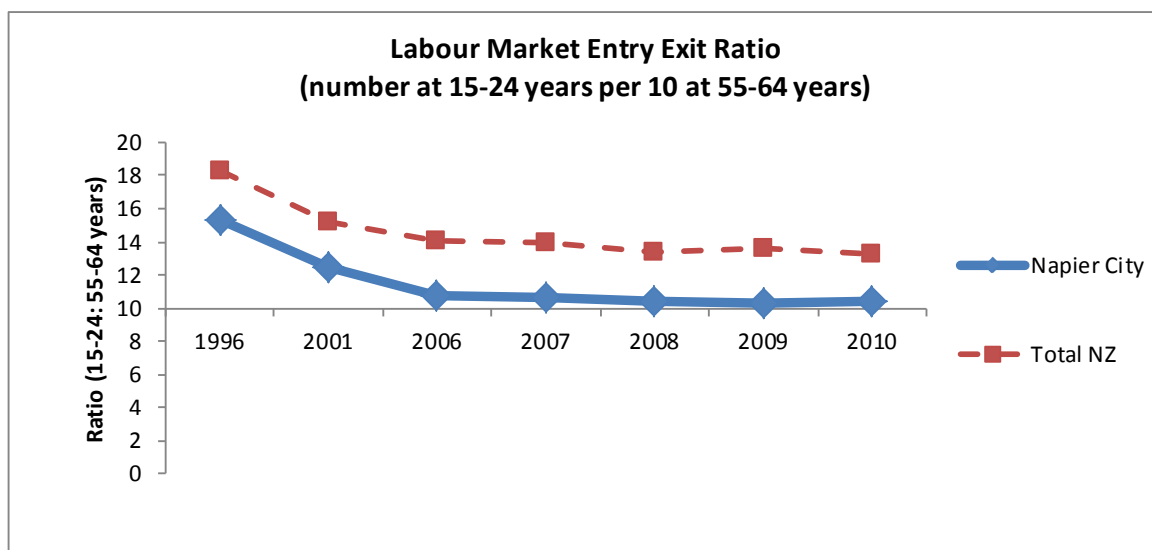
Table 4.1.1 (above) also showed that Napier City's Labour Market 'entry/exit ratio' has fallen since 1996, from 15.4 people at labour market entry age for every 10 in the retirement age zone, to just 10.4 per 10 in 2010 (see Figure 4.2.1). By comparison, Total New Zealand still has 13.2 people at entry age per 10 at exit age, while the Hawke's Bay Region, similar to Napier, has 10.6 per 10.

Of note is that if older age groupings are used, for example 20-29 and 60-69 years, Napier in 2010 had only 9.9 entrants per 10 exits, compared with 14.8 for Total New Zealand and 10.3 for Hawke's Bay. Again this is a reflection of Napier's older age structure and greater bite at ages 20-34.

This issue is returned to further below.



**Figure 4.2.1: Labour Market Entry/Exit Ratio, Napier City and Total New Zealand, 1996-2010**



Source: Jackson, N.O (2011) *Subnational Age Structure Resource 1996-2010*, 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, 2006-2010*

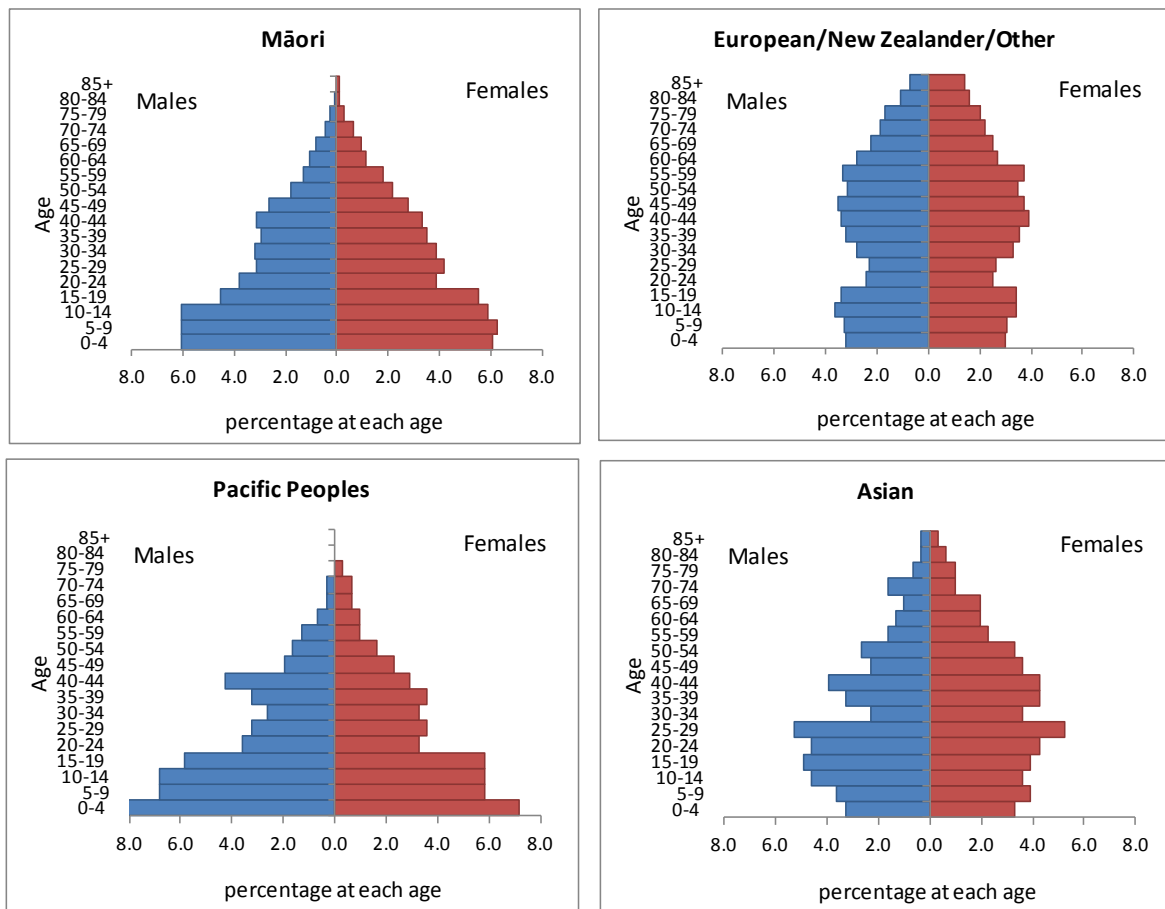
### 4.3 Ethnic Age Composition and Ageing

Figure 4.3.1 provides a comparison of Napier City’s major ethnic groups in 2006, according to the multiple count enumeration method discussed above. As was indicated in Table 1.2.1 above, this method of enumeration means that a portion of the population is counted in more than one ethnic group. In Napier City’s case, the over-count for 2006 (when the totals by ethnic group are summed) was approximately 9.3 per cent. However as can be seen by the markedly different age structures of each group in Figure 4.3.1, this methodological complexity would have very little impact on the story by age composition.

The data suggest that the bite in the age structure is very much connected with the European/New Zealander/Other population. While it also appears to some extent for the Asian population, it is difficult to say that its cause is the same. For example, for the European/New Zealander/Other population, the bite would appear to be related to net migration loss at those ages, while for the Asian population it may reflect an influx of children and young adults (numbers for the Middle Eastern/Latin American/African (MELAA) population are too small to give a reliable picture by age).



**Figure 4.3.1: Age-Sex Structure by Major Ethnic Group\*, Napier City 2006**



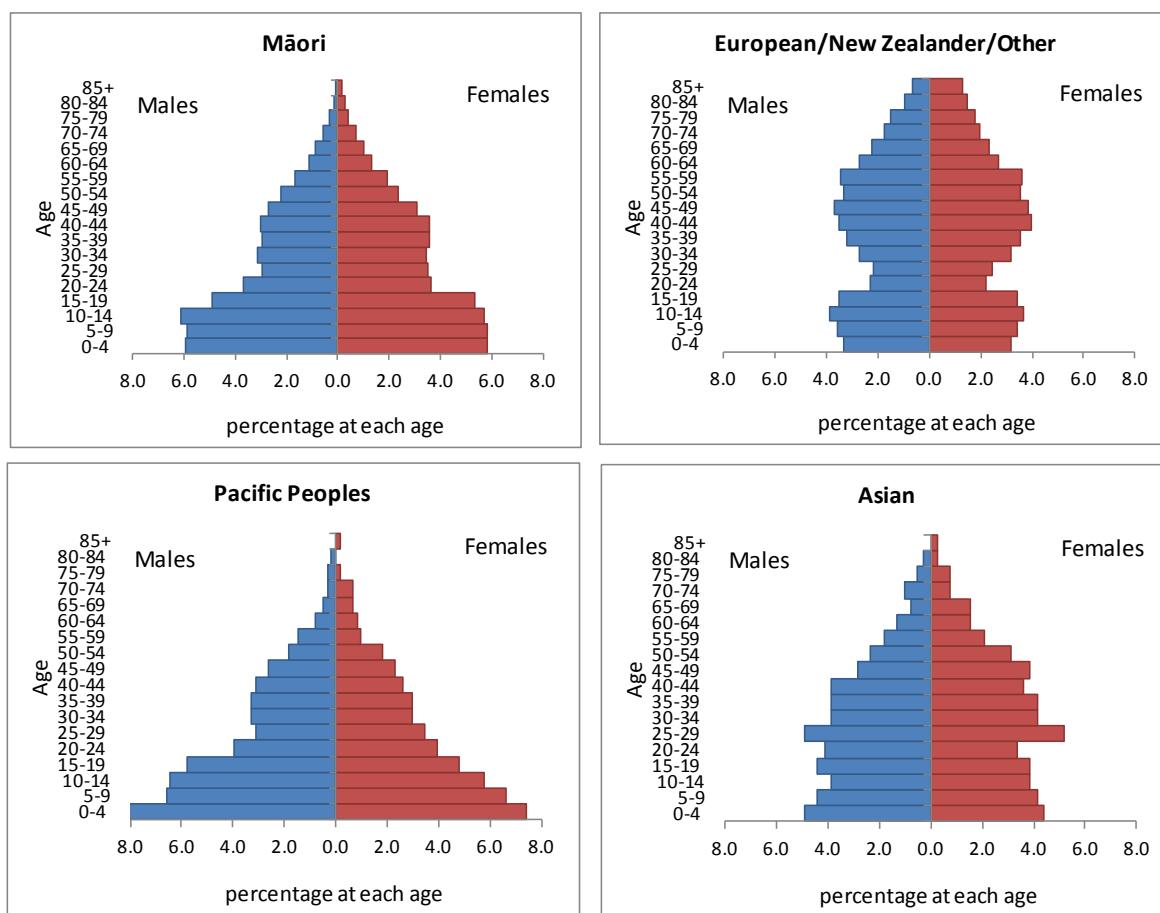
Source: Statistics New Zealand, Estimated Subnational Ethnic Population (RC, TA) by Age and Sex at 30 June 2006

Notes: Multiple count ethnicity means that people may be counted in both populations

Similar comments apply to the situation for the Hawke's Bay Region (Figure 4.3.2). The differences by ethnic group are equally marked, although there is some disparity between the Asian-origin population of Napier City and the total Hawke's Bay Region, particularly for males at 30-44 years.



**Figure 4.3.2: Age-Sex Structure by Major Ethnic Group\*, Hawke's Bay 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 both populations

Tables 4.3.1- 4.3.4 provide summary data for the Māori, Pacific Island, Asian, and European/New Zealander/Other populations. As above, data for the Middle Eastern/Latin American/African population are not presented because of very small numbers by age.

Table 4.3.1 shows that the very youthful age structure of Napier City's Māori population results in over one-third aged 0-14 years across all three observations, falling from 37.8 per cent in 1996 to 36.4 per cent in 2006. These proportions are in stark contrast to their 15-17 per cent total share shown earlier in Table 1.2.1, and are clearly where the Māori population's contribution to Napier City's growth is concentrated.

At 65+ years, numbers and proportions have grown significantly, albeit still remaining at less than 4.0 per cent in 2006. The data indicate that Napier City's Māori population is slightly more youthful



than its counterparts in Hawke's Bay Region and total New Zealand, where the proportions aged 65+ are a little higher, and labour market entry/exit ratios are a little lower (see Section 6 on this topic).

**Table 4.3.1: Summary Indicators, Napier City Māori Population, 1996, 2001, 2006**

Māori	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
<b>Broad Age Group</b>						
0-14	3,520	3,810	3,840	...	8.2	0.8
15-24	1,840	1,820	1,870	...	-1.1	2.7
25-54	3,280	3,560	3,870	...	8.5	8.7
55-64	440	480	560	...	9.1	16.7
65+	240	320	400	...	33.3	25.0
Napier City	9,320	9,990	10,540	...	7.2	5.5
Total NZ Māori	573,180	585,970	624,310	...	2.2	6.5
Hawke's Bay Region	34,880	35,520	36,380	...	1.8	2.4
	Percentage					
0-14	37.8	38.1	36.4	...	1.0	-4.5
15-24	19.7	18.2	17.7	...	-7.7	-2.6
25-54	35.2	35.6	36.7	...	1.3	3.0
55-64	4.7	4.8	5.3	...	1.8	10.6
65+	2.6	3.2	3.8	...	24.4	18.5
Napier City	100.0	100.0	100.0	...	...	...
Total NZ Māori % 65+ years	3.0	3.4	4.1	...	11.8	22.0
Hawke's Bay Region (65+ year)	3.5	3.8	4.5	...	8.7	18.6
<b>Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)</b>						
	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
Napier City	41.8	37.9	33.4	...	-9.3	-11.9
Total NZ Māori	42.0	36.9	33.1	...	-12.1	-10.2
Hawke's Bay Region	38.3	35.1	29.0	...	-8.3	-17.3
<b>Ratio Elderly to Children (Number 65+ per Child 0-14)</b>						
	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
Napier City	0.07	0.08	0.10	...	18.8	24.0
Total NZ Māori	0.08	0.09	0.12	...	11.8	30.5
Hawke's Bay Region	0.09	0.10	0.13	...	7.5	26.5

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 Napier City is even more youthful than that of Māori, with over 40 per cent aged 0-14 years at each observation (Table 4.3.2). Reflecting this concentration at younger ages, only 2.3 per cent of the Pacific Island population in 2006 was aged 65+ years, a somewhat lower proportion than for both the Hawke's Bay Region (3.0 per cent) and Total New Zealand (3.8 per cent). As was the case for Māori, the Pacific Island population's contribution to the growth of the region is clearly also concentrated at the youngest ages.



**Table 4.3.2: Summary Indicators, Napier City Pacific Island Population, 1996, 2001, 2006**

<b>Pacific Island</b>	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
<b>Broad Age Group</b>						
0-14	430	505	630	...	17.4	24.8
15-24	190	255	285	...	34.2	11.8
25-54	370	430	525	...	16.2	22.1
55-64	25	40	60	...	...	...
65+	25	25	35	...	...	...
Napier City	1,040	1,255	1,535	...	20.7	22.3
Total NZ Pacific Island	229,280	261,820	301,640	...	14.2	15.2
Hawke's Bay Region	4,210	5,300	6,060	...	25.9	14.3
	Percentage					
0-14	41.3	40.2	41.0	...	-2.7	2.0
15-24	18.3	20.3	18.6	...	11.2	-8.6
25-54	35.6	34.3	34.2	...	-3.7	-0.2
55-64	2.4	3.2	3.9	...	32.6	22.6
65+	2.4	2.0	2.3	...	-17.1	14.5
Napier City	100.0	100.0	100.0	...	...	...
Total NZ Pacific Island	3.1	3.4	3.8	...	11.8	11.8
Hawke's Bay Region	2.6	2.6	3.0	...	1.1	12.4
<b>Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)</b>						
	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
Napier City	76.0	63.8	47.5	...	-16.1	-25.5
Total NZ Pacific Island	47.1	40.0	37.2	...	-14.9	-7.0
Hawke's Bay Region	49.4	48.4	44.8	...	-1.9	-7.5
<b>Ratio Elderly to Children (Number 65+ per Child 0-14)</b>						
	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
Napier City	0.06	0.05	0.06	...	-14.9	12.2
Total NZ Pacific Island	0.08	0.09	0.10	...	12.0	16.8
Hawke's Bay Region	0.06	0.06	0.07	...	3.4	13.5

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 region's Asian population identify quite different proportions by age (Table 4.3.3). With just 22 per cent of the Napier City Asian population aged 0-14 years in 2006, a much higher proportion is aged 65+ years (8.9 per cent). Comparison with the Hawke's Bay region and total New Zealand Asian populations points to somewhat younger Asian populations outside Napier City, with only 4.7 per cent aged 65+ years nationally, and 6.2 per cent in the Hawke's Bay.



**Table 4.3.3: Summary Indicators, Napier City Asian Population, 1996, 2001, 2006**

<b>Asian</b>	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
<b>Broad Age Group</b>						
0-14	355	325	340	...	-8.5	4.6
15-24	240	295	270	...	22.9	-8.5
25-54	600	620	670	...	3.3	8.1
55-64	75	100	110	...	33.3	10.0
65+	80	100	135	...	25.0	35.0
Napier City	1,350	1,440	1,525	...	6.7	5.9
Total NZ Asian	194,750	272,440	404,320	...	39.9	48.4
Hawke's Bay Region	2,650	3,270	3,870	...	23.4	18.3
	Percentage					
0-14	26.3	22.6	22.3	...	-14.2	-1.2
15-24	17.8	20.5	17.7	...	15.2	-13.6
25-54	44.4	43.1	43.9	...	-3.1	2.0
55-64	5.6	6.9	7.2	...	25.0	3.9
65+	5.9	6.9	8.9	...	17.2	27.5
Napier City	100.0	100.0	100.0	...	...	...
Total NZ Asian	3.0	4.2	4.7	...	37.9	11.4
Hawke's Bay Region	5.3	6.1	6.2	...	15.8	1.4
<b>Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)</b>						
	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
Napier City	32.0	29.5	24.5	...	-7.8	-16.8
Total NZ Asian	51.0	37.5	36.3	...	-26.3	-3.3
Hawke's Bay Region	30.0	29.0	23.5	...	-3.3	-19.1
<b>Ratio Elderly to Children (Number 65+ per Child 0-14)</b>						
	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
Napier City	0.23	0.31	0.40	...	36.5	29.0
Total NZ Asian	0.12	0.19	0.23	...	58.7	21.6
Hawke's Bay Region	0.19	0.25	0.24	...	30.2	-4.2

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 Jun

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

The data for the region's European/New Zealander/Other population (Table 4.3.4) also stand in stark contrast to that for the other ethnic groups. For Napier City, overall numbers in fact declined between 1996 and 2001 (1.8 per cent). They grew slightly between 2001 and 2006, but the loss in the former period was instrumental in the overall change of just 0.9 per cent. As Table 4.2.4 shows, that loss was primarily experienced at the younger ages, but it also extended up to 54 years, with gains above those ages partially offsetting the losses. With 17 per cent aged 65+ years in 2006, the European/New Zealander/Other population of Napier city is among the nation's oldest, a similar situation to the Hawke's Bay Region which has 16 per cent. At the same time, the city's 65+ year European/New Zealander/Other population is not growing as fast as in the Hawke's Bay or Total New Zealand (7.5 per cent between 1996 and 2006 compared with 10.1 and 8.8 per cent respectively).



