Manawatū-Whanganui Region population projections

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Infometrics

Economics put simply

Authorship

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Executive summary

Introduction

Infometrics has been commissioned by the local and regional councils in Manawatū-Whanganui Region to produce employment, population and household projections to inform long-term planning in the region.

This report explores these projections – explaining the methodology, analysing historical trends, and detailing the projections at a district and regional level. The projections cover the period 2022 to 2054, including detail on each of the seven territorial authorities.

Our approach

Our key point of difference for our population projections is that our employment forecasts inform part of our net migration projections. First, we forecast employment in each territorial authority, considering local historical trends and national industry forecasts. Then, we project population following a traditional cohort component projection approach, in which the starting population is broken up into age and gender cohorts. Each cohort is analysed and projected separately – considering the probabilities of different life events for each cohort in each five-year period. We compare the employment forecasts with labour force projections, to identify which parts of the country are in greatest need of working migrants, which informs our net migration projections. We refined our projections with local insights – sharing our draft projections with representatives from each local authority and refining the projections based on their feedback.

Employment to grow in short term, then slow down

Employment growth in Manawatū-Whanganui is forecast to follow the national trend more closely in future. Manawatū-Whanganui employment growth lagged New Zealand over the past 20 years. From 2022 to 2030, employment in Manawatū-Whanganui is forecast to grow 1.0% per year on average, compared to 1.2% nationally. From 2030 to 2054, employment in Manawatū-Whanganui is forecast to grow 0.4% per annum, just behind the national average of 0.5%. As of 2022, we estimate that employment in Manawatū-Whanganui totals 124,700, is forecast to grow to 135,500 in 2030, and will ultimately reach 148,900 in 2054.

Employment led by public admin, health, manufacturing and education

Over the 2022-2030 period, regional employment is projected to be led by public administration (292 jobs per year), health (217), manufacturing (176) and education (155). Over this period, agriculture employment is forecast to start softening by 35 jobs per year. Construction will remain a significant industry, however, a small decrease in employment is forecast after peaking in 2023. Over the 2030-2054 period, growth is expected to become more muted across all industries. Employment growth will continue to be led by health (104 jobs per year) and public administration (89 jobs per year). Employment in retail trade is forecast to ease by 52 jobs per year over 2030-2054, as the

sector continues to evolve with online shopping and automation. Employment in agriculture is forecast to ease by 68 jobs per annum, reflecting higher carbon pricing through this period.

Employment growth strongest in Manawatū, Palmerston North, Horowhenua and Rangitikei

Over the 2022-2030 period, employment growth is forecast to be strongest in Manawatū, Palmerston North, Horowhenua and Rangitikei all growing in excess of 1% per year. Over the 2030-2050 period, these four areas are still expected to lead growth, albeit at slower rates of around 0.5% per annum. After 2030, weakening agriculture employment will be keenly felt in predominantly rural districts such as Ruapehu, Tararua and Rangitikei.

International net migration to recover slowly

International net migration turned negative in 2021 as New Zealand's border was closed and migration settings tightened. A slow recovery of international net migration is expected as global competition for labour heightens. Over time, we expect migration to move to around 30,000 over the long term. This reflects that with an ageing population, labour market pressures will necessitate steady net inward migration to maintain the workforce.

Distribution of regional net migration shifts

Over the 1990s and 2000s, periods of high international net inward migration largely translated to periods of high net migration into New Zealand's metropolitan centres. However, by the 2010s, the distribution of international migration across our metropolitan, provincial and rural areas fundamentally changed. The effect of this shift was pronounced for Manawatū-Whanganui, turning net migration into the region positive for the first time in at least 15 years. This shift is expected to persist, with post-pandemic trends of working from home or remotely expected to bolster regional migration.

Drivers of population growth shift over time

Shifts in international net migration have been the most noteworthy driver of population growth in the past decade nationally, owing to the relative volatility of migration. As the population ages further, the gap between births and deaths will narrow, slowing population growth and making growth more sensitive to the volatility of migration. Net migration into Manawatū-Whanganui is projected to be positive throughout the projection period, driven by a strong employment outlook which attracts migrants to the area.

Population growth is front loaded

Manawatū-Whanganui's population growth has lagged New Zealand over the past 25 years, although stronger net migration gain in the past decade has closed the gap. Looking out to 2054, the strongest growth is expected in the first decade, both for Manawatū-Whanganui and New Zealand. This reflects a relatively constant forecast for net migration coupled with weakening natural increase.

Under the medium scenario, Manawatū-Whanganui's population is projected to grow 0.8% per year on average over 2022 to 2030, the same as the national rate. Growth is projected to ease slightly into the 2030s, with Manawatū-Whanganui growing by 0.7% per year between 2030 and 2040, compared to 0.8% nationally. From 2040 to 2054, Manawatū-Whanganui is projected to grow 0.5%, just behind the national rate of 0.6%.

The region's population reaches 315,500 in 2054

Manawatū-Whanganui's population is estimated to be 258,300 as of 2022, up from 231,200 in 2012, having sat around 230,000 since the 1990s. The population is projected to grow across all three scenarios throughout the projection period. By 2054, the region's population is projected to total 315,500 under the medium scenario, 355,100 under the high scenario, and 276,500 under the low scenario.

Manawatū, Horowhenua lead growth to 2030

Over 2010 to 2020, growth in the region was led by Manawatū and Horowhenua Districts, growing 1.6% and 1.5% per year respectively. The two districts are expected to continue leading the region's growth over 2022-2030, growing at 1.0% and 1.3% per year respectively under the medium scenario. Palmerston North is projected to grow at 0.7% per year, just behind the regional average of 0.8%. Growth over 2022 to 2030 is projected to average 0.6% in Tararua, 0.5% in Rangitikei, 0.5% in Whanganui, and 0.4% in Rangitikei.

Over the 2030-2054 period, Horowhenua is projected to continue leading the district, with 1.2% growth per year. Palmerston North is projected to grow at 0.8%, overtaking Manawatū District on 0.7%. Population growth is expected to remain positive in Tararua (0.2%), Rangitikei (0.7%), Whanganui (0.4%) and Ruapehu (0.2%).

Older age group grows, younger age groups ease

The 65-years-and-older age group has been Manawatū-Whanganui's fastest growing in the past two decades, growing 42% between 2003 and 2018. It will continue to be the fastest growing age group, projected to grow 2.8% per annum between 2018 and 2033 as the last of the baby boomer generation transitions into the age group. The 65-years-and-older age group accounted for 43,900 or 18% of Manawatū-Whanganui's population in 2018. The 65-years and older age group is projected to rise to 66,300 (24% of the total population) by 2033, and 81,900 (26%) by 2053 (Graph 14). Disproportionately fast growth in the 65-years and older age group means that younger age groups are expected to decline as a share of the population, despite growing in number. The 30-64-year old population is projected to grow gently over the next 30 years, from 104,919 (42%) in 2018 to 126,400 (40%) in 2053.

Average age rises steadily

As of 2022, Manawatū-Whanganui's average age was 40.4, compared to 39.4 nationally. Projected strong net migration gains for Manawatū-Whanganui mean that the gap is expected to close by the end of the projection period, although the population will continue ageing. In 2054, Manawatū-Whanganui's average age is projected to be 44.6, just under the projected national average of 44.4.

Ethnic diversity grows

Ethnic diversity is projected to continue growing in Manawatū-Whanganui, and nationally. This reflects that European populations tend to be older and have lower fertility, the increasing diversity of migrants, and the expected strength of net migration.

People identifying with European ethnicity accounted for 197,900 (80%) of the region's population in 2018, and are projected to grow modestly to 242,800 (77%). Māori make up the second largest ethnic group, and are projected to grow strongly from 57,400 (23%) in 2018 to 101,600 (32%) in 2053. The population identifying with Asian ethnicity is relatively small in Manawatū-Whanganui, but is projected to grow the fastest from 16,700 (6.8%) to 40,000 (12.7%).

Average household size stays around 2.5

Manawatū-Whanganui's average household size is projected to stay around 2.5 persons per household for the projection period under the medium scenario. The average household size is expected to stay just under 2.5 for the first twenty years, reflecting the downward pressure applied by an ageing population, with older persons predominantly forming one- or two-person households. The average household size is then expected to rise to just above 2.5 in the 2040s as the population age structure stabilises. The relative stability of average household size at the regional level means that households will grow at a similar rate to the population.

Household growth set to moderate

Household growth in Manawatū-Whanganui is projected to moderate, staying below the region's 2020 peak in all three scenarios. Under the medium scenario, household growth rises slightly in 2024, averages 0.8% between 2022 and 2030, and eases to 0.5% between 2030 and 2054. Under the high scenario, household growth picks up in 2024, averages 1.1% per annum between 2022 and 2030, and eases to 0.9% per annum between 2030 and 2054. Under the low scenario, household growth eases further in 2024, averages 0.5% per annum over 2022 to 2030, then 0.2% for 2030 to 2054.

Under the medium scenario, household growth is projected to peak at 900 households per year in 2030, before easing to around 500 per year in the 2040s and 2050s. Under the high scenario, household growth rises to a peak of 1,300 per year in 2030, before easing to around 1,000 per year in the 2040s and 2050s. Under the low scenario, household growth peaks at 500 per year in 2030, easing to around zero in mid-2040s.

Household growth strongest in Palmerston North and Horowhenua

Within the region, household growth is projected to be strongest in Palmerston North and Horowhenua, with Manawatū softening after recent strong growth. Palmerston North is projected to grow by 257 households per year between 2022 and 2030 under the medium scenario, followed by 233 households per year in Horowhenua.

Introduction

Infometrics has been commissioned by the local and regional councils in Manawatū-Whanganui to produce employment, population and household projections to inform long term planning in the region.

This report explores these projections – explaining the methodology, analysing historical trends, and detailing the projections at a district and regional level. The projections cover the period 2022 to 2054, including detail on each of the seven territorial authorities.

This report is accompanied by a detailed spreadsheet which also includes outputs for the MidCentral and Whanganui DHB areas.

