

Whangarei District Growth Model 2014

Approved by Council 24 September 2014

EXECUTIVE SUMMARY

In May 2014, Council approved the Interim Growth Model 2014. The Interim Growth Model utilised usually resident population figures and dwelling figures from the 2013 Census along with building consents to project future growth in the District. The usually resident population was 76,995 on 5 March 2013.

The Interim Growth Model was considered provisional, as Statistics NZ was still releasing significant information from the 2013 Census over the course of 2014. Because of the Long Term Plan, the Interim Growth Model was developed to assist with asset management plans and gain an understanding of demographic trends in the District since 2006.

The 2013 Census data was released at the meshblock level on 25 March 2014. On 22 August 2014, estimated resident population was released for the District at 30 June 2013. For this growth model we were able to obtain estimated resident populations to the meshblock level. The estimated resident population (at 30 June 2013) includes usually resident population, those residents overseas on census night, those missed by the census (net undercount), and the natural increase between census night and 30 June 2013. Since the estimated resident population was significantly higher than the usually resident population, it was determined that the Interim Growth Model be revised. The estimated resident population is considered by demographic experts to be the most accurate population count.

The Growth Model 2014 provides an analysis of possible growth scenarios for short, medium and long term for the household and business sectors. This information assists Council with asset management, strategic planning and the funding of growth. The Growth Model is an evolving representation of the District and is continuously updated as new information is received.

This report recommends that Council proceed with the medium projections for future growth.

Key Findings Include:

- Whangarei District's estimated resident population grew from 76,500 in 2006 to 83,700 in 2013. This resulted in an increase of 7,200 people, representing an average annual increase of 1,030 people or 1.34% per annum (9.41% over seven years).
- The medium projection for the District sees an increase from 83,700 people to 91,790 in 2023, resulting in an extra 8,090 people, averaging 810 additional people per year or 0.97% growth per annum.
- Total dwellings in the Whangarei District are forecast to increase from 35,340 in 2013 to 38,757 in 2023, resulting in an extra 3,417 dwellings, averaging 342 additional dwellings per year.
- The number of occupied dwellings are expected to increase from 30,204 in 2013 to 33,124 in 2023, resulting in an additional 2,920 occupied dwellings, averaging 292 occupied dwellings per year.
- The number of unoccupied dwellings is expected to increase from 5,136 in 2013 to 5,633 in 2023, resulting in an additional 497 unoccupied dwellings or 50 unoccupied dwellings per year.
- The highest increases in population between 2013-2023 are expected to be in Marsden Point/Ruakaka, Waipu, Horahora, Te Hihi and Tikipunga West.
- The total business floor area is expected to increase from 1,231,394 m² in 2013 to 1,348,576 m² in 2023, averaging 11,718 m² per annum.
- Scenarios have also been included for the Long Term Plan period 2015-2025 (3/10 years) and for the Asset Management period 2015-2045 (30 years)

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INTRODUCTION

The Growth Model has been prepared in order to assist the Whangarei District Council (WDC) in its future infrastructural planning work for the District, to determine growth in the rating base over time, and for establishing future levels of development contributions required to fund infrastructure. The Council wishes to incorporate these growth rates in its long-term community planning/annual planning process, so that they accurately reflect infrastructural development activity and funding needs within the District.

The 2013 Census data was released at the meshblock level on 25 March 2014. On 22 August 2014, estimated resident population was released for the District at 30 June 2013. For this Growth Model we were able to obtain estimated resident populations to the meshblock level.

In this Growth Model, we examine population projections using past building consents and comparing correlations with population and dwelling growth. The information has been presented with high, medium and low growth projections. Statistics NZ will not release projections for the 2013 base at the sub national (Whangarei District) level until February 2015. However, our medium projection in the Growth Model is between the Statistics NZ high and medium projections using the 2006 base data.

The population projections were designed to meet short to medium term planning needs (3-10 years), and longer asset management planning needs (over 30 years) but are not designed to be exact forecasts. These projections are based on a series of assumptions. Although the assumptions are carefully formulated to represent future trends, they are subject to uncertainty.

The population projections should not be confused with economic forecasts. The rise, stability or fall of the population does not directly relate to the social and economic vitality of an area. However, there is an historical correlation between the economic (business) cycle and population change.

The projections do not take into account non-demographic factors (such as war, catastrophes, major government and business decisions, climate change, natural hazards) which may affect the projections. The population trends are monitored regularly and, when necessary, the projections are revised to reflect new trends and to maintain their relevance and usefulness.

The methodology used in order to generate the growth model projections is described in relevant sections of this report. The main information sources have been:

- 1) Statistics New Zealand – Meshblock and Area Units Census Data.
- 2) Whangarei District Council Property Database – Building Consents, Building Floor Area, Land Use Codes and Valuations.
- 3) Whangarei District Council Operative District Plan – Planning Environments/Zones.
- 4) Land Information New Zealand – Parcel Boundaries.
- 5) Aerial Photography and SPOT Satellite Imagery.

ASSUMPTIONS

1. The areas used for statistical analyses are the 2013 Statistics New Zealand Meshblock and Area Unit Boundaries.
2. The LOW projections (2014-2023) for new dwellings and population are based on:
 - a. building consents granted for new dwellings from 2010, 2011, 2012, and 2013 - forecasted from 2014 – 2022.
 - b. number of people per dwelling as per the current area unit calculation of people per occupied dwelling (based on the 30 June 2013 estimated resident population).
 - c. 92% of building consents assumed to be built.¹
 - d. proportion of occupied dwellings in relation to total dwellings in the area unit (based on the 2013 Census).
3. The HIGH projections (2014-2023) for new dwellings and population are based on:
 - a. building consents forecasted for new dwellings from 2011, 2012 and 2013 - forecasted from 2014 - 2022.
 - b. number of people per dwelling as per the current area unit calculation of people per occupied dwelling (based on the 30 June 2013 estimated resident population).
 - c. 92% of building consents assumed to be built.
 - d. proportion of occupied dwellings in relation to total dwellings in the area unit (based on the 2013 Census).
4. The MEDIUM projections (2014-2023) for new dwellings and population for are based on:
 - a. the mean number of building consents between the high and the low projections.
 - b. number of people per dwelling as per the current area unit calculation of people per occupied dwelling (based on the 30 June 2013 estimated resident population).
 - c. 92% of building consents assumed to be built.
 - d. proportion of occupied dwellings in relation to total dwellings in the area unit (based on the 2013 Census).
5. The projections for new dwellings and population for 2024-2048 are based on a figure of 0.693% increase per annum (low), 0.925% increase per annum (medium) and 1.016% increase per annum (high), or the average growth per annum for each projection from 2014-2028.
6. The 2013 Business Floor Area is based on commercial building consents for new buildings between January 2006 and December 2012.
7. Projections for Business Floor Area for 2014-2023 are based on the population and dwelling increases for 2014-2023.

¹ 92% is the average number of building consents granted resulting in new dwellings being built from 1996-2012.

