Tasman District Council

Growth Strategy 2014

1   Introduction

This strategy outlines Council's approach to growth for the 2015-2025 Long Term Plan (LTP) cycle. It is informed by the Tasman District Growth Demand and Supply Model (GDSM or growth model).

The growth model is a District-wide, long term development planning tool. It underpins the Council's long term planning through the Activity Management Plans, Long Term Plan and supporting policies (e.g. Development Contributions Policy). The planning is required to best provide for the projected growth in Tasman's population (from 48,800 in 2013 to 54,000 in 2043), households and business activity.

The purpose of the growth model is to provide predictive information (demand and supply) for future physical development including sites for built development and network services. This information generates the forecast assumptions for the programming of a range of services as Council activities.

1.1   Key strategic priorities

To ensure we provide optimal infrastructure and services, now and into the future, the Council has the following key strategic priorities:

- *Provide for a range of living choices:* The Council will provide a range of different zoning types to accommodate the diverse living aspirations of our community, who may want to live in intensive urban environments, in rural productive farms or interdependent rural communities. For example, the Council identified the following issues for consideration of a review of Rural Land Use:
    - Changing demands for rural housing
    - Manageing subdivision and development on existing and potentially productive land
    - Managing the effects of business activities in rural zones.

- *Proactively meet the needs of our changing District:* The Council will research, plan and provide infrastructure and services to respond to the changing demographics of the District, including an ageing population and reducing average household size. For example, the Council has undertaken the Richmond intensification study to determine how to best develop the District's largest town.

- *Support growth in the right places:* The Council will support growth in our settlements, taking into account the suitability of the land for growth, and the ability to provide infrastructure and services.

- *Protect high value rural land:* the Council has a preference for protecting the high value rural 1 soils, and will discourage residential intensification in these areas.

- *Plan to meet demand:* Generally, the Council will work to zone land for growth that at least matches the demand for growth.

- *Enable the growth of business:* The Council will ensure the provision of adequate land zoned for businesses e.g. Richmond West.

- *Target funding to support growth:* The Long Term Plan 2015-2025 provides for up to $20 million in growth-related projects.

- *Spend wisely for maximum benefit:* Council infrastructure will be prioritised to maximise the overall benefits to the community.

- *Fund growth sustainably:* As much as it is practicable, the Council will use Development Contributions and Reserve Financial Contributions to fund the cost of growth.

- *Work together:* the Council will work with the District's businesses and residents in the implementation of the growth strategy.

Supporting growth in the right places

The Council will encourage and support growth within the main Settlements in the District, rather than outside of settlements. Council will support growth in settlements where there is a projected population increase over the term of the growth strategy. Priorities for growth will be those areas of settlements that support the best outcomes for:

Land Use Effects including:	Settlement Form
	Productive Land Value
	Hazard Risk Exposure.
	Sensitive Environment: amenity.
	Sensitive Environment: water margin, natural and historic.
	Aggregate land use evaluation (net score for physical effects of urban end-use).
Network and Community Services Effects including:	Stormwater
	Water Supply
	Wastewater
	Transportation
	Green space
	Community
	Aggregate network and community services evaluation (ability to provide and costs of providing infrastructure services.

1.2   Key Methodology for the Strategy

The primary sources of statistical information on current and future population trends for the growth model are the New Zealand Censuses of 2006 and 2013. The most recent census occurred in March 2013, postponed from its scheduled date of 2011 as a result of the Christchurch earthquake of 22 February 2011. At the time of writing this growth strategy, Statistics New Zealand is still releasing data from the 2013 Census. For example, updated projections for household sizes are not available at this time. As such, projections relating to household sizes included in this strategy are based on the medium growth projections (2006 base) provided by Statistics New Zealand, being the most recent available.

The growth model assesses demand for housing from population and household growth forecasts. Council planning for non-residential growth i.e. holiday homes is based on the 2011 ratio of residential to non-residential dwellings continuing for the next twenty years.

The growth model assesses demand for business premises using economic and employment growth forecasts undertaken by Property Economics to date and associated land requirements.

Three rounds of GDSM workshops have been held for each of the District's settlements. The workshops have been informed by information held by a range of Council departments. Topics covered included: soil types, hazard risks, stormwater, water, wastewater, building consents, flood risk, subdivision consents and rating data.

1.3   Background

The growth model was first developed in 2004/05 for the first ten year Council planning requirement, the Long Term Council Community Plan 2006–2016 (now called long term plans, LTPs). A substantial review of the growth model was undertaken in 2008, for the second generation LTP (2009–2019). The growth model has been conceived as *a District-wide, long term planning tool for physical development of network infrastructure and built settlement areas.*   There have been three iterations since the first run of the growth model and each one has improved upon the last.

