



macro perspective  micro analysis

Thames-Coromandel District Projections for Resident Population, Dwellings and Rating Units to 2045

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for:



Quality Assurance Statement

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1 Executive Summary

Rationale Limited has been engaged to review and develop growth projections for Thames-Coromandel District Council.

The main purpose of the review is to provide population, dwelling and rating unit projections out to 2045, for the district and its five community board areas and 18 settlement areas. Further detail is provided on the population structure (age demographics and average household size), dwelling types (occupied, unoccupied and under construction) and for each of Council's seven rating unit categories.

The underlying philosophy of Rationale's Model is that people drive the growth in dwellings and rating units. An increase in people living, working or holidaying in the district will also result in an increase in both dwellings and rating units. However, resident population growth is only one of three factors that can drive an increase in dwellings. The other two factors are declining household size, and holiday home demand. These factors, along with the high number of visitors and the employment opportunities they create, all have a flow on effect to the rating unit growth.

A growth model has been built to allow multiple scenarios to be considered. The intention of the approach used is to provide a tool to help council officers and elected members decide on an appropriate set of growth projections that balance the funding risk of over projecting with the planning and infrastructure risks of under projecting.

The three scenarios included in this review are developed from three baseline resident population growth rates considered appropriate for Thames-Coromandel District - pessimistic growth (declining population), slow growth (slight increase in population) and optimistic growth (strong population growth).

The slow growth scenario is considered the most appropriate for the purpose of Thames-Coromandel District Council's long term planning. The reasons for this view are presented in Section 4 of this report.

A summary of the key results are shown below for the recommended slow growth scenario. This table shows that the population is projected to increase, slowly but steadily. The projected dwelling and rating unit growth rate is higher than the population due to the on-going growth in holiday homes. This is consistent with recent trends.

Key Results – Recommended slow growth scenario

Output	2013 (estimate)	2015	2025	2035	2045	Change (2013 - 2045)	Average annual change	Annual average growth rate
Usually Resident Population	26,847	26,888	27,188	27,286	27,486	639	20	0.1%
Total Dwellings	24,164	24,421	25,894	27,338	28,952	4,788	150	0.6%
Total Rating Units	26,679	26,977	28,540	30,059	31,749	5,070	158	0.5%

Regarding the population structure, the district has an elderly population and the population overall is ageing. In 2013 the proportion of people aged 65+ made up around 27% of the total population. This is nearly twice the national average. This trend is projected to continue, with the proportion of people aged 65+ in the district increasing to over 40% by 2045. The number of people aged between 15 and 64 years

of age is projected to decrease. This may have a flow-on effect to the make-up of the work force in the district.

Factors such as the ageing population contribute to a decline in the average household size, decreasing from around 2.2 residents per household in 2013 to around 2.0 in 2045.

In terms of geographic spread of growth, the Mercury Bay Community Board is projected to experience the highest growth. The Coromandel-Colville Community Board is the only other community board where the population is forecast to increase. The population in the other community boards is forecast to decline, however the dwelling and rating unit growth is still positive, most noticeably in Coromandel-Colville. Within the Mercury Bay Community Board area most of the dwelling growth outside Whitianga is projected to occur in the popular holiday settlements. This results in the district's proportion of holiday homes increasing from 47% of total dwellings in 2013 to 51% in 2045.

Population and dwelling growth flows through to rating units. The district rating units are predominately Residential or Rural Other, with nearly 94% of all rating units falling under these two categories. Therefore any rating unit growth is heavily dependent on dwelling growth. However the other two main rating unit categories, Industrial and Commercial; and Farming and Horticultural are both projected to increase, in part due to job opportunities not directly related to the resident population.

The projections Model and outputs for the slow growth scenario are considered appropriate for providing a sound basis for Council's long term planning. The accompanying *Rationale Thames-Coromandel District Growth Projections to 2045 Data Model* provides summary and detailed projections data for population, dwellings and rating units. The data is shown for the district, each of the community boards and each settlement.

2 Introduction

Rationale Limited has been engaged to review and develop growth projections for Thames-Coromandel District Council. This work was commissioned as a collaborative project with Hauraki District Council and Matamata-Piako District Council, with similar deliverables across the three Councils.

The main purpose of the review is to provide population, dwelling and rating unit projections out to 2045, for the Council's relevant geographic areas. The projections take into account elements such as historic and current trends, relevant land-use policies, and relevant national, regional and local level drivers.

The growth projections outputs are listed below:

- Usually resident population, by five year age groups and average household size.
- Dwellings by type – occupied, unoccupied and under construction.
- Rating units by type – according to the Council's current rating categories:
 - Residential
 - Rural Other
 - Farming and Horticultural
 - Industrial and Commercial
 - Commercial Forestry
 - Offshore Islands Used
 - Offshore Islands Not Used

Definitions of the Council's rating unit categories can be found in Appendix A.

The above outputs have been produced for the district, and the district's community boards and settlement areas, as outlined below.

Table 1 : Thames-Coromandel District's community boards and settlements

Community Board	Settlement
Coromandel-Colville Community Board	Coromandel Other Coromandel-Colville
Mercury Bay Community Board	Cooks Beach - Ferry Landing Hahei Matarangi Whangapoua Whitianga Other Mercury Bay
Tairua-Pauanui Community Board	Pauanui Tairua Other Tairua-Pauanui
Thames Community Board	Thames Thames Coast Thames South Other Thames
Whangamata Community Board	Onemana Whangamata Other Whangamata

A growth model has been built to allow multiple scenarios to be considered. The intention of the approach used is to provide a tool to help council officers and elected members decide on an appropriate set of growth projections that balance the funding risk of over projecting with the planning and infrastructure risks of under projecting.

Scenario development is discussed briefly in Section 3, along with results analysis for each scenario (pessimistic, slow, optimistic) and the opportunity for a further modified scenario. The recommended scenario is presented in Section 4. Section 5 provides a summary of the methodology used for this review.

The accompanying *Rationale Thames-Coromandel District Growth Projections to 2045 Data Model* provides summary and detailed projections data for population, dwellings and rating units for the district and each of the community boards and settlements.

3 Scenarios

3.1 Overview

The underlying philosophy of Rationale’s Model is that people drive the growth in dwellings and rating units. An increase in people living, working or holidaying in the district will also result in an increase in both dwellings and rating units.

The scenarios included in this review are a range of resident population growth rates, both positive and negative. The change in population is based on the migration of people into or out of the district and the birth rates and mortality (death) rates. The birth and death rates differ for areas within the district (and wider) depending on the existing age structure. Although the resident population provides the base inputs, the approach still accounts for non-resident population drivers that can influence dwelling and rating unit growth.

The results for each scenario show the flow-on effect for dwelling and rating unit growth. The scenarios are:

- Pessimistic population growth, typically a declining resident population
- Slow population growth, typically a stable or a slight increase in resident population
- Optimistic population growth, a significant increase in resident population.

The three growth scenarios developed as set out above have been informed by SNZ’s three population projection series of low (pessimistic scenario), medium (slow scenario) and high (optimistic scenario). These are discussed in more detail in Section 5.2.

The underlying assumptions required to convert population growth to dwelling and rating unit growth are maintained for each of the above scenarios. A fourth modified scenario is also available, however this would need clear assumption directions from Council. This scenario can include additional adjustments for any of the following factors, as considered relevant for the district:

- Population growth
- Household size
- Employment opportunities
- Holiday home growth.

The following sections discuss the projected growth (2014-2045) under the three main scenarios, and the opportunity for a modified scenario.

Change in population structure (size of age groups) and average household size under each scenario is discussed in a sub-section following the scenario analysis.

Analysis of historic growth trends is a key component of this review and has informed likely growth trends going forward. For example, decreasing household size and holiday home growth. This is explained briefly below.

Historic growth

All outputs in this review are projected as at 30 June of each year. This aligns with Council’s financial year. Therefore the population figures in this review are not census usually resident population, they are 30 June estimates (for each year – historic and projected), referred to as resident population estimates.

This approach is consistent with Statistics New Zealand (SNZ) methodology where a 30 June resident population estimate is derived using the census usually resident population count. The adjustments include net census undercount due to non-response, residents overseas on census night, and demographic adjustments including to account for births, deaths and net migration between census night and 30 June.

The latest SNZ 30 June 2013 population estimate is still based on the 2006 Census, therefore for the purpose of this review an estimate of this figure has been derived from the 2013 Census and historical analysis. The actual SNZ adjustment (undercount) for 2001 and 2006 is shown below, along with our estimated undercount for the 2013 Census.