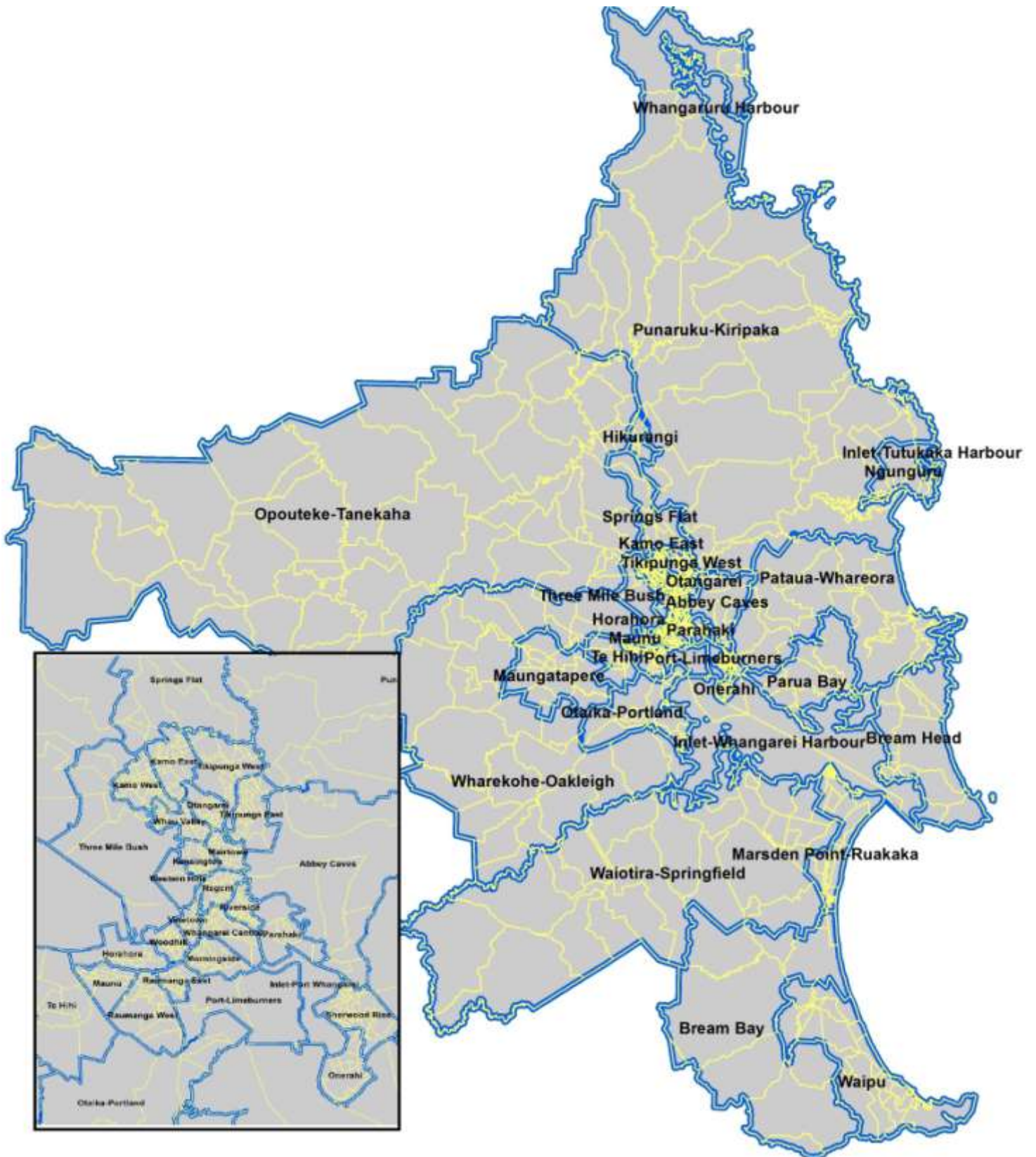


FIGURE 1 AREA UNITS AND MESHBLOCKS OF THE WHANGAREI DISTRICT

HOUSEHOLD COMPONENT

INTRODUCTION

The household component of the Growth Model was initially developed in 2005 using Statistics New Zealand Population Projections. In 2006, a new model was developed based on the 2005 model, the 2006 Census, current development trends, and Statistics New Zealand Population Projections using the cohort component method. This model was further refined to spread the rate of development in those rapid developing areas over a 35 year period. The model included three alternative series (low, medium and high), based on fertility, mortality and migration.

In 2014 a new approach was taken to improve the short term variability of the growth model. Normally, Statistics New Zealand data estimates for high, medium and low projections would be used, however, these will not be made available at the sub national level until February 2015.

EXPLANATION

Yearly growth projections for 2014-2023 at the area unit level were developed based on forecasting residential building consents granted.

Using building consents data, we can undertake a shorter term analysis of the growth in our District. Between 1996 and 2012, 9,394 building consents were granted for new dwellings. This does not include lapsed or cancelled building consents, and only building consents for new dwellings were counted (not relocations, alterations, new commercial builds, etc.). Over the last three Census periods, the District grew by a total of 8,631 dwellings (occupied and unoccupied). We have assumed that 92% of the consents granted are actually built, as this has been the average over the last 16 years.

ESTIMATED RESIDENT POPULATION

Since 1996, Statistics NZ has been calculating an estimated resident population (ERP). The ERP is an estimate of all the people who live in New Zealand at a given date. It is derived using the 'census usually resident population count' adjusted for net census undercount, residents temporarily overseas, births, deaths and migration between census night (5 March 2013) and the 30 June 2013 reference date.

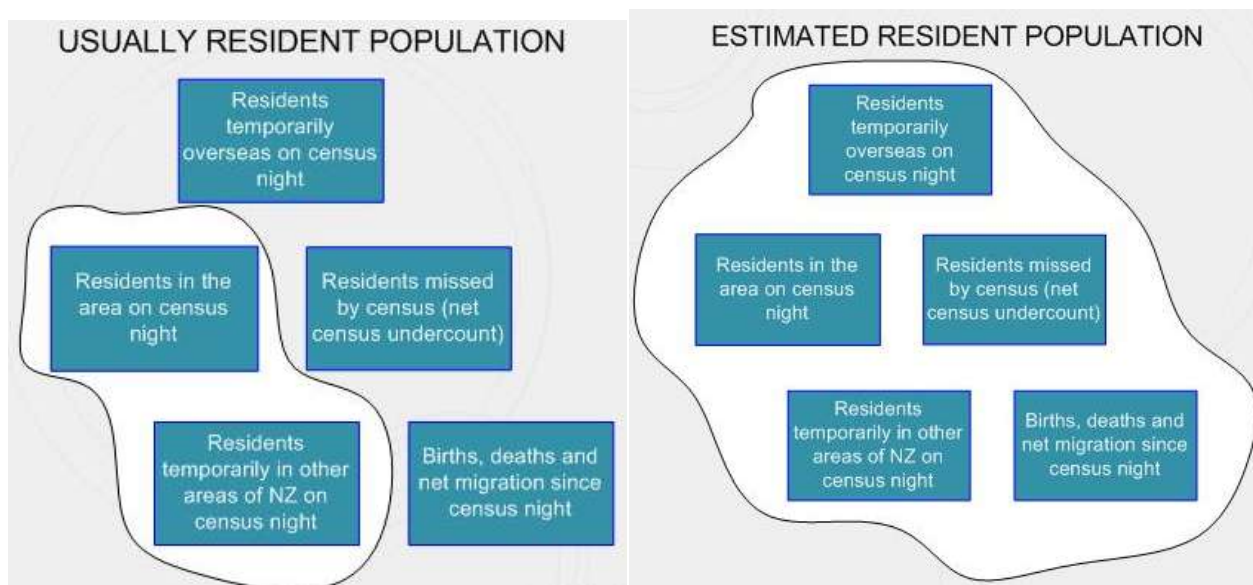


FIGURE 2 NATIONAL POPULATION MEASURES

ERP numbers have been higher than the usually resident population (URP) by about 2-3% in recent years. In 2013, the difference between the URP and the ERP was 6,700 people or 8.7%. This increase is partly due to a change in Statistics NZ methodology. For this Growth Model we were able to obtain estimated resident populations to the meshblock level. The ERP for the Whangarei District has been verified with births, deaths and migration, and confirmed by the University of Waikato as being reasonable.

In 2013, the ERP increased by 7,200 people or 1.34% per annum from 2006. When examining the 2006 growth projections produced by Statistics NZ, the 2013 ERP of 83,700 is following the high projection.