**Table 4.3.4: Summary Indicators, Napier City European/NZ/Other Population, 1996, 2001, 2006**

European/NZ/Other	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
<b>Broad Age Group</b>						
0-14	10,050	9,760	9,420	...	-2.9	-3.5
15-24	6,140	5,310	5,660	...	-13.5	6.6
25-54	19,510	18,990	18,760	...	-2.7	-1.2
55-64	4,430	4,930	6,050	...	11.3	22.7
65+	7,700	7,980	8,350	...	3.6	4.6
Napier City	47,830	46,970	48,240	...	-1.8	2.7
Total NZ European/Other/NZ	3,074,610	3,074,010	3,213,330	...	0.0	4.5
Hawke's Bay Region	119,860	116,720	120,730	...	-2.6	3.4
	Percentage					
0-14	21.0	20.8	19.5	...	-1.1	-6.0
15-24	12.8	11.3	11.7	...	-11.9	3.8
25-54	40.8	40.4	38.9	...	-0.9	-3.8
55-64	9.3	10.5	12.5	...	13.3	19.5
65+	16.1	17.0	17.3	...	5.5	1.9
Napier City	100.0	100.0	100.0	...	...	...
Total NZ European/Other/NZ	13.2	13.8	14.4	...	4.6	4.1
Hawke's Bay Region	14.5	15.5	16.0	...	6.5	3.3
<b>Ratio Labour Market Entrants to Exits (Number aged 15-24 per 10 persons aged 55-64)</b>						
	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
Napier City	13.9	10.8	9.4	...	-22.3	-13.1
Total NZ European/Other/NZ	15.9	12.7	11.3	...	-20.1	-11.0
Hawke's Bay Region	13.8	10.6	9.2	...	-23.1	-12.8
<b>Ratio Elderly to Children (Number 65+ per Child 0-14)</b>						
	1996	2001	2006	...	1996-2001	2001-2006
	Number				Change (%) over 5 years	
Napier City	0.77	0.82	0.89	...	6.7	8.4
Total NZ European/Other/NZ	0.61	0.65	0.72	...	6.1	10.0
Hawke's Bay Region	0.64	0.69	0.76	...	8.9	9.8

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,

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

Table 4.3.5 provides an overview of each ethnic group's population share by age. As indicated above, the general picture is that the Māori and Pacific Island populations increase their share as age decreases, while the European/New Zealander/Other 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 slightly smaller share of Napier City's youthful population than they do of the Hawke's Bay region's youth (26.9 per cent compared with 30.7 per



cent), but a somewhat greater share than for Total New Zealand (20.2 per cent). The situation at 15-24 years is similar. The Asian population, on the other hand, is similarly distributed by age across Napier City and the Hawke's Bay, but in all cases accounts for a much smaller share than nationally.

**Table 4.3.5: Ethnic Group\* Percentage Share by Age Group and Region, 2006**

	Māori	Pacific Island	Asian	MELAA	European/NZ/Other	Total*	Number*
<b>Napier City</b>							
0-14	26.9	4.4	2.4	0.5	65.9	100.0	14,295
15-24	23.0	3.5	3.3	0.4	69.7	100.0	8,115
25-54	16.2	2.2	2.8	0.5	78.3	100.0	23,945
55-64	8.3	0.9	1.6	0.1	89.2	100.0	6,785
65+	4.5	0.4	1.5	0.0	93.6	100.0	8,920
Total	17.0	2.5	2.5	0.4	77.7	100.0	62,060
<b>Hawke's Bay Region</b>							
0-14	30.7	5.9	2.4	0.4	60.6	100.0	41,890
15-24	28.9	5.1	2.8	0.5	62.7	100.0	22,075
25-54	20.6	3.1	2.7	0.5	73.1	100.0	64,610
55-64	12.4	1.4	1.5	0.1	84.6	100.0	17,710
65+	7.7	0.8	1.1	0.0	90.3	100.0	21,380
Total	21.7	3.6	2.3	0.4	72.0	100.0	167,665
<b>Total NZ</b>							
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

## 5.0 Population Projections

### 5.1 Size, Growth and Population Ageing

Under the medium series assumptions, the population of Napier City is projected to peak in 2021 at around 58,520 persons, and then decline slightly (Table 5.1.1). Decline is also projected for all age groups up to age 64, offset by significant growth at 65+ years. The 65+ population is anticipated to grow both numerically (by almost 56 per cent between 2011 and 2031) and structurally (from 17.0 per cent in 2011 to 26.3 per cent by 2031). Figure 5.1.1 compares these changes under the low and high variant assumptions (see Appendices 3.1—3.4 for projection assumptions).



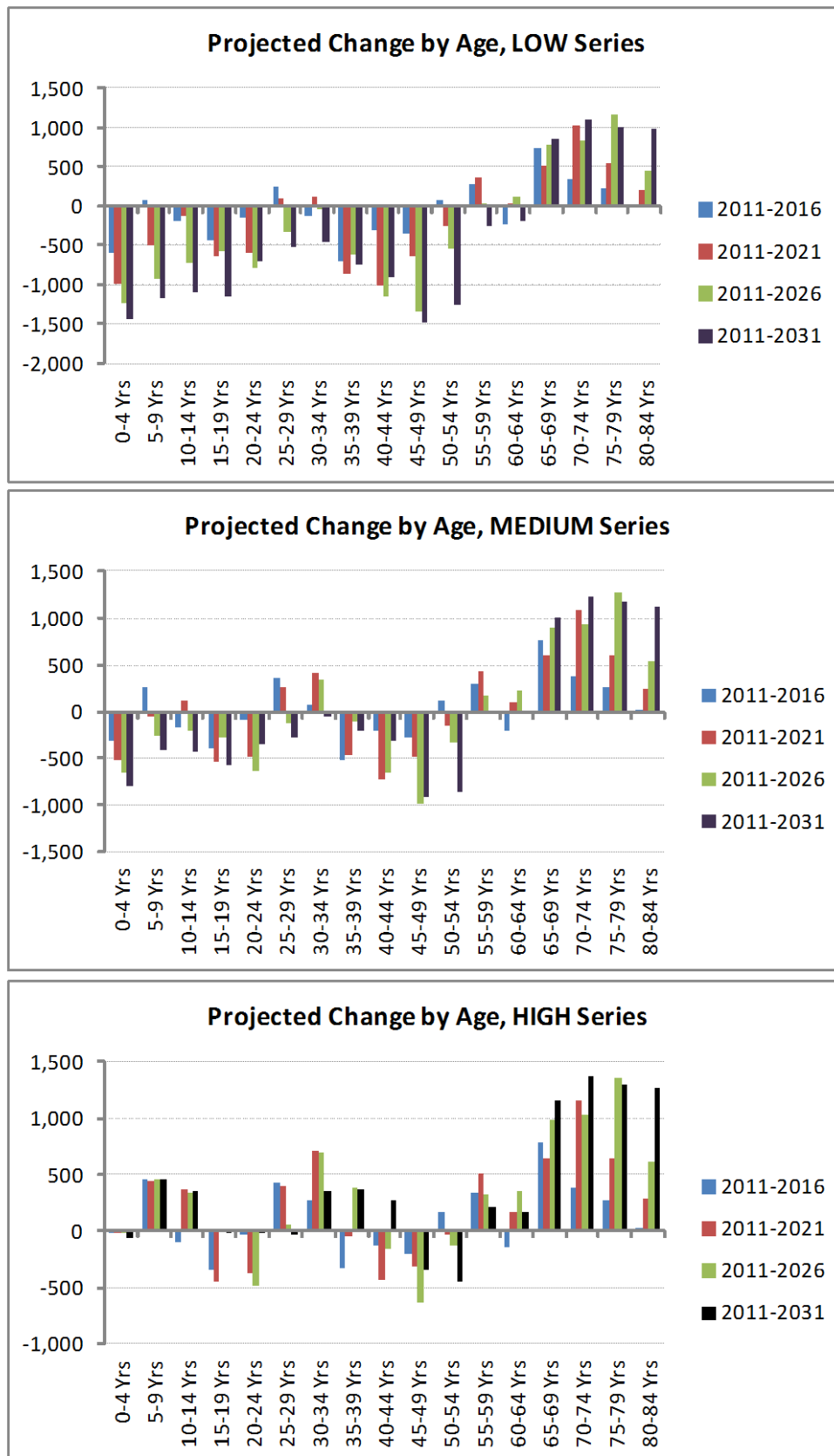
**Table 5.1.1: Projected Population, Napier City, 2006-2021 (Medium Series)**

<b>Napier City</b>							Change (%)
	2006	2011	2016	2021	2026	2031	2011-2031
<b>Numbers by age</b>							
0-14	11,890	<b>11,610</b>	11,400	11,140	10,490	9,990	-14.0
15-24	7,130	<b>7,380</b>	6,900	6,360	6,470	6,440	-12.7
25-39	10,490	<b>9,820</b>	9,710	10,030	9,910	9,290	-5.4
40-54	11,830	<b>11,980</b>	11,620	10,630	10,000	9,890	-17.4
55-64	6,610	<b>7,180</b>	7,280	7,710	7,580	7,150	-0.4
65-74	4,570	<b>5,210</b>	6,350	6,900	7,040	7,470	43.4
75-84	3,230	<b>3,350</b>	3,620	4,200	5,170	5,650	68.7
85+	1,050	<b>1,240</b>	1,440	1,550	1,800	2,160	74.2
Total	56,800	<b>57,770</b>	58,320	58,520	58,460	58,040	0.5
65+	8,850	<b>9,800</b>	11,410	12,650	14,010	15,280	55.9
<b>Intercensal Change by Age - Numbers</b>							
	2006-2011	2011-2016	2016-2021	2021-2026	2026-2031	Change (N)	
0-14	...	<b>-280</b>	-210	-260	-650	-500	-1620
15-24	...	<b>250</b>	-480	-540	110	-30	-940
25-39	...	<b>-670</b>	-110	320	-120	-620	-530
40-54	...	<b>150</b>	-360	-990	-630	-110	-2090
55-64	...	<b>570</b>	100	430	-130	-430	-30
65-74	...	<b>640</b>	1140	550	140	430	2260
75-84	...	<b>120</b>	270	580	970	480	2300
85+	...	<b>190</b>	200	110	250	360	920
Total	...	<b>970</b>	550	200	-60	-420	270
65+	...	<b>950</b>	1610	1240	1360	1270	5480
<b>Age Distribution (percentage at each age)</b>							
	2006	2011	2016	2021	2026	2031	Change (%)
0-14	20.9	<b>20.1</b>	19.5	19.0	17.9	17.2	-14.4
15-24	12.6	<b>12.8</b>	11.8	10.9	11.1	11.1	-13.1
25-39	18.5	<b>17.0</b>	16.6	17.1	17.0	16.0	-5.8
40-54	20.8	<b>20.7</b>	19.9	18.2	17.1	17.0	-17.8
55-64	11.6	<b>12.4</b>	12.5	13.2	13.0	12.3	-0.9
65-74	8.0	<b>9.0</b>	10.9	11.8	12.0	12.9	42.7
75-84	5.7	<b>5.8</b>	6.2	7.2	8.8	9.7	67.9
85+	1.8	<b>2.1</b>	2.5	2.6	3.1	3.7	73.4
Total	100.0	<b>100.0</b>	100.0	100.0	100.0	100.0	...
65+	15.6	<b>17.0</b>	19.6	21.6	24.0	26.3	55.2
<b>Summary measures</b>							
	2006	2011	2016	2021	2026	2031	2011-2031
LM Entrants/Exits							
(15-24/55-64 years)	1.1	<b>1.0</b>	0.9	0.8	0.9	0.9	...
(20-29/60-69 years)	1.1	<b>1.0</b>	1.0	0.9	0.7	0.8	...
Elderly/Children	0.74	0.84	1.00	1.14	1.34	1.53	...
Reproductive (20-39 yrs)	23.8	22.8	22.3	22.1	21.6	21.2	...
65+	15.6	<b>17.0</b>	19.6	21.6	24.0	26.3	...
75+	7.5	<b>7.9</b>	8.7	9.8	11.9	13.5	...
Growth (%) - 5 years	...	<b>1.71</b>	0.95	0.34	-0.10	-0.72	0.47
Annual average growth r	...	0.34	0.19	0.07	-0.02	-0.14	0.02

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



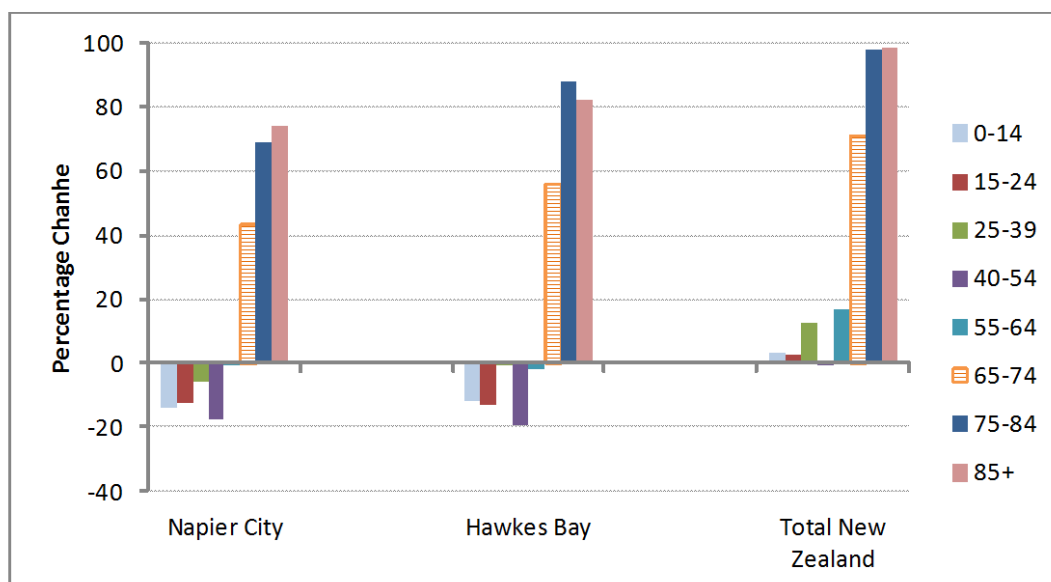
Figure 5.1.1: Projected Population Change by Age and Projection Series, Napier City



As would be expected, Figure 5.1.1 shows that the losses by age are greater under the low variant assumptions, and lower under the high variant assumptions. However, even under the high series assumptions, loss is projected for several age groups.

Similar losses and gains across the same age groups are also projected for the Hawke’s Bay region (Figure 5.1.2 and Table 5.1.2). No losses at the younger ages are projected for Total New Zealand, although the gains are likely to be minimal, while those at older ages are somewhat greater than for both Napier City and the Hawke’s Bay region.

**Figure 5.1.2: Projected Change 2011-2031 by broad age group (%), Napier City, Hawke’s Bay Region and Total New Zealand, Medium Series**



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

**Table 5.1.2: Projected Change 2011-2031 by broad age group (%), Napier City, Hawke’s Bay Region and Total New Zealand**

	Napier City	Hawke's Bay Region	Total New Zealand
0-14	-14.0	-11.8	3.2
15-24	-12.7	-13.0	2.2
25-39	-5.4	-0.5	12.7
40-54	-17.4	-19.3	0.0
55-64	-0.4	-1.8	16.9
65-74	43.4	56.1	70.7
75-84	68.7	87.4	97.9
85+	74.2	82.0	98.1
Total	0.5	2.0	16.3
65+	55.9	69.6	82.8

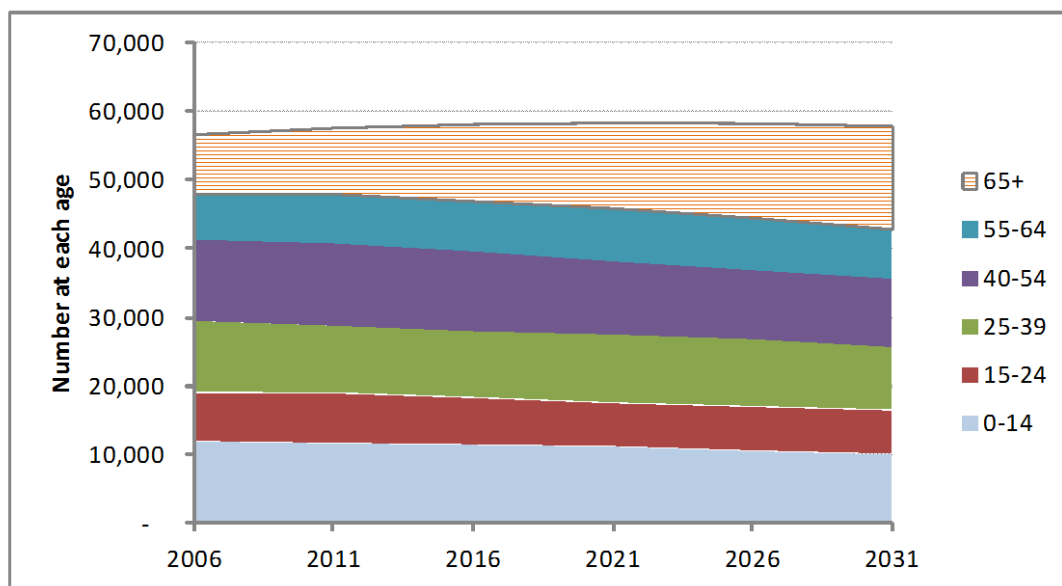
Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 Update



Figure 5.1.3 provides a summary overview of the changes by broad age group. The populations of both Napier City and the Hawke’s Bay clearly grow overall, but all of that growth is at 65+ years.

