



# Rotorua Housing and Business Development Capacity Assessment 2021 Technical Report

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**ROTORUA**  
**LAKES COUNCIL**  
Te kaunihera o ngā roto o Rotorua



# Rotorua Housing and Business Development Capacity Assessment 2021 Technical Report

Prepared for

Rotorua Lakes Council

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# 1 Introduction

This report contains the supporting technical information (i.e., appendices) for the Housing and Business Development Capacity Assessment (“HBA”) 2021 for Rotorua District. It should be read in conjunction with the Main Report as it is not a standalone document.

To assist with cross referencing to the Main Report, this document is organised according to the same first three parts – being the Housing Market Assessment (Part 1), Housing Capacity Assessment (Part 2) and Business Demand and Capacity Assessment (Part 3). Not all sections in the Main Report required additional information to be included in this Technical Report (including all of Part 4 (Conclusions)). As such, the structure within each part included will not be the same. However, the same headings have been used where applicable to aid navigation.

## 1.1 Growth in Rotorua – Key Issues and Policy Context

### 1.1.1 Development of Whenua Māori (and Associated Constraints)

As alluded to in the Main Report (Section 1), a key feature of the Rotorua urban environment is the many parcels of Māori freehold land under Te Ture Whenua Māori (“Whenua Māori”) that are currently zoned for urban development or are located in areas considered appropriate for contiguous urban expansion (i.e., have long term zone potential). A map of Rotorua’s urban Whenua Māori land parcels is included below (Figure 1.1).

The Te Ture Whenua Māori Act 1993 (or Māori Land Act 1993) recognises that land is a ‘taonga tuku iho’ or an ancestral treasure handed down and promotes the retention of land while also facilitating the occupation, development, and utilisation of Whenua Māori by its owners and their whānau, hapū and descendants. Jurisdiction of the Act rests for the most part with the Māori Land Court. Whenua Māori is often multiply-owned. It may be vested in a Trust or a Māori incorporation, who manage the land on behalf of the owners of the land (i.e., shareholders).

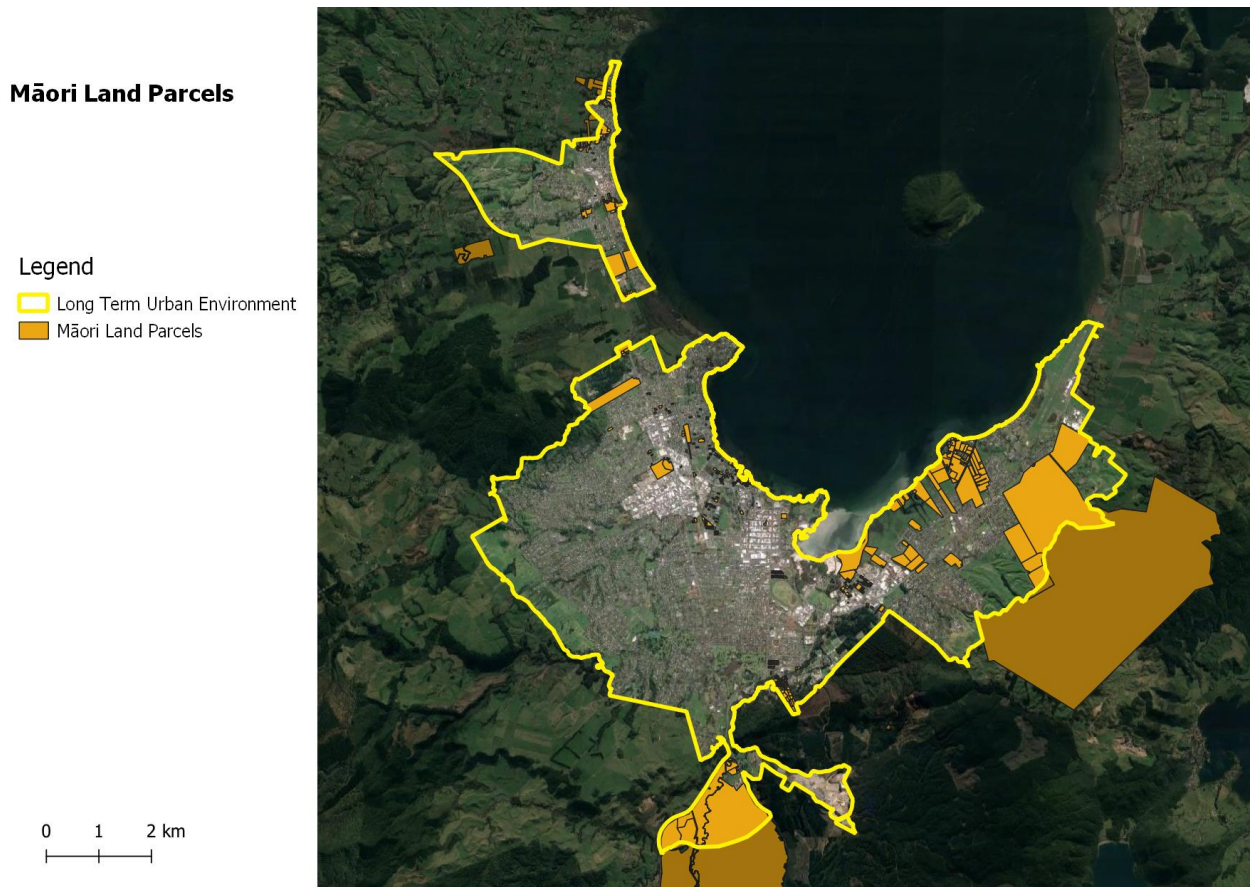
Potential for Whenua Māori looks different for every block and depends on owners’ aspirations and the location and state of the land. Aspirations for Whenua Māori may include economic, cultural, environmental, or social outcomes, or combinations of these. However, use of the land, particularly for economic and social outcomes, is not straight forward and presents a number of challenges for the owners of the land compared to the development of general land. Some issues in administering Whenua Māori within the structures of the Te Ture Whenua Māori Act include a lack commerciality,<sup>1</sup> processes can be cumbersome due to high level of beneficiary (owner) participation, Māori Land Court intervention can be time consuming and costly and the restrictions on alienation can impede development<sup>2</sup>.

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<sup>1</sup> This includes a lack of commercial knowledge of the trustees/governors and/or constraints to deliver commercial developments that are commercially feasible.

<sup>2</sup> <https://www.tpk.govt.nz/en/whakamahia/effective-governance/what-is-governance/structures-under-te-ture-whenua-Māori-land-act->

Figure 1.1 – Whenua Māori Land Parcels in Rotorua’s Urban Environment




In most cases, the land takes the form of a ‘block’, which may be an amalgamation of one or more lots. As Whenua Māori, subdivision or partitioning is possible, but the ownership of the new parcels remains the same. Owners can apply to the Māori Land Court to partition their interests out of the block (so that they hold their interests solely) however the Court is unlikely to agree if it would render the remaining land less capable of development (for example, an uneconomic size or more difficult to access)<sup>3</sup>. Subdivision may provide some advantages when it comes to managing land use (including leasing areas of land, managing easements and vesting of roads), but equally, legal lots can be defined without a need to change the primary parcel boundaries.

A significant characteristic of Whenua Māori is that it cannot be alienated (which includes sold, gifted, long-term leased or mortgaged) unless it complies with the Act (including its purpose, being the retention, use and development of the land) . Many such alienations must be approved by the Court. The sale of Whenua Māori is expected to be a rare occurrence as it runs counter to the intention of the land to provide an asset for the iwi, hapū and whanau in perpetuity. However, it might be considered if there is sufficient owners

[199#:~:text=General%20land%20owned%20by%20M%C4%81ori%20means%20general%20land%20that%20is,whom%20a%20majority%20are%20M%C4%81ori.](#)

<sup>3</sup> The Māori Land Court will generally only allow a partition if it can be shown that there is a good reason to do so. Consideration is given to the fact that once an individual’s interests are partitioned out, it is much easier to lose/sell that interest which is contrary to the Act’s over-arching purpose of retaining the land by owners as a taonga.



support, the Court's pre-requisites are met and considered in the best interest of the trust, including to free up capital to facilitate development on remaining whenua land.

There are a range of ways in which a Trust or incorporation (or legal owners if these structures don't apply) can directly utilise Whenua Māori. This includes forestry or agriculture managed by representatives of the owners. It may also include tourism operations, or other commercial or community/cultural facilities. While sometimes difficult, whenua Māori can be used to secure finance or a mortgage to fund development just like any other interest in land. Despite this, a lack of access to capital is known to be a key constraint to realising the development potential of Whenua Māori.

Developing a papakāinga is another option gaining traction within urban areas (see for example this [case study](#) in Tauranga City). Papakāinga typically refers to development of three or more houses, built on Whenua Māori, operating as an intentional community according to kaupapa Māori<sup>4</sup>. Developing a papakāinga on whenua Māori can be a long process, but there is help available to support Trusts in this process, including the Kāinga Whenua loan scheme which provides loans to Whenua Māori trusts and individuals with a right to occupy multiple-owned Māori land. While government funding is available for some aspects of papakāinga development, before any application for funding can be made, the owners have to do a significant amount of pre-work to secure owner agreement to develop the land. This can take some 12-18 months (or more) and is onerous, time consuming and often unfunded. If these constraints can be overcome, developing a papakāinga on Whenua Māori can be a way to help whānau with quality affordable housing and to provide ongoing accommodation and/or revenue for future generations.


Alternatively, Whenua Māori can be made available to non-owners to use. The two main methods are leases and licences<sup>5</sup>.

- A lease is an agreement or contract between the Trust and another party to use land for an agreed use, term and payment of any rentals. The conditions of any lease, including any restrictions on land use or amount of rental payable, is a matter between the Trust and the party to the lease. A lease is a property right under the law. It can be registered against the land (as a leasehold title) and finance can be raised against the leasehold. The term of the lease will determine whether or not the Māori Land Court is involved in the lease process. A lease term of less than 21 years does not involve the court and a term of 21 years or more (including 1 or more terms of renewal) does require sign off by the registrar and approval by a judge via a court hearing for terms longer than 52 years (considered a long-term lease). Long-term leases require approval from at least half of the owners of the land, which can be challenging for some Trusts.
- A licence is a contract between the Trust and another party which allows a particular activity to occur on Whenua Māori or part of that land. Under normal circumstances a licence does not grant the holder any property rights, but instead grants the holder permission to enter the land and use it for a stated purpose. On Māori land, the most common type of licence is a licence to occupy ("LTO"). Unlike standard licences however, a LTO on Whenua Māori may also be considered a special type of lease, which has certain property rights associated with it, especially if the LTO grants occupation of a defined area or site on land; sets a fixed term for the licence;

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<sup>4</sup> <http://mychoices.goodhomes.co.nz/SectionB/b37.html>

<sup>5</sup> <https://Māorilandcourt.govt.nz/your-Māori-land/using-your-Māori-land/leases-and-licences/>



has rights of assignment and compensation for improvement; and provides for the payment of rent and rates.

With the right party, leasing or licencing Whenua Māori can<sup>6</sup>:

- help to provide a steady annual rental income,
- help to lift the state of the whenua and improve its long term sustainability, for example through more regular maintenance and upkeep,
- keep the costs of maintaining the whenua down, for example the lessee typically pays the rates and/or insurance,
- gives Trusts control over what happens on the whenua — when and how it can be accessed, how things are used,
- give Trustees who are not ahi kā reassurance that their land is being cared for,
- help Trustees and owners learn more about the whenua and what to do with it. A good lessee can become a partner.

However, leasing Whenua Māori also adds risk for Trusts. It's very important to get leaseholders with the right skills, knowledge and motivation. Plans need to be put in place for how to manage any issues that may arise. Most Māori land trustees are volunteers (or paid a very minimal fee) with no management staff. As a result, it is difficult to recruit qualified trustees to devote a huge amount of time to oversee development. These capacity and capability issues are another factor that is constraining the development of Whenua Māori.

There are currently no modern large scale urban residential developments on Whenua Māori within Rotorua District<sup>7</sup> although there are successful examples of large and small scale urban commercial developments on Whenua Māori. There are also several historic papakāinga (such as Ōhinemutu, Whakarewarewa and Ngāpuna) as well as some recent small residential developments (see for example Ngāti Uenukukopako<sup>8</sup>. However, in the Western Bay sub-region, there are some useful examples of successful developments/housing schemes by iwi organisations<sup>[OBJ]</sup>. For example, the *Mangatawa* development in Papamoa contains 45ha of Whenua Māori. A large scale (16ha) retirement village has already been developed on a <sup>9</sup> lease (92 years)<sup>10</sup>, with a further expansion of the retirement village proposed.


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<sup>6</sup> <https://www.tupu.nz/en/kokiri/whenua-leases/what-is-a-whenua-lease>

<sup>7</sup> The Lynmore Rise Retirement Village is proposed is a partnership development on Whenua Māori (Owhatiura South 5 Incorporation Land). This is considered a relatively small scale development in an existing zoned urban site but will be a relevant model of development that could be replicated on other sites.

<sup>8</sup> [https://www.planning.org.nz/Attachment?Action=Download&Attachment\\_id=4801](https://www.planning.org.nz/Attachment?Action=Download&Attachment_id=4801)

<sup>10</sup> The registered owners of the sites containing the retirement village are: Mangatawa Retirement Village Ltd, Retirement Assets (Pacific Coast) Ltd, The Proprietors of Mangatawa Papamoa. It is M.E's understanding that Māori Trust has formed an incorporated company which has then entered into a partnership with Retirement Assets (Pacific Coast) Ltd to develop and operate the village. The Pacific Coast Village website states a longer lease on the land – 150 years.



While the *Manawa* development in Papamoa is on fee-simple Settlement Land, it provides an example of a large scale (240 dwellings) urban development undertaken by a tribal organisation (Ngā Pōtiki a Tamapahore Trust). What is unique about this development is that 30% of sites have been set aside for Ngā Pōtiki members who are eligible for either subsidised house and land packages, a licence to occupy (where they can own the house but not the land) and affordable rentals which will be owned and managed by the Trust. The dwellings are being delivered through several group home builders and sold for a fixed price. Ngā Pōtiki have secured central government funding to help subsidise the development. The Trust has also developed a shared equity scheme to help Ngā Pōtiki whānau purchase their own homes. The scheme is based on co-borrowing and subsidised land costs. The Trust has the first right of refusal to buy the house back if being sold and the whānau can buy out the tribe to take full ownership at any time if they are able.

Both examples (or aspects of) could be relevant/feasible on Whenua Māori within Rotorua’s urban environment, although both demonstrate an active role by the Trust itself in delivering housing – whether through owning and operating a retirement village (including through a partnership arrangement with an experienced operator) or becoming a registered Community Housing Provider (“CHP”). Both provide alternatives to selling vacant residentially zoned leasehold titles on the open market.

As it currently stands in Rotorua, the leasehold nature of Whenua Māori is still a key constraint in realising the development potential of many sites that are plan enabled, particularly for housing, but also for commercial development by non-owners. This important issue is discussed further in the HBA.

# PART 1 – HOUSING MARKET ASSESSMENT





## 2 Housing Demand

This section provides a brief explanation of the approach used to model housing demand in the HBA and then talks about the Council’s 2020 growth projections in more detail. This includes discussion on why the medium growth scenario is the preferred growth future. Explanation is provided on how Council’s growth projections are further split by urban and rural environment growth projections and by dwelling type. Total urban dwelling projections for the high growth scenario are included to complement Section 2.6 (Housing Demand by Location) in the Main Report.

### 2.1 Approach - Housing Demand Model

The analysis utilises the M.E *Housing Demand Model (2021)* which provides detail on the quantum and structure of current and projected housing demand in the district.<sup>11</sup> The quantum of demand is in terms of numbers of households, while structure is examined in terms of household types, dwelling types, and dwelling tenure, and in relation to household incomes as one important determinant of housing affordability.

Demand is identified in terms of numbers of resident households, allowing for one dwelling per household.<sup>12</sup> Projected future demand for housing is based on the Rotorua District projected future resident households. The projections used were prepared for Council by Infometrics Limited.

Demand for resident housing varies among different segments in the community, and so demand is estimated according to the numbers of resident households of each type, size, age, and income, and then with further breakdown according to ethnicity. That draws from detailed analysis of Census 2018 data at the district level, and projections of households in each segment.

The housing demand from each segment is then further examined according to dwelling tenure – owners and renters – and by type of dwelling – detached and attached. This structure meets the requirements of the NPS-UD, including the consideration of “*different groups in the community*”.

This socio-demographic structure also provides the demand-side basis for assessing housing affordability primarily for non-owner households (Section 4 of the Main Report).

The assessment focuses on usually resident households, who occupy dwellings in the district. Resident households account for at least 95% of demand for private dwellings, according to Census 2018. Demand from non-resident households - those who are not “usually resident” in the district as per the Census definition - is a significant part of overall demand for dwellings, and is estimated separately.<sup>13</sup> Non-resident owners are not usually identified from Census information (since they are residents of other cities or


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<sup>11</sup> This is consistent with Policy 1, also 3.2(1), 3.10, HBA 3.19, 3.23(3) of the NPS-UD.

<sup>12</sup> As per NPS-UD 3.34(4)

<sup>13</sup> Clause 3.23(2) of the NPS-UD.





districts in New Zealand, or reside overseas) and an important indication of the number of such dwellings is the estimates of empty dwellings (commonly holiday homes) at Census night.

Section 2 of the Main Report examines a logical sequence, considering first the population and household base, and the future outlook for households as the core driver of demand for housing capacity, then examining current housing demand in more detail, by household types, incomes and ethnicities. The focus then turns to projected demand for resident housing, taking account of demographic changes (especially the ageing of the population, and any shifts in the ethnic structure of the household sector).

## 2.2 Council's Preferred Growth Projections

RLC went to market in 2019 (before NPS-UD guidance became available) to procure a projections provider. These reasons for procuring customised projections included recognition that:

- Statistics New Zealand (“SNZ”) only produce population and household projections and the HBA would also require employment projections (and the need for these to be integrated with population and household growth assumptions).
- Past projections by SNZ have under-projected the population growth Rotorua has experienced.
- The release timing of the projections by SNZ would not line up with council planning cycles (for the Infrastructure Strategy, Long Term Plan, HBA and FDS).
- It would give RLC the ability to request new projections/updates in future as required to support these triennial planning cycles.

Infometrics won the procurement process and produced projections for RLC in March 2020. A report containing Infometrics’ assumptions, methodology, and projections can be found [here](#).<sup>14</sup> The projections provided were at the district level and included:

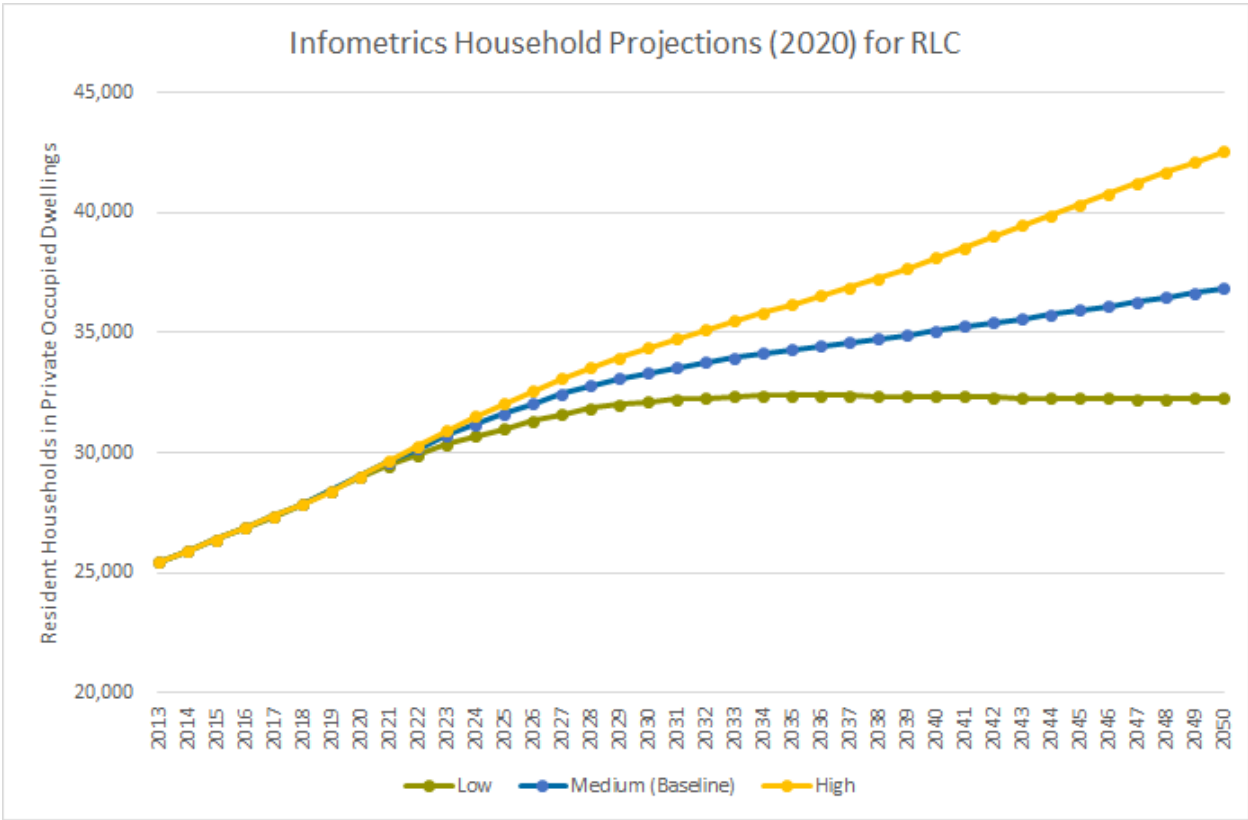
- Population projections by age, age and sex, ethnicity
- Household projections by type, age (refer Figure 2.1 for total household projections)
- Projections of annual employment (jobs filled) by 6 Digit ANZSIC industry and occupation

The population and household projections were produced according to three scenarios, low, baseline, and high growth (in keeping with SNZ practice) and the employment projections had two scenarios; baseline, and accelerated automation. Baseline growth scenarios are council’s preferred growth outlook and those used for the HBA (as well as for the Infrastructure Strategy and Long Term Plan – meaning consistency across the strategic documents). The low and high provided a range around the baseline, to account for a margin of error. It is noted that this HBA includes analysis based on the High Growth projection on the basis that the NPS-UD requires that a range of growth scenarios are evaluated. Results for the High Growth scenario are limited to the Technical Report, with the Main Report focussing on Council’s preferred projection.

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<sup>14</sup> One constraint that Infometrics identified was the timing of the SNZ population estimates for 2020 was to occur later than the delivery of the projections to RLC and so that estimate could not be factored in.

Figure 2.1 – Total Resident Household Growth Projections 2020-2050 by Scenario (RLC)



At the same time that RLC received the new projections, the Covid-19 pandemic reached New Zealand and the effects began to be felt (especially in Rotorua which has an important tourism economy). The Council’s projections therefore represent a growth outlook that is pre-Covid-19 and highlight the challenges of developing projections – with assumptions often becoming quickly out of date.

Notwithstanding the potential effects of Covid-19 on the district’s growth rate, particularly in the short term, Council considers that some of the fundamentals that have driven growth in Rotorua in the past remain the same or are potentially even strengthened because of Covid-19. These include:

- The fact that lock-downs have shown how working from home can work for many, and for some it can help achieve a better work-life balance. Rotorua is a place where people can move to for the lifestyle while working from home, including when their job is outside the district.
- Rotorua is in close proximity to Auckland, Waikato, Tauranga and Western Bay, and offers relatively more affordable housing and business land than many parts of those areas.
- In the longer term, retreat from coastal areas due to sea level rise and other areas impacted by climate change may mean that Rotorua attracts growth from those areas in the future.

On this basis, Council has not sought to modify the projections to take into account the effects of Covid-19 (particularly in the short term). The consequence of retaining a pre-Covid-19 growth outlook is that projected growth rates may be somewhat higher in the short term (and maybe early medium term). How much higher will only become evident with future monitoring of actual growth rates. This means that the HBA and other Council planning could be over-estimating demand for housing and business land in that

time period (all else being equal), which is considered more appropriate than potentially underestimating demand.

As noted above, the Infometrics projections were developed at the district level only. Projections for areas (locations) within the district were not considered a requirement at the time of procurement as the process began prior to NPS-UD guidance being released. This means that the Council did not explicitly consider all the requirements of clause 3.24(5) of the NPS-UD when defining the scope of the projections for Infometrics.

Council intends to request updated projections if and when needed. No decision has been made yet of when that might occur. Council is monitoring parts of the projections against 'actual' growth, and this includes against:

- SNZ population estimates - produced annually in October, for the district population at 30 June of the same year (Table 2.1).
- Infometrics annual filled job estimates for the district (released in February for the year ending 31 March of the previous year)
- SNZ census - every five years (with a release delay of 1 to 2 years). Census data release is likely to trigger a major review of projections.

Table 2.1 - Rotorua District Population Projections Review Against SNZ Projections – June 2020

Projection produced by	Projection Type	Projection released	Projected population at 30 June 2020	Stats NZ Estimated population at 30 June 2020	Variance	% Variance
Stats NZ	Low	2015	66,700	77,300	-10,600	-16%
Stats NZ	Medium	2015	68,880	77,300	-8,420	-12%
Stats NZ	High	2015	71,020	77,300	-6,280	-9%
Stats NZ	Low	2017	70,260	77,300	-7,040	-10%
Stats NZ	Medium	2017	72,400	77,300	-4,900	-7%
Stats NZ	High	2017	74,580	77,300	-2,720	-4%
Stats NZ	Low	2021	75,720	77,300	-1,580	-2%
Stats NZ	Medium	2021	76,440	77,300	-860	-1%
Stats NZ	High	2021	77,200	77,300	-100	0%
Infometrics	Low	March 2020	76,075	77,300	-1,225	-2%
Infometrics	Medium (Baseline)	March 2020	76,194	77,300	-1,106	-1%
Infometrics	High	March 2020	76,327	77,300	-973	-1%

RLC's monitoring to date has concluded that the Infometrics 2020 Baseline (medium) population figures are within 1% of the June 2020 population estimates as shown in Table 2.1). On that basis, Council is satisfied that they provide a robust basis for HBA analysis.



## 2.3 Household Growth

### 2.3.1 Household Demography and Income

The high future would see a broadly similar pattern, though with a greater volume of household growth. The main increases are in one person and couple households, with smaller net increases in family households with children (Table 2.2). Again, around two-thirds of the growth in the medium term and three-quarters in the long term is from these smaller household types.

Table 2.2 – Household Growth Outlook by Type – Short, Medium and Long Term (High Future)

Household Type	Current	Short Term			Medium Term			Long Term		
	2020	2023	2020-23	2020-23 %	2030	2020-30	2020-30 %	2050	2020-50	2020-50 %
One Person household	6,670	7,210	540	8%	8,320	1,650	25%	11,420	4,750	71%
Couple household	9,170	9,980	810	9%	11,220	2,050	22%	14,140	4,970	54%
2 Parents 1-2 children	6,310	6,610	300	5%	7,180	870	14%	8,160	1,850	29%
2 Parents 3+ children	1,940	2,050	110	6%	2,230	290	15%	2,540	600	31%
1 Parent Family	3,760	3,880	120	3%	4,120	360	10%	4,880	1,120	30%
Multi-family household	440	450	10	2%	470	30	7%	530	90	20%
Non-family household	720	750	30	4%	800	80	11%	930	210	29%
<b>Total</b>	<b>29,000</b>	<b>30,900</b>	<b>1,900</b>	<b>7%</b>	<b>34,300</b>	<b>5,300</b>	<b>18%</b>	<b>42,600</b>	<b>13,600</b>	<b>47%</b>

Source: ME Housing Demand Model 2021

Totals rounded to nearest 10

The trends in household socio-demographic structure in the high future are shown in Figure 2.2.

Figure 2.2 – Projected Households Rotorua District – High Growth Future

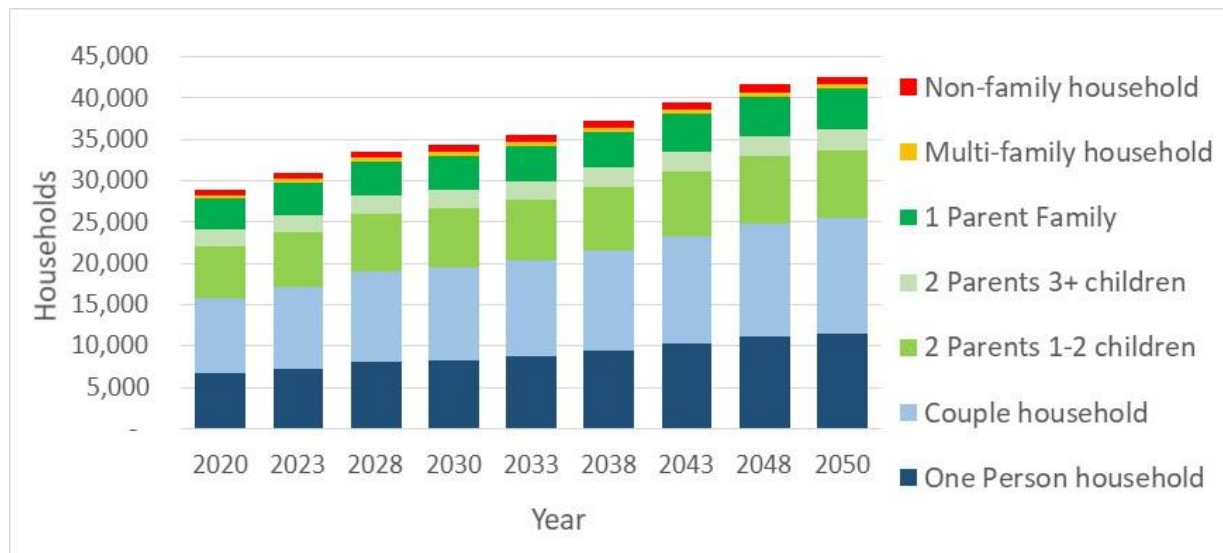


Table 2.3 – Household Growth Outlook – Short, Medium and Long Term (High Future)

Household Income Band	Current	Short Term			Medium Term			Long Term		
	2020	2023	2020-23	2020-23 %	2030	2020-30	2020-30 %	2050	2020-50	2020-50 %
Under \$30,000	5,880	6,340	460	8%	7,300	1,420	24%	9,780	3,900	66%
\$30-50,000	4,840	5,200	360	7%	5,930	1,090	23%	7,690	2,850	59%
\$50-70,000	4,440	4,760	320	7%	5,310	870	20%	6,560	2,120	48%
\$70-100,000	5,120	5,420	300	6%	5,910	790	15%	6,930	1,810	35%
\$100-120,000	2,900	3,070	170	6%	3,320	420	14%	3,870	970	33%
\$120-150,000	2,380	2,500	120	5%	2,680	300	13%	3,160	780	33%
\$150,000+	3,460	3,640	180	5%	3,900	440	13%	4,590	1,130	33%
<b>Total</b>	<b>29,000</b>	<b>30,900</b>	<b>1,900</b>	<b>7%</b>	<b>34,400</b>	<b>5,400</b>	<b>19%</b>	<b>42,600</b>	<b>13,600</b>	<b>47%</b>

Source: ME Housing Demand Model 2021

Totals rounded to nearest 10

## 2.4 Housing Demand by Location

### 2.4.1 Approach to Estimating Total District Dwellings 2020

In the absence of Council’s own projections of total dwellings, M.E has relied on the Council’s Rating Database to estimate total district dwellings as at June 2020.<sup>15</sup>


The total dwelling numbers were estimated from analysis of multiple fields within Council’s Ratings Database. These included land use fields, rating unit counts<sup>16</sup>, improvement values, residential use status, floorspace areas and building description fields.

In aggregate, the approach produces an estimation of the number of existing dwellings in the absence of a definitive dwelling count within the database. However, the combination of these factors provides a sufficiently robust estimate of total existing dwellings on each property parcel. The total dwellings estimated were triangulated with other data sources to assess its broad consistency with information on other aspects of the dwelling stock. These included Statistics New Zealand (“SNZ”) dwelling count information, Council’s resident household projections and information on the number of short term accommodation dwellings within the district.<sup>17</sup>

<sup>15</sup> It was more efficient for Council to provide the rating database according to a snapshot as at 25<sup>th</sup> November 2020, rather than back-case it to June 2020. However, it is not considered that this time difference materially affects the analysis in the HBA.

<sup>16</sup> Vacant parcels not containing any dwellings still have a rating unit count where rates are calculated based on land value. These rating units were excluded from forming part of the dwelling count through their combination with an absence of a significant improvement value, absence of built floorspace, and vacant land use descriptors.

<sup>17</sup> [http://insideairbnb.com/new-zealand/?neighbourhood=neighbourhood\\_group%7CRotorua%20District&filterEntireHomes=true&filterHighlyAvailable=false&filterRecentReviews=false&filterMultiListings=false](http://insideairbnb.com/new-zealand/?neighbourhood=neighbourhood_group%7CRotorua%20District&filterEntireHomes=true&filterHighlyAvailable=false&filterRecentReviews=false&filterMultiListings=false). Airbnb data was obtained from the following source. The data showed 784 entire home/apartment listings in the district, with 64% (500) having a high level of booking availability (which helps show that they are permanent short term accommodation dwellings) and 36% (284) having a low level of booking availability (which suggests they may be used by dwelling owners for periods of the year – i.e., as a holiday home). Airbnb is estimated to account for the greatest market share of short term accommodation market in Rotorua. Consideration was given to potential scale of the rest of the market, as well as holiday homes that are not rented out for a nightly tariff.