Table 2 : Resident population adjustments

Variable	2001	2006	2013
Census usually resident population	25,176	25,932	26,181
30 June resident population estimate	25,800	26,640	26,847
Adjustment (net undercount)	624 (2.5%)	708 (2.7%)	666 (2.5%)

As a high level district overview of historic growth - the usually resident population of the district on 30 June 2013 is estimated to be around 26,850 people. This has grown by over 1,000 people (0.3% per year) in the last 12 years. Over the same period, nearly 4,200 new dwellings have been built, increasing the total number to nearly 24,200 dwellings. This is an increase of around 1.6% or 350 dwellings per year. Most of the growth is in unoccupied dwellings, the majority assumed to be holiday homes.

A more detailed overview of historic growth in the district is provided as Appendix B.

3.2 Scenario Analysis

This section reviews the main outputs under the three scenarios, and discusses the opportunity for a fourth modified scenario that would need to be based on defined Council assumptions. For reporting purposes discussion is built around district and community board trends. Most change at sub-community board level is projected to continue to occur in the main settlements. More in depth analysis at the settlement level is provided in discussion on the recommended scenario - Section 4.

3.2.1 Scenario 1 – Pessimistic Growth

The pessimistic growth scenario assumes low fertility and high mortality which results in a net decrease in population. This scenario also assumes a net migration of people out of the district. The combined impact is of a decreasing usually resident population overall. Despite this, a small amount of dwelling and rating unit growth is evident, most due to holiday home growth.

The high level outputs for the pessimistic growth scenario are summarised in the following table.

Table 3 : Key results - pessimistic growth scenario

Output	2013 (estimate)	2015	2025	2035	2045	Change (2013 - 2045)	Average annual change	Annual average growth rate
Usually Resident Population	26,847	26,528	24,849	22,848	21,046	-5,801	-181	-0.8%
Total Dwellings	24,164	24,253	24,588	24,785	25,103	939	29	0.1%
Total Rating Units	26,679	26,794	27,131	27,302	27,590	911	28	0.1%

Population

Under this scenario the population in the district declines significantly at a rate of over 180 people per year, or -0.8% per year. All community board areas are projected to decline, most noticeably Tairua-Pauanui (-1.6% per year), Thames (-1.1% per year) and Whangamata (-1.3% per year). Coromandel-Colville is also projected to decline but at a lesser rate of -0.6% per year, while only the Mercury Bay area population remains relatively stable, losing only one to two people per year.

Dwellings

The dwelling growth that flows from the population decrease is still positive, however the annual increase is less than 10% of the historical trend, increasing by only 30 dwellings per year. To put this in perspective, the increase in dwellings over the last 12 years would take over 130 years to achieve under this pessimistic growth scenario.

The slow growth in dwellings is driven by a steady increase in holiday homes, but at a lower rate than the previous 12 years. Some currently occupied homes also revert to unoccupied or holiday homes due to the decline in population. The proportion of occupied dwellings reduces from 52% to around 43%.

The number of dwellings in Mercury Bay and Coromandel-Colville are projected to continue to increase, however the number of dwellings in the remaining three community boards will remain relatively static.

Rating units

The growth in rating units is also relatively minor. The growth in dwellings results in an increase in Residential and Rural Other rating units, however the Industrial and Commercial rating units are projected to decrease from 1,060 to around 1,000 rating units between 2013 and 2045 - a decline of between one and two Industrial and Commercial rating units per year. This decline is due to a reduction in job opportunities linked to the decrease in resident population.

Overall

This scenario represents the worst case scenario. It is unlikely that the decline in population would be as severe as shown above, therefore this scenario is not recommended. It does however highlight that even with a declining population, there can still be an increase (albeit small) in dwellings and rating units.

3.2.2 Scenario 2 – Slow Growth

Under the slow scenario although fertility and mortality rates result in a slight decrease in population, the migration into the district is positive, resulting in a slight increase in population overall. This flows through to relatively strong growth in dwellings and rating units. The high level outputs for the slow scenario are summarised in the table below.

Table 4 : Key results - slow growth scenario

Output	2013 (estimate)	2015	2025	2035	2045	Change (2013 - 2045)	Average annual change	Annual average growth rate
Usually Resident Population	26,847	26,888	27,188	27,286	27,486	639	20	0.1%
Total Dwellings	24,164	24,421	25,894	27,338	28,952	4,788	150	0.6%
Total Rating Units	26,679	26,977	28,540	30,059	31,749	5,070	158	0.5%

Population

Under this scenario the population in the district increases at a lower rate than the past 12 years, only 20 people per year. However this is consistent with the growth in population over the last seven years. The rate of growth is also higher in the first 10-15 years (with growth continuing steadily until 2026, after which time the growth slows slightly).

The population in the Mercury Bay and Coromandel-Colville Community Board areas increase by 1,900 and 200 people respectively. The population in the other community board areas is projected to decline; Tairua-Pauanui by -0.5% or a loss of 11 people per year, Thames by -0.2% or a loss of 20 people per year and Whangamata by -0.4% or a loss of 15 people per year. Again, this is consistent with recent trends.

Dwellings

The dwelling growth that flows from the above population is five times greater than the dwelling growth under the pessimistic scenario. It is only 43% of the historical rate of growth, however the growth rate is closer to that experienced over the last seven years. The proportion of occupied dwellings remains relatively stable, reducing from 52% in 2013 to less than 50% in 2045.

The dwellings in all community board areas are projected to increase. Mercury Bay and Coromandel-Colville increase at around 90 and 20 dwellings per year respectively, with the others having lower growth of around 10 dwellings per year.

Rating units

The impact on the rating units is slightly less than the dwelling growth, around 0.5% per year. While most of this is due to residential related rating unit growth, the Industrial and Commercial rating units increase by around 250 units by 2045, at a rate of nearly eight units or 0.5% per year. Around one third of this Industrial and Commercial rating unit growth occurs in the Mercury Bay area. The remainder is spread fairly evenly between the other community boards.

Overall

This scenario is the closest to recent trends and is therefore considered to be the most realistic. It provides a conservatively optimistic midpoint between the construction boom of the early to mid 2000s and the general economic uncertainty following the global financial crisis. Although the dwelling growth of around 150 dwellings per year is still lower than that previously experienced, it should be noted that residential building consents have continued to decline since the mid 2000s peak. The number of building consents peaked at 580 in 2004 and numbered only 180 in 2013.

3.2.3 Scenario 3 – Optimistic Growth

Under the optimistic growth scenario, the fertility and mortality rates still decrease slightly but are offset by net migration into the district which is a lot higher than under the pessimistic and slow scenarios. This results in very strong dwelling and rating unit growth. The key outputs for the optimistic scenario are summarised in the table below.

Table 5 : Key results - optimistic growth scenario

Output	2013 (estimate)	2015	2025	2035	2045	Change (2013 - 2045)	Average annual change	Annual average growth rate
Usually Resident Population	26,847	27,286	29,583	31,682	33,886	7,038	220	0.7%
Total Dwellings	24,164	24,787	28,191	31,730	35,713	11,549	361	1.2%
Total Rating Units	26,679	27,360	30,942	34,653	38,817	12,138	379	1.2%

Population

Under this scenario the population in the district increases by over 7,000 people, or 220 people per year. The population in the Mercury Bay and Coromandel-Colville Community Board areas increase by 120 and 30 people per year respectively. The populations in the other community board areas also increase, although less so - Tairua-Pauanui by 6 people or 0.3% per year, Thames by 54 people or 0.5% per year and Whangamata by 12 people or 0.3% per year.

Dwellings

The dwelling growth that flows from the above population is around 360 dwellings per year. This is slightly higher than the growth seen over the last 12 years, but considering the construction boom of the early – mid 2000s, it may be unrealistic to sustain this out until 2045.

Again the proportion of occupied dwellings remains relatively stable, reducing from 52% in 2013 to around 49% in 2045.

As expected, the dwellings in all community board areas increase significantly. Mercury Bay is again the highest at nearly 160 dwellings per year with the growth in the other areas ranging from 40 to 55 dwellings per year. For most areas the dwelling growth is higher than that experienced over the last 12 years.

Rating units

The impact on the rating units is similar to the dwelling growth, over 1.2% per year. A majority of the rating unit increase is in the Residential and Rural Other rating unit categories. However the flow-on effect from the higher population and dwelling growth also results in a significant increase in Industrial and Commercial rating units of around 17 units or 0.5% per year. The distribution of the Industrial and Commercial rating units across the community boards is similar to the slow scenario.