Our approach

Start with employment forecasts

Our projection approach starts with employment forecasts. Our employment forecasts are provided on their own, and feed into our net migration projection.

Our forecasts for employment are driven by a combination of historical trends and our forecasts for the future. Our outlook includes assumptions around carbon pricing and of further adoption of automation technology. We have assumed a carbon price of $100t/CO$_2$ equivalents in 2030 and $200 in 2050, and that agriculture will face partial emission pricing by 2025. This has the effect of reducing agriculture intensity, and encouraging forestry, with resultant reduction in on-farm and off-farm (e.g. dairy and meat processing) employment. In this sense our forecasts reflect the impacts of climate change policies but not the effect of climate change itself. For example, the effect of climate change on agricultural production is not included, nor the cost of cleaning up after more frequent storms.

We forecast employment at a national level in consideration of our macroeconomic forecasts and longer-term expectations for the economic environment. We then translate these national forecasts into each territorial authority and industry, in consideration of how each industry has performed in each territorial authority. This means that our forecasts reflect broader national trends as well as local growth. Our forecasts include a number of sub-models that reflect specific drivers of demand. For example, a list of major construction projects is used to drive employment in the construction industry, and the size of the elderly population is used to drive healthcare employment.

Consideration of each life stage and cohort

Our population projection approach follows a traditional cohort component projection method, in which the starting population is broken up into age and gender cohorts. Each cohort is analysed and projected separately – considering the probabilities of different life events for each cohort in each five-year period. The life events include fertility, mortality, migration, household formation, and labour force participation. We also consider how these probabilities have changed over time and how they may change in future – for example, how labour force participation has risen among older age groups as life expectancy has extended over time.

Employment forecasts drive net migration

Our key point of difference for our population projections is that our employment forecasts inform part of projected net migration. We compare employment growth with labour force participation to assess labour force shortfalls in each region, which indicates how net migration will be distributed within the country. Consequently, these population projections are informed by the economic prospects of the district and historical trends.

We also consider the extent to which commuting can influence labour force shortfalls, particularly where there are strong commuting patterns such as between Palmerston North City and Manawatū District, or Horowhenua District and Wellington Region. In the case of Palmerston North and Manawatū, the two housing markets are considered highly integrated, so the distribution of net migration is partly determined by housing capacity. Palmerston North is expected to take a greater share of the combined area's population growth in future as large greenfield residential areas become available, and as changes around highly productive land may adversely affect Manawatū's residential land supply.

Refined with local insights

We shared our draft projections with representatives from each territorial authority, the regional council and two DHBs at a workshop in Palmerston North in December 2022. Feedback from this workshop was used to develop a revised draft set of projections, upon which further feedback was sought before finalising the projections. Local feedback was used to ensure employment forecasts captured local projects and initiatives, and that population projections reflected land supply.

Our projection approach is described in greater detail in Appendix 1 – our approach in detail.

Employment

Regional employment growth follows national trend

Employment in Manawatū-Whanganui tended to grow slower than New Zealand overall in the past 20 years, although the region was also more resilient to the global financial crisis (Graph 1). Employment in Manawatū-Whanganui was notably more resilient through the COVID-19 pandemic, growing 1.2% in 2021, while national employment growth slowed to 0.1%.

Graph 1

Employment growth
Annual % change, Infometrics forecast

New Zealand
Manawatū-Whanganui Region
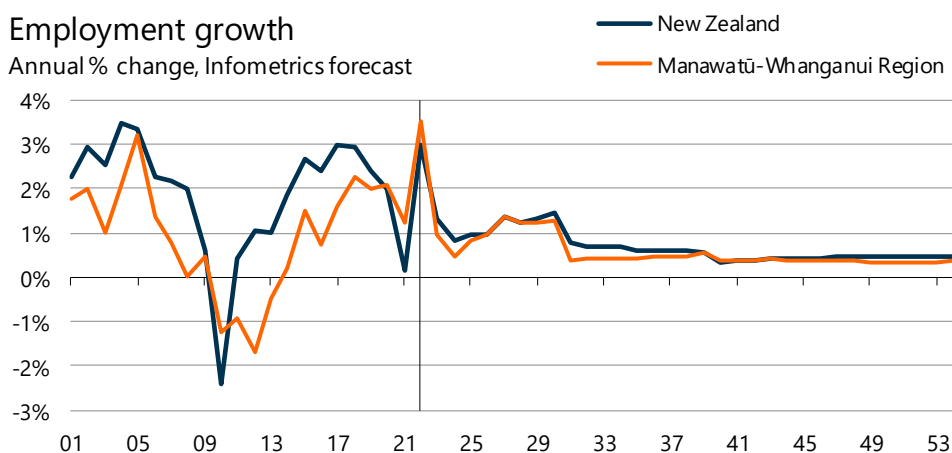
Employment in Manawatū-Whanganui is forecast to grow slightly slower than the national average over 2023-2025, as the national economy bounces back from softness in 2021. From 2022 to 2030, employment in Manawatū-Whanganui is forecast to grow 1.0% per year on average, compared to 1.2% nationally. From 2030 to 2054, employment in Manawatū-Whanganui is forecast to grow 0.4% per year, just behind the national average of 0.5%.

Regional employment rises to 148,900 at 2054

As of 2022, we estimate that employment in Manawatū-Whanganui totals 124,700, which is 16,800 higher than in 2012 (Graph 2). Regional employment is forecast to grow to 135,500 in 2030, and ultimately reach 148,900 in 2054.

Graph 2

Manawatū-Whanganui Region employment level
Stats NZ estimates, Infometrics forecast
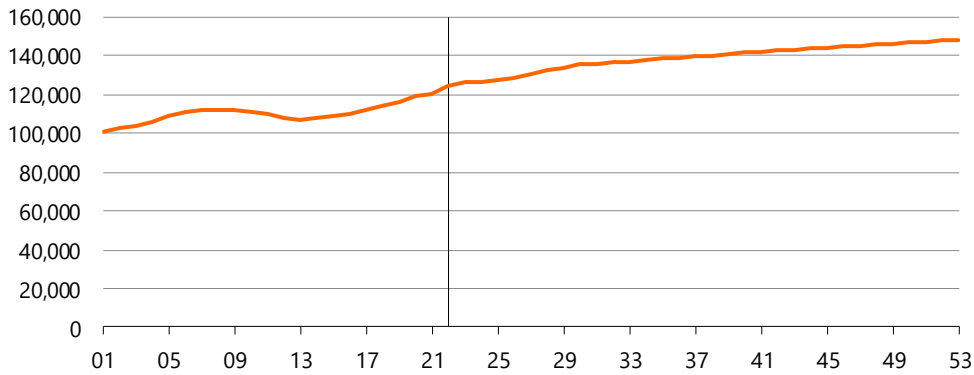
Employment grew 900 jobs per year 2010-2020

Over the 2010-2020 period, an average of 900 jobs per year were added to the Manawatū-Whanganui regional economy, with 15 out of 19 industries expanding. This was driven by health (145 jobs per year), construction (79), public administration (106, includes defence), manufacturing (95), and wholesale (88) (Graph 3).

Broad based growth forecast in coming decade

Over the 2022-2030 period, regional employment is projected to be led by public administration (292 jobs per year), health (217), manufacturing (176) and education (155). Over this period, agriculture employment is forecast to start softening by 35 jobs per year. Construction will remain a significant industry, however, a small decrease in employment is forecast after peaking in 2023.

Graph 3

Employment growth
Annual % change

Legend:
- 2010-2020
- 2022-2030
- 2030-2054

Categories (top to bottom): Manawatū-Wanganui Region, Manawatū District, Palmerston North City, Horowhenua District, Tararua District, Rangitikei District, Whanganui District, Ruapehu District

X-axis: -1.0%, -0.5%, 0.0%, 0.5%, 1.0%, 1.5%, 2.0%, 2.5%, 3.0%
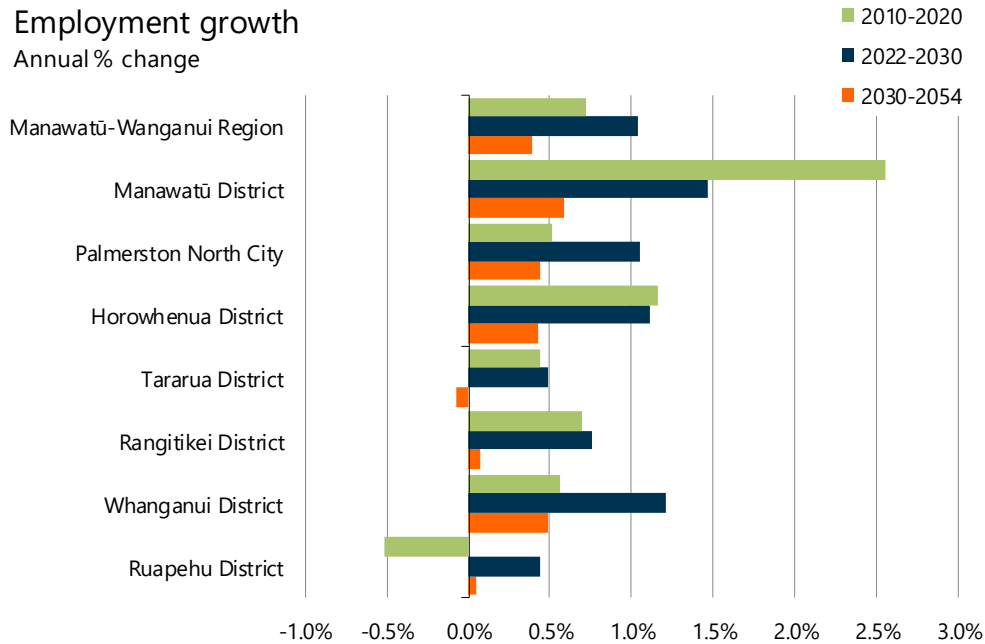
Over the 2030-2054 period, regional employment growth is expected to become more muted across all industries. Growth will continue to be led by health (104 jobs per year) and public administration (89 jobs per year). Employment in retail trade is forecast to ease by 52 jobs per year as the sector continues to evolve with online shopping and automation. Employment in agriculture is forecast to ease by 68 jobs per annum, reflecting higher carbon pricing through this period.

