

Western Bay SmartGrowth Region: A Summary of the Population, Labour Force and Household Projections

Richard Bedford
Professor of Geography and
Deputy Vice-Chancellor (Research)
University of Waikato

1.0 The population projections

1.1 Assumptions

- The population projections for the Western Bay Smartgrowth project have been revised using 2001-base population estimates prepared by Statistics New Zealand.
- The medium variant assumptions for fertility and mortality used by Statistics New Zealand in their 2001-base sub-national projections have been used for the Western bay of Plenty District and Tauranga District. These allow for on-going reductions in both birth and death rates, as well as in the contribution of natural increase to population growth.
- The medium variant assumptions for net migration gains and losses through internal and international migration, used by Statistics New Zealand in their 2001-base sub-national projections for the Western Bay of Plenty, have been applied to the 2001-base population for that District. The Statistics New Zealand assumptions allow for an overall net gain of 3,000 per five year period.
- The medium variant assumptions for net migration gains and losses through internal and international migration used by Statistics New Zealand their 1996-base sub national projections for Tauranga District have been applied to the 2001-base population for that District. These allow for an overall net migration gain of 10,000 per five year period.
- The 1996-base net migration assumptions were selected for SmartGrowth Region after consultation with Ken Tremaine the SmartGrowth Project Manager. They are considered to be more useful for this particular projection exercise than the 2001-base net migration assumptions especially given the modeling that has already been done using the initial population estimates prepared for the Western Bay SmartGrowth project.
- For both the Western Bay of Plenty District and the Tauranga District projections a different method from that used by Statistics New Zealand for incorporating net migration gains/losses into the estimated populations by five year period was

adopted. This method takes into account the changing age composition of the national population over the 50 year projection period when deriving estimates of the age composition of the net migration gains and losses.

- As a result of applying this method, the net gains per five year period grow from the 3,000 and 10,000 figures for 2001-2006, as the New Zealand population grows, and the age composition of the net migration gains and losses changes in accordance with the gradual ageing of the total population.
- The projected populations for the Western Bay SmartGrowth Region are derived by adding together the populations for the two Districts, as these have been estimated using the assumptions outlined above.

1.2 Populations

- The 2001-base population of the Western Bay SmartGrowth Region (June 2001) was 132,600 (93,300 in Tauranga District and 39,300 in Western Bay of Plenty District).
- By 2021 the Region's population had increased to 197,700 and thirty years later in 2051 was projected to be 284,100. This population is what we call the "modified medium" variant – a modification of the Statistics New Zealand's medium variant for their 2001-base projections.
- The Statistics New Zealand "High", "Medium" and "Low" projection variants for Tauranga District and for Western Bay of Plenty District give aggregate populations in 2051 of 303,800 ("high"), 250,400 ("medium") and 198,600 ("low").
- This Region has commonly had faster growth than that projected by Statistics New Zealand's "medium" variant assumptions, especially during the past 20 years. It is considered prudent therefore to assume that projected populations for the future will be higher than the Statistics New Zealand "medium" variant.
- The projected population of 284,100 used in the SmartGrowth project lies between Statistics NZ's "medium" (250,400) and "high" (303,800) variants. This is consistent with experience over the past 20 years.
- The age-sex compositions of the District and Region populations at five year intervals during the 50 year projection period are shown in Tables 1A, 1B and 1C in the first sheet of the attached spreadsheet "ProjectionsPop&LFRev.xls". It is clearly evident in these tables that the ageing of the Region's population is going to pose some significant challenges.
- A critical point to bear in mind about all of the projection variants (Stats NZ's "high", "medium" and "low", and our "modified medium" variant) is that net

migration adds far more to population growth each five years than natural increase. Migration is the main driver of population growth in the Smartgrowth Region, and its importance increases over time as natural increase slows with persistent low fertility.

2.0 The labour force projections

2.1 Assumptions

- The labour force projections are derived from the 2001-base population projections that produce the population of 284,100 in 2051. The projected labour force participation rates for the Western Bay of Plenty District and Tauranga District were provided by Statistics New Zealand to NZIER.
- These rates have not been applied before to the age-sex composition of the population for our “modified medium” variant population. The labour force projections contained in sheet two of the spreadsheet “ProjectionsPop&LFRev.xls” are therefore new estimates.
- The numbers estimated to be in the labour force for all age groups are higher in Table 2B than those produced by NZIER using Statistics New Zealand’s “medium” variant 1996-base population projections, even though the participation rates used are the same. This is because of the larger populations at each age group that are produced in our “modified medium” projection variant.
- The labour force participation rates relate to sub-national estimates prepared in the late 1990s – there are no 2001 estimates of labour force participation for projection purposes yet. These will be available around the middle of 2004.
- The projected participation rates supplied by Statistics New Zealand to NZIER for the Smartgrowth project (see sheet 3 in the attached spreadsheet “ProjectionsPop&LFRev.xls”) were applied to the populations for the two Districts, by age and sex, derived using the “modified medium” assumptions.
- The rates allow for some increase in participation by age for both males and females up to 2011 and are then held constant through the projection period. No allowance is made in these rates for any significant increase in participation at ages over 60 years as the population ages. In this sense they are quite conservative projections of the “third age” labour force.