Census Year	URP	ERP	ERP Increase	% Increase	ERP Increase per annum	% Increase per annum
1996	66,747	68,400				
2001	68,094	70,000	1,600	2.34%	320	0.47%
2006	74,463	76,500	6,500	9.29%	1,300	1.86%
2013	76,995	83,700	7,200	9.41%	1,028	1.34%

TABLE 1 USUALLY RESIDENT AND ESTIMATED RESIDENT POPULATION COMPARISONS

CALCULATIONS

- 1) The District average for the number of occupied dwellings was 85.47% of total dwellings. This number varies for each area unit depending on the difference between occupied and unoccupied dwellings.
- 2) The number of people per dwelling was calculated using estimated resident population divided by the number of occupied dwellings (at the area unit level). The District average for people per dwelling used in this growth model is 2.77.
- 3) All building consents for new dwellings that were granted (not lapsed or cancelled) were used in the calculation (2010 to 2013).
- 4) The 2014-2023 projections assume that 92% of all building consents granted were built.²
- 5) The 2014 estimated population is based on a linear forecast of the total building consents granted for new dwellings from 2011, 2012, 2013 (note that the low projection also uses building consents granted for new dwellings in 2010). This value is multiplied by 92%, and then multiplied by the 2013 census percentage of occupied dwellings, multiplied by the average number of people per dwelling for that area unit, plus the 2013 population. The 2015-2023 population projections are based on this same equation.

2014 population = (0.92 x # of BCs2013 x % of occupied dwellings for that area unit [based on 2013 Census] x # of people per dwelling for that area unit) + 2013pop

2015 population = (0.92 x # of BCs2014 [forecasted from 2011, 2012, 2013] x % of occupied dwellings [based on 2013 Census] x # of people per dwelling for that area unit) + 2014pop

2016-2023 populations calculated as above

- 6) The 2024-2048 population projection is based on the average of the growth per annum for 2013-2023.

LOW, MEDIUM AND HIGH PROJECTIONS

It was suggested that a low, medium and high projection be produced for this growth model. All projections are based on building consents granted but are adjusted accordingly.

² 92% is the average number of building consents granted resulting in new dwellings being built from 1996-2012.

Whangarei District Growth Projections 2013-2048

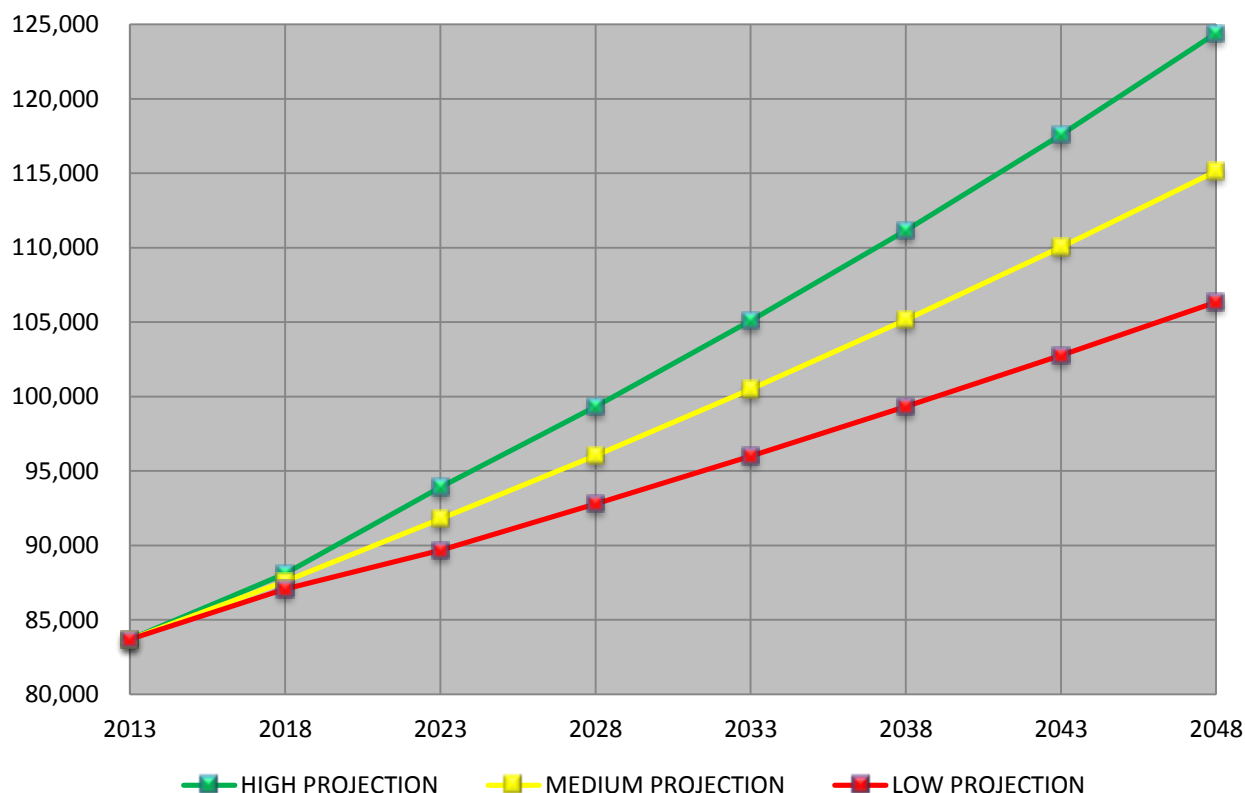


FIGURE 3 WHANGAREI DISTRICT GROWTH PROJECTIONS (ESTIMATED RESIDENT POPULATION) 2013-2048

HIGH PROJECTION

When forecasting building consents, trends are established. It was determined that in order to get a positive projection, the last three years of building consents (2011, 2012, 2013) were forecasted. By projecting building consents to 2022, we gather growth predictions to 2023. From 2023 onwards, the average of this growth (2013-2023) is used in a linear approach. This method provided a high projection, one that sees the growth of the Whangarei District averaging 1.2% per annum for 2013 to 2048.

HIGH PROJECTION			
YEAR	ESTIMATED RESIDENT POPULATION	INCREASE	% INCREASE PER ANNUM
2013	83,700		
2018	88,120	4,420	1.1%
2023	93,900	5,780	1.3%
2028	99,330	5,430	1.2%
2033	105,080	5,750	1.2%
2038	111,160	6,050	1.2%
2043	117,590	6,430	1.2%
2048	124,390	6,800	1.2%

TABLE 2 HIGH GROWTH PROJECTIONS 2013-2048

LOW PROJECTION

In order to calculate a low projection, the same method used for the high projection was utilised; however, those building consents granted in 2010 are included. In 2010, there were a higher amount of building consents granted than the next three years and with forecasting, this produced a lower projection. Using this method, we categorized the projection as being the low projection, one that sees the growth of Whangarei District averaging 0.7% per annum for 2013 to 2048.

LOW PROJECTION			
YEAR	ESTIMATED RESIDENT POPULATION	INCREASE	% INCREASE PER ANNUM
2013	83,700		
2018	87,070	3,370	0.8%
2023	89,680	2,610	0.6%
2028	92,790	3,110	0.7%
2033	96,000	3,210	0.7%
2038	99,330	3,330	0.7%
2043	102,770	3,440	0.7%
2048	106,340	3,570	0.7%

TABLE 3 LOW GROWTH PROJECTIONS 2013-2048

MEDIUM PROJECTION

In order to obtain a medium projection, the mean of the high and the low projections for the building consents forecasted was used. The medium growth projection for the Whangarei District is 0.9% per annum for 2013 to 2048.

MEDIUM PROJECTION			
YEAR	ESTIMATED RESIDENT POPULATION	INCREASE	% INCREASE PER ANNUM
2013	83,700		
2018	87,590	3,890	0.9%
2023	91,790	4,200	1.0%
2028	96,050	4,260	0.9%
2033	100,500	4,450	0.9%
2038	105,160	4,660	0.9%
2043	110,030	4,870	0.9%
2048	115,130	5,100	0.9%

TABLE 4 MEDIUM GROWTH PROJECTIONS 2013-2048

The areas of the District with the highest population increase over the 2014-2028 period are expected to be, in order, Marsden Point / Ruakaka, Waipu, Hora Hora, Te Hihi and Tikipunga West

The areas of the District that are expected to increase the least in population over the 2014-2028 period are expected to be, in order, Kamo West, Western Hills, Springs Flat and Onerahi.