Analysis of the Ratings Database provided an estimate of 29,950 dwellings across the district overall in 2020. This includes occupied and unoccupied residential dwellings, including within the urban area, lifestyle dwellings, dwellings within the minor urban settlements and villages and dwellings within the rural area.

The Infometrics projections, supplied by Council, estimate there were 29,014 resident households in the district overall in 2020. If one household per dwelling is assumed (consistent with NPS-UD guidance), then this implies that there are an estimated 29,014 residential dwellings and 940 non-residential dwellings in the district in 2020 if resident household dwellings are subtracted from the estimated total district dwellings derived from the Ratings Database. These will comprise holiday homes, dwellings used for short term accommodation (i.e., Airbnb etc) and any vacant dwellings. Cross checks with other data indicate that this non-residential dwelling count is a reasonable estimate for the district (although there is insufficient data to be more precise).

It is acknowledged that in the 2018 Census, total district private dwellings were reported at 28,563 in 2018, which included 99 unoccupied dwellings that were under construction on Census night (refer Table 2.10 in the Main Report). Based on the estimated total dwellings (described above), this would imply that there was approximate growth of around 1,390 additional dwellings in the district post Census to June 2020. This does not align with known residential unit consents which over the period March 2018 to June 2020 totalled 408 (slight variations in time year-end dates notwithstanding).


If it is assumed that all consents in the two years to June 2020 were built and all were net additional dwellings (i.e., did not arise as a result of any demolition or removal), this would indicate a 2020 dwelling count for the district of approximately 28,970 when added to the 2018 Census count of dwellings. This is some 43 dwellings fewer than the Infometrics estimate of 29,014 resident households, and the Census data also indicates that some 1,330 private dwellings were empty (most likely holiday dwellings). Even allowing for some dwellings to contain two or more households, this suggests that the Census may have under-counted. The technical issues with the Census 2018 on-line nature have been widely publicised. Moreover, Airbnb data indicates some 784 entire houses and apartment available (that is, for rental not sharing with the owners) which suggests these are mostly holiday/short term accommodation dwellings.

On balance, it was considered that the dwelling estimate derived from the Rating Database provided a more accurate and defensible outcome when used in combination with the Council's resident household projections (and a number of other benefits for application in the capacity assessment).

## **2.4.2 Approach to Split Housing Projections by Urban and Rural Environment**

The final dwellings estimate from the Ratings Database analysis was spatially integrated with the four urban reporting areas as well as the rural villages, lakes settlements, rural lifestyle and rural areas of the rural environment to provide the zone, dwelling type and location of each estimated dwelling unit. Analysis using this spatial structure estimated the number of dwellings on each land parcel (from the Rating Database), then categorised these by type of dwelling and location.

The above process has provided a total base structure across the district of estimated dwellings by location, type and likely occupancy. It shows the total estimated dwellings within each reporting area, the share occupied by households vs. other uses, as well as the dwellings within the rest of the district.



As discussed above, and for clarity, the analysis of the Ratings Database total dwellings estimate was undertaken at the parcel level. This enabled the existing dwellings to be identified as either located within the urban or rural environment (as defined for this HBA) based on their location within the District Plan zone boundaries and urban environment reporting area boundaries. We have assumed that the household projections have followed the same structure as the identified structure of dwellings and have applied these on a pro-rata basis across this structure.

The final estimate of 2020 urban environment dwellings for the purpose of this HBA is 24,700 dwellings. These are the urban dwellings within the four reporting areas. Three quarters of the dwellings are within the main central areas of Rotorua. Nearly half (46%; 11,400 dwellings) of the total urban dwellings are within the Western reporting area, and 29% (7,150 dwellings) within the Central reporting area. The remaining quarter of dwellings are spread across the Eastern (17%; 4,160 dwellings) and Ngongotaha (8%; 1,960 dwellings) reporting areas.

### 2.4.3 Approach to Projecting Total Dwellings to 2050

The estimated base structure of dwellings has been projected forward across the district to 2050. This provides a total future projection of dwellings within each area in the future, which forms the basis for the demand and sufficiency assessments.

Council's Infometrics projection series form the key component for projecting forward the current structure. This projection series is at the district level and covers the total residential household component of dwelling estate. The total dwelling structure (i.e., estimated resident occupied and other dwellings by urban and rural environment split) has been projected forward in alignment with the Infometrics component of the future household thus applying a pro-rata growth rate to the total dwelling structure (i.e., it assumes that the structure of residential vs. other households remains constant through time<sup>18</sup>). This approach is considered reasonable on the basis that Rotorua is a well-established economy and community, with existing patterns and structures likely to change only slowly.

M.E's estimates of projected household growth spatially, at SA2 level, in combination with the SNZ's most recent population projections at SA2 level, have been used to generate the differentials in growth rates between the different reporting areas within this district level structure. The differences in growth rates between reporting areas have been applied to the district level projections, with rebalancing across all areas to the district totals.

It was assumed that non-urban dwellings are likely to grow at a slower rate than urban dwellings. A differential was applied within the model where non-urban dwellings would grow at 90% of the rate of urban dwellings. This consequently produces a conservative sufficiency assessment where higher shares of the growth are projected to be urban.<sup>19</sup>

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<sup>18</sup> The ownership of holiday home and other non-resident dwellings within Rotorua is well established and stable through time.

<sup>19</sup> For infrastructure demand modelling, the Council has, prior to the HBA, assumed that 100% of residential dwelling growth is concentrated in the urban environment. This approach was not adopted for this HBA on the basis that the Ratings Database has shown the portion of total dwellings that currently sit in the urban environment, and recent growth data including dwelling consents at SA2 level has consistently shown that a portion of growth has occurred in these locations (including in the rural lifestyle zone and lakeside settlements).



#### **2.4.4 Approach to Split Urban Housing Projections by Attached and Detached**

The projections of future dwellings by type took account of the current mix of dwellings, and consent data showing the slight trend toward attached and away from detached dwellings observed in Rotorua District across the last 20 years and especially the last 5 years, allowing for that broad trend to continue into the long term. The projected trend was moderated to allow for some increase in the share of attached dwellings, in line with the national trend, though not assume an over-estimate of attached dwellings in the long term. The observed relationships between dwelling type and household type identified from Census 2018 were the base point, with the broader trend toward attached dwellings assumed to apply across all types of households over time. That approach was applied at the district level, as the data on the trends is its most reliable at that level.

The district-wide trend was then applied to the urban and rural environment projections according to the patterns for new consents in each reporting area. These show that detached dwellings is the dominant typology at around 86%. Central Rotorua showed somewhat greater propensity for attached dwellings (34%) but the east and west areas show detached dwellings in the mid-high 80% band, and Ngongotahā at 92%.

The recent trend and long term outlook toward attached dwellings was applied by reporting area within the district, to indicate the anticipated changes in dwelling mix over time, using a broad concordance between reporting areas and SA2s in the 2018 Census data as the starting point. We note that the projections allow for attached typology to account for significant shares of new dwellings in the long term, at just under 50% in central Rotorua, and 18-28% in the other urban reporting areas. The assessment does indicate the likely split between attached and detached and does indicate the likely geographic distribution of future growth, as required by the NPS-UD.

However, the analysis did not seek to apply projections specific to each locality beyond that broad trend, as there is not sufficient data to support such location-specific projections, nor is there requirement to do so in the NPS-UD.

#### **2.4.5 Total Housing Demand – Medium Growth Future**

The following tables show a breakdown of current and projected housing by resident dwellings (i.e., those occupied by resident households) and non-resident dwellings over the short, medium and long term (and inclusive of estimated latent demand within future demand growth). This is for the Council's preferred medium growth future with resident dwellings consistent with the Infometrics resident household growth projections. These tables complement the dwelling projections by dwelling type in the Main Report.



Table 2.4 – Total Dwellings by Location and Housing Use 2020-2050 (Medium Growth Future)

Reporting Area	2020			2023			2030			2050		
	Resident Dwellings	Non-Resident Dwellings *	Total Dwellings	Resident Dwellings	Non-Resident Dwellings *	Total Dwellings	Resident Dwellings	Non-Resident Dwellings *	Total Dwellings	Resident Dwellings	Non-Resident Dwellings *	Total Dwellings
Central	6,940	210	7,150	7,810	220	8,030	8,520	250	8,760	9,710	280	9,990
Western	11,030	400	11,430	12,310	420	12,730	13,130	450	13,580	13,890	480	14,360
Eastern	4,050	110	4,160	4,580	120	4,700	5,010	130	5,140	5,700	150	5,850
Ngongotahā	1,900	60	1,960	2,150	60	2,210	2,360	70	2,430	2,670	70	2,740
Total Urban Environment	23,930	770	24,700	26,850	820	27,670	29,020	890	29,910	31,970	980	32,950
Rural Environment	5,080	160	5,250	5,380	170	5,550	5,820	180	6,000	6,370	200	6,570
District Total	29,010	940	29,950	32,230	990	33,220	34,830	1,070	35,910	38,340	1,180	39,520
Reporting Area	Resident Dwellings	Non-Resident Dwellings *	Total Dwellings	Resident Dwellings	Non-Resident Dwellings *	Total Dwellings	Resident Dwellings	Non-Resident Dwellings *	Total Dwellings	Resident Dwellings	Non-Resident Dwellings *	Total Dwellings
Central	29%	27%	29%	31%	27%	31%	31%	28%	31%	32%	29%	32%
Western	46%	52%	46%	49%	51%	49%	48%	51%	48%	46%	49%	46%
Eastern	17%	14%	17%	18%	15%	18%	18%	15%	18%	19%	15%	19%
Ngongotahā	8%	8%	8%	8%	7%	8%	9%	8%	9%	9%	7%	9%
Total Urban Environment	100%	101%	100%	106%	100%	106%	105%	101%	105%	105%	100%	105%

Source: RLC/Infometrics Household Projections 2020. M.E 2021 Rotorua Dwelling Projection Model. Figures rounded to nearest 10.

**Medium Growth Future**

Projections assume non-resident dwellings growth proportionate to resident dwellings and rural environment dwellings increase at 90% of the urban environment dwelling growth rate.

\* Includes holiday homes, vacant dwellings and whole dwelling units used for short term accommodation (i.e. Airbnb)

Table 2.5 – Growth in Total Dwellings by Location and Housing Use 2020-2050 (Medium Growth Future)

Reporting Area	Resident Dwellings			Non-Resident Dwellings*			Total Dwellings		
	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050
Central	870	1,580	2,770	10	30	70	880	1,610	2,840
Western	1,280	2,100	2,850	20	50	80	1,300	2,150	2,930
Eastern	530	960	1,650	10	20	40	540	980	1,690
Ngongotahā	250	460	770	-	10	20	250	470	780
Total Urban Environment	2,920	5,090	8,040	50	110	210	2,970	5,200	8,250
Rural Environment	290	730	1,280	10	20	40	300	760	1,320
District Total	3,210	5,820	9,320	50	140	250	3,270	5,960	9,570

Source: RLC/Infometrics Household Projections 2020. M.E 2021 Rotorua Dwelling Projection Model. Figures rounded to nearest 10. **Medium Growth Future**

Projections assume non-resident dwellings growth proportionate to resident dwellings and rural environment dwellings increase at 90% of the urban environment dwelling growth rate. \* Includes holiday homes, vacant dwellings and whole dwelling units used for short term accommodation (i.e. Airbnb)

## 2.4.6 Total Housing Demand – High Growth Future

Table 2.6 and Table 2.7 provide the detailed urban total dwelling projections by location and dwelling type, with rural sub-totals for the high growth future. These mirror the results in the Main Report for the preferred medium growth future.

Table 2.6 – Total Dwellings by Location and Type 2020-2050 (High Growth Future)

Reporting Area	2020			2023			2030			2050		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Central	4,660	2,500	7,150	5,220	2,870	8,080	5,720	3,310	9,020	6,960	4,520	11,480
Western	10,650	780	11,430	11,840	970	12,810	12,670	1,310	13,980	14,310	2,180	16,490
Eastern	4,030	130	4,160	4,540	190	4,730	4,980	310	5,290	6,070	660	6,730
Ngongotahā	1,830	130	1,960	2,060	160	2,230	2,270	230	2,500	2,750	410	3,160
Total Urban Environment	21,170	3,540	24,700	23,660	4,190	27,850	25,640	5,160	30,790	30,090	7,770	37,860
Rural Environment			5,250			5,580			6,190			7,570
District Total			29,950			33,430			36,980			45,430
	Detached %	Attached %	Total %	Detached %	Attached %	Total %	Detached %	Attached %	Total %	Detached %	Attached %	Total %
Central	65%	35%	100%	65%	35%	100%	63%	37%	100%	61%	39%	100%
Western	93%	7%	100%	92%	8%	100%	91%	9%	100%	87%	13%	100%
Eastern	97%	3%	100%	96%	4%	100%	94%	6%	100%	90%	10%	100%
Ngongotahā	93%	7%	100%	93%	7%	100%	91%	9%	100%	87%	13%	100%
Total Urban Environment	86%	14%	100%	85%	15%	100%	83%	17%	100%	79%	21%	100%

Source: RLC/Infometrics Household Projections 2020. M.E 2021 Rotorua Dwelling Projection Model. Figures rounded to nearest 10.

**High Growth Future**

Projections assume non-resident dwellings growth proportionate to resident dwellings and rural environment dwellings increase at 90% of the urban environment dwelling growth rate.

\* Includes holiday homes, vacant dwellings and whole dwelling units used for short term accommodation (i.e. Airbnb)

Table 2.7 – Change in Total Dwellings by Location and Type 2020-2050 (High Growth Future)

Reporting Area	Detached			Attached			Total		
	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050
Central	560	1,060	2,300	370	810	2,020	930	1,870	4,320
Western	1,190	2,030	3,670	190	520	1,390	1,380	2,550	5,060
Eastern	510	960	2,040	60	170	530	570	1,130	2,570
Ngongotahā	230	440	920	30	100	280	270	540	1,200
Total Urban Environment	2,500	4,490	8,940	650	1,600	4,220	3,140	6,090	13,160
Rural Environment							340	940	2,320
District Total							3,480	7,030	15,480

Source: RLC/Infometrics Household Projections 2020. M.E 2021 Rotorua Dwelling Projection Model. Figures rounded to nearest 10.

**High Growth Future**

Projections assume non-resident dwellings growth proportionate to resident dwellings and rural environment dwellings increase at 90% of the urban environment dwelling growth rate. \* Includes holiday homes, vacant dwellings and whole dwelling units used for short term accommodation (i.e. Airbnb)

## 2.4.7 Competitiveness Margin Applied to Urban Dwelling Demand (High)

Table 2.8 and Table 2.9 provide the detailed urban total dwelling projections by location and dwelling type inclusive of the competitiveness margin for the high growth future. These mirror the results in the Main Report for the preferred medium growth future.

Table 2.8 - Total Urban Dwellings by Location and Type Including Margin (High Growth Future)

Reporting Area	2020			2023			2030			2050		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Central	4,660	2,500	7,150	5,330	2,940	8,270	5,930	3,470	9,400	7,360	4,860	12,220
Western	10,650	780	11,430	12,070	1,010	13,090	13,080	1,410	14,490	14,970	2,410	17,380
Eastern	4,030	130	4,160	4,640	200	4,840	5,180	340	5,520	6,420	750	7,170
Ngongotahā	1,830	130	1,960	2,110	170	2,280	2,360	250	2,610	2,910	460	3,370
Total Urban Environment	21,170	3,540	24,700	24,150	4,320	28,480	26,550	5,470	32,020	31,660	8,480	40,140

Source: RLC/Infometrics Household Projections 2020. M.E 2021 Rotorua Dwelling Projection Model. Figures rounded to nearest 10.

**High Growth Future**

Projections assume non-resident dwellings growth proportionate to resident dwellings and rural environment dwellings increase at 90% of the urban environment dwelling growth rate. \* Includes holiday homes, vacant dwellings and whole dwelling units used for short term accommodation (i.e. Airbnb)



Table 2.9 – Change in Total Urban Dwellings by Location and Type Including Margin (High Growth Future)

Reporting Area	Detached			Attached			Total		
	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050
Central	670	1,270	2,700	440	970	2,360	1,110	2,240	5,060
Western	1,430	2,430	4,320	230	630	1,630	1,660	3,060	5,950
Eastern	610	1,150	2,400	70	210	610	680	1,360	3,010
Ngongotahā	280	530	1,080	40	120	330	320	650	1,410
<b>Total Urban Environment</b>	<b>2,980</b>	<b>5,380</b>	<b>10,490</b>	<b>780</b>	<b>1,930</b>	<b>4,940</b>	<b>3,780</b>	<b>7,320</b>	<b>15,440</b>

Source: RLC/Infometrics Household Projections 2020. M.E 2021 Rotorua Dwelling Projection Model. Figures rounded to nearest 10. **High Growth Future**  
 Projections assume non-resident dwellings growth proportionate to resident dwellings and rural environment dwellings increase at 90% of the urban environment dwelling growth rate. \* Includes holiday homes, vacant dwellings and whole dwelling units used for short term accommodation (i.e. Airbnb)



## 3 Housing Supply

This section provides a brief explanation of the approach used to model housing supply in the HBA and includes additional analysis tables and graphs to complement Section 3.4 (Future Dwelling Estate) in the Main Report, according to the Council’s medium growth scenario.

### 3.1 Housing Supply Model Approach

The approach is based on the *ME Housing Supply Model (2021)* which draws on recent trends in new housing development, together with the ageing of the existing estate into the medium and long term. This Model is used to identify the size and nature of the current and future dwelling estates, including typology and values. It provides the supply-side platform for the Housing Affordability assessment.

There are three components to the housing supply analysis – the current dwelling estate (2020), the expected new estate to be built over the short, medium, and long terms, and the total future estate at each NPS-UD time horizon. Note that the projections take into account the existing estate and the projected new estate, but do not seek to separate out replacement dwellings, or net out existing dwellings which are replaced by new developments as sites are intensified. Key reasons for this include the dominance of greenfield development and detached dwellings, which meant that estimating the numbers and value bands of replaced dwellings was not feasible.

The current dwelling estate is examined in terms of the numbers of dwellings (residential properties) by main dwelling type (based on Corelogic categories) and each value band. This shows the current housing price structure in the district and the dimensions of the existing dwelling estate. It draws on the most recent value and price trends (to June 2020) to identify the distribution of Rotorua housing values for dwellings of each type in each value ventile (20<sup>th</sup>). It also offers broad indicators including mean and median values. This is one basis for the current Affordability assessment, together with current and projected income levels in the district.

More generally, the assessment of the Rotorua housing market is based on examination of key parameters, including housing values through time and by dwelling type, the development patterns of dwellings and land, and consideration of Rotorua alongside observed national trends and with patterns throughout New Zealand, including comparison across all Tier 1 and Tier 2 urban areas. This offers a sound basis for assessing the Rotorua market. An important aspect is evidence of consistency in patterns over time, and across the country, to understand how the Rotorua market may differ from the national picture and also conform with patterns evident across the country. That assessment also takes account of the broader societal and economic conditions, to consider whether current Rotorua patterns are consistent with the nature of demand, and the economic and tax conditions of the New Zealand market.



## 3.2 Future Dwelling Estate

### 3.2.1 “New” Estate Values Over Time

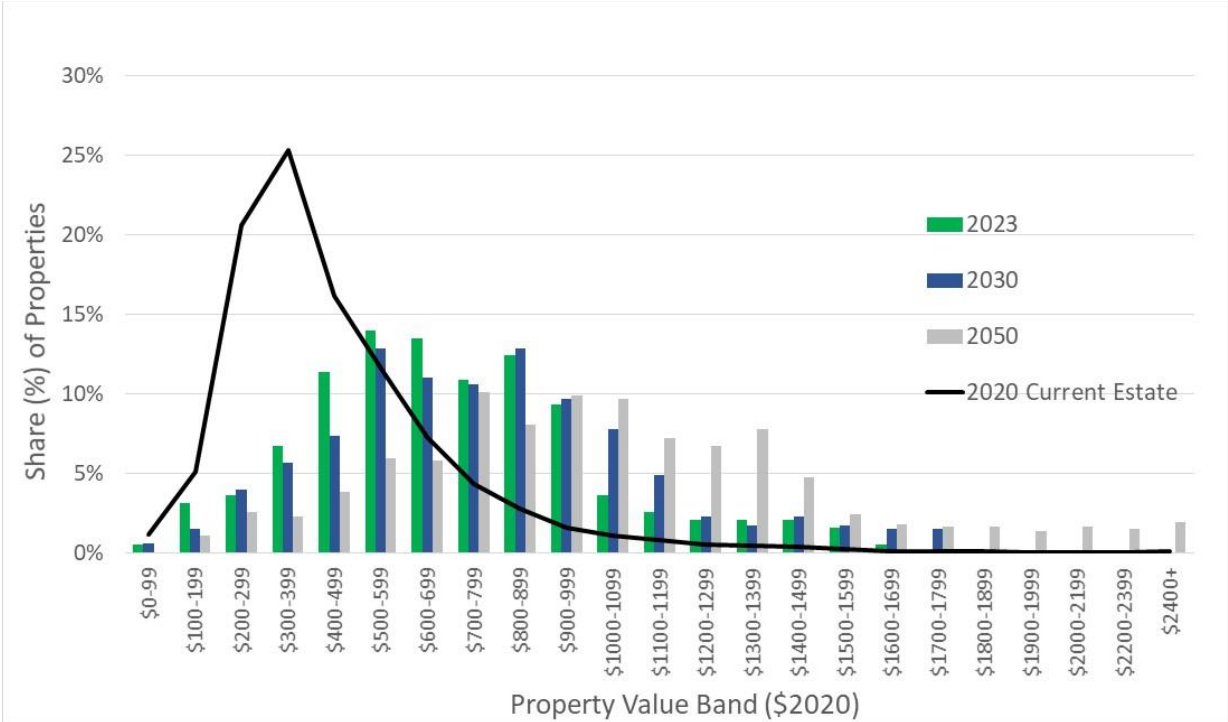
Table 3.1 – New Estate by Value Band – Rotorua 2020 to 2050 High Growth (Base Case)

Rotorua District Value Band (\$000)(\$2020)	High Projection Growth Future		
	LV Trend &IV	2.9%	0.7%
	2020-23	2020-30	2020-50
\$0-99	10	30	10
\$100-199	60	80	150
\$200-299	70	210	350
\$300-399	130	300	310
\$400-499	220	390	520
\$500-599	270	680	810
\$600-699	260	580	790
\$700-799	210	560	1,370
\$800-899	240	680	1,100
\$900-999	180	510	1,350
\$1000-1099	70	410	1,320
\$1100-1199	50	260	980
\$1200-1299	40	120	910
\$1300-1399	40	90	1,060
\$1400-1499	40	120	650
\$1500-1599	30	90	330
\$1600-1699	10	80	240
\$1700-1799	-	80	230
\$1800-1899	-	10	230
\$1900-1999	-	-	190
\$2000-2199	-	-	230
\$2200-2399	-	-	210
\$2400+	-	-	260
<b>Total</b>	<b>1,900</b>	<b>5,300</b>	<b>13,600</b>
Under \$400K	14%	12%	6%
\$400-599K	26%	20%	10%
\$600-799K	25%	22%	16%
\$800-999K	22%	22%	18%
\$1000-1499K	13%	19%	36%
Over \$1500K	2%	5%	14%

Source: ME Housing Demand Model 2021



Figure 3.1 – Properties by Value 2020-2050 – New Estate High Growth (Base Case)



### 3.2.2 Total Future Dwelling Estate

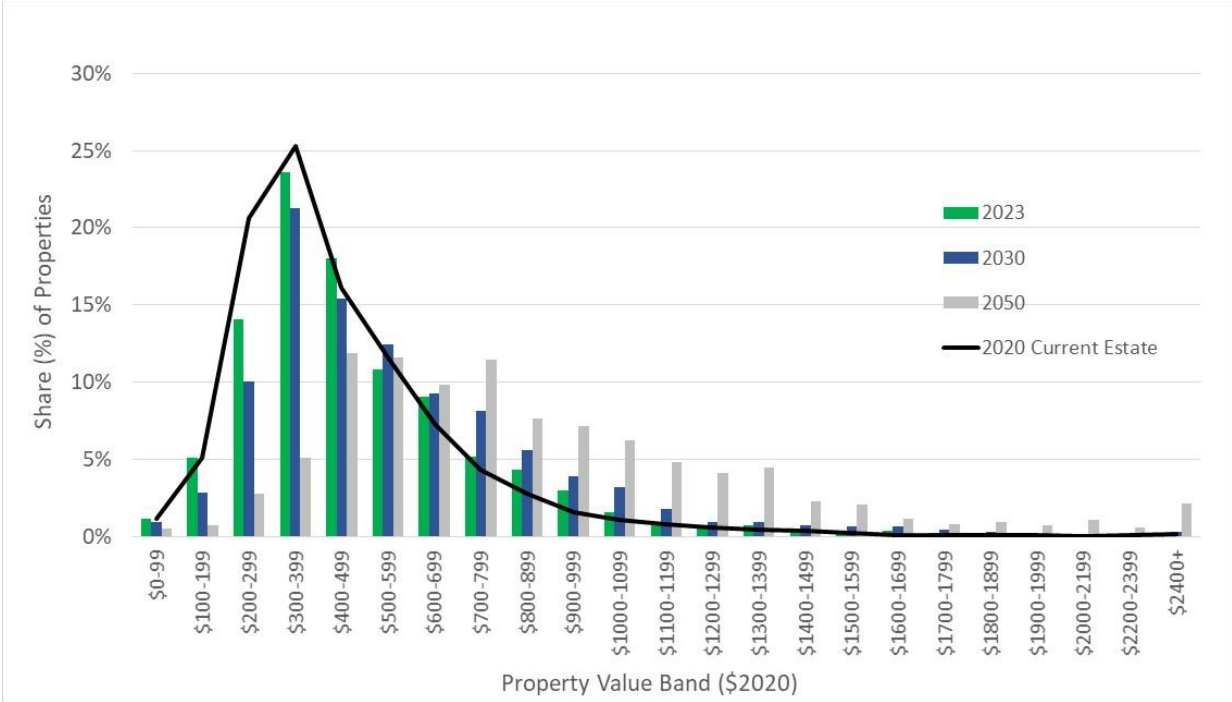
Table 3.2 – Total Future Estate by Value Band – Rotorua 2020 to 2050 High Growth (Base Case)

Rotorua District		High Projection Growth Future				Includes Lifestyle		
Value Band (\$000)(\$2020)	LV Trend	2.9%	IV Trend	0.7%	Construction	0.9%	(all %pa)	
	2020	2023	2030	2050	2020-23	2020-30	2020-50	
\$0-99	330	350	330	220	20	-	- 110	
\$100-199	1,480	1,570	970	310	90	- 510	- 1,170	
\$200-299	5,980	4,360	3,430	1,190	- 1,620	- 2,550	- 4,790	
\$300-399	7,340	7,300	7,300	2,170	- 40	- 40	- 5,170	
\$400-499	4,680	5,580	5,290	5,050	900	610	370	
\$500-599	3,360	3,340	4,260	4,940	- 20	900	1,580	
\$600-699	2,110	2,800	3,180	4,190	690	1,070	2,080	
\$700-799	1,260	1,590	2,790	4,880	330	1,530	3,620	
\$800-899	810	1,330	1,920	3,260	520	1,110	2,450	
\$900-999	460	910	1,340	3,040	450	880	2,580	
\$1000-1099	320	480	1,090	2,650	160	770	2,330	
\$1100-1199	230	290	600	2,040	60	370	1,810	
\$1200-1299	160	220	330	1,740	60	170	1,580	
\$1300-1399	130	220	330	1,900	90	200	1,770	
\$1400-1499	110	150	250	980	40	140	870	
\$1500-1599	70	120	220	880	50	150	810	
\$1600-1699	30	110	210	500	80	180	470	
\$1700-1799	30	60	150	350	30	120	320	
\$1800-1899	30	30	90	410	-	60	380	
\$1900-1999	20	30	50	300	10	30	280	
\$2000-2199	10	20	40	450	10	30	440	
\$2200-2399	20	20	30	240	-	10	220	
\$2400+	40	60	100	910	20	60	870	
<b>Total</b>	<b>29,000</b>	<b>30,900</b>	<b>34,300</b>	<b>42,600</b>	<b>1,900</b>	<b>5,300</b>	<b>13,600</b>	
Under \$400K	52%	44%	35%	9%				
\$400-599K	28%	29%	28%	23%				
\$600-799K	12%	14%	17%	21%				
\$800-999K	4%	7%	10%	15%				
\$1000-1499K	3%	4%	8%	22%				
Over \$1500K	1%	1%	3%	9%				

Source: ME Housing Demand Model 2021



Figure 3.2 – Properties by Value 2020-2050 – Total Future Estate High Growth (Base Case)







## 4 Current Housing Affordability

This section provides a brief explanation of the approach used to model housing affordability in the HBA and includes more detailed analysis tables to complement Section 4.2.2 (Ownership by Household Income and Ethnicity) in the Main Report.

### 4.1 Approach to Understanding Affordability

Housing affordability is examined here through the M.E *Housing Affordability Model (2021)*. The Model brings together the demand side *and* the supply side of housing affordability, currently and into the short, medium, and long term future.

It examines the current affordability situation for the Rotorua community, and potential changes as the dwelling estate grows and ages (supply side aspects as discussed above) including in response to the community development, growth and changes.

#### 4.1.1 Affordability Indicators

Housing affordability cannot easily be condensed to a single measure, and so it is useful to consider a number of indicators. A key assumption in this report is that households which currently own a dwelling are able to afford that dwelling, even though they may not be able to afford a higher-priced dwelling than what they already have. This also highlights that current dwelling prices are not always a good indicator of affordability for all of the community, as many households would have purchased at different time periods when dwelling prices, individual household circumstances or income were quite different from the present.

This puts the focus of housing affordability analysis on current and expected future non-owner households, and their assessed ability to afford a dwelling at the time they want acquire it. If these households were to attempt to buy a home, they would be, in effect, first home buyers. The Model uses detail on their demography and socio-economic circumstances and estimates of their ability to access finance to enable dwelling ownership, and service loans. Census 2018 data is used to show how dwelling tenure currently varies by demography, ethnicity, and income, as well as relationships between ownership and rental patterns, and dwelling types.

A standard affordability calculation is used to estimate what value of dwelling non-owner households may afford to own or to rent. For potential ownership, this allows for 35% of gross household income to service a loan assuming a 30-year mortgage period, and with a 20% deposit paid. That allows calculation of the maximum value of dwelling which is 'affordable', for a household of any given income level, though it is noted that the percentage of income measure of affordability is generally more appropriate to use for lower income households (as households' fixed and non-discretionary costs commonly consume a relatively high share of income). Households with higher incomes commonly use a smaller share of income on fixed and non-discretionary spend, so have a wider range of consumption choices including housing.

The future affordability situation is examined using the demographic projections to track changes in the household mix, and economic projections to account for real income growth. This is compared with the



estimated supply of dwellings in each value band. That draws from the projections (described in Section 2) to take into account dwelling supply in each value band.

It is important to understand how affordability varies within the community. The modelling examines affordability across the range of household income bands, and also across the range of dwelling value bands. This provides a more nuanced and fine-grained assessment across the community than more simplistic median-multiple or other similar indicators. This is because it is important to understand what households in each income band, *especially* the lower and lower-middle income bands, may be able to afford.

This means the analysis usefully shows what households in each income band may afford, compared with dwellings in each value band – for instance, whether households in the lower-middle income bands could afford dwellings at the 15<sup>th</sup> value percentile, or at the 30<sup>th</sup> value percentile. It is important also to understand how many dwellings there are in each of those value bands. That detail provides a clearer understanding of affordability in terms of the demand and supply sides at each price and income band together and in combination.

#### 4.1.2 Future Affordability

Affordability changes over time, with local, national and global influences having effect directly and indirectly. It is also important to recognise that dwelling values are not static, nor are household incomes as a key driver of affordability. This means that estimates of future affordability trends need to take account of how values may change over time, as well as likely trends in incomes.

Section 4 of the Main Report examines current affordability, and establishes the platform for examining future affordability, which is discussed in Section 10.3 of the Main Report.

## 4.2 Dwelling Tenure and Affordability Patterns 2020

### 4.2.1 Ownership by Household Income and Ethnicity

The following provides a more detailed analysis of dwelling ownership for each ethnic group than summarised in the Main Report (Section 4.2.2), and from that, patterns of housing affordability.

The more detailed tables from Table 4.1 to Table 4.4 offer a closer view of estimated dwelling ownership by ethnicity, and from that, patterns of housing affordability. The upper part of each table shows the simple dwelling ownership level (% of households who own a dwelling). The lower part of each table shows the relative incidence of ownership for each segment according to household ethnicity, compared with the 2020 Rotorua average for each segment. A value of 1.0 indicates the ownership level for households of that ethnicity (for that type and income) is the same as the Rotorua average. Values below 1.0 indicate relatively lower levels of ownership for that ethnicity, with highlighted red numbers being substantially lower.