2.2 Labour Force

- Estimates of the size of the labour force are derived from the population aged over 15 years. In June 2001 102,750 (77 per cent) of the total population of 132,600 were aged over 15 years (see Table 2A in “ProjectionsPop&LFRev.xls”).
- By 2021 it is estimated that the population aged 15+ in the Region will have grown to 162,380 (82 percent) out of a total population of 197,700. For 2051 the projections show the population over 15 years reaching 237, 660 (84 percent) out of a population of 284,100.
- After the labour force participation rates have been applied to these age groups, the population aged 15 years and over, the number of people in the labour force in June 2001 is estimated to be 63,960. This is just over 62 percent of the 102,750 residents aged 15 years and over.
- By 2021 the labour force is projected to have increased to just under 93,000. This comprises 57 percent of the population aged 15 and over. By 2051 the projected labour force is just around 124,000, or 52 percent of the estimated residents 15 years and older (237,660).
- The labour force, as a share of the population aged 15 and over falls as the population ages. However, as noted earlier, the projections produce a conservative estimate of the older labour force because no allowance is made for any increase in participation rates for the bulk of the projection period in the 1996-base Statistics New Zealand assumptions.

3.0 Household projections

3.1 Assumptions

- Projections of households in six broad categories were derived using the distributions of the population by age and sex across the different types of household in 2001, and applying these distributions to the age-sex compositions for the Region’s population at each 10 year period through to 2051.
- The same distributions of people in each age group across each household type are assumed for the entire projection period. These have been applied to the “modified medium” variant of the 1996-base population projections for the Western Bay.
- The distributions have also been applied to two variants of the 2001-base projections, but not yet the ones that use the 1996 net migration assumptions for Tauranga District on the 2001-base population. These are currently being

prepared – they will differ only slightly from the estimates of household types produced using the 1996-base population.

3.2 Households

- The 1996-base “medium variant” projections of households in the Smartgrowth Region show that the number of households in private dwellings was 48,768 in 2001. By 2021 these had increased to 79,668 and by 2051 the total was estimated to be around 118,600 (see the first table in the attached spreadsheet “HHProj1996&2001Summary.xls”. Increases were particularly significant in one person households and “couple families” (couples with no children in residence).
- The two variants of the 2001-base projections that have been used to estimate numbers of households are also shown in the attached spreadsheet – they use 2001 variants of net migration for Tauranga District: the “high” and the “medium” variants as these have been developed by Statistics New Zealand.
- The “modified medium” variant for the 2001-base projections for the Smartgrowth Region, using 1996 net migration assumptions for Tauranga District, will produce a total number of households that is closer to 110,000.

R.D. Bedford
31 August 2003

POPULATION PROJECTIONS

Prepared for Professor Dick Bedford
Ref No: C1231R5

TAURANGA DISTRICT

Table 1A Projected Resident Population by Age and Sex at 30 June 2006-2051; 2001 Base

Variant 3 Projection: Assuming Medium Fertility, Medium Mortality and Stats Medium Migration (1996)