Development contribution amounts for the three water services and transportation have now been provided, as an expansion to the growth model. These amounts are derived from the number of built-site equivalents in the respective Service Contribution Areas, for which expenditure on new and upgraded services in Years 1-10 is to be spread.

1.4   Purpose and Scope of the Growth Model

The growth model organises information about:
  a) expected future demand for residential and business development within the principal settlements of Tasman District;
  b) evaluations of additional development potential, urban end-use, development density and additional built site capacity in these settlements;
  c) proposed supply of built sites within the settlements, over a series of time horizons into the long term future; and
  d) expected dollar amounts for development contributions for individual network services, derived from the number of built-site equivalents over the respective Service Contribution Areas in the main settlements, over which capital expenditure for new and upgraded services in Years 1-10 is to be spread.

The main output from the growth model is a proposed sequence of physical development on land assessed as developable in the principal settlement areas in the District, specific to location, number of new buildings on either existing or new lots, and broad time horizons. This growth supply roll-out, or growth strategy, is the planning context for:
  • the provision of new or different urban settlement land or space for built development; and
  • the programmed provision of new network utility and other infrastructure services, or upgrades to existing services.

The GDSM process is explained in greater detail in Appendix 1.

2 Summary of Population Data

This section summarises the key statistics for the Tasman District, including past and projected population growth, and changes in age groups and household size and constitution. It outlines potential consequences of the demographic qualities and Council's strategic approach in response.

2.1 Population Change

Table 1 Key Statistics for Tasman District

	2006	2013	2031
Population	45,800	47,157	53,900
Median age	40.3	44.2	47.3
Proportion of population aged over 65	13.6	17.9	28.6
Number of households	17,900	18,264	23,500
Working age population	29,810	30,370	29,150

The most significant demographic change occurring across the District (and country) is the ageing of the population. In addition, household composition is becoming more diverse, and the average household size is also reducing.

Across our District, there are significant differences in the current and forecast composition of the different communities, including the rate of ageing, occupations, forecast household size and incomes. These demographic changes and variations have an impact on which facilities and infrastructure should be provided to the respective communities and how these facilities are funded. Examples of how Council intends to respond to the needs of our ageing population include: providing for increased intensive living options in our urban settlements; ensuring infrastructure is accessible; and keeping rates and charges affordable to ratepayers on low and fixed incomes.

2.2 Population Projections

Projections included in this strategy utilise the most recent data available from Statistics New Zealand. They are the medium growth projections, based on either the 2006 census (for individual settlements) or the 2013 census (for whole of District projections). Tasman's total population is projected to increase to approximately 54,000 by 2043 (see Table 2). Key figures for each of the settlements and ward remainders are set out in Table 3.

Table 2 Projected population for Tasman District 2013(base)–2043

Projection	Population at 30 June							Population change 2013–43	
	2013	2018	2023	2028	2033	2038	2043	Number	Average annual (percent)
High		52,000	54,600	57,000	59,100	60,800	62,200	13,400	0.8
Medium	48,800	50,900	52,300	53,300	54,000	54,300	54,000	5,200	0.3
Low		49,800	49,900	49,600	48,900	47,700	46,000	-2,800	-0.2

Table 3 Population figures for all settlements using medium projections.
(Based on 2013 Census)

Settlement Area	Projected Population					
	2014	2016	2018	2020	2029	2039
Brightwater	1835	1878	1921	1966	2168	2412
Coastal Tasman Area	2498	2540	2581	2621	2780	2903
Collingwood	232	235	237	239	247	250
Kaiteriteri	377	381	385	388	392	382
Mapua/Ruby Bay	2028	2071	2114	2156	2339	2506
Marahau	119	120	121	122	124	120
Motueka	6687	6733	6779	6814	6864	6810
Murchison	413	410	406	402	381	365
Pohara/Ligar/Tata	543	549	555	560	577	583
Richmond	13606	13869	14132	14381	15441	16396
Riwaka	591	599	606	613	623	636
St Arnaud	101	101	101	101	99	93
Takaka	1239	1239	1239	1235	1175	1056
Tapawera	284	289	294	297	308	320
Tasman	189	192	194	197	205	210
Upper Moutere	148	151	153	156	168	177
Wakefield	1939	1979	2020	2060	2260	2471
sub-total	32829	33336	33838	34308	36151	37690
Ward Remainder (Area Outside Ward Balance)	282	285	288	291	300	303
Ward Remainder Golden Bay	3023	3056	3090	3119	3214	3248
Ward Remainder Lakes Murchison	2418	2448	2477	2507	2640	2722
Ward Remainder Motueka	3096	3148	3199	3248	3445	3597
Ward Remainder Moutere Waimea	4248	4319	4390	4457	4727	4937
Ward Remainder Richmond	1612	1700	1787	1875	2289	2704
sub-total	14679	14956	15231	15497	16615	17511
Total District Population	47508	48292	49069	49805	52766	55201

2.3   Age Structure

The age structure of our District reflects the various influences of births, deaths and migration. Changes in the age structure of the population are occurring in all areas. The most important trend is the general ageing of the population, with an increasing number and share in the older age groups.