Values of greater than 1.0 show relatively higher levels of ownership for that ethnicity, with blue highlighted numbers showing ownership is substantially higher than average (+15%). The un-shaded cells indicate an ownership rate which is broadly close to the Rotorua average for that household type and income

combination. The individual numbers are informative, however given the level of detail it is the overall pattern which is most useful.

Among Māori households, dwelling ownership rates are generally lower for almost all segments of the community (Table 4.1), and substantially lower for many segments. Overall, 52% of households of Māori ethnicity are dwelling owners, compared with 63% across all ethnicities. Within that pattern, ownership rates are generally highest for the higher income households, especially for middle and higher income couples, as is the case for all ethnicities.

However, across most segments (type by income) households of Māori ethnicity show a lower level of dwelling ownership. That is especially low among households in the middle to lower income bands and especially for single persons. There is substantially lower ownership for 1-parent families, and households in the middle-lower income bands. The table shows relatively high ownership for some segments, however that is relative to the Rotorua pattern, and the raw ownership rates are generally low (less than 50%) in all of those cohorts.

Table 4.1 – Dwelling Ownership by Household Type and Income – Māori Ethnicity 2020

Household Type	Household income Band									Total
	<\$20,000	\$20-30,000	\$30-40,000	\$40-50,000	\$50-70,000	\$70-100,000	\$100-120,000	\$120-150,000	\$150,000+	
One Person Hhld	34%	40%	44%	44%	53%	60%	47%	40%	54%	43%
Couple Hhld	51%	48%	<b>70%</b>	<b>70%</b>	<b>64%</b>	<b>71%</b>	<b>75%</b>	<b>75%</b>	<b>85%</b>	<b>71%</b>
2 Parents 1-2chn	44%	42%	36%	36%	48%	61%	<b>68%</b>	<b>69%</b>	<b>86%</b>	<b>63%</b>
2 Parents 3+chn	50%	33%	33%	33%	43%	45%	<b>64%</b>	<b>64%</b>	<b>84%</b>	54%
1 Parent Family	21%	22%	33%	33%	43%	53%	59%	60%	<b>68%</b>	36%
Multi-Family Hhld	33%	50%	25%	25%	33%	43%	<b>67%</b>	<b>68%</b>	<b>87%</b>	<b>65%</b>
Non-Family Hhld	37%	41%	41%	41%	35%	54%	47%	45%	42%	42%
Total	31%	35%	43%	43%	50%	60%	<b>68%</b>	<b>68%</b>	<b>84%</b>	52%
One Person Hhld	<b>0.65</b>	<b>0.76</b>	<b>0.74</b>	<b>0.74</b>	0.83	0.85	<b>0.63</b>	<b>0.52</b>	<b>0.70</b>	<b>0.72</b>
Couple Hhld	0.83	<b>0.78</b>	0.92	0.92	0.84	0.97	0.92	0.91	0.97	0.91
2 Parents 1-2chn	<b>2.17</b>	<b>2.09</b>	0.92	0.91	1.00	0.96	0.90	0.86	1.03	0.97
2 Parents 3+chn	<b>2.81</b>	<b>1.77</b>	0.95	0.98	1.01	0.85	0.96	0.88	0.99	0.95
1 Parent Family	1.11	1.17	0.94	0.95	0.94	0.88	0.90	0.90	<b>0.79</b>	0.96
Multi-Family Hhld	<b>0.37</b>	<b>0.58</b>	<b>1.75</b>	<b>1.50</b>	1.06	1.00	1.10	1.07	1.07	1.14
Non-Family Hhld	<b>1.23</b>	<b>1.42</b>	1.01	1.06	0.94	1.13	1.18	1.15	1.08	1.07
Total	<b>0.73</b>	<b>0.78</b>	<b>0.78</b>	<b>0.78</b>	0.83	0.90	0.90	0.87	0.99	0.83

Source: ME Housing Demand Model 2021

In contrast, among households of European and Other ethnicity, dwelling ownership rates are generally higher than the Rotorua average, as shown in the upper part of Table 4.2. Overall, 71% of households of European and Other ethnicity are dwelling owners, compared with 63% across all ethnicities, and in common with all ethnicities ownership rates are generally highest for the middle to higher income households (\$70,000 and above), and for couples of all income bands.

The incidence of dwelling ownership is relatively high across almost all segments. An important feature is that ownership rates are most obviously relatively high for households in the middle and lower income bands, especially family households. That indicates that housing ownership affordability is relatively less of an issue compared with households of other ethnicities in those income and type segments.

A different pattern is clear for households of Pacific ethnicity, where dwelling ownership rates are lower than the Rotorua average (Table 4.3). Some 52% of households of Pacific ethnicity are dwelling owners, significantly lower than the average for all ethnicities. Ownership rates are somewhat higher in the middle

to higher income bands and for couples. However, the incidence of dwelling ownership is relatively low across almost all segments, and significantly below the Rotorua pattern for many segments.

The pattern is similar for households of Asian ethnicity, with dwelling ownership rates lower than the Rotorua average (Table 4.4). Some 55% of households of Asian ethnicity are dwelling owners, again significantly lower than the average for all ethnicities. While ownership rates are somewhat higher in the middle to higher income bands and for couples, the overall incidence of dwelling ownership is relatively low across almost all segments, and significantly below the Rotorua pattern for many segments.

Table 4.2 – Dwelling Ownership by Household Type and Income – European and Other Ethnicity 2020

Household Type	Household income Band									Total
	<\$20,000	\$20-30,000	\$30-40,000	\$40-50,000	\$50-70,000	\$70-100,000	\$100-120,000	\$120-150,000	\$150,000+	
One Person Hhld	55%	69%	65%	65%	69%	77%	78%	78%	75%	67%
Couple Hhld	68%	76%	83%	83%	82%	79%	85%	85%	90%	83%
2 Parents 1-2chn	41%	53%	55%	55%	55%	67%	81%	81%	86%	74%
2 Parents 3+chn	56%	56%	46%	46%	46%	64%	77%	76%	85%	69%
1 Parent Family	22%	32%	41%	41%	57%	68%	71%	70%	81%	48%
Multi-Family Hhld	0%	50%	33%	33%	33%	67%	70%	70%	76%	69%
Non-Family Hhld	45%	47%	51%	51%	41%	59%	49%	48%	46%	49%
Total	50%	65%	67%	67%	68%	73%	81%	82%	86%	72%
One Person Hhld	1.05	1.31	1.10	1.10	1.09	1.08	1.06	1.01	0.98	1.13
Couple Hhld	1.11	1.24	1.09	1.09	1.07	1.07	1.05	1.04	1.03	1.07
2 Parents 1-2chn	2.04	2.65	1.40	1.39	1.16	1.05	1.06	1.01	1.03	1.13
2 Parents 3+chn	3.13	2.95	1.31	1.35	1.07	1.20	1.15	1.05	1.00	1.22
1 Parent Family	1.19	1.73	1.16	1.17	1.24	1.14	1.08	1.05	0.95	1.28
Multi-Family Hhld	-	0.58	2.33	2.00	1.06	1.54	1.16	1.11	0.94	1.21
Non-Family Hhld	1.52	1.62	1.27	1.33	1.10	1.24	1.21	1.20	1.19	1.25
Total	1.19	1.45	1.22	1.22	1.14	1.10	1.08	1.04	1.03	1.15

Source: ME Housing Demand Model 2021

Table 4.3 – Dwelling Ownership by Household Type and Income – Pacific Ethnicity 2020

Household Type	Household income Band									Total
	<\$20,000	\$20-30,000	\$30-40,000	\$40-50,000	\$50-70,000	\$70-100,000	\$100-120,000	\$120-150,000	\$150,000+	
One Person Hhld	40%	32%	50%	50%	47%	47%	0%	0%	0%	42%
Couple Hhld	0%	0%	63%	63%	78%	71%	79%	79%	75%	72%
2 Parents 1-2chn	0%	0%	58%	58%	51%	55%	76%	78%	65%	63%
2 Parents 3+chn	0%	0%	40%	40%	38%	45%	41%	38%	44%	40%
1 Parent Family	31%	32%	40%	40%	44%	50%	36%	33%	0%	39%
Multi-Family Hhld	0%	0%	0%	0%	0%	57%	100%	50%	60%	50%
Non-Family Hhld	0%	0%	0%	0%	9%	0%	0%	0%	0%	0%
Total	33%	33%	50%	50%	50%	58%	67%	67%	57%	52%
One Person Hhld	0.75	0.61	0.85	0.85	0.73	0.65	-	-	-	0.71
Couple Hhld	-	-	0.83	0.83	1.02	0.97	0.97	0.96	0.86	0.93
2 Parents 1-2chn	-	-	1.49	1.48	1.08	0.87	1.00	0.98	0.79	0.96
2 Parents 3+chn	-	-	1.14	1.18	0.89	0.86	0.62	0.53	0.52	0.70
1 Parent Family	1.68	1.73	1.13	1.14	0.97	0.83	0.54	0.50	-	1.04
Multi-Family Hhld	-	-	-	-	-	1.32	1.66	0.79	0.74	0.88
Non-Family Hhld	-	-	-	-	0.24	-	-	-	-	-
Total	0.79	0.75	0.91	0.91	0.84	0.87	0.89	0.85	0.68	0.82

Source: ME Housing Demand Model 2021



Table 4.4 – Dwelling Ownership by Household Type and Income – Asian Ethnicity 2020

Household Type	Household income Band									Total
	<\$20,000	\$20-30,000	\$30-40,000	\$40-50,000	\$50-70,000	\$70-100,000	\$100-120,000	\$120-150,000	\$150,000+	
One Person Hhld	51%	60%	48%	48%	60%	55%	67%	75%	67%	55%
Couple Hhld	50%	49%	51%	51%	50%	47%	66%	66%	65%	54%
2 Parents 1-2chn	38%	29%	33%	33%	48%	59%	73%	74%	76%	56%
2 Parents 3+chn	33%	0%	57%	57%	57%	63%	76%	76%	82%	64%
1 Parent Family	46%	53%	59%	59%	48%	58%	0%	0%	0%	53%
Multi-Family Hhld	0%	0%	50%	50%	40%	63%	63%	64%	80%	67%
Non-Family Hhld	33%	50%	43%	43%	50%	35%	31%	29%	40%	38%
<b>Total</b>	<b>47%</b>	<b>50%</b>	<b>47%</b>	<b>47%</b>	<b>51%</b>	<b>54%</b>	<b>67%</b>	<b>70%</b>	<b>74%</b>	<b>55%</b>
One Person Hhld	0.96	1.13	0.81	0.81	0.95	0.77	0.90	0.98	0.86	0.93
Couple Hhld	0.81	0.79	0.67	0.67	0.65	0.64	0.81	0.81	0.74	0.69
2 Parents 1-2chn	1.91	1.42	0.85	0.85	1.01	0.92	0.97	0.93	0.92	0.87
2 Parents 3+chn	1.88	-	1.63	1.68	1.32	1.18	1.14	1.06	0.97	1.13
1 Parent Family	2.48	2.81	1.67	1.68	1.05	0.96	-	-	-	1.42
Multi-Family Hhld	-	-	3.50	3.00	1.28	1.44	1.04	1.00	0.99	1.17
Non-Family Hhld	1.12	1.72	1.06	1.11	1.33	0.72	0.76	0.72	1.03	0.96
<b>Total</b>	<b>1.13</b>	<b>1.12</b>	<b>0.86</b>	<b>0.86</b>	<b>0.86</b>	<b>0.82</b>	<b>0.89</b>	<b>0.89</b>	<b>0.88</b>	<b>0.88</b>

Source: ME Housing Demand Model 2021

## PART 2 – HOUSING CAPACITY ASSESSMENT





# 5 Capacity Modelling Structure

This section provides a brief overview of the approach used to assess housing capacity for the 2021 HBA in order to meet the requirements of the NPS-UD. It outlines the sequence of key steps as well as some of the relevant terminology. Sections 6-8 of this Technical Report expand further on this overview.

## 5.1 Overview

Detailed modelling has been undertaken to estimate the residential dwelling capacity of the Rotorua urban environment. In accordance with the NPS-UD requirements, the assessment calculates the capacity that is measured against a range of different development process layers. The measures of capacity are:

- i. Plan enabled capacity – the dwelling capacity that is enabled by land zoning within the relevant district plan or (in this case) the spatial plan.
- ii. Commercially feasible capacity – plan enabled capacity where it is feasible for a commercial developer to construct a dwelling.
- iii. Infrastructure serviced capacity – plan enabled dwelling capacity that is served by infrastructure at each assessment point in time at a total catchment level. This considered the capacity for dwelling (and business) growth that was catered for by water supply reservoir storage, water supply water-take consents, or wastewater treatment plant processing capacity (which ever was the lesser). This capacity was not constrained by the timing of network extensions in each area that would be needed to ‘reach’ greenfield growth areas.
- iv. Feasible and infrastructure serviced capacity - In this assessment, this is a sub-set of the plan enabled and commercially feasible capacity. Infrastructure catchment limits have been applied to take into account the maximum dwelling capacity across the combined areas of the existing urban area and potential future areas of greenfield expansion. Two measures of infrastructure serviced capacity are produced. These include:
  - a. the commercially feasible greenfield areas that are within the spatial extent of infrastructure network coverage in each period; and
  - b. the total additional infrastructure served dwelling limits applied at the infrastructure catchment level overall (i.e., to include growth at the catchment level across both the existing urban and greenfield areas).
- v. Reasonably expected to be realised capacity – this is measured as a sub-set of the commercially feasible and infrastructure-served capacity that could reasonably be realised to accommodate future dwellings. The approach to reasonably expected to be realised capacity is outlined in Section 8 of this Technical Report.



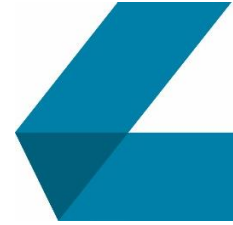
This section provides an overview of the key stages of the assessment approach. Further detailed information on the structure of the models is contained in the following sections.

Capacity is calculated across Rotorua's urban environment both within the existing urban areas (intensification) as well as further outward expansion within greenfield areas. Capacity can be categorised as:

- i. Infill capacity – this refers to the number of additional dwellings that can be constructed within the existing urban area without the removal or demolition of any existing dwellings. It includes development on vacant (titled) lots as well as the construction of additional dwellings on the vacant areas of parcels (e.g., constructing an additional dwelling in a large back yard area of an already developed property parcel). Development on the vacant sites and undeveloped areas of underutilised urban land parcels are included within this category. Infill capacity occurs within the existing urban area, which includes brownfield and underutilised urban land.
- ii. Redevelopment capacity – this refers to the number of additional dwellings that can be constructed within the existing urban area through the redevelopment of sites. It involves the demolition or removal of existing dwellings on a site and the subsequent construction of a greater number of dwellings on the same site (without changes to the lot boundary). This category also includes redevelopment of underutilised urban land parcels. It includes vacant underutilised urban land parcels as well as the redevelopment of areas that have some development that has occurred. Redevelopment capacity occurs within the existing urban area, which includes brownfield and underutilised urban land.
- iii. Greenfield capacity – this refers to the outward expansion of the urban edge to form new areas of urban residential development. It typically occurs on areas that are zoned for future urban use and requires the geographic extension of infrastructure at different points in time to enable the urbanisation of these areas. In the short to medium-term, the greenfield areas include the Pukehāngi Plan Change area and the Wharenui Road Development area. Further greenfield areas in the Eastern reporting area (Upper Eastside Spatial Plan growth area), Ngongotaha and a small extension to the Western reporting area greenfield area are also included within the long-term.

Greenfield capacity can be added to infill capacity or redevelopment capacity, but all three are not additive. The capacity results also include maximums of infill or redevelopment capacity within the existing urban area. Here, the model returns the greatest yield for each parcel out of the infill and redevelopment capacity options which is able to be added to greenfield capacity (this is reported as 'Greenfield and Max Infill or Redevelopment' in the results tables). Under the plan enabled capacity, the redevelopment option will always represent the greatest yield. However, under the commercially feasible capacity often only one of the development options (e.g., standalone infill dwelling) will be feasible (with the option differing between parcels), meaning that the model selects the option that is feasible with the highest yield.





## 5.2 Defining Development Options and Planning Spatial Requirements

The first stage of the assessment identifies the potential development options that can occur on each property parcel. These refer to the types of dwellings that can be constructed (e.g., standalone, duplex/terrace, apartments) on each site and their corresponding spatial requirements. Development options are determined through the district plan provisions with different zones allowing different types of development. In some cases, a property parcel yield (i.e., potential number of additional dwellings) can vary depending on the type of dwelling option constructed and, within the existing urban area, whether infill or redevelopment is undertaken.

Higher densities can be achieved within the Residential 2 Zone if dwellings are constructed as part of a Comprehensive Residential Development Plan, where a smaller minimum site area per dwelling is enabled. To remain conservative, this development pathway has only been modelled for sites with a minimum area of 900m<sup>2</sup> – i.e., where at least six dwellings could be constructed at a minimum site area requirement of 150m<sup>2</sup> per dwelling.

The capacity results also include a maximum yield for each type of development path (infill vs. redevelopment vs. greenfield) which is the aggregation of the maximum capacity across all enabled dwelling types within each of the development options. The maximums are produced for both plan enabled and commercially feasible capacity. For example, under the district plan, a particular property parcel could be developed to contain either two standalone houses or four duplex dwellings. The maximum yield would be four under the plan enabled capacity. However, it may only be commercially feasible to develop the site into standalone dwellings, in which case the maximum feasible yield would be two in that model.

## 5.3 Alignment with the Spatial Framework

The capacity modelling has been aligned with the Spatial Framework developed for Rotorua's urban environment. There is a separate Spatial Framework for the short/medium term and the long term due to changes in zones in some locations, although some 'layers' of the spatial framework apply equally to both. Each property parcel in the urban environment has been linked spatially to a base zone, zone location, as well as any sub-zones, precincts, or sub-areas. Through the detailed zoning, areas are classified as Residential Only, Business Only, Business and Residential, or Other Urban (i.e., areas where the parcels don't qualify as housing or business development areas and are excluded from plan enabled capacity). These maps are included in the Main Report.

Each property parcel has also been linked spatially to reporting areas (Figure 1.3 in the Main Report) and further classifications (by type and value) within the reporting areas. This enables the parcel level results for housing in Residential Only and Business and Residential areas to be aggregated up to the urban environment by reporting areas, providing capacity totals for each area by dwelling typology and type.

Alignment with the area types within the reporting area is a key input to the feasibility modelling. It allows the model to generate and test development patterns that reflect the localised dwelling markets. Local differences in the type and nature of dwellings constructed within the planning provisions are captured



within this process through the ratios of floorspace to site sizes for each area. Differences in sales prices by dwelling typology and size are also produced at these local spatial scales.

Other layers of the Rotorua HBA Spatial Framework include Māori land, natural hazards, physical constraint areas (including airport noise control and building height areas and pylons), and infrastructure service catchments.

## 5.4 Modelled Growth Scenarios

The NPS-UD requires that capacity is modelled under a Current Prices Scenario, with the 'option' to include further modelled growth scenarios for the long term that allow for a level of market growth to reflect the observed changes within the housing market through time. The NPS-UD requires short and medium-term capacity and sufficiency assessments to be modelled only under the Current Prices Scenario and allows for the inclusion of additional scenarios for the long-term assessment.

### Current Prices Scenario

Our assessment has modelled capacity under the Current Prices Scenario across all three time periods. To do this, the model applies the current prices within the market (in relation to dwelling sales and land prices, and development process costs) to the long term planning zoned areas. This scenario therefore holds prices constant through time and does not allow for any dwelling price or construction cost growth through time.


The current costs and prices scenario means that the feasible capacity across the current and future urban area reflects the current 2020 market and remains constant through time. It assumes that no further currently zoned development opportunities will become feasible (or more feasible) through time. It does not take account of changes in the feasibility of the current and future zoned/infrastructure served opportunity and assumes their future feasibility is equivalent to the current 2020 market.

Increases in reasonably expected to be realised capacity within this scenario are therefore, within the modelling, entirely a function of zoning changes (intensification and expansion) and increases in the geographical extent and total capacity of infrastructure provision through time. Beyond the current modelling inputs, the reasonably expected to be realised capacity may also be affected by other factors such as developer or landowner decisions (if they differ to the indicated intentions supplied for the modelling), or policy/planning changes within Council or other agencies with a jurisdictional role within the area. While reasonably expected to be realised capacity can be influenced beyond the factors included within the modelling, this is beyond the scope of the modelling, where the core focus is instead to estimate the effect of the existing planning factors.

### Market Growth Scenario

In addition, we have included a Market Growth Scenario for the long-term assessment in alignment with the NPS-UD. This scenario better reflects the observed changes in the market through time. It assumes a level of growth in the market, where costs and prices gradually change through time as demand grows.

Market growth through time, in response to growth in demand, is an important driver of feasibility within growing urban economies. As demand increases for a location, a greater range of development options generally become feasible. This includes increased dwelling density typologies, redevelopment to further



intensity already urbanised sites, as well as outward expansion of the existing urban edge. A market growth scenario is able to show the additional level of capacity that is likely to become feasible through time.

Under the Market Growth Scenario, changes in the feasible capacity are also a function of growth in demand for different dwelling development options (balanced against growth in costs) as well as changes in zoning and infrastructure provisions. These include growth in achievable sales prices in different locations and for different typologies.

An annual growth rate of 2.5% has been applied to dwelling sales prices and land prices under the Market Growth Scenario. All other costs have been grown by an annual average rate of 1.5%. Growth rates are based on the national outlook from the New Zealand Treasury Half Year Economic Update, factored for the long-term difference between the Bay of Plenty Region and New Zealand trends.

## 5.5 Structure of Capacity Modelling Outputs

The Main HBA Report contains the results of the residential capacity modelling for Rotorua's urban environment. Capacity outputs are provided for each of the reporting areas within the spatial framework. Results are reported separately for the short, medium, and long term, and then summarised across all three time periods in the final part of each sub-section.

Capacity estimates are presented for each of the key stages of capacity modelling. Each assessment layer is a sub-set of the previous stage:

- i. Plan enabled capacity with no infrastructure constraints.
- ii. Commercially feasible capacity. This includes the plan enabled development options that are estimated to be commercially feasible assuming no infrastructure constraints.
- iii. Infrastructure-served feasible greenfield capacity. This includes the capacity within the commercially feasible greenfield areas that are covered by physical infrastructure extensions within each time period.
- iv. Total infrastructure served capacity. This includes the total capacity limits across each of the reporting areas for additional dwelling growth able to be supported by the infrastructure networks. These are applied at the catchment level.
- v. Reasonably expected to be realised and infrastructure-served capacity (RER). This includes the commercially feasible capacity expected to be developed over time, accounting for demand and supply trends (based on recent market conditions) and taking account of known infrastructure constraints and their planned resolution (on non-resolution) over time.

An assessment of the commercially feasible capacity that is served by infrastructure is incorporated into the RER calculation stage. The sequencing of the infrastructure assessment is important because infrastructure constraints can apply at a catchment level that includes both areas that are already urbanised as well as areas for potential future urban expansion. Any infrastructure constraint correspondingly occurs through a combination of intensification within existing areas together with urban expansion rather than only an assessment of the future urban areas served by infrastructure. It is therefore appropriate to apply



the infrastructure constraint to capacity while estimating the combined levels of development through the reasonably expected to be realised capacity. This is a sequential process to ensure that catchment level infrastructure limits are not exceeded by total RER across the catchment at each stage of the allocation.

Within each set of results, the following measures of capacity are provided:

- i. Max Infill – this is an aggregation across all existing urban parcels of the maximum dwelling yield option on each parcel from infill development. Parcels may contain multiple yield options where different dwelling typologies and corresponding spatial requirements are enabled under the Plan.
- ii. Max Redevelopment - this is an aggregation across all existing urban parcels of the maximum dwelling yield option on each parcel from redevelopment. Parcels may contain multiple yield options where different dwelling typologies and corresponding spatial requirements are enabled under the Plan. The yields are expressed as net additional dwellings as the outputs subtract any existing dwellings. Infill and redevelopment yields are not additive – the following measure provides the maximum combination of these two development options.
- iii. Max Infill or Redevelopment – this is an aggregation across all existing urban parcels of the maximum dwelling yield option on each parcel from either infill or redevelopment.
- iv. Greenfield – this is the number of additional dwellings within the greenfield areas. These are areas of urban expansion beyond the existing urban area but within the defined long term urban environment.
- v. Greenfield and Infill – this is the greenfield and Max infill yields combined and can be broadly used to define a lower range of capacity.<sup>20</sup>
- vi. Greenfield and Max Infill or Redevelopment – this is the greenfield yield plus the Maximum Infill or Redevelopment yield, as specified above. It defines the maximum potential capacity across the combined existing urban area and greenfield areas of urban expansion. This HBA relies on this estimate of development capacity for the sufficiency assessment.

The following sections outline the key technical aspects of each stage of the capacity assessment.

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<sup>20</sup> Although is not included in the sufficiency assessment for this HBA.

# 6 Plan Enabled Capacity

This section provides further detail on the analysis of plan enabled capacity, specifically the modelling of infill, redevelopment and greenfield capacity as set out in Section 5 of the 2021 HBA Main Report. It should be read in conjunction with the text in the Main Report.

## 6.1 Approach

This section sets out the key stages of our modelling approach. They are set out in the sequential order in which they occur within the modelling of plan enabled capacity.

Figure 6.1 – Map of Excluded Parcels in the Urban Environment (No Development Potential)



As a preliminary step to the modelling, the Council has identified parcels that do not have development potential. These excluded parcels are mapped in Figure 6.1.

These parcels are excluded from all HBA residential (and business) modelling. The excluded areas generally include reserves, conservation land, key social or public infrastructure sites (e.g., schools and hospitals), Māori reservations, access and road areas and spatial requirements around infrastructure and utilities (including airport height restrictions).



While comprehensive, this HBA has not captured every parcel that should be excluded from development potential due to mapping limitations. Some constraints not included/considered in this report are contaminated land, geothermal surface features, heritage sites and some flood hazards. Future HBAs may be able to include these additional affected areas if available data improves.

The plan enabled modelling also took into account any reduction in developable area on (those parcels affected by the setback rule from waterways/water bodies and electricity network pylons. The area of each parcel that fell within the District Plan required setbacks from these features were removed from the model and excluded from any development potential<sup>21</sup>. This included areas of parcels that were within 25 metres of a stream or water body (as defined in the District Plan) which are illustrated in Figure 6.2, or within 12 metres of an electricity network pylons (shown in Figure 6.3).

Figure 6.2 – Areas Where Waterway/Waterbody Setbacks Apply in Rotorua’s Urban Environment



<sup>21</sup> It is noted that this is a conservative approach as development within 25m of a water body/stream may be permitted on some parcels if they are separated from the water body/stream by another parcel (e.g., a stream reserve access strip). However, this development potential is unable to be included within the assessment as it forms part of a discretionary assessment process within a resource consent decision.



Figure 6.3 – Pylon Locations in Rotorua’s Urban Environment (Setback Apply)

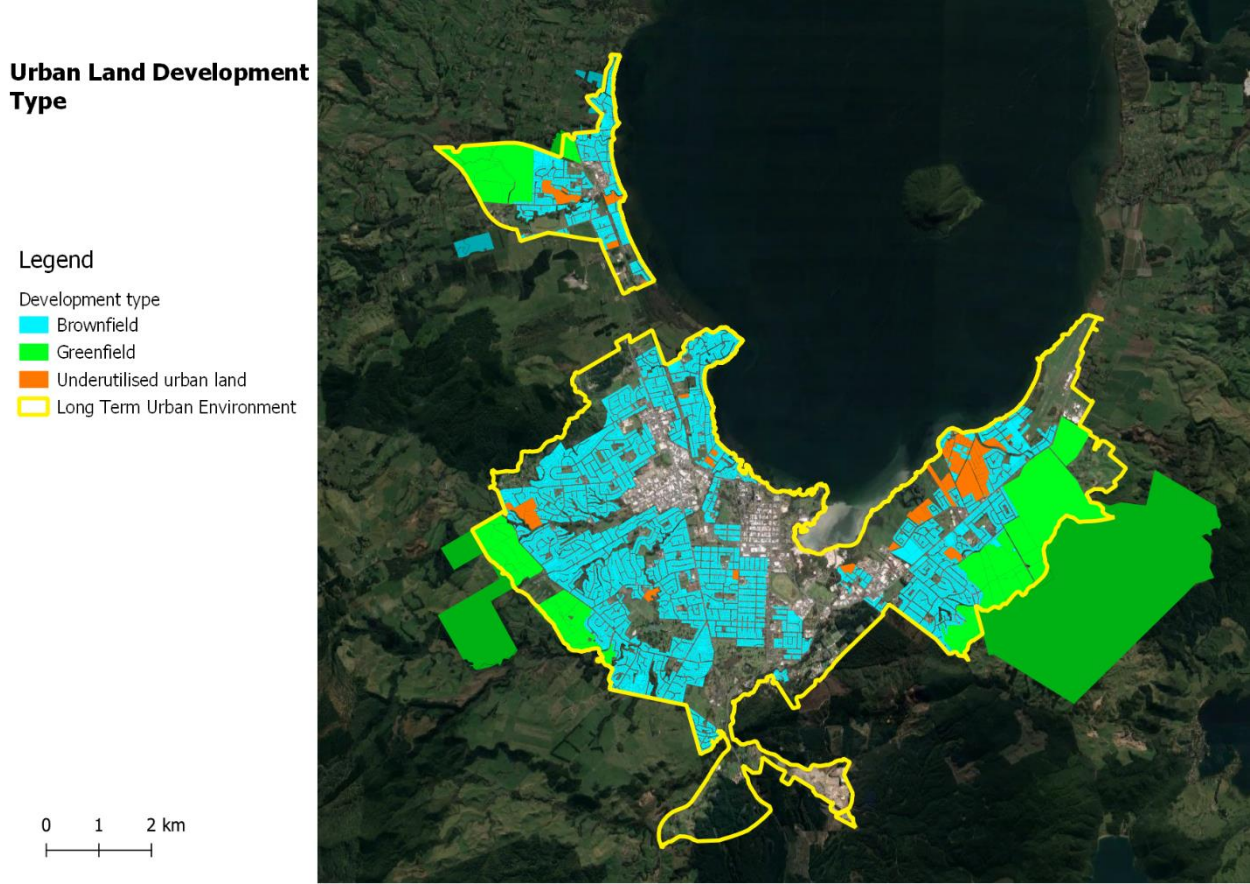


The remainder of the assessment calculates the capacity that is enabled by the Plan (and aspects of the Spatial Plan) for the parcels that have not been excluded and on the areas not removed from the setbacks. The plan enabled capacity assessment identifies the number of dwellings that can theoretically be constructed on each parcel through applying the planning parameters. Once the potential development options have been identified (i.e., typology enabled by zone), the assessment then calculates whether each development option could be constructed on each site. This is assessed entirely in relation to the planning requirements<sup>22</sup> on each site. It is conducted at the property parcel level to assess whether additional dwellings could theoretically be constructed on each site.

As discussed above, the modelling requirements differ depending on whether a parcel is in an existing urban area or a greenfield area. The Council approaches this using a classification of residential zoned land that includes Brownfield, Underutilised Urban Land, and Greenfield land. These areas are illustrated in Figure 6.4.

<sup>22</sup> These typically include minimum site size, building setbacks, site shape factors, building platforms, outdoor living space and driveway access requirements.

Figure 6.4 – Urban Land Development Types – Residential Zoned Land Short-Long Term



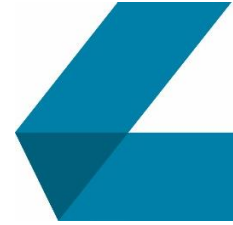
Within the existing urban area (brownfield and underutilised urban land areas), the plan enabled capacity assessment is undertaken through geometric modelling within FME software. The model applies the relevant spatial requirements of the Plan (e.g., minimum lot sizes, setback requirements, driveway access requirements<sup>23</sup>, etc) to each property parcel. To calculate infill capacity, the geometric process is carried out on each parcel around the existing building footprint on the site.

Plan enabled capacity is calculated in greenfield areas through a sequential prioritisation process to obtain the yield information that reflects the likely development urban form densities. If subdivision yields, structure plans or growth cell yield information is available from Council (via landowners) and advised as the appropriate yield<sup>24</sup>, then these are applied in the first instance to the corresponding greenfield parcels. In the absence of this information, plan enabled yields are calculated through applying developable land yields and site size assumptions. Developable area yields are estimated by removing a share (usually around

<sup>23</sup> Progressive driveway access requirements were also applied within the model as set out in the District Plan. The maximum number of dwellings able to be constructed on a site were limited by the maximum driveway width that could be achieved to the site.

<sup>24</sup> Council has advised that preferred yields for the greenfield areas reflect the feasible plan enabled yields served by infrastructure. These are higher than the structure plan yields.





32%<sup>25</sup>) of the land area to account for roads and reserves. The remainder of the area is then divided by the plan enabled lot size to estimate the total potential lots from each parcel.

Finally, the capacity outputs were calculated as a net increase in total dwellings on each site, taking account of the estimated existing dwelling stock. Analysis of the RLC Ratings Database was undertaken to estimate the number of existing dwellings on each property parcel for the 2020 base year. These were subtracted, at the parcel level, from the total gross plan enabled redevelopment capacity calculations to provide a net increase in dwelling capacity on each site.

The outputs of the plan enabled capacity approach are the number of net additional dwellings that are potentially able to be constructed on each site as a function of the planning provisions.