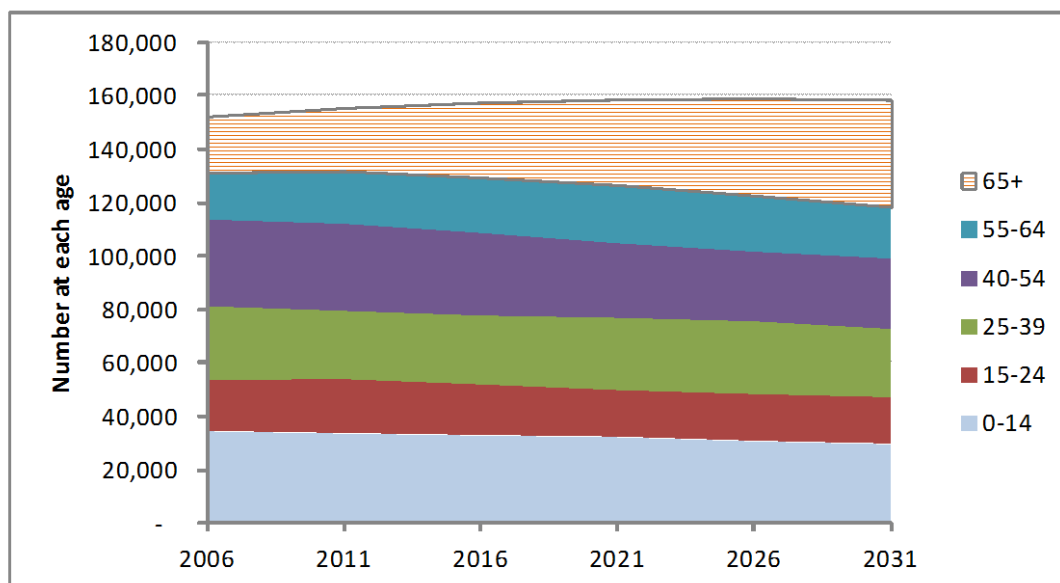
**Figure 5.1.3: Projected Change in Numbers by Broad Age Group, Napier City and Hawke’s Bay Region, 2006-2031, Medium Series**

**Napier City**



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

**Hawke’s Bay Region**



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



## 5.2 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.

The first caveat is that projected data for Napier City are available for two ethnic groups only: European/Other and Māori (Table 5.2.1). They show the Māori population increasing between 2011 and 2021 by approximately 16.5 per cent, and the European/Other population, declining slightly from 48,800 in 2011 to 48,500 in 2021 (-0.6 per cent). There are, however, marked differences by age. The 65+ year Māori population is projected to increase by 60 per cent (from 500 to 800), and the European/Other population of the same age, by 27.2 per cent. Significant increase is also projected for the Māori population aged 40-64 years (24.0 per cent), while significant decline (10.5 per cent) is projected for the European/Other population at 15-39 years

**Table 5.2.1: Population Projections for Napier City by Ethnic Group and Broad Age Group**

	Population <sup>(2, 3)</sup> by age group (years) at 30 June					Projected components of population change, five years ended 30 June					Median age <sup>(5)</sup> (years) at 30 June
	0-14	15-39	40-64	65+	All ages	Births	Deaths	Natural increase	Net migration	Inter-ethnic mobility <sup>(4)</sup>	
<b>Napier city</b>											
<b>European/Other</b>											
1996	10,000	16,100	14,000	7,700	47,800	...	...	...	...	...	36.8
2001	9,700	14,300	14,900	8,000	46,900	...	...	...	...	...	39.1
2006 (base)	9,400	14,200	16,200	8,400	48,200	...	...	...	...	...	40.7
<b>2011</b>	<b>9,400</b>	<b>13,300</b>	<b>16,800</b>	<b>9,200</b>	<b>48,800</b>	<b>3200</b>	<b>2300</b>	<b>1000</b>	<b>-400</b>	<b>0</b>	<b>42.4</b>
2016	9,400	12,300	16,400	10,700	48,800	2900	2400	500	-500	0	44.3
2021	9,100	11,900	15,700	11,700	48,500	2700	2500	200	-500	0	46.1
<b>Change 2011-2021 (%)</b>	<b>-3.2</b>	<b>-10.5</b>	<b>-6.5</b>	<b>27.2</b>	<b>-0.6</b>	...	...	...	...	...	...
<b>Māori</b>											
1996	3,500	3,900	1,600	300	9,300	...	...	...	...	...	20.8
2001	3,800	4,000	1,900	300	10,000	...	...	...	...	...	21.0
2006 (base)	3,800	4,100	2,200	400	10,500	...	...	...	...	...	22.3
<b>2011</b>	<b>4,100</b>	<b>4,300</b>	<b>2,500</b>	<b>500</b>	<b>11,500</b>	<b>1600</b>	<b>200</b>	<b>1400</b>	<b>-300</b>	<b>-200</b>	<b>22.3</b>
2016	4,300	4,600	2,800	700	12,400	1600	300	1300	-200	-200	23.0
2021	4,600	4,800	3,100	800	13,400	1600	300	1300	-200	-200	24.0
<b>Change 2011-2021 (%)</b>	<b>12.2</b>	<b>11.6</b>	<b>24.0</b>	<b>60.0</b>	<b>16.5</b>	...	...	...	...	...	...

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.

Because the data in Figure 5.2.1 do not account for all ethnic groups, they are not graphed. Instead, Figure 5.2.1 gives an overview for the Hawke's Bay region (see Appendix 3.5 for the underlying assumptions and other information). It should, however, be noted that the data pertain to four



ethnic groups only. The fifth group (Middle Eastern, Latin American and African) is not projected because of the small cell sizes obtaining when this relatively small population is disaggregated by age.

Based on these four main ethnic groupings, the data suggest that there will be relatively little change in the overall ethnic composition of the region over time. However young Māori (0-14 years) are projected to increase their share of the region's youthful population from 31.5 to 33.1 per cent, Pacific Island from 6.8 to 8.7 per cent, and Asian from 2.8 to 4.1 per cent (Table 5.2.2). The trends result in a diminishing share for the youthful European/Other population, from 58.8 to 54.1 per cent.

Changes are equally evident for each successively older age group. At 40-64 years, for example, Māori increase their share from 16.8 to 18.9 per cent (12.4 per cent increase), and at 65+ years, from 7.9 to 9.6 per cent (20.4 per cent). The percentage magnitude of the changes are even greater for the Pacific Island and Asian populations; however, as Figure 5.2.1 shows, they have somewhat less impact on the overall ethnic distribution, because they are coming off such small bases.

Concomitantly, the European/Other share of all age groups declines.

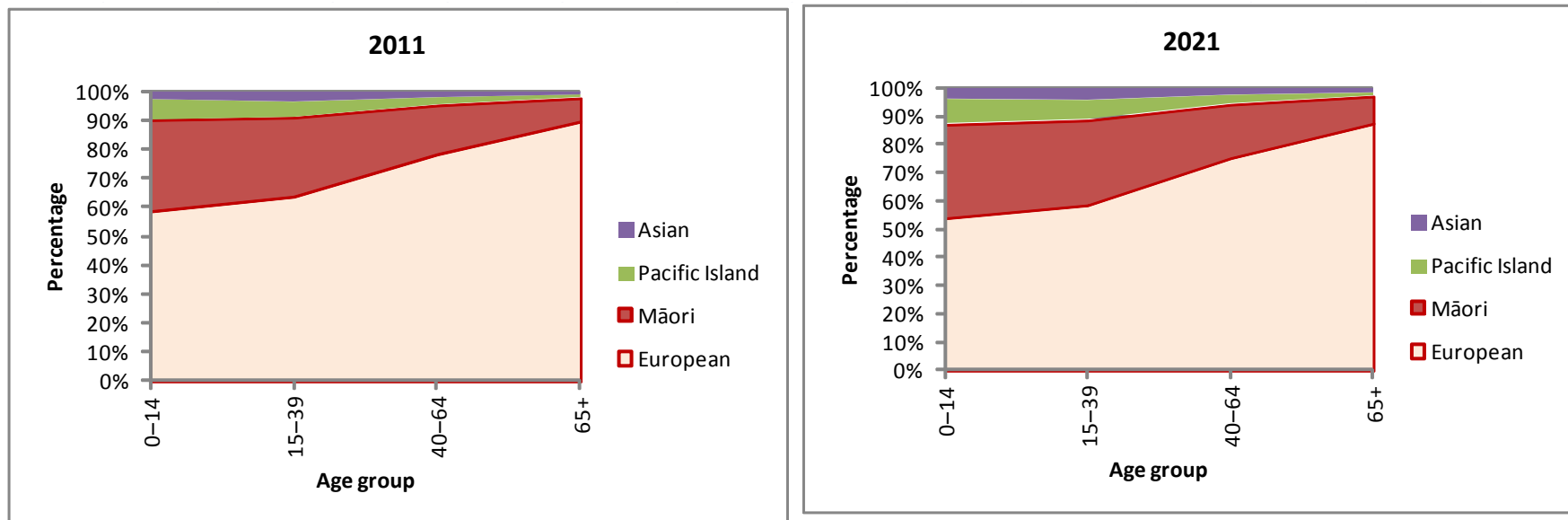
**Table 5.2.2: Projected Distribution by Age and Ethnic Group\*, Hawke's Bay Region**

	0-14	15-39	40-64	65+	All ages
<b>2011</b>					
European	58.8	63.9	78.6	90.0	70.9
Māori	31.5	27.3	16.8	7.9	22.4
Pacific Island	6.8	5.1	2.4	0.8	4.1
Asian	2.8	3.7	2.2	1.3	2.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Number	42,500	51,300	54,700	23,900	172,400
<b>2016</b>					
European	56.4	60.9	76.9	89.1	69.3
Māori	32.3	28.8	17.9	8.8	23.1
Pacific Island	7.9	5.9	2.7	0.7	4.6
Asian	3.5	4.3	2.4	1.4	3.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Number	43,300	50,700	54,600	28,400	176,700
<b>2021</b>					
European	54.1	58.8	75.4	87.7	67.7
Māori	33.1	30.0	18.9	9.6	23.8
Pacific Island	8.7	6.7	3.0	0.9	5.1
Asian	4.1	4.5	2.6	1.9	3.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Number	43,800	50,700	52,900	32,400	180,100

Source and Notes: same as Table 5.2.1



**Figure 5.2.1: Projected Population of the Hawke’s Bay 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 3e, 3m, 3p, 3a

(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.

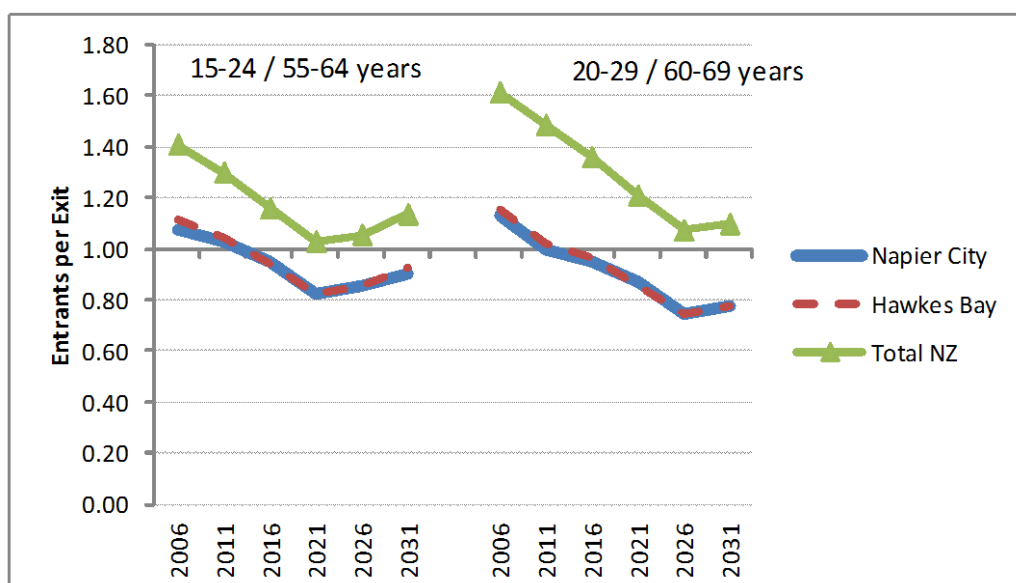


## 5.3 Labour Market Implications of Changing Age Structure

As noted earlier, population ageing drives other important changes. One of the most important is change in the ratio of people at labour market entry age to those at 'exit' age. As noted, various age groupings can be employed to calculate this ratio; here I use two: people aged 15-24 to those aged 55-64 years, and people aged 20-29 to those aged 60-69 years (Figure 5.3.1). Based on the first of these indices, Napier City can expect to have fewer 'entrants' than 'exits' from around 2016, reaching a low point of 0.8 (eight entrants per ten exits) around 2021, then rising slightly to 0.9 (see also Table 5.1.1 above). When the ratio is based on those aged 20-29 and 60-69 years, it falls below one by 2021 and as low as 0.7 in 2026.

Trends are very similar for the Hawke's Bay region (see also Appendix 3.3). For Total New Zealand the ratios similarly decline, but do not fall below one during the projection period (Appendix 3.4). All are of course linked, however, in a national (and international) labour market that will see increased competition for the participation of the young and greater need to encourage 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 6.0).

**Figure 5.3.1: Projected Ratio of People at Labour Market Entry Age to Those Approaching Exit Age, Napier City, Hawke's Bay Region and Total New Zealand, 2006-2031**



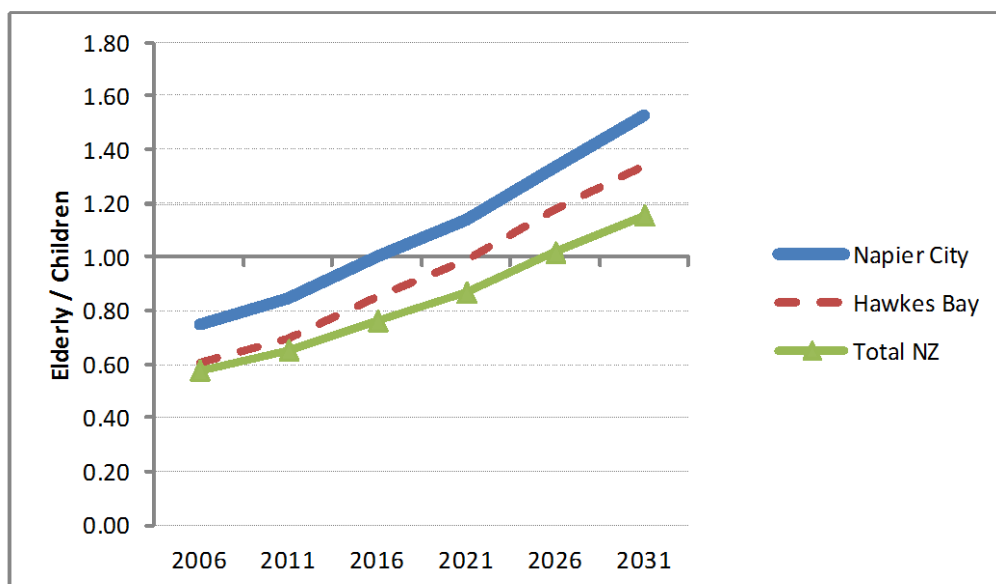
Source: Statistics New Zealand, Subnational Population Projections by Age and Sex, 2006(base)-2031 Update



## 5.4 Natural Increase Implications of Changing Age Structure

For Napier City, the projected ratio of elderly (65+ years) to children (0-14 years) increases rapidly from its present 0.84 (eight elderly for every ten children), to 1.53 by 2031 (Figure 5.4.1). This profound shift to more elderly than children (cross over for Napier City around 2016) will by then be contributing to rapidly diminishing levels of natural increase (Figure 5.4.2), as will the relatively small proportion projected to be at the key reproductive ages (21-22 per cent) compared with Total New Zealand (25-27 per cent) (Figure 5.4.3). For Hawke's Bay the cross over to more elderly than children will occur around 2021, and for Total New Zealand, around 2026 (see also Appendices 3.3 and 3.4).

**Figure 5.4.1: Projected Ratio of Elderly (65+ Years) to Children (0-14 Years), Napier City, Hawke's Bay Region and Total New Zealand, 2006-2031**

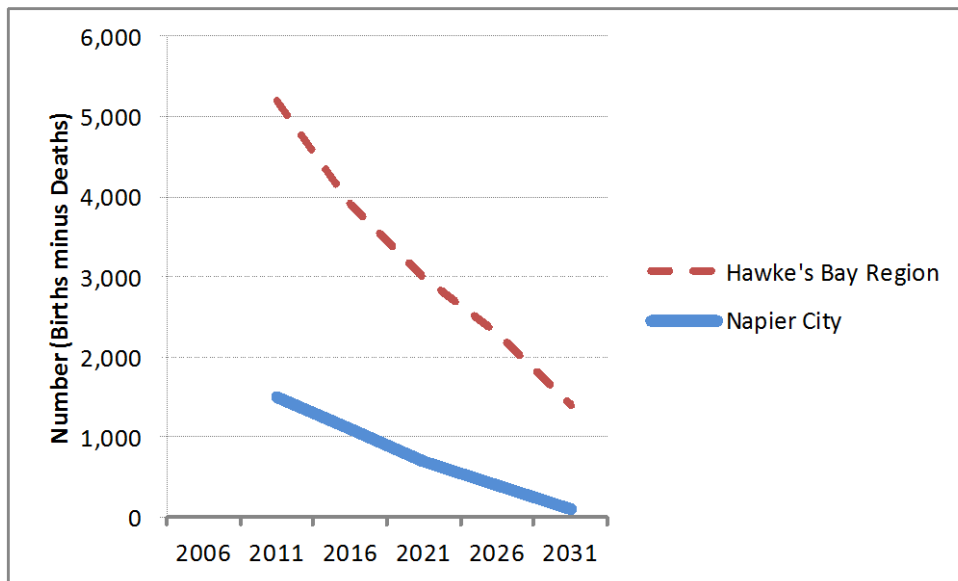


Source: Statistics New Zealand, *Subnational Population Projections by Age and Sex, 2006(base)-2031 Update*

The proportion at key reproductive ages (Figure 5.4.3) appears to be a particularly critical indicator of future growth. In 2010, 15 of New Zealand's 67 Territorial Authorities (22 per cent) had either stopped growing or declined in size (Jackson 2011: 20). All had proportions aged 20-39 years lower than the national average (then 26.9 per cent), 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 Napier City's growth. As that component declines, growth – or maintenance of population size - will become ever more dependent on migration.