Year	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+ All Ages	
Total																			
2001	6,620	6,750	6,930	6,150	4,610	5,420	6,350	6,850	6,720	6,120	5,690	4,730	4,390	4,060	4,220	3,660	2,320	1,650	93,300
2006	7,330	7,500	7,550	7,250	5,700	5,140	6,180	7,230	7,610	7,390	6,670	6,200	5,410	4,880	4,190	3,920	3,020	2,390	105,600
2011	7,420	8,170	8,280	7,890	6,750	6,230	5,850	7,020	8,000	8,350	8,000	7,270	7,030	5,980	5,020	3,960	3,330	3,380	117,900
2016	7,800	8,220	8,910	8,620	7,370	7,330	6,940	6,620	7,760	8,750	9,020	8,670	8,250	7,740	6,150	4,770	3,440	4,270	130,600
2021	8,510	8,590	8,930	9,230	8,110	7,980	8,100	7,710	7,310	8,470	9,440	9,760	9,750	9,100	7,950	5,870	4,170	4,980	143,900
2026	9,270	9,310	9,280	9,230	8,740	8,700	8,790	8,950	8,390	7,970	9,130	10,190	10,950	10,690	9,370	7,600	5,170	6,070	157,800
2031	9,880	10,080	10,020	9,580	8,750	8,300	9,490	9,680	9,690	9,050	8,580	9,840	11,390	11,970	10,970	8,970	6,690	7,450	171,400
2036	10,330	10,690	10,800	10,320	9,120	9,300	10,050	10,380	10,450	10,400	9,640	9,230	10,980	12,420	12,260	10,470	7,890	9,390	184,100
2041	10,710	11,120	11,410	11,110	9,850	9,640	10,010	10,880	11,110	11,190	11,040	10,290	11,960	12,700	11,700	9,200	11,430	12,500	195,600
2046	11,160	11,480	11,620	11,710	10,620	10,360	10,340	10,790	11,590	11,830	11,860	11,730	11,320	11,200	12,220	12,110	10,280	13,590	206,000
2051	11,750	11,910	12,150	12,110	11,230	11,160	11,080	11,100	11,480	12,280	12,480	12,580	12,840	12,190	11,440	11,650	10,640	15,650	215,700
Male																			
2001	3,420	3,540	3,470	3,130	2,300	2,540	3,000	3,230	3,170	2,910	2,750	2,270	1,980	1,850	1,980	1,650	900	540	44,600
2006	3,770	3,860	3,930	3,680	2,920	2,510	2,880	3,440	3,600	3,460	3,150	2,960	2,590	2,250	1,900	1,780	1,280	790	50,700
2011	3,610	4,180	4,250	4,160	3,450	3,150	2,830	3,300	3,810	3,920	3,720	3,390	3,360	2,900	2,290	1,750	1,440	1,210	56,900
2016	4,010	4,210	4,550	4,470	3,910	3,690	3,480	3,230	3,650	4,140	4,200	3,990	3,860	3,740	2,950	2,130	1,460	1,580	63,300
2021	4,380	4,400	4,560	4,760	4,230	4,170	4,060	3,880	3,560	3,960	4,420	4,500	4,510	4,320	3,810	2,750	1,800	1,850	69,900
2026	4,760	4,770	4,740	4,760	4,530	4,480	4,560	4,500	4,220	3,860	4,230	4,720	5,070	5,010	4,430	3,570	2,340	2,290	76,800
2031	5,080	5,170	5,120	4,940	4,540	4,770	4,850	5,020	4,670	4,520	4,110	4,520	5,280	5,600	5,110	4,190	3,300	2,920	83,600
2036	5,310	5,480	5,520	5,320	4,720	4,770	5,120	5,310	5,410	5,200	4,780	4,380	5,050	5,820	5,700	4,780	3,530	3,750	89,900
2041	5,500	5,700	5,830	5,730	5,100	4,940	5,100	5,550	5,690	5,750	5,480	5,040	4,880	5,560	5,900	5,330	4,600	4,550	95,700
2046	5,740	5,890	6,040	6,040	5,500	5,320	5,270	5,510	5,910	6,010	6,040	5,760	5,540	5,360	5,640	5,510	4,520	5,360	100,900
2051	6,040	6,110	6,220	6,240	5,810	5,720	5,650	5,670	5,850	6,220	6,290	6,330	6,300	6,010	5,430	5,260	4,670	6,110	105,900
Female																			
2001	3,200	3,210	3,460	3,020	2,320	2,880	3,350	3,620	3,560	3,210	2,940	2,460	2,410	2,210	2,240	2,010	1,420	1,110	48,600
2006	3,560	3,640	3,620	3,570	2,780	2,630	3,310	3,790	4,010	3,930	3,530	3,240	2,810	2,640	2,290	2,140	1,740	1,600	54,800
2011	3,610	3,980	4,040	3,730	3,300	3,080	3,010	3,720	4,190	4,430	4,280	3,880	3,670	3,090	2,720	2,210	1,890	2,170	61,000
2016	3,790	4,010	4,360	4,150	3,450	3,640	3,460	3,390	4,110	4,610	4,620	4,670	4,390	4,000	3,200	2,640	1,980	2,690	67,400
2021	4,140	4,180	4,370	4,470	3,860	3,810	4,040	3,830	3,740	4,510	5,020	5,260	5,240	4,780	4,140	3,110	2,370	3,130	74,000
2026	4,500	4,540	4,540	4,470	4,210	4,220	4,230	4,450	4,170	4,110	4,890	5,470	5,880	5,680	4,950	4,040	2,830	3,780	81,000
2031	4,800	4,910	4,900	4,640	4,220	4,530	4,640	4,660	4,810	4,530	4,460	4,520	6,110	6,370	5,850	4,820	3,650	4,530	87,800
2036	5,020	5,210	5,280	5,000	4,390	4,530	4,930	5,050	5,040	5,200	4,870	4,850	5,930	6,610	6,560	5,690	4,360	5,650	94,200
2041	5,210	5,420	5,570	5,380	4,750	4,700	4,910	5,330	5,430	5,440	5,560	5,240	5,410	6,400	6,800	6,370	5,140	6,880	99,900
2046	5,430	5,590	5,770	5,680	5,130	5,060	5,070	5,280	5,680	5,820	5,820	5,970	5,780	5,840	6,580	6,600	5,760	8,240	105,100
2051	5,710	5,800	5,940	5,870	5,420	5,440	5,430	5,440	5,630	6,060	6,190	6,240	6,540	6,180	6,010	6,390	5,970	9,540	109,800

Note: Owing to rounding, individual figures do not always sum to the stated totals.