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<sup>25</sup> The same requirement to remove 32% of the parcel land area for accessways was applied to parcels greater than 2,000m<sup>2</sup> within the existing urban area. This is reflected in development patterns where a separate shared driveway area is typically provided for multiple dwelling developments.



# 7 Commercially Feasible Capacity

This section provides further detail on the analysis of commercially feasible capacity, as set out in Section 6 of the HBA Main Report. It should be read in conjunction with the text in the main report.

## 7.1 Approach

The commercial feasibility stage of the assessment tests the commercial feasibility of the development options on each parcel identified within the plan enabled stage of the assessment. It estimates whether it is commercially feasible for a profit-driven commercial developer to construct the identified dwelling options.

Detailed property parcel level commercial feasibility models were used to test the feasibility of each development option on each parcel that was identified as able to be constructed under the planning provisions. The modelling approach takes into account the costs of development to bring a house to market. It compares these costs to the estimated sales price of the constructed dwelling to determine the profit margin that may occur.

Detailed analysis has been undertaken to inform the ranges of costs and prices within the feasibility model. These reflect 2020 values (and are discussed further below).

In accordance with a combination of the NPS-UDC/NPS-UD technical guidance, developer survey feedback and developer feedback from assessments within other urban economies, this assessment has assumed that developments with a margin of 15% or greater<sup>26</sup> are commercially feasible to construct for a commercial developer. A higher margin of 20% has been applied to the construction of higher density apartment dwelling typologies within the commercial zones to reflect the higher risk associated with this development typology. Dwelling typology/size and density combinations are deemed to be commercially feasible if they achieve at least these margins in the assessment.

Further information was sought from commercial developers active in the housing sector in the district to, in part, inform the feasibility modelling. Limited information was supplied on the developer costs, although many developers indicated that developments with lower margins (than the initially modelled 20%) were often undertaken and depended on the type/scale/risk of development, while a few indicated that a higher profit margin was necessary to deal with development risk (particularly time frames for approval and infrastructure). This reflects a lenders financial risk (and therefore offered rate of interest) and follows a model of risk being a function of size, scale, infrastructure and consenting issues, meaning generally that larger, more complex and/or more intensive projects undertaken over longer time frames would potentially need to demonstrate higher returns in order to be financed at reasonable rates. Detailed results from the

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<sup>26</sup> The margin refers to the profit margin made by a commercial developer through selling a house and land package. It is the margin after tax, between the sales prices and the total costs of development. This approach has also been applied to the modelling for infill standalone houses for a commercial developer constructing a house only on a section that is already owned/purchased separately by the end buyer.



developer survey is contained in Section 9 of this Technical Report. A margin of 15% to 20% was considered appropriate given the range of feedback provided (over a relatively small sample).

In the greenfield areas, the feasibility assessment models the feasibility of house and land package options where a developer sells a dwelling on a piece of land to a private buyer. The same development pathway is modelled within the existing urban area for redevelopment capacity. This reflects much of the urban intensification occurring within the district's urban areas where developers purchase full sites (or in some cases contiguous, amalgamated sites), then redevelop the sites at a higher density and sell off a larger number of smaller lots.

The infill modelling, where further dwellings are added to a site, applied another development pathway where households purchase a site and then commission a private developer to construct a dwelling. This models the feasibility for a commercial developer to construct a dwelling on a site owned by a private individual. This development pathway was applied to the infill standalone dwellings.

The outputs of the commercial feasibility modelling are the number of dwellings on each site (and within each greenfield area) that are estimated to be commercially feasible options for a developer to construct.

The following sub-sections provide further detail on the analysis undertaken to generate the local patterns of development and their associated costs within the model and the approaches to their estimation.

## 7.2 Local Development Patterns

Once the number of potential additional dwelling units on each parcel has been established, the model estimates the nature of the dwelling that may be constructed on each parcel. This forms the basis for the calculation of construction costs to build each dwelling option.

Detailed spatial analysis was undertaken to estimate the likely dwelling size on each parcel for each typology and local area. The size of each dwelling constructed varies by parcel size, typology and location. It is important to determine the relativities between these different development options as the relative ability for a site to accommodate different types of dwellings changes with size, with consequent effects on feasibility. For instance, attached dwellings can often achieve larger floorspace sizes (and therefore, sometimes higher sales prices) on smaller sites than detached dwellings.

Data from the Ratings Database was used to establish the floor area ratio (FAR)<sup>27</sup> by section size for each dwelling combination in each location. Data from recent sales of relatively newly constructed dwellings and analysis of aerial photography of newer areas of residential development were used to calibrate the estimations of FAR curves by section size. A different curve was produced for each dwelling typology and location, with further spatial divisions within some reporting areas to reflect differences in development patterns with an area.

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<sup>27</sup> The FAR is calculated as the dwelling floorspace are divided by the total site size.



## 7.3 Estimation of Cost Parameters within the Model

A range of costs have been captured within the feasibility model as part of the development process. The following list contains the costs and provides an overview of the stages taken in their estimation.

### 7.3.1 Land Costs

These have been estimated from RLC Ratings Database information and have been inflated to 2020 dollar values.<sup>28</sup> Individual property data was analysed spatially, taking account of existing zoning patterns and degree of land preparation, to generate the relationship between land parcel size and price within each local area. Further data from sales listings were used to calibrate these estimations.

As a conservative modelling approach, parcels with estimated values below the average (inflated) curve estimated from the Ratings Database for their parcel size and local area were assigned the average value from the calculated curve. Estimated minimum values were also applied within the central City Centre commercial areas to reflect higher relative shifts in land values within these areas.

### 7.3.2 Existing Dwelling Costs

The cost of any existing dwellings on each site were included within the redevelopment feasibility assessment. These were obtained from the Ratings Database information, inflated to 2020 dollar values.

### 7.3.3 Other Site Preparation Costs

These include any demolition of existing dwellings, any costs associated with physically securing the site for development (e.g., fencing), and a contingency of 25% of these costs.

### 7.3.4 Construction Costs

These include costs associated with the physical construction of the dwelling, together with any costs associated with other construction on the site (e.g., landscaping and driveway construction). Base (2020) building rates (including a contingency) were obtained from a combination of the QV Cost Builder, building consent data and other construction cost information, where available, from the commercial developers. The relationship between average construction cost rates and dwelling size were incorporated during this stage for each dwelling typology. Base construction rates were then applied to the dwelling size estimated for each parcel to provide an overall construction cost.

The base construction costs per m<sup>2</sup> of dwelling floorspace are shown in Table 7.1. These are displayed by dwelling typology, type of location and the height of apartment buildings (which also includes non-residential uses). These are the base construction build rates only – they do not represent the total cost of construction and do not include finance costs, or any costs associated with the geographical or topographical constraints of the parcel. The source of these estimates is a combination of QV Cost Builder, desk top research and developer feedback from past projects. As there is a range of costs across sources, M.E has developed an average cost per sqm that is considered representative. The costs per square metre increase substantially between 2 and 3 storeys as this reflects the transition from walk-up apartments for

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<sup>28</sup> The latest rateable valuations at the time of modelling were for 2017.



example, to buildings requiring lift access (and other associated changes in the building code). Once the build includes a lift, there are economies of scale with subsequent floors, hence costs decrease slightly for 4 storey buildings. Apartments in 5 storey buildings have a higher cost due to their location within the City Centre and the additional construction costs likely to occur within this area.

Table 7.1: Base Construction Costs per Square Metre of Dwelling Floorspace (2020)

TYPOLOGY	AREA TYPE/STOREYS	Base Build Cost per M2 <sup>1</sup>	
		Min	Max
Standalone	Level 1	\$1,600	\$2,150
	Level 2	\$1,600	\$2,150
	Level 3	\$1,750	\$2,350
	Level 4	\$1,750	\$2,350
	Level 5	\$1,750	\$2,350
Duplex/Terrace		\$2,000	\$2,000
Apartments	1 Storey	\$1,800	\$2,350
	2 Storeys	\$2,000	\$2,550
	3 Storeys	\$3,100	\$4,500
	4 Storeys	\$2,900	\$4,500
	5 Storeys	\$3,400	\$4,650

Source: M.E RLD Residential Capacity Model, 2021.

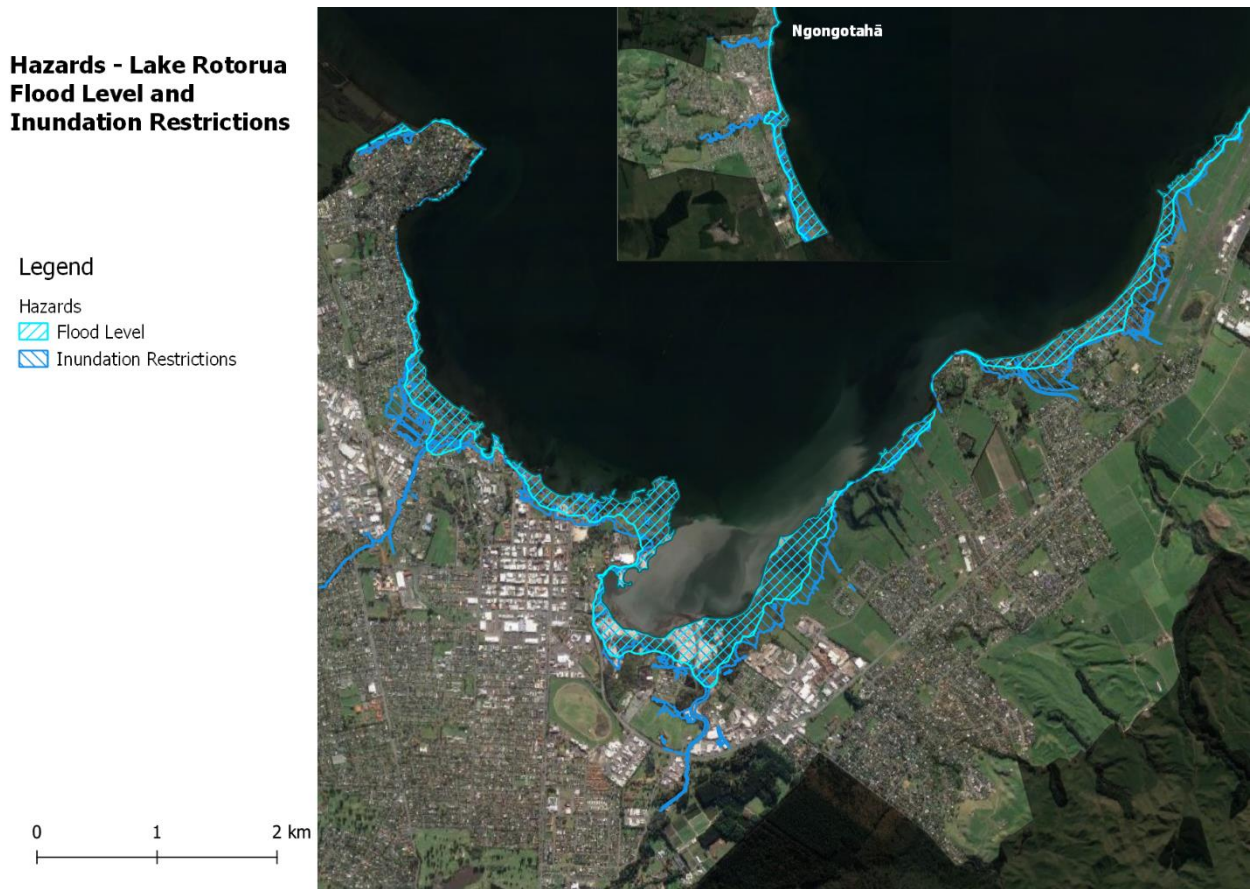
<sup>1</sup> Note: Costs include only the base build cost per m2. They do not represent the total dwelling construction cost per m2. Finance cost excluded. Additional costs from constraint factors excluded.

Construction costs were further adjusted across the district’s urban area to take account of a number of natural hazards and other development constraints. In some cases, constraints were widespread across large shares of the urban environment and therefore were already likely to be captured within the base Rotorua District rates. Adjustments to costs were instead made where constraints were more localised to particular locations within the urban area. Where applied, these increased the overall construction cost of dwellings by up to 18%. The additional construction costs associated with these constraints are outlined in the remainder of this sub-section.

Lake flooding and inundation risk was based on the areas surrounding the lake (as identified within the District Plan) that may be affected by rises in the lake level.<sup>29</sup> Dwellings in these areas are likely to have additional construction costs due to the need to construct dwellings on higher piles to mitigate the effects of potential flooding or inundation. For the purpose of this HBA, and in consultation with Council, it was agreed that parcels located in these areas would face an 8% increase in construction costs (Figure 7.1). This would equate to an additional cost of around \$25,700 to \$28,000 for a 200m2 standalone house (excluding finance costs).

<sup>29</sup> Areas of under-utilised land in Ngongotaha for example are prone to flooding (and is a key reason why these areas have not be developed to date.

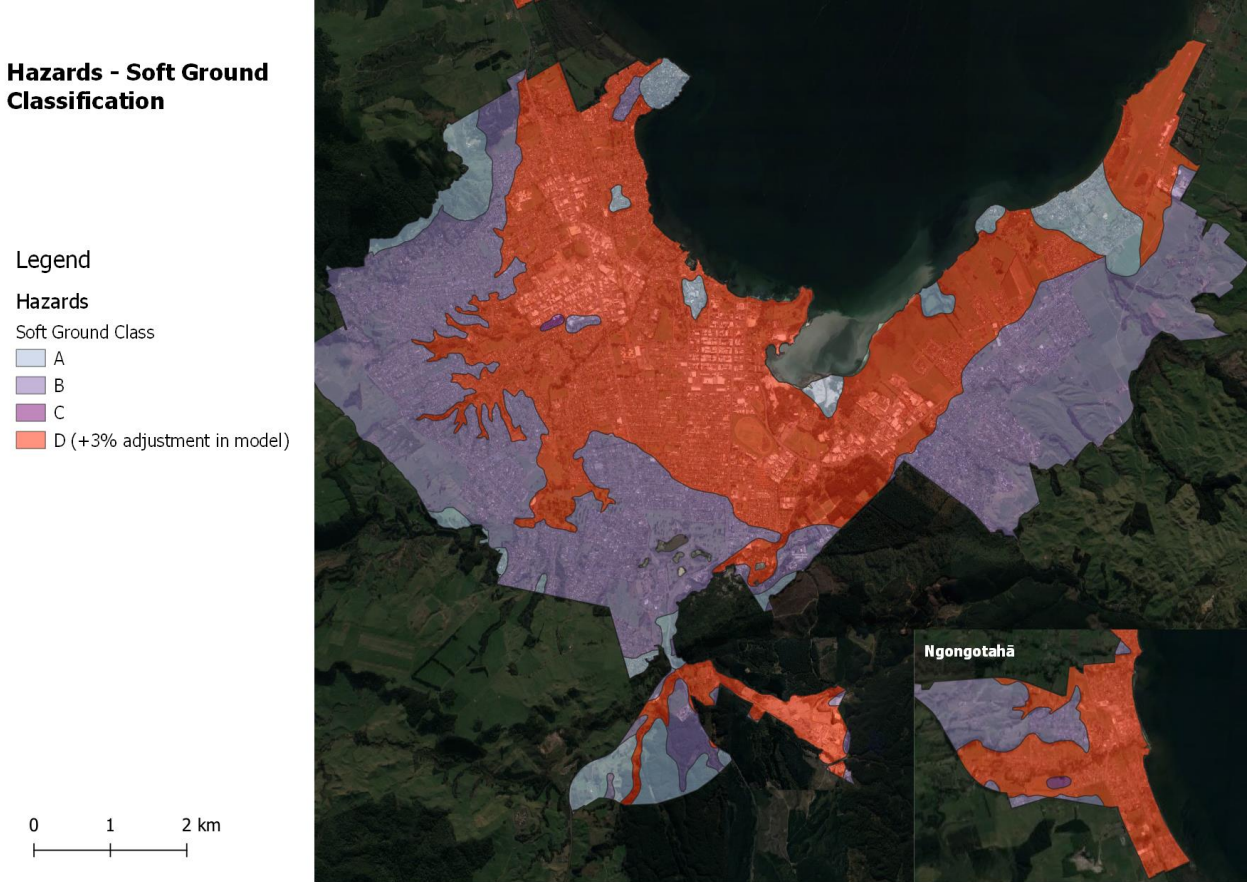
Figure 7.1 – Areas Impacted by Flood Level and Inundation Restrictions – Rotorua Urban Environment



Soft ground risk was based on the location of a dwelling within the areas of soft ground identified within the District Plan as soft ground class D (Figure 7.2). Development in these areas would generate the need for additional costs to dwelling foundations. For the purpose of this HBA, and in consultation with Council, it was agreed that parcels located in the soft ground class D area would face a 3% increase in construction costs. This was determined through an analysis of the likely cost increases to the sub-structure component of the overall build rate cost. This would equate to an additional cost of around \$9,600 to \$10,500 for a 200m<sup>2</sup> standalone house (excluding finance costs).

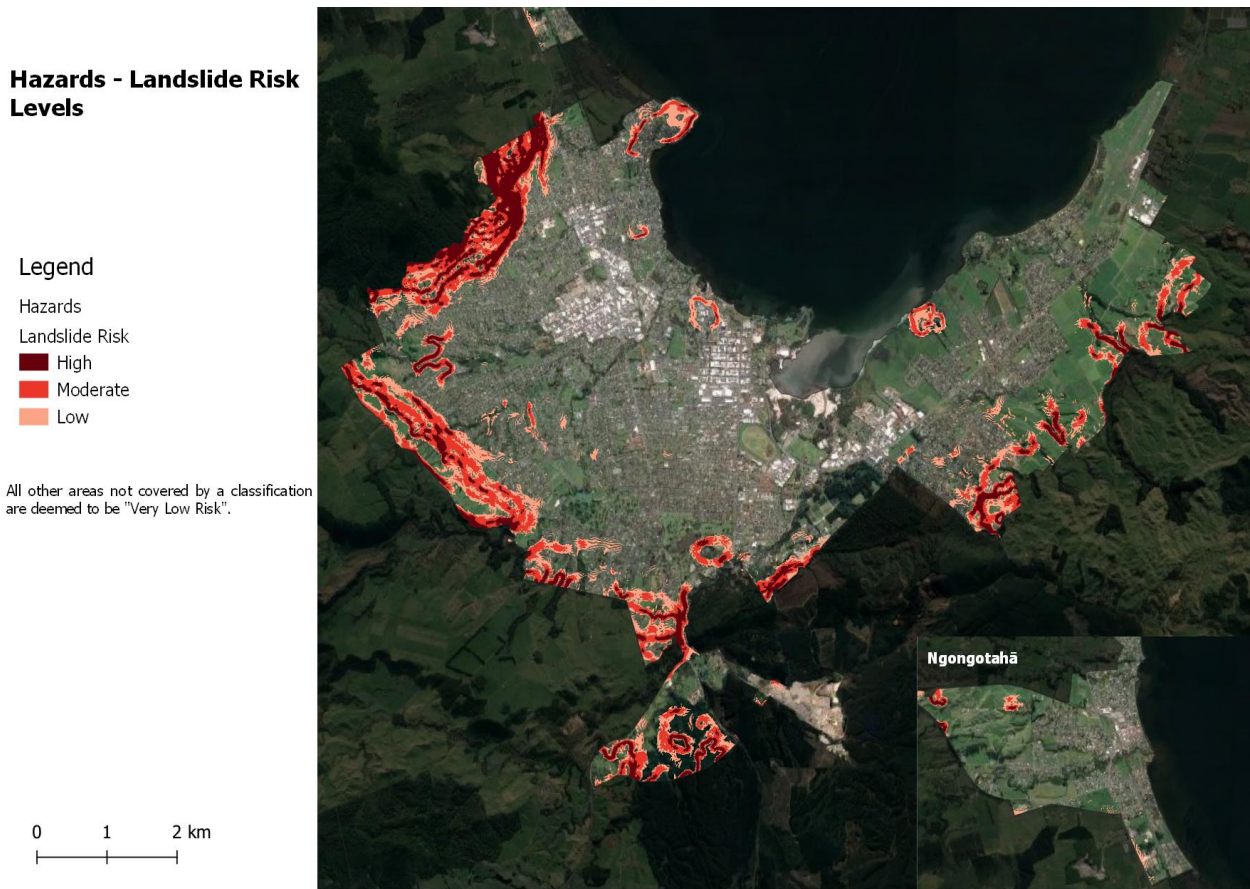


Figure 7.2 – Areas Impacted by Soft Ground – Rotorua Urban Environment



Land slide risk was based on the areas identified by RDC as potentially affected by landslides. Dwelling development within these areas may face additional costs due to construction on a sloped site. Estimations of the additional cost were obtained from developer feedback on cost increases on sloping sites in other locations together with analysis of the base build rate data. For the purpose of this HBA, and in consultation with Council, it was agreed that parcels located in the high risk areas (Figure 7.3) would have a 10% increase in construction costs and those located within moderate risk areas, a 5% increase in construction costs. . This would equate to an additional cost of around \$16,100 to \$35,000 for a 200m<sup>2</sup> standalone house (excluding finance costs).

Figure 7.3 – Areas Potentially Impacted by Land Slides – Rotorua Urban Environment



Development within the main geothermal field of Rotorua may also create additional costs for development. A key component of this cost occurs through the restriction of any development within 5 metres of a borehole.<sup>30</sup> However, for the purpose of this HBA, and in consultation with Council, it was agreed that additional construction costs would not be applied to parcels located within the general geothermal area (Figure 7.4) or that contained boreholes. This is due to insufficiently available information, including the location of some boreholes within the area.<sup>31</sup> The model already applies minimum land costs within these areas, which would reflect any additional cost required to develop parcels that have a lower Ratings Database value due to identified geothermal constraints on the parcel.

<sup>30</sup> Refer Geothermal Bylaw.

<sup>31</sup> Council has mapping of some bores but not all.



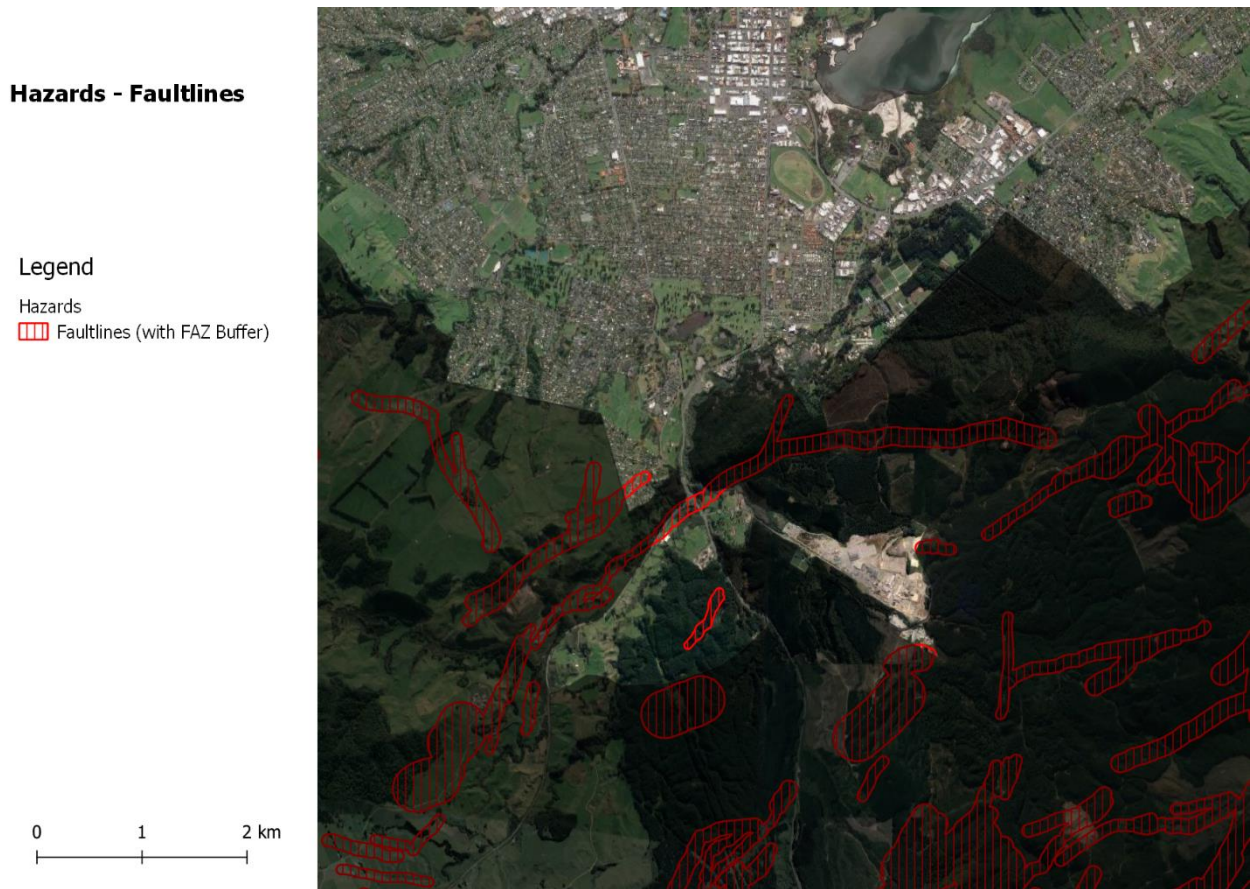
Figure 7.4 – Main Geothermal Field – Rotorua Urban Environment



Fault lines fall mainly south of the urban environment, but one fault line affects a small number of residential parcels (Figure 7.5). For the purpose of this HBA, development within fault line areas was considered likely to increase dwelling foundation costs through the sub-structure and site preparation component of the base build rate. In consultation with Council, it was agreed that parcels located in this area would face a 6% increase in construction costs. This would equate to an additional cost of around \$19,300 to \$21,000 for a 200m<sup>2</sup> standalone house (excluding finance costs).

Further investigation post modelling suggests that the main effect of the fault lines on development is the need to set buildings back 25m from the fault, and that this constraint (which would impact on the land area on sites available for development under plan enabled capacity analysis) is potentially more relevant than applying a cost related constraint. In future updates of the HBA, the approach to fault line constraints will be changed, although it is noted that it affects a very small number of properties and so has an immaterial effect on overall sufficiency conclusions in this HBA.

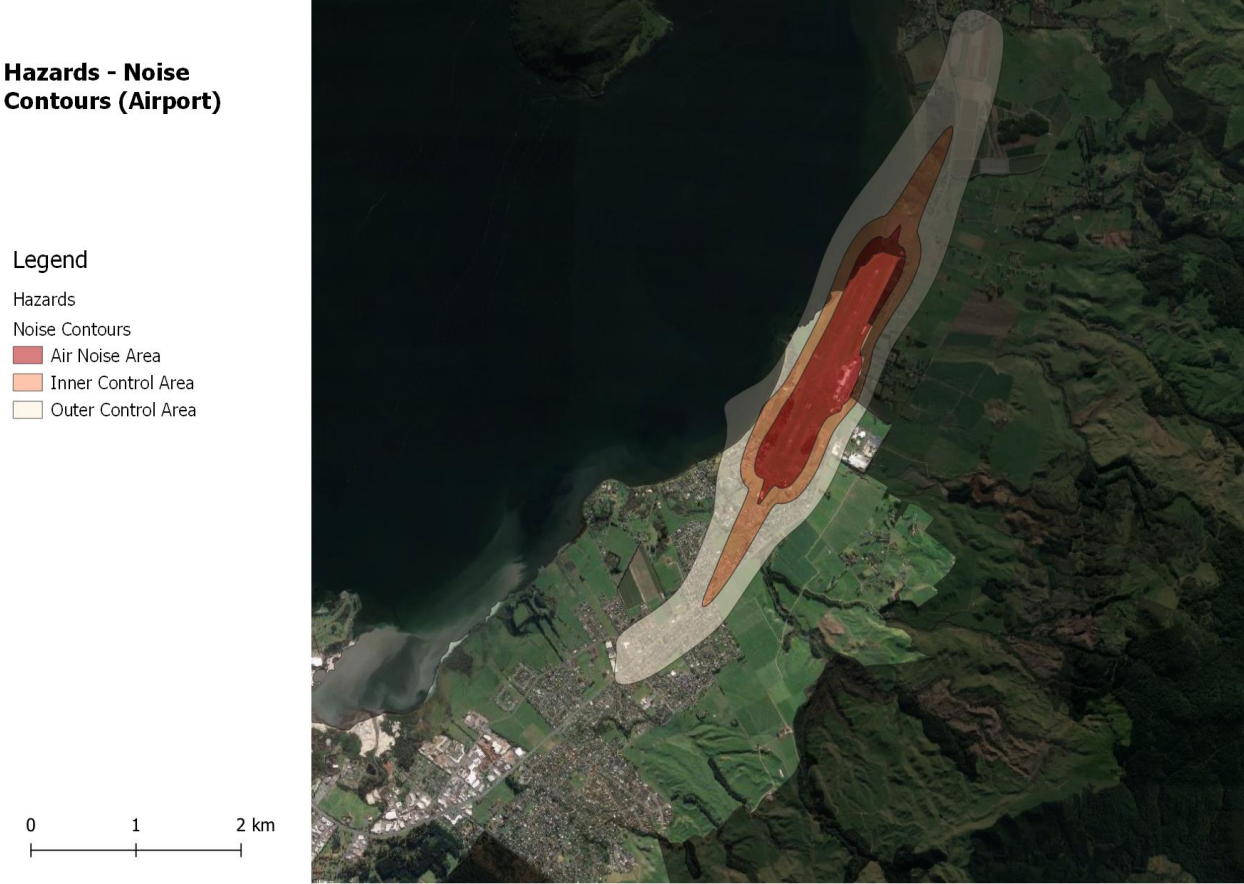
Figure 7.5 – Areas Impacted by Fault Lines – Rotorua Urban Environment



Airport noise constraints are based on the airport noise contours identified within the District Plan (Figure 7.6). Dwellings within the Inner Control Area are likely to face additional costs of double glazing and insulation (with development excluded from the Air Noise Area). For the purpose of this HBA, and in consultation with Council, it was agreed that parcels located in these areas would face a 2.5% increase in construction costs. This would equate to an additional cost of around \$8,000 to \$8,700 for a 200m<sup>2</sup> standalone house (excluding finance costs).



Figure 7.6 – Areas Impacted by Airport Noise Contours – Rotorua Urban Environment



### 7.3.5 Ancillary and Finance Costs

A range of ancillary costs were also incorporated in the feasibility model. These include:

- Resource consent fees.
- Building consent fees.
- Council financial contributions.<sup>32</sup>
- Utilities connections.
- Professional services associated with the development and sales process.

Finance cost assumptions are included in each component of the model as applicable (Table 7.2).

Table 7.2 Financial Rate Assumptions

Component	Rate
GST	15.00%
Corporate Tax Rate	28.00%
Capital Rate	6.90%

<sup>32</sup> Council does not currently have a development contribution policy.



### 7.3.6 Stormwater Costs

Council infrastructure teams have advised that Rotorua requires significant stormwater infrastructure investment to enable further residential growth. Information was provided on initial infrastructure network investment requirements for Council and the timing of stormwater network extensions to greenfield areas.

Information was not available on the number of additional dwelling units that could be supported by the infrastructure network by catchment area. However, Council have advised that stormwater capacity is constrained across the district, but growth can still occur with the onsite management of stormwater. This can occur at the subdivision level through development of land areas for stormwater ponds/systems or at the individual parcel level through onsite mitigation such as stormwater retention tanks.

The effect of stormwater infrastructure constraints were therefore taken account of through cost increases within the model, which affects feasibility. It was assumed that part of the stormwater requirements could be met through the land area removed from the gross parcel area within greenfield areas.

Part of the stormwater costs were also already included within the base model as it contains an allowance for utilities connections costs, including stormwater. It was assumed that, in the absence of being able to connect to city networks, that these costs would instead be applied to onsite stormwater mitigation measures. Land prices were also increased slightly across all areas to make further allowance for additional stormwater costs.

While stormwater constraints are present in Rotorua and do require additional measures for development which affect feasibility, it is important to note that the provision of stormwater network investment may not result in a complete reduction in stormwater costs for development. This is because the utilities connection cost would instead apply.