Council projects and targets

The key project targets that are likely to lead to the type of growth under this optimistic scenario are outlined in the Thames-Coromandel District Economic Development Action Plan 2014-2018. These include:

1. The Coromandel Great Walks Business Plan approved by June 2014.
2. Establish the first section of the Coromandel Great Walks project (Hot Water Beach to Cathedral Cove) by the end of 2015.
3. Two sections of the Coromandel Great Walks under construction by the end of 2017.
4. The Kaioua/Miranda to Kopu leg of the Hauraki Rail Trail completed by the end of 2016.
5. The Coromandel Harbour Strategy approved by June 2014.
6. Fast Ferry service established between Auckland and Coromandel Town (direct) by the end of 2018.

The comparable targets set out in the Economic Development Action Plan include:

- A resident population increase of 2,500 by the end of 2018.
- An increase in rateable units of greater than 2.5% by the end of 2018.

The first target would require significantly higher population growth than forecast under the optimistic growth scenario. Even under the optimistic population growth scenario, an increase of 2,500 people is projected to take over 10 years.

The second target appears more in line with the optimistic growth scenario outputs. Under the optimistic scenario a 2.5% increase in rating units (from 2013) is realised around 2015.

The risks associated with the above projects do need to be considered. There is always a risk that the projects do not happen, happen later than planned or happen but do not achieve the desired growth. It should also be noted that the objective of this review is to provide a realistic series of projections, not aspirational targets.

Overall

In reality, growth of the level shown in this scenario is likely to be a combination of some of the above factors, and other factors that may not even exist today. Therefore the simple population-based approach allows Council to understand the downstream impact of projects/strategies, without over analysing the likelihood and potential impact of all factors.

The rate of growth projected under this scenario is unlikely to continue consistently for over 30 years. However, it provides some good aspirational targets, and also enables Council to understand the impact of achieving desired outcomes such as high resident population increase.

3.2.4 Scenario 4 – Option for Modified Version

A modified scenario could be used to adopt a set of projections above or below the recommended scenario. This can be done with clear and transparent guidance from Council in a number of ways:

- Include more or less population change in certain areas. This can be done by firstly selecting the baseline population of any of the three scenarios. Then additional people can be simply added to or subtracted from the underlying baseline.
- Retain the underlying population growth, but adjust the assumptions regarding household size. For example, a more significant decline in the average household size will result in higher dwelling growth.
- Retain the underlying population growth and household size assumptions but forecast different holiday home growth.

These modifications can be done standalone, or in conjunction with others. They can be at the district level or targeted to specific community boards or settlements.

Caution should be exercised to ensure that the projections remain evidence based and retain their credibility.

3.3 Projected Population Structure

This section provides additional detail about the projected population structure under each scenario. This includes the population by five year age groups and average household size.

3.3.1 Age Demographics

The following age pyramids show the district's resident population in five year age groups, for both 2001 and 2013 in relation to the age distribution of New Zealand. 0-4 year olds are at the base of the pyramid and the over 85 year olds are at the top. Typically, age pyramids show the male/female population split but that level of detail is not necessary for the purpose of this review. To calculate the total proportion in an age group, the two sides of the vertical axis need to be added together ignoring the negative sign.

Figure 1 : 2001 Age pyramid
The district compared with New Zealand

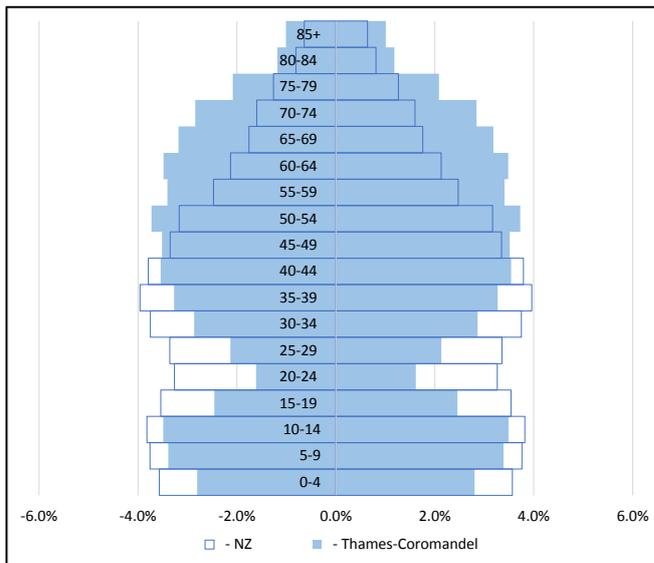
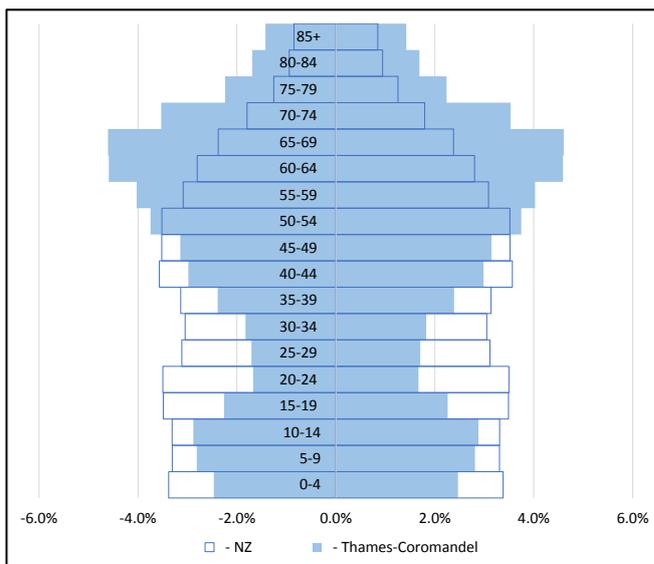


Figure 2 : 2013 Age pyramid
The district compared with New Zealand



- The pyramids show that the district has a significantly larger proportion of older residents in its population compared to the rest of New Zealand.
- The proportion of people aged 65+ in the district has increased from 20% in 2001 to 27% in 2013. This trend toward an aging population is consistent across New Zealand, however the proportion of elderly people in the district in 2013 is nearly twice the national average of 14%. This aging population is evident in all scenarios.
- The district has a smaller proportion of people in all ages under 50 compared to the national average, particularly the age groups 20 - 29 years.
- Figures 3, 4 and 5 below show the projected change in the district's age demographics under each scenario and have been overlaid for ease of comparison. The light blue bars show the pessimistic growth scenario, navy blue the slow growth scenario and dull blue the optimistic growth scenario (the widest bars). These pyramids show the actual population numbers in each age group, rather than a percentage of the total population.