DWELLING COUNTS

We have included a calculation for total dwelling counts and occupied dwelling counts. When using our building consent data to project dwellings, we assume that 92% of building consents granted will end up becoming dwellings – occupied or unoccupied. Through our calculations, at the area unit level, we are able to determine the ratio between occupied and unoccupied dwellings and therefore calculate a best estimate of the split between occupied and unoccupied dwellings for that area unit (unoccupied dwellings are normally holiday houses).

In the calculations, we also assume that the occupied dwelling counts will be a consistent percentage of total dwellings until 2048 in order to project the estimates.

YEAR	HIGH PROJECTION			MEDIUM PROJECTION			LOW PROJECTION		
	TOTAL	OCCUPIED	UNOCCUPIED	TOTAL	OCCUPIED	UNOCCUPIED	TOTAL	OCCUPIED	UNOCCUPIED
2013	35,340	30,204	5,136	35,340	30,204	5,136	35,340	30,204	5,136
2018	37,204	31,798	5,406	36,983	31,608	5,375	36,372	31,087	5,285
2023	39,647	33,886	5,761	38,757	33,124	5,633	37,866	32,364	5,502
2028	41,940	35,876	5,643	40,603	34,702	5,901	39,178	33,485	5,693
2033	44,366	37,919	6,447	42,538	36,355	6,182	40,536	34,646	5,890
2038	46,933	40,114	6,819	44,564	38,088	6,477	41,940	35,846	6,094
2043	49,648	42,434	7,214	46,687	39,902	6,785	43,393	37,088	6,305
2048	52,520	44,889	7,631	48,912	41,803	7,108	44,897	38,373	6,524

TABLE 5 PROJECTED DWELLING COUNTS FOR HIGH, MEDIUM AND LOW PROJECTIONS 2013-2048

Medium Projection Dwelling Comparisons 2013-2048

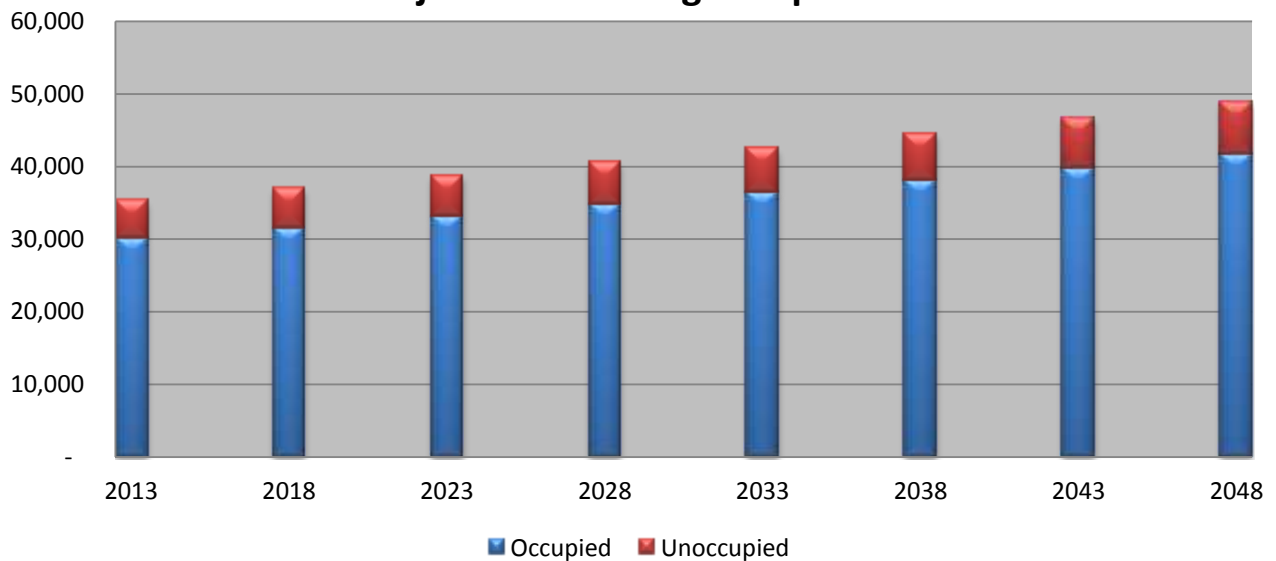


FIGURE 4 MEDIUM PROJECTION - DWELLING COMPARISONS 2013-2048

Based on the building consent data and the percentage of dwellings occupied for each area unit from the 2013 Census, we can estimate that the number of total dwellings in 2018 will be 36,983, an increase of 1,643 dwellings since 2013, and that 31,608 of these dwellings will be occupied. This calculation assumes that 85.47% of overall dwellings will be occupied in the District on the whole (as this was the result of the last Census and we continued with the most current trend). In 2023, we can estimate that the total number of dwellings will be 38,757, an increase of 1,774 dwellings since 2018 and that 33,124 of these dwellings will be occupied.

This results in an increase of 3,417 total dwellings over the 10 year period, an increase of 342 total dwellings per year.

RATABLE PROPERTIES COMPARISON

When comparing the total dwelling counts and the rateable properties, we can observe a correlation between the two as show in Figure 5. Between 1996 and 2001, a high correlation is observed, as with 2006-2013. The change in the rateable properties line between 2001-2006 is indicative of a change in the way properties were rated in 2002.

The values from the total dwelling estimates were then used to estimate the total rateable properties in the District at various years.

Rateable Properties and Total Dwellings

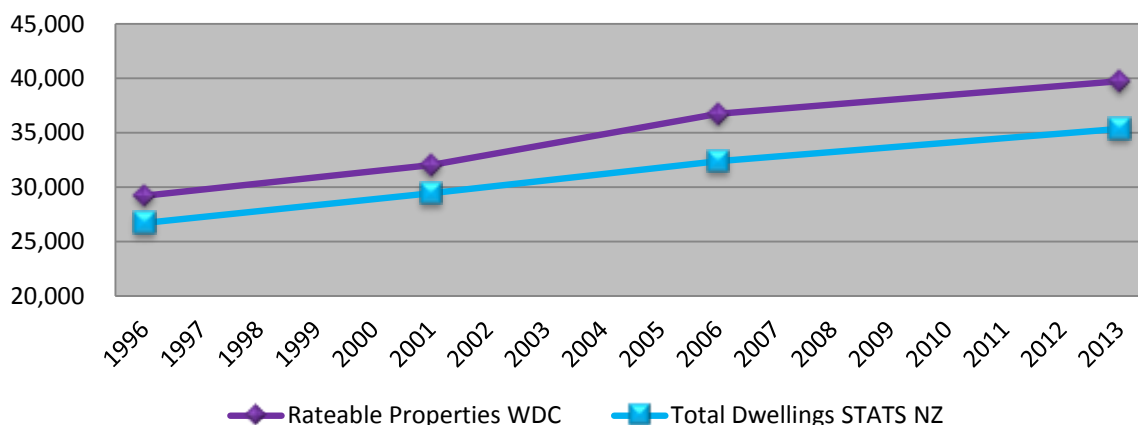


FIGURE 5 COMPARISON OF RATEABLE PROPERTIES AND TOTAL DWELLINGS 1996 – 2013 (MEDIUM PROJECTION)

YEAR	RATEABLE PROPERTIES WDC	TOTAL DWELLINGS MEDIUM PROJECTION
2013	39,218	35,340
2018	41,041	36,983
2023	43,010	38,757
2028	45,058	40,603
2033	47,206	42,538
2038	49,454	44,564
2043	51,810	46,687
2048	54,279	48,912

TABLE 6 RATEABLE PROPERTIES AND TOTAL DWELLINGS 2013-2048 - MEDIUM PROJECTION

BUSINESS COMPONENT

The Growth Model provides a projection of business floor area in the Whangarei District from 2013 to 2028 in square metres. Business consents from 2006 to 2012, added to the current business floor area of the District were used to determine the business floor area of the District for 2013.