Employment growth strongest in Manawatū, Palmerston North, Horowhenua and Rangitikei

Over the 2022-2030 period, employment growth is forecast to be strongest in Manawatū, Palmerston North, Horowhenua and Rangitikei, all growing in excess of 1% per year (Graph 4). Over the 2030-2050 period, these four areas are still expected to lead growth, albeit at slower rates of around 0.5% per annum. After 2030, weakening agriculture employment will be keenly felt in predominantly rural districts such as Ruapehu, Tararua and Rangitikei.

Graph 4

Employment growth
Annual % change

Legend: 2010-2020, 2022-2030, 2030-2054

Districts: Manawatū-Wanganui Region, Manawatū District, Palmerston North City, Horowhenua District, Tararua District, Rangitikei District, Whanganui District, Ruapehu District
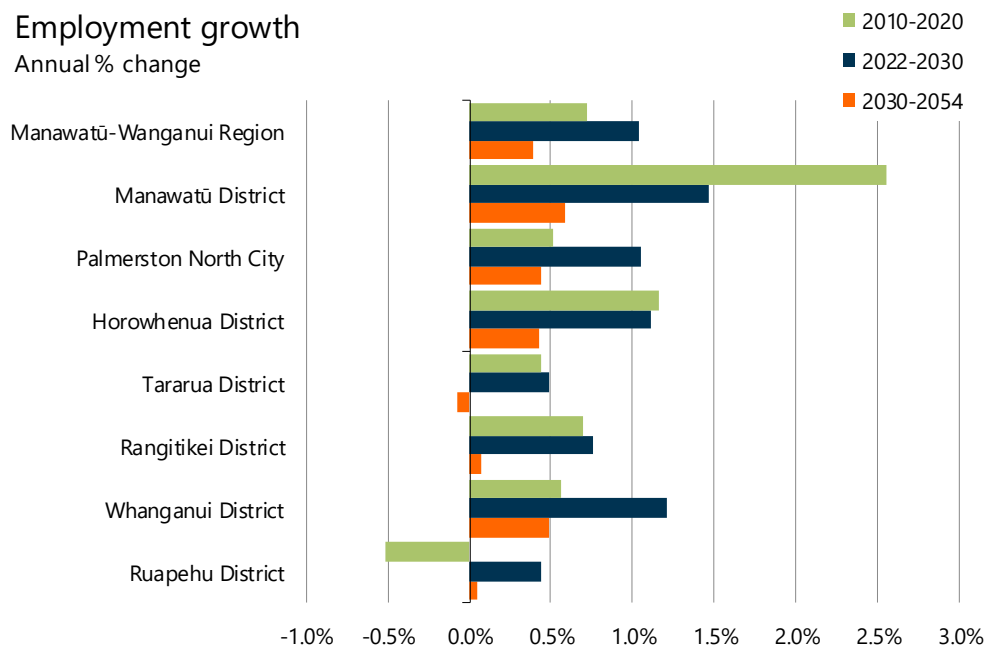
Population

International net migration to recover slowly

International net migration rose to record highs in the 2010s, and a further record high in 2021 as expat New Zealanders rushed home ahead of the COVID-19 border restrictions (Graph 5). This rush was followed by a sharp fall in net migration while the border was closed.

Despite a progressive loosening of migration settings as New Zealand's international border reopened in 2022, a highly competitive global market for labour is expected to limit migration inflows at the same time as an elevated number of New Zealanders are leaving. Therefore, net migration is forecast to trend back only gradually to its long-term level of 30,000 per annum later in this decade.

This long-term level reflects that under our forecast of steady employment growth and an ageing population, we expect sustained positive net migration over the long term. Although New Zealand does not currently have a long-term immigration strategy, we expect that labour market pressures will persuade future governments to enable sustained, moderate net migration flows through favourable migration settings. However, we do not expect net migration to return to the highs observed in the past decade, given the highly competitive global market for migrants, as many countries face an ageing population.

Graph 5
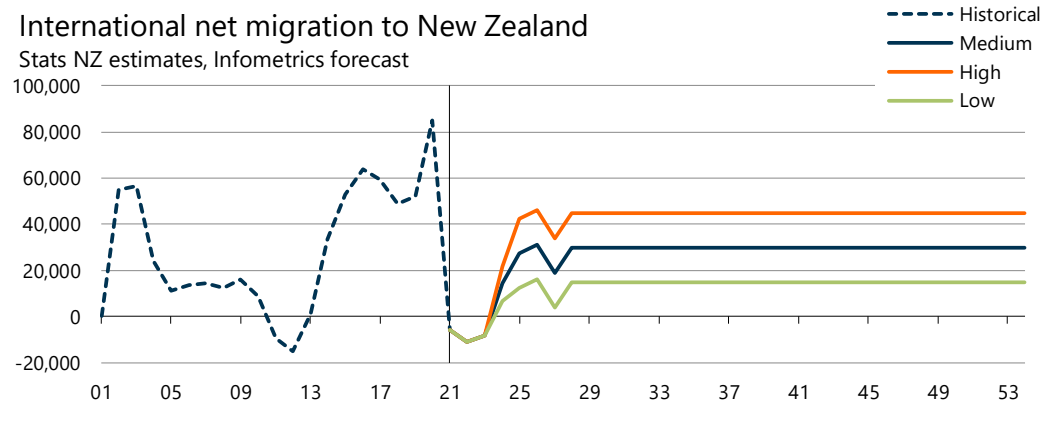
International net migration to New Zealand
Stats NZ estimates, Infometrics forecast

Distribution of regional net migration shifts

Over the 1990s and 2000s, periods of high international net migration largely translated to periods of high net migration into New Zealand's metropolitan centres. For example, when international net migration peaked (at the time) in 2003 at 51,500 per year, metro centres took 86% of the country's net migration (Graph 6), and rural areas continued to experience net outflows. However, by the 2010s, the distribution of migrants across our metropolitan, provincial and rural areas fundamentally changed. Between 2014 and 2020, 57% of net international migration went to metro centres, allowing provincial and

rural areas to make substantial net migration gains and therefore arrest population decline which dated back to economic reforms of the 1980s.

This change was driven by a combination of factors – extremely strong net migration volumes which exceeded housing capacity in the metropolitan centres, rising unaffordability of housing which has pushed commuters further out from cities, and emphasis on regional migration in work visa rules. Improved internet connectivity and greater options for remote working have likely aided this change too. These changes have had a significant effect on Manawatū-Whanganui, with Horowhenua District being increasingly influenced by the Wellington Region. Furthermore, Palmerston North and Whanganui are having an increasing influence on Manawatū, Tararua and Rangitikei districts.

Graph 6

Net migration by territorial authority type

Stats NZ, Infometrics
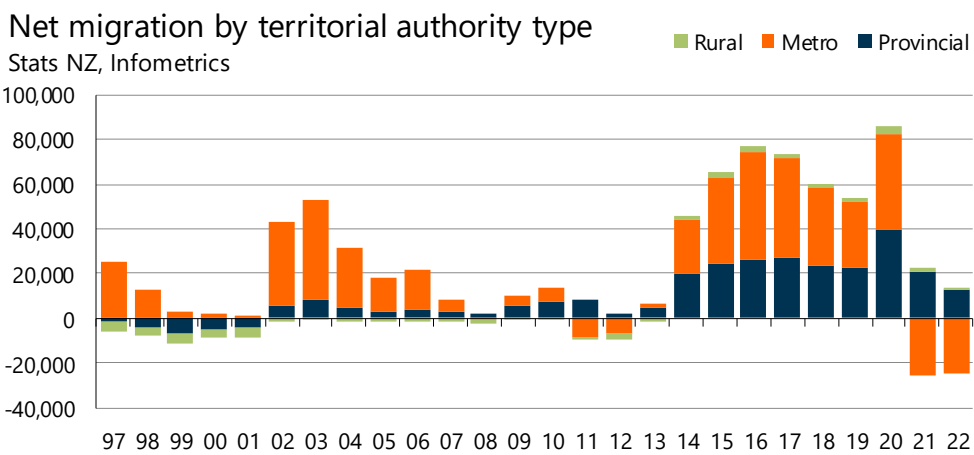
The effect of the shift in the distribution of net migration is very clear for Manawatū-Whanganui in Graph 7. Net regional migration was consistently negative until 2014 with the region experiencing particularly sharp net outflows in the 1990s and early 2000s. In contrast, net migration into the region was consistently strong over 2014-2020, and despite weakening has remained positive through 2021-22.