These projections were produced in November 2002.

Source: Statistics New Zealand

WESTERN BAY OF PLENTY DISTRICT

Table 1B Projected Resident Population by Age and Sex at 30 June 2006-2051; 2001 Base

Variant 1 Projection: Assuming Medium Fertility, Medium Mortality and Medium Migration

Year	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+ All Ages	
Total																			
2001	2,660	3,280	3,520	2,520	1,370	1,650	2,320	2,950	3,170	2,810	2,700	2,350	2,300	1,840	1,550	1,100	640	480	39,300
2006	2,620	3,130	3,660	3,160	1,620	1,510	1,120	2,810	3,280	3,460	3,100	3,030	2,590	2,350	1,750	1,350	880	660	43,100
2011	2,600	3,070	3,460	3,270	2,150	1,760	1,950	2,590	3,150	3,610	3,790	3,430	3,320	2,660	2,250	1,540	1,100	950	46,700
2016	2,700	3,030	3,420	3,120	2,220	2,300	2,200	2,380	2,910	3,480	3,970	4,150	3,780	3,420	2,560	2,010	1,280	1,300	50,200
2021	2,870	3,120	3,360	3,060	2,090	2,360	2,780	2,630	2,690	3,230	3,850	4,370	4,530	3,900	3,300	2,300	1,680	1,660	53,800
2026	2,980	3,300	3,440	3,020	2,080	2,240	2,880	3,250	2,940	2,980	3,590	4,270	4,800	4,660	3,790	2,990	1,950	2,210	57,400
2031	3,020	3,420	3,630	3,110	2,080	2,230	2,730	3,370	3,580	3,230	3,310	3,980	4,710	4,960	4,520	3,430	2,530	2,710	60,500
2036	3,030	3,450	3,760	3,290	2,190	2,220	2,690	3,220	3,720	3,900	3,560	3,680	4,400	4,870	4,810	4,090	2,900	3,420	63,200
2041	3,070	3,450	3,790	3,410	2,350	2,320	2,660	3,150	3,550	4,050	4,250	3,930	4,070	4,560	4,740	4,360	3,470	4,100	65,300
2046	3,150	3,480	3,780	3,440	2,460	2,460	2,760	3,100	3,480	3,880	4,420	4,650	4,320	4,220	4,440	4,290	3,700	4,900	67,000
2051	3,250	3,550	3,800	3,440	2,490	2,600	2,930	3,190	3,410	3,790	4,250	4,830	5,060	4,460	4,110	4,020	3,640	5,530	68,400
Male																			
2001	1,370	1,730	1,790	1,290	750	800	1,080	1,390	1,540	1,420	1,380	1,190	1,110	980	800	530	290	170	19,600
2006	1,340	1,590	1,940	1,640	850	750	1,000	1,320	1,560	1,680	1,570	1,520	1,330	1,170	910	670	390	250	21,500
2011	1,330	1,550	1,800	1,780	1,130	850	940	1,220	1,500	1,710	1,840	1,720	1,690	1,400	1,090	770	510	370	23,200
2016	1,380	1,530	1,750	1,630	1,250	1,140	1,050	1,160	1,390	1,660	1,900	2,020	1,940	1,780	1,320	950	610	530	25,000
2021	1,470	1,580	1,720	1,600	1,120	1,250	1,350	1,270	1,310	1,540	1,840	2,090	2,250	2,050	1,690	1,160	750	690	26,700
2026	1,530	1,670	1,760	1,570	1,110	1,120	1,480	1,590	1,430	1,460	1,720	2,040	2,350	2,380	1,950	1,490	940	900	28,500
2031	1,550	1,740	1,860	1,620	1,110	1,110	1,340	1,730	1,770	1,580	1,630	1,910	2,300	2,490	2,260	1,730	1,210	1,130	30,100
2036	1,550	1,750	1,930	1,710	1,160	1,110	1,320	1,590	1,920	1,930	1,750	1,800	2,160	2,450	2,380	2,000	1,390	1,450	31,300
2041	1,570	1,750	1,940	1,780	1,250	1,170	1,310	1,560	1,770	2,080	2,110	1,930	2,040	2,300	2,340	2,100	1,610	1,740	32,300
2046	1,610	1,770	1,940	1,790	1,300	1,250	1,360	1,530	1,730	1,940	2,280	2,310	2,170	2,180	2,200	2,060	1,690	2,050	33,200
2051	1,670	1,800	1,950	1,790	1,320	1,300	1,450	1,580	1,700	1,880	2,130	2,480	2,570	2,300	2,080	1,940	1,670	2,270	33,900
Female																			
2001	1,290	1,550	1,730	1,230	620	850	1,230	1,560	1,630	1,390	1,380	1,160	1,190	860	750	570	350	310	19,600
2006	1,280	1,540	1,710	1,520	780	760	1,120	1,480	1,720	1,780	1,540	1,520	1,250	1,180	840	670	480	410	21,600
2011	1,270	1,520	1,700	1,460	1,020	910	1,010	1,360	1,650	1,890	1,940	1,700	1,630	1,260	1,150	770	580	580	23,400
2016	1,310	1,490	1,670	1,480	970	1,170	1,150	1,230	1,520	1,830	2,070	2,130	1,840	1,630	1,240	1,060	670	770	25,200
2021	1,400	1,540	1,640	1,460	970	1,120	1,430	1,370	1,370	1,690	2,010	2,280	2,280	1,850	1,610	1,150	930	970	27,100
2026	1,450	1,620	1,680	1,440	970	1,120	1,400	1,660	1,510	1,530	1,870	2,230	2,450	2,290	1,830	1,500	1,020	1,310	28,900
2031	1,470	1,680	1,770	1,490	970	1,110	1,390	1,640	1,810	1,660	1,690	2,080	2,410	2,460	2,260	1,700	1,330	1,570	30,500
2036	1,470	1,700	1,830	1,570	1,030	1,110	1,370	1,630	1,800	1,970	1,810	1,880	2,250	2,420	2,440	2,100	1,510	1,970	31,900
2041	1,490	1,700	1,850	1,630	1,110	1,160	1,350	1,600	1,780	1,970	2,140	2,000	2,030	2,260	2,400	2,260	1,860	2,360	32,900
2046	1,530	1,710	1,840	1,650	1,160	1,240	1,400	1,570	1,750	1,950	2,140	2,340	2,150	2,050	2,240	2,230	2,000	2,850	33,800
2051	1,580	1,750	1,850	1,650	1,170	1,290	1,480	1,610	1,710	1,910	2,120	2,350	2,490	2,160	2,030	2,080	1,980	3,260	34,500