In 2010 Interim Growth Model, National Labour Force Projections were used to forecast future business floor areas. These updated National Labour Force Projections are not available to inform a forecast for future business floor areas until the first quarter of 2015 – a date has not been published.

When comparing previous growth to the projected growth, there is a considerable difference. When observing the trends in the District, much of the new business development had happened in the last ten years. Many businesses weren't new, but had relocated to newly built space. It is anticipated that the vacancies in the District become occupied in the next ten years.

For this Growth Model, we have used the 2013 business floor areas and the projections of 0.70% per annum for a low projection, 0.93% per annum for a medium projection and 1.2% per annum for a high projection to formulate a best estimate, following the same growth projections as for population and dwellings. The total business floor areas for each period are illustrated in Figure 7. When using the medium projection, the total business floor area is projected to increase by 57,260m² by 2018 or 11,452 m² per annum. It is projected to increase a further 122,631 m² by 2028.

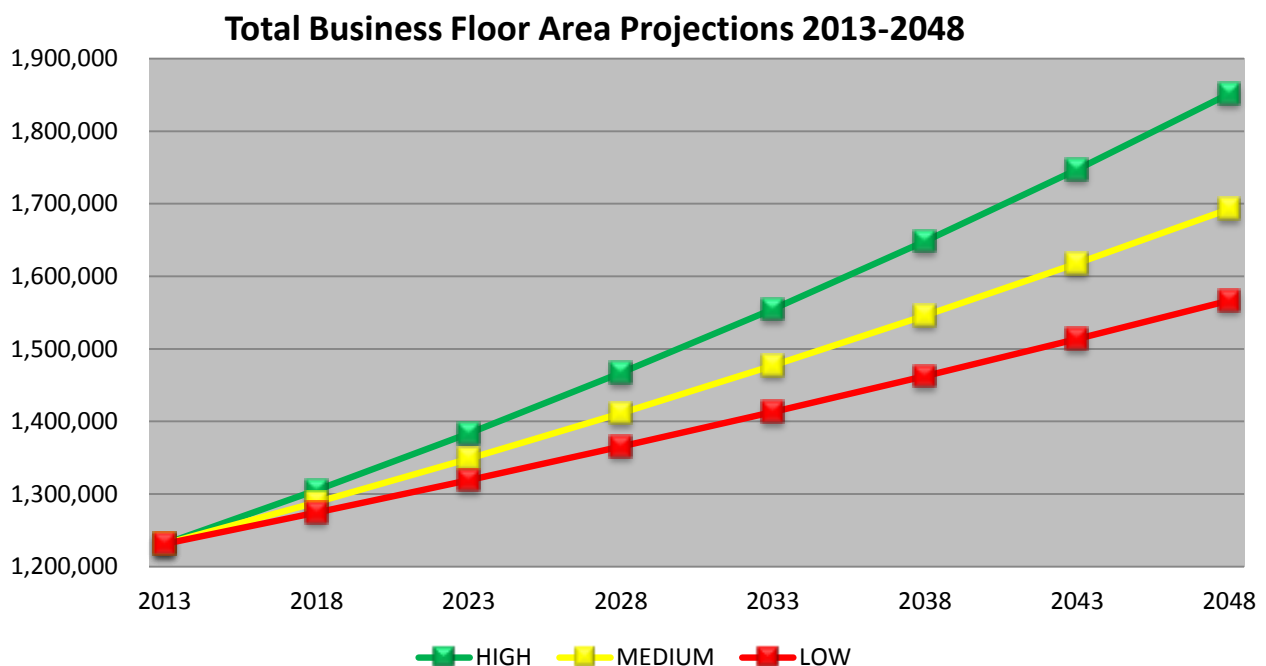


FIGURE 6 TOTAL BUSINESS FLOOR AREA - HIGH, MEDIUM AND LOW PROJECTIONS 2013-2028

YEAR	HIGH	MEDIUM	LOW
2013	1,231,394	1,231,394	1,231,394
2018	1,305,278	1,288,654	1,274,493
2023	1,383,594	1,348,576	1,319,100
2028	1,466,610	1,411,285	1,365,269
2033	1,554,607	1,476,910	1,413,053
2038	1,647,883	1,545,586	1,462,510
2043	1,746,756	1,617,456	1,513,698
2048	1,851,561	1,692,668	1,566,677

TABLE 7 TOTAL BUSINESS FLOOR AREA - HIGH, MEDIUM AND LOW PROJECTIONS 2013-2048

LONG TERM PLAN 2015-2025

The table below assists with planning for the LTP period (3-10 years) using the recommended medium projection. Estimated Resident Population, Total Dwelling Figures, Rateable Properties and Business Floor Area were projected for the specific years for the District on the whole.

MEDIUM PROJECTION	2015	2016	2017	2018	2025
Population	85,230	86,000	86,790	87,590	93,490
Total Dwellings	35,985	36,310	36,645	36,985	39,475
Rateable Properties	39,934	40,294	40,666	41,043	43,806
Business Floor Area	1,253,800	1,265,220	1,276,860	1,288,650	1,375,210
	2015-2016	2016-2017	2017-2018	2015-2025	2015-2025 Per Annum Average
Population Increase	770	790	800	8,260	826
% Increase in Population	0.90%	0.92%	0.93%	9.70%	0.97%
	2015-2016	2016-2017	2017-2018	2015-2025	2015-2025 Per Annum Average
Total Dwelling Increase	325	335	340	3,490	349
% Increase Total Dwellings	0.90%	0.92%	0.93%	9.70%	0.97%
	2015-2016	2016-2017	2017-2018	2015-2025	2015-2025 Per Annum Average
Rateable Properties Increase	360	372	377	3,872	387
% Increase Rateable Properties	0.90%	0.92%	0.93%	9.70%	0.97%
	2015-2016	2016-2017	2017-2018	2015-2025	2015-2025 Per Annum Average
Business Floor Area Increase	11,420	11,640	11,790	121,410	12,141
% Increase in Business Floor Area	0.90%	0.92%	0.93%	9.70%	0.97%

TABLE 8 MEDIUM PROJECTION - ESTIMATED RESIDENT POPULATION, TOTAL DWELLINGS, RATEABLE PROPERTIES AND BUSINESS FLOOR AREA FIGURES 2015 -2025³

³ The years portrayed are for the calendar year not the financial year.

Estimated Resident Population, Rateable Properties and Total Dwelling Growth 2015-2045