Between 2013 and 2043, the number of people aged over 65 in Tasman is projected to double from 17.8% to 37.6% of the population. Twenty five years ago the figure was less than 10%.

The first of the baby boomers (i.e. those born between 1946 and 1964) commenced retiring from 2011. Fertility rates have decreased over the last 20 years. The median age is projected to increase from 44.0 in 2013 to 53.8 in 2043.

Table 4 Projected population age structure and components of change 1996–2043
(medium projection, based on 2013 census)

Year	Population[2] by age group (years), at 30 June					Components of population change, five years ended 30 June				Median age[7] (years) at 30 June
	0–14	15–39	40–64	65+	Total	Births[3]	Deaths[4]	Natural increase[5]	Net migration[6]	
1996	9,100	13,300	11,600	4,800	38,800	...	...	...	...	35.3
2001	9,700	13,100	14,100	5,500	42,400	2,500	1,400	1,100	2,600	37.6
2006	9,700	12,900	16,900	6,200	45,800	2,700	1,500	1,100	2,200	40.3
2013	9,700	11,700	18,700	8,700	48,800	2,500	1,600	900	1,400	44.0
2018	9,400	11,900	18,500	11,100	50,900	2,300	1,700	600	1,500	46.6
2023	8,800	12,200	17,700	13,600	52,300	2,300	2,000	400	1,000	49.1
2028	8,500	12,200	16,600	16,100	53,300	2,300	2,300	100	1,000	51.0
2033	8,500	11,700	15,900	18,100	54,000	2,300	2,600	-300	1,000	52.2
2038	8,400	11,100	15,100	19,700	54,300	2,200	3,000	-800	1,000	53.1
2043	8,200	10,600	14,900	20,300	54,000	2,100	3,400	-1,200	1,000	53.8

Notes to table:

(2) Estimates for 1996–2013 are the estimated resident population of each area. Projections for 2018–43 have as a base the estimated resident population of each area at 30 June 2013 and incorporate medium fertility, mortality, and migration assumptions for each area.

(3) Historical data refers to live births registered in New Zealand to mothers resident in each area.

(4) Historical data refers to deaths registered in New Zealand of people resident in each area.

(5) Births minus deaths. Negative values denote natural decrease.

(6) Net external migration plus net internal migration. Historical data is the difference between estimated population change and natural increase.

(7) Half the population is younger, and half older, than this age.

Table 5 Changes in the Median Age for Tasman 2006 – 2031 (based on 2006 Census)

Settlement	Median Age (Years)		Increase in Median Age (Years)
	2006	**2031**	
Brightwater	34.7	38.8	4.1
Collingwood	42.7	46.8	4.1
Coastal Tasman Area	40.5	50.8	10.3
Kaiteriteri	44.3	46.1	1.8
Mapua Ruby Bay	45.3	55.1	9.8
Marahau	44.3	46.1	1.8
Motueka	41.7	51.5	9.8
Murchison	44.8	43.1	-1.7
Pohara/Ligar/Tata	42.7	46.8	4.1
Richmond	40.2	46.4	6.2
Riwaka	39.3	40.9	1.6
St Arnaud	39.8	40.7	0.9
Takaka	43.5	57.5	14.0
Tapawera	33.2	42.7	9.5
Tasman	40.8	51.4	10.6
Upper Moutere	40.3	50.3	10.0
Wakefield	35.2	42.9	7.7
Ward Remainder Golden Bay	42.7	46.8	4.1
Ward Remainder Lakes Murchison	37.3	41.5	4.2
Ward Remainder Motueka	40.5	50.8	10.3
Ward Remainder Richmond	38.1	42.8	4.7
Ward Remainder Moutere Waimea	40.5	50.8	10.3
Tasman	**40.3**	**47.3**	**7.0**
Range	**12.1**	**16.3**	**-**

Note: the largest increases are highlighted in yellow and the lowest in blue and the highest and lowest figures are in red.