Graph 7

Net migration to Manawatū-Whanganui region

Stats NZ, Infometrics estimates

Infometrics
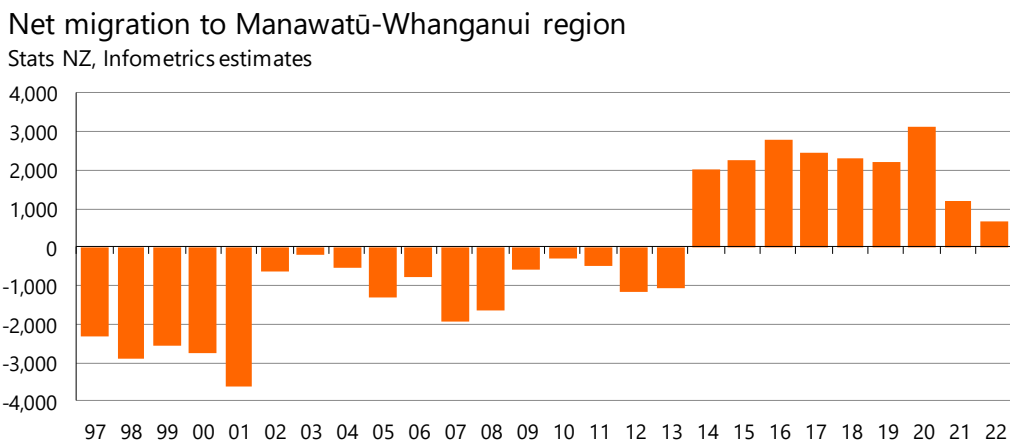
The COVID-19 pandemic brought a raft of changes to workplaces, notably the increased acceptance and uptake of working from home and working remotely. This shift may represent a permanent boost to regional populations by enabling workers to reside further away from city centres. In particular, working from home may make longer commuting distances more feasible, leading to a wider commuting belt around cities. In 2021, areas within a broader commuting distance from main centres experienced the strongest population growth. For example, Kaipara District (North of Auckland); Kapiti Coast, Horowhenua and Wairarapa (Nor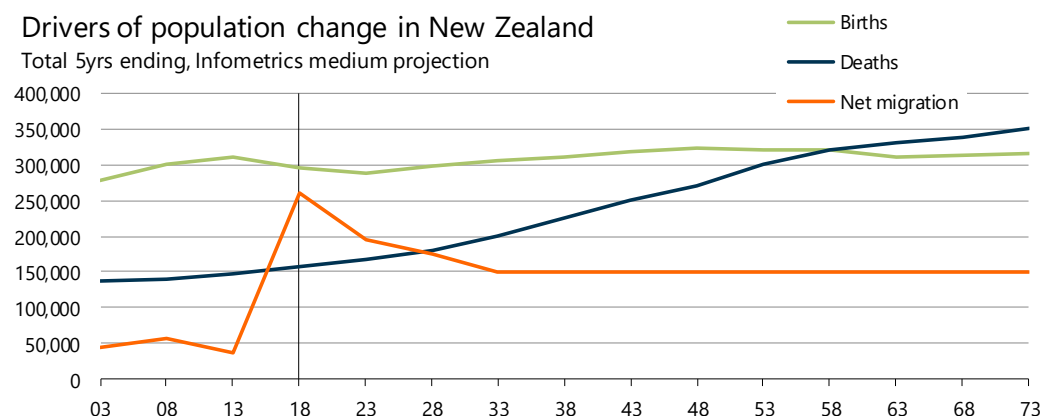th of Wellington City); and Selwyn and Waimakariri (around Christchurch City). These areas have continued to grow in 2022, but at a slower rate, suggesting that the pandemic facilitated a one-off shift to commutable areas. Being within a commutable distance of a city is a permanent benefit, however, these areas may not attract migration at the same rate as 2021 in future.

Drivers of population growth shift over time

Shifts in international net migration have been the most noteworthy driver of population growth in the past decade nationally, owing to the relative volatility of migration (Graph 8). However, this belies the long-term ageing of New Zealand's population which is closing the gap between births and deaths, known as natural increase. Births are projected to remain broadly steady in numeric terms, at or above 300,000 per five-year period, with a growing population offsetting a declining fertility rate. Deaths are projected to grow steadily as burgeoning older age groups offset decreasing mortality rates. With deaths growing faster than births, population growth from natural increase will slow and become increasingly dependent on net migration. Nationally, deaths are projected to outnumber births in the 2050s, at which point New Zealand's population will be entirely reliant on net migration to continue growing and to avoid decline.

Graph 8

Drivers of population change in New Zealand
Total 5yrs ending, Infometrics medium projection

Births
Deaths
Net migration

Manawatū-Whanganui currently has strong natural increase, although the margin is narrowing as deaths are increasing quickly while births grow only slowly (Graph 9). Natural increase is projected to remain positive in the region for the projection period, although it approaches zero towards the end of the period. Manawatū-Whanganui has dramatically improved its net migration over the past two decades, from -9,700 in the five years to 2003, up to a peak of 11,900 in the five years to 2018. Net migration into the region has softened slightly since 2018, reflecting changes in international net migration nationally. For the five years to 2023, net migration into Manawatū-Whanganui is projected to total 7,900, and fluctuate around this level for the remainder

of the projection period. This level is slightly below the region's 2018 peak, but substantially higher than the region's longer-term average. This reflects the region's strong employment outlook and the effect this has on encouraging migrants to the area.

Graph 9
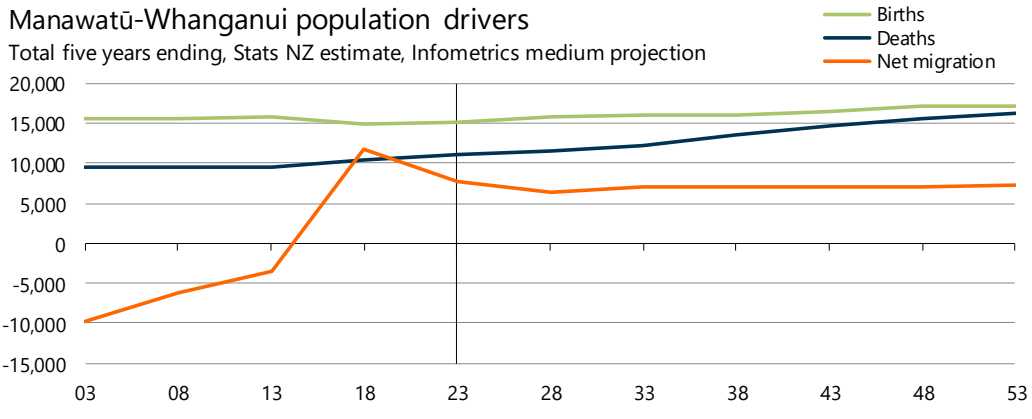
Manawatū-Whanganui population drivers
Total five years ending, Stats NZ estimate, Infometrics medium projection

Population growth is front loaded

Manawatū-Whanganui's population growth has lagged New Zealand over the past 25 years, although stronger net migration gain in the past decade has closed the gap (Graph 10). Looking out to 2054, the strongest growth is expected in the first decade, both for Manawatū-Whanganui and New Zealand. This reflects a moderately strong forecast for net migration coupled with weakening natural increase.

Under the medium scenario, Manawatū-Whanganui's population is projected to grow 0.8% per year on average over 2022 to 2030, the same as the national rate. Growth is projected to ease slightly into the 2030s, with Manawatū-Whanganui growing by 0.7% per year between 2030 and 2040 compared to 0.8% nationally. From 2040 to 2054, Manawatū-Whanganui is projected to grow 0.5%, just behind the national rate of 0.6%.

Graph 10

Annual population growth
Stats NZ estimate, Infometrics medium projection
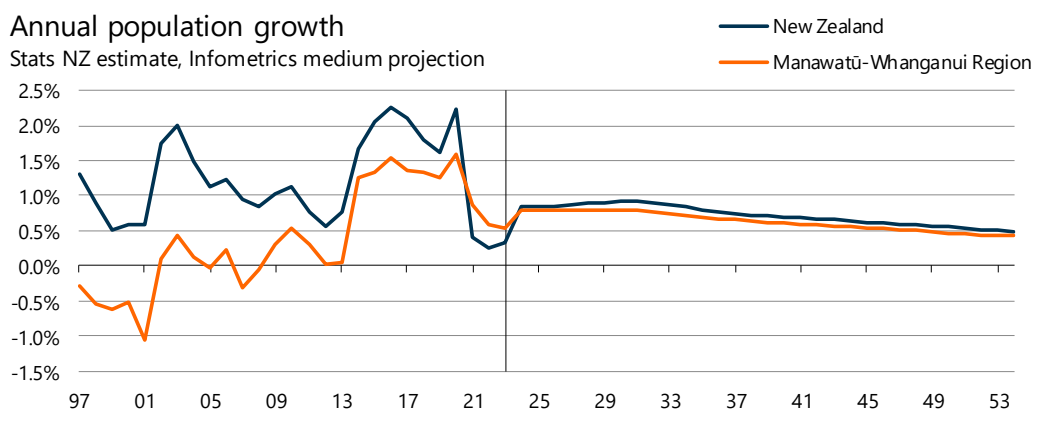
Three projection scenarios

In addition to the medium scenario, we have also developed low and high projection scenarios based on different combinations of net migration, fertility and mortality. The low scenario includes low net migration, low fertility and high mortality. The high scenario includes high net migration, high fertility and low mortality. Together, the three scenarios represent the range of probable outcomes over the long term. Declining natural increase is present across all three scenarios, which drives a trend of waning growth rates of time in every scenario.

Under the high scenario, population growth picks up strongly in 2024, with strong growth just beneath the rates observed over 2014 to 2020, underpinned by a return to strong net migration gain. Under the medium scenario, growth increases slightly in 2024 as net migration recovers to moderate levels, sitting in between the rates observed in the 2000s and 2010s. Under the low scenario, population growth eases over time, sitting at a similar level to rates observed in the 2000s, but remaining positive throughout the projection period.

Over the 2022 to 2030 period, population growth in the high scenario is projected to average 1.1% per year, compared to 0.8% in the medium scenario and 0.4% under the low scenario (Graph 11). Over the 2030-2040 period, population growth is projected to average 1.1% in the high scenario, 0.7% in the medium scenario, and 0.3% in the low scenario. Over the 2040-2054 period, growth eases to 0.9% under the high scenario, 0.5% under the medium scenario, and 0.1% under the low scenario, reaching 0% in the 2050s.