Note: Owing to rounding, individual figures do not always sum to the stated totals.

These projections were produced in November 2002.

WESTERN BAY OF PLENTY REGION (SMARTGROWTH REGION)

Table 1C Projected Resident Population by Age and Sex at 30 June 2006-2051; 2001 Base

Variant 3 Projection: Assuming Medium Fertility, Medium Mortality and Stats Medium Migration (1995 Tpa; 2001 WBPD)

Year	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+ All Ages	
Total																			
2001	9,280	10,030	10,450	8,670	5,980	7,070	8,670	9,830	9,890	8,530	8,450	7,080	6,690	5,900	5,770	4,760	2,960	2,130	132,600
2006	9,950	10,630	11,210	10,410	7,320	6,650	8,300	10,040	10,890	10,850	9,770	9,230	8,000	7,230	5,940	5,270	3,900	3,050	148,700
2011	10,020	11,240	11,770	11,160	8,900	7,990	7,800	9,610	11,150	11,980	11,790	10,700	10,350	8,640	7,270	5,500	4,430	4,330	164,600
2016	10,500	11,250	12,330	11,740	9,590	9,630	9,140	9,000	10,670	12,230	12,990	12,820	12,030	11,160	8,710	6,780	4,720	5,570	180,800
2021	11,380	11,710	12,290	12,290	10,200	10,360	10,880	10,340	10,000	11,700	13,290	14,130	14,280	13,000	11,250	8,170	5,850	6,640	197,700
2026	12,250	12,610	12,720	12,250	10,820	10,940	11,670	12,200	11,330	10,950	12,720	14,460	15,750	15,350	13,160	10,590	7,120	8,280	215,200
2031	12,900	13,500	13,650	12,690	10,840	11,530	12,220	13,050	13,270	12,280	11,890	13,820	16,100	16,930	15,490	12,400	9,220	10,160	231,900
2036	13,360	14,140	14,560	13,610	11,310	11,520	12,740	13,580	14,170	14,300	13,200	12,910	15,380	17,290	17,070	14,560	10,790	12,810	247,300
2041	13,780	14,570	15,200	14,520	12,200	11,960	12,670	14,030	14,650	15,240	15,290	14,220	14,360	16,520	17,440	16,060	12,670	15,530	260,900
2046	14,310	14,960	15,600	15,150	13,080	12,870	13,100	13,890	15,070	15,710	16,280	16,380	15,640	15,420	16,680	16,400	13,980	16,490	273,000
2051	15,000	15,460	15,950	15,550	13,720	13,760	14,010	14,290	14,890	16,070	16,730	17,410	17,900	16,650	15,550	15,670	14,280	21,180	284,100
Male																			
2001	4,790	5,270	5,260	4,420	3,050	3,340	4,080	4,620	4,710	4,330	4,130	3,480	3,090	2,830	2,780	2,180	1,160	710	64,200
2006	5,110	5,450	5,870	5,320	3,770	3,260	3,880	4,760	5,160	5,140	4,720	4,480	3,920	3,420	2,810	2,450	1,670	1,040	72,200
2011	5,140	5,730	6,050	5,940	4,580	4,000	3,770	4,520	5,310	5,630	5,560	5,110	5,050	4,300	3,800	2,520	1,950	1,580	80,100
2016	5,390	5,740	6,300	6,100	5,160	4,830	4,530	4,390	5,040	5,800	6,100	6,010	5,800	5,520	4,270	3,080	2,070	2,110	88,300
2021	5,950	5,980	6,280	6,360	5,350	5,420	5,410	5,150	4,870	5,500	6,280	6,590	6,760	6,370	5,500	3,910	2,550	2,540	96,600