Consequences

Those communities with an older population are likely to have different aspirations to communities with a younger median age, for example:
- Where they wish to live (possibly closer to heart of the settlement areas where medical and social services are more readily available).
- An increasing demand for smaller properties and a decreasing demand for lifestyle or larger properties, particularly given the projected increase in the number of single households.
- The type of facilities and the levels of service requested, including more informal recreation facilities and the demand for "free" or low cost services, such as libraries.
- Their ability and willingness to pay for services and facilities may be lower, given that their incomes are expected to be lower - this may reduce the demand for retail outlets.

Communities with a younger population are likely to need:
- More formal recreation facilities.
- Larger properties.
- Access to public transport during commuter hours.
- Their ability to pay for services may be higher.
- Extended hours and methods to access Council services(e.g. evenings, online services).

2.4   Households

Households are changing in our District. Overall trends are:
- The largest increases are for one-person households, which increased from 3,792 in 2006 to 4,197 in 2013, and are projected to increase further.
- Couple-without-children households are projected to increase from 6,200 in 2006 to 9,400 in 2031 (+3,200).
- Two-parent families are projected to decrease from 5,500 to 4,300 (-1,200).
- One parent and other multi-person households are not expected to change significantly.
- Given the decreasing number of people per household, household numbers are expected to increase faster than the population growth.

Projections on household size, based on the 2013 census, will be available in 2016. The data contained in this growth strategy is based on the 2006 Census.

The number of Couple-without-children and One-person households are expected to be the fastest growing household types over the next fifteen years, whereas the number of two-parent families numbers are expected to decrease. The average household size is expected to decrease from an average of 2.5 persons per household in 2006 to 2.2 persons in 2031. This decrease of 0.3 persons per household is slightly higher than the national decrease of 0.2 and reflects that the increasing percentage of the population aged over 65 living in Tasman compared to national figures.

Statistics New Zealand projections show that the average age in South Island rural areas will increase faster than the New Zealand average and that their corresponding household sizes will be smaller. This assumption appears to be correct for most of Tasman.

Table 6 Comparison between household types in 2006 and 2013

Household type	2006 census	2013 census
One-family household (with or without other people)	12,060	13,017
Two-family household (with or without other people)	255	318
Three or more family household (with or without other people)	0	15
Other multi-person household	459	423
One-person household	3,792	4,197
Total households stated[1]	16,572	17,970
Household composition unidentifiable	228	291
Total households, Tasman District	**16,800**	**18,264**

Table 7 Projected household growth 2006–31 (2006-base update)

Series	Households at 30 June						Change 2006–31	
	2006	2011	2016	2021	2026	2031	Number	Average annual (%)
High		19,600	21,300	23,000	24,700	26,400	8,500	1.6
Medium	17,900	19,100	20,400	21,500	22,600	23,500	5,700	1.1
Low		18,700	19,500	20,200	20,700	21,000	3,100	0.7

Table 8 Household type 2006–31 (2006-base update)

Year at 30 June	Family type							
	Couple-without-children	Two-parent	One-parent	Total	Family	Other multi-person	Total	Average household size
2006	6,200	5,500	1,800	13,600	13,300	400	17,900	2.5
2011	7,100	5,200	1,900	14,200	13,900	400	19,100	2.5
2016	8,000	4,800	1,900	14,800	14,500	500	20,400	2.4
2021	8,800	4,600	1,900	15,200	14,900	500	21,500	2.3
2026	9,200	4,400	1,900	15,500	15,200	500	22,600	2.3
2031	9,400	4,300	2,000	15,700	15,400	500	23,500	2.2

Consequences

The modelling work considered the impact the change in household size, particularly the increase in single person households. It also included the possibility that this might result in a higher demand for smaller household units.

Council will continue to monitor these changes and the demand for different property types. The property market is best placed to respond to these changes, for example the increased demand for retirement villages.

Table 9 Predicted change in Household size (based on 2006 Census)