Graph 11
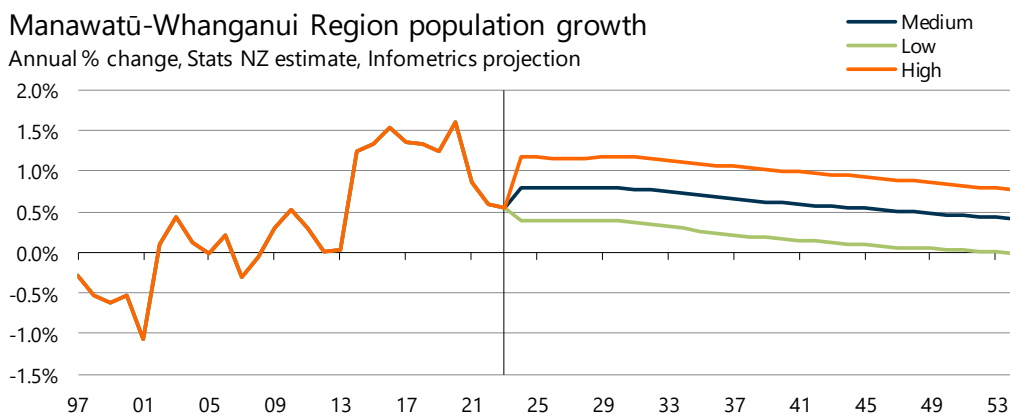
Manawatū-Whanganui Region population growth
Annual % change, Stats NZ estimate, Infometrics projection

The region's population reaches 315,500 in 2054

Manawatū-Whanganui's population is estimated to be 258,300 as of 2022, up from 231,200 in 2012, having sat around 230,000 since the 1990s (Graph 12). The population is projected to grow across all three scenarios throughout the projection period. By 2054, the region's population is projected to total 315,500 under the medium scenario, 355,100 under the high scenario, and 276,500 under the low scenario.

Graph 12
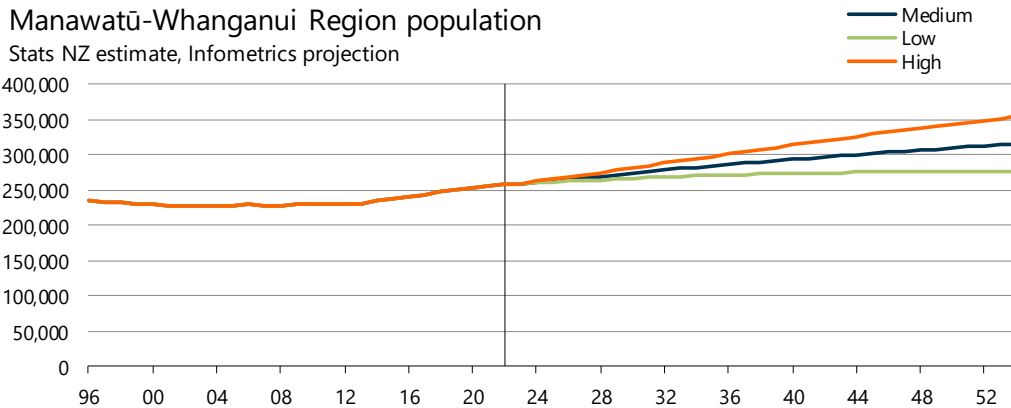
Manawatū-Whanganui Region population
Stats NZ estimate, Infometrics projection

Manawatū, Horowhenua lead growth to 2030

Over 2010 to 2020, growth in the region was led by Manawatū and Horowhenua Districts, growing 1.6% and 1.5% per year respectively (Graph 13). The two districts are expected to continue leading the region's growth over 2022-2030, growing at 1.0% and 1.3% per year respectively under the medium scenario. Palmerston North is projected to grow at 0.7% per year, just behind the regional average of 0.8%. Growth over 2022 to 2030 is projected to average 0.6% in Tararua, 0.5% in Rangitikei, 0.5% in Whanganui and 0.4% in Rangitikei.

Graph 13
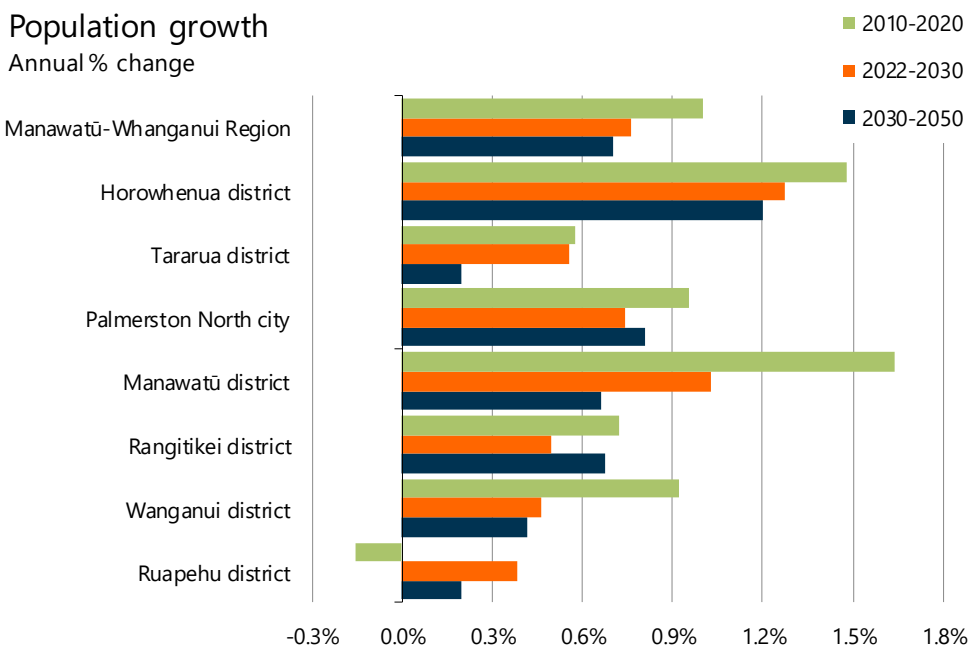
Population growth
Annual % change

Over the 2030-2054 period, Horowhenua is projected to continue leading the district, with 1.2% growth per year. Palmerston North is projected to grow at 0.8%, overtaking

Manawatū District on 0.7%. Population growth is expected to remain positive in Tararua (0.2%), Rangitikei (0.7%), Whanganui (0.4%) and Ruapehu (0.2%).

Table 1 details the population level for each territorial authority under each scenario.

Table 1

Population level

Stats NZ estimates, Infometrics projection

Area	Scenario	2022	2030	2040	2054
Ruapehu district	Low	13,000	13,347	13,419	13,139
	Medium	13,000	13,407	13,688	13,947
	High	13,000	13,465	13,943	14,715
Whanganui district	Low	48,700	49,512	49,768	49,835
	Medium	48,700	50,545	52,414	54,917
	High	48,700	51,561	55,021	60,016
Rangitikei district	Low	16,100	16,545	17,071	17,460
	Medium	16,100	16,750	17,774	19,156
	High	16,100	16,949	18,461	20,885
Manawatū district	Low	33,900	35,551	36,149	36,027
	Medium	33,900	36,782	39,076	41,972
	High	33,900	38,012	42,041	48,191
Palmerston North city	Low	90,400	93,787	97,941	100,764
	Medium	90,400	95,916	104,210	112,715
	High	90,400	97,974	110,359	124,667
Tararua district	Low	19,050	19,539	19,795	19,051
	Medium	19,050	19,915	20,808	20,705
	High	19,050	20,290	21,816	22,356
Horowhenua district	Low	37,000	38,534	39,730	40,101
	Medium	37,000	40,936	45,909	51,986
	High	37,000	43,318	52,112	64,137
Manawatū-Whanganui Region	**Low**	**258,282**	**266,945**	**274,004**	**276,507**
	Medium	**258,282**	**274,385**	**294,014**	**315,539**
	High	**258,282**	**281,703**	**313,892**	**355,118**

Older age group grows, younger age groups hold steady

The 65-years-and-older age group has been Manawatū-Whanganui's fastest growing in the past two decades, growing 2.4% per annum between 2003 and 2018. It will continue to be the fastest growing age group, projected to grow 2.8% per annum between 2018 and 2033 as the last of the baby boomer generation transitions into the age group.

The 65-years-and-older age group accounted for 43,900 or 18% of Manawatū-Whanganui's population in 2018. The 65-years and older age group is projected to rise to 66,300 (24% of the total population) by 2033, and 81,900 (26%) by 2053 (Graph 14).

Disproportionately fast growth in the 65-years and older age group means that younger age groups are expected to decline as a share of the population, despite growing in number. The 30-64-year old population is projected to grow gently over the next 30 years, from 104,919 (42%) in 2018 to 126,400 (40%) in 2053.

The 15-29-year-old population is projected to grow slightly from 49,700 (20%) in 2018 to 52,900 (17%) in 2053. The 0-14-year-old population is also projected to grow slightly from 48,900 (20%) in 2018 to 52,900 (17%) in 2053.

Graph 14

Manawatū-Whanganui population by age
Stats NZ estimates, Infometrics medium projection
% of total population
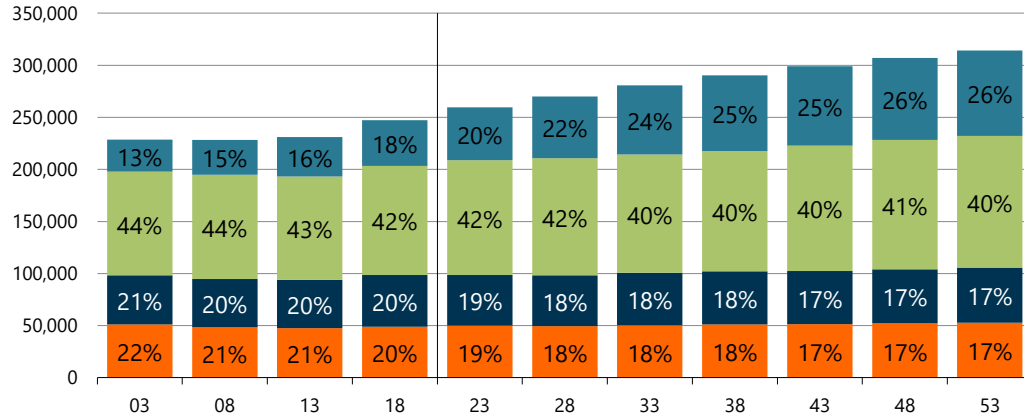
Average age rises steadily

The average age of Manawatū-Whanganui's population grew faster than New Zealand overall through the 2000s, as net migration losses were driven by the loss of young people (Graph 15). A turn around the region's net migration in the 2010s means that the population is now ageing at a similar rate as the rest of New Zealand. As of 2022, Manawatū-Whanganui's average age was 40.4 compared to 39.4 nationally. Projected strong net migration gains for Manawatū-Whanganui mean that the gap is expected to close by the end of the projection period, although the population will continue ageing. In 2054, Manawatū-Whanganui's average age is projected to be 44.6, just ahead the projected national average of 44.4.