2026	6,290	6,440	6,500	6,330	5,640	5,600	6,040	6,090	5,650	5,320	5,950	6,760	7,420	7,390	6,380	5,060	3,280	3,190	105,300
2031	6,630	6,910	6,980	6,560	5,650	5,880	6,190	6,750	6,640	6,100	5,740	6,430	7,580	8,090	7,370	5,880	4,240	4,050	113,700
2036	6,860	7,230	7,450	7,030	5,880	5,880	6,440	6,900	7,330	7,130	6,530	6,180	7,210	8,270	8,080	6,780	4,920	5,200	121,200
2041	7,070	7,450	7,770	7,510	6,350	6,110	6,410	7,110	7,460	7,830	7,590	6,970	6,920	7,880	8,240	7,430	5,670	6,290	128,000
2046	7,350	7,660	7,980	7,800	6,800	6,570	6,630	7,040	7,640	7,950	8,320	8,070	7,710	7,540	7,840	7,570	6,210	7,410	134,100
2051	7,710	7,910	8,170	8,030	7,130	7,020	7,100	7,250	7,550	8,100	8,420	8,810	8,870	8,310	7,510	7,200	6,340	8,380	139,800
Female																			
2001	4,490	4,760	5,190	4,250	2,940	3,730	4,590	5,180	5,190	4,600	4,320	3,600	3,600	3,070	2,990	2,580	1,770	1,420	68,200
2006	4,840	5,180	5,330	5,090	3,950	3,390	4,430	5,270	5,730	5,710	5,070	4,760	4,060	3,820	3,130	2,810	2,220	2,010	76,400
2011	4,880	5,500	5,740	5,220	4,320	3,990	4,020	5,080	5,840	6,320	6,220	5,580	5,300	4,350	3,870	2,980	2,470	2,750	84,400
2016	5,100	5,500	6,030	5,630	4,420	4,810	4,610	4,620	5,630	6,440	6,890	6,800	6,230	5,630	4,440	3,700	2,650	3,460	92,600
2021	5,540	5,720	6,010	5,930	4,850	4,930	5,470	5,200	5,110	6,200	7,030	7,540	7,520	6,630	5,750	4,260	3,300	4,100	101,100
2026	5,950	6,160	6,220	5,910	5,180	5,340	5,630	6,110	5,580	5,640	6,760	7,700	8,330	7,970	6,780	5,540	3,850	5,090	109,900
2031	6,270	6,590	6,670	6,130	5,190	5,640	6,030	6,300	6,620	6,190	6,150	7,400	8,520	8,830	8,110	6,520	4,980	6,100	118,300
2036	6,490	6,910	7,110	6,570	5,420	5,640	6,300	6,680	6,840	7,170	6,680	6,730	8,180	9,030	9,000	7,790	5,870	7,820	126,100
2041	6,700	7,120	7,420	7,010	5,860	5,860	6,260	6,930	7,210	7,410	7,700	7,240	7,440	8,660	9,000	8,630	7,000	9,240	132,800
2046	6,960	7,300	7,610	7,330	6,290	6,300	6,470	6,850	7,430	7,770	7,960	8,310	7,930	7,890	8,820	8,830	7,760	11,090	138,900
2051	7,290	7,550	7,790	7,520	6,590	6,730	6,910	7,050	7,340	7,970	8,310	8,590	9,030	8,340	8,040	8,470	7,950	12,800	144,300

Note: Owing to rounding, individual figures do not always sum to the stated totals.

These projections were produced in November 2002.

LABOUR FORCE PROJECTIONS

Population Projections
Prepared for Professor Dick Bedford
Ref No: C12381RS

WESTERN BAY OF PLENTY REGION (SMARTGROWTH REGION)

Table 2A Projected Resident Population 15 Years + by Age and Sex at 30 June 2006-2051; 2001 Base

Variant 3 Projection: Assuming Medium Fertility, Medium Mortality and Stats Medium Migration (1996 Tga; 2001 WBPD)