TDC Data Settlement	Series Used	Area Unit(s) Included	Average Household Size (number of people per household)					
			2006	2011	2016	2021	2026	2031
Brightwater	Med	Brightwater	2.8	2.8	2.7	2.6	2.5	2.5
Coastal Tasman Area	Med	Motueka Outer + Wai-iti	2.7	2.6	2.6	2.5	2.4	2.4
Collingwood	Med	Golden Bay	2.3	2.3	2.2	2.2	2.1	2.0
Kaiteriteri	Med	Kaiteriteri	2.5	2.4	2.3	2.3	2.2	2.1
Mapua/ Ruby Bay	Med	Mapua	2.4	2.4	2.3	2.2	2.2	2.1
Marahau	Med	Kaiteriteri	2.5	2.4	2.3	2.3	2.2	2.1
Motueka	High	Motueka East + Motueka West	2.4	2.4	2.3	2.3	2.2	2.2
Murchison	Med	Murchison	2.2	2.2	2.1	2.0	2.0	1.9
Pohara/Ligar/Tata	Med	Golden Bay	2.3	2.3	2.2	2.2	2.1	2.0
Richmond	High	Richmond East + Richmond West + Ranzau + Hope + Aniseed Hill	2.6	2.5	2.5	2.4	2.4	2.4
Riwaka	Med	Riwaka	2.5	2.4	2.4	2.3	2.2	2.2
St Arnaud	Med	Lake Rotoroa	2.3	2.3	2.2	2.1	2.1	2.0
Takaka	Med	Takaka	2.2	2.2	2.1	2.1	2.0	2.0
Tapawera	Med	Tapawera	2.7	2.7	2.6	2.5	2.4	2.4
Tasman	Med	Motueka Outer	2.6	2.5	2.5	2.4	2.3	2.3
Upper Moutere	Med	Wai-iti	2.8	2.7	2.6	2.6	2.5	2.4
Wakefield	Med	Wakefield	2.9	2.9	2.8	2.7	2.6	2.6
Ward Remainder Golden Bay	Med	Golden Bay	2.3	2.3	2.2	2.2	2.1	2.0
Ward Remainder Lakes Murchison	Med	Golden Downs	2.7	2.6	2.6	2.5	2.4	2.4
Ward Remainder Motueka	Med	Motueka Outer + Wai-iti	2.7	2.6	2.6	2.5	2.4	2.4
Ward Remainder Richmond	Med	Ranzau + Hope + Aniseed Hill + Richmond Hill	2.8	2.7	2.7	2.6	2.5	2.5
Ward Remainder Moutere Waimea	Med	Motueka Outer + Wai-iti	2.7	2.6	2.6	2.5	2.4	2.4

Dwelling ratio for each settlement area

Separate from the household size is the calculation of ratio of dwellings per number of households. This ratio takes into account non-resident dwellings (mainly holiday homes), although other dwellings (such as those provided for seasonal labour) will also come into consideration.

Table 10 Dwelling ratio for each settlement area

Settlement Area	Population (2014)	No. Dwellings	No. Households	Ratio of dwellings/ households (1: X)
Brightwater	1835	692	706	0.98
Coastal Tasman Area	2498	971	993	0.98
Collingwood	232	134	107	1.25
Kaiteriteri	377	422	166	2.54
Mapua Ruby Bay	2028	859	911	0.94
Marahau	119	90	52	1.73
Motueka	6687	2893	2922	0.99
Murchison	413	230	192	1.20
Pohara/Tata/Ligar/ Tarakohe	543	532	250	2.13
Richmond	13606	5569	5653	0.99
Riwaka	591	235	253	0.93
St Arnaud	101	252	45	5.6
Takaka	1239	583	584	1.00
Tapawera	284	115	112	1.03
Tasman	189	75	78	0.96
Upper Moutere	148	54	58	0.93
Wakefield	1939	786	716	1.10
Ward Remainder (Golden Bay)	3023	1593	1392	1.14
Ward Remainder (Lakes Murchison)	2418	1056	953	1.11
Ward Remainder (Motueka)	3096	1257	1230	1.02
Ward Remainder (Moutere Waimea)	4248	1530	1688	0.91
Ward Remainder (Richmond)	1612	499	662	0.75

Consequence

The main impact is for settlements Kaiteriteri, Pohara/Tata/Ligar/Tarakohe and St Arnaud where there are a large number of holiday homes. For these settlements, the ratio of dwellings to households is significantly higher.

The consequence for planning is that decisions have to be made on whether services be provided to meet the peak annual population, which might be for only six weeks, or whether a lower level of service can be provided. In order to make these decisions, the Council considers how critical the service is. For example wastewater services would normally be provided for the

peak demand but not necessarily for roads, in which case visitors may need to queue or there may be traffic jams.

2.5   Business demand

For most settlements, business demand is based on projected population increases for the each settlement. However, growth for Richmond is based on the anticipated demand set for Nelson-Richmond (2008), as Nelson City has limited land available for new business development.

Table 11 sets out a summary of the demand for business land. This shows that during the 10 years of the Long Term Plan, just under half of the demand for new business sites will be in Richmond.

Table 11 Apportionment of Business Land to Settlement Area

The data presented here is for the 2014 Growth Model.