Graph 15

Average age comparison
Stats NZ estimate, Infometrics medium projection
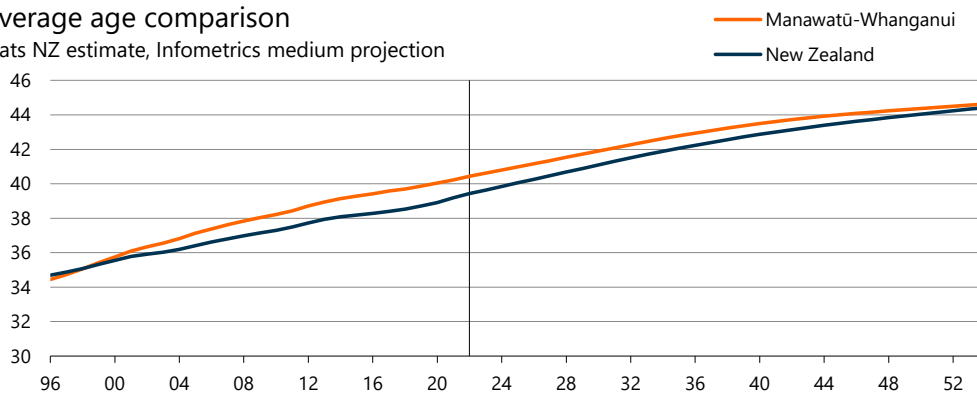
Manawatū-Whanganui
New Zealand

Ethnic diversity grows

Ethnic diversity is projected to continue growing in Manawatū-Whanganui, and nationally. This reflects that non-European populations tend to be younger and have higher fertility, the increasing diversity of migrants, and the expected strength of net migration. People can identify with more than one ethnicity, so ethnic shares of the population add up to more than 100%.

People identifying with European ethnicity accounted for 197,900 (80%) of the region's population in 2018, and are projected to grow modestly to 242,800 (77%). Māori make up the second largest ethnic group, and are projected to grow strongly from 57,400 (23%) in 2018 to 101,600 (32%) in 2053. The population identifying with Asian ethnicity is relatively small in Manawatū-Whanganui, but is projected to grow the fastest from 16,700 (6.8%) to 40,000 (12.7%).

Graph 16

Population by ethnic group
Manawatū-Whanganui Region, Infometrics medium projection

Pacific   Asian
Māori   European
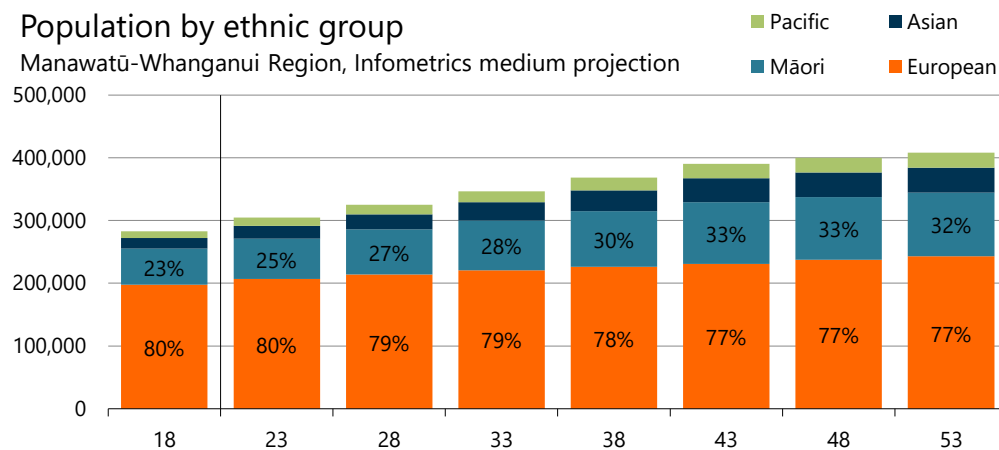
Households

Household projections are theoretical

A household is a grouping of individuals and/or families living in the same dwelling and sharing facilities with each other. We estimate the number of households and average household size based on projected changes in the sex and age structure of the population (such as a growing older-age population) and trends in household formation (such as women deferring childbirth). This method provides a theoretical estimate of the number of households. However, the actual number of households will depend on a sufficient number of dwellings being available. If fewer dwellings are made available, for example due to lower levels of new dwelling construction, then fewer households will be able to form, and the average household size may be higher. As a practical example, we might expect a couple with one child to form their own single-family household, consisting of three occupants. However, if the couple is unable to obtain a suitable dwelling, they may move in with one of their sets of parents, forming a multi-family household with five occupants.

Housing pressures built up over the 2010s from high population growth and low residential construction mean that normal household formation has been disrupted. In 2023, we expect high levels of new house construction and low household growth. In practice, these factors may mean that households in sub-optimal situations such as overcrowding or emergency housing are able to move into their own dwelling.

Average household size stays around 2.5

Manawatū-Whanganui's average household size is projected to stay around 2.5 persons per household for the projection period, under the medium scenario (Graph 17). The average household size is expected to stay just under 2.5 for the first twenty years, reflecting the downward pressure applied by an ageing population, with older persons predominantly forming one or two person households. We expect the average household size to rise to just above 2.5 in the 2040s as the population age structure stabilises. The relative stability of average household size at the regional level means that households will grow at a similar rate to the population.

Graph 17

Average household size
Infometrics projection

— Manawatū-Whanganui Region
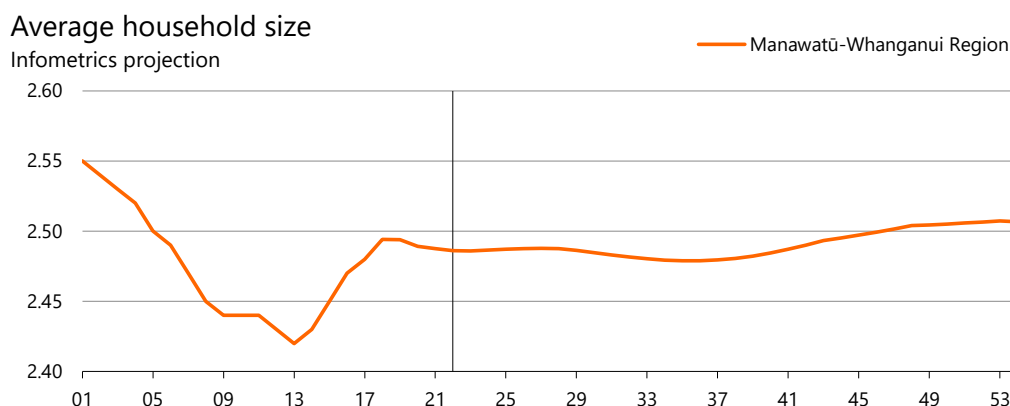
Household size highest in Rangitikei, Manawatū and Palmerton North

Within the region, the average household size varies. In 2022, the average household size was estimated to be 2.37 in Whanganui and Horowhenua, ranging up to 2.61 in Palmerston North (Table 2). This range is expected to broaden over time. In 2054, the average household size is projected to range from 2.28 in Horowhenua up to 2.64 in Manawatu District.

Table 2

Average household size
Infometrics medium projection

Area	2022	2030	2040	2054
Ruapehu district	2.45	2.42	2.44	2.48
Whanganui district	2.37	2.39	2.41	2.46
Rangitikei district	2.46	2.46	2.50	2.61
Manawatū district	2.55	2.57	2.56	2.64
Palmerston North city	2.61	2.62	2.61	2.61
Tararua district	2.41	2.37	2.36	2.36
Horowhenua district	2.37	2.34	2.31	2.28
Manawatū-Whanganui Region	**2.49**	**2.48**	**2.48**	**2.51**

The average household size is projected to ease over the projection period in Horowhenua and Tararua District, as a result of attracting slightly older migrants. Conversely, the average household is projected to grow most strongly in Rangitikei as the area continues to attract families which form relatively large households.

Household growth set to moderate

Growth in the number of households in Manawatū-Whanganui was relatively strong in the late 2010s, on the back of strong net migration gain leading to strong population growth (Graph 18). Looking ahead, household growth is projected to sit under the 2020 peak in all three scenarios. Under the high scenario, household growth picks up in 2024, averaging 1.1% per annum between 2022 and 2030, easing to 0.9% per annum between 2030 and 2054. Under the medium scenario, household growth rises slightly in 2024, averaging 0.8% between 2022 and 2030, easing to 0.5% between 2030 and 2054. Under the low scenario, household growth eases further in 2024, averaging 0.5% per annum over 2022 to 2030, then 0.2% for 2030 to 2054.

Graph 18

Manawatū-Whanganui household growth
Annual % change, Infometrics projection
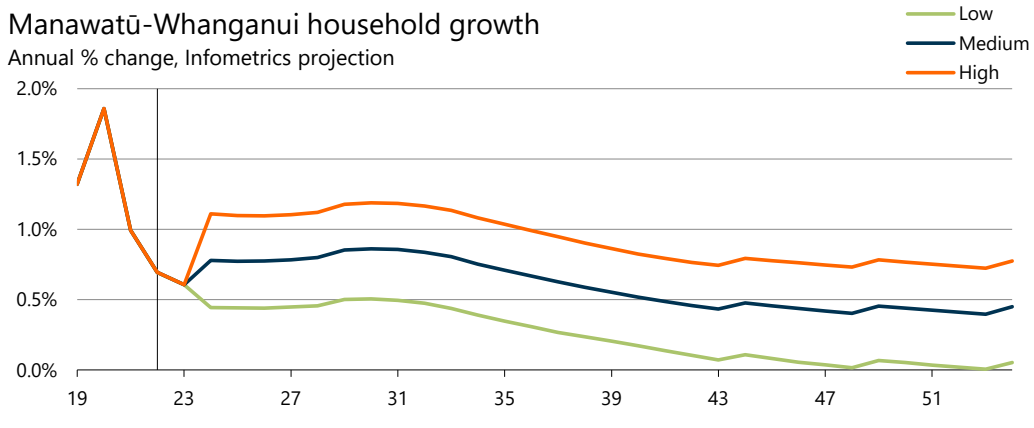
Peak household growth in 2030

Under the medium scenario, household growth is projected to peak at 900 households per year in 2030, before easing to around 500 per year in the 2040s and 2050s (Graph 19). Under the high scenario, household growth rises to a peak of 1,300 per year in 2030, before easing to around 1,000 per year in the 2040s and 2050s. Under the low scenario, household growth peaks at 500 per year in 2030, easing to around zero in the late-2040s.