## 7.4 Estimation of Sales Prices

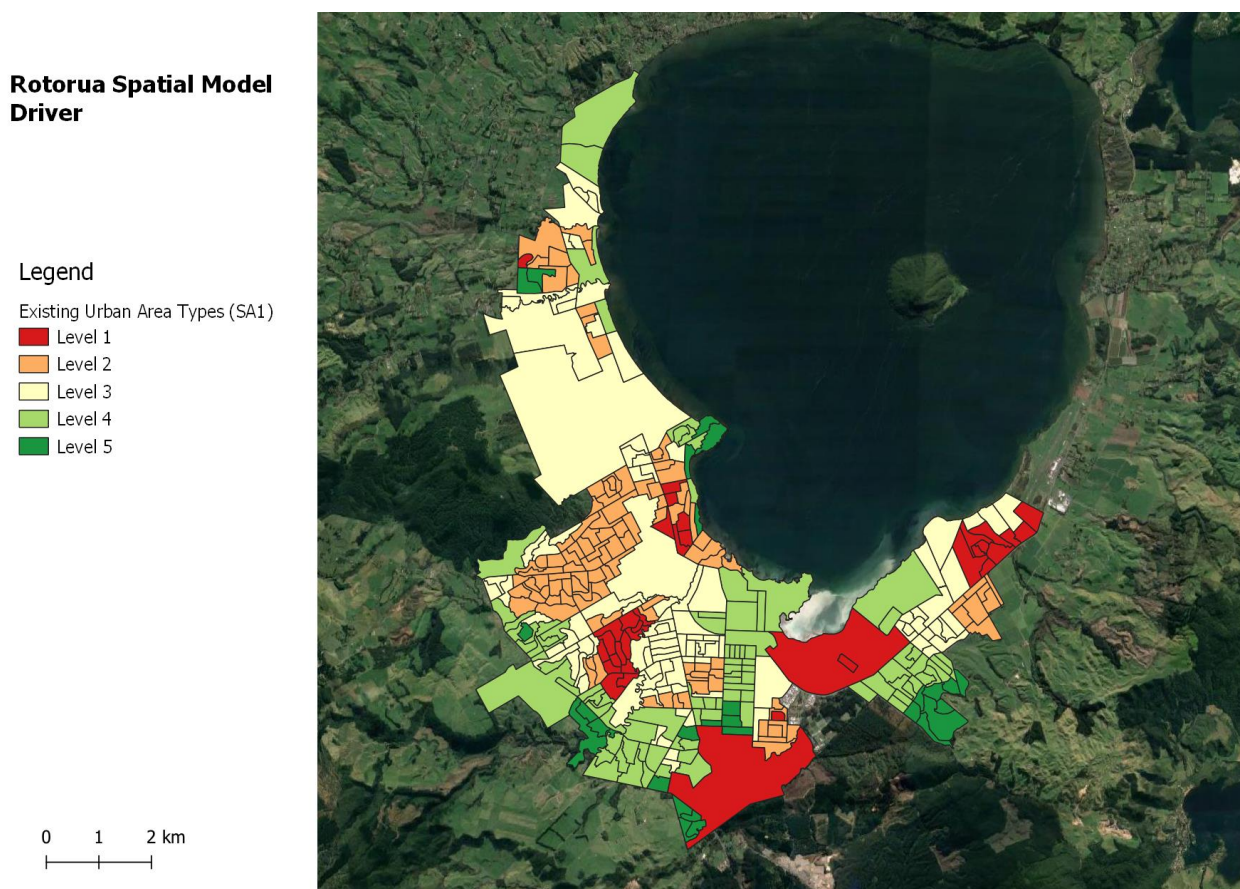
Analysis was undertaken to generate estimates of sales prices for each of the dwelling development options potentially able to occur on each property parcel. A series of sales price curves were generated for each area, to capture the relationship between dwelling size and sales price (with the relationship between dwelling size and section size already captured through the process of establishing FARs<sup>33</sup> within an earlier modelling stage). A sales price curve was produced for each dwelling typology within each local reporting area (with further divisions in some areas to reflect differences in dwelling value patterns).

Property parcel level sales price data was used to establish the sales price estimates by dwelling size and typology within each area. Data was obtained from RLC on individual sales records across the district, which was spatially integrated into the assessment Spatial Framework. Further data was obtained from recent sales listings and other online model estimates to calibrate the estimated sales price curves. Figure 7.7 maps the areas defined for this aspect of the commercial feasibility modelling in Rotorua's urban environment. Level 5 areas represent the highest dwelling value areas in the urban environment and Level 1 areas represent the lowest dwelling value areas (in relative terms).

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<sup>33</sup> Floor area ratios.

Figure 7.7 – Commercial Feasibility Modelling Area Types – Dwelling Value Areas Low (1) to High (5)



The final sales price estimation within the model takes account of the dwelling typology, size, location type and land type.

The estimated sales prices (incl. GST) for new dwellings are shown in Table 7.33 and Table 7.44. They show the estimated sales price for each dwelling typology for each location at selected dwelling floorspace sizes (with the model calculating from a full range of dwelling sizes).

Table 7.3: Estimated Sales Price for Standalone Dwellings by Dwelling Size, Location Type and Land Type

LAND TYPE	LOCATION TYPE	Standalone Dwelling		
		100m <sup>2</sup>	200m <sup>2</sup>	300m <sup>2</sup>
Existing Urban - Freehold Land	Level 1	\$361,000	\$552,000	\$711,000
	Level 2	\$398,000	\$582,000	\$734,000
	Level 3	\$509,000	\$702,000	\$856,000
	Level 4	\$657,000	\$817,000	\$940,000
	Level 5	\$650,000	\$908,000	\$1,114,000
Greenfield - Freehold Land	Pukehangi Plan Change	\$690,000	\$858,000	\$987,000
	Other - Central South	\$690,000	\$858,000	\$987,000
	Other - Central North	\$690,000	\$858,000	\$987,000
	Eastside	\$611,000	\$760,000	\$874,000
	Ngongotaha West	\$547,000	\$755,000	\$920,000
	Ngongotaha East	\$547,000	\$755,000	\$920,000
Leasehold Land		\$219,000	\$306,000	\$376,000

Source: M.E RLD Residential Capacity Model, 2021.

Table 7.4: Sales Price by Dwelling Size – Apartment Dwellings in Mixed Residential/Commercial Zones

ZONE	REPORTING AREA	Estimated Sales Price		
		80m2	120m2	200m2
City Centre 1	Central	\$680k	\$821k	\$1.066m
City Centre 3	Central	\$780k	\$921k	\$1.166m
Commercial 1	Ngongotaha	\$376k	\$459k	\$601k
Commercial 2	Eastern	\$311k	\$394k	\$536k
	Central	\$620k	\$724k	\$901k
	Western	\$311k	\$394k	\$536k
Commercial 3	Eastern	\$272k to \$470k	\$333k to \$575k	\$434k to \$750k
	Central	\$297k to \$485k	\$358k to \$600k	\$459k to \$794k
	Western	\$272k to \$470k	\$333k to \$575k	\$434k to \$750k
Commercial 4	Central	\$570k to \$620k	\$674k to \$724k	\$851k to \$901k
	Western	\$437k	\$522k	\$660k
	Ngongotaha	\$311k	\$394k	\$536k
Mixed Use	Central	\$570k to \$620k	\$674k to \$724k	\$851k to \$901k

Source: M.E RLD Residential Capacity Model, 2021.

## 7.5 Commercial Feasibility on Whenua Māori

A significant proportion of Rotorua’s plan enabled capacity occurs on Whenua Māori. This is leasehold, rather than freehold land, which is considered highly likely to affect the commercial feasibility of potential future residential development on the land.

Māori land parcels in the urban environment are mapped in Figure 1.1 of this Technical Report. These are spread across the urban environment in both the existing urban and greenfield areas, with their largest contribution to plan enabled capacity within the Eastern reporting area. Here, Whenua Māori accounts for a sizeable share of the capacity within the underutilised urban land as well as all of the additional areas of greenfield expansion provided within the long term beyond that already provided and some of the existing greenfield areas.

The NPS-UD requires the commercial feasibility of development to be modelled for a private commercial developer on all plan enabled capacity, including leasehold land. It is important that the modelling approach appropriately reflects the likely structures of costs and prices of leasehold land as these are likely to differ to freehold land. Consequently, we have applied different cost and price curves within the same commercial developer modelling structure to reflect the leasehold status of the land.

Our analysis has generally found that the cost structures to developing dwellings on leasehold land is similar to that of developing dwellings on freehold land. The cost to build and service a dwelling is not affected by the tenure of the land. Meanwhile, there are some differences in the land cost, which forms part of the cost inputs to calculating the feasibility of development. The difference occurs in the value of the underlying raw, undeveloped land. However, the costs to urbanise the land are not affected by the tenure of the land – the cost is the same to process, service and urbanise land of each tenure. Therefore, the effect of the tenure of the land is limited to only a small share of the final cost of the urbanised land – i.e., the initial raw, non-urbanised land cost. Once the land urbanisation costs are taken into account, there is little difference in land cost to a developer between freehold and leasehold land.



In contrast, there is a substantial difference in the achievable sales prices of dwellings between freehold and leasehold land. Dwelling sales prices on leasehold land are much lower than dwellings on freehold land. General market demand is considerably lower, with lower price points due to the conditions of purchasing a dwelling on leasehold land. Only the physical dwelling can be purchased, without ownership of the land. This means that at the end of the lease period, if not granted a renewal of the lease (which may result in a large cost increase), the owner may end up with no physical asset, unless they can relocate the dwelling. In some cases, the owner may be required to relocate the dwelling. This generates significant uncertainty and security of ownership and future land lease cost issues, thereby resulting in lower achievable purchaser prices.

The application of a lower sales price within the commercial feasibility model, together with lower overall market demand, generally results in much lower feasibility of plan enabled capacity on leasehold land for a private commercial developer. This is reflected in the commercial feasibility of capacity results.

However, there may be other development pathways, beyond the private profit-driven commercial developer house and land package model, where residential development could viably occur on leasehold land. Developers within other parts of the market, which generally deliver a share of the dwelling stock, may be able to develop dwellings on leasehold land. Examples may include social housing providers (e.g., community housing or Kāinga Ora) that are not always profit-driven, or papakāinga housing.

Residential dwellings could also potentially be constructed on leasehold land through a different development model. Dwellings could be constructed and owned by the lwi landowner, with the commercial viability achieved through a rental income stream. There are some examples of retirement village developments on lwi leasehold that reflect this development model.

Feedback from the developer survey also reflected the constraints to the commercial feasibility of development on leasehold land within the Rotorua market. These included the above constraints where prices were insufficient to achieve adequate margins. In addition, the feedback reflected a number of transaction costs and barriers where developers faced difficulty in arriving at viable arrangements with landowners to enable development. These included issues with the negotiation of lease timeframes, agreement on specific economic terms, and difficulties in the coordination of negotiations across a wide land ownership base.



# 8 Reasonable Expected to be Realised Capacity

This section provides further detail on the analysis of reasonable expected to be realised (“RER”) capacity, as set out in Section 8 of the HBA Main Report. It should be read in conjunction with the text in the Main Report.

## 8.1 Approach

The final stage of the capacity assessment estimates the share of commercially feasible capacity that is reasonably expected to be realised and served by infrastructure. In this stage, the amount of feasible capacity is reduced (or spread over time) to reflect the level and scale of development which is ‘likely to be delivered’ by applying the current (or recent) market preferences and development rates. The assessment recognises that the nature and type of development delivered may not achieve the densities (and therefore, capacity) that are enabled by the Plan. This stage also constrains otherwise feasible development to reflect various identified development infrastructure limits (where applicable) across different areas of the district, some of which will be resolved over time.

The first part of this stage calculates the distribution of RER across the urban environment (greenfield and existing urban) without infrastructure constraints. Infrastructure constraints are then applied at the catchment level in the second part of this stage, with most catchments including both existing urban and greenfield areas. The approach applied for infrastructure ready capacity is discussed within the Main Report (Section 7). RER capacity is constrained to the infrastructure limits across each area, with RER capacity rebalanced across the urban environment following the application of infrastructure constraints.


The final output of infrastructure-constrained RER capacity produces a pattern of capacity that reflects the observed distribution of development across greenfield (incl. underutilised urban land) vs. existing urban (brownfield) areas at the total urban environment level (whilst taking account of the nature of capacity within the existing urban environment), within the infrastructure limits of each area. Within the existing urban areas, the distribution of RER capacity then reflects the relative distribution of commercially feasible capacity as well as appropriately limited shares of commercially feasible capacity uptake.

The following sub-sections describe our further approach to estimate the share of feasible capacity that is reasonably expected to be realised in the greenfield and existing urban areas.

## 8.2 Greenfield RER

The analysis estimates the reasonably expected to be realised yield on the greenfield areas that are projected to be feasible to develop. It recognises that the likely densities may not reflect the densities enabled by the Plan, with areas sometimes developed at lower densities. In the first instance, the model can incorporate developer information to apply any known subdivision yields on specific sites. It can also apply any planning yield caps or structure plan estimates for specific sites. This may result in a lower yield





than is enabled by the relevant district plan provisions that apply to those areas. In the end however, Council has advised that preferred yields for the greenfield areas reflect the feasible plan enabled yields served by infrastructure. These are higher than the structure plan yields in some areas.

The RER capacity across the remaining greenfield areas (where the above information is unavailable) is calculated through applying an average lot size that reflects the local development market (following more recent supply patterns). This may also be larger than the Plan minimum lot size, which may result in a lower yield that is likely to be achieved across the feasible areas. In some cases, the average lot size, once at the final parcelled area, is close to the Plan minimums due to the removal of undevelopable areas from the original zoned areas. These were removed during the application of constraints during the plan-enabled capacity modelling, meaning that their effect is also reflected in the plan-enabled capacity results.

GIS analysis was undertaken to estimate the existing development patterns in the market on the distribution of average greenfield lot sizes across different areas within the urban environment. Where greenfield development patterns are not currently present, or where a difference in zoning provisions occurs in the future zoning patterns, then potential lot sizes were estimated based on the existing relativities between different areas across other zones.

This process produced the underlying patterns of RER development, which were subsequently constrained by infrastructure limits applied collectively across both the existing urban and greenfield areas within each catchment.

Greenfield RER capacity was also constrained to the areas that were included within the geographic extent of the infrastructure networks within each time period. Capacity within each greenfield area was only activated within the model at the time of the infrastructure networks spatial expansion. The spatial extent and timing of infrastructure networks to each greenfield area was supplied by Council.

### **8.3 Existing Urban RER**

The share of the existing urban area commercially feasible plan enabled capacity that is reasonably expected to be realised was also estimated. There are several key components to this approach. These include the application of appropriate height take up rates (in areas with multi-level residential development), the balances between patterns of greenfield vs. existing urban development, and the appropriate limits on likely shares of commercially feasible capacity developed relative to existing market patterns.

As a first stage, in areas of higher density that enabled vertical patterns of apartment development, the model assumed a lower number of storeys would be developed than enabled under the Plan. This approach was applied within the Business and Residential classified zones (specifically the City Centre 1 and 3, Commercial 1 to 4 zones and the indicative long term Mixed Use along Fenton Street). RLC supplied assumptions used as inputs into the model on the actual storeys developed and the share of those storeys that were to be allocated to residential uses. The assumptions applied within the modelling in relation to the mixed business and residential zones are contained in Table 8.1.



Table 8.1: Development Intensity Modelling Assumptions Applied to Mixed Business and Residential Zones

<b>ZONE</b>	<b>Location</b>	<b>District Plan Maximum Storeys</b>	<b>Actual Storeys</b>	<b>Residential Storeys</b>
City Centre 1		5	3.5	2.5
City Centre 3		5	4.5	2.5
Commercial 1	Ngongotaha	3	2	1
	Victoria	3	2.5	1.5
Commercial 2	Te Ngae, Te Ngae Fresh Choice and Utuhina	3	2	0
	Lake Road	4	2.5	1.5
Commercial 3	Tryon Street	3	2.5	1.5
	Redwood Centre	2	1.5	0
	All other centres	2	1.5	0.5
Commercial 4	Fenton Street North, Fenton Street South and Lake Road	3	2.5	1.5
	Mt Ngongotaha	3	1	0.5
Mixed-Use	Fenton Street North and Fenton Street South	5	4	3

Source: M.E RLD Residential Capacity Model, 2021 and RLDC.


A key stage of the RER assessment is applying appropriate spatial distributions of residential development across the greenfield vs. existing urban areas through time. Analysis on the distribution of development across these different area types was undertaken to apply appropriate parameters within the model to prevent the reliance on unreasonably high levels of development within either greenfield or existing urban areas.

Analysis of the geographic patterns of residential development through time was undertaken across Rotorua. Data on building consents<sup>34</sup> were analysed spatially in relation to the existing urban edge<sup>35</sup> and areas of underutilised urban land through time across the urban environment. The analysis identified the relative share of development occurring as greenfield development or development within the existing urban area through time.

A significant share of the past development within the existing urban area has occurred as development of previously undeveloped areas *within* the spatial extent of the urban edge. These have typically involved multiple dwelling developments (multi-lot subdivisions), with a similar form of development as would occur in greenfield development. Limitations in the greenfield provision have been a significant contributor to these development patterns. As such, the assessment of building consents has considered this type of development (i.e., multiple dwelling developments on underutilised land) together with greenfield development to estimate the likely future share of development across greenfield or underutilised urban land.

<sup>34</sup> Individual building consent records were supplied by RLC. Statistics New Zealand SA2 building consent data was also analysed.

<sup>35</sup> The location of the urban edge through time was determined through the LINZ property title data.



These were combined with the greenfield RER capacities to estimate the relative share of RER development within the existing urban areas based on the observed spatial patterns of growth through time together with the distribution of commercially feasible capacity. Further calculations were then undertaken to triangulate the estimated existing urban share of RER in relation to the total feasible capacity estimated within the existing urban area. This process applied limits within the calculations to ensure that the model did not result in unreasonably large shares of feasible capacity being developed. In particular, this includes appropriately limiting the uptake of feasible capacity within higher density dwelling typologies (e.g. apartments), which are not well established within the Rotorua market. This produces a conservative result where development across the existing urban area is limited by any capacity constraints within the greenfield area.

This process produced the underlying patterns of RER development, which were subsequently constrained by infrastructure limits (at each stage) applied collectively across both the existing urban and greenfield areas within each catchment. The infrastructure limits were applied sequentially within this assessment at each time period to ensure the total allocated development across all areas within each catchment did not exceed the calculated infrastructure catchment total capacity.

## 8.4 Key Parameters within the RER Capacity Allocation by Dwelling Type

The following are the key parameters and limitations that have been applied within the final allocation of RER capacity within the greenfield and existing urban areas:

- It has been assumed that all greenfield and underutilised urban land capacity that is commercially feasible and has infrastructure supply (by way of the spatial infrastructure extensions identified within the Council spatial file) is likely to be taken up and forms RER. Leasehold land is therefore consequently excluded from the RER capacity as it is not commercially feasible.
- Ratios of development that is likely to occur within the existing urban area relative to the development in the greenfield/underutilised land have been applied within the RER capacity model. These are based on the analysis of Council spatial parcel-level building consents and LINZ titles (including triangulation with Statistics New Zealand spatial building consent data) and balances observed within other urban economies. Rotorua has had historically high rates of existing urban development due to a lack of greenfield supply, resulting in higher shares of development activity within the existing urban area from the analysis. Therefore, in the modelling, the following maximum shares to the existing urban brownfield have been applied:
  - Short-term = 60%
  - Medium to Long-term = 45%.

These rates are likely to be higher within the short-term as a continuation of previous patterns of activity and the limited greenfield supply. However, these are likely to decrease in the medium to long-term as the easier development options get taken up by the market.



This process calculates a potential maximum<sup>36</sup> RER to be allocated across the existing urban area. The following points outline the key parameters applied in the allocation process across the detached and attached capacity by location.

- The model allocates capacity to feasible detached dwellings across each area up to a maximum of the following shares of commercially feasible capacity. It is assumed that not all feasible capacity will be available to the market:
  - Short-term – 50%.
  - Medium-term – 60%<sup>37</sup>.
  - Long-term – 75%.
- Limits on attached dwellings uptake have also been applied to reflect the nature of capacity (i.e., duplex/terraced housing vs. apartments<sup>38</sup>) and the level of market establishment for each type of capacity. The shares of feasible capacity applied as maximum parameters are:
  - Short-term – 10%.
  - Medium-term – 20%.
  - Long-term – 35%.

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<sup>36</sup> The following stages assess whether the maximum RER capacity is likely to occur within the existing urban area taking into account the level of feasible capacity, the nature of capacity and the implied rates of take up within each type of capacity.

<sup>37</sup> Note that the medium-term and the current prices long-term figures are using mostly the same commercially feasible sub-set as the short-term.

<sup>38</sup> It is important to remember that nearly all of the attached capacity is in the form of apartments. Although the final uptake is lower than demand, most of the demand is instead likely to be for lower density forms of attached dwellings, such as duplexes or terraced housing which is limited to the extent that the plan does effectively provide for.

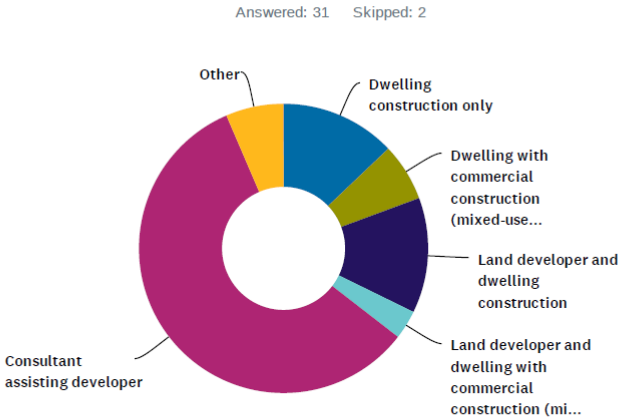
# 9 Housing Stakeholder Survey

To implement clause 3.21(a) of the NPS-UD local authorities must seek information and comment from expert or experienced people in the development sector. This section sets out the detailed feedback gathered from a survey of stakeholders in the Rotorua residential development sector. A synthesis of these results is included in the Main Report where relevant to the text.

## 9.1 Approach

An online survey was prepared in collaboration with RLC to capture feedback and comments from stakeholders on a range of issues relevant to the HBA. This included an understanding of the type, nature and scale of developer activities in Rotorua, the markets within which they operate/target, factors which influence commercial feasibility of residential development, barriers to development, and medium term trends/anticipated shifts in residential development supply. The survey was sent to a list of just over 90 stakeholders identified by Council that represented a mix of local land developers, housing developers and land and housing developers (including their representatives). A total of 33 individuals accessed the survey, of which 14 completed the survey, 6 mostly completed it, and the remaining 13 responses had only a few questions answered. Viewing these responses by respondents' role in the residential development market, revealed the following:

Q7 Please identify your role in the housing development market?\*Note, 'dwelling' includes all forms of dwelling units including standalone, terrace, duplex and apartments.



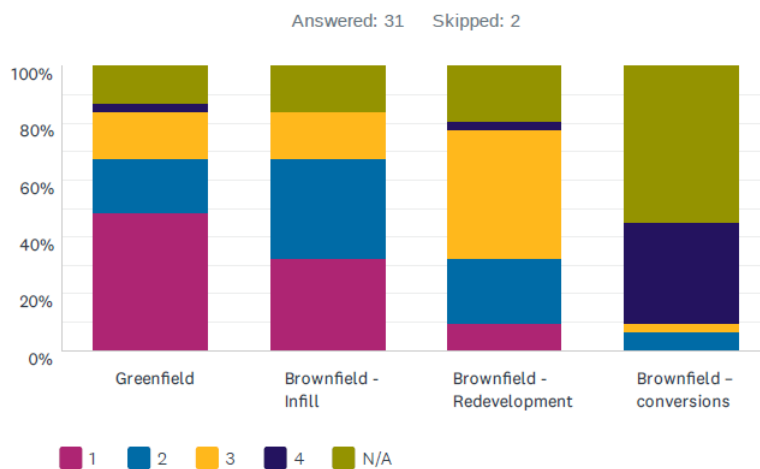
ANSWER CHOICES	RESPONSES	
Land developer only	0.00%	0
Dwelling construction only	12.90%	4
Dwelling with commercial construction (mixed-use developments)	6.45%	2
Land developer and dwelling construction	12.90%	4
Land developer and dwelling with commercial construction (mixed use developments)	3.23%	1
Consultant assisting developer	58.06%	18
Other	6.45%	2
<b>TOTAL</b>		<b>31</b>



## 9.2 Results by Question

At the outset of the survey, we asked respondents what sort of development they do the most of. Nearly 50% worked mainly on greenfield development, while a third (33%) worked mainly on brownfield – infill development. Just under 10% worked mainly on brownfield – redevelopment, with conversions<sup>39</sup> being the least applicable of those that responded. When all rankings are taken into account, there is little separating greenfield from infill development, with redevelopment not far behind and this, we consider, is a direct response to the limited supply of greenfield land historically in Rotorua. This is a notable difference from places like Queenstown-Lakes District where the ample supply of greenfield development opportunities and this has tended to disincentivise infill and redevelopment by commercial developers. If greenfield opportunities became more widespread (or large in scale) in Rotorua in future, then it is possible that greenfield development might play a greater role at the expense of infill and redevelopment (even if just temporarily).

**Q6 What sort of development does your company (or the company you represent) do the most of? First select N/A box(es) on the right hand side for the types of development your company (or the company you represent) do not do, then please rank the remaining options from the most to the least (1 being most, 4 being least). \*You can use the handles (horizontal lines) to order the items.**



	1	2	3	4	N/A	TOTAL	SCORE
Greenfield	48.39% 15	19.35% 6	16.13% 5	3.23% 1	12.90% 4	31	3.30
Brownfield - Infill	32.26% 10	35.48% 11	16.13% 5	0.00% 0	16.13% 5	31	3.19
Brownfield - Redevelopment	9.68% 3	22.58% 7	45.16% 14	3.23% 1	19.35% 6	31	2.48
Brownfield – conversions	0.00% 0	6.45% 2	3.23% 1	35.48% 11	54.84% 17	31	1.36

The following sub-sections analyse results by respondent type where there were sufficient questions answered.

<sup>39</sup> I.e., converting office or hotel buildings to apartments.



### 9.2.1 Dwelling Construction Companies Only

One respondent is involved in housing construction only answered additional questions in the survey. They reported a small commercial scale operation which delivers on average, 5 or less dwellings in Rotorua District per annum, and none in the rest of New Zealand. All of these dwellings are standalone homes.

### 9.2.2 Land and Dwelling Developers and including Mixed-use Developers

This group include stakeholders that are both land and dwelling developers, and some are also involved in mixed-use developments. Six usable responses were received from these respondents. A broad range of scales of operation are represented. The graphs below exclude the mixed-use developers (but they are included in the text). One respondent has not yet delivered sections or dwellings in Rotorua but has been active in the rest of New Zealand and (we assume) expects to be active in the Rotorua market in the future. Two respondents reported small scale operations, delivering less than 5 residential dwellings and lots within Rotorua per annum, and are not active in the rest of New Zealand. The remaining companies deliver between 5 and 20 sections per annum in the district. In the rest of New Zealand, these respondents deliver between 10-20 dwellings per annum (bottom end of the scale) and 100 plus dwellings per annum.

Q27 On average, in Rotorua District, how many residential lots do you (or the developer you represent) deliver each year? Tick only one.

Answered: 4 Skipped: 29



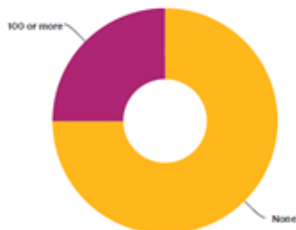
Q28 On average, in Rotorua District, how many residential dwelling units do you (or the developer you represent) deliver each year? Tick only one.

Answered: 4 Skipped: 29



Q29 On average, across the rest of New Zealand, how many residential lots do you (or the developer you represent) deliver each year? Tick only one.

Answered: 4 Skipped: 29



Q30 On average, across the rest of New Zealand, how many residential dwelling units do you (or the developer you represent) deliver each year? Tick only one.

Answered: 4 Skipped: 29



The survey shows that only two companies deliver the same number of dwellings as they deliver sections.



**Q31 What is the breakdown of total dwellings by type you have built in Rotorua District over the last 2 years? Please enter a value else enter 0 (zero).**

Answered: 4 Skipped: 29

ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
Stand alone	3	13	4
Duplex (2 units horizontally attached)	1	4	4
Terrace (more than 2 units horizontally attached)	0	0	2
Apartments (vertically attached)	0	0	2
Total Respondents: 4			

Questions 32, 44 and 58 asked developers in this group about the number of dwellings they expected to deliver over the past year, but didn't, and the reason(s) for it. One of the respondents reported between 15 and 20 units were not built because of a "lack of funding and being in the too hard basket to get through the process." Three respondents answered 'nil' or 'n/a' to the question, and while two didn't specify how many dwellings were not built, the reasons they provided included:

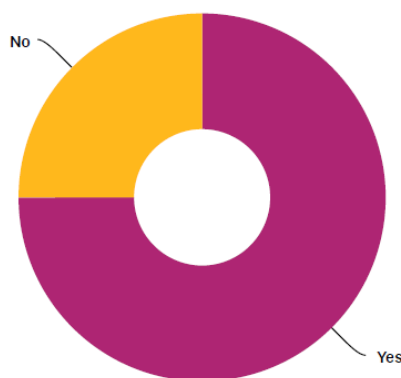
- "No land available in Rotorua to build new dwellings"
- "Consenting time frame has been slow for getting a new resource consent, which has a knock-on effect to getting building consent and subsequently getting building underway."

Developers in this group were asked about the number of minor dwellings (smaller than 72sqm) they delivered over the past year. Responses showed none were built by land and dwelling construction companies, and one by a mixed-use developer.

When asked about the need/appetite in Rotorua for more intensive housing, five out of six respondents (who answered this question) agreed there is a need/appetite for more intensive housing in Rotorua.

**Q35 Do you consider that there is a market need/appetite for more intense housing development in Rotorua?**


Answered: 4 Skipped: 29



Questions 36, 48 and 62 asked this group what they considered the current restrictions to more intensive housing development in Rotorua. Their responses included:

- "Suitable land."



- 
- “Funding, land (good land) that doesn’t cost the earth to build on.”
  - “Land. There’s a heap of land tied up in various entities.”

Question 37, 49 and 63 asked whether developers thought prefabricated housing could play a greater role in housing supply in Rotorua. One respondent said ‘yes’, two said ‘no’ and the remaining three respondents either didn’t know or didn’t answer the question. Other comments included:

- “Modular housing has a part to play as it compensates for lack of builder capacity and staffing. Prefabricated homes need scale to justify establishing a plant.”
- “We want more quality homes in the town, instead of lower cost, lower quality homes.”
- “It’s a quick fix, but they tend to be less sturdy in the long run in my opinion.”
- “Not a huge fan of it. Hard to monitor quality.”

When asked whether developers would build more duplex, apartment and terrace housing if zoning was more flexible for this format (Questions 38, 50 and 64), all six respondents to this question, answered ‘yes’. Two of the respondents had already delivered duplex housing over the past two years.

Questions 39, 51 and 65 asked developers about the reason so few two storey homes are being delivered i.e., the majority of houses delivered in Rotorua are single storey dwellings. Selected responses include:

- “Cost, restrictions on building heights, people want single level for easier access.”
- “It is easier to build single level housing. Land being developed as greenfield lends itself to larger lot sizes so single level is easier. As sites closer to town come up for development, these tend to lend themselves to being two level, as to maximise the area and price paid for the land.”
- “The cost to build these is getting more and more out of reach.”
- “Build cost plays a part. A lot of clients aren’t keen on stairs.”

In addition to the responses represented by the graph below, one of the developers in this group considered that “four” storeys would be the optimal height to build multi-storey apartment or mixed use buildings in Rotorua, and another commented that they would “design to suit the number of floors”. Those who answered ‘other’ were either unsure or preferred terrace housing<sup>40</sup> over apartments.

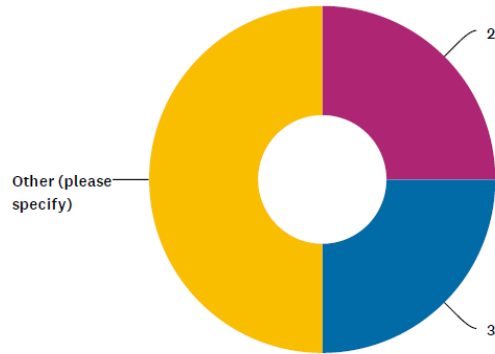
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<sup>40</sup> Vertically attached dwellings.



Q40 If you were to build a multi-storey apartment or mixed-use building in Rotorua, what would be the optimal number of storeys to make that viable/feasible (assuming no planning constraints)?

Answered: 4 Skipped: 29



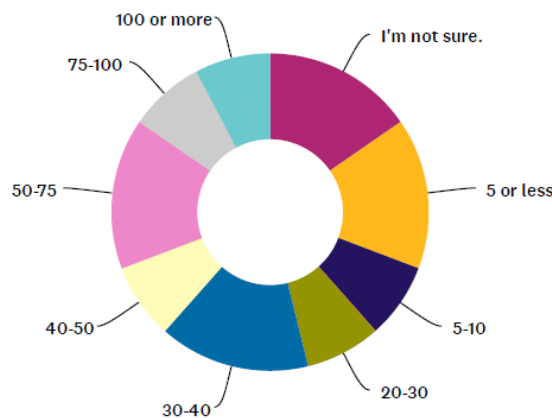
### 9.2.3 Consultants Assisting Developers

Consultants assisting residential developers in Rotorua make up the largest group of respondents to the survey (18 out of 33), with 13 of these survey responses complete or mostly complete. The following analyses those responses.

Stakeholders who identified as consultants responding on behalf of a developer, indicated their clients operate at a broad range of scales. Responses are almost equally distributed across the range, from the lower end of the scale (less than 5 residential lots being developed on average per annum), all the way to developers who deliver more than 100 lots each year in Rotorua.

Q67 On average, in Rotorua District, how many residential lots do you (or the developer you represent) deliver each year? Tick only one.