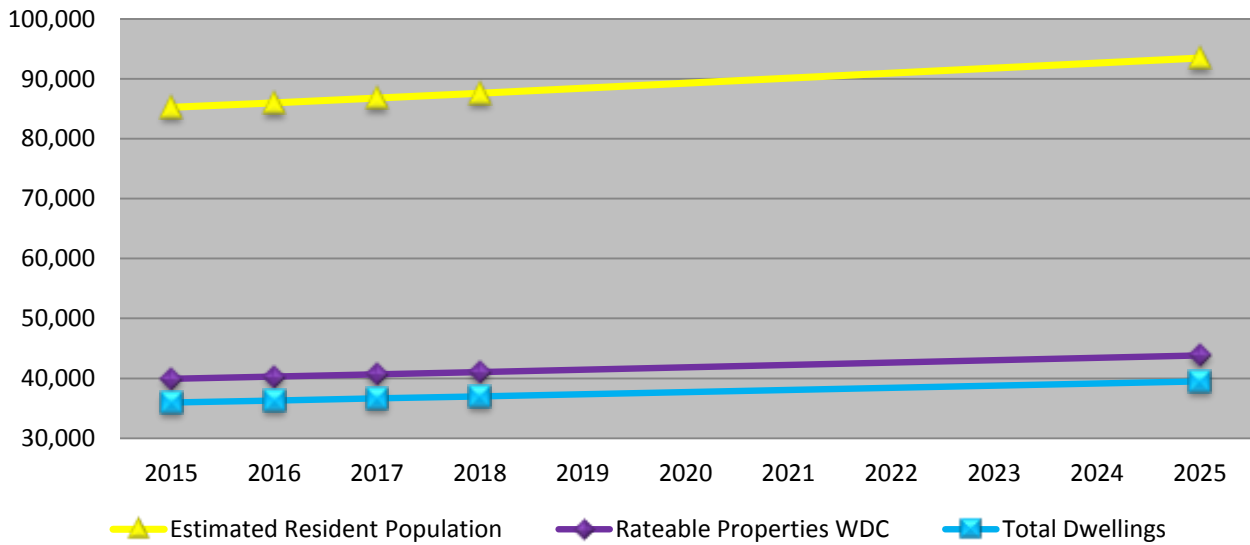


FIGURE 7 MEDIUM PROJECTION - ESTIMATED RESIDENT POPULATION, RATEABLE PROPERTIES, AND TOTAL DWELLING GROWTH 2015-2025

ASSET MANAGEMENT PLANS 2015-2045

MEDIUM PROJECTION	2015	2020	2025	2030	2035	2040	2045
Population	85,230	89,230	93,490	97,820	102,340	107,080	112,030
Total Dwellings	35,985	37,675	39,475	41,300	43,210	45,210	47,300
Rateable Properties	39,935	41,810	43,805	45,830	47,950	50,170	52,490
Business Floor Area	1,253,800	1,312,600	1,375,210	1,438,890	1,505,510	1,575,210	1,648,150
		2015-2020	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045
Population Increase		4,000	4,260	4,330	4,520	4,740	4,950
% Increase in Population		4.69%	4.77%	4.63%	4.63%	4.63%	4.63%
% Increase in Population pa		0.94%	0.95%	0.93%	0.93%	0.93%	0.93%
		2015-2020	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045
Total Dwelling Increase		1,690	1,800	1,825	1,910	2,000	2,090
% Increase Total Dwellings		4.69%	4.77%	4.63%	4.63%	4.63%	4.63%
% Increase Total Dwellings pa		0.94%	0.95%	0.93%	0.93%	0.93%	0.93%
		2015-2020	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045
Rateable Properties Increase		1,875	1,995	2,025	2,120	2,220	2,320
% Increase Rateable Properties		4.69%	4.77%	4.63%	4.63%	4.63%	4.63%
% Increase Rateable Properties pa		0.94%	0.95%	0.93%	0.93%	0.93%	0.93%
		2015-2020	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045
BFA Increase		58,800	62,610	63,670	66,620	69,700	72,940
% Increase in BFA		4.69%	4.77%	4.63%	4.63%	4.63%	4.63%
% Increase BFA pa		0.94%	0.95%	0.93%	0.93%	0.93%	0.93%

TABLE 9 MEDIUM PROJECTION - ESTIMATED RESIDENT POPULATION, TOTAL DWELLINGS, RATEABLE PROPERTIES, AND BUSINESS FLOOR AREA FIGURES 2015 -2045⁴

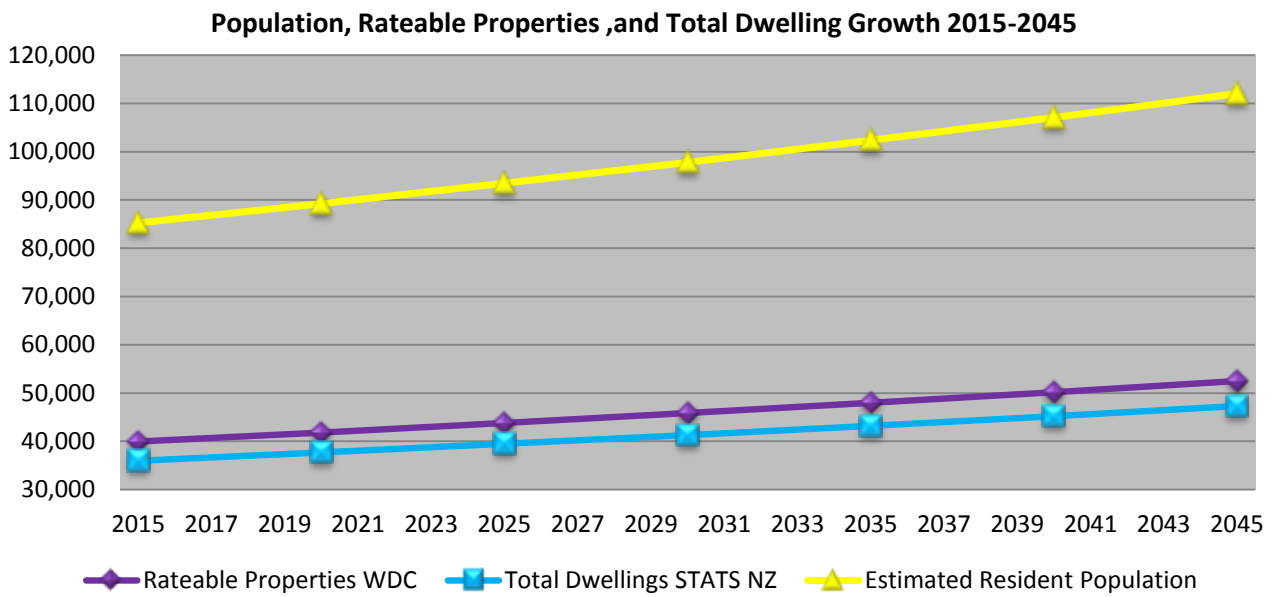


FIGURE 9 MEDIUM PROJECTION - ESTIMATED RESIDENT POPULATION, RATEABLE PROPERTIES, AND TOTAL DWELLING GROWTH 2015-2045

⁴ The years portrayed are for the calendar year not the financial year.

SUMMARY

Total	2001	2006	2013	2018	2023
Population	70,000	76,500	83,700	87,590	91,790
Total Dwellings	29,388	32,202	35,340	36,985	38,760
Rateable Properties	32,020	36,715	39,734	41,041	43,010
Increase	2001-2006	2006-2013	2013-2018	2018-2023	Annual 2013-2023
Population	6,500	7,200	3,890	4,200	809
Total Dwellings	2,814	3,138	1,645	1,775	342
Rateable Properties	4,695	3,019	1,307	1,969	328
Increase Per Annum	2001-2006	2006-2013	2013-2018	2018-2023	Annual 2013-2023
Population	1,300	1,029	778	840	809
Total Dwellings	563	448	329	355	342
Rateable Properties	939	431	261	394	328
Growth Rates	2001-2006	2006-2013	2013-2018	2018-2023	Annual 2013-2023
Population	9.29%	9.41%	4.65%	4.80%	0.95%
Total Dwellings	9.58%	9.74%	4.65%	4.80%	0.95%
Rateable Properties	14.7%	8.22%	3.29%	4.80%	0.81%
Growth Rates per Annum	2001-2006	2006-2013	2013-2018	2018-2023	Annual 2013-2023
Population	1.86%	1.34%	0.93%	0.96%	0.95%
Total Dwellings	1.92%	1.39%	0.93%	0.96%	0.95%
Rateable Properties	2.94%	1.17%	0.66%	0.96%	0.81%

TABLE 10 SUMMARY OF ESTIMATED RESIDENT POPULATION, TOTAL DWELLINGS AND RATEABLE PROPERTIES

Total	2001	2006	2013	2018	2023
Business Floor Area (m ²)	874,423	1,055,606	1,231,394	1,288,654	1,348,576
Change	2001-2006	2006-2013	2013-2018	2018-2023	Annual 2013-2023
Business Floor Area (m ²)	181,183	175,788	57,260	59,922	11,718
Growth Rates	2001-2006	2006-2013	2013-2018	2018-2023	Annual 2013-2023
Business Floor Area (m ²)	20.72%	16.65%	4.65%	4.65%	0.93%

TABLE 11 SUMMARY OF TOTAL BUSINESS FLOOR AREA

The annual growth over the next ten years averages 0.93% per annum for population and total dwellings. This equates to 809 new residents and 342 additional dwellings per annum. The rateable properties annual growth over the next ten years averages 0.81% per annum or 328 new properties per annum. The business floor area growth rates projected follow the same increases as the population and dwellings increases. The increase in business floor area between 2013 and 2023 is 117,192 m² or 11,718 m² per annum.