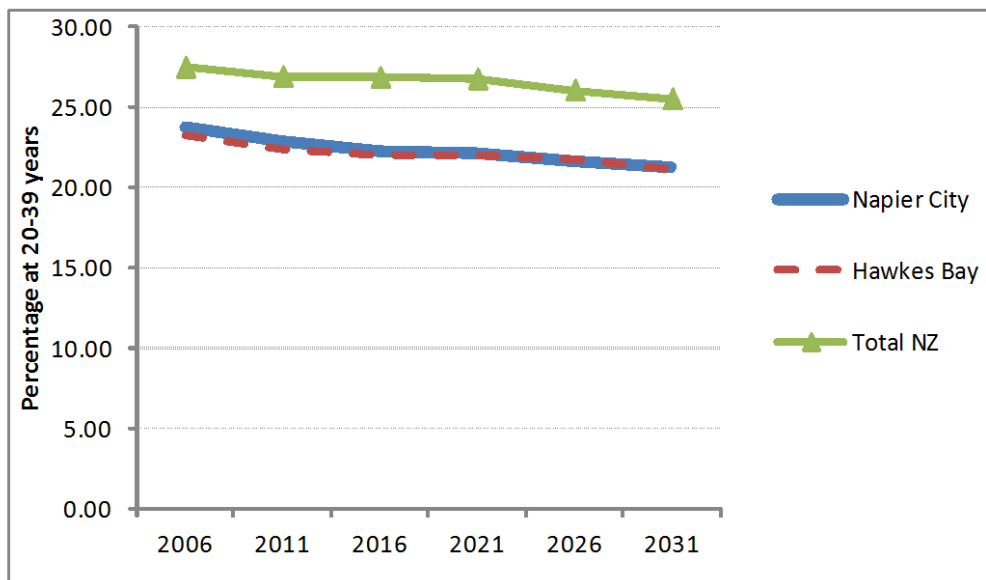


**Figure 5.4.2: Projected Natural Increase, Napier City and Hawke's Bay Region, 2006-2031**



Source: Statistics NZ Subnational Projected Population Characteristics, 2006(base)-2031 Update

**Figure 5.4.3: Projected Proportion at Key Reproductive Ages (20-39 Years), Napier City, Hawke's Bay Region and Total New Zealand, 2006-2031**



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



## 6.0 Industrial Change – Special Topic 1

### 6.1 Industrial Age-Sex Structures (1996, 2001, 2006)

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The extent (and speed) of population ageing and its impact on Labour Market entry/exit ratios also differs 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.

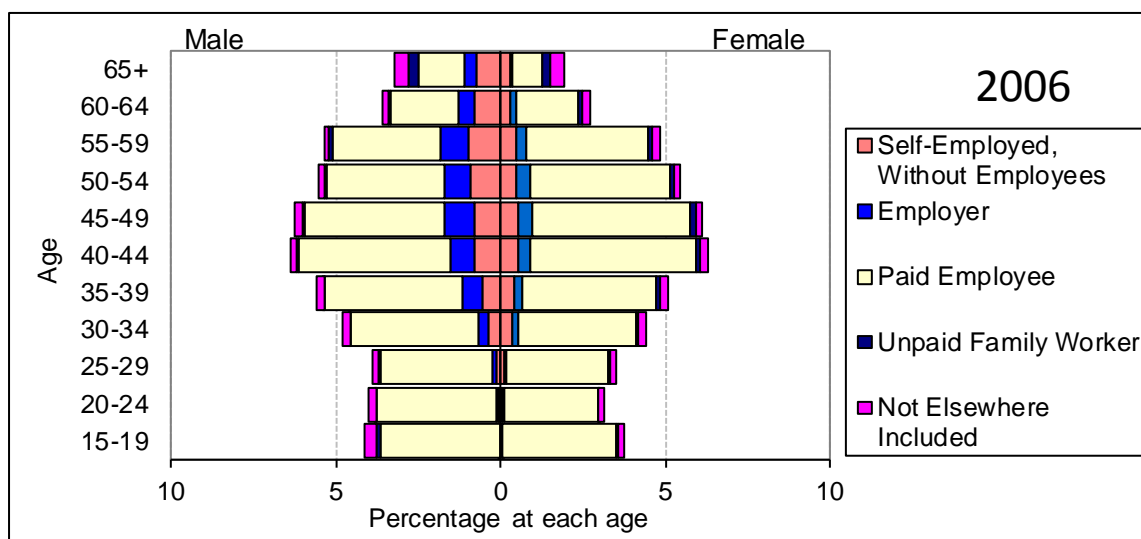
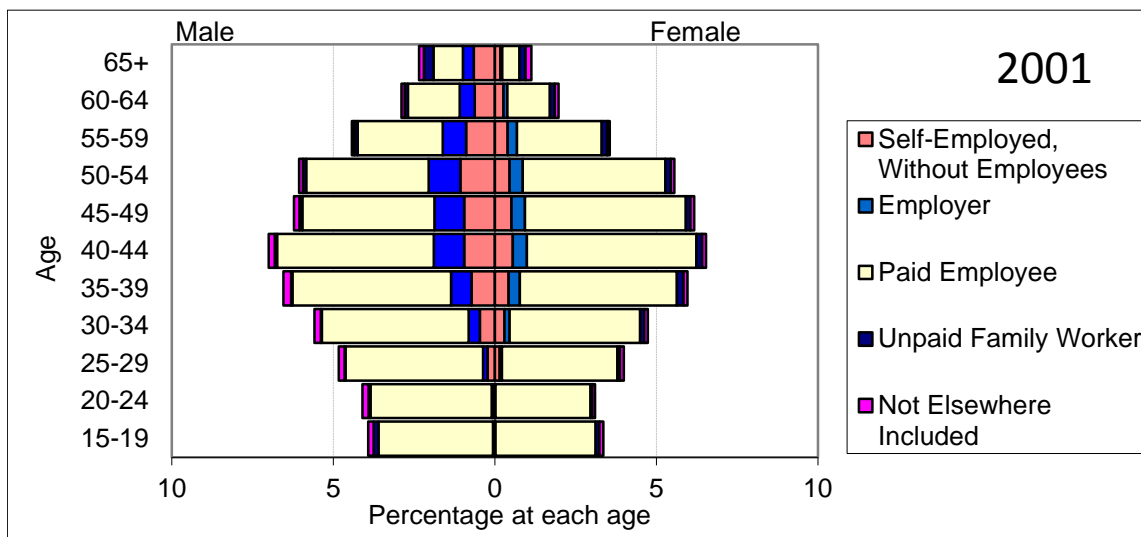
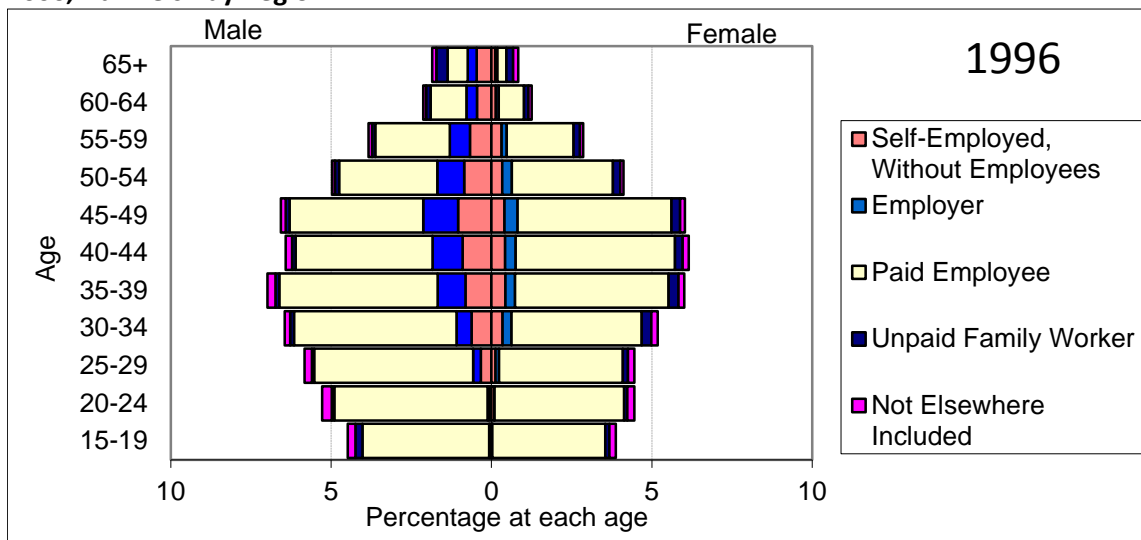
This section provides an overview of the changing age-sex structure of the Hawke's Bay Region's employed labour force by employment status (self-employed, employer, paid employee etc.), first for the total labour force, then for the region's five largest industries at the three digit level: School Education; Horticulture and Fruit Growing; Grain, Sheep and Beef Farming; Meat and Meat Product Manufacturing; and Community Care Services (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.

Figure 6.1.1 provides data for the Hawke's Bay Region's total employed labour force. Reflecting the trends outlined above, the average age of employed persons at each census was respectively 39.1, 41.2 and 42.4 years (see Appendix 4.1 for average age by employment status), an overall increase of 3.4 years (8.7 per cent). By comparison the average age for the Total New Zealand employed labour force at each observation was 38.3, 40.1 and 41.2 years (2.9 years, 7.6 per cent). As might be expected, employers and the self-employed tend to have the oldest average ages, around nine years greater than paid employees, with those from the Hawke's Bay Region a year or two older than for New Zealand generally.

A significant departure from the picture for the total employed labour force is that for the region's single largest industrial grouping, School Education (ANZSIC96 V4.1 code N842), which is heavily feminised and – as would be expected - contains very few people enumerated as anything other than paid employees (Figure 6.1.2). The average age of persons in the Hawke's Bay employed in this industry (46.7 years in 2006) is around four years greater than the region's total labour force, and has shifted upwards since 1996 by 3.6 years (8.5 per cent). This is a somewhat greater rate of structural ageing than for the Total New Zealand School Education labour force (Appendix 4.2).



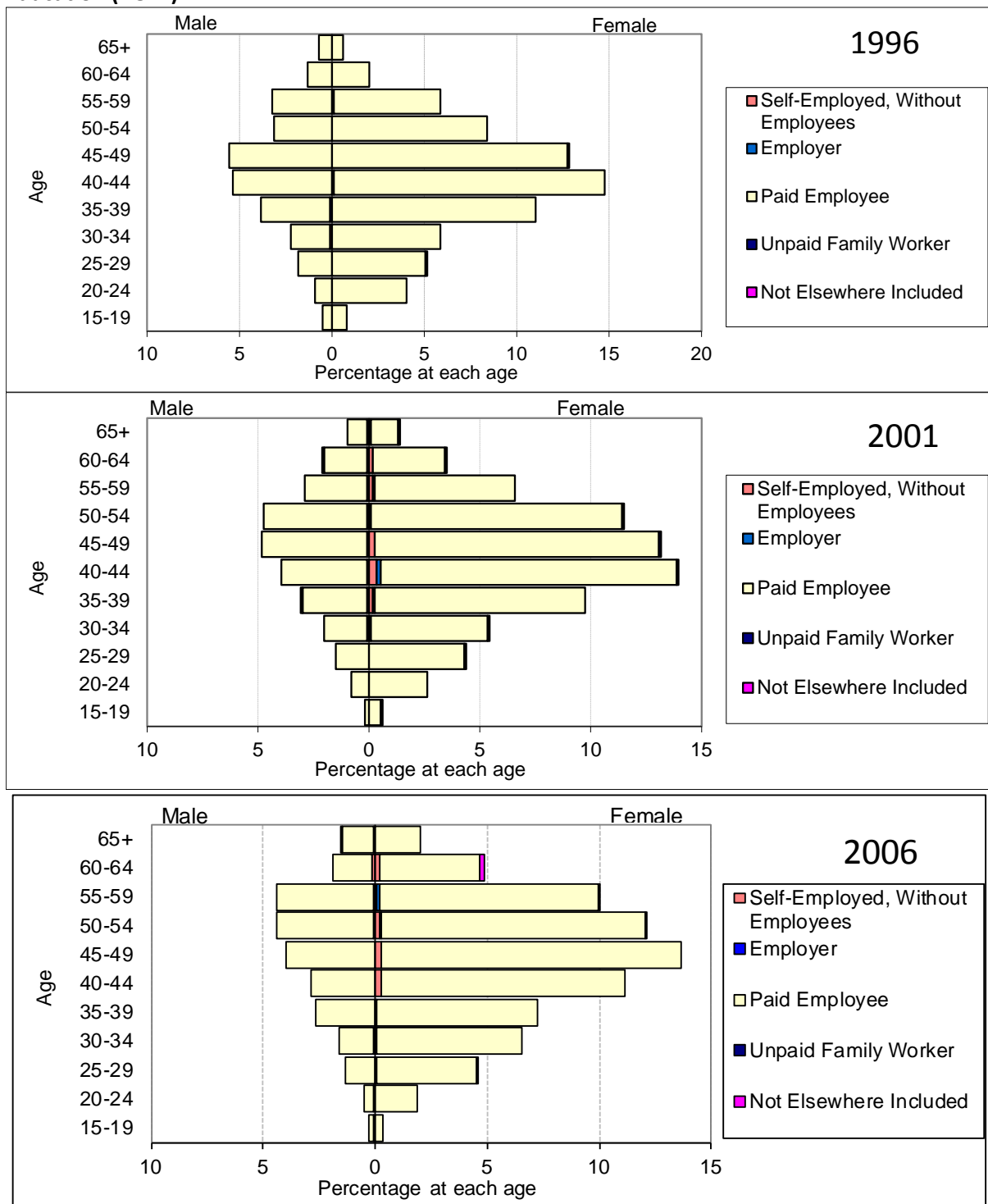
**Figure 6.1.1: Age-Sex Structure and Employment Status of Employed Labour Force 1996, 2001, 2006, Hawke's Bay Region**



Source: 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 and Over, 1996, 2001, 2006



**Figure 6.1.2: Age-Sex Structure of Major Industries 1996, 2001, 2006, Hawke's Bay Region: School Education (N842)**



Source: 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 and Over, 1996, 2001, 2006



While structurally younger, substantial ageing is also evident in the Hawke's Bay's second largest industry (in 2006 employing 3,084), Horticulture and Fruit Growing (Figure 6.1.3, Appendix 4.3). The average age of Hawke's Bay employees in this somewhat masculinised industry is similar to the region's total employed labour force, but it is ageing faster, increasing from 37.8 years in 1996 to 40.5 years in 2006 (4.7 years, 12.5 per cent). Employees are around 2 years younger than the New Zealand average for this industry. At the same time, Hawke's Bay employers tend to be a little older than the New Zealand average for the industry, and the self-employed, a little younger.

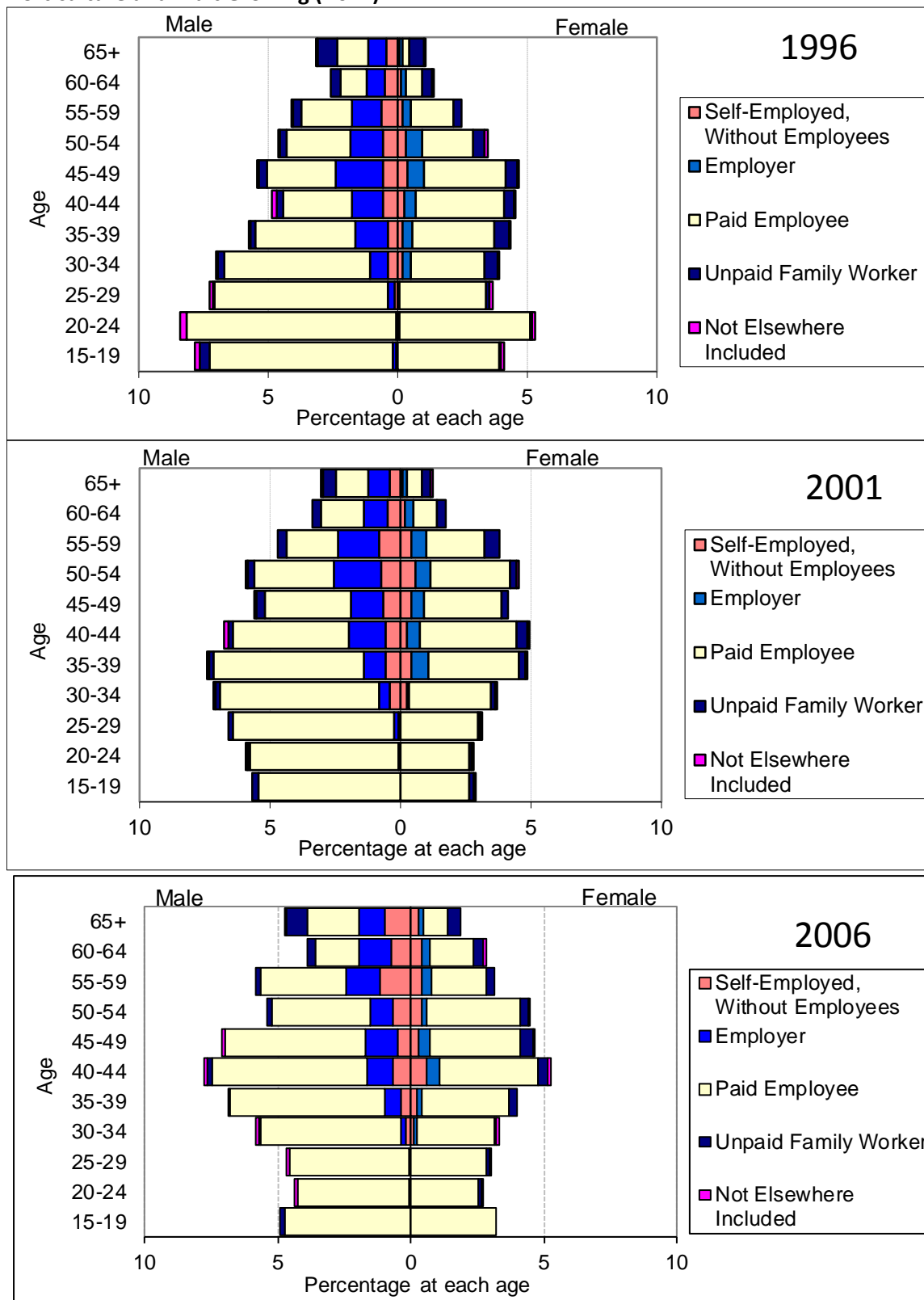
Also dominated by males, the Grain, Sheep and Beef Cattle Farming industry is the region's third largest, in 2006 employing 3,036 people (Figure 6.1.4). Its age-sex structures contrast significantly with those for Horticulture and Fruit Growing. Generally understood as one of the older industries (in terms of age structure), the average age of Hawke's Bay's Grain, Sheep and Beef farmers increased from 43.5 years in 1996 to 46.5 years in 2006 (7.0 per cent). In 1996 this meant that the region's farmers were a little older on average than their New Zealand counterparts, but in 2001 and 2006 a little younger (Appendix 4.4). Again however the region's employers in this industry were older than those across the rest of the country. The relatively small proportion of paid employees at the younger ages *vis-à-vis* the bulk of employers at older ages has significant implications for succession of these farms.