Year	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+	Pop 15+
Total															
2001	8,670	5,980	7,070	8,670	9,800	9,890	8,930	8,450	7,080	6,690	5,900	5,770	4,760	5,090	102,750
2006	10,410	7,320	6,650	8,300	10,040	10,890	10,850	9,770	9,230	8,000	7,230	5,940	5,270	6,950	116,850
2011	11,160	8,900	7,990	7,800	9,610	11,150	11,960	11,790	10,700	10,350	8,640	7,270	5,500	8,760	131,580
2016	11,740	9,590	9,630	9,140	9,000	10,670	12,230	12,990	12,820	12,030	11,160	8,710	6,780	10,290	146,780
2021	12,290	10,200	10,360	10,880	10,340	10,400	11,700	13,290	14,130	14,280	13,000	11,250	8,170	12,490	162,380
2026	12,250	10,820	10,940	11,670	12,200	11,330	10,950	12,720	14,460	15,750	15,350	13,160	10,590	15,400	177,590
2031	12,690	10,840	11,530	12,220	13,050	13,270	12,280	11,890	13,820	16,100	16,930	15,490	12,400	19,380	191,890
2036	13,610	11,310	11,520	12,740	13,580	14,170	14,300	13,200	12,910	15,380	17,290	17,070	14,560	23,600	205,240
2041	14,520	12,200	11,960	12,670	14,030	14,660	15,290	14,220	14,360	16,520	17,440	16,060	28,200		217,370
2046	15,150	13,080	12,870	13,100	13,890	15,070	15,710	16,280	16,380	15,640	15,420	16,660	16,400	32,470	228,120
2051	15,550	13,720	13,760	14,010	14,290	14,890	16,070	16,730	17,410	17,900	16,650	15,550	15,670	35,460	237,660
Male															
2001	4,420	3,050	3,340	4,080	4,620	4,710	4,330	4,130	3,460	3,090	2,830	2,780	2,180	1,900	48,920
2006	5,320	3,770	3,260	3,880	4,760	5,160	5,140	4,720	4,480	3,920	3,420	2,810	2,450	2,710	55,600
2011	5,940	4,580	4,000	3,770	4,520	5,310	5,630	5,560	5,110	5,050	4,300	3,380	2,520	3,530	63,200
2016	6,100	5,160	4,830	4,530	4,390	5,040	5,800	6,100	6,010	5,800	5,520	4,270	3,080	4,180	70,810
2021	6,360	5,350	5,420	5,410	5,150	5,480	5,500	6,260	6,590	6,760	6,370	5,150	3,910	5,090	78,540
2026	6,330	5,640	5,600	6,040	6,090	5,650	5,320	5,950	6,760	7,420	7,090	6,380	5,060	6,470	86,100
2031	6,560	5,650	5,880	6,190	6,750	6,640	6,100	5,740	6,430	7,580	8,390	7,370	5,880	8,290	93,150
2036	7,030	5,880	5,880	6,440	6,900	7,330	7,130	6,530	6,180	7,210	8,270	8,080	6,780	10,120	99,760
2041	7,510	6,350	6,110	6,410	7,110	7,460	7,830	7,590	6,970	6,920	7,860	8,240	7,430	11,960	105,750
2046	7,830	6,800	6,570	6,630	7,040	7,640	7,950	8,320	8,070	7,710	7,540	7,840	7,570	13,620	111,130
2051	8,030	7,130	7,020	7,100	7,250	7,550	8,100	8,420	8,810	8,870	8,310	7,510	7,200	14,720	116,020
Female															
2001	4,250	2,940	3,730	4,590	5,180	5,190	4,600	4,320	3,620	3,600	3,070	2,990	2,580	3,190	53,840
2006	5,090	3,560	3,390	4,430	5,270	5,730	5,710	5,070	4,760	4,060	3,820	3,130	2,810	4,230	61,060
2011	5,220	4,320	3,990	4,020	5,080	5,840	6,320	6,220	5,580	5,300	4,350	3,870	2,980	5,220	68,310
2016	5,630	4,420	4,810	4,610	4,620	5,630	6,440	6,890	6,800	6,230	5,630	4,440	3,700	6,110	75,960
2021	5,930	4,850	4,930	5,470	5,200	5,110	6,200	7,030	7,540	7,520	6,630	5,750	4,260	7,400	83,620
2026	5,910	5,180	5,340	5,630	6,110	5,680	5,640	6,780	7,700	8,330	7,970	6,780	5,540	8,940	91,510
2031	6,130	5,190	5,640	6,030	6,300	6,620	6,190	6,150	7,400	8,520	8,830	8,110	6,520	11,080	98,710
2036	6,570	5,420	5,640	6,300	6,680	6,840	7,170	6,680	6,730	8,180	9,030	9,000	7,790	13,490	105,520
2041	7,010	5,860	5,860	6,260	6,930	7,210	7,410	7,700	7,240	7,440	8,660	9,200	8,630	16,240	111,650
2046	7,330	6,290	6,300	6,470	6,850	7,430	7,770	7,960	8,310	7,930	7,890	8,820	8,830	18,850	117,030
2051	7,520	6,590	6,730	6,910	7,050	7,340	7,970	8,310	8,590	9,030	8,340	8,040	8,470	20,750	121,640

WESTERN BAY OF PLENTY REGION (SMARTGROWTH REGION)