Graph 19
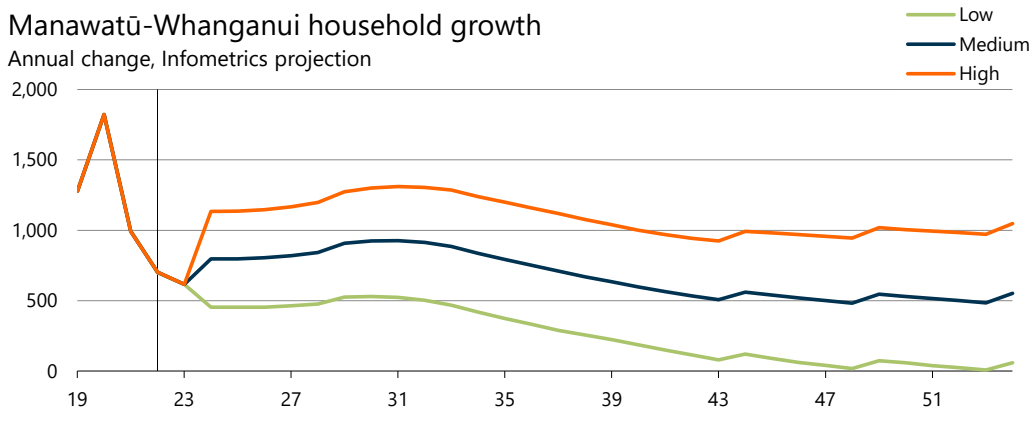
Manawatū-Whanganui household growth
Annual change, Infometrics projection

Household growth strongest in Palmerston North and Horowhenua

Within the region, household growth is projected to be strongest in Palmerston North and Horowhenua, with Manawatū softening after recent strong growth (Table 3). Palmerston North is projected to grow by 257 households per year between 2022 and 2030 under the medium scenario, followed by 233 households per year in Horowhenua.

Table 3

Annual average household growth

Infometrics medium projection

Area	2022-2030	2030-2040	2040-2054
Ruapehu district	29	7	1
Whanganui district	76	51	39
Rangitikei district	34	31	16
Manawatū district	124	92	46
Palmerston North city	257	321	227
Tararua district	60	42	-6
Horowhenua district	233	227	200
Manawatū-Whanganui Region	**813**	**772**	**524**

Family households most common

Family households are the most common household type, accounting for 69% of households in Manawatū-Whanganui in 2018, and projected to grow to 70% by 2053 (Graph 20). Family households include couples living with or without children, and one-parent families. One-person households are the second most common household type, accounting for 26% of Manawatū-Whanganui households in 2018. One-person households are projected to grow in number, but ease to 25% of households in 2053. One-person households often include older persons living alone, such as widows or widowers. Other multi-person households (colloquially known as flatting), are projected to remain relatively steady over time.

Graph 20

Manawatu-Whanganui households by type
Infometrics projection
% of total

Legend:
- Other multiperson household
- One-person household
- Family household
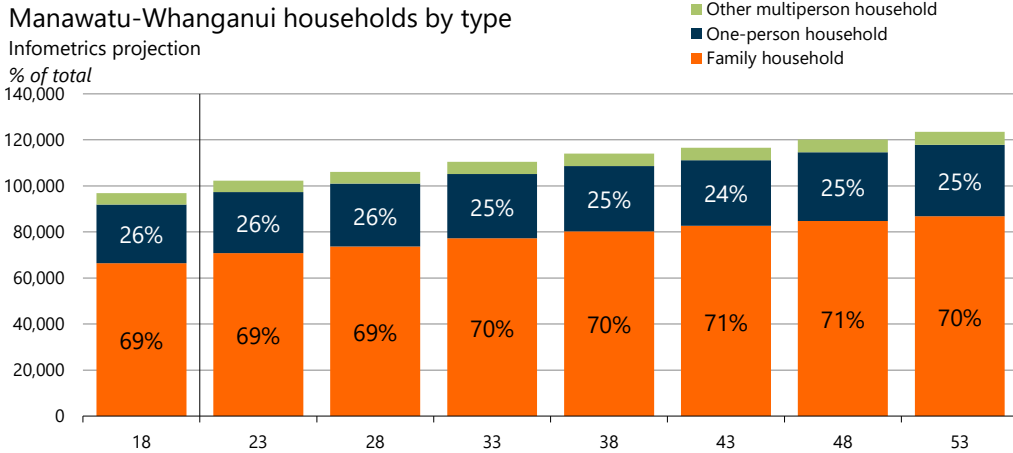
Couples are most common family type

Couples are the most common family type, including two-parent families and couples without children (Graph 21). Couples without children are projected to grow over the next 15 years as the population grows overall, and ease thereafter as the baby boomer cohort departs from this group. Two parent families are projected to grow on the back of population growth and expand their share of households as couples without children ease over time.

Graph 21

Manawatu-Whanganui families by type
Infometrics projection
% of total

Legend:
- One-parent family
- Couple-without-children family
- Two-parent family
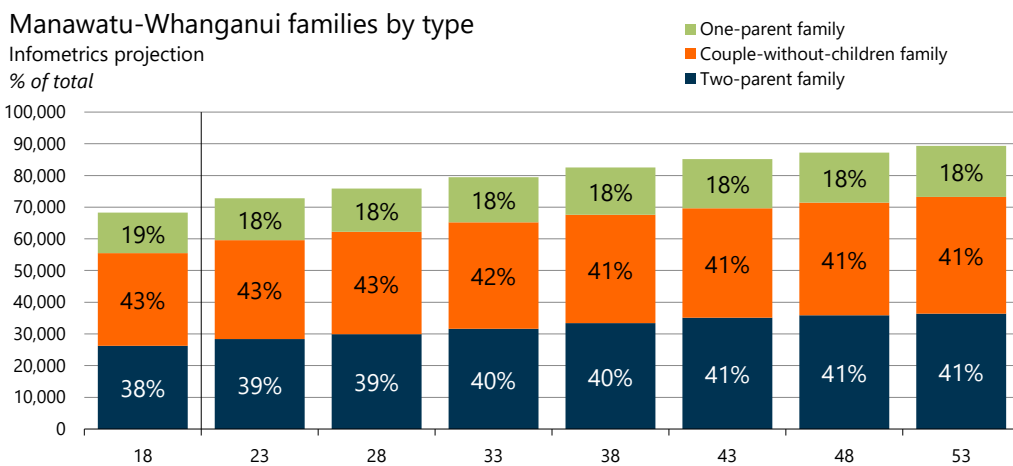
Note that family households referred to above can consist of multiple families, therefore the number of families (Graph 21) is slightly higher than the number of family households (Graph 20). For example, consider a young couple with children who live with their older parents. They form a single household together, but there are two distinct families within the household.

Infometrics

Appendix 1 – our approach in detail

This section expands on the brief methodology described in *Our approach*, explaining our approach to each facet of the projection, including key assumptions that we have made.

Employment forecast

Infometrics forecasts regional employment through a combination of three models. Our macro-economic model provides forecasts of national employment on an annual basis up to 2027. Our general equilibrium model forecasts national employment by industry over the long-term. Finally, our regional forecasting model breaks these forecasts down to industries in each region.

Macro-economic model

Infometrics maintains a macroeconomic forecasting model that underpins our five-year forecasts of activity across the national economy. Our model accounts for the relationships between different sectors of the economy and their responsiveness to one another. These include the labour market, households, businesses, government, the international trade sector, and financial markets.

In times of economic upheaval, we refine the output from the model based on expert input from our forecasting team, their knowledge of rapidly changing trends in the economy, and the insights we gain from our interactions with central government, Councils, Economic Development Agencies, and private sector clients.

Overseeing the forecasting process and model is Gareth Kiernan, who has been forecasting the New Zealand economy for more than 20 years. The framework provides quarterly forecasts of GDP, employment, unemployment, and a range of other macroeconomic indicators up to 2027.

General equilibrium

Infometrics general equilibrium (GE) model enables us to produce long term national forecasts of employment by 55 industries. To obtain projections for a 30-year horizon requires an approach that is based on structural issues such as technological change, industry productivity, demographics, evolving demand for different consumer goods and services, and New Zealand's international competitiveness. The model presents a picture or scenario of the economy for the target years (in our case 2030 and 2050) based on plausible assumptions of economic factors including international commodity prices, population growth, carbon price, automation, changes in energy efficiency, and substitution between four energy types (coal, oil, gas and electricity). Some of the key macro-economic assumptions used in the ESSAM model are shown in Table 4.

Long term forecasts should ideally be presented as scenarios given the uncertainty of the future. In this project we will present a central scenario which is based on a central view of a range of factors that can influence employment outcomes over the long term.

Infometrics GE model is maintained by one of New Zealand's foremost econometricians, Dr Adolf Stroombergen.

Table 4. ESSAM macro-economic assumptions and outputs

Indicator	2025-2030	2030-2050
Growth rates		
Population	1.0%pa	1.0% pa
Labour force	0.7%pa	0.46%pa
GDP	2.9%pa	1.7%pa*
World trade	2.7%pa	2.5%pa
Public investment	3.0%pa	2.5%pa
Government consumption	2.1%pa	1.7%pa
Investment in dwellings	2.0%pa	1.0%pa
Real prices		
Oil price	US$110/bbl in 2030	US$110/bbl in 2050
Carbon price	NZ$100/tonne CO_2 in 2030	NZ$200/tonne CO_2 in 2050

 * These are model results, not input assumptions.