Somewhat younger in age structure – but nevertheless ageing as well, and also heavily male dominated - is the Hawke's Bay region's Meat and Meat Product Manufacturing industry (Figure 6.1.5), in 2006 employing around 2,460 people (the region's 5<sup>th</sup> largest). Similar to the total employed labour force of the region, the average age of employees in this industry in 2006 was 41.1 years, having increased by 3.1 years (8.1 per cent) since 1996 (Appendix 4.5). Of note is that this industry has relatively few employers or self-employed living in the Hawke's Bay region; however this situation is similar across Total New Zealand.

Contrasting completely with the large male dominated industries is Community Care Services. Like School Education, this industry is disproportionately staffed by females (Figure 6.1.6, Appendix 4.6). The extent and speed of ageing in this industry is also more profound than in general, the average age of 47.6 years in 2006 having increased by 6.5 years since 1996, almost 16 per cent.



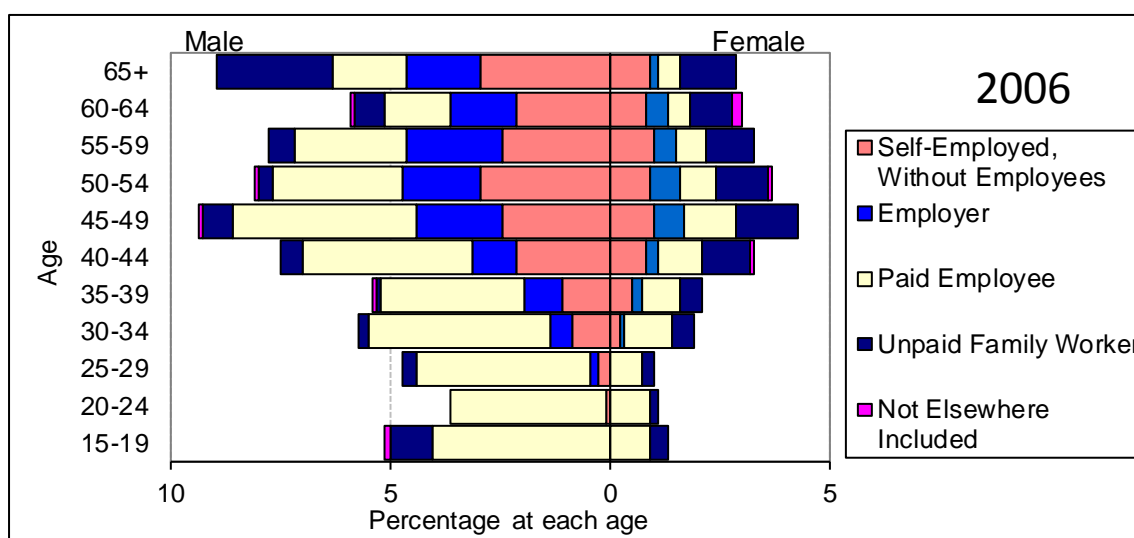
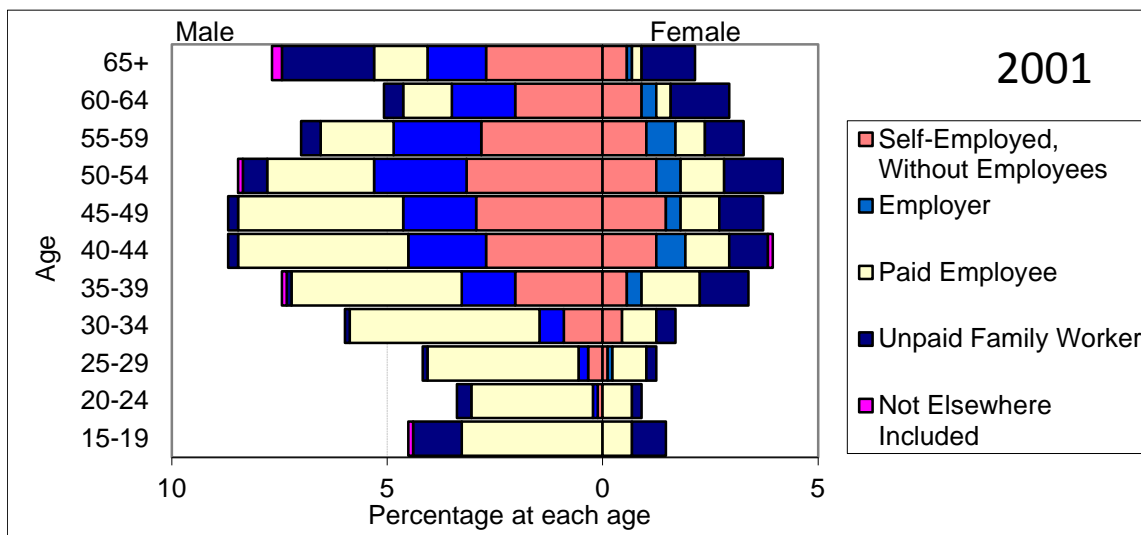
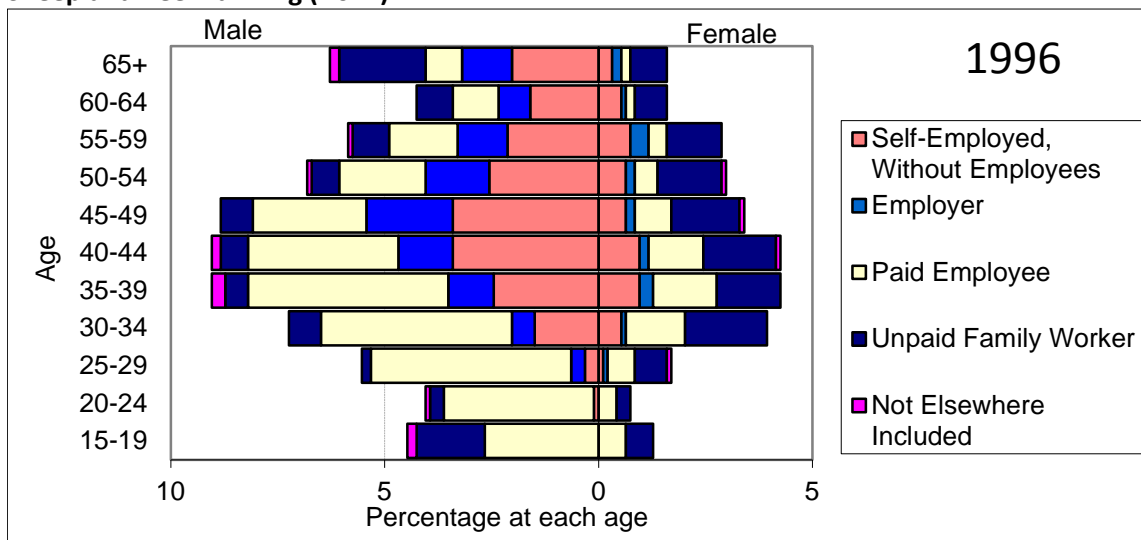
**Figure 6.1.3: Age-Sex Structure of Major Industries 1996, 2001, 2006, Hawke’s Bay Region: Horticulture and Fruit Growing (A011)**



Source: 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 and Over, 1996, 2001, 2006



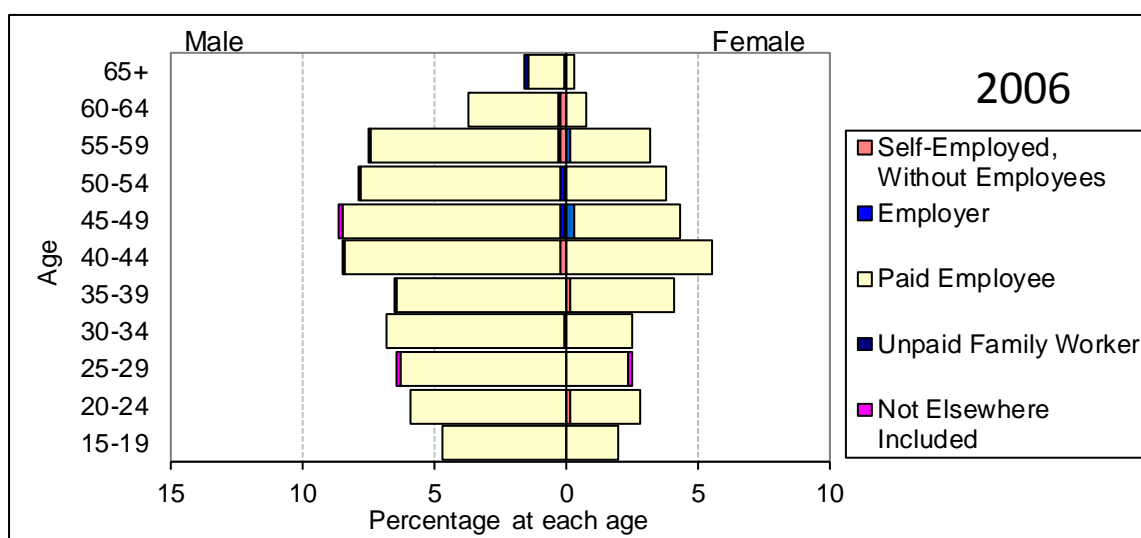
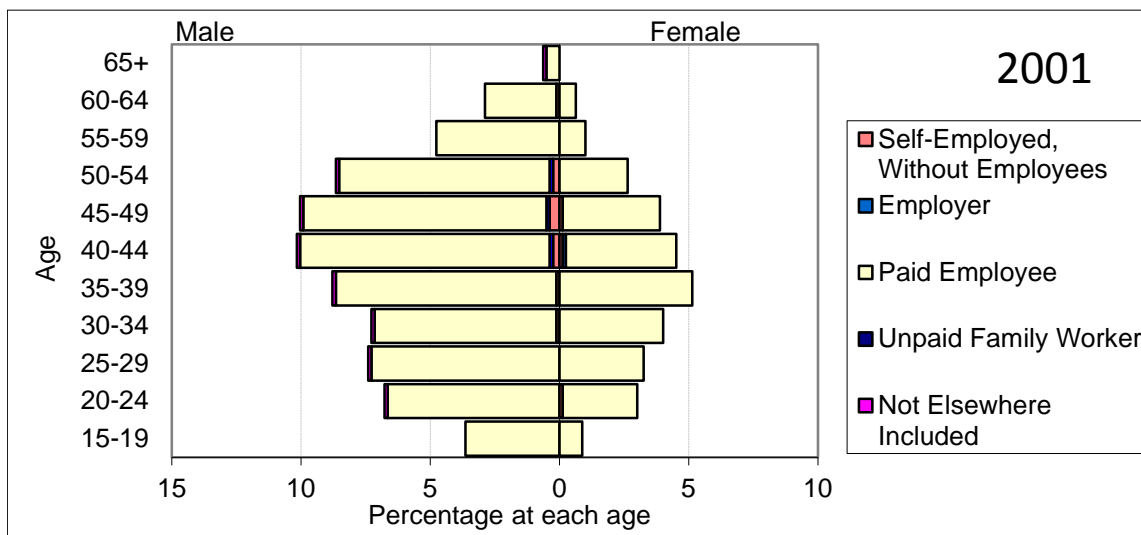
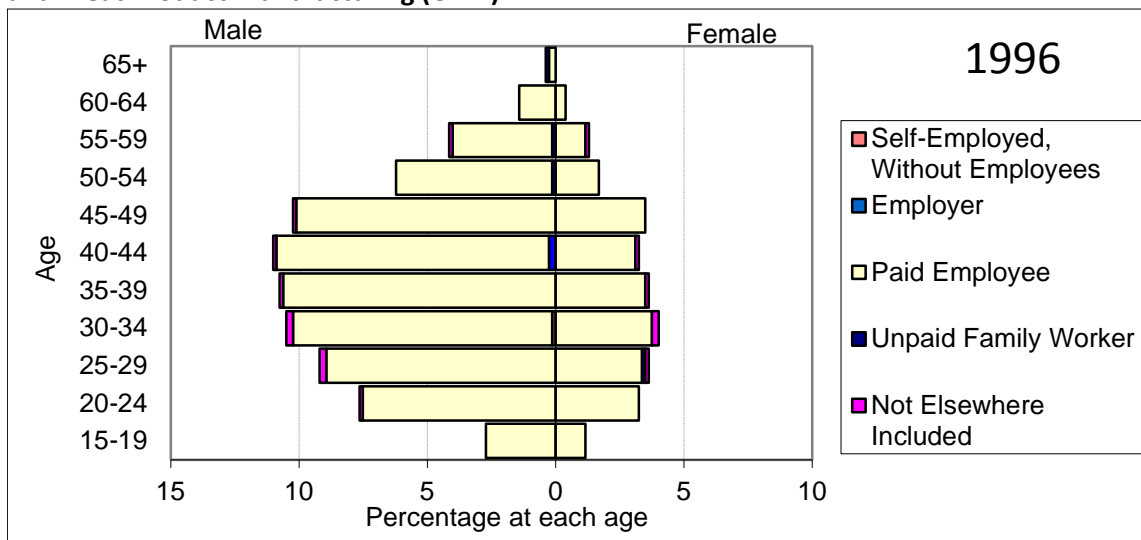
**Figure 6.1.4: Age-Sex Structure of Major Industries 1996, 2001, 2006, Hawke's Bay Region: Grain, Sheep and Beef Farming (A012)**



Source: 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 and Over, 1996, 2001, 2006



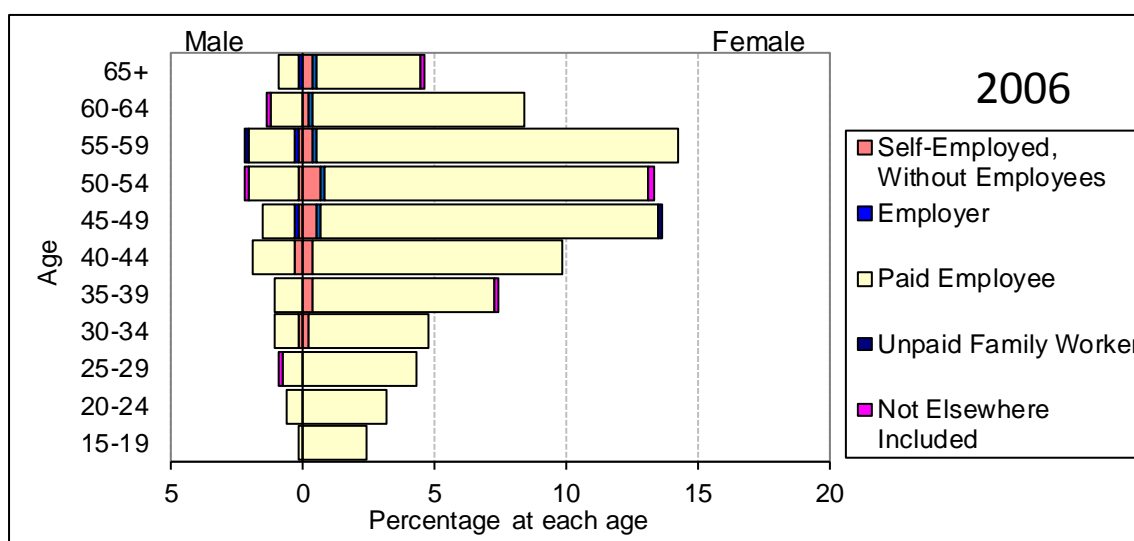
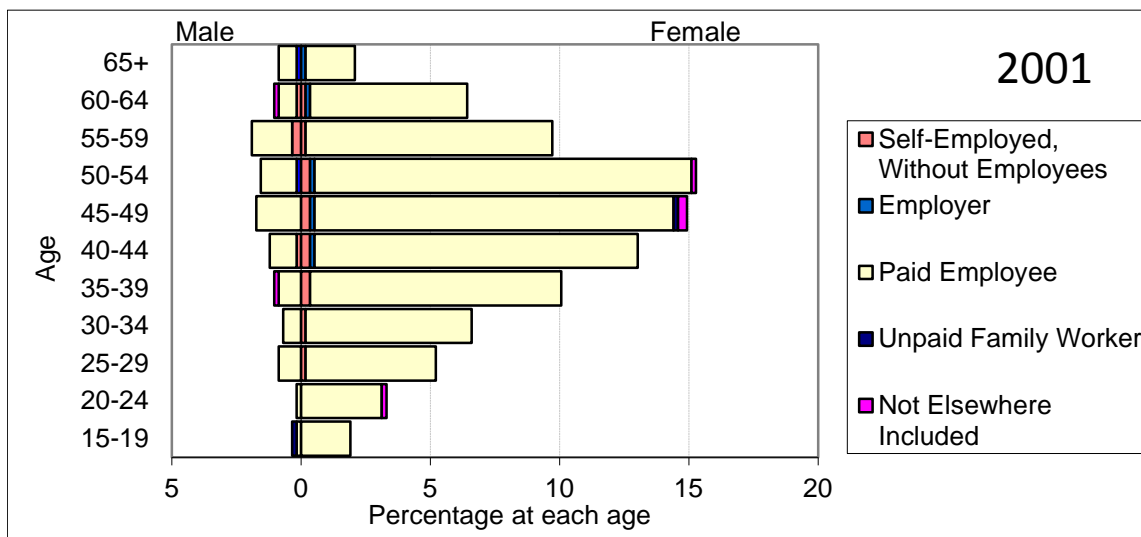
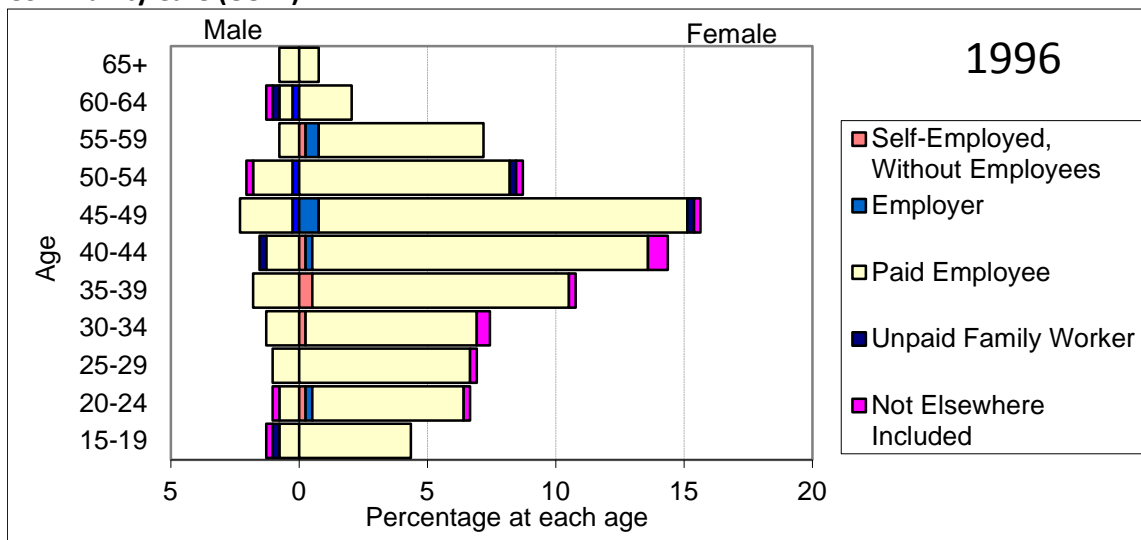
**Figure 6.1.5: Age-Sex Structure of Major Industries 1996, 2001, 2006, Hawke's Bay Region: Meat and Meat Product Manufacturing (C211)**



Source: 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 and Over, 1996, 2001, 2006



**Figure 6.1.6: Age-Sex Structure of Major Industries 1996, 2001, 2006, Hawke's Bay Region: Community Care (O872)**



Source: 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 and Over, 1996, 2001, 2006



Drawing on the 'entry/exit ratio' index, Table 6.1.1 provides a summary perspective on these trends, including also data for all industries with more than 1,000 employed persons in the Hawke's Bay Region (together accounting for half of the region's employed persons) (see also Appendix 4.7).