Figure 3 : District wide age pyramid in 2015

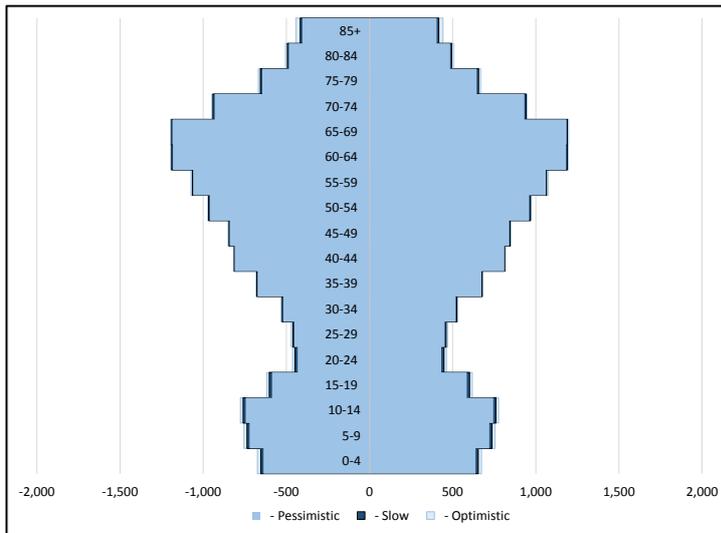


Figure 4 : District wide age pyramid in 2025

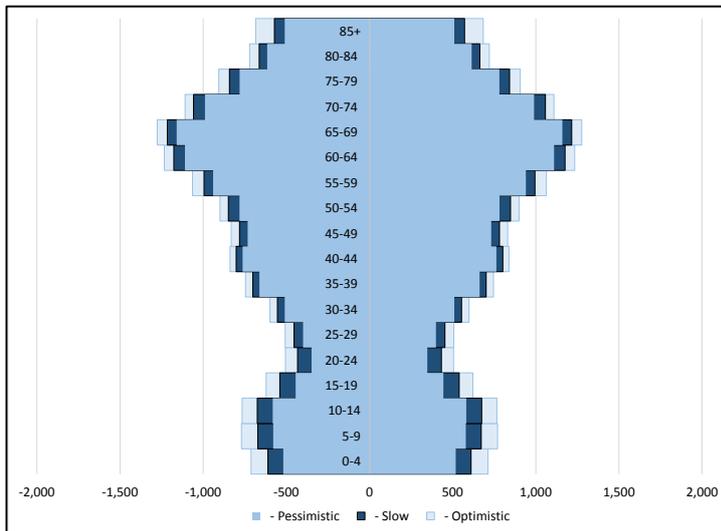
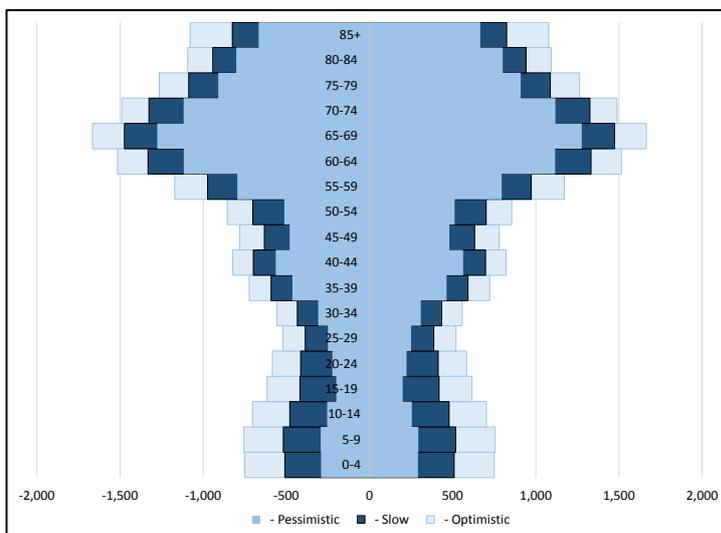


Figure 5 : District wide age pyramid in 2045



The key points are:

- The age pyramid shows a similar distribution of age groups for each scenario, with only the projected total population differing.
- The trend toward an aging population continues under all scenarios. The number of people aged 65+ is forecast to increase to over 40% by 2045.
- The proportion of the population under 15 years of age is projected to decline from around 16% in 2013 to between 8% and 13% in 2045.
- The result of this changing profile of the population is that people aged between 15 and 64 years of age are projected to decline from around 57% to under 50%. This results in a net decrease in the number of people in this age group under both the pessimistic and slow scenarios. This may have a flow-on effect to the make-up of the district's work force.

3.3.2 Average Household Size

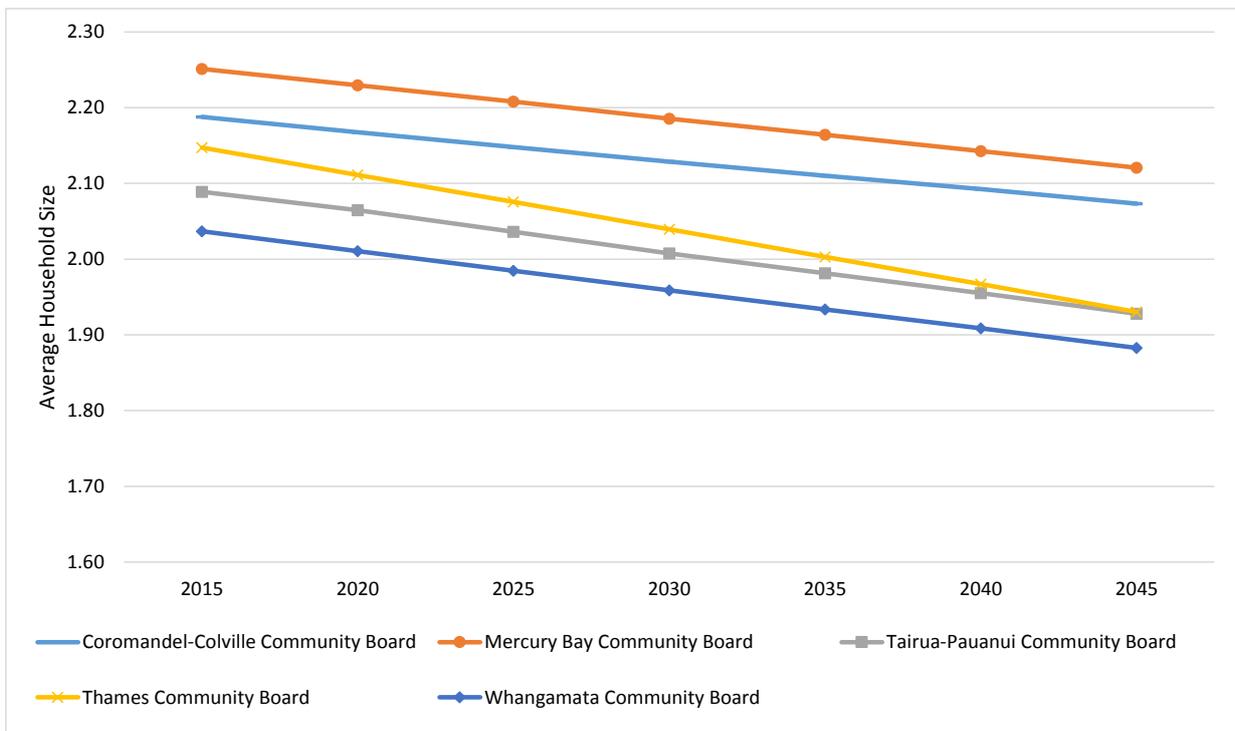
The average household size of a given area is the total resident population divided by the total number of households. A household can be one person who usually resides alone, or two or more people who usually reside together and share facilities in a dwelling. There may be more than one family in a household. The average household size for the district is projected to decline. This is a continuation of historical trends, however the rate of decline is forecast to slow down in the future.

Table 6 : Average household size for the district

2015	2020	2025	2030	2035	2040	2045
2.16	2.13	2.10	2.08	2.05	2.03	2.00

The following graph shows that the average household size is also projected to decline in all community board areas. Note the scale on the vertical axis is between 1.6 and 2.3 residents per household. This smaller scale better displays the difference between the community boards.

Figure 6 : Household size for the community boards



There is variation across each community board, similarly there is a degree of variation across the settlements (not shown). Overall, the Thames and Whangamata Community Board areas are projected to decline at a faster rate than the others. This is based on historical trends and is most likely due to a number of factors such as age demographics and a reduction in multiple families living as one household.

As with the age demographics, these trends are consistent for all scenarios and are simply applied to a smaller or larger population size.

4 Recommended Scenario

As discussed in Section 3, the slow growth scenario is considered the most appropriate for the purpose of Thames-Coromandel District Council’s long term planning. The key reasons are:

- The slow growth scenario provides realistic projections that are conservatively optimistic. It is considered to best reflect historical trends and the current economic climate.
- The population growth projected under the slow scenario is consistent with historical trends of a relatively stable population.
- The slow scenario is informed by SNZ’s medium population series. SNZ consider their medium series to be the most appropriate to assess future population changes. This is based on comprehensive demographic analysis. The optimistic growth scenario is considered to be too aspirational, and may lead to overstating the growth. Similarly the pessimistic growth scenario is more of a worst case scenario. While this provides a useful perspective, it is not considered appropriate for long term planning purposes.

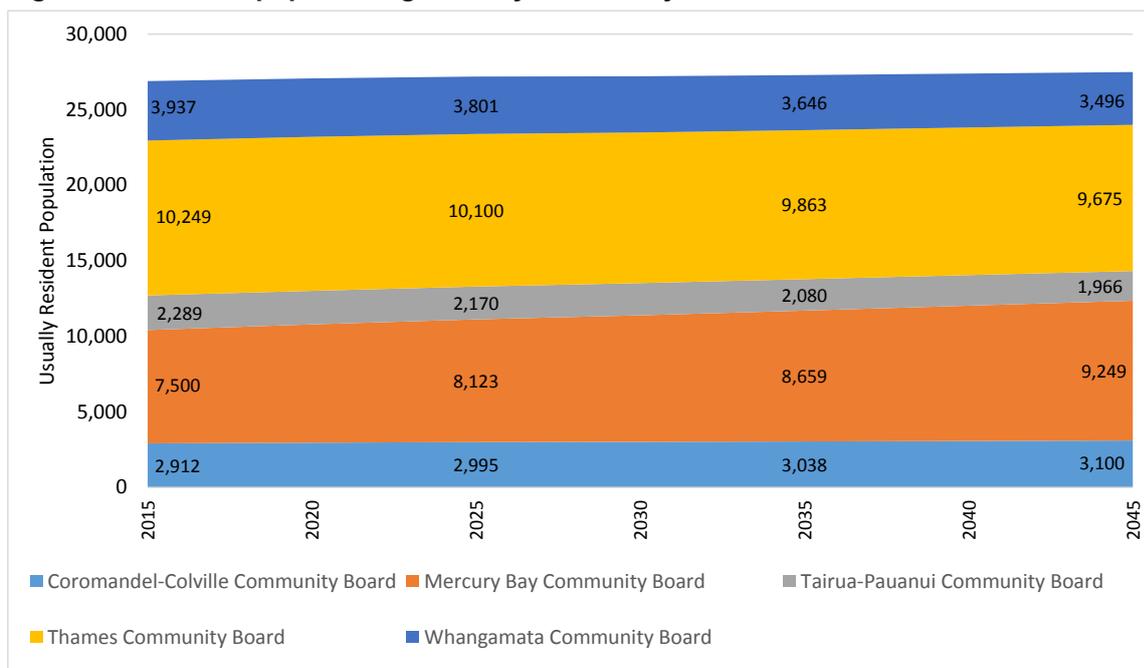
4.1 Detailed Results

This section provides further discussion on the recommended slow growth scenario, including growth in the main settlements, along with further analysis of the detailed outputs for dwellings and rating units.