Answered: 13 Skipped: 20

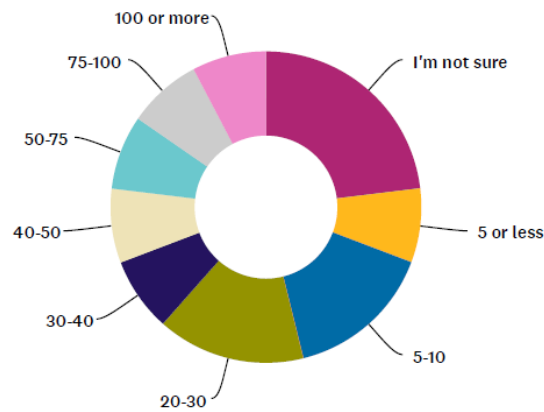


This pattern is mirrored for clients (developers) constructing residential units in Rotorua, with an almost equal spread of developers across the different scales of operation. Most respondents (8/13) deliver the same number of lots as dwellings in Rotorua (i.e. likely to be house and land packages).



Q68 On average, in Rotorua District, how many residential dwelling units do you (or the developer you represent) deliver each year? Tick only one.

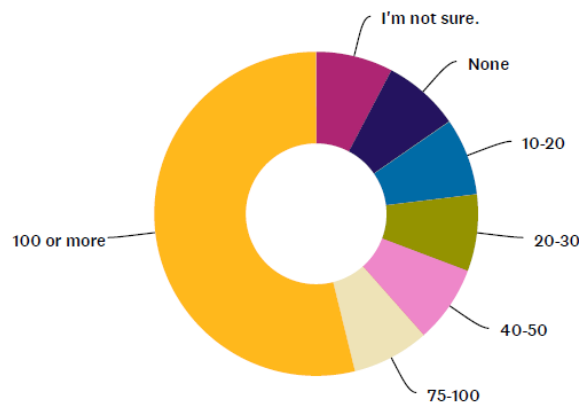
Answered: 13 Skipped: 20



More than half (54%) of respondents in this group indicated their clients deliver more than 100 sections annually in the rest of New Zealand (all considerably more than those companies are delivering in Rotorua). One respondent is not sure, and another replied their client is not active in the rest of New Zealand. The scale of operation across the rest country, for the remaining five developers vary greatly.

Q69 On average, across the rest of New Zealand, how many residential lots do you (or the developer you represent) deliver each year? Tick only one.

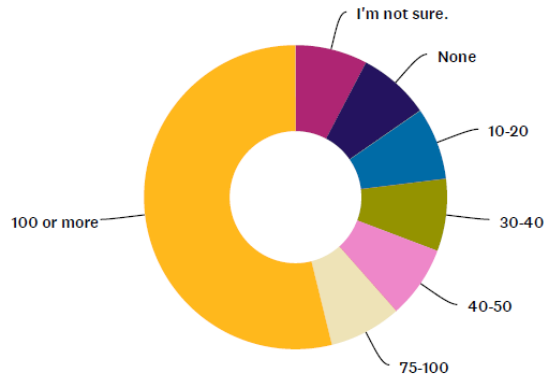
Answered: 13 Skipped: 20



The distribution of dwellings being built by these respondents' clients across the rest of the country, is very similar to the distribution of sections being delivered by them. Most (54%) build over 100 dwellings on average per annum and 8 out of 13 build the same number of dwellings as the sections they deliver. This likely points to house and land packages being a popular option for developers.

**Q70 On average, across the rest of New Zealand, how many residential dwelling units do you (or the developer you represent) deliver each year? Tick only one.**

Answered: 13 Skipped: 20



Ten consultants in this group provided a breakdown of the dwellings developers have delivered in Rotorua in the last two years by type. Of the 13 consultants, 11 respondents accessed this question, but only 10 completed at least one line, so the table reflects the values from 10 responses in this group even though the survey software suggests that 11 respondents answered this question.

**Q71 What is the breakdown of total dwellings by type you have built in Rotorua District over the last 2 years? Please enter a value else enter 0 (zero).**

Answered: 11 Skipped: 22

ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
Stand alone	29	293	10
Duplex (2 units horizontally attached)	2	13	8
Terrace (more than 2 units horizontally attached)	0	3	8
Apartments (vertically attached)	0	0	8
<b>Total Respondents: 11</b>			

Three of the respondents indicated their clients delivered only standalone dwellings over the past two years. A further two delivered a mix of standalone, duplex and terraced housing, and one delivered a mix of standalone and duplex housing. Little weight should be given to the annual averages in the table as it inflates the actual response count. On average, those companies delivering standalone dwellings, delivered 24 per annum each over the last two years (49 spread over 2 years spread over 6 responses). The companies delivering duplex houses delivered on average 2 units each per annum over the last two years. Companies delivering terraced housing delivered on average 0.75 units per annum each over the last two years (as this doesn't compute, little weight should be given to this result). None of the companies surveyed delivered apartments in the last two years.

Question 72 asked consultants about the number of dwellings their clients had expected to deliver over the past year, but didn't, and the reason for it. Four respondents answered 'none', with one remarking that due to the resources (time and money) invested in the process, developments are more likely to be



delayed rather than cancelled. Two were unsure of the number not delivered, and the remaining consultants estimated the number of dwellings “held up” was between 30 and 40. The main reasons being

- “Planning hold-ups, development engineering hold-ups”
- “Consenting issues/changes”

Question 73 asked consultants in this group how many minor dwelling units (smaller than 72sqm) their clients built over the past year. Five developers did not deliver any, but one of them was currently working on forty units. One respondent was unsure, and the remaining four respondents’ answers ranged between 2 and 20. Two of the respondents noted (in response to Question 74) that their clients mostly built these dwellings in Tauranga, Western Bay of Plenty, Hamilton and Auckland. Key locations for minor dwellings being built within Rotorua mentioned by two respondents are:

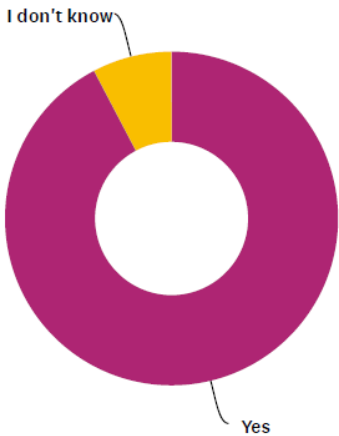
- Western Heights,
- Hillcrest,
- Glenholme, and
- Frank Street.

One of the respondents in this group remarked that minor dwellings are built “*on land parcels that are not able to be subdivided due to the site area being less than 1000 sqm and in areas where the topography or other site constraint (e.g., house in middle of site) means that the current minimum site area can't be met. Generally older suburbs.*”

The vast majority of respondents (92%) in this group are of the opinion that there is a market/need for more intensive housing development in Rotorua.

### Q75 Do you consider that there is a market need/appetite for more intense housing development in Rotorua?

Answered: 13 Skipped: 20



Question 73 asked about what they saw as the current restrictions on more intensive housing development in Rotorua. Selected responses are as follows:

- “Infrastructure”

- “District Plan and Council”
- “Way out of date performance standards (they are the same as the prior district plan which is dated 1994 and are therefore based upon thinking and policy from before that date.”
- “The restrictive lot area rules which don't allow for a mixture of lot sizes and therefore values which then allows for a greater mixture of housing typologies within the existing residential zone.”
- “Availability of easily developable land.”
- “Availability of suitable land. Cost. Regulatory impediments.”
- “Stormwater disposal.”
- “Council requirements and infrastructure”
- “Planning rules. Bylaws related to buildings in close proximity to council pipes are more restrictive than other main centres.”
- “Lack of flood modelling. Lack of detailed city-wide seismic assessment”
- “Lack of standards with how to deal with the geothermal conditions, e.g. chemistry, ground testing suitable solutions.”
- “Height limit could be relaxed some. The cost of getting things to approval stage.”
- “No available flat land to develop. Geotechnical risk, including fault lines, soft soils and slope stability”
- “Demand. There is a perception that ample space is available in Rotorua for standalone dwellings.”

Question 77 asked consultants whether they thought prefabricated housing could play a greater role in housing supply in Rotorua. Eight out of 11 respondents in this group said ‘yes’, two were neutral and one was of the opinion there would be geotechnical challenges preventing this type of housing being built on a large scale. Other comments (noting that many of these responses were more favourable towards prefabricated housing than those solely working in the dwelling constructor sector) included:

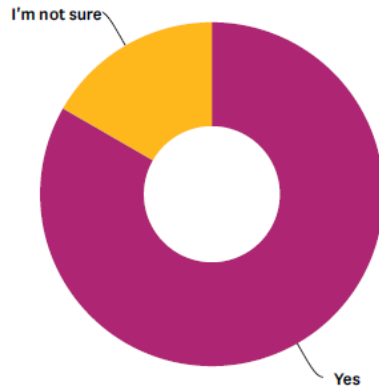
- “It can be quicker and more cost effective.”
- “There are always ways to improve the system; Prefab should become more competitive with time.”
- “It can speed up the time to occupation of the dwellings”
- “Due to the demand and house prices, pre-fabricated could cut costs and time”
- “It may not be a panacea<sup>41</sup> as prefab applies best to flat, good quality land. Rotorua doesn’t have a lot of this”
- “It won’t sort out the ground issues or the pipe proximity issues”
- “Pre-fabricated makes the process simpler and reduces the pressure from Council.”

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<sup>41</sup> It won’t solve all the problems.

## Q78 If zoning was more flexible for duplex, apartment, terrace housing do you think your clients you would build more of this format?

Answered: 12 Skipped: 21



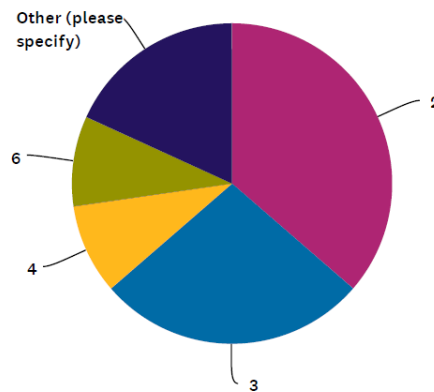
Ten of the 12 respondents to the above question were of the view that if zoning rules were more flexible for medium and high-density housing in Rotorua, their clients would build more of this format.

Question 79 asked consultants about the reason for so few two storey homes being delivered in Rotorua, i.e., the majority of houses delivered in Rotorua are single storey dwellings. Selected responses include:

- “Possibly an ageing population, as well as concern over maintenance”
- “District plan / density issues”
- “The lot sizes are too big; smaller lots would push people up.”
- “There is possibly a perception that going up is too expensive. However, if a purchaser hadn't paid as much for the land (because it's a smaller parcel) then there might be more budget available to go up.”
- “Cheaper and quicker to build a single storey house. Easier access for all types of tenants.”
- “Perhaps it is related to the geotechnical investigations/conditions - the need for additional foundations/engineering.”
- “Maybe the costs involved with regards to earthquake proofing and extra materials.”
- “You can get a lot of money for one-storey dwelling that is not pro-rated for two-storeys.”
- “Poor ground conditions.”
- “Cheaper and more appealing option for first time buyers. New and small is better than big with lots of work to do.”
- “Privacy constraints/covenants on small section”

## Q80 If your client were to build a multi-storey apartment or mixed-use building in Rotorua, what would be the optimal number of storeys to make that viable/feasible (assuming no planning constraints)?

Answered: 11 Skipped: 22



When asked about the optimal number of storeys for a multi-storey apartment or mixed-use building in Rotorua would be, more than a third of respondents (36%) were of the view that two storeys was the optimal number, and three suggested three storeys was optimal, with one respondent each replying that four and six storeys would be optimal respectively.

Respondents who answered 'Other' had the following to add:

- "I'm not able to comment on this because I'm unfamiliar with the construction costs as they ramp up due to height but at some point, it must become more viable. I can imagine a 3 or 4 level walk-up with a basement at ground level for carparking or storage (and perhaps a shop on the road front) would be a good solution given its not feasible to go underground in Rotorua. This is a question for an architect and a quantity surveyor to run some scenarios."
- "It depends on the ground - if you need to spend \$1-2M to get out of the ground this generally doesn't increase too much with a couple of extra stories and can be the difference between viability or not."
- 

### 9.2.4 All Respondents

#### Rotorua Development Activity

Of survey respondents who completed this question (n=20), 60% have been active in the residential development market (land and/or dwellings) across all of urban Rotorua. Nine respondents have been active in the Central and Eastern suburbs, eight respondents in the Western parts, and six indicated they had been active in Ngongotahā.<sup>42</sup> Two of the respondents indicated they had been active in rural areas and one in Hamurana (which, for the purpose of this HBA, is part of the rural environment).

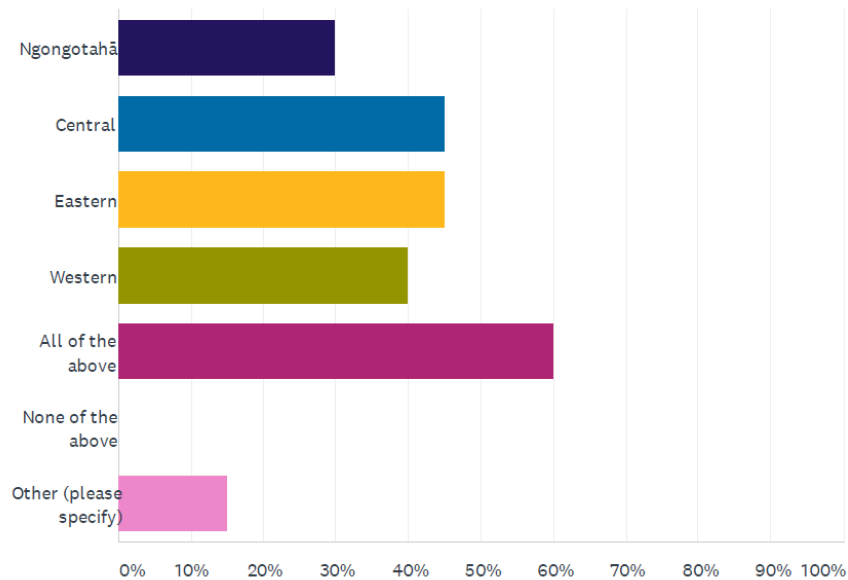
<sup>42</sup> For reporting area boundaries, see Figure 1.3 in the Main report.





Q81 Thinking about your development activity in Rotorua District, which area(s) are you active in? See map above. Select all that apply.

Answered: 20 Skipped: 13



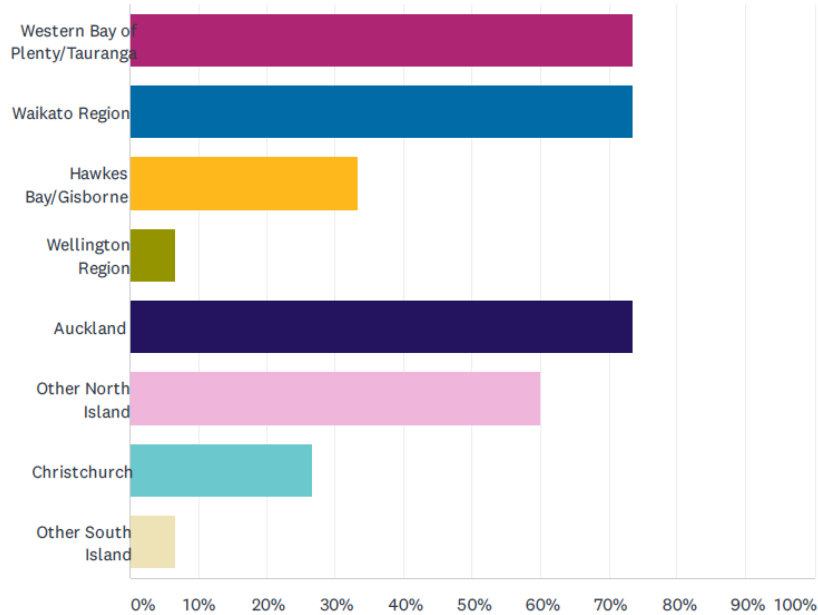
#### Rest of New Zealand Development Activity

Developers that have experience working in a range of jurisdictions across the country will have a greater appreciation for the advantages and disadvantages of developing in Rotorua. Four respondents answered that they only develop in Rotorua (i.e., are local developers who are not active elsewhere in New Zealand), but of those that did develop in the rest of the country (n=15), most were active in multiple locations, but particularly Western Bay of Plenty/Tauranga, Waikato Region and Auckland. One respondent was active just in Auckland in addition to Rotorua. Some respondents also were also active in the South Island.



Q82 If you are active in the rest of New Zealand, please indicate where in the rest of New Zealand you also develop? Select all that apply.

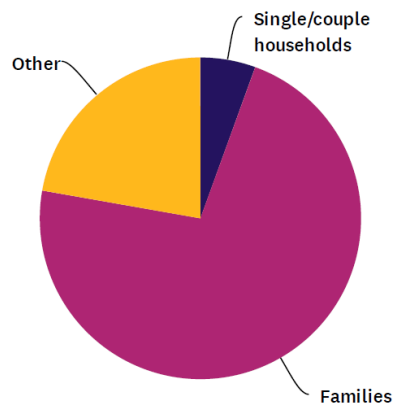
Answered: 15 Skipped: 18



When asked what the respondent's target household type was (when selling to the market), the significant majority of responses were family households (see graph below). Only one developer most commonly targeted single or couple households. Of the five responses which stated 'other', four did not target a specific type of household and one aimed development at the 'elderly', which likely refers to retirement living.

Q83 Who is typically the most common household type you target within Rotorua District, as it applies to your developments. (select one only).

Answered: 18 Skipped: 15

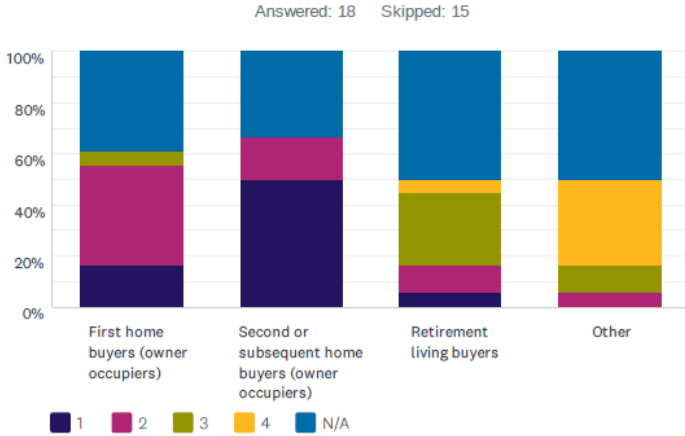




Targeting second or subsequent buyers tends to mean that houses can be delivered at slightly higher price bands that are affordable to those with equity in the property market. Conversely, it may be that the developers are not targeting this market, but the cost of delivering feasible residential properties is such that buyers with equity become the most common purchaser by default. It is important that some developers are creating supply for first home buyers. This means developing properties in the lower price bands – with location, land size, and dwelling size and type all contributing factors to keeping costs down for this market. Increasingly retirement living is becoming a specialist development market dominated by retirement village companies that work nationwide. The market preference for village type locations means that developers active in this market need to be able to develop on a larger scale. It is however important to have supply focussing on this market given the ageing of the population across New Zealand – i.e. it is a growth market that will need to be met over time.

With regards to target or most common buyers that Rotorua respondents sell to, just 3 stakeholders ranked ‘first home buyers’ as their main market (rank 1). Nine stakeholders ranked ‘second or subsequent home buyers (owner occupiers)’ as their main market (rank 1). One respondent ranked ‘retirement living buyers’ as their main market (rank 1). ‘First Home Buyers’ was not an applicable buyer market for seven respondents. The same number of respondents ranked ‘First Home Buyers’ their second ranked market as ranked this market totally unapplicable to their development activities. One respondent ranked it third and none ranked it fourth. Targeting retirement buyers was not applicable for nine respondents and targeting second or subsequent home buyers was not applicable for six respondents.

**Q84 Who is typically your target or most common buyer within Rotorua District? Rank the following as it applies to your developments. First select N/A for the groups your company (or the company you represent) do not target at all, then rank the relevant buyers from 1 being the largest share of buyers to 4 for the group making up the smallest share of buyers.\*You can use the handles (horizontal lines) to order the items.**



	1	2	3	4	N/A	TOTAL	SCORE
First home buyers (owner occupiers)	16.67% 3	38.89% 7	5.56% 1	0.00% 0	38.89% 7	18	3.18
Second or subsequent home buyers (owner occupiers)	50.00% 9	16.67% 3	0.00% 0	0.00% 0	33.33% 6	18	3.75
Retirement living buyers	5.56% 1	11.11% 2	27.78% 5	5.56% 1	50.00% 9	18	2.33
Other	0.00% 0	5.56% 1	11.11% 2	33.33% 6	50.00% 9	18	1.44



Question 85 asked all respondents to rank their known purchasers from a choice of 11 options. Based on weighted rank scores, the purchaser that ranked highest overall was 'local residents moving within the district'. This can reflect demand from new household formation in the district (although this tends to be first home buyers) and churn in the local housing market with some selling an existing home and buying/building new. Nine respondents ranked this as their top-ranking purchase group and two as their second ranked group.

This is followed by 'households permanently moving into the district from elsewhere in NZ'. One respondent ranked this as their top ranking purchase group, five as their second ranked group and five as their third ranked group.

The next most common group of purchasers (including targeted buyers) is group home builders (buying up sections to on-sell as house and land packages). Two respondents ranked this their main purchase group and two ranked it their second largest purchase group. Anecdotally we understand that this market has recently emerged in Rotorua and is on the rise (but typically linked to ample greenfield land supply).

This is followed by 'households permanently moving to the district from overseas'. One respondent ranked this group second, three ranked it third and two ranked it fourth. Combined with the those moving from elsewhere in New Zealand, this indicates that overall, in-migration is a key driver of demand for housing in Rotorua.

'Investors wanting holiday homes' was applicable to 10 respondents and it was the next highest ranking market. In descending order after that is:

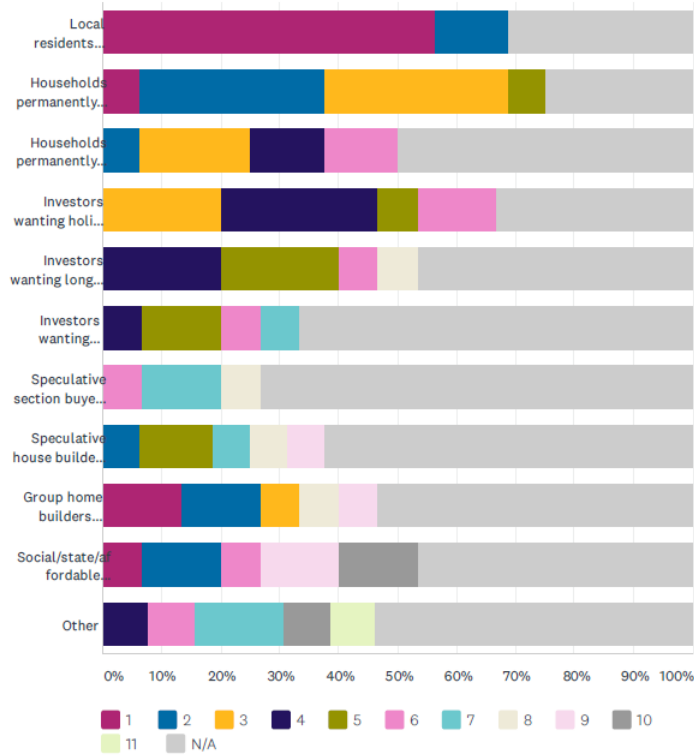
- investors wanting long term rentals,
- investors wanting residential visitor accommodation
- speculative house builders and
- social/state/affordable housing providers/occupants.
- speculative section buyers
- Other not specified

While one respondent ranked 'social/state/affordable housing providers/occupants' their main market (first) and two respondents ranked it second, most ranked it ninth or tenth (or not applicable at all).




Q85 Who is typically your target or most common purchaser within Rotorua District? Rank the following as it applies to your developments. First select N/A for the groups you do not target at all, then rank the relevant groups from most to least, with 1 being the largest share of buyers to 11 for the group making up the smallest share of buyers. \*You can use the handles (horizontal lines) to order the items.

Answered: 16 Skipped: 17




	1	2	3	4	5	6	7	8	9	10	11	N/A	TOTAL	SCORE
Local residents moving within the district	56.25% 9	12.50% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	31.25% 5	16	10.82
Households permanently moving into the district from elsewhere in NZ	6.25% 1	31.25% 5	31.25% 5	0.00% 0	6.25% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	25.00% 4	16	9.42
Households permanently moving into the district from overseas	0.00% 0	6.25% 1	18.75% 3	12.50% 2	0.00% 0	12.50% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	50.00% 8	16	8.13
Investors wanting holiday homes	0.00% 0	0.00% 0	20.00% 3	26.67% 4	6.67% 1	13.33% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	33.33% 5	15	7.80
Investors wanting long term rentals	0.00% 0	0.00% 0	0.00% 0	20.00% 3	20.00% 3	6.67% 1	0.00% 0	6.67% 1	0.00% 0	0.00% 0	0.00% 0	46.67% 7	15	6.88
Investors wanting residential visitor accommodation	0.00% 0	0.00% 0	0.00% 0	6.67% 1	13.33% 2	6.67% 1	6.67% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	66.67% 10	15	6.60
Speculative section buyers (buy off plans and resell before/after title)	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6.67% 1	13.33% 2	6.67% 1	0.00% 0	0.00% 0	0.00% 0	73.33% 11	15	5.00
Speculative house builders (build and sell new dwelling)	0.00% 0	6.25% 1	0.00% 0	0.00% 0	12.50% 2	0.00% 0	6.25% 1	6.25% 1	6.25% 1	0.00% 0	0.00% 0	62.50% 10	16	6.00
Group home builders (buying sections then selling house/land packages)	13.33% 2	13.33% 2	6.67% 1	0.00% 0	0.00% 0	0.00% 0	0.00% 0	6.67% 1	6.67% 1	0.00% 0	0.00% 0	53.33% 8	15	8.29
Social/state/affordable housing providers/occupants	6.67% 1	13.33% 2	0.00% 0	0.00% 0	0.00% 0	6.67% 1	0.00% 0	0.00% 0	13.33% 2	13.33% 2	0.00% 0	46.67% 7	15	5.88
Other	0.00% 0	0.00% 0	0.00% 0	7.69% 1	0.00% 0	7.69% 1	15.38% 2	0.00% 0	0.00% 0	7.69% 1	7.69% 1	53.85% 7	13	4.50



Question 87 asked stakeholders to comment on the degree of effect of different factors on the commercial feasibility of residential development in the district. There is a very small number of respondents (in each question) that indicated they were unsure, or the question did not apply to them. These results are not reported in the text, so in most cases the shares will not add up to 100%.

- **Availability of skilled labour:** This relates to their ability to find skilled staff. Nearly everyone agreed that this an effect of feasibility to some extent. 33% felt it had a minor or some effect (more than minor) but the majority (60%) felt it had a large or very large effect on feasibility.
- **Availability of unskilled labour:** This relates to their ability to find unskilled staff. 13% of respondents felt this had no effect on feasibility and 27% felt it had only a minor effect. A further 40% felt it had some (more than minor) effect but only a small share (7%) felt it had a large effect and no-one felt it had a very large effect.
- **Availability of sub-contractors:** This relates particularly to the capacity of suppliers and ability to get suppliers in a timely manner without undue delays. Most (93%) felt it had some effect (more than minor) but 53% felt it had a large or very large effect on commercial feasibility.
- **Construction prices (materials and labour):** Nobody thought this had a minor effect. 20% of respondents felt construction costs has some (more than minor) effect. This may reflect a situation whereby they have little difficulty passing those costs on to the buyers (through higher prices. However, two thirds (67%) of responses felt that construction costs had a large or very large effect on feasibility.
- **Access to finance and interest rates/holding costs:** Given that interest rates are very low at present, it is not surprising that 53% of respondents felt that access to finance and interest rates had no more than a moderate effect on feasibility. However, 33% of respondents still felt it had a large or very large effect (and this may be in terms of a potential effect should interest rates rise). Access to finance shows an almost converse response, with 47% of respondents stating that this had a large or very large effect, with a lower 33% of respondents considering that this had a minor or some effect on commercial feasibility. We note that access to finance is likely to be a very significant factor in the development of Māori freehold land (as this is inherently difficult to secure).
- **Council fees:** Half (50%) of respondents said this had a minor or some (more than minor) effect on feasibility. A lesser share (38%) of respondents said council fees (which included financial contributions and consent fees) had a large or very large effect on the feasibility of their developments/projects.
- **Council processes:** this relates to developers' access to clear information, council's responsiveness, communication, consent timing and decision making. All respondents agreed this had at least a minor effect on feasibility. More than half (56%) felt it had a very large effect on feasibility and a further 31% felt it had a large effect. Of all the factors included in the survey, Council processes had the highest response rate for 'very large effect' meaning that this has a significant impact on commercially feasible development in Rotorua relative to other factors, and that it affects developers across the board (i.e., those involved in land development, through construction only and consultants acting on behalf of developers). It




was one of only two factors where there were no responses who were unsure about this factor. It was applicable to everyone that responded.<sup>43</sup>

- **Non-Council consenting costs:** this refers to costs such as consulting fees and assessment costs paid by the developer. More than half (56%) felt this had a minor or some (more than minor) effect on feasibility, and almost a third (31%) felt it had a large or very large effect.
- **Planning provisions:** this refers to the rules and standards in the District Plan, for example, minimum site sizes, dwelling typologies, building heights, etc. Responses revealed this has a very strong effect on commercial feasibility. All respondents agree that planning provisions have a more than minor effect on feasibility. A significant 75% of respondents felt it has a large or very large effect on feasibility and a quarter of respondents indicating it has some (more than minor) effect.
- **Quantity of zoned land:** This relates to how much plan enabled capacity is provided at any one time. Nearly three quarters (73%) of respondents felt that this had a very large or very large effect on the commercial feasibility of development. Just 20% of respondents felt this factor had a minor or some effect (i.e., a moderate effect).
- **Cost of zoned land** (land prices, particularly land already zoned for urban development): A notable 67% of respondents said this had a large or very large effect on commercial feasibility. This is not an unsurprising result given the way in which development feasibility is calculated (residual land value). Less than a third of respondents felt that the cost of land in Rotorua had some effect, with no one indicating that it was a minor effect.
- **Uncertainty of ground conditions** (geotechnical issues including geothermal): This was one of the few factors that was applicable to all respondents. Everyone understood the effect this has on feasibility, with 63% of respondents saying it had a large or very large effect in Rotorua. The balance of respondents felt it had a minor or some effect.
- **Existing land ownership structures:** More than half (53%) of respondents felt that the effect of land ownership structures in the district has no more than a moderate effect on commercial feasibility. 40% said it had a large or very large effect, and the balance (one respondent) was not sure or felt it was not applicable.
- **Provision of infrastructure - Roading:** this relates to the costs of providing land transport infrastructure. As many respondents felt this had a minor or some effect on feasibility (44%) as had a large or very large effect on feasibility.
- **Provision of infrastructure - Stormwater:** this relates to the costs of providing stormwater infrastructure. According to the rank scores, this has the second greatest effect on commercial feasibility according to respondents (after Council processes). When combining the large and very large effect, 81% of respondents are captured. The remaining respondents didn't know

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<sup>43</sup> M.E have not explicitly included 'Council Processes' as a question in other residential stakeholder surveys. In the survey for the Queenstown Lakes District HBA (2021), 'Council Fees' was included in the survey, but not 'Council Processes'. That said, there was some additional feedback provided in the Queenstown survey that also highlighted that council capacity and competency and inconsistency in the way the council operated elongated development timeframes, added cost and elevated development risk. M.E consider it likely that the responses above regarding Rotorua Lakes Council are not especially unique.



or it is not applicable to them. This suggests none of the respondents felt providing stormwater infrastructure had a minor (or moderate) impact on feasibility.