CONCLUSIONS

The Growth Model assesses future population and dwelling counts in the Whangarei District and outlines projections for growth over the short to medium term (from 2013 to 2023) and over the longer term (2015-2045). It is recommended that Council use the medium projection.

In Summary, the following conclusions can be made:

- The Whangarei District population is projected to increase from 83,700 in 2013 to 91,790 in 2023, resulting in an extra 8,090 people, averaging 809 additional people per year.
- The population growth is forecast to increase by 9.66% or 0.97% per annum.
- The total dwellings in the Whangarei District is forecast to increase from 35,340 in 2013 to 38,760 in 2023, resulting in an extra 3,420 dwellings, averaging 342 additional dwellings per year.
- The number of occupied dwellings are expected to increase from 30,204 in 2013 to 33,124 in 2023, resulting in an additional 2,920 occupied dwellings, averaging 292 occupied dwellings per year.
- The number of unoccupied dwellings is expected to increase from 5,136 in 2013 to 5,633 in 2023, resulting in an additional 497 unoccupied dwellings or 50 unoccupied dwellings per year.
- The highest increases in population between 2013-2028 are expected to be in Marsden Point/Ruakaka, Waipu, Hora Hora, Te Hihi and Tikipunga West.
- The total business floor area is expected to increase from 1,231,394 m² in 2013 to 1,348,576 m² in 2023, averaging 11,718 m² per annum.

GROWTH MODEL DATA

Area Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Abbey Caves	690	695	697	697	696	693	688	682	673	663	652
Bream Bay	940	953	967	984	1,003	1,023	1,046	1,071	1,099	1,128	1,159
Bream Head	1,440	1,456	1,474	1,491	1,508	1,525	1,542	1,559	1,575	1,592	1,609
Hikurangi	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540
Hora Hora	1,120	1,147	1,171	1,199	1,232	1,269	1,310	1,355	1,405	1,459	1,517
Kamo East	3,710	3,743	3,783	3,829	3,883	3,942	4,009	4,082	4,161	4,247	4,340
Kamo West	3,920	3,932	3,924	3,889	3,828	3,740	3,626	3,485	3,318	3,124	2,904
Kensington	1,330	1,330	1,328	1,325	1,321	1,316	1,310	1,302	1,293	1,283	1,272
Mairtown	2,550	2,550	2,550	2,548	2,545	2,540	2,533	2,524	2,513	2,501	2,487
Marsden Point-Ruakaka	3,850	4,003	4,168	4,350	4,551	4,771	5,009	5,265	5,539	5,832	6,143
Maungatapere	1,420	1,435	1,451	1,467	1,484	1,502	1,520	1,538	1,558	1,578	1,599
Maunu	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470	1,470
Morningside	2,300	2,332	2,352	2,367	2,378	2,384	2,386	2,383	2,376	2,364	2,348
Ngunguru	1,640	1,650	1,661	1,669	1,677	1,682	1,687	1,689	1,691	1,690	1,689
Onerahi	2,220	2,222	2,218	2,209	2,197	2,180	2,159	2,133	2,104	2,070	2,032
Opoukeke-Tanekaha	5,130	5,174	5,216	5,260	5,305	5,351	5,398	5,447	5,497	5,548	5,600
Otaika-Portland	1,130	1,132	1,137	1,138	1,138	1,134	1,128	1,119	1,108	1,094	1,078
Otangarei	1,940	1,943	1,946	1,950	1,955	1,961	1,969	1,977	1,986	1,997	2,008
Parahaki	1,210	1,212	1,213	1,214	1,214	1,214	1,213	1,212	1,211	1,209	1,206
Parua Bay	2,160	2,184	2,211	2,240	2,271	2,304	2,339	2,377	2,417	2,459	2,503
Pataua-Whareora	1,230	1,246	1,261	1,275	1,290	1,304	1,319	1,334	1,349	1,364	1,379
Port-Limeburners	40	44	48	53	58	64	71	77	85	92	101
Punaruke-Kiripaka	4,380	4,424	4,473	4,523	4,575	4,628	4,684	4,742	4,802	4,863	4,927
Raumanga East	1,840	1,840	1,839	1,838	1,837	1,835	1,833	1,830	1,827	1,823	1,819
Raumanga West	3,140	3,140	3,136	3,129	3,120	3,108	3,094	3,077	3,058	3,036	3,012
Regent	1,740	1,740	1,738	1,736	1,733	1,728	1,723	1,717	1,710	1,702	1,693
Riverside	780	780	779	778	775	772	767	762	756	749	741
Sherwood Rise	4,090	4,113	4,139	4,166	4,194	4,222	4,252	4,283	4,314	4,346	4,380
Springs Flat	1,580	1,599	1,611	1,614	1,607	1,591	1,565	1,530	1,485	1,430	1,366
Te Hihi	1,270	1,307	1,344	1,383	1,423	1,466	1,510	1,557	1,606	1,656	1,709
Three Mile Bush	1,100	1,112	1,118	1,122	1,124	1,124	1,123	1,119	1,113	1,105	1,095
Tikipunga East	3,220	3,223	3,228	3,234	3,241	3,250	3,260	3,272	3,284	3,298	3,313
Tikipunga West	3,280	3,324	3,382	3,449	3,524	3,608	3,702	3,803	3,914	4,034	4,162
Vinetown	1,630	1,630	1,630	1,629	1,628	1,626	1,625	1,623	1,621	1,618	1,615
Waiotira-Springfield	2,150	2,174	2,207	2,245	2,288	2,337	2,390	2,450	2,514	2,584	2,658
Waipu	1,780	1,830	1,881	1,940	2,007	2,081	2,163	2,254	2,351	2,457	2,571
Western Hills	260	260	260	258	256	252	248	242	235	228	219
Whangarei Central	180	180	180	179	178	177	175	174	172	170	167
Wharekohe-Oakleigh	3,880	3,906	3,936	3,965	3,993	4,020	4,045	4,070	4,093	4,115	4,136
Whau Valley	2,590	2,595	2,599	2,602	2,605	2,606	2,607	2,607	2,606	2,604	2,602
Woodhill	1,840	1,844	1,849	1,855	1,862	1,869	1,878	1,887	1,897	1,909	1,921
Whangarei District	83,700	84,465	85,227	86,002	86,790	87,591	88,405	89,232	90,072	90,926	91,792