The data show the ratio of people employed in the labour market entry ages (15-24 years) to those in the retirement zone (55-64 years) for each of the selected industries. Notable are the extremely low 2006 ratios for some industries, such as 0.1 for School Education (one person at 15-24 years for every 10 at 55-64 years), Community Care Services (0.2) and Other Health Services (0.2) for the Hawke's Bay region. These ratios will of course reflect the relatively low proportions of people at younger ages with relevant qualifications or experience; however in each case they are lower than for Total New Zealand, and most have declined at a faster rate. Other industries with ratios already well below 1.0 (ie, ten entrants per ten exits) are Grain, Sheep and Beef Farming (0.6), Hospitals and Nursing Homes (0.3), Government Administration (0.3), Other Business Services (0.7) and Marketing and Business management Services (0.6). In some cases these are also below those for Total New Zealand (eg., Government Administration, Other Business Services, and Marketing and Business Management Services), but in others they are above. Either way, they point to an urgent need to engage with the rapid ageing of, and succession planning within, many local industries.

**Table 6.1.1: Ratio of People at Labour Market Entry Age (15-24) to Exit Age (55-64) in Industries Employing over 1,000 persons, Hawke's Bay Region and Total New Zealand, 1996 and 2006**

	Hawke's Bay Region			Total New Zealand		
	1996	2006	Change (%)	1996	2006	Change (%)
School Education (N842)	0.5	0.1	-71.7	0.6	0.3	-57.9
Horticulture and Fruit Growing (A011)	2.4	1.0	-59.9	1.6	0.7	-56.5
Grain Sheep and Beef Farming (A012)	0.7	0.6	-22.6	0.7	0.4	-44.7
Meat and Meat Product Manufacturing (C211)	2.0	1.0	-50.1	2.1	1.2	-40.1
Community Care Services (O872)	1.2	0.2	-79.6	1.0	0.3	-67.5
Supermarkets and Grocery Stores (G511)	2.0	3.4	65.6	2.1	4.8	131.0
Fruit and Vegetable Processing (C213)	3.3	1.6	-51.6	4.0	1.4	-63.9
Services to Agriculture (A021)	4.4	1.7	-61.3	2.9	1.4	-52.5
Hospitals and Nursing Homes (O861)	0.6	0.3	-59.7	0.9	0.3	-61.7
Government Administration (M811)	0.5	0.3	-47.5	0.9	0.5	-39.8
Building Construction (E411)	1.4	1.4	-2.6	1.9	1.4	-25.2
Cafes and Restaurants (H573)	8.3	7.2	-13.4	10.5	7.2	-31.9
Other Health Services (O863)	0.4	0.2	-45.1	0.9	0.4	-61.8
Motor Vehicle Services (G532)	3.9	1.5	-61.9	5.0	1.9	-61.3
Specialised Food Retailing (G512)	5.1	4.4	-14.1	5.7	4.7	-18.5
Other Business Services (L786)	1.2	0.7	-44.2	1.9	1.1	-40.6
Marketing and Business Management Services (L785)	2.3	0.6	-75.3	2.1	0.9	-57.3
Other Personal and Household Good Retailing (G525)	1.8	1.2	-32.0	1.9	1.5	-23.9
<b>Hawke's Bay Total Employed Labour Force</b>	<b>1.8</b>	<b>0.9</b>	<b>-49.0</b>	<b>2.0</b>	<b>1.12</b>	<b>-45.4</b>

Source: Stats 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 and Over, 1996, 2001, 2006



## Appendix 1.0: Population Size and Growth, Napier & Total New Zealand 1986-2011

Census Night Resident Population and Census-Adjusted Intercensal Estimates (March Years)	Census Night Resident Population (unadjusted for Census 1996) (March Years)	Estimated Usual Resident Population (June Years)	Change (%)	Total New Zealand Change (%)
1986	52,512	...		
1987	52,200	...	1986-87	...
1988	51,900	...	1987-88	-0.6
1989	51,600	...	1988-89	-0.6
1990	51,500	...	1989-90	-0.6
1991	...	51,645	1990-91	...
1992	...	51,500	1991-92	-0.3
1993	...	51,800	1992-93	0.6
1994	...	52,300	1993-94	1.0
1995	...	52,600	1994-95	0.6
1996	...	...	1995-96	...
1997	...	...	1996-97	0.5
1998	...	...	1997-98	0.4
1999	...	...	1998-99	-0.2
2000	...	...	1999-2000	0.0
2001	...	...	2000-01	-0.2
2002	...	...	2001-02	0.5
2003	...	...	2002-03	0.7
2004	...	...	2003-04	0.5
2005	...	...	2004-05	0.5
2006	...	...	2005-06	0.5
2007	...	...	2006-07	0.2
2008	...	...	2007-08	0.2
2009	...	...	2008-09	0.4
2010	...	...	2009-10	0.7
2011	...	...	2010-11	0.3

Source: Statistics New Zealand Infoshare, Tables DPE006AA; DPE051AA

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 2.1: Components of Change by age (Napier City 1996-2001)

**Actual and Expected Population by Age, 1996-2001: Napier City**

	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~ D
				Number					Percenta
0-4	4,200	3,848	3,780	<b>-420</b>	-68	-26	-326	<b>-10.0</b>	-1.6
5-9	4,170	4,194	4,220	<b>50</b>	26	-6	30	<b>1.2</b>	0.6
10-14	3,860	4,167	4,330	<b>470</b>	163	-3	310	<b>12.2</b>	4.2
15-19	3,890	3,851	3,800	<b>-90</b>	-51	-9	-30	<b>-2.3</b>	-1.3
20-24	3,540	3,873	2,960	<b>-580</b>	-913	-17	350	<b>-16.4</b>	-25.8
25-29	3,830	3,524	3,370	<b>-460</b>	-154	-16	-290	<b>-12.0</b>	-4.0
30-34	3,920	3,813	3,590	<b>-330</b>	-223	-17	-90	<b>-8.4</b>	-5.7
35-39	4,040	3,901	3,940	<b>-100</b>	39	-19	-120	<b>-2.5</b>	1.0
40-44	3,690	4,014	4,090	<b>400</b>	76	-26	350	<b>10.8</b>	2.1
45-49	3,870	3,655	3,640	<b>-230</b>	-15	-35	-180	<b>-5.9</b>	-0.4
50-54	3,050	3,809	3,730	<b>680</b>	-79	-61	820	<b>22.3</b>	-2.6
55-59	2,590	2,970	2,910	<b>320</b>	-60	-80	460	<b>12.4</b>	-2.3
60-64	2,250	2,482	2,520	<b>270</b>	38	-108	340	<b>12.0</b>	1.7
65-69	2,390	2,100	2,240	<b>-150</b>	140	-150	-140	<b>-6.3</b>	5.9
70-74	2,140	2,137	2,170	<b>30</b>	33	-253	250	<b>1.4</b>	1.5
75-79	1,640	1,791	1,840	<b>200</b>	49	-349	500	<b>12.2</b>	3.0
80-84	1,050	1,223	1,210	<b>160</b>	-13	-417	590	<b>15.2</b>	-1.2
85-89	540	640	610	<b>70</b>	-30	-410	510	<b>13.1</b>	-5.6
90+	230	300	270	<b>40</b>	-30	-470	540	<b>17.2</b>	-12.9
Total	54,890	56,291	55,220	<b>330</b>	-1,071	-2473	3,874	<b>0.6</b>	-2.0

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

Notes: ~As a percentage of Previous Observed Population



## Appendix 2.2: Components of Change by age (Napier City 2001-2006)

Actual and Expected Population by Age, 2001-2006:				Napier City						
	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~ D	
				Number					Percenta	
0-4	3,780	3,730	3,750	<b>-30</b>	20	-22	-28	<b>-0.8</b>	0.5	
5-9	4,220	3,775	3,860	<b>-360</b>	85	-5	-440	<b>-8.5</b>	2.0	
10-14	4,330	4,217	4,280	<b>-50</b>	63	-3	-110	<b>-1.2</b>	1.5	
15-19	3,800	4,322	4,090	<b>290</b>	-232	-8	530	<b>7.6</b>	-6.1	
20-24	2,960	3,787	3,040	<b>80</b>	-747	-13	840	<b>2.7</b>	-25.2	
25-29	3,370	2,949	3,050	<b>-320</b>	101	-11	-410	<b>-9.5</b>	3.0	
30-34	3,590	3,357	3,580	<b>-10</b>	223	-13	-220	<b>-0.3</b>	6.2	
35-39	3,940	3,574	3,860	<b>-80</b>	286	-16	-350	<b>-2.0</b>	7.3	
40-44	4,090	3,916	4,200	<b>110</b>	284	-24	-150	<b>2.7</b>	6.9	
45-49	3,640	4,053	4,010	<b>370</b>	-43	-37	450	<b>10.2</b>	-1.2	
50-54	3,730	3,591	3,620	<b>-110</b>	29	-49	-90	<b>-2.9</b>	0.8	
55-59	2,910	3,650	3,730	<b>820</b>	80	-80	820	<b>28.2</b>	2.8	
60-64	2,520	2,808	2,880	<b>360</b>	72	-102	390	<b>14.3</b>	2.8	
65-69	2,240	2,380	2,490	<b>250</b>	110	-140	280	<b>11.2</b>	4.9	
70-74	2,170	2,041	2,080	<b>-90</b>	39	-199	70	<b>-4.1</b>	1.8	
75-79	1,840	1,859	1,880	<b>40</b>	21	-311	330	<b>2.2</b>	1.2	
80-84	1,210	1,421	1,350	<b>140</b>	-71	-419	630	<b>11.6</b>	-5.9	
85-89	610	772	708	<b>98</b>	-63	-438	600	<b>16.1</b>	-10.4	
90+	270	354	342	<b>72</b>	-12	-526	610	<b>26.6</b>	-4.5	
<b>Total</b>	<b>55,220</b>	<b>56,555</b>	<b>56,800</b>	<b>1,580</b>	<b>245</b>	<b>-2417</b>	<b>3,752</b>	<b>2.9</b>	<b>0.4</b>	

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

Notes: ~As a percentage of Previous Observed Population



## Appendix 2.3: Components of Change by age (Hawke's Bay RC 1996-2001)

### Actual and Expected Population by Age, 1996-2001: Hawke's Bay Region

	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~ D	Percenta
				Number						Percenta
0-4	12,100	11,014	11,080	<b>-1,020</b>	66	-75	-1,011	<b>-8.4</b>		0.5
5-9	12,490	12,082	12,150	<b>-340</b>	68	-18	-390	<b>-2.7</b>		0.5
10-14	11,490	12,480	12,650	<b>1,160</b>	170	-10	1,000	<b>10.1</b>		1.5
15-19	10,570	11,464	10,310	<b>-260</b>	-1,154	-26	920	<b>-2.5</b>		-10.9
20-24	9,260	10,523	7,690	<b>-1,570</b>	-2,833	-47	1,310	<b>-17.0</b>		-30.6
25-29	9,860	9,218	8,620	<b>-1,240</b>	-598	-42	-600	<b>-12.6</b>		-6.1
30-34	10,620	9,816	9,720	<b>-900</b>	-96	-44	-760	<b>-8.5</b>		-0.9
35-39	11,180	10,568	10,760	<b>-420</b>	192	-52	-560	<b>-3.8</b>		1.7
40-44	10,210	11,109	11,170	<b>960</b>	61	-71	970	<b>9.4</b>		0.6
45-49	10,160	10,112	9,930	<b>-230</b>	-182	-98	50	<b>-2.3</b>		-1.8
50-54	7,730	10,000	9,770	<b>2,040</b>	-230	-160	2,430	<b>26.4</b>		-3.0
55-59	6,700	7,529	7,490	<b>790</b>	-39	-201	1,030	<b>11.8</b>		-0.6
60-64	5,740	6,419	6,470	<b>730</b>	51	-281	960	<b>12.7</b>		0.9
65-69	5,720	5,355	5,450	<b>-270</b>	95	-385	20	<b>-4.7</b>		1.7
70-74	4,980	5,114	5,070	<b>90</b>	-44	-606	740	<b>1.8</b>		-0.9
75-79	3,640	4,166	4,180	<b>540</b>	14	-814	1,340	<b>14.8</b>		0.4
80-84	2,410	2,717	2,710	<b>300</b>	-7	-923	1,230	<b>12.4</b>		-0.3
85-89	1,245	1,468	1,469	<b>225</b>	1	-942	1,165	<b>18.0</b>		0.1
90+	525	682	651	<b>125</b>	-32	-1088	1,245	<b>23.9</b>		-6.0
Total	146,630	151,835	147,340	<b>710</b>	-4,495	-5884	11,089	<b>0.5</b>		-3.1