Population

The population growth in the community board areas is shown below, and the total area reflects total district population growth. This shows that the only community boards projected to grow are Mercury Bay and Coromandel-Colville.

Figure 7 : Resident population growth by community board



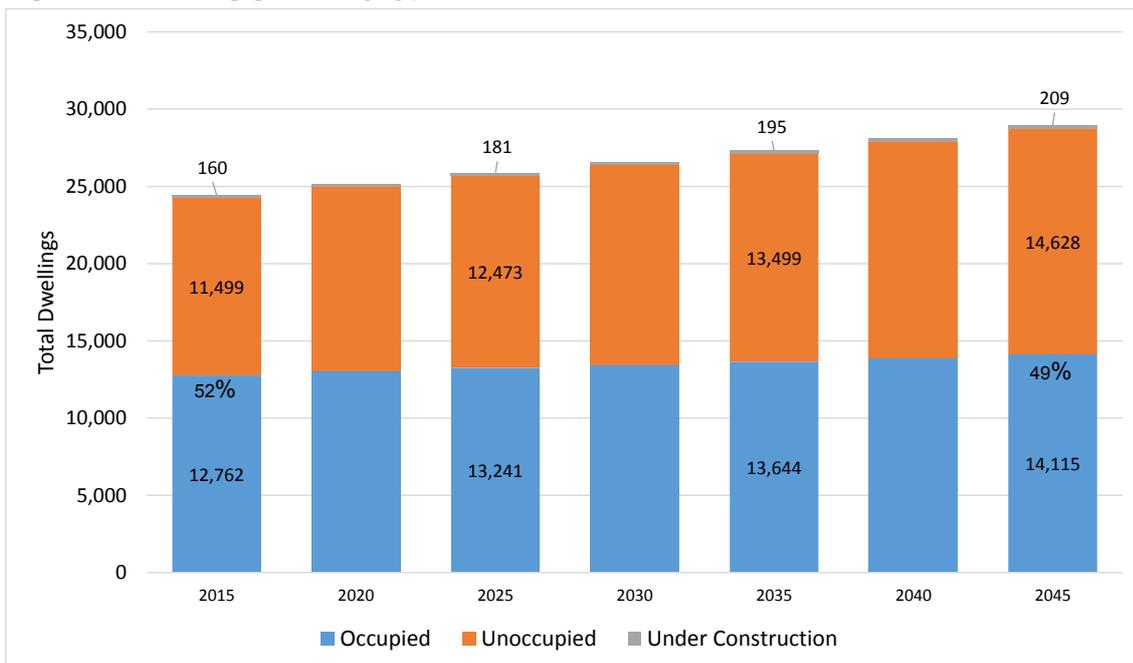
Whitianga is the only main settlement where the population is projected to grow. The other main settlements (Coromandel, Pauanui, Tairua, Thames and Whangamata) are projected to decline by between two and 15 people per year, or -0.1% to -0.8% per year. The population in all the other smaller settlements in the district is projected to increase. This reflects a trend towards people residing outside the main settlements.

The trend of residents choosing to live outside the main settlements does not necessarily mean the main centres themselves will become less viable. A majority of the Industrial and Commercial rating unit growth is projected to remain centred in the main settlements meaning they can still remain a key component of the district’s economic and community activity.

Dwellings

The projected dwelling growth by type is shown below for the district. The proportion of occupied dwellings is also shown for 2015 and 2045. This shows a slight decrease in the proportion of occupied dwellings, indicating a greater increase in the number of holiday homes, compared to occupied dwellings. This increase in holiday homes may also be caused by existing dwellings being converted to holiday homes as they are no longer required by the resident population.

Figure 8 : Dwelling growth by type



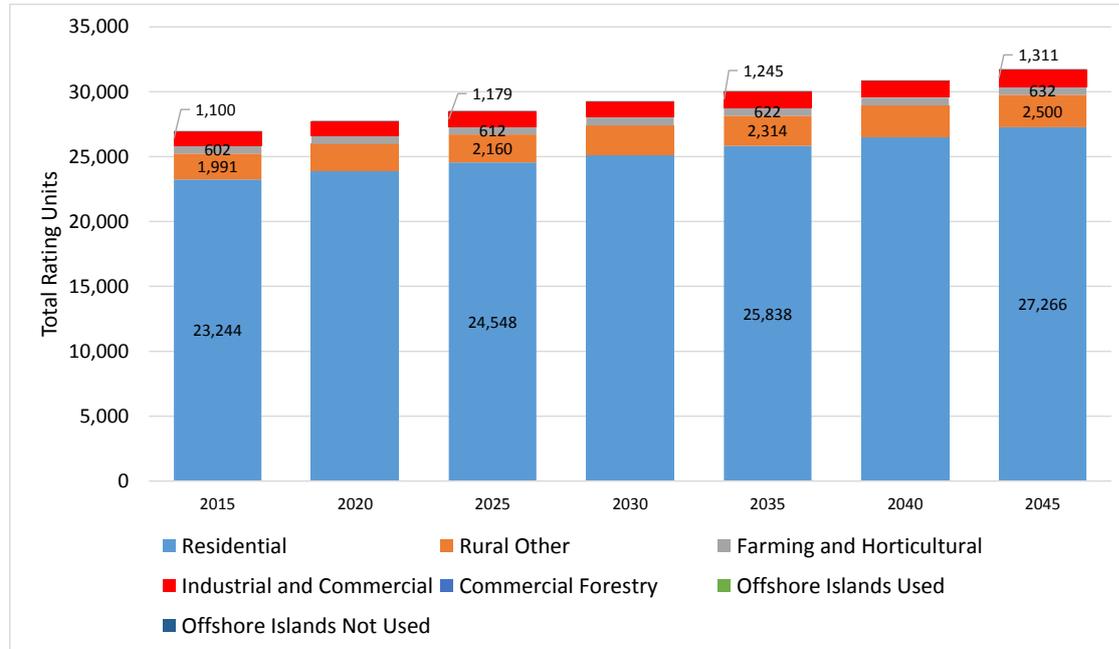
An increase in dwellings is projected in all main settlements. Coromandel and Whitianga are projected to experience relatively strong dwelling growth, 0.6% and 1.1% per year respectively. The other settlements do show an increase in dwellings, however the growth rate is relatively low, less than 0.3% per year.

More positive dwelling growth is projected in the smaller settlements, predominately the popular holiday settlements. The majority of this dwelling growth is expected to be driven by demand for holiday homes.

Rating units

The projected district-wide growth in rating units, by type is shown in the following graph. This shows the district’s reliance on residential rating units. Nearly 94% of the total rating units are in the Residential or Rural Other category. The majority of the remaining rating units are under the Industrial and Commercial category followed by the Farming and Horticultural category.

Figure 9 : Rating unit growth by category



Note: Data labels are not shown for the Commercial Forestry and two Offshore Islands rating unit categories. The number of rating units in these categories remain at 10, 22 (Used) and 9 (Not Used) respectively.

The total rating unit growth for each area relies predominately on dwelling growth. Therefore the projected dwellings for each settlement (discussed in the above dwelling section) are reflected in the rating unit projections.

The number of Industrial and Commercial rating units are projected to increase in all the major settlements, with the rate of growth ranging from 0.4% to 0.9% per year. A demand for additional Industrial and Commercial rating units is also projected in the smaller settlements, most noticeably the popular coastal settlements. These are likely to be linked to the continuation of strong dwelling growth in these areas.

The increase in Farming and Horticultural rating units is around 0.2% per year, or growth of one additional rating unit each year. These are spread predominately and logically across the more rural areas.