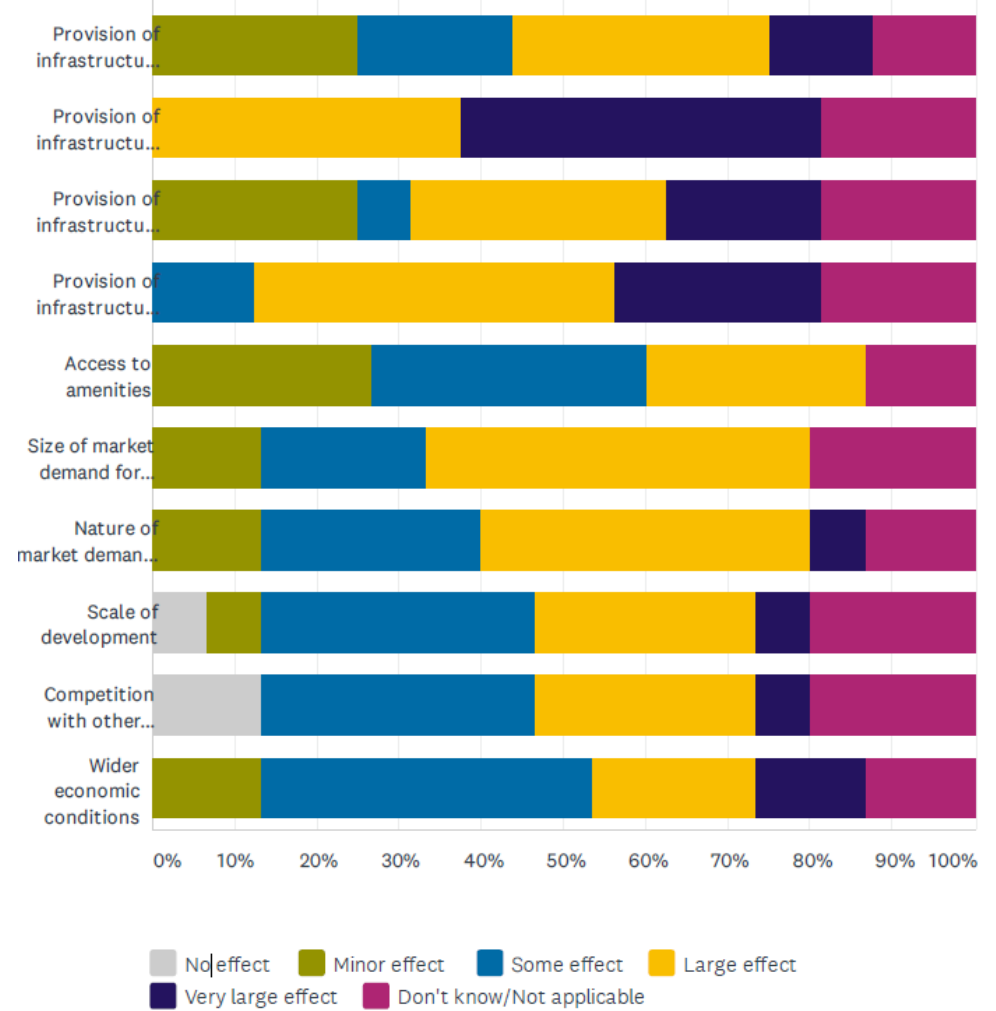
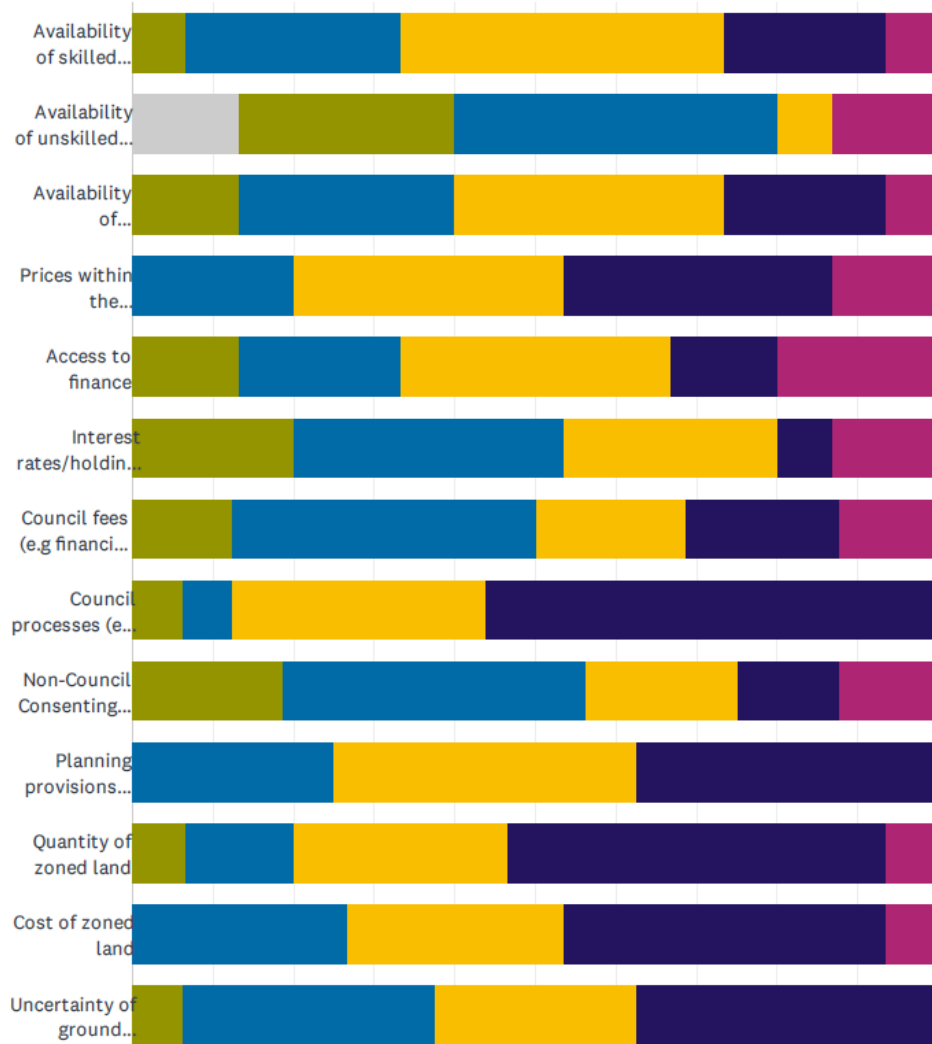
- **Provision of infrastructure – Water supply:** Most respondents (13/16) agreed that the cost of providing water supply infrastructure affects commercial feasibility of their projects to some extent (no response for ‘no effect’). Half (50%) felt it had a large or very large effect on feasibility and just under a third (31%) said it had no more than some effect (although weighted towards just a minor effect).
- **Provision of infrastructure – Wastewater.** Similar to the cost of providing stormwater infrastructure, this was among one of the highest overall ranking factors. Over two thirds of respondents (69%) indicated the effect of providing wastewater infrastructure on feasibility is large or very large, with 13% saying it had some effect. Nobody felt this had a minor or no influence.
- **Access to amenities:** This includes open space, reserves, community and recreational facilities, walking/cycling tracks, shops etc. 60% said this had no more than a moderate effect on feasibility. A quarter of respondents felt it had a large effect. Nobody felt it had a very large effect.
- **Size of market demand for dwellings:** This relates to the overall volume of demand in the district. Almost half of respondents (47%) indicated the size of market demand has a large or very large effect on feasibility. A third of respondents felt it has a minor to moderate impact on feasibility.
- **Nature of market demand for dwellings:** This refers to the type, size, location of dwellings that people want (demand). Almost half (47%) felt this has a large or very large effect on feasibility. 40% of respondents indicated the nature of demand impacted only minor to moderately on feasibility.
- **Scale of development:** This relates to economies of scale and how this influences commercial feasibility. There were very mixed responses on this question, ranging from no effect to a very large effect. A high share (20%) didn’t know or said it was not applicable. A small share (13%) felt this had no or a minor effect on feasibility, with a third indicating it has some (more than minor) effect, and a third felt it has a large or very large effect. There is no clear trend here.
- **Competition with other developers:** A small portion of respondents (13%) indicated this has no effect, a third said it has a moderate (more than minor) effect and a further third said the effect is large or very large. There is no clear trend here.
- **Wider economic conditions:** This is a broad question and will be subjective as to what it relates to for respondents. However, most respondents (60%) of said it had a moderate to large impact on commercial feasibility in Rotorua. Similar shares of respondents (13% each) felt it had a minor impact or a very large effect on commercial feasibility.

Overall, 9 factors stand out as having the most significant effect on the feasibility of residential development in Rotorua. In descending order, these are council process (but not council fees), provision of stormwater infrastructure, planning provisions, quantity of zoned land, provision of wastewater infrastructure, cost of zoned land, construction costs, uncertainty of ground conditions and availability of skilled labour.




Q86 To what extent do the following factors affect the commercial feasibility of residential development in Rotorua District? Select one in each row.

Answered: 16 Skipped: 17



	NO EFFECT	MINOR EFFECT	SOME EFFECT	LARGE EFFECT	VERY LARGE EFFECT	DON'T KNOW/NOT APPLICABLE	TOTAL	WEIGHTED AVERAGE
Availability of skilled labour	0.00% 0	6.67% 1	26.67% 4	40.00% 6	20.00% 3	6.67% 1	15	3.93
Availability of unskilled labour	13.33% 2	26.67% 4	40.00% 6	6.67% 1	0.00% 0	13.33% 2	15	2.93
Availability of sub-contractors	0.00% 0	13.33% 2	26.67% 4	33.33% 5	20.00% 3	6.67% 1	15	3.80
Prices within the construction sector (materials & labour)	0.00% 0	0.00% 0	20.00% 3	33.33% 5	33.33% 5	13.33% 2	15	4.40
Access to finance	0.00% 0	13.33% 2	20.00% 3	33.33% 5	13.33% 2	20.00% 3	15	4.07
Interest rates/holding costs	0.00% 0	20.00% 3	33.33% 5	26.67% 4	6.67% 1	13.33% 2	15	3.60
Council fees (e.g financial contributions, consent fees)	0.00% 0	12.50% 2	37.50% 6	18.75% 3	18.75% 3	12.50% 2	16	3.81
Council processes (e.g. access to clear information, responsiveness, communication, consent timing, consent decision making)	0.00% 0	6.25% 1	6.25% 1	31.25% 5	56.25% 9	0.00% 0	16	4.38
Non-Council Consenting costs (i.e. consulting fees, assessment costs)	0.00% 0	18.75% 3	37.50% 6	18.75% 3	12.50% 2	12.50% 2	16	3.63
Planning provisions (e.g. minimum site sizes, dwelling typologies, building heights)	0.00% 0	0.00% 0	25.00% 4	37.50% 6	37.50% 6	0.00% 0	16	4.13
Quantity of zoned land	0.00% 0	6.67% 1	13.33% 2	26.67% 4	46.67% 7	6.67% 1	15	4.33
Cost of zoned land	0.00% 0	0.00% 0	26.67% 4	26.67% 4	40.00% 6	6.67% 1	15	4.27
Uncertainty of ground conditions	0.00% 0	6.25% 1	31.25% 5	25.00% 4	37.50% 6	0.00% 0	16	3.94
Existing land ownership structures	0.00% 0	0.00% 0	53.33% 8	33.33% 5	6.67% 1	6.67% 1	15	3.67
Provision of infrastructure - Roading	0.00% 0	25.00% 4	18.75% 3	31.25% 5	12.50% 2	12.50% 2	16	3.69
Provision of infrastructure - Stormwater	0.00% 0	0.00% 0	0.00% 0	37.50% 6	43.75% 7	18.75% 3	16	4.81
Provision of infrastructure - Water supply	0.00% 0	25.00% 4	6.25% 1	31.25% 5	18.75% 3	18.75% 3	16	4.00
Provision of infrastructure - Wastewater	0.00% 0	0.00% 0	12.50% 2	43.75% 7	25.00% 4	18.75% 3	16	4.50
Access to amenities	0.00% 0	26.67% 4	33.33% 5	26.67% 4	0.00% 0	13.33% 2	15	3.40
Size of market demand for dwellings	0.00% 0	13.33% 2	20.00% 3	46.67% 7	0.00% 0	20.00% 3	15	3.93
Nature of market demand for dwellings (e.g. type, size and location of dwellings)	0.00% 0	13.33% 2	26.67% 4	40.00% 6	6.67% 1	13.33% 2	15	3.80
Scale of development	6.67% 1	6.67% 1	33.33% 5	26.67% 4	6.67% 1	20.00% 3	15	3.80
Competition with other developers	13.33% 2	0.00% 0	33.33% 5	26.67% 4	6.67% 1	20.00% 3	15	3.73
Wider economic conditions	0.00% 0	13.33% 2	40.00% 6	20.00% 3	13.33% 2	13.33% 2	15	3.73



Respondents were asked to comment further on any factors that they felt had a very large effect on commercial feasibility for residential development. Selected responses from the survey are as follows:

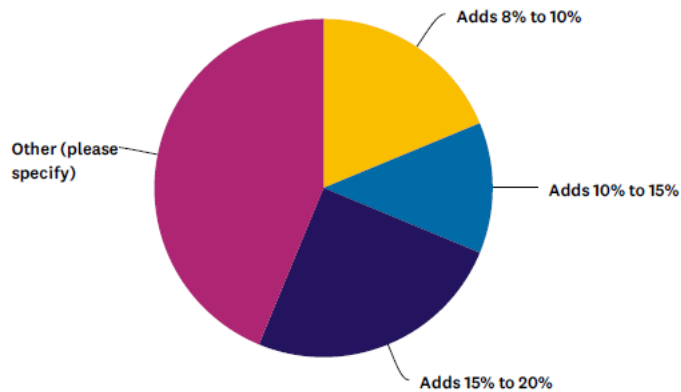
- “Council processes are incredibly complicated and slow, unhelpful, and make everything as hard as possible”.
- “There is a significant shortage of available land for purchase and/or development.”
- “The potential inability to deal with downstream effects of stormwater and the loss of valuable useable land to stormwater infrastructure uses, is a big concern.”
- “Council processes are the cause of the biggest delays and increased cost e.g., holding cost accruing etc. The uncertainty created by the Planning and/or Engineering teams as to how a consent will be processed and the requirement by default to require affected party consents creates an environment where it’s difficult to be positive when discussing a new development whether [with] a seasoned developer or mum and dad retired property owner.”
- “Not much feasible land easily available.”
- “Rotorua District Council is supportive of change, but this does not seem to flow though into the processing of resource consent applications. Hence the higher risk associated with planning. “
- “In terms of ground conditions, Rotorua is unique for its underlying geology, which does impact on buildable land.”
- “Having a significant area of Māori owned land, that is constrained in its ability to be developed also hinders development of land. Although there have been some attempts to "crack this nut".”
- “My answers that have a very large effect are related to the current situation of COVID-19. The average wages in New Zealand are not very high or enough for families to save healthy amounts of money, therefore finance to even start these processes or purchase [land] is hard to gain. Materials are in fairly short supply and slow to import due to the supply chain issues and demands that COVID-19 caused and impacted. And the wider economic conditions are very unstable right now, lockdowns cause profit losses, business closures and job losses. The interest rates are low but will rise soon and maybe higher than pre-Covid due to the amount of debt the country will be in.”
- “Council processes is a significant impediment, lots of delays on past projects. Land availability is a historical problem. Stormwater is a well-known (and often critical) problem.”
- “If there is no infrastructure then no subdivisions and nowhere to build so people don’t upgrade to allow first home buyers into the market.”
- “Difficulty in dealing with council.”

The following graph reports results of a question targeted at the impact of geotechnical issues on development costs. This question is relevant to modelling of commercially feasible capacity in the HBA. A quarter of respondents indicated a cost premium of 15-20%, with three respondents indicating an additional 8-10% and two suggesting geotechnical issues add 10-15% to development cost. Some respondents were not sure, but suggested it ‘can be substantial’, increasing costs ‘significantly’ due to the

cost of testing, and additional construction costs. Two respondents estimated it could add upwards of 20% to development costs.

### Q88 To what extent does geotechnical issues (including geothermal) on a site add to the development cost?

Answered: 16 Skipped: 17

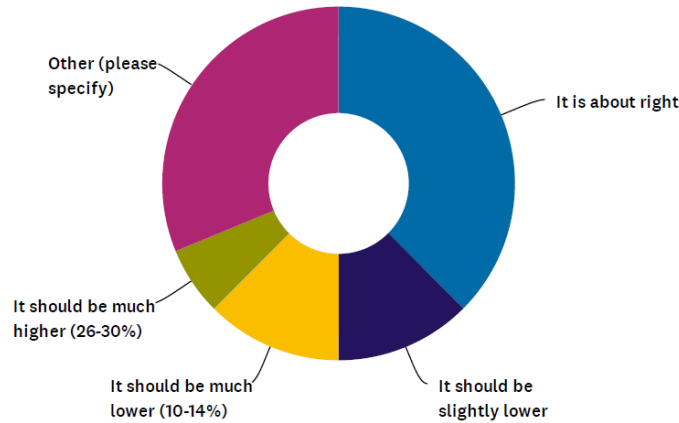


ANSWER CHOICES	RESPONSES	
Doesn't make any difference	0.00%	0
Adds up to 5%	0.00%	0
Adds 5% to 7%	0.00%	0
Adds 8% to 10%	18.75%	3
Adds 10% to 15%	12.50%	2
Adds 15% to 20%	25.00%	4
Other (please specify)	43.75%	7
<b>TOTAL</b>		<b>16</b>

Question 89 sought guidance from respondents on the average profit margin of 20% which was suggested for the commercial feasibility model developed for the HBA report. More than a third (37.5%) of respondents (n=16) were of the view that it is about right, with an equal share of respondents (13%) suggesting it should be slightly lower (15-19%) or much lower (10-14%). One respondent stated it should be much higher (26-30%). Five respondents did not select any of those options (i.e., chose 'other') because either they were unsure or thought the margin varies considerably. One respondent commented on the variability of the profit margin reflecting the inherent riskiness of development within Rotorua.

Q89 The commercial feasibility model developed for the HBA report adopts an average profit margin of 20% for residential developments. Do you think this is suitable in the context of Rotorua District? Select one.

Answered: 16 Skipped: 17



When asked how scale of development affected profit margins, selected responses included:

- “Larger scale, greater risk and greater profit”
- “Volume does attract some cost savings”
- “Larger equals higher profit”
- “With regards to scale, it needs to be well planned; no point creating value that is aimed at housing the maximum number of people without thinking about ergonomics (ease and access to parking, shops, schools, public transport links). This larger picture can provide positive value to the quality of living and the protection of our environment.”

When asked how the type of development affected profit margins, selected responses included:

- “Minimal”
- “Similarity of design brings efficiency to the build process”
- “Lifestyle will always cost more, but due to population increases multi-complexes are more common and economical. Again, should be valued for the quality of living and location it can provide.”
- “Needs to suit scale and location.”

When asked how the location of development affected profit margins, selected responses included:

- “Locations that are closer to town/amenity/schools etc. attract better pricing and greater demand for housing.”
- “No one will pay large amounts for something in a bad location. Location has to reflect in the price, not just because of the market being high.”

When asked if there were any other factors affecting commercial feasibility in Rotorua, selected responses were:

- “The reputation of our city as a safe place. “
- “The large amount of Māori land.”
- “Too many barriers for people wanting to make Rotorua a better place.”
- “Key factors I believe are affecting feasibility of development are uncertainty of consenting time frames and rules, and shortage of Council staff to process consents and complete site inspections. This affects the timing for completing a development. This is not unique to Rotorua; it is an issue country wide.”
- “Being a regional centre means that access to materials can fall behind, as we are seeing at the moment.”
- “Carbon footprint, how the process will affect the environment not only during establishment but also into the future.”

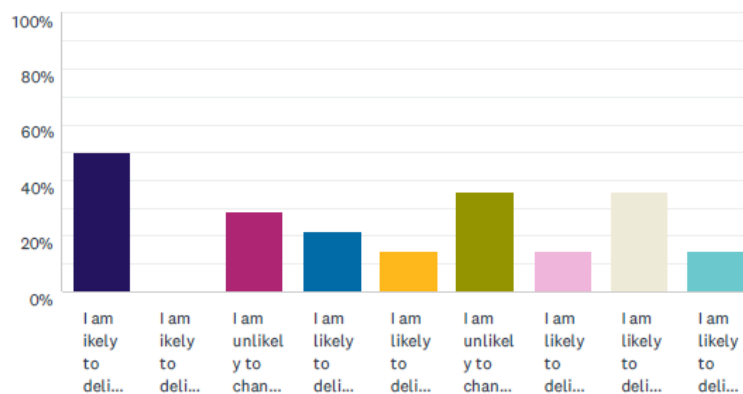
The following graph (Question 92) asks respondents to anticipate what changes they expect to deliver through their developments in the short-medium term. 50% of respondents (n=14) said that smaller sized lots were likely, nobody responded that they would deliver larger lots than currently, and 4 respondents said they would keep lot sizes the same. This signals that future subdivisions will look to use the land more efficiently (and likely closer to the minimum lot sizes enabled in the District Plan). Three respondents (21%) indicated that they saw their dwelling size decreasing, and two responded that they would deliver larger dwellings than currently. Five respondents said they would keep dwelling sizes the same. This perhaps indicates that if section sizes tended to decrease but dwelling size are generally not intended to change then Council can expect to see floor area ratios in residential zones increasing. Five respondents (36%) anticipated delivering more attached housing (duplex/terrace style) and 2 respondents (14%) anticipated delivering more apartment dwelling units. This result suggests that the development sector is somewhat resistant at present to move away from supplying standalone homes. This may however reflect the locations where they foresee the available land for development, which may not suit more intensive dwelling types.

Some additional comments were provided on potential future changes in their supply:

- “I will deliver what the client requests.”
- “There is too much uncertainty created by the current District Plan rules and performance standards, with regards to the delivery of smaller parcels and so I'm unlikely to change, either short or medium term until the rules change and we can advise our clients of a smooth pathway through the consenting process. But I really want to see a much denser development style start to be common in Rotorua because it's the only way we will be able to house future generations due to a constrained land supply past about 2040.”

Q92 How do you see the dwellings/lots you deliver in Rotorua District changing over the short-term (to 2023) or medium term (to 2030), in terms of lot size and/or dwelling typology? Select all that apply.

Answered: 14 Skipped: 19



ANSWER CHOICES	RESPONSES	
I am ikely to deliver smaller lots	50.00%	7
I am ikely to deliver larger lots	0.00%	0
I am unlikely to change my approach to lot sizes	28.57%	4
I am likely to deliver smaller dwellings	21.43%	3
I am likely to deliver larger dwellings	14.29%	2
I am unlikely to change my approach to dwelling sizes	35.71%	5
I am likely to deliver more standalone dwellings	14.29%	2
I am likely to deliver more duplex/terrace dwellings	35.71%	5
I am likely to deliver more apartments	14.29%	2
Total Respondents: 14		

The survey then asked respondents the following: Outside of your own developments, are there any other residential development changes/trends that you have started to observe in Rotorua that will influence what we might expect to see in the short term (to 2023) or medium term (to 2030)? And what are the drivers for those? Selected responses included:

- “Far more infill housing to try and minimise resource consent costs.”
- “A lot more older parcels of land with both a house and a new minor dwelling which are providing two housing units to Rotorua, but which are unable to be owned separately due to minimum lot size rules and therefore mean that increasingly people are unable to afford to buy in and these type of developments are owned by investors. There needs to be a range of housing values so people can step up the ladder. When I was a first home buyer the wife and I bought a 75 sqm house and it was fine for about 5 years, then we moved into a 130sqm house, now we are intending on building a 260 sqm house. All are on separate titles. There is no reason why a minor household unit that is fully serviced cannot be on a separate title and create the opportunity for a first home buyer to get on the ladder.”
- “Kāinga Ora objectives increasing in the district, smaller lots and houses more prevalent.”

- “In the short term I have noticed that Kāinga Ora are more active in Rotorua. This has had an impact on price expectation for land as KO tend to "write a cheque" to get the land they want. I have noticed this is increasing selling price expectations. This has a knock on effect to the financial viability of projects in the short term. In medium term I would expect the change in typology to higher density will continue, as we are seeing acceptance of this density in the units we are selling at present.”
- “Increasing environmental standards.”
- “Homelessness”
- “LVRs, cost of housing.”
- “Smaller households, increased cost of housing.”
- “Short term impact of KO purchasing land is increasing vendor expectations for their land, which is not sustainable for private sector development. Medium term, acceptance of increased density, should lead to more redevelopment/brown field areas closer to town and where infrastructure is there to support that intensification.”
- “Economic, Environment (Climate Change), New Generations (the way the new generation want to live compared to that of the baby boomers), Technology.”
- “NPS-FM and RMA reform; Local government reform; Three waters reform and regulation.”

Question 95 to 97 explores the topic of Māori land (i.e., leasehold land) in the urban area. Firstly, the survey asks whether developers suppose there is demand for leasehold residential properties, and why or why not? Five out of 13 respondents (38%) agreed there is demand, four (31%) answered in the negative, and the remaining four (31%) are unsure or note that demand could be there if the conditions are suitable. Selected comments from this section include:

- “Yes, because there is still a large shortage of housing.”
- “People want to own their property. Leasehold land creates lending issues with the banks.”
- “Most buyers would prefer to own the land and house on it, I believe.”
- “It goes against human nature. People want long term surety.”
- “It would depend on terms.”
- “Yes if the value was correct/meeting market to take the leasehold into account.”
- “People just want affordable houses in a safe neighbourhood. However, that happens, is immaterial to them.”
- “Yes. Strong demand for any housing.”
- “No. There is the unknowns of future lease costs (land rent) and the future resale. Banks may be reluctant to or limit mortgages on leasehold land.”

The next question asked whether there is (or could be) an appetite for commercial developers to develop residential properties for the market on leasehold land. Seven respondents (out of 12) could see the





possibility of this happening, but the majority of them stated that it will depend on the terms of the lease. Four respondents answered, 'yes' and one respondent answered 'no'. Selected responses include:

- “Scale may make it more practical”
- “Probably only with pre-sales or a lease to an entity like a retirement village operator in place to cover risk.”
- “It will come down to the appetite of leasehold landowners wanting to have their land developed. Multiple owners make it hard to get consensus to go down this path.”
- “I feel that could be a difficult approach considering that neither party seems to ever see eye to eye.”
- “Provided the financial terms were favourable.”
- “These blocks of land are hard to obtain on reasonable terms.”

The last of the three questions on this topic asked what it would take for development on leasehold land to be commercially feasible. Two respondents out of 10 respondents that answered this question are currently exploring opportunities on leasehold land (20%) and five respondents (50%) would not develop on leasehold land. The remaining three respondents (30%) were either not sure or the question was not applicable to them. Selected responses to this question include:

- “Currently looking at this with various people.”
- “Low lease costs, long lease terms, say 50 years minimum being the design life minimum of a house to be built.”
- “It is hard to obtain this land on reasonable terms.”
- “I am simply not interested in leasehold residential property.”
- “Rights of renewal, partnerships, size of land parcel

Question 98 sought feedback from respondents on which specific rules/standards in the District Plan are viewed as constraining their future plans (in the short to medium term) and how these should be changed. Selected responses on urban provisions included:

- “Land use consents, with regard to retaining walls and earthworks volumes.”
- “Density and zoning.”
- “Too many rules that prevent development.”
- “Most of the Residential 1 zone performance standards and the CRD rule.”
- “Nothing specific.”
- “Bylaws that prevent building too close to existing infrastructure can significantly affect the viability of redevelopment.”
- “No, but it needs to be serviced/reasonably serviceable”



Respondents were asked what the barriers are for delivering more affordable housing options in Rotorua (or more generally). Selected responses are as follows, with many within Council's sphere of influence:

- “Consultant resources are stretched and some of the technical review queries are pedantic and unnecessary.”
- “Density and zoning.”
- “Opening up land so that there are enough sections to go around opposed to the handful that come up from time to time.”
- “Cost of materials, availability of feasible land.”
- “Too many NIMBYS.<sup>44</sup> Too many other cultural issues which impact on the ability for those in need to play by the rules in our ordered society and not cause distress to existing landowners.”
- “Speed to consent land for higher density. Land that is suitable, whether close to town/infrastructure/amenities. Qualified/unqualified residential building resource. Competing commercial/council projects that take away resource from residential build capacity.”
- The current housing market and prices of materials. Affordable homes are advertised at a rate that is still considerably high, also the affordable homes are snatched up by investors or second home buyers as investment properties.
- “Infrastructure.”
- “I had a recent Resource Consent that basically wanted us to design the project that would normally be in Building Consent before we could get approval. That is not the way things should be.”
- Land price. Building costs.
- Provision of services.

The survey gave respondents a final opportunity to share any further thoughts on the residential development sector in Rotorua. Selected responses included:

- [to council] “Keep up the good work, but you are definitely the toughest council in the North Island that I had ever dealt with.”
- “I have had a lot of communication with various levels of RDC, which has been very constructive and keen to help. I hope this survey helps unlock some of the constraints to the delivery of more houses in Rotorua. I am very keen to build more and have a number of discussions underway with landowners for future development. So please take my comments as being constructive and supportive of council.”

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<sup>44</sup> Not in my back yard.



- “I think that the council should not be the sole source of geotechnical review of applications. This means it is a single opinion approach ... I would support the council having a panel of 3-4 consultants and development of a geotechnical standard.
- “We need to make this town a more desirable place to live, open up the opportunities for development and growth which will attract new businesses, and bring money to our town.”
- “Trust us - work with us, don't take one opinion as being the only way.”

# 10 Sufficiency of Capacity

This section provides the alternative sufficiency results by location and type using the Council’s high growth scenario, instead of the Council’s preferred medium growth scenario which is presented in the Main Report.

## 10.1 Urban Sufficiency by Location – High Growth Future

Table 10.1 – Short Term Urban Sufficiency of RER Dwelling Capacity (High Growth Future)

Reporting Area	Future Urban Demand (Incl. Latent Demand & Margin)			Potential Future Urban Dwelling Estate (RER Capacity + Existing Estate) *			Sufficiency (Potential Dwellings)		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Central	5,330	2,940	8,270	4,680	2,820	7,510	- 650	- 120	- 760
Western	12,070	1,010	13,090	11,270	780	12,050	- 810	- 230	- 1,040
Eastern	4,640	200	4,840	4,420	130	4,550	- 230	- 70	- 290
Ngongotahā	2,110	170	2,280	2,130	130	2,260	30	- 40	- 20
<b>Total Urban Environment</b>	<b>24,150</b>	<b>4,320</b>	<b>28,480</b>	<b>22,500</b>	<b>3,870</b>	<b>26,370</b>	<b>- 1,650</b>	<b>- 450</b>	<b>- 2,110</b>

Source: M.E 2021 Rotorua Dwelling Projection Model and M.E Rotorua Capacity Model 2021. Figures rounded to nearest 10.

\* Based on Greenfield and Maximum Infill or Redevelopment Capacity. High Growth Future

Table 10.2 – Medium Term Urban Sufficiency of RER Dwelling Capacity (High Growth Future)

Reporting Area	Future Urban Demand (Incl. Latent Demand & Margin)			Potential Future Urban Dwelling Estate (RER Capacity + Existing Estate) *			Sufficiency (Potential Dwellings)		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Central	5,930	3,470	9,400	4,690	3,060	7,750	- 1,240	- 410	- 1,650
Western	13,080	1,410	14,490	12,700	780	13,490	- 370	- 630	- 1,000
Eastern	5,180	340	5,520	5,900	130	6,030	720	- 210	510
Ngongotahā	2,360	250	2,610	2,150	130	2,280	- 210	- 120	- 330
<b>Total Urban Environment</b>	<b>26,540</b>	<b>5,470</b>	<b>32,010</b>	<b>25,440</b>	<b>4,110</b>	<b>29,550</b>	<b>- 1,100</b>	<b>- 1,370</b>	<b>- 2,470</b>

Source: M.E 2021 Rotorua Dwelling Projection Model and M.E Rotorua Capacity Model 2021. Figures rounded to nearest 10.

\* Based on Greenfield and Maximum Infill or Redevelopment Capacity. High Growth Future

Table 10.3 – Long Term Urban Sufficiency of RER Dwelling Capacity (High Growth Future) – Current Prices Scenario

Reporting Area	Future Urban Demand (Incl. Latent Demand & Margin)			Potential Future Urban Dwelling Estate (RER Capacity + Existing Estate) *			Sufficiency (Potential Dwellings)		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Central	7,360	4,860	12,220	4,700	3,430	8,130	- 2,660	- 1,430	- 4,090
Western	14,970	2,410	17,380	12,820	780	13,600	- 2,150	- 1,630	- 3,780
Eastern	6,420	750	7,170	6,500	130	6,630	70	- 610	- 540
Ngongotahā	2,910	460	3,370	2,330	130	2,460	- 580	- 330	- 910
<b>Total Urban Environment</b>	<b>31,660</b>	<b>8,480</b>	<b>40,140</b>	<b>26,340</b>	<b>4,480</b>	<b>30,820</b>	<b>- 5,320</b>	<b>- 4,000</b>	<b>- 9,320</b>

Source: M.E 2021 Rotorua Dwelling Projection Model and M.E Rotorua Capacity Model 2021. Figures rounded to nearest 10.

\* Based on Greenfield and Maximum Infill or Redevelopment Capacity. High Growth Future. Current Prices Scenario.

Table 10.4 – Long Term Urban Sufficiency of RER Dwelling Capacity (High Growth Future) – Market Growth Scenario

Reporting Area	Future Urban Demand (Incl. Latent Demand & Margin)			Potential Future Urban Dwelling Estate (RER Capacity + Existing Estate) *			Sufficiency (Potential Dwellings)		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Central	7,360	4,860	12,220	4,770	4,110	8,880	- 2,580	- 750	- 3,340
Western	14,970	2,410	17,380	14,140	780	14,930	- 820	- 1,630	- 2,450
Eastern	6,420	750	7,170	7,340	130	7,480	920	- 610	300
Ngongotahā	2,910	460	3,370	2,710	130	2,840	- 200	- 330	- 530
<b>Total Urban Environment</b>	<b>31,660</b>	<b>8,480</b>	<b>40,140</b>	<b>28,970</b>	<b>5,160</b>	<b>34,130</b>	<b>- 2,690</b>	<b>- 3,320</b>	<b>- 6,010</b>

Source: M.E 2021 Rotorua Dwelling Projection Model and M.E Rotorua Capacity Model 2021. Figures rounded to nearest 10.

\* Based on Greenfield and Maximum Infill or Redevelopment Capacity. High Growth Future. Market Growth Scenario.