TABLE 12 POPULATION PROJECTIONS BY AREA UNIT 2013-2023

Area Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Abbey Caves	243	245	246	246	245	244	242	240	237	234	230
Bream Bay	408	414	420	427	435	444	454	465	477	490	503
Bream Head	891	901	912	922	933	943	954	964	975	985	995
Hikurangi	543	543	543	543	543	543	543	543	543	543	543
Horahora	462	473	483	495	508	523	540	559	580	602	626
Kamo East	1,350	1,362	1,377	1,393	1,413	1,435	1,459	1,485	1,514	1,545	1,579
Kamo West	1,542	1,547	1,543	1,530	1,506	1,471	1,426	1,371	1,305	1,229	1,142
Kensington	609	609	608	607	605	603	600	596	592	587	582
Mairtown	1,215	1,215	1,215	1,214	1,213	1,210	1,207	1,203	1,198	1,192	1,185
Marsden Point-Ruakaka	1,941	2,018	2,101	2,193	2,295	2,405	2,525	2,654	2,793	2,940	3,097
Maungatapere	510	516	521	527	533	539	546	553	560	567	574
Maunu	549	549	549	549	549	549	549	549	549	549	549
Morningside	861	873	880	886	890	893	893	892	889	885	879
Ngunguru	1,008	1,014	1,021	1,026	1,031	1,034	1,037	1,038	1,039	1,039	1,038
Onerahi	900	901	899	896	891	884	875	865	853	839	824
Opouteke-Tanekaha	1,812	1,828	1,843	1,858	1,874	1,890	1,907	1,924	1,941	1,960	1,978
Otaika-Portland	423	424	426	426	426	425	422	419	415	410	404
Otangarei	678	679	680	681	683	685	688	691	694	698	702
Parahaki	489	490	490	491	491	491	490	490	489	488	487
Parua Bay	897	907	918	930	943	957	972	987	1,004	1,021	1,040
Pataua-Whareora	633	641	649	656	664	671	679	687	694	702	710
Port-Limeburners	18	20	22	24	26	29	32	35	38	42	45
Punaruku-Kiripaka	2,721	2,749	2,778	2,810	2,842	2,875	2,910	2,946	2,983	3,021	3,061
Raumanga East	627	627	627	626	626	625	624	624	622	621	620
Raumanga West	1,032	1,032	1,031	1,028	1,025	1,022	1,017	1,011	1,005	998	990
Regent	789	789	788	787	786	784	781	779	775	772	768
Riverside	429	429	429	428	426	424	422	419	416	412	407
Sherwood Rise	1,641	1,650	1,661	1,671	1,683	1,694	1,706	1,718	1,731	1,744	1,757
Springs Flat	540	546	551	552	549	544	535	523	507	489	467
Te Hihi	468	482	495	510	524	540	557	574	592	610	630
Three Mile Bush	351	355	357	358	359	359	358	357	355	353	349
Tikipunga East	1,176	1,177	1,179	1,181	1,184	1,187	1,191	1,195	1,199	1,204	1,210
Tikipunga West	1,233	1,250	1,271	1,296	1,325	1,356	1,391	1,430	1,471	1,516	1,565
Vinetown	780	780	780	779	779	778	777	777	775	774	773
Waiotira-Springfield	825	834	847	861	878	897	917	940	965	991	1,020
Waipu	1,278	1,314	1,351	1,393	1,441	1,494	1,553	1,618	1,688	1,764	1,846
Western Hills	93	93	93	92	91	90	89	87	84	81	78
Whangarei Central	99	99	99	98	98	97	96	96	94	93	92
Wharekohe-Oakleigh	1,482	1,492	1,504	1,515	1,525	1,535	1,545	1,554	1,563	1,572	1,580
Whau Valley	1,017	1,019	1,020	1,022	1,023	1,023	1,024	1,024	1,023	1,023	1,022
Woodhill	753	755	757	759	762	765	768	772	777	781	786
Whangarei District	35,340	35,663	35,985	36,312	36,645	36,983	37,327	37,676	38,031	38,391	38,757

TABLE 13 TOTAL DWELLING PROJECTIONS BY AREA UNIT 2013-2023

Area Unit	1991	1996	2001	2006	2013	2018	2023	2028	% increase 1991-1996	% increase 1996- 2001	% increase 2001-2006	% increase 2006- 2013
Abbey Caves	9,713	9,713	9,983	9,983	9,983	10,447	10,933	11,441	0.00%	2.78%	0.00%	0.00%
Bream Bay	-	-	-	-	244	255	267	280				
Bream Head	-	-	-	-	13	14	14	15				
Hikurangi	13,210	20,530	20,530	20,628	20,693	21,655	22,662	23,716	55.41%	0.00%	0.48%	0.32%
Horahora	-	-	-	-	307	321	336	352				
Kamo East	14,614	15,024	18,296	19,325	21,129	22,111	23,140	24,216	2.81%	21.78%	5.62%	9.34%
Kamo West	5,164	5,592	5,882	6,329	6,919	7,241	7,577	7,930	8.29%	5.19%	7.60%	9.32%
Kensington	2,889	2,924	2,924	2,924	7,053	7,381	7,724	8,083	1.21%	0.00%	0.00%	141.21%
Mairtown	191	212	212	212	212	222	232	243	10.99%	0.00%	0.00%	0.00%
Marsden-Point/Ruakaka	22,652	307,046	315,974	325,537	353,612	370,055	387,263	405,270	1255.49%	2.91%	3.03%	8.62%
Maungatapere	6,507	7,567	10,410	11,364	11,682	12,225	12,794	13,389	16.29%	37.57%	9.16%	2.80%
Maunu	-	-	-	150	592	620	648	678				294.67%
Morningside	23,381	23,971	40,026	43,663	56,050	58,656	61,384	64,238	2.52%	66.98%	9.09%	28.37%
Ngunguru	283	299	299	299	448	649	679	711	5.65%	0.00%	0.00%	49.83%
Onerahi	6,917	7,017	7,117	10,327	11,615	12,155	12,720	13,312	1.45%	1.43%	45.10%	12.47%
Opouteke-Tanekaha	-	-	-	-	763	798	836	874				
Otaika-Portland	2,047	3,007	3,007	3,007	5,295	5,541	5,799	6,069	46.90%	0.00%	0.00%	76.09%
Otangarei	1,098	1,098	1,098	1,098	1,098	1,149	1,202	1,258	0.00%	0.00%	0.00%	0.00%
Parahaka	-	-	-	1,281	1,281	1,341	1,403	1,468				0.00%
Parua Bay	9	9	9	134	397	415	435	455	0.00%	0.00%	1388.89%	196.27%
Pataua-Whareora	-	-	-	-	575	602	630	659				
Port Limeburners	46,127	73,494	107,118	161,946	226,774	237,319	248,354	259,903	59.33%	45.75%	51.18%	40.03%
Punaruksu-Kiripaka	-	-	-	-	1,010	1,057	1,106	1,158				
Raumanga East	-	-	-	1,464	2,594	2,715	2,841	2,973				77.19%
Raumanga West	-	-	-	8,880	8,880	9,293	9,725	10,177				0.00%
Regent	45,234	45,332	46,962	56,035	57,629	60,309	63,113	66,048	0.22%	3.60%	19.32%	2.84%
Riverside	6,472	6,472	7,490	7,693	7,693	8,051	8,425	8,817	0.00%	15.73%	2.71%	0.00%
Sherwood Rise	177	1,689	2,111	2,111	2,111	2,209	2,312	2,419	854.24%	24.99%	0.00%	0.00%
Springs Flat	6,860	16,079	25,909	26,262	41,598	43,532	45,557	47,675	134.39%	61.14%	1.36%	58.40%
Te Hihi	-	-	-	-	144	151	158	165				
Tikipunga West	2,158	2,158	2,408	2,408	2,606	2,727	2,854	2,987	0.00%	11.58%	0.00%	8.22%
Vinetown	3,068	3,193	3,336	3,359	5,009	5,242	5,486	5,741	4.07%	4.48%	0.69%	49.12%
Waiotira-Springfield	960	960	960	960	3,553	3,718	3,891	4,072	0.00%	0.00%	0.00%	270.10%
Waipu	7,049	7,149	9,039	12,016	19,041	19,926	20,853	21,823	1.42%	26.44%	32.94%	58.46%
Whangarei Central	169,238	206,683	228,151	311,039	335,927	351,548	367,895	385,002	22.13%	10.39%	36.33%	8.00%
Wharekohe-Oakleigh	-	-	-	-	549	575	601	629				
Whau Valley	3,883	3,883	3,883	3,883	4,308	4,508	4,718	4,937	0.00%	0.00%	0.00%	10.95%
Woodhill	1,270	1,270	1,289	1,289	1,835	1,920	2,010	2,103	0.00%	1.50%	0.00%	42.36%
Total	401,171	772,371	874,423	1,055,606	1,231,394	1,288,654	1,348,576	1,411,285	92.53%	13.21%	20.72%	16.64%

TABLE 14 BUSINESS FLOOR AREA AND PROJECTIONS BY AREA UNIT 1991-2028