Table 2B

Projected Resident Labour Force by Age and Sex at 30 June 2006-2051; 2001 Base

Variant 3 Projection: Assuming Medium Fertility, Medium Mortality and Stats Medium Migration (1996 Tga; 2001 WBPD)

Year	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+	Pop 15+
	Total														
2001	5,840	4,975	5,600	6,847	8,093	8,408	7,734	7,088	4,939	2,805	885	440	207	97	63,960
2006	7,145	6,050	5,318	6,603	8,273	9,204	9,397	8,332	6,613	3,579	1,158	467	238	127	72,505
2011	7,800	7,316	6,419	6,230	7,910	9,402	10,353	10,070	7,722	4,718	1,400	581	253	159	80,333
2016	8,224	7,916	7,737	7,329	7,448	8,991	10,604	11,096	9,234	5,453	1,799	704	313	192	87,042
2021	8,637	8,419	8,358	8,728	8,572	8,429	10,131	11,348	10,166	6,460	2,082	908	383	237	92,858
2026	8,605	8,934	8,821	9,404	10,110	9,584	9,503	10,847	10,394	7,084	2,451	1,054	496	298	97,586
2031	8,923	8,951	9,292	9,822	10,853	11,221	10,667	10,163	9,926	7,204	2,668	1,233	577	379	101,879
2036	9,568	9,327	9,292	10,237	11,267	12,018	12,416	11,302	9,303	6,861	2,703	1,344	672	461	106,770
2041	10,226	10,078	9,654	10,182	11,642	12,425	13,249	13,089	10,271	6,431	2,566	1,358	730	547	112,447
2046	10,689	10,807	10,381	10,528	11,518	12,760	13,653	13,957	11,853	7,021	2,415	1,289	736	622	118,230
2051	10,974	11,333	11,094	11,261	11,858	12,607	13,953	14,321	12,635	8,064	2,610	1,214	699	671	123,294
	Male														
2001	3,094	2,756	3,022	3,669	4,252	4,286	3,951	3,752	2,828	1,657	592	320	153	65	34,399
2006	3,796	3,377	2,937	3,476	4,361	4,683	4,676	4,286	3,719	2,165	761	335	179	93	38,843
2011	4,309	4,086	3,600	3,372	4,134	4,814	5,116	5,047	4,270	2,807	954	409	191	121	43,229
2016	4,442	4,603	4,343	4,053	4,015	4,570	5,271	5,533	5,022	3,224	1,222	510	234	147	47,188
2021	4,640	4,774	4,874	4,839	4,708	4,416	4,998	5,674	5,503	3,756	1,409	656	293	181	50,722
2026	4,621	5,033	5,043	5,403	5,569	5,125	4,835	5,392	5,642	4,105	1,635	760	378	230	53,771
2031	4,789	5,042	5,298	5,538	6,172	6,021	5,544	5,200	5,366	4,179	1,772	879	439	294	56,535
2036	5,135	5,247	5,298	5,763	6,305	6,648	6,480	5,913	5,156	3,971	1,797	954	507	358	59,531
2041	5,489	5,667	5,505	5,736	6,495	6,768	7,117	6,875	5,812	3,807	1,703	964	547	423	62,908
2046	5,729	6,069	5,920	5,933	6,431	6,932	7,226	7,535	6,732	4,227	1,630	915	551	479	66,307
2051	5,879	6,363	6,327	6,353	6,623	6,851	7,363	7,619	7,348	4,873	1,780	873	522	514	69,290
	Female														
2001	2,747	2,218	2,579	3,178	3,841	4,122	3,784	3,337	2,111	1,148	292	120	54	32	29,561
2006	3,350	2,673	2,381	3,128	3,912	4,521	4,721	4,046	2,894	1,414	398	132	59	34	33,662
2011	3,491	3,230	2,819	2,858	3,775	4,588	5,237	5,024	3,452	1,911	446	172	63	38	37,104
2016	3,782	3,313	3,394	3,277	3,433	4,421	5,333	5,563	4,212	2,229	578	194	80	45	39,854
2021	3,996	3,646	3,483	3,889	3,864	4,013	5,132	5,674	4,662	2,705	673	251	91	56	42,136
2026	3,985	3,901	3,778	4,002	4,541	4,460	4,668	5,455	4,752	2,978	816	293	118	68	43,815
2031	4,134	3,908	3,994	4,284	4,681	5,199	5,123	4,962	4,561	3,024	896	354	138	85	45,344
2036	4,434	4,080	3,994	4,475	4,962	5,370	5,936	5,389	4,147	2,889	907	390	166	103	47,239
2041	4,737	4,411	4,149	4,446	5,146	5,657	6,132	6,214	4,459	2,624	863	394	182	124	49,539
2046	4,960	4,739	4,461	4,595	5,087	5,828	6,427	6,422	5,122	2,794	786	375	185	143	51,922
2051	5,094	4,969	4,767	4,907	5,235	5,757	6,590	6,702	5,288	3,191	830	341	177	157	54,004