Area Unit growth rate used for Settlement Area	Settlement Area	Review Year Settlement Area Population	Settlement Area as % of Ward Population	Business Demand Data Set Applied from Table 10	Business Land Apportionment %	Average Business Site Size per m2 for Settlement Area	LTP years 1-3 Projected Land Demand (Hectares)	Projected Land Demand (m2)	Less 30% for bulk infrastructure	Projected Demand Business Sites	LTP years 4-10 Projected Land Demand (Hectares)	Projected Land Demand (m2)	Less 30% for bulk infrastructure	Projected Demand Business Sites	Years 11-20 Projected Land Demand (Hectares)	Projected Land Demand (m2)	Less 30% for bulk infrastructure	Projected Demand Business Sites	Total Business Sites Required
Brightwater	Brightwater	1835	18%	Tasman remainder	5%	1559	0.914825	9148.25	6403.775	4	0.922875	9228.75	6460.125	4	1.058	10580	7406	5	13
Mapua	Mapua/Ruby Bay	2028	20%	Motueka	12%	930	0.62376	6237.6	4366.32	5	1.16334	11633.4	8143.38	9	1.06536	10653.6	7457.52	8	22
Motueka Outer	Tasman	189	2%	Motueka	1%	1633	0.05198	519.8	363.86	0	0.096945	969.45	678.615	0	0.08878	887.8	621.46	0	0
Wai-iti	Upper Moutere	148	1%	Motueka	1%	1516	0.051175	511.75	358.225	0	0.096945	969.45	678.615	0	0.08878	887.8	621.46	0	0
Wakefield	Wakefield	1939	19%	Tasman remainder	8%	934	1.46372	14637.2	10246.04	11	1.4766	14766	10336.2	11	1.6928	16928	11849.6	13	35
Motueka Outer/Wai-iti	Ward Remainder Moutere Waimea	4248	41%	Tasman remainder	5%	1574	0.914825	9148.25	6403.775	4	0.922875	9228.75	6460.125	4	1.058	10580	7406	5	13
Moutere Waimea	**Ward Sub-Total**	**10387**					**4.020285**	**40202.85**	**28141.995**	**24**	**4.67958**	**46795.8**	**32757.06**	**28**	**5.05172**	**50517.2**	**35362.04**	**31**	**83**
Motueka Outer & Wai-iti	Coastal Tasman Area	2498	100%	Motueka	2%	1574	0.10396	1039.6	727.72	0	0.19389	1938.9	1357.23	1	0.17756	1775.6	1242.92	1	2
Motueka / Moutere Waimea	**Ward Sub-Total**	**2498**					**0.10396**	**1039.6**	**727.72**	**0**	**0.19389**	**1938.9**	**1357.23**	**1**	**0.17756**	**1775.6**	**1242.92**	**1**	**2**
Golden Bay	Collingwood	232	5%		5%	795	0.0805	805	563.5	1	0.107525	1075.25	752.675	1	0.1035	1035	724.5	1	3
Golden Bay	Pohara/Ligar/Tata	543	11%	Golden Bay	60%	795	0.966	9660	6762	9	1.2903	12903	9032.1	11	1.242	12420	8694	11	31
Takaka	Takaka	1239	25%	Golden Bay	30%	1296	0.483	4830	3381	3	0.64515	6451.5	4516.05	3	0.621	6210	4347	3	9
Golden Bay	Ward Remainder Golden Bay	3023	60%	Golden Bay	5%	795	0.0805	805	563.5	1	0.107525	1075.25	752.675	1	0.1035	1035	724.5	1	3
Golden Bay	**Ward Sub-Total**	**5037**					**1.61**	**16100**	**11270**	**14**	**2.1505**	**21505**	**15053.5**	**16**	**2.07**	**20700**	**14490**	**16**	**46**
Kaiteriteri	Kaiteriteri	377	4%	Motueka	2%	2102	0.10396	1039.6	727.72	0	0.19389	1938.9	1357.23	1	0.17756	1775.6	1242.92	1	2
Kaiteriteri	Marahau	119	1%	Motueka	10%	2102	0.5198	5198	3638.6	2	0.96945	9694.5	6786.15	3	0.8878	8878	6214.6	3	8
Motueka East & West	Motueka	6687	62%	Motueka	70%	1946	3.6386	36386	25470.2	13	6.78615	67861.5	47503.05	24	6.2146	62146	43502.2	22	59
Riwaka	Riwaka	591	5%	Motueka	0%		0	0	0		0	0	0		0	0	0		
Motueka Outer/Wai-iti	Ward Remainder Motueka	3096	29%	Motueka	2%	1574	0.10396	1039.6	727.72	0	0.19389	1938.9	1357.23	1	0.17756	1775.6	1242.92	1	2
Motueka	**Ward Sub-Total**	**10870**					**4.36632**	**43663.2**	**30564.24**	**15**	**8.14338**	**81433.8**	**57003.66**	**29**	**7.45752**	**74575.2**	**52202.64**	**27**	**71**
Murchison	Murchison	413	13%	Tasman remainder	3%	1043	0.548895	5488.95	3842.265	4	0.553725	5537.25	3876.075	4	0.6348	6348	4443.6	4	12
Lake Rotoroa	St Arnaud	101	3%	Tasman remainder	1%	745	0.182965	1829.65	1280.755	2	0.184575	1845.75	1292.025	2	0.2116	2116	1481.2	2	6
Tapawera	Tapawera	284	9%	Tasman remainder	2%	1079	0.36593	3659.3	2561.51	2	0.36915	3691.5	2584.05	2	0.4232	4232	2962.4	3	7
Golden Downs	Ward Remainder Lakes Murchison	2418	75%	Tasman remainder	1%	1277	0.182965	1829.65	1280.755	1	0.184575	1845.75	1292.025	1	0.2116	2116	1481.2	1	3
Lakes Murchison	**Ward Sub-Total**	**3216**					**1.280755**	**12807.55**	**8965.285**	**9**	**1.292025**	**12920.25**	**9044.175**	**9**	**1.4812**	**14812**	**10368.4**	**10**	**28**
Richmond East/Richmond West/Ranzau/Hope/Aniseed Hill	Richmond	13606	89%	Tasman remainder	73%	1429	13.35645	133564.5	93495.115	65	13.47398	134739.8	94317.825	66	15.4468	154468	108127.6	76	207
Ranzau/Hope/Aniseed Hill/Richmond Hill	Ward Remainder Richmond	1612	11%	Tasman remainder	2%	1346	0.36593	3659.3	2561.51	2	0.36915	3691.5	2584.05	2	0.4232	4232	2962.4	2	6
Richmond	**Ward Sub-Total**	**15218**					**13.72238**	**137223.8**	**96056.625**	**67**	**13.84313**	**138431.3**	**96901.875**	**68**	**15.87**	**158700**	**111090**	**78**	**213**
	District Total	**47226**					**25.1037**	**251037**	**175725.87**	**129**	**30.3025**	**303025**	**212117.5**	**151**	**32.108**	**321080**	**224756**	**163**	**443**