4.2 Available Capacity

The Council periodically undertakes a review of dwelling capacity in the district's main settlements, based on current district plan standards and dwelling density assumptions, the last review was in 2010.

With the Council's District Plan being under review and proposed zoning changes, Council officers have undertaken to update the 2010 estimated dwelling capacity figures in order to inform Council's 2015 Long Term Plan processes, noting that the figures are provisional only considering the current review of the District Plan.

As a subsequent step to this growth projections review, the total estimated dwelling capacity in the main settlements has been compared to the projected total residential dwellings in 2045 under the recommended slow growth scenario. Table 7 below shows that all areas have sufficient capacity to meet the projected demand. This confirms that there is sufficient capacity for the recommended slow growth scenario under the Council's Proposed District Plan. Assessment of the 2010 dwelling capacity estimates (under the district's then Operative District Plan) also indicates more than sufficient capacity at 2045. A comparison of the dwelling capacity with the stronger dwelling growth under the optimistic scenario also shows there is sufficient capacity under both the Operative and Proposed District Plan.

Table 7 : Dwelling capacity compared to projected dwelling growth under Proposed District Plan

	Thames	Whangamata	Whitianga	Coromandel Township	Tairua	Pauanui	Matarangi	Total
2014 Total Dwelling Capacity	7,345	6,045	15,383	6,348	4,203	4,070	2,262	45,656
2045 Dwellings	3,646	4,745	4,652	1,288	1,659	2,340	1,399	19,729
Portion Remaining	50%	22%	70%	80%	61%	42%	38%	57%

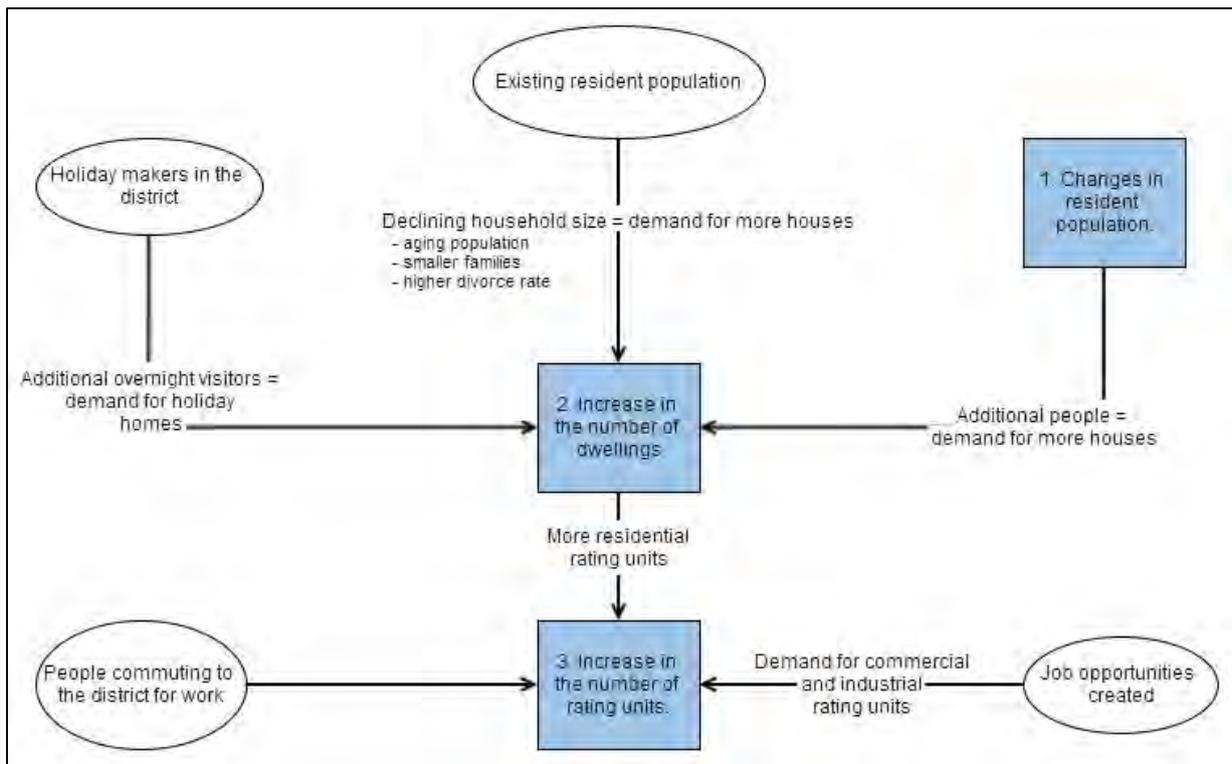
5 Methodology Summary

An overview of the methodology used to develop the growth projections is shown below. This is followed by explanation of methodology components.

5.1 Overview

The basic underlying philosophy is that people drive the growth in dwellings and rating units. An increase in people living, working or holidaying in the district will result in an increase in both dwellings and rating units. An overview of the methodology is shown below.

Figure 10: Method overview



Resident population growth is only one of three factors that can drive an increase in dwellings. The other two factors are:

- Declining household size - if the historical trend of smaller families continues, then additional dwellings will be required to house the same number of people.
- Demand for holiday homes - out of district demand for holiday homes may drive dwelling growth, independent of the resident population.

Changes in the above variables then flow on to rating units. Any additional dwellings result in an increase in residential rating units. The business related rating unit growth is again a combination of multiple factors:

- A higher population and/or more dwellings, resulting in more services required
- A greater number of visitors to the district, resulting in more tourism related job opportunities

- Local industry creating more jobs that provide services or products external to the district
- An increase in the number of people commuting into the district for work.

The key point is that growth in dwellings and/or rating units may still occur with a stable or declining population. However rather than attempt to quantify the standalone impact of the above factors, the approach relies on trends to estimate the overall effect on dwelling growth. This is explained further in Section 5.3.

As a guiding start point Statistics New Zealand (SNZ) population projections have been used. These are released as a low, medium, high series and are discussed in more detail in Section 5.2.

While the SNZ projections provide robust population and household projections, they do not project dwelling or rating unit growth. The key requirement of the Model is to convert the population growth for each settlement into dwelling and rating unit growth.

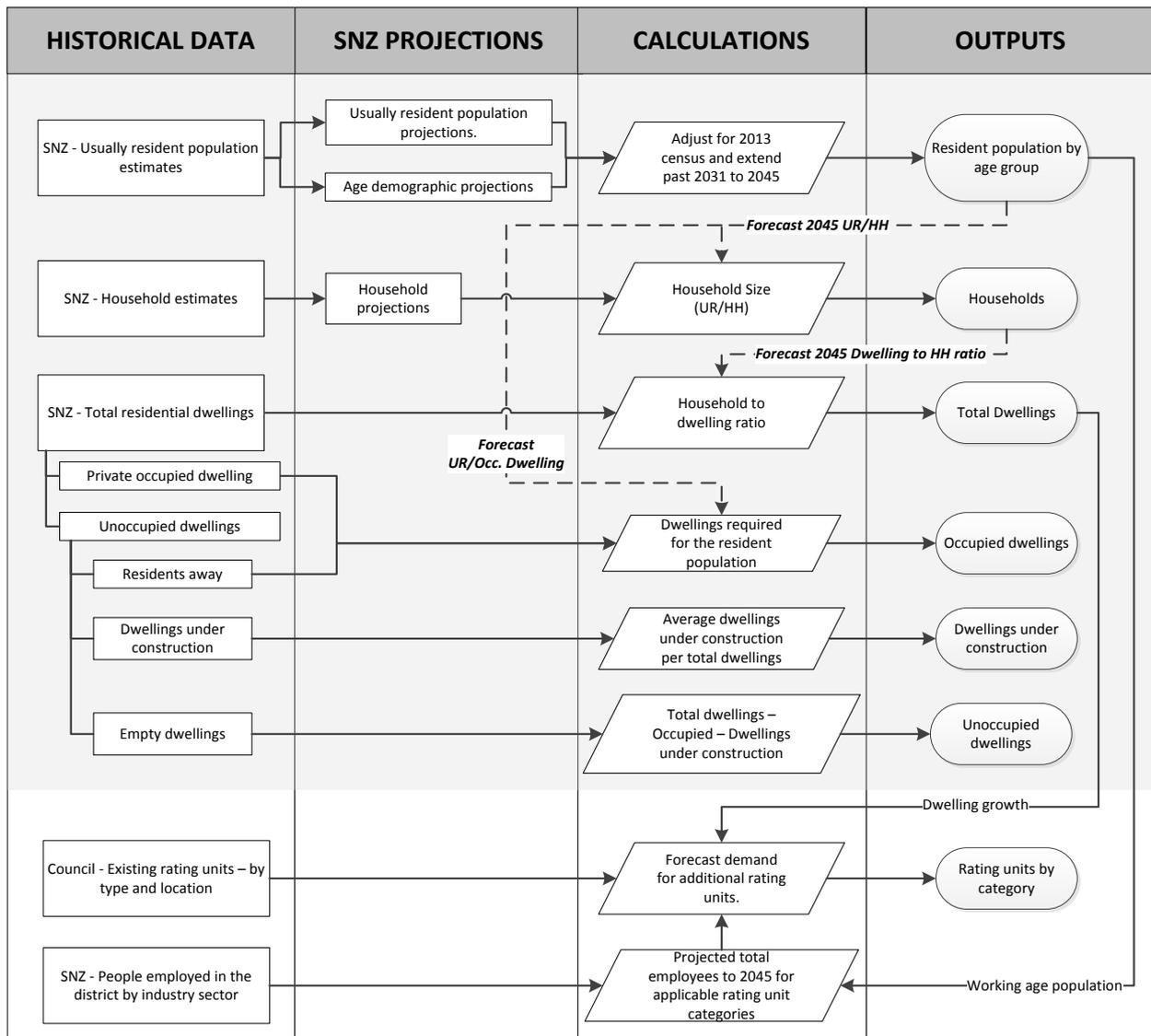
To deliver the required outputs for this review the following key processes have been undertaken:

- A 'start' point is estimated using newly available 2013 Census data. The 30 June 2013 estimated resident population is compared against the three SNZ series of projections. The projections are then realigned with the new starting point. The SNZ population projections series extend to 2031, then linear extrapolation is applied out to 2045.
- Historic and current data is inputted and analysed to set base trends for each type of projections (population by age, dwellings by type and rating units by type). The collation, analysis and projection of the Census data in the Model is done at the settlement level and aggregated up to provide community board and district outputs. This data includes 2001, 2006, and 2013 Census data for population and dwellings, and Council rating unit data for the previous three years.
- Validation of the outputs include comparison with Council's previous projections, plans/strategies and building consent information. Assessment of supply and demand is also undertaken to compare the projected demand with available zoned land.

All outputs are projected as at 30 June of each year. This aligns with Council's financial year and ensures the outputs can be compared with SNZ estimates moving forward.

A more detailed Model structure is shown in Figure 11 below. This shows the information flow through the Model.

Figure 11 : Detailed Model Structure



The following sections summarise the method in each part of the Model, for population, dwellings and rating units.

5.2 Population

The population growth in the main three scenarios are based on SNZ population projections. These include a low series (pessimistic scenario), a medium series (slow scenario) and a high series (optimistic scenario) based on births, deaths and migration. The reasons for using the SNZ projections are as follows:

1. They provide a robust births and deaths model which flows through to the age demographic projections. This involves complex analysis of the birth and death rates, and also the impact on an area’s age structure from migration into and out of the district.
2. By basing the scenarios purely on an overall population change, the standalone impact of any local growth drivers, and other existing trends in the district do not need to be quantified. The

SNZ projections provide a broad range of projections. Local knowledge can be used to select the most appropriate set of projections.

3. The net migration analysis is continually being improved and updated based on the most recent information. We have previously attempted to improve these with little success. We have found that linking migration to other drivers increases the complexity of a model but not always the accuracy.
4. The SNZ projections are updated every two to three years to maintain their relevance and usefulness, by incorporating new information about demographic trends and development in methods. The Model is easy to update as and when this new information becomes available. The next set of SNZ projections will be informed by the findings of the 2013 Census and post-enumeration survey.

The SNZ projections are provided for each Census Area Unit. These census boundaries do not reflect the Council's communities of interest (the district's community boards and settlements), so the Census Area Unit projections have been allocated to settlements based on 2013 Census usually resident population ratios.

5.3 Dwellings

As discussed in the overview above, while the SNZ projections provide robust population and household projections, they do not project the impact the changes in population structure will have on the overall dwelling growth. The total dwellings are also further broken down into occupied, unoccupied and under construction.

The link between usually resident population and dwelling growth is a household. There can be none, one or multiple households in a dwelling. The population growth is converted to dwelling growth based on the forecast trend for two key variables:

- Household size – this ratio has been decreasing due to an aging population and a move to smaller families. This trend is projected to continue, resulting in more dwellings being required to house the same number of people.
- Households to dwelling ratio – this ratio accounts for dwellings not occupied by the usually resident population, e.g. holiday homes. The forecast ratio for each settlement is based on historical data. Where this ratio declines, more dwelling growth occurs, typically driven by holiday home growth. If this ratio increases, less dwelling growth occurs, indicating a shift to residents using more of the dwelling stock.

Once the total dwellings have been projected they are broken down by type. The number of unoccupied dwellings is based on the census night empty dwelling figures. This figure is not 100% accurate as it may exclude holiday homes that have visitors to the district staying in them on census night. However, the discrepancy is likely to be minor considering the census occurring mid-week in March.

The dwellings under construction are also based on the census night figures. These are projected to increase in proportion with dwelling growth.

The remaining dwellings are assumed to be occupied by the resident population.

5.4 Rating Units

The final purpose of the Model is to convert the population and dwelling growth into rating units. The approach differs for each type of rating unit. These are discussed in turn below.

Residential Rating Units

For residential rating units (Residential and Rural Other) the assumption is that each new dwelling creates a new rating unit. This means that in the long term, the current provision of vacant properties will be replenished as they are utilised. This is done at the settlement level with the allocation of dwelling growth to Residential and Rural Other rating units based on the existing proportion.

Industrial and Commercial Rating Units

The future demand for Industrial and Commercial rating units is based on the projected number of people working within these sectors. This is done at the district level based on the last 12 years of employment data across a range of industry sectors. The allocation of growth from district level to settlements is based on a combination of historical local employment growth and the existing proportion of Industrial and Commercial rating units in each settlement.

The historical data shows that the number of people working in industrial and commercial jobs in the district has increased by nearly 600 jobs or 0.7% per year. The data represents the workplace address, and not the place of residence of the working population. The workplace address of the jobs make it more relevant to the demand for Industrial and Commercial rating units in the district.

The historical employment growth rate is greater than the resident population growth rate over this time (indicating that people are commuting into the district for work, who usually live elsewhere). Therefore it is not considered appropriate to simply align the growth in Industrial and Commercial rating units to the resident population.

Our approach assumes this employment growth will continue and represents the slow scenario. For the other scenarios the change in usually resident population is used to decrease or increase the projected number of people working in the district.

This is considered the simplest and most appropriate way to project future demand for business related land within the district. A 'sense check' is included to ensure that projected employment demand can be serviced by the labour force in the district. This includes consideration of factors such as the working age population and people commuting into the district for work from elsewhere.

Other Rating Units

The remaining four rating unit categories (Commercial Forestry, Farming and Horticultural, Offshore Islands Used, and Offshore Islands Not Used) make up less than 2.5% of the total rating units. Therefore, simplistic assumptions have been used to project change in these rating unit types.

The same approach based on employment trends is used to project the Commercial Forestry rating unit growth, however the allocation to the settlements is based solely on the existing ratios.

The same employment based approach was considered for the Farming and Horticultural rating units. However, these rating units have increased over the last two years despite a recent decrease in the number of farming related jobs. Therefore the same approach is not considered appropriate and instead these projections are based on historic trends of growth in Farming and Horticulture rating units.

The Offshore Island rating units are assumed to remain the same.

5.5 Limitations

The latest SNZ projections (used to guide development of projections for this review) were released in October 2012 and therefore do not include the findings from the 2013 Census. We have accommodated for this by making adjustments informed by the newly available 2013 Census data, however comprehensive analysis of underlying demographic and migration assumptions is not able to be updated until this work is completed by SNZ. Updated SNZ projections informed by the 2013 Census may be available later this calendar year and can be easily incorporated in the Model. However, there may be timeframe implications due to SNZ release dates and it may not be possible to incorporate any changes in Council's planning processes.

The SNZ projections extend only to 2031 so linear extrapolation has been used past this point to 2045. This means the projections are less robust beyond 2031, specifically the age demographic projections. The next series of SNZ projections may be extended to 2036 or 2041. As above any extension can be easily updated in the Model.

The Model relies on historical trends from the 2001, 2006 and 2013 Censuses, specifically household sizes and the household to dwelling ratio. While in most cases the trends are reasonably evident, in some settlements there is significant variation over the last three censuses. In these cases national and district level trends, and trends in neighbouring or similar settlements have been considered in order to project future trends.