Regional Forecasting Model

The Regional Forecasting Model (RFM) is an econometric model which breaks national employment forecasts to detailed industry and regional level. It draws on Infometrics 20-year quarterly time series of employment by detailed industry by territorial authority. The model uses a mix of top-down and bottom-up approaches. It simultaneously provides forecasts for all industries in all territorial authorities that are constrained to be consistent with Infometrics macroeconomic forecasts for the national economy in the medium term and the outputs of the GE model in the long term.

A number of sub-models which use a bottom-up approach feed into the Regional Forecasting Model. We build sub-models for industries that we have detailed insights into, and we forecast drivers of employment in those industries. Currently we use four industry sub-models.

Construction sub-model

The construction sub-model provides forecasts of employment in each of the 24 construction sub-industries in each territorial authority. It is an econometric model which is largely driven by Infometrics forecasts of work put in place (WPIP) which are presented to clients via our Regional Construction Outlook product. Our WPIP forecasts are driven by population growth, household formation, and large construction projects which have been signalled. Employment is assumed to respond in a lagged manner to changes in WPIP. The length and magnitude of those lagged responses differs across industries.

Education sub-model

The education sub-model provides forecasts of employment for the following sub-industries: early childhood education, primary education, secondary education, tertiary and vocational education. The model develops a relationship between age cohorts and

demand for services from each sub-industry and draws on our age-specific population forecasts to estimate the demand for services from each sub-industry. For example, the size of the population of 0- to 4-year-olds drives the demand for early childhood education. In some cases, we assume that student to staff ratios will keep falling and these have also been incorporated into our estimates for long-term demand. We then estimate the speed at which employment will converge to long-term demand. The model accounts for trends in international education which are driven by different factors compared to domestic education.

Healthcare sub-model

The healthcare sub-model disaggregates into healthcare industries (hospitals, dental services, etc) and social service industries (aged care, childcare). We use regional population projections to estimate long-term demand for these services. Where relevant, we combine these regional population projections with estimates of demand for healthcare services by age group. For example, demand for hospital workers incorporates data on the number of hospital bed days by age group.

Retail and hospitality sub-model

The retail and hospitality sub-model disaggregates into retail industries and hospitality industries (accommodation and food services). Forecasting is a two-stage process. First, we forecast regional retail and hospitality sales, taking into account the different components of sales: local spending, domestic tourism and international tourism. This allows us to account for the regional variations in the impact of COVID, which include lower international tourism but higher amounts of local spending and domestic tourism. Second, we use econometric models to forecast the impact of retail and hospitality sales on employment.

Other industries

For industries with no sub-model the RFM draws on historic trends, patterns and relationships, and projects these into the future. RFM draws on a 20-year quarterly time series of employment by 500 industries in each territorial authority. It creates multiple forecast models for every territorial authority and industry combination and, using machine learning techniques, selects and applies the model which has proven to have best predictive ability. Using these techniques, it produces forecasts of employment across 500 industries for each territorial authority over the long term.

Population projection

Population base

As a rule, the appropriate population to use for Council Long Term Planning (LTP) purposes is the estimated resident population (ERP). This represents all individuals who permanently reside in an area and could be considered a 'maximum' population because a percentage of these individuals are likely to be away at any given point in time.

Consequently, we use the Stats NZ 2022 Estimated Resident Population (ERP) as the basis for the population projections. This estimate is produced by Stats NZ with the most recent available Census (2018) data, and births, deaths and migration that have been recorded since.

Given that the majority of population projection parameters from Stats NZ are published for five-year intervals, our projection model also operates at five-year intervals, from 2018 to 2058. We then make use of a cubic-spine statistical process to interpolate population to single years. We make adjustments to reflect the fact that with data up to 2021 currently available, we have data for three out of five years in the 2018 to 2023 period. We repeat this process every year to account for Stats NZ's annual publication and revision of subnational population estimates.

Fertility

Stats NZ projects regional, age-specific fertility rates for five-year age groups, which we apply to our estimates of population by age and gender cohorts, in order to estimate the number of births in each five-year period. Throughout the projection period, we adopt Stats NZ's assumed gender ratio of 105.5 males per 100 females born – this is based on the historic average ratio at a national level. This phenomenon is commonly observed around the world, and is understood to be a function of slightly higher miscarriage rates for female babies, rather than of selective abortion.

Mortality

Projected age- and gender-specific mortality rates by region or territorial authority, as calculated by Stats NZ, are applied to accurately project the number of deaths. These rates vary over time to reflect observed trends such as extended life expectancy.

Migration

We build up our projection of net migration in two stages. First, we consider overall volumes of international net migration to New Zealand. This contributes to the total pool of net migrants – international and internal – which we apportion to each territorial authority.

International net migration volumes

The population projections draw on Infometrics' short- and long-term international migration forecasts (Graph 5).

Regional distribution of migration

Migration is apportioned to territorial authorities using a mix of two approaches. Firstly, historical migration trends are applied to forecast the volume of non-employment-driven migration, such as people moving at retirement. Secondly, forecast labour market shortfalls are used to forecast the volume of employment-driven migration, such as people moving to take up employment opportunities. Employment-driven migration is also adjusted somewhat to account for commuting patterns between districts.

For non-employment-driven migration, we apply the age and gender profile of Stats NZ's subnational net migration projections. For employment-driven migration, we apply a bespoke age and gender profile, based on Stats NZ's projection with adjustment made around older age groups and groups with net negative migration. Analysis of net migration by age reveals that migration flows of persons aged 80 years and older are relatively unresponsive to economic conditions, as this group is generally not involved in the labour market and migration is driven by non-economic factors such as moving closer to family or healthcare. Therefore, we only model employment-driven migration

in age groups up to the age of 79 years. We do model migration of children (0-14 years of age) as being responsive to the employment market as this is evident in historic data, which reflects families moving in pursuit of employment opportunities for the parents. For areas which receive additional employment-driven migration, we assume that this is concentrated in age-gender groups with positive migration flows, as we expect a strong labour market would accentuate positive regional labour flows and not extend negative flows.

Labour Market Shortfalls

Labour market shortfalls exist when employers' requirement for labour exceeds the number of workers available at current wage rates. When labour market shortfalls exist in an area, additional labour (and hence population) is attracted to that area.

Infometrics estimates future labour market shortfalls by separately considering the projected supply of labour and the projected demand for labour (as measured by employment) and comparing these two factors.

As the starting point for estimating labour supply, Infometrics makes use of Stats NZ's published population projections by 5-year age group and gender.

Labour force participation rates (LFPRs) by age and gender are projected based on Stats NZ's national labour force projections. In addition, historical LFPRs for each region are analysed to identify their deviation from the national average. This deviation is applied to the national LFPR by age, to project regional LFPR by age. Historical averages for the unemployment rate in each region are analysed and projected forward. Projected LFPR by age is applied to the Stats NZ population projection, and the projected unemployment rate is applied to this, in order to estimate labour supply.

This projection is undertaken for each region or territorial authority, enabling the balance between labour supply and demand (as measured by employment) to be assessed within each area. In periods of insufficient labour supply within a territorial authority or broader regional labour market to meet projected labour demand, the area is projected to receive additional migration.

This additional migration is apportioned to regions or territorial authorities based on their respective share of the national labour market shortfall. At the same time, however, additional migration may be constrained by the Infometrics international net migration forecast, meaning that a particular region may not necessarily receive sufficient inward migration to entirely eliminate its labour market shortfall.

Similarly, the projected LFPR and unemployment rates are applied to the additional migration, reflecting the fact that it is rarely possible to import only workers – instead these workers often come with family members, who may not necessarily be economically active. Examples in this regard might include stay-at-home parents, children and aged dependents. Furthermore, in some instances, migrants may not immediately gain employment following their move.

Distribution within district

There are several instances within Manawatū-Whanganui where the boundaries of districts do not align with those of the region or district health boards.

- Whangamomona SA2 in Stratford District, which is part of Manawatū-Whanganui Region
- Northern portion of Ruapehu District, including Taumaranui, which is part of Waikato DHB
- Northern portion of Kapiti Coast District, including Otaki, which is part of MidCentral DHB

In these instances, the territorial authority population is apportioned to each regional council or district health board area based on Stats NZ's sub-district population projection.

In several further instances, these areas have an insignificant population, so have not been specifically accounted for.

- Mara SA2 in Tararua District, which is within the Wellington Region
- Ngamatea SA2 in Rangitikei District, which is part of Hawke's Bay Region
- Tiroa SA2 in Waitomo District, which is part of Manawatū-Whanganui Region

Household projection

The number of households at SA2 or district level is projected by applying household formation, or Living Arrangement Type Rates (LATR) to the projected population. Stats NZ projects LATR to 2043 from the 2018 Census figures for each territorial authority. These rates reflect localised differences based on local population composition. For example, some non-European ethnic groups exhibit a greater propensity to form multi-generational households, leading to larger household sizes. These projected rates also consider trends such as delayed childbearing, growing numbers of childless couples, decreased rates of single parenting, and improvements in life expectancy which enable older individuals to live independently for longer periods. This means that the LATR used in the projections follow a trend up to 2043, and then remain constant at 2043 rates up to 2073.

Applying LATR to the population provides an estimate of the number of people in each living arrangement type; this is then translated into the number of households based on expected family structures – for example, couple households consisting of two individuals. For other multi-person households, we follow the standard Stats NZ assumptions, and assume 2.6 persons per household. Projected population figures are accordingly divided by the number of households to project average household size.

The projected household size calculated in these projections varies somewhat from the 2018 Census measures. This is because Census counts are randomly rounded to the nearest multiple of 3, or supressed entirely, so as to ensure confidentiality of Census respondents. Census outputs such as average household size are however based on actual data, meaning that it is impossible for third parties to precisely replicate these outputs. Projection outputs can also vary from Census measures due to short-term changes such as increased housing occupancy in response to increasing housing costs.