Rural Remainder Total   14679
Settlement Area Total   32829

Appendix 1: Growth Model Overview

In order to understand how and where growth will occur, the GDSM comprises the principal Settlement Areas (SA) which contain Development Areas (DA).

A Settlement Area boundary is defined for each of the main towns and communities in the District. There are 17 SAs for the present version of the GDSM. However, this will probably be reduced to 16 for future versions of the model. The reduction would be the removal of the Coastal Tasman area, which is not one settlement, but an area of rural-residential and rural properties. Each SA is sub-divided into a number of Development Areas. Each DA is defined as one continuous polygon within a SA that if assessed as developable (i.e. net positive score), is expected to contain a common end-use and density for built development. Some DAs are assessed as unsuitable for development, due to flood risk constraints for example. The boundaries of such DAs may be based on recent flood modelling information or actual flood event information.

The GDSM organises and integrates the assessments of demand and supply of built development. The development is categorised as either residential or business demand and supply. For residential demand and supply:
- the 'demand' for residential buildings (dwellings) is assessed from population and household growth forecasts
- the 'supply' of lots for future dwellings is assessed from analysis of the DAs in each SA and how many lots could feasibly be developed for residential end use, after accounting for a number of existing characteristics of the DA.

For business demand and supply:
- the 'demand' for business premises is assessed from economic and employment growth forecasts undertaken by Property Economics to date and associated land requirements
- the 'supply' of lots for future business premises is assessed from analysis of the DAs in each SA in a similar way as that for future dwellings.

The DAs and SAs are the building blocks that allow the GDSM to spread demand for new dwellings and business premises, and assess where there is capacity to supply that demand.

The GDSM is not just an isolated tool that calculates a development forecast. It forms three rounds of workshops that involve assessment of base data, expert interpretation and assessment, calculation and forecasting. The key input data from each workshop, assessment and computational processes, and outputs of the GDSM are captured by in a database called the Growth Model Database.