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

Notes: ~As a percentage of Previous Observed Population



## Appendix 2.4: Components of Change by age (Hawke's Bay RC 2001-2006)

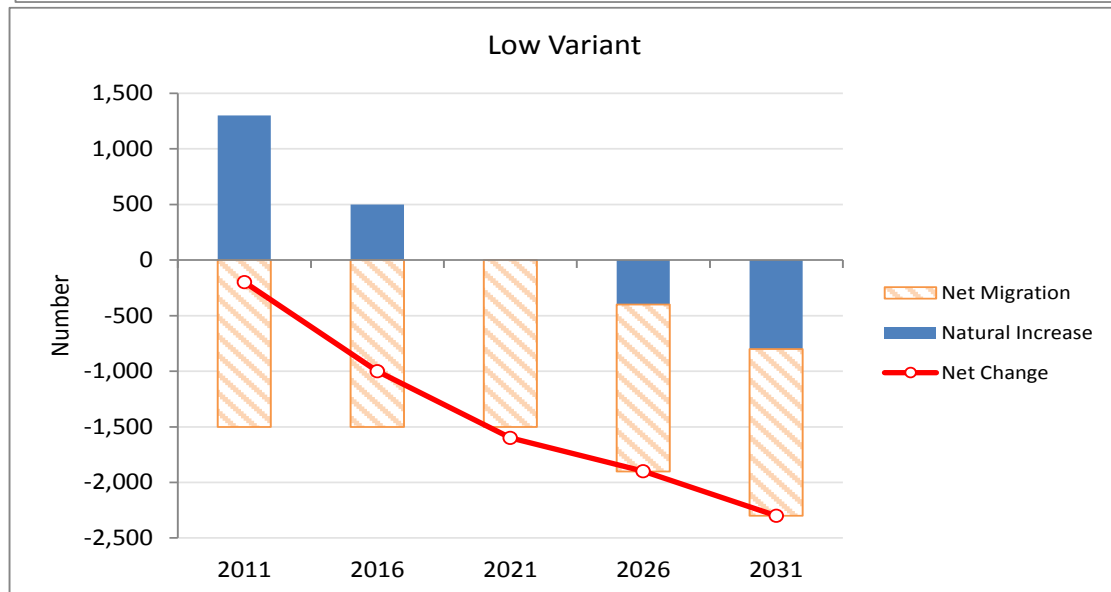
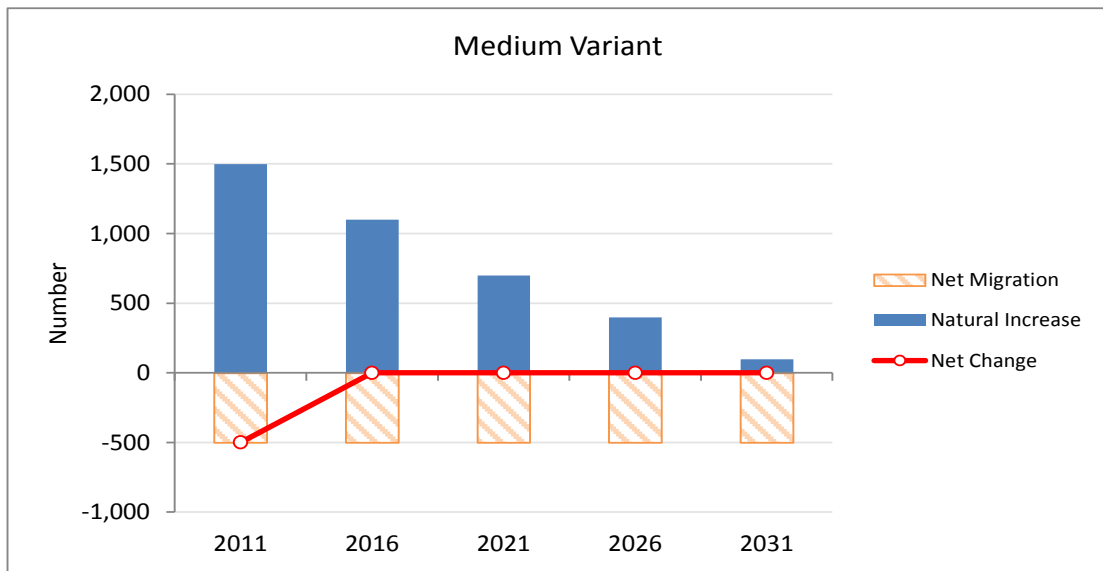
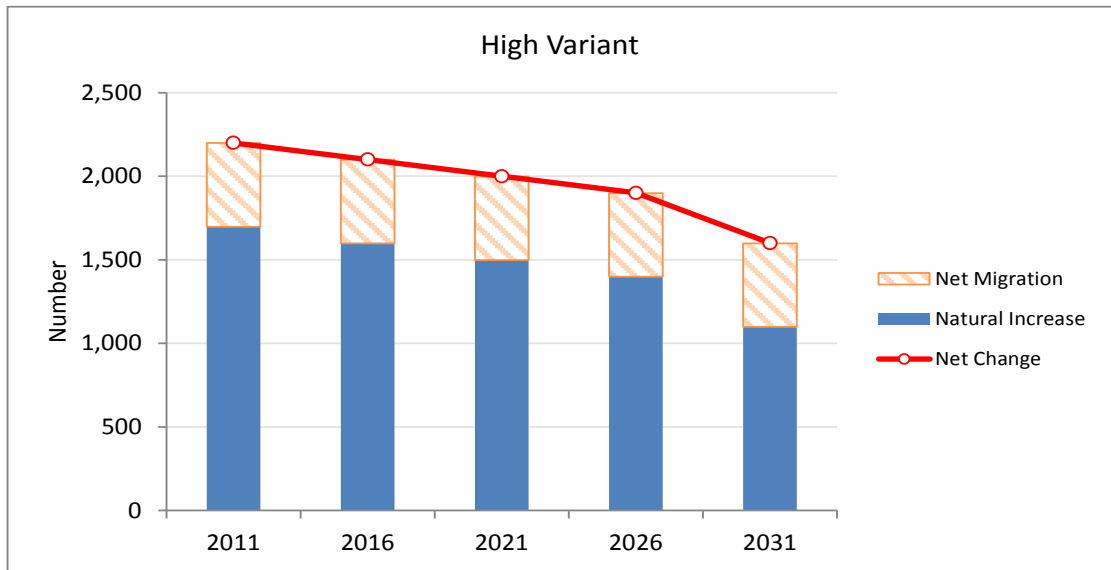
Actual and Expected Population by Age, 2001-2006:				Hawke's Bay Region						
	Actual (Observed) 2001	Expected 2006	Actual (Observed) 2006	Actual (Observed) change 2001-06	Change due to migration	Change due to Deaths	Change to cohort size	Actual (Observed) change (2001- 2006)	Change due to migration~ D	
				Number					Percenta	
0-4	11,080	10,508	10,790	<b>-290</b>	282	-61	-511	<b>-2.6</b>	2.5	
5-9	12,150	11,066	11,480	<b>-670</b>	414	-14	-1,070	<b>-5.5</b>	3.4	
10-14	12,650	12,141	12,370	<b>-280</b>	229	-9	-500	<b>-2.2</b>	1.8	
15-19	10,310	12,626	11,380	<b>1,070</b>	-1,246	-24	2,340	<b>10.4</b>	-12.1	
20-24	7,690	10,273	7,800	<b>110</b>	-2,473	-37	2,620	<b>1.4</b>	-32.2	
25-29	8,620	7,661	7,830	<b>-790</b>	169	-29	-930	<b>-9.2</b>	2.0	
30-34	9,720	8,587	9,310	<b>-410</b>	723	-33	-1,100	<b>-4.2</b>	7.4	
35-39	10,760	9,676	10,370	<b>-390</b>	694	-44	-1,040	<b>-3.6</b>	6.5	
40-44	11,170	10,695	11,400	<b>230</b>	705	-65	-410	<b>2.1</b>	6.3	
45-49	9,930	11,070	11,190	<b>1,260</b>	120	-100	1,240	<b>12.7</b>	1.2	
50-54	9,770	9,795	9,990	<b>220</b>	195	-135	160	<b>2.3</b>	2.0	
55-59	7,490	9,558	9,780	<b>2,290</b>	222	-212	2,280	<b>30.6</b>	3.0	
60-64	6,470	7,228	7,400	<b>930</b>	172	-262	1,020	<b>14.4</b>	2.7	
65-69	5,450	6,108	6,180	<b>730</b>	72	-362	1,020	<b>13.4</b>	1.3	
70-74	5,070	4,962	4,980	<b>-90</b>	18	-488	380	<b>-1.8</b>	0.3	
75-79	4,180	4,342	4,290	<b>110</b>	-52	-728	890	<b>2.6</b>	-1.2	
80-84	2,710	3,230	3,100	<b>390</b>	-130	-950	1,470	<b>14.4</b>	-4.8	
85-89	1,469	1,727	1,658	<b>189</b>	-69	-983	1,241	<b>12.9</b>	-4.7	
90+	651	853	802	<b>151</b>	-51	-1267	1,469	<b>23.2</b>	-7.8	
<b>Total</b>	<b>147,340</b>	<b>152,106</b>	<b>152,100</b>	<b>4,760</b>	<b>-6</b>	<b>-5803</b>	<b>10,569</b>	<b>3.2</b>	<b>0.0</b>	

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

Notes: ~As a percentage of Previous Observed Population



### Appendix 3.1: Projected Assumptions by Projection Variant, Napier City



Note different Y-axis

Source: Statistics NZ Subnational Projected Population Characteristics, 2006(base)-2031 Update



## Appendix 3.2: Projection Assumptions by Variant and Region, Napier City and Hawke's Bay RC

Napier City	2011	2016	2021	2026	2031	Change
						2011-2031 (%)
<b>HIGH</b>						
Births (Live) - 5 years ended 30 June	4300	4200	4200	4200	4200	-2.3
Deaths - 5 years ended 30 June	2500	2600	2700	2900	3100	24.0
Natural Increase - 5 years ended 30 June	1700	1600	1500	1400	1100	-35.3
Net Migration - 5 years ended 30 June	500	500	500	500	500	0.0
Population at 30 June	59000	61100	63100	65000	66600	12.9
Median Age (Years) at 30 June	39.7	40.6	41.1	41.7	42.5	7.1
<b>MEDIUM</b>						
Births (Live) - 5 years ended 30 June	4100	3800	3500	3400	3300	-19.5
Deaths - 5 years ended 30 June	2600	2700	2800	3000	3200	23.1
Natural Increase - 5 years ended 30 June	1500	1100	700	400	100	-93.3
Net Migration - 5 years ended 30 June	-500	-500	-500	-500	-500	0.0
Population at 30 June	57800	58300	58500	58500	58000	0.3
Median Age (Years) at 30 June	40.1	41.5	42.7	43.6	44.6	11.2
<b>LOW</b>						
Births (Live) - 5 years ended 30 June	3900	3300	2900	2700	2400	-38.5
Deaths - 5 years ended 30 June	2600	2800	2900	3100	3300	26.9
Natural Increase - 5 years ended 30 June	1300	500	0	-400	-800	-161.5
Net Migration - 5 years ended 30 June	-1500	-1500	-1500	-1500	-1500	0.0
Population at 30 June	56600	55600	54000	52100	49800	-12.0
Median Age (Years) at 30 June	40.5	42.6	44.6	46.2	47.6	17.5

Source: Statistics NZ Subnational Projected Population Characteristics, 2006(base)-2031 Update

Hawke's Bay Region	2011	2016	2021	2026	2031	Change
						2011-2031 (%)
<b>HIGH</b>						
Births (Live) - 5 years ended 30 June	11900	12000	12100	12300	12200	2.5
Deaths - 5 years ended 30 June	6100	6500	6800	7200	7800	27.9
Natural Increase - 5 years ended 30 June	5800	5500	5300	5100	4500	-22.4
Net Migration - 5 years ended 30 June	710	810	810	810	810	14.1
Population at 30 June	158600	164900	171100	176900	182200	14.9
Median Age (Years) at 30 June	38.5	39.3	39.7	40.2	41.1	6.8
<b>MEDIUM</b>						
Births (Live) - 5 years ended 30 June	11400	10600	10100	9800	9500	-16.7
Deaths - 5 years ended 30 June	6300	6600	7000	7500	8100	28.6
Natural Increase - 5 years ended 30 June	5200	3900	3000	2300	1400	-73.1
Net Migration - 5 years ended 30 June	-2000	-1900	-1900	-1900	-1900	-5.0
Population at 30 June	155300	157300	158400	158800	158300	1.9
Median Age (Years) at 30 June	39.0	40.4	41.3	42.2	43.2	10.8
<b>LOW</b>						
Births (Live) - 5 years ended 30 June	11000	9300	8200	7600	7100	-35.5
Deaths - 5 years ended 30 June	6400	6800	7300	7800	8400	31.3
Natural Increase - 5 years ended 30 June	4500	2400	900	-200	-1300	-128.9
Net Migration - 5 years ended 30 June	-4710	-4610	-4610	-4610	-4610	-2.1
Population at 30 June	151900	149700	146000	141300	135300	-10.9
Median Age (Years) at 30 June	39.4	41.5	43.3	44.8	46.2	17.3

Source: Statistics NZ Subnational Projected Population Characteristics, 2006(base)-2031 Update



### Appendix 3.3: Projected Population, Hawke's Bay RC, 2006-2021 (Medium Series)

#### Hawke's Bay Region

	2006	2011	2016	2021	2026	2031	Change (%) 2011-2031
<b>Numbers by age</b>							
0-14	34,640	<b>33,830</b>	33,050	32,470	30,900	29,830	-11.8
15-24	19,180	<b>20,240</b>	19,120	17,620	17,710	17,610	-13.0
25-39	27,510	<b>25,550</b>	25,730	26,930	27,130	25,430	-0.5
40-54	32,580	<b>32,650</b>	30,970	27,990	26,090	26,350	-19.3
55-64	17,180	<b>19,360</b>	20,360	21,410	20,650	19,020	-1.8
65-74	11,160	<b>12,920</b>	16,000	18,040	19,110	20,170	56.1
75-84	7,390	<b>7,780</b>	8,680	10,240	12,840	14,580	87.4
85+	2,460	<b>2,940</b>	3,380	3,720	4,390	5,350	82.0
<b>Total</b>	<b>152,100</b>	<b>155,270</b>	<b>157,290</b>	<b>158,420</b>	<b>158,820</b>	<b>158,340</b>	<b>2.0</b>
65+	21,010	<b>23,640</b>	28,060	32,000	36,340	40,100	69.6

	Intercensal Change by Age - Numbers					Change (N) 2011-2031	
	2006-2011	2011-2016	2016-2021	2021-2026	2026-2031		
0-14	...	<b>-810</b>	-780	-580	-1570	-1070	-4000
15-24	...	<b>1060</b>	-1120	-1500	90	-100	-2630
25-39	...	<b>-1960</b>	180	1200	200	-1700	-120
40-54	...	<b>70</b>	-1680	-2980	-1900	260	-6300
55-64	...	<b>2180</b>	1000	1050	-760	-1630	-340
65-74	...	<b>1760</b>	3080	2040	1070	1060	7250
75-84	...	<b>390</b>	900	1560	2600	1740	6800
85+	...	<b>480</b>	440	340	670	960	2410
<b>Total</b>	...	<b>3170</b>	2020	1130	400	-480	3070
65+	...	<b>2630</b>	4420	3940	4340	3760	16460

	Age Distribution (percentage at each age)						Change (%) 2011-2031
	2006	2011	2016	2021	2026	2031	
0-14	22.8	<b>21.8</b>	21.0	20.5	19.5	18.8	-13.5
15-24	12.6	<b>13.0</b>	12.2	11.1	11.2	11.1	-14.7
25-39	18.1	<b>16.5</b>	16.4	17.0	17.1	16.1	-2.4
40-54	21.4	<b>21.0</b>	19.7	17.7	16.4	16.6	-20.9
55-64	11.3	<b>12.5</b>	12.9	13.5	13.0	12.0	-3.7
65-74	7.3	<b>8.3</b>	10.2	11.4	12.0	12.7	53.1
75-84	4.9	<b>5.0</b>	5.5	6.5	8.1	9.2	83.8
85+	1.6	<b>1.9</b>	2.1	2.3	2.8	3.4	78.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	...
65+	13.8	<b>15.2</b>	17.8	20.2	22.9	25.3	66.3

<b>Summary measures</b>							
	2006	2011	2016	2021	2026	2031	2011-2031
LM Entrants/Exits							
(15-24/55-64 years)	1.1	<b>1.0</b>	0.9	0.8	0.9	0.9	...
(20-29/60-69 years)	1.2	<b>1.0</b>	1.0	0.9	0.7	0.8	...
Elderly/Children	0.61	0.70	0.85	0.99	1.18	1.34	...
Reproductive (20-39 yrs)	23.2	22.4	22.0	22.1	21.7	21.2	...
65+	13.8	<b>15.2</b>	17.8	20.2	22.9	25.3	...
75+	6.5	<b>6.9</b>	7.7	8.8	10.8	12.6	...
Growth (%) - 5 years	...	<b>2.08</b>	1.30	0.72	0.25	-0.30	1.98
Annual average growth r	...	0.42	0.26	0.14	0.05	-0.06	0.10

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



## Appendix 3.4: Projected Population, Total New Zealand, 2006-2021 (Medium Series)

Total New Zealand							Change (%)
	2006	2011	2016	2021	2026	2031	2011-2031
<b>Numbers by age</b>							
0-14	888,320	<b>898,880</b>	917,400	936,520	928,840	928,020	3.2
15-24	604,740	<b>642,530</b>	631,120	611,040	635,720	656,930	2.2
25-39	858,960	<b>867,230</b>	915,380	977,760	992,370	977,670	12.7
40-54	891,290	<b>935,560</b>	924,010	886,920	888,330	935,510	0.0
55-64	429,670	<b>494,900</b>	544,530	593,920	602,570	578,610	16.9
65-74	275,700	<b>325,340</b>	397,410	458,230	507,220	555,350	70.7
75-84	177,780	<b>188,360</b>	214,970	257,970	320,330	372,710	97.9
85+	58,140	<b>72,560</b>	85,950	95,590	116,530	143,740	98.1
Total	4,184,600	<b>4,425,360</b>	4,630,770	4,817,950	4,991,910	5,148,540	16.3
65+	511,620	<b>586,260</b>	698,330	811,790	944,080	1,071,800	82.8
<b>Intercensal Change by Age - Numbers</b>							
	2006-2011	2011-2016	2016-2021	2021-2026	2026-2031	Change (N)	
0-14	...	<b>10560</b>	18520	19120	-7680	-820	29140
15-24	...	<b>37790</b>	-11410	-20080	24680	21210	14400
25-39	...	<b>8270</b>	48150	62380	14610	-14700	110440
40-54	...	<b>44270</b>	-11550	-37090	1410	47180	-50
55-64	...	<b>65230</b>	49630	49390	8650	-23960	83710
65-74	...	<b>49640</b>	72070	60820	48990	48130	230010
75-84	...	<b>10580</b>	26610	43000	62360	52380	184350
85+	...	<b>14420</b>	13390	9640	20940	27210	71180
Total	...	<b>240760</b>	205410	187180	173960	156630	723180
65+	...	<b>74640</b>	112070	113460	132290	127720	485540
<b>Age Distribution (percentage at each age)</b>							
	2006	2011	2016	2021	2026	2031	Change (%)
0-14	21.2	<b>20.3</b>	19.8	19.4	18.6	18.0	-11.3
15-24	14.5	<b>14.5</b>	13.6	12.7	12.7	12.8	-12.1
25-39	20.5	<b>19.6</b>	19.8	20.3	19.9	19.0	-3.1
40-54	21.3	<b>21.1</b>	20.0	18.4	17.8	18.2	-14.1
55-64	10.3	<b>11.2</b>	11.8	12.3	12.1	11.2	0.5
65-74	6.6	<b>7.4</b>	8.6	9.5	10.2	10.8	46.7
75-84	4.2	<b>4.3</b>	4.6	5.4	6.4	7.2	70.1
85+	1.4	<b>1.6</b>	1.9	2.0	2.3	2.8	70.3
Total	100.0	<b>100.0</b>	100.0	100.0	100.0	100.0	...
65+	12.2	<b>13.2</b>	15.1	16.8	18.9	20.8	57.1
<b>Summary measures</b>							
	2006	2011	2016	2021	2026	2031	2011-2031
LM Entrants/Exits							
(15-24/55-64 years)	1.4	<b>1.3</b>	1.2	1.0	1.1	1.1	...
(20-29/60-69 years)	1.6	<b>1.5</b>	1.4	1.2	1.1	1.1	...
Elderly/Children	0.58	0.65	0.76	0.87	1.02	1.15	...
Reproductive (20-39 yrs)	27.5	26.9	26.9	26.8	26.1	25.5	...
65+	12.2	<b>13.2</b>	15.1	16.8	18.9	20.8	...
75+	5.6	<b>5.9</b>	6.5	7.3	8.8	10.0	...
Growth (%) - 5 years	...	<b>5.75</b>	4.64	4.04	3.61	3.14	16.34
Annual average growth r	...	1.15	0.93	0.81	0.72	0.63	0.82

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



## Appendix 3.5: Projected Population by Ethnic Group\* and Broad Age Group, Hawke's Bay Region

	Population <sup>(2, 3)</sup> by age group (years) at 30 June					Projected components of population change, five years ended 30 June					Median age <sup>(5)</sup> (years) at	
	0-14	15-39	40-64	65+	All ages	Births	Deaths	Natural increase	Net migration	Inter-ethnic mobility <sup>(4)</sup>		
<b>Hawke's Bay region</b>												
<b>European/Other</b>												
1996	27,400	40,200	34,900	17,400	119,900	...	...	...	...	...	...	35.8
2001	26,100	34,900	37,700	18,100	116,700	...	...	...	...	...	...	38.4
2006 (base)	25,400	34,600	41,400	19,300	120,700	...	...	...	...	...	...	40.2
<b>2011</b>	<b>25,000</b>	<b>32,800</b>	<b>43,000</b>	<b>21,500</b>	<b>122,200</b>	<b>8200</b>	<b>5200</b>	<b>3000</b>	<b>-1500</b>	<b>0</b>	<b>42.0</b>	
2016	24,400	30,900	42,000	25,300	122,400	7400	5500	1900	-1700	0	44.0	
2021	23,700	29,800	39,900	28,400	121,900	7000	5800	1200	-1700	0	45.7	
<b>Change 2011-2021 (%)</b>	<b>-5.2</b>	<b>-9.1</b>	<b>-7.2</b>	<b>32.1</b>	<b>-0.2</b>	...	...	...	...	...	...	
<b>Māori</b>												
1996	13,100	14,200	6,300	1,200	34,900	...	...	...	...	...	...	21.4
2001	13,400	13,700	7,100	1,400	35,500	...	...	...	...	...	...	21.7
2006 (base)	12,900	13,500	8,400	1,600	36,400	...	...	...	...	...	...	23.0
<b>2011</b>	<b>13,400</b>	<b>14,000</b>	<b>9,200</b>	<b>1,900</b>	<b>38,600</b>	<b>5200</b>	<b>1000</b>	<b>4200</b>	<b>-1500</b>	<b>-500</b>	<b>23.0</b>	
2016	14,000	14,600	9,800	2,500	40,900	5000	1100	4000	-1200	-600	23.8	
2021	14,500	15,200	10,000	3,100	42,900	5000	1200	3800	-1200	-600	24.8	
<b>Change 2011-2021 (%)</b>	<b>8.2</b>	<b>8.6</b>	<b>8.7</b>	<b>63.2</b>	<b>11.1</b>	...	...	...	...	...	...	
<b>Pacific Islands</b>												
1996	1,800	1,700	600	100	4,200	...	...	...	...	...	...	18.8
2001	2,200	2,100	900	100	5,300	...	...	...	...	...	...	19.6
2006 (base)	2,500	2,300	1,100	200	6,100	...	...	...	...	...	...	19.4
<b>2011</b>	<b>2,900</b>	<b>2,600</b>	<b>1,300</b>	<b>200</b>	<b>7,000</b>	<b>1200</b>	<b>100</b>	<b>1100</b>	<b>0</b>	<b>-100</b>	<b>18.9</b>	
2016	3,400	3,000	1,500	200	8,100	1200	100	1100	0	-100	18.9	
2021	3,800	3,400	1,600	300	9,200	1300	100	1200	0	-100	19.0	
<b>Change 2011-2021 (%)</b>	<b>31.0</b>	<b>30.8</b>	<b>23.1</b>	<b>50.0</b>	<b>31.4</b>	...	...	...	...	...	...	
<b>Asian</b>												
1996	700	1,200	600	100	2,600	...	...	...	...	...	...	28.5
2001	800	1,400	900	200	3,300	...	...	...	...	...	...	29.8
2006 (base)	1,000	1,600	1,000	200	3,900	...	...	...	...	...	...	29.3
<b>2011</b>	<b>1,200</b>	<b>1,900</b>	<b>1,200</b>	<b>300</b>	<b>4,600</b>	<b>500</b>	<b>100</b>	<b>400</b>	<b>300</b>	<b>0</b>	<b>29.3</b>	
2016	1,500	2,200	1,300	400	5,300	600	100	500	300	0	30.0	
2021	1,800	2,300	1,400	600	6,100	600	100	500	300	0	30.4	
<b>Change 2011-2021 (%)</b>	<b>50.0</b>	<b>21.1</b>	<b>16.7</b>	<b>100.0</b>	<b>32.6</b>	...	...	...	...	...	...	