Despite these limitations, the projections are considered appropriate for providing a sound basis for Council's long term planning.

Appendix A – Rating Unit Definitions

The Council's current rating units categories have been used for this review, and are defined below.

Farming and Horticultural means all property that is categorised within the district valuation roll as Arable, Dairying, Pastoral, Specialist (Aquaculture including all types of Fish Farming, Deer farming, Horse studs and training operations, Poultry, Pigs and all other specialist livestock) or Horticulture where the ratepayer's income or a substantial part thereof is derived from the use of the land for such purpose or purposes, except for those properties which are expressly defined under Commercial Forestry, or Offshore Islands (used).

Rural Other means all property that is zoned as 'Rural' or 'Coastal' within any operative district plan, except those properties which are expressly defined under Industrial and Commercial, Farming and Horticultural, Commercial Forestry, Offshore Islands (used) or Residential.

Industrial and Commercial means:

- all property that is used principally for commercial and/or industrial purposes other than property defined as Farming and Horticultural, Commercial Forestry or Residential. Where the principal use of the property is a business or entity engaged in or relating to retail or wholesale trade, tourist services, manufacturing, marketing, service industries, offices, depots, yards, parking areas of buildings, cool stores and freezers, taverns, restaurants, motels, hotels, rest-homes, medical services, mining activity and commercial nurseries, whether operated for private pecuniary profit or not. The property will be deemed industrial and commercial for the purposes of determining the differential rating category. For the purposes of clarity large scale B&B and other similar short stay accommodation will be treated as Industrial and Commercial.
- any property other than property defined as Farming and Horticultural or Commercial Forestry or not expressly listed under Industrial and Commercial, where activity is carried out for private pecuniary profit.
- vacant or idle land, Previously zoned as 'Town Centre', 'Gateway Zone', 'Pedestrian Core', 'General Activities' within any operative district plan for the time being in force in the Thames-Coromandel District will be determined by where the land is situated for the purposes of the differential rating category.

Commercial Forestry means all property that is used for production forestry purposes by a ratepayer whose income or a substantial part thereof, is derived from the use of the land for such purposes.

Residential means:

- all property that is used or is capable of being used for occupation as a residence of one or more household units other than property defined as Industrial and Commercial, Farming and Horticultural, Rural Other, and Commercial Forestry and including dwellings, home units, flats, baches, maisonettes and terrace houses. Bed & Breakfast and Homestay accommodation used principally for residential purposes is deemed Residential for the purposes of determining the differential rating category. For the purposes of clarity, small scale B&B or Homestay

accommodation (e.g. less than 50% of the bedrooms offered for short stay accommodation) will be treated as Residential.

- Community use land, being property that is used for the purpose of public schools, public hospitals, churches, cemeteries, private and public community centres and halls, recreation areas, sports clubs, sports grounds, art galleries and museums, kindergartens, play centres and private clubs where the use of the land is an activity not engaged for private pecuniary profit
- Vacant or idle land, previously being zoned as 'Housing' or 'Waterfront' within any operative District plan in the Thames-Coromandel District will be determined by where the land is situated for the purposes of the differential rating category.

Off-shore Islands (used) means those islands within the District that are used or inhabited.

Off-shore Islands (unused) means those islands within the District, which are substantially unused or uninhabited.

Appendix B – Historical Growth

Analysis of historical growth trends is a key component of this review and has informed likely growth trends going forward. Given this relationship, an overview of historical growth is discussed below.

Most analysis is of growth in population and dwellings, as consistent historical rating unit data is not readily available. Analysis undertaken has looked at the last 12 years, based on information from the 2001, 2006 and 2013 Censuses. Note the period between the censuses is inconsistent, five and seven years, due to the delay from the Canterbury earthquakes. For reporting purposes, the analysis is at the district and community board level.

In most cases, the majority of change at sub-community board level has occurred in the main settlements. The exception to this is the dwelling growth in Mercury Bay which is more evenly dispersed across a number of the popular holiday settlements.

Table 8 : Historical population and dwelling growth (30 June estimate)

Row Labels	2001	2006	2013	Change (2001 - 2013)	Average annual change	Annual average growth rate
District						
Usually Resident Population	25,800	26,640	26,847	1,048	87	0.3%
Total Dwellings	19,971	22,716	24,164	4,193	349	1.6%
Occupied	12,733	13,466	12,678	-55	-5	0.0%
Unoccupied	7,105	9,014	11,350	4,245	354	4.0%
Under Construction	133	236	135	2	0	0.2%
Coromandel-Colville Community Board						
Usually Resident Population	2,953	2,956	2,899	-54	-5	-0.2%
Total Dwellings	2,007	2,206	2,375	368	31	1.4%
Occupied	1,331	1,346	1,382	51	4	0.3%
Unoccupied	661	839	975	314	26	3.3%
Under Construction	15	21	18	3	0	1.5%
Mercury Bay Community Board						
Usually Resident Population	5,573	6,751	7,371	1,798	150	2.4%
Total Dwellings	5,268	6,892	7,688	2,420	202	3.2%
Occupied	2,675	3,951	3,546	872	73	2.4%
Unoccupied	2,550	2,816	4,090	1,540	128	4.0%
Under Construction	44	125	51	8	1	1.4%
Tairua-Pauanui Community Board						
Usually Resident Population	2,477	2,365	2,321	-156	-13	-0.5%
Total Dwellings	3,466	3,786	3,831	365	30	0.8%
Occupied	1,943	1,564	1,225	-718	-60	-3.8%
Unoccupied	1,490	2,193	2,584	1,094	91	4.7%
Under Construction	33	29	22	-11	-1	-3.4%
Thames Community Board						
Usually Resident Population	10,354	10,506	10,284	-70	-6	-0.1%
Total Dwellings	4,639	4,940	5,156	517	43	0.9%
Occupied	4,269	4,538	4,587	317	26	0.6%
Unoccupied	349	379	547	198	16	3.8%
Under Construction	20	23	22	2	0	0.8%

Row Labels	2001	2006	2013	Change (2001 - 2013)	Average annual change	Annual average growth rate
Whangamata Community Board						
Usually Resident Population	4,442	4,062	3,972	-470	-39	-0.9%
Total Dwellings	4,591	4,892	5,114	523	44	0.9%
Occupied	2,515	2,067	1,938	-577	-48	-2.1%
Unoccupied	2,054	2,787	3,154	1,099	92	3.6%
Under Construction	21	38	22	1	0	0.4%

The usually resident population of the district on 30 June 2013 is estimated to be around 26,850 people. Table 88 shows that the district resident population has grown by over 1,000 people (0.3% per year) in the last 12 years. Most of the growth occurred in the period between 2001 and 2006, before growing at a slower rate of late.

Although the district population has grown, the population in most community board areas have declined, most noticeably Whangamata which has reduced by nearly 500 people (-0.9% per year) to around 3,970 people. The exception to the decline is Mercury Bay which has grown by around 1,800 people (2.5% per year) to around 7,370 people. The other three community boards have remained relatively stable, showing only slight decreases. The 30 June 2013 populations for these community board areas are Coromandel-Colville (just under 2,900 people), Thames (10,284 people) and Tairua-Pauanui (2,320 people).

Over the same period, nearly 4,200 new dwellings have been built - an increase of around 1.6% or 350 dwellings per year. As the occupied dwellings have remained relatively stable, all of these new dwellings are likely to be holiday homes. This highlights the significance of holiday homes to the district.

As with population growth, the highest rate of dwelling growth has occurred in Mercury Bay – a total increase of 2,420 dwellings or 3.2% per year. All other community board areas have experienced positive dwelling growth despite stable or declining populations. The rate of growth ranges between 0.8% and 1.4% per year, or a total increase of 360 to 530 dwellings.

Another key point to note is that the number of occupied dwellings in Tairua-Pauanui and Whangamata Community Board areas have declined, suggesting that more of the dwelling stock is now being used for holiday homes.

Although the period encompasses 12 years, there are likely to be peaks and troughs between the census years that are not captured in the historical data. The building consents for new residential dwellings over this period provides useful data for each year. The difference between building consents and dwelling growth is to be expected as not all building consents result in a new dwelling and some may be counted twice if design/construction is changed midway through the consenting process.

Table 9 : Historical Building Consents for New Residential Dwellings

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
339	428	453	577	553	446	428	325	235	232	200	211	180

The average number of new residential building consents over the period is 350 per year, similar to the dwelling growth. However during the construction boom in the early-mid 2000s, before the global financial crisis, the average number was over 480 per year. The average over the past five years is around 210 consents per year. The number has continued to decline every year since the peak in 2004.