The whole process to develop the growth demand and supply forecasts is as follows:
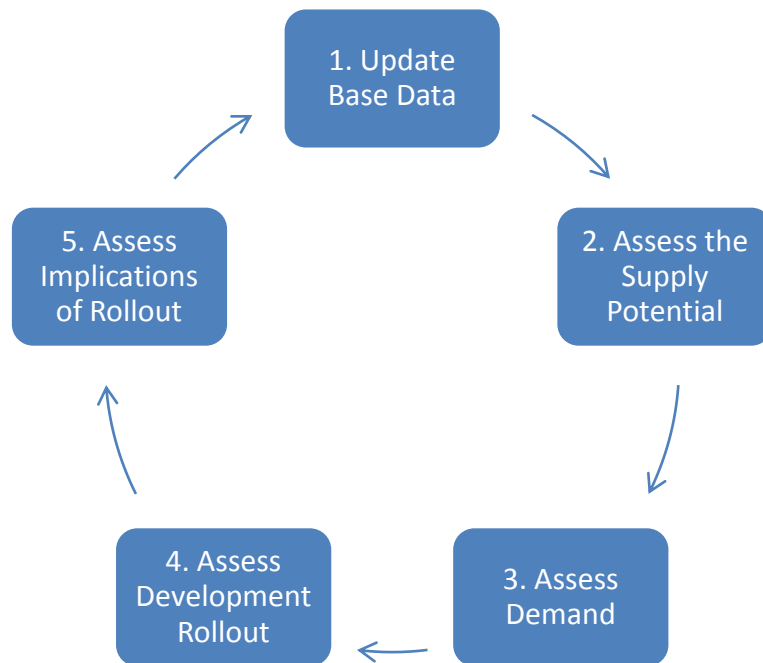
The process is cyclical and involves the following activities:

1. **Update Base Data:**
    Council's Information Services (IS) analyses and processes Council's cadastral and rating databases for the three year period since the last review to prepare and provide maps for each of the 17 settlements that show new land parcels, subdivisions, building consents (residential and business), DoC land, cemeteries, schools and greenspaces (reserves). Other maps provided by IS include information such as flood modelling or flood incidents, protected trees, heritage buildings, cultural heritage sites, slope instability, water supply area, stormwater urban drainage areas and wastewater urban drainage areas. This information is used in round 1 of the workshops, for the settlement growth assessments.

2. **Round 1 of the growth model workshops**: **Assess the Supply Potential**
    Once the base data has been prepared by Information Services, the Settlement Area Assessments are undertaken. Information provided by the team concerning the context of each SA, its current form and how it functions, is considered, as well as uncertainties that may impact on the settlement e.g. funding of network services, population decline. Consideration is given to whether the SA boundary needs to be changed or the shape of DAs or new DAs created. Then a Settlement Area Assessment Matrix is used to assess which DAs are appropriate places for further urban built development and which are not, and for those DAs assessed as developable, what type of development is expected (in terms of residential or business, high density or low density etc).

    The largest settlements are assessed in this way at individual workshops. Groups of smaller settlements are assessed at combined workshops. A multi-disciplinary expert team is present to assess each settlement. The outputs of the Settlement Area Assessments are carried forward to Round 2 of the growth model workshops.

Round 2 of the growth model workshops: Assess the Supply Potential:
Once the settlement has been physically assessed, those DAs that score positively are rolled over to the round 2 workshops where the potential yield of those DAs is evaluated. Both residential and business DAs are examined for their potential density, typical lot size, terrain, availability and developability.

The outputs of the Settlement Area Assessments from rounds 1 and 2 of the workshops are imported into the GDSM database by IS, integrated with base data and run to calculate for each DA the total potential supply of lots (yield) for development, both in terms of new lots and existing vacant lots.

3. **Assess Demand:**
   The GDSM uses Statistics New Zealand census based population statistics and projections to determine the expected future population, future household and employment space demand, and thus demand for new dwellings and new businesses. This data needs some processing to convert the forecast demand data from the areas that Statistics New Zealand use (area units and meshblocks) to the SAs Council has defined.

4. **Round 3 of the growth model workshops: Assess Development Rollout:**
   Once the total potential supply of developable lots (yield) of SAs and demand for households has been determined, a forecast of where and when development will occur is made. This is the "development rollout" process. It requires the judgement of the same team of specialists taking into account the outcomes of the Settlement Area Assessments, examining those DAs that had a net positive score. The opportunities and constraints for changes to each settlement's form and function and its servicing are considered, the property market and community desires in general.

   The team can recommend to Council that supply and demand be matched, or that supply be greater or less than demand for each settlement.

   The development rollout gives a temporal and spatial forecast of future residential and business development in each SA.

5. **Assess Implications of Rollout:** The development rollout will have a number of implications that need to be identified and planned for. New growth will cause a demand for network services so network asset managers need to plan for network development that is needed to enable the growth to occur. Reserves and community facilities staff need to plan developments to meet the needs in their area of work. The policy planners also need to ensure the Council's urban development plans, policies and zonings are reviewed and amended or changed to enable growth to occur as assessed by the growth model. If recommendations on supply and demand for each settlement are not approved by Council, the assumptions made in the growth model will need to be revisited.