Source: Statistics New Zealand, Subnational Ethnic Population Projections (2006 Base - 2009 Update) Tables 3e, 3m, 3p, 3a

(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.



**Appendix 4.1: Average Age of Employed Labour Force by Employment Status, Hawke's Bay Region, 1996, 2001, 2006**

	Hawke's Bay Region			Total New Zealand		
	Males	Females	Total	Males	Females	Total
<b>1996</b>						
Self Employed, no employee	46.9	44.8	46.2	45.1	43.6	44.7
Employer	46.5	44.7	46.1	45.4	43.8	44.9
Paid Employee	37.0	37.5	37.2	36.3	36.5	36.4
Unpaid Family Worker	46.2	44.0	44.9	44.9	42.4	43.4
Not elsewhere defined	37.5	39.2	38.3	37.9	39.2	38.5
<b>Total</b>	<b>39.4</b>	<b>38.7</b>	<b>39.1</b>	<b>38.7</b>	<b>37.7</b>	<b>38.3</b>
Number	34,080	28,140	62,220	890,043	740,769	1,630,812
<b>2001</b>						
Self Employed, no employee	49.2	47.1	48.5	47.4	45.7	46.8
Employer	48.8	46.8	48.2	47.4	45.8	46.9
Paid Employee	38.8	39.7	39.3	37.9	38.4	38.1
Unpaid Family Worker	49.2	46.1	47.4	46.0	44.8	45.3
Not elsewhere defined	39.9	43.8	41.6	40.4	43.2	41.7
<b>Total</b>	<b>41.4</b>	<b>40.9</b>	<b>41.2</b>	<b>40.5</b>	<b>39.7</b>	<b>40.1</b>
Number	34,527	29,472	63,999	923,001	804,321	1,727,322
<b>2006</b>						
Self Employed, no employee	50.8	48.2	49.9	48.7	46.9	48.1
Employer	49.5	47.8	49.0	48.3	46.8	47.9
Paid Employee	40.1	40.9	40.5	38.9	39.5	39.2
Unpaid Family Worker	52.1	47.7	49.4	48.3	46.9	47.5
Not elsewhere defined	42.2	46.2	44.1	42.3	45.9	43.9
<b>Total</b>	<b>42.7</b>	<b>42.2</b>	<b>42.4</b>	<b>41.5</b>	<b>40.8</b>	<b>41.2</b>
Number	38,706	34,446	73,152	1,049,526	936,006	1,985,532

Source: Stats 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 and Over, 1996, 2001, 2006



**Appendix 4.2: Average Age of Employed Labour Force by Employment Status, Hawke's Bay Region and Total NZ, 1996, 2001, 2006, School Education (N842)**

	Hawke's Bay Region			Total New Zealand		
	Males	Females	Total	Males	Females	Total
<b>1996</b>						
Self Employed, no employee	32.5	50.0	44.2	47.5	44.7	45.5
Employer	37.5	...	37.5	45.0	45.0	45.0
Paid Employee	44.4	42.5	43.1	44.0	42.1	42.6
Unpaid Family Worker	...	...	...	22.5	25.0	24.2
Not elsewhere defined	...	37.5	37.5	38.6	39.0	38.8
<b>Total</b>	<b>44.4</b>	<b>42.5</b>	<b>43.0</b>	<b>44.0</b>	<b>42.1</b>	<b>42.6</b>
Number	843	2,127	2,970	17,481	46,722	64,203
<b>2001</b>						
Self Employed, no employee	50.3	48.7	49.2	49.2	46.8	47.6
Employer	...	46.5	46.5	46.3	46.3	46.3
Paid Employee	46.3	44.5	45.0	45.0	43.5	43.9
Unpaid Family Worker	...	41.9	41.9	44.0	42.7	43.0
Not elsewhere defined	50.0	46.3	47.5	49.3	46.6	47.4
<b>Total</b>	<b>46.4</b>	<b>44.6</b>	<b>45.1</b>	<b>45.2</b>	<b>43.6</b>	<b>44.0</b>
Number	930	2,484	3,414	19,638	57,549	77,187
<b>2006</b>						
Self Employed, no employee	47.2	47.5	47.4	50.5	48.0	48.9
Employer	...	49.2	49.2	49.8	44.6	45.9
Paid Employee	48.1	46.1	46.6	46.0	44.8	45.1
Unpaid Family Worker	...	...	...	41.1	46.0	44.6
Not elsewhere defined	70.0	52.5	55.4	46.6	47.0	46.9
<b>Total</b>	<b>48.2</b>	<b>46.2</b>	<b>46.7</b>	<b>46.1</b>	<b>44.8</b>	<b>45.1</b>
Number	885	2,583	3,468	19,476	61,254	80,730

Source: Stats 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 and Over, 1996, 2001, 2006



**Appendix 4.3: Average Age of Employed Labour Force by Employment Status, Hawke's Bay Region and Total NZ, 1996, 2001, 2006, Horticulture and Fruit Growing (A011)**

	Hawke's Bay Region			Total New Zealand		
	Males	Females	Total	Males	Females	Total
<b>1996</b>						
Self Employed, no employee	49.4	46.4	48.5	50.0	47.9	49.2
Employer	48.1	47.9	48.1	47.6	46.5	47.2
Paid Employee	33.4	35.2	34.1	33.5	36.5	34.9
Unpaid Family Worker	49.9	48.2	49.0	47.4	45.5	46.3
Not elsewhere defined	34.6	38.0	36.1	36.1	38.3	37.0
<b>Total</b>	<b>37.6</b>	<b>38.1</b>	<b>37.8</b>	<b>39.8</b>	<b>40.3</b>	<b>40.0</b>
Number	2,895	1,854	4,749	16,161	12,768	28,929
<b>2001</b>						
Self Employed, no employee	49.6	48.4	49.2	52.3	50.2	51.5
Employer	51.0	49.6	50.6	50.4	49.0	49.9
Paid Employee	36.1	39.0	37.2	35.9	38.7	37.2
Unpaid Family Worker	48.6	48.8	48.7	48.9	47.8	48.3
Not elsewhere defined	43.4	37.8	40.6	40.8	42.3	41.5
<b>Total</b>	<b>39.9</b>	<b>41.3</b>	<b>40.5</b>	<b>42.0</b>	<b>42.5</b>	<b>42.2</b>
Number	2,253	1,368	3,621	15,192	11,709	26,901
<b>2006</b>						
Self Employed, no employee	53.6	52.0	53.1	54.9	52.2	53.8
Employer	53.4	51.0	52.8	52.2	51.3	51.9
Paid Employee	39.2	39.9	39.4	39.3	40.9	40.0
Unpaid Family Worker	55.1	51.1	52.7	53.4	51.8	52.5
Not elsewhere defined	40.4	41.1	40.8	45.0	44.1	44.6
<b>Total</b>	<b>42.7</b>	<b>42.2</b>	<b>42.5</b>	<b>44.5</b>	<b>44.4</b>	<b>44.5</b>
Number	1,899	1,185	3,084	13,317	10,458	23,775

Source: Stats 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 and Over, 1996, 2001, 2006



**Appendix 4.4: Average Age of Employed Labour Force by Employment Status, Hawke's Bay Region and Total NZ, 1996, 2001, 2006, Grain, Sheep and Beef Cattle Farming Growing (A012)**

	Hawke's Bay Region			Total New Zealand		
	Males	Females	Total	Males	Females	Total
<b>1996</b>						
Self Employed, no employee	49.1	47.7	48.8	49.1	47.8	48.8
Employer	50.1	49.4	50.0	49.0	47.5	48.7
Paid Employee	37.0	38.9	37.4	35.6	38.2	36.2
Unpaid Family Worker	46.4	44.1	45.1	47.0	44.2	45.4
Not elsewhere defined	42.1	42.5	42.2	45.5	45.6	45.6
<b>Total</b>	<b>43.4</b>	<b>43.6</b>	<b>43.5</b>	<b>44.2</b>	<b>44.2</b>	<b>44.2</b>
Number	2,007	792	2,799	27,864	13,434	41,298
<b>2001</b>						
Self Employed, no employee	51.5	50.4	51.2	51.7	50.4	51.3
Employer	51.2	50.1	50.9	50.4	49.6	50.2
Paid Employee	38.5	40.2	38.9	37.0	39.8	37.7
Unpaid Family Worker	49.9	48.3	48.9	49.4	47.4	48.3
Not elsewhere defined	49.5	42.5	48.3	50.4	53.2	51.4
<b>Total</b>	<b>45.4</b>	<b>46.7</b>	<b>45.8</b>	<b>46.2</b>	<b>47.0</b>	<b>46.4</b>
Number	1,896	777	2,673	24,933	11,694	36,627
<b>2006</b>						
Self Employed, no employee	52.9	53.2	53.0	53.8	52.5	53.4
Employer	53.1	52.3	53.0	52.0	50.9	51.8
Paid Employee	39.0	40.5	39.3	39.0	40.2	39.3
Unpaid Family Worker	52.6	49.8	51.0	52.7	49.9	51.1
Not elsewhere defined	43.5	55.0	48.6	50.9	53.8	51.9
<b>Total</b>	<b>46.0</b>	<b>47.8</b>	<b>46.5</b>	<b>48.0</b>	<b>48.5</b>	<b>48.2</b>
Number	2,199	837	3,036	26,169	12,444	38,613

Source: Stats 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 and Over, 1996, 2001, 2006



**Appendix 4.5: Average Age of Employed Labour Force by Employment Status, Hawke's Bay Region and Total NZ, 1996, 2001, 2006, Meat and Meat Product Manufacturing (C211)**

	Hawke's Bay Region			Total New Zealand		
	Males	Females	Total	Males	Females	Total
<b>1996</b>						
Self Employed, no employee	32.5	...	32.5	45.5	45.0	45.4
Employer	48.8	...	48.8	44.9	43.3	44.5
Paid Employee	38.3	36.9	38.0	38.0	35.5	37.6
Unpaid Family Worker	70.0	27.5	48.8	44.2	32.5	40.8
Not elsewhere defined	36.4	38.3	37.2	35.7	33.7	35.3
<b>Total</b>	<b>38.4</b>	<b>36.9</b>	<b>38.0</b>	<b>38.2</b>	<b>35.6</b>	<b>37.7</b>
Number	1,722	603	2,325	16,779	3,981	20,760
<b>2001</b>						
Self Employed, no employee	46.5	37.5	44.4	46.1	43.9	45.7
Employer	47.5	42.5	46.3	48.7	47.4	48.4
Paid Employee	39.9	38.2	39.4	39.6	37.5	39.1
Unpaid Family Worker	...	...	...	54.4	30.0	46.3
Not elsewhere defined	41.6	...	41.6	41.5	40.2	41.2
<b>Total</b>	<b>40.1</b>	<b>38.2</b>	<b>39.6</b>	<b>39.8</b>	<b>37.7</b>	<b>39.4</b>
Number	1,692	705	2,397	16,890	4,764	21,654
<b>2006</b>						
Self Employed, no employee	52.8	30.0	49.0	49.0	45.5	48.5
Employer	55.0	50.8	53.2	50.2	46.1	49.3
Paid Employee	40.9	40.7	40.8	40.6	38.7	40.1
Unpaid Family Worker	70.0	...	70.0	49.4	43.5	47.1
Not elsewhere defined	44.2	27.5	41.8	39.7	36.9	38.8
<b>Total</b>	<b>41.3</b>	<b>40.7</b>	<b>41.1</b>	<b>40.9</b>	<b>38.8</b>	<b>40.3</b>
Number	1,689	771	2,460	15,723	5,760	21,483

Source: Stats 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 and Over, 1996, 2001, 2006



**Appendix 4.6: Average Age of Employed Labour Force by Employment Status, Hawke's Bay Region and Total NZ, 1996, 2001, 2006, Community Care Services (0872)**

	Hawke's Bay Region			Total New Zealand		
	Males	Females	Total	Males	Females	Total
<b>1996</b>						
Self Employed, no employee	...	38.3	38.3	51.0	45.7	47.3
Employer	54.2	46.1	48.5	49.9	47.3	48.4
Paid Employee	42.2	40.8	41.0	41.3	41.0	41.1
Unpaid Family Worker	40.8	50.0	44.5	43.0	42.5	42.7
Not elsewhere defined	38.8	38.0	38.2	37.4	39.7	39.4
<b>Total</b>	<b>42.5</b>	<b>40.9</b>	<b>41.1</b>	<b>42.2</b>	<b>41.2</b>	<b>41.3</b>
Number	171	984	1,155	3,546	22,644	26,190
<b>2001</b>						
Self Employed, no employee	55.0	45.0	47.5	50.9	48.1	48.8
Employer	61.3	55.0	56.8	52.4	49.0	50.4
Paid Employee	47.2	45.3	45.5	43.9	44.0	44.0
Unpaid Family Worker	17.5	47.5	32.5	48.8	45.3	46.6
Not elsewhere defined	50.0	42.5	45.0	44.5	45.5	45.2
<b>Total</b>	<b>47.8</b>	<b>45.3</b>	<b>45.6</b>	<b>44.8</b>	<b>44.2</b>	<b>44.3</b>
Number	201	1,524	1,725	5,436	31,770	37,206
<b>2006</b>						
Self Employed, no employee	45.8	50.7	49.5	52.5	49.6	50.3
Employer	58.3	58.0	58.1	53.3	50.4	51.6
Paid Employee	47.0	47.4	47.3	45.2	46.3	46.1
Unpaid Family Worker	57.5	47.5	52.5	44.6	46.6	45.9
Not elsewhere defined	47.5	53.3	50.4	43.8	48.5	47.5
<b>Total</b>	<b>47.4</b>	<b>47.6</b>	<b>47.6</b>	<b>46.0</b>	<b>46.5</b>	<b>46.4</b>
Number	270	1,629	1,899	6,483	36,783	43,266

Source: Stats 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 and Over, 1996, 2001, 2006



**Appendix 4.7: Average Age of Employed Persons in Industries Employing over 1,000 persons, Hawke's Bay Region and Total New Zealand, 1996 and 2006**

	Hawke's Bay Region			Total New Zealand		
	1996	2006	Change (%)	1996	2006	Change (%)
School Education (N842)	43.0	46.7	8.5	42.6	45.1	5.9
Horticulture and Fruit Growing (A011)	37.8	42.5	12.5	40.0	44.5	11.1
Grain Sheep and Beef Farming (A012)	43.5	46.5	7.0	44.2	48.2	9.0
Meat and Meat Product Manufacturing (C211)	38.0	41.1	8.1	37.7	40.3	7.0
Community Care Services (O872)	41.1	47.6	15.7	41.3	46.4	12.3
Supermarkets and Grocery Stores (G511)	30.6	34.6	13.3	29.2	33.1	13.3
Fruit and Vegetable Processing (C213)	36.2	39.1	7.8	35.8	39.6	10.8
Services to Agriculture (A021)	34.9	39.9	14.3	36.6	40.9	11.8
Hospitals and Nursing Homes (O861)	41.5	45.0	8.6	40.3	44.2	9.8
Government Administration (M811)	41.4	45.6	10.2	40.2	42.7	6.2
Building Construction (E411)	39.7	40.3	1.5	38.0	39.7	4.3
Cafes and Restaurants (H573)	31.7	31.8	0.2	30.7	31.7	3.2
Other Health Services (O863)	43.2	46.2	7.1	40.8	44.5	8.9
Motor Vehicle Services (G532)	35.2	39.8	13.1	34.6	38.5	11.2
Specialised Food Retailing (G512)	33.5	34.3	2.3	33.5	33.9	1.1
Other Business Services (L786)	40.5	43.7	7.7	38.1	40.6	6.5
Marketing and Business Management Services (L785)	39.0	42.8	9.6	37.9	41.1	8.3
Other Personal and Household Good Retailing (G525)	39.7	41.3	4.2	38.6	40.4	4.7
<b>Hawke's Bay Total Employed Labour Force</b>	<b>39.1</b>	<b>42.4</b>	<b>8.7</b>	<b>38.3</b>	<b>41.2</b>	<b>7.6</b>

Source: Stats 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 and Over, 1996, 2001, 2006



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