Table 10.5 – Summary of Urban Sufficiency - RER & Commercially Feasible Capacity (High Growth Future)

Reporting Area	Short Term Sufficiency			Medium Term Sufficiency			Long Term Sufficiency (Current Prices Scenario)			Long Term Sufficiency (Market Growth Scenario)		
	Plan Enabled	Commercially Feasible	RER	Plan Enabled	Commercially Feasible	RER	Plan Enabled	Commercially Feasible	RER	Plan Enabled	Commercially Feasible	RER
Central	9,010	1,400	- 760	7,880	270	- 1,650	6,470	- 2,490	- 4,090	6,470	5,260	- 3,340
Western	4,700	690	- 1,040	3,300	- 720	- 1,000	470	- 3,510	- 3,780	470	- 1,830	- 2,450
Eastern	4,970	1,350	- 290	4,300	680	510	4,890	- 490	- 540	4,890	480	300
Ngongotahā	1,250	70	- 20	920	- 260	- 330	2,500	70	910	2,500	1,550	530
<b>Total Urban Environment</b>	<b>19,940</b>	<b>3,500</b>	<b>- 2,110</b>	<b>16,400</b>	<b>- 30</b>	<b>- 2,470</b>	<b>14,340</b>	<b>- 6,410</b>	<b>- 9,320</b>	<b>14,340</b>	<b>5,470</b>	<b>- 6,010</b>

Source: M.E 2021 Rotorua Dwelling Projection Model and M.E Rotorua Capacity Model 2021. Figures rounded to nearest 10.

Capacity based on Greenfield and Maximum Infill or Redevelopment Capacity. High Growth Future.



# 11 Impact of Planning and Infrastructure

This section offers more detail on the impact of planning and infrastructure on housing affordability and competitiveness. It extends the discussion on the Competitive Urban Land Markets (CULM) and sets out the conceptual basis of the approach used by M.E to evaluate the key impacts.

## 11.1 Urban Economies and Planning

A core requirement for understanding the effects of planning and infrastructure on housing affordability and competitiveness is to distinguish between the effects of planning and infrastructure provision by Council, and the effects of other influences on housing affordability and development.

It is also critical to recognise that the CULM concept is one component of the wider urban economy. It is not the sole influence on how well or efficiently urban economies and their land and property markets are functioning. Accordingly, the CULM and other competitive aspects of markets need to be examined alongside other key influences. It is also important to consider how urban spatial economies function.

That is the context in which council planning may directly and indirectly affect urban economies and land markets, and therefore the potential influence of planning and infrastructure on the CULM.

### 11.1.1 Characteristics of Urban Spatial Economies

Urban economies are spatial by their nature. They are characterised by multiple activities, with many flow-on and feed-back effects, which occur through time, and across space. The driving force of cities is the benefits of co-locating activity. People and activities group together because it makes sense to do so, with the accessibility and scale economies available in towns and cities generally offering efficiencies and relatively low costs, and generally offering greater sustainability than if activity is more widely spread. That said, people and activities require their own space (land is a factor of production) and there are trade-offs between occupying one's own space (land) while also benefiting from proximity to others. People and activities compete for space and for location, and that competition and co-operation are essential elements of how cities function and grow.

Cities are characterised by many externalities, which arise especially because the co-location and spatial concentration of activity places people and entities in close contact. And while co-location and spatial concentration offer relatively lower transaction costs because of their relatively good accessibility, urban activities incur substantial transaction costs - particularly the costs of movement (transport and travel) to enable business and social interactions.

In most instances, the urban economy itself is the hub of a wider spatial economy which encompasses city and hinterland. Location and time are critical influences on urban function, and urban growth.

It is also important to understand the significance of time and location within urban economies, which mean that development opportunity continually evolves as a city grows. Cities are characterised by equilibrium-seeking economic processes (rather than equilibrium conditions) and that dynamic has



substantial effect on how land and development markets function. While cities may tend toward some spatial equilibrium, they almost never reach such equilibrium. Most importantly for council planning, such equilibrium would require conditions of nil growth and nil change, currently and into the future. If such conditions did exist, then critical aspects of urban land markets which council planning must make provision for would be absent. That would include the expectations by the development sector and others of future demand for land and housing which drive most land purchase and development decisions, and of course competition in the market.

The patterns of urban growth are strongly influenced by city dynamics. The underlying drivers which attract activities to co-locate are constantly in play. The benefits of co-location mean the strongest demand is for central locations, with the best accessibility, but also the highest land values. Characteristically, the most attractive location for new urban development is immediately adjacent the existing urban edge, as that is the most accessible location among the yet-to-be urbanised options. Since urbanisation is expensive, and there are considerable scale economies in development especially of infrastructure, there is pressure to accommodate growth through the addition of the minimum extra land area. The generally lower cost of fully developing urban-capable (that is, already with infrastructure) land rather than extending capacity further outward, in combination with the greater attractiveness of that more central land, acts to focus new development to utilise the existing urban-capable land before adding more urban-capable land in a location further from the city centre. Most commonly, new development is a combination of greenfield outward expansion at or close to the established urban edge, and intensification within the already urbanised area, through infill and redevelopment. Redevelopment is more common in larger cities, where the larger size of the economy means land is generally more valuable than in smaller cities, and the economics of redeveloping is often more attractive.

A major consequence of this urbanisation path is that urban land values are many times higher than surrounding non-urban values. This is largely because its urban capability means the land can be used many times more intensively than non-urban land – generating much higher returns. This means that where a city is expanding efficiently and taking up the minimum additional land area required to accommodate its growth, there is a very strong difference in land values either side of the urban edge.

These dynamics commonly produce what appears to be a mis-match between initiatives to constrain or lower housing costs, and the uplift in land values which result from urbanisation. However, the much higher land values per hectare for urban land compared with non-urban land typically translate to lower land costs per dwelling for urban land because of the much greater intensity of land use, with 20-30 times as many dwellings per urban hectare as per non-urban hectare. A key feature of urban land is that as its value increases, the feasibility of intensification improves, where more dwellings per hectare are sustainable, and the land value per dwelling is less than for non-urban, or low density urban sites.

Outside the urban edge, at any point in time there is characteristically a value gradient because the non-urban land closest to the urban edge is valued more highly than non-urban land further away. This is in anticipation of the opportunity for future value uplift when the land becomes urbanised. This pattern is evident around all New Zealand cities and main towns, at least.

That value differential is a key feature of the equilibrium-seeking nature of urban economies. If the urban economy had somehow reached an equilibrium, then there would be no expectation of future value uplift in the land, and the value gradient outside the urban edge would not be present.



The same applies for already urbanised land within the urban edge, where there is potential for future value gain if the land can be further developed or redeveloped to be used more intensively. That potential is typically higher for sites where the current improvements are older and/or smaller and/or of lower quality than the market would currently sustain or is expected to sustain in the future. Such potential for intensification is a critical driver of urbanisation, and urban growth. Again, it reflects the importance of understanding equilibrium-seeking nature of urban economies. If the urbanised land were in equilibrium with the market, then there would be no potential for the land to be used more intensively.

A critical feature of all urban markets in New Zealand is the potential for further intensification of the currently urbanised area. For example, in the central isthmus of Auckland over 85% of sites have plan-enabled potential for further development through infill or intensification. While on the great majority of lots that potential does not yet translate into commercially feasible development, the proportion which is feasible to re-develop will continue to increase over time as the economy grows, the existing estate ages, and more intensive modes of development become plan-enabled in response. The key drivers of this potential are growth in the size of the urban economy – which means land especially in more central areas can be or will be able to be viably intensified – while the ongoing actual or relative depreciation of the existing built estate means that the cost of such redevelopment typically reduces over time. This combination means that potential for intensification tends to increase progressively over time, with the realisation of this intensification potential being driven especially by the rate of growth in population and economy.

There is nothing remarkable about this. However, the dynamics show clearly that the generally most efficient and sustainable growth path for cities is through the combination of outward expansion at or adjacent the urban edge, together with intensification of already developed land especially in locations (relatively) close to the city centre. That is also consistent with the most efficient provision of infrastructure (especially Three Waters) because existing capacity is centred on the established city, and there are major scale economies so that adding incrementally to existing capacity is in most instances less costly than establishing another network.

Those core drivers are commonly recognised in local authorities' plans and growth strategies, at least in concept.

### **11.1.2 How Planning May Affect Land and Housing Values**

There are two main routes through which statutory “planning” affects the affordability of housing and the competitiveness of urban land markets. Both arise through planning’s role in enabling and supporting land use. The direct provision for land capacity for growth is identified above, and is explicitly recognised in the sufficiency assessment, as well as both arms of the CULM assessment (as per Randerson).

The other route arises from the relative efficiency of an urban economy, driving from the nature, scale and location of land uses. This is broadly urban form, where patterns of land use are core to the efficiency and sustainability of that economy. Planning (including infrastructure planning) has a key role in enabling where and when activity (land use) may occur. The spatial (and temporal) efficiency of that land use and related economic activity is a critical influence on productive efficiency and sustainability. It is also a major influence on the costs of living in the urban environment. Travel is a major cost for households, and this is affected strongly by accessibility and access. Travel costs accrue over time, and it is important to consider the ‘whole





of lifetime' costs of urban living which include but are not limited to the costs of housing. A common trade-off for households is between the higher price of dwellings in more accessible locations – generally, closer to the centre – and the higher costs of travel from living in less accessible locations.

Hence the influence of planning on affordability includes provision not just of sufficient capacity, but sufficient capacity in appropriate locations. The most common approach for this is by – acknowledging the dynamics of cities and their infrastructure – providing for growth capacity close to the existing urban edge and developing incrementally outward. This commonly aligns with consumer demand for housing, to live as close as is practicable and affordable to the existing urban area and its centre. It also tends to align with the economics of land development and housing construction, where properties close to the existing urban land generally command higher prices and lower costs. Planning provisions are made in expectation that the commercial market will take up the development opportunity, there is not scope for local authorities to require development of land or housing capacity.

Hence, district planning decisions can generally be expected to contribute to affordability (including housing affordability) by providing for sufficient capacity in appropriate locations and for an urbanisation sequence which allows for cost efficient provision of infrastructure. That does not mean urban development be limited to one or a few “most efficient” locations, however it does highlight that there are important cost and affordability trade-offs between incremental outward growth and developing simultaneously on multiple fronts and in areas which are not contiguous with the urban land.

These trade-offs arise because of the dynamics of urban spatial economies, and the effects of location, timing and distance on the costs of urban growth.

These matters are covered in the assessment of capacity for growth in the Main Report, which indicates capacity in a range of locations and for a mix of dwelling typologies and enabling a range of property values.



# PART 3 – BUSINESS DEMAND AND CAPACITY





## 12 Business Demand

This section complements the Business Demand section in the Main Report. It provides detail on the total district employment projections developed by Infometrics for Council, identifies the urban businesses zones included in the HBA business assessment, and reports the estimated employment projections in combined urban business zones. Key inputs/assumptions to convert employment demand into land and floorspace demand are also set out here. The detailed modelling results of demand by floorspace and building typology are included here, as are the summary results of demand by land and floorspace by land use category (to help reduce the complexity of the Main Report).

### 12.1.1 Total District Employment Projections

The Infometrics annual employment projections have been supplied at the detailed 6digit ANZSIC level. They reflect 'Jobs Filled'. They have been developed using historical data sourced from the SNZ Linked Employee Employer Data (LEED). This data reports employee jobs filled by quarter. The projections represent the average job filled for employees across 4 quarters – giving an annual total for the year ending March. Included in the employment projections are estimates of self-employed. This is also sourced from the LEED data, but is released just once a year (i.e., is based off one quarter, added to the average job filled count for employees).

The Infometrics employment projections include only a single, preferred scenario, as opposed to a low, medium and high. While Infometrics included an alternative employment projection scenario – one focussed around growth of automation industries - Council have advised that this should be excluded from the HBA.

Table 12.1 provides a breakdown of the base Infometrics employment projections for the total district, summarised by 48 economic sectors.

Table 12.1 – Estimated Total Rotorua District Employment Growth by 48 Economic Sectors

Economic Sector (48)	2020	2025	2030	2035	2040	2045	2050	2020-50 (n)	2020-50 (%)
Horticulture and fruit growing	57	56	58	60	62	65	67	10	17%
Sheep, beef cattle and grain farming	284	272	252	242	228	222	215	- 69	-24%
Dairy cattle farming	881	852	812	790	761	727	693	- 187	-21%
Poultry, deer and other livestock farming	128	143	144	148	149	150	151	22	17%
Forestry and logging	-	-	-	-	-	-	-	-	0%
Fishing and aquaculture	468	486	510	479	445	409	376	- 92	-20%
Agriculture, forestry and fishing support services	915	1,046	1,079	1,085	1,070	1,050	983	68	7%
Mining, quarrying, exploration and other mining support services	30	28	21	17	13	10	8	- 21	-73%
Oil and gas extraction	-	-	-	-	-	-	-	-	0%
Meat and meat product manufacturing	104	89	68	41	11	4	4	- 100	-96%
Dairy product manufacturing	71	74	71	68	65	61	58	- 14	-19%
Other food manufacturing	322	363	407	455	497	535	573	251	78%
Beverage and tobacco product manufacturing	13	16	19	21	23	25	27	14	104%
Textile, leather, clothing and footwear manufacturing	79	68	61	60	58	59	62	- 16	-21%
Wood product manufacturing	1,145	1,154	1,179	1,147	1,104	1,054	1,006	- 139	-12%
Pulp, paper and converted paper product manufacturing	-	-	-	-	-	-	-	-	0%
Printing	47	52	57	62	68	72	76	29	61%
Petroleum and coal product manufacturing	-	-	-	-	-	-	-	-	0%
Chemical, polymer and rubber product manufacturing	264	269	275	269	261	252	244	- 20	-8%
Non-metallic mineral product manufacturing	100	147	183	216	244	266	286	186	186%
Primary metal and metal product manufacturing	-	-	-	-	-	-	-	-	0%
Fabricated metal product manufacturing	372	382	399	425	449	471	496	124	33%
Transport equipment manufacturing	338	371	369	400	431	462	496	158	47%
Machinery and equipment manufacturing	519	540	565	643	719	796	877	357	69%
Furniture and other manufacturing	88	70	63	69	73	77	81	- 8	-9%
Electricity generation and supply	21	22	21	20	19	17	16	- 6	-26%
Gas supply	-	-	-	-	-	-	-	-	0%
Water, sewerage, drainage and waste services	120	124	126	127	128	128	128	9	7%
Construction	2,795	3,170	3,352	3,357	3,328	3,309	3,294	499	18%
Wholesale trade	1,151	1,202	1,220	1,225	1,179	1,126	1,073	- 78	-7%
Retail Trade	3,270	3,580	3,742	3,876	3,918	3,889	3,837	567	17%
Accommodation and food services	3,841	4,063	4,235	4,361	4,447	4,502	4,559	719	19%
Road transport	998	1,048	1,056	1,028	988	940	891	- 107	-11%
Other transport, postal, courier, transport support and warehousing services.	707	704	699	692	679	662	665	- 42	-6%
Air and space transport	-	-	-	-	-	-	-	-	0%
Information media and telecommunications	206	174	149	141	134	127	118	- 88	-43%
Finance	187	212	214	227	242	249	250	62	33%
Insurance and superannuation funds	65	45	-	-	-	-	-	- 65	-100%
Auxiliary finance and insurance services	178	175	157	139	119	99	79	- 100	-56%
Rental, hiring and real estate services	779	816	826	840	848	853	861	82	11%
Owner Occupied Dwellings	-	-	-	-	-	-	-	-	0%
Professional, scientific, technical, administrative and support services	3,103	3,177	3,212	3,229	3,218	3,222	3,243	140	5%
Central government administration, defence and public safety	1,452	1,712	1,937	2,225	2,510	2,782	3,056	1,604	110%
Local government administration	569	601	631	685	732	774	818	249	44%
Education and training	3,381	3,704	4,039	4,281	4,490	4,674	4,866	1,485	44%
Health care and social assistance	4,113	4,579	5,113	5,679	6,079	6,453	6,671	2,558	62%
Arts and recreation services	1,263	1,298	1,312	1,331	1,341	1,395	1,460	196	16%
Personal and other services	1,584	1,766	1,929	2,130	2,315	2,486	2,662	1,079	68%
<b>Total District</b>	<b>36,009</b>	<b>38,649</b>	<b>40,561</b>	<b>42,291</b>	<b>43,445</b>	<b>44,452</b>	<b>45,325</b>	<b>9,316</b>	<b>26%</b>

Source: RLC (via Informetrics), M.E.

Table 12.2 – Share of 2020 District Employment by Urban Zones and Rural Environment

Economic Sector (48)	Rural Other	Urban Business	Urban Other	Total District	Sub-total Urban
Horticulture and fruit growing	79%	2%	19%	100%	21%
Sheep, beef cattle and grain farming	92%	2%	6%	100%	8%
Dairy cattle farming	94%	6%	0%	100%	6%
Poultry, deer and other livestock farming	96%	1%	3%	100%	4%
Forestry and logging	46%	22%	32%	100%	54%
Fishing and aquaculture	86%	0%	14%	100%	14%
Agriculture, forestry and fishing support services	33%	46%	21%	100%	67%
Mining, quarrying, exploration and other mining support services	0%	100%	0%	100%	100%
Oil and gas extraction	0%	0%	0%	0%	0%
Meat and meat product manufacturing	0%	99%	1%	100%	100%
Dairy product manufacturing	0%	100%	0%	100%	100%
Other food manufacturing	5%	86%	10%	100%	95%
Beverage and tobacco product manufacturing	61%	39%	0%	100%	39%
Textile, leather, clothing and footwear manufacturing	0%	63%	37%	100%	100%
Wood product manufacturing	20%	79%	0%	100%	80%
Pulp, paper and converted paper product manufacturing	0%	0%	0%	0%	0%
Printing	26%	63%	11%	100%	74%
Petroleum and coal product manufacturing	0%	0%	0%	0%	0%
Chemical, polymer and rubber product manufacturing	5%	95%	0%	100%	95%
Non-metallic mineral product manufacturing	0%	80%	20%	100%	100%
Primary metal and metal product manufacturing	0%	0%	100%	100%	100%
Fabricated metal product manufacturing	3%	91%	5%	100%	97%
Transport equipment manufacturing	0%	98%	2%	100%	100%
Machinery and equipment manufacturing	7%	77%	17%	100%	93%
Furniture and other manufacturing	5%	74%	21%	100%	95%
Electricity generation and supply	0%	100%	0%	100%	100%
Gas supply	0%	100%	0%	100%	100%
Water, sewerage, drainage and waste services	12%	82%	6%	100%	88%
Construction	14%	49%	37%	100%	86%
Wholesale trade	4%	91%	5%	100%	96%
Retail Trade	5%	88%	7%	100%	95%
Accommodation and food services	6%	79%	15%	100%	94%
Road transport	27%	65%	9%	100%	73%
Other transport, postal, courier, transport support and warehousing services.	3%	87%	10%	100%	97%
Air and space transport	39%	58%	4%	100%	61%
Information media and telecommunications	6%	74%	20%	100%	94%
Finance	6%	91%	3%	100%	94%
Insurance and superannuation funds	0%	100%	0%	100%	100%
Auxiliary finance and insurance services	3%	78%	19%	100%	97%
Rental, hiring and real estate services	15%	63%	22%	100%	85%
Owner Occupied Dwellings	0%	0%	0%	0%	0%
Professional, scientific, technical, administrative and support services	10%	66%	23%	100%	90%
Central government administration, defence and public safety	1%	95%	4%	100%	99%
Local government administration	0%	100%	0%	100%	100%
Education and training	10%	42%	47%	100%	90%
Health care and social assistance	3%	70%	27%	100%	97%
Arts and recreation services	19%	59%	22%	100%	81%
Personal and other services	6%	68%	26%	100%	94%
<b>Total District</b>	<b>13%</b>	<b>68%</b>	<b>19%</b>	<b>100%</b>	<b>87%</b>

Source: M.E, Statistics NZ.

## 12.1.2 Urban Business Zones

The business enabled zones that fall within the urban environment (as defined for this HBA report) are as follows:

- Operative – City Centre 1 – Mid City

- Operative – City Centre 2 – Southern Edge
- Operative – City Centre 3 – Northern Edge
- Operative – Commercial 1 – Ngongotahā Centre
- Operative – Commercial 2 – Suburban Centres
- Operative – Commercial 3 – Neighbourhood Centres
- Operative – Commercial 4 – City Entranceway Accommodation<sup>45</sup>
- Operative – Commercial 5 – City Entranceway Tourism
- Operative – Commercial 6 – Southern Edge
- Operative – Industrial 1E – City Entranceway Mixed Use
- Operative – Industrial 1 – Light Industrial (those within the urban environment)
- Operative – Industrial 2 - Heavy Industrial (those within the urban environment)
- Operative – Reserve 2 – Destination Reserve Reserve\*
- Operative – Reserve 3 – Community Asset Reserve (those within the urban environment)\*
- Operative – Future Reserve 3 – Future Community Asset Reserve\*\*
- Operative – Business & Innovation 1 - Scion\*
- Operative – Business & Innovation 2 - Waipa\*
- Operative - Business & Innovation 3 – Eastgate Business Park
- Transitional – Residential 1 to Light Industrial \*\*
- Operative – Pukehangi Plan Change Commercial Precincts (Structure Plan only not zone)

\* Assumed to have no vacant capacity in the short and long term.

\*\* Assumed to have 100% vacant capacity in the long term only.

### 12.1.3 Urban Business Zone Employment Projections

The SA1s selected to cover the extent of urban business zones (short term) is shown in Figure 12.1 in blue. The combined area of these operative business enable zones within the defined urban environment are shown as the stippled areas. The green areas are the SA1s not included in the analysis.

For the most part, the SA1s include the business zone and an area of other urban zones – usually residential land use, but in some cases, rural land use as is the case in the south. To the extent that those dwellings/rural areas captured in the SA1 also have businesses registered to them, then the employment of those businesses is included in the analysis and contributes towards the share of employment indicatively seeking a business zone location. Similarly, there may be commercial buildings in the SA1 that are outside the business zone area (i.e., may have established in the residential zone), and their

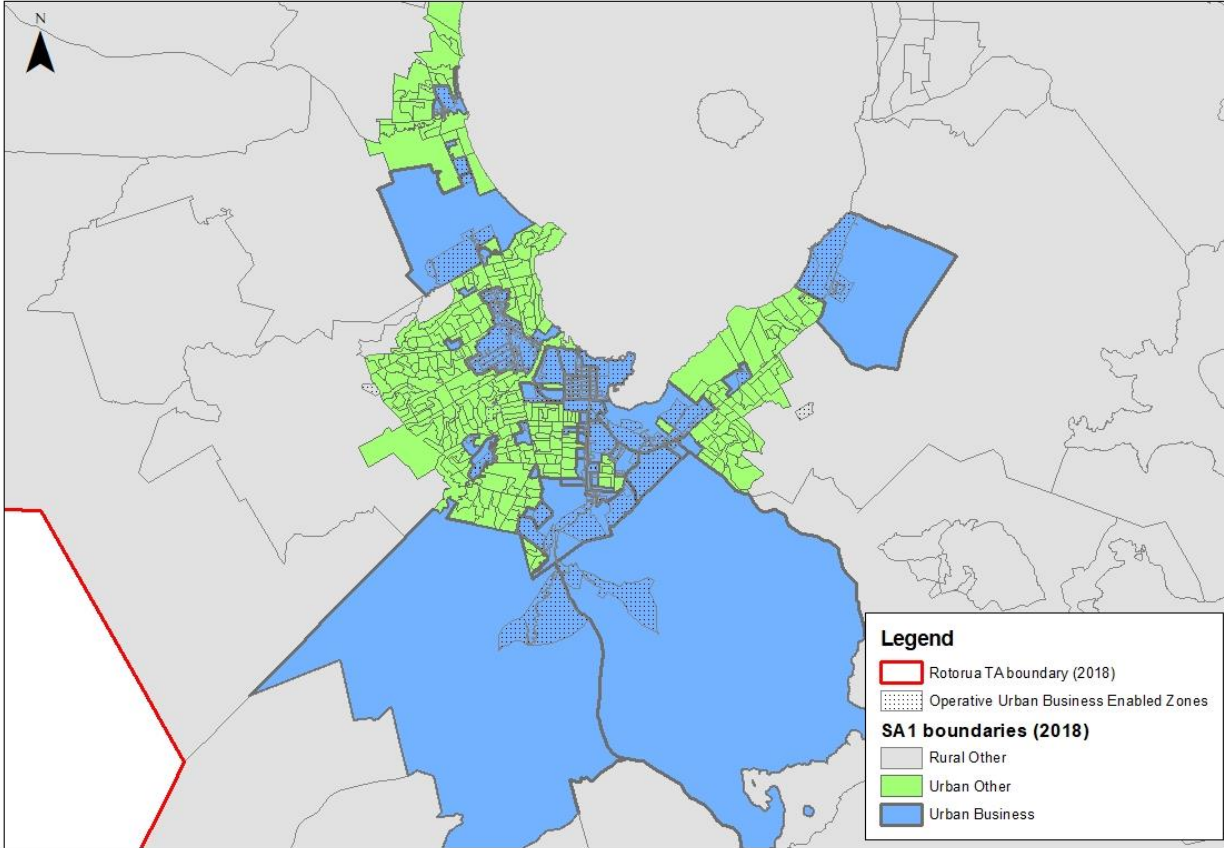
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<sup>45</sup> For the zone area that extends the length of Fenton Street and into Hemo Road, the Council has indicated that the zone may change in the long term to a more mixed use zone with slightly different development rules and standards.



employment also contributes towards the share of employment being modelled. These two factors may slightly overstate the share of employment located in urban business zones.

Figure 12.1 – SA1 Extent That Provides Coverage of Short Term Business Zones



Conversely, in SA1s where the activity (estimated employment) in the business zone was very minor relative to the number of dwellings, it was excluded from the model to avoid potentially including too many home-based businesses. This mainly applied to some very small neighbourhood centres in suburban areas or some schools. This approach may under state business zone employment in some sectors.

Table 12.3 – Estimated Employment Growth in Urban Business Zones by 48 Sectors (2020-2050)

Economic Sector (48)	Jobs (n)				Jobs Growth (n)			Jobs Growth (%)		
	2020	2023	2030	2050	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050
Horticulture and fruit growing	1	1	1	1	0	0	0	-4%	1%	17%
Sheep, beef cattle and grain farming	7	6	6	5	0	1	2	-2%	-11%	-24%
Dairy cattle farming	54	53	50	43	1	4	11	-2%	-8%	-21%
Poultry, deer and other livestock farming	2	2	2	2	0	0	0	9%	13%	17%
Forestry and logging	-	-	-	-	-	-	-	0%	0%	0%
Fishing and aquaculture	-	-	-	-	-	-	-	0%	0%	0%
Agriculture, forestry and fishing support services	420	463	495	451	44	76	31	10%	18%	7%
Mining, quarrying, exploration and other mining support services	30	30	21	8	0	9	21	0%	-30%	-73%
Oil and gas extraction	-	-	-	-	-	-	-	0%	0%	0%
Meat and meat product manufacturing	103	95	67	4	8	36	98	-7%	-35%	-96%
Dairy product manufacturing	71	74	71	58	3	1	14	4%	-1%	-19%
Other food manufacturing	276	294	349	491	18	73	215	7%	26%	78%
Beverage and tobacco product manufacturing	5	6	7	10	1	2	5	12%	42%	104%
Textile, leather, clothing and footwear manufacturing	49	45	38	39	4	11	10	-9%	-22%	-21%
Wood product manufacturing	909	914	936	798	5	27	111	1%	3%	-12%
Pulp, paper and converted paper product manufacturing	-	-	-	-	-	-	-	0%	0%	0%
Printing	30	31	36	48	2	6	18	5%	20%	61%
Petroleum and coal product manufacturing	-	-	-	-	-	-	-	0%	0%	0%
Chemical, polymer and rubber product manufacturing	251	254	261	232	3	10	19	1%	4%	-8%
Non-metallic mineral product manufacturing	80	103	146	227	23	66	148	29%	83%	186%
Primary metal and metal product manufacturing	-	-	-	-	-	-	-	0%	0%	0%
Fabricated metal product manufacturing	339	343	364	452	4	25	113	1%	7%	33%
Transport equipment manufacturing	331	356	361	486	25	30	155	8%	9%	47%
Machinery and equipment manufacturing	398	406	433	672	8	35	274	2%	9%	69%
Furniture and other manufacturing	66	57	47	60	8	19	6	-13%	-29%	-9%
Electricity generation and supply	21	22	21	16	1	0	6	6%	0%	-26%
Gas supply	-	-	-	-	-	-	-	0%	0%	0%
Water, sewerage, drainage and waste services	98	101	104	105	3	5	7	3%	5%	7%
Construction	1,362	1,479	1,633	1,605	117	271	243	9%	20%	18%
Wholesale trade	1,049	1,084	1,112	978	35	63	71	3%	6%	-7%
Retail Trade	2,880	3,062	3,295	3,379	182	416	499	6%	14%	17%
Accommodation and food services	3,022	3,127	3,332	3,588	105	310	565	3%	10%	19%
Road transport	644	669	681	575	25	37	69	4%	6%	-11%
Other transport, postal, courier, transport support and warehousing s	614	613	608	578	2	7	36	0%	-1%	-6%
Air and space transport	-	-	-	-	-	-	-	0%	0%	0%
Information media and telecommunications	153	137	110	87	16	42	65	-10%	-28%	-43%
Finance	170	185	194	227	15	24	57	9%	14%	33%
Insurance and superannuation funds	65	54	-	-	11	65	65	-17%	-100%	-100%
Auxiliary finance and insurance services	140	140	123	62	1	17	78	0%	-12%	-56%
Rental, hiring and real estate services	491	508	521	543	16	30	52	3%	6%	11%
Owner Occupied Dwellings	-	-	-	-	-	-	-	0%	0%	0%
Professional, scientific, technical, administrative and support service	2,052	2,088	2,124	2,144	37	72	93	2%	4%	5%
Central government administration, defence and public safety	1,385	1,534	1,848	2,916	148	463	1,530	11%	33%	110%
Local government administration	569	588	631	818	19	62	249	3%	11%	44%
Education and training	1,435	1,519	1,715	2,065	83	280	630	6%	19%	44%
Health care and social assistance	2,874	3,056	3,572	4,661	182	699	1,787	6%	24%	62%
Arts and recreation services	740	753	768	855	13	29	115	2%	4%	16%
Personal and other services	1,074	1,149	1,308	1,805	75	234	731	7%	22%	68%
<b>Total Estimated Urban Business Zones</b>	<b>24,258</b>	<b>25,402</b>	<b>27,391</b>	<b>31,095</b>	<b>1,144</b>	<b>3,133</b>	<b>6,837</b>	<b>5%</b>	<b>13%</b>	<b>28%</b>

Source: Informetrics, M.E, Statistics NZ.

## 12.2 Likely Future Demand for Urban Business Zone Land





Table 12.4 – Indicative Allocation of Rotorua Urban Business Zone Employment to Building Typology/Land Use

Economic Sector (48)	Office-Commercial	Office-Retail	Shops-Commercial	Shops-Food and Beverage	Accommodation	Warehouse	Factory	Yard-Commercial	Yard-Industrial	Other Built-Commercial	Other Built-Industrial	Education	Outdoor-Commercial	Outdoor-Industrial	Outdoor-Rural*	Total
Horticulture and fruit growing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	90%	100%
Sheep, beef cattle and grain farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	100%
Dairy cattle farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	90%	100%
Poultry, deer and other livestock farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	90%	100%
Forestry and logging	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fishing and aquaculture	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	50%	0%	0%	0%	49%	100%
Agriculture, forestry and fishing support services	20%	0%	0%	0%	0%	20%	20%	0%	0%	0%	0%	0%	40%	0%	0%	100%
Mining, quarrying, exploration and other mining support	0%	0%	0%	0%	0%	0%	10%	0%	20%	0%	0%	0%	70%	0%	0%	100%
Oil and gas extraction	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Meat and meat product manufacturing	2%	0%	0%	0%	0%	23%	75%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Dairy product manufacturing	2%	0%	0%	0%	0%	11%	88%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Other food manufacturing	2%	0%	0%	0%	0%	22%	75%	0%	1%	0%	0%	0%	0%	0%	0%	100%
Beverage and tobacco product manufacturing	2%	0%	0%	0%	0%	23%	75%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Textile, leather, clothing and footwear manufacturing	2%	0%	0%	0%	0%	13%	85%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Wood product manufacturing	2%	0%	0%	0%	0%	11%	60%	0%	28%	0%	0%	0%	0%	0%	0%	100%
Pulp, paper and converted paper product manufacturing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Printing	2%	0%	0%	0%	0%	21%	78%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Petroleum and coal product manufacturing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chemical, polymer and rubber product manufacturing	2%	0%	0%	0%	0%	27%	70%	0%	1%	0%	0%	0%	0%	0%	0%	100%
Non-metallic mineral product manufacturing	2%	0%	0%	0%	0%	11%	50%	0%	38%	0%	0%	0%	0%	0%	0%	100%
Primary metal and metal product manufacturing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fabricated metal product manufacturing	2%	0%	0%	0%	0%	38%	40%	0%	20%	0%	0%	0%	0%	0%	0%	100%
Transport equipment manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%	100%
Machinery and equipment manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%	100%
Furniture and other manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%	100%
Electricity generation and supply	10%	0%	0%	0%	0%	15%	0%	0%	20%	0%	55%	0%	0%	0%	0%	100%
Gas supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Water, sewerage, drainage and waste services	2%	0%	0%	0%	0%	15%	0%	0%	27%	0%	56%	0%	0%	0%	0%	100%
Construction	4%	0%	0%	0%	0%	23%	5%	0%	13%	30%	25%	0%	0%	0%	0%	100%
Wholesale trade	5%	0%	0%	0%	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Retail Trade	0%	0%	97%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	100%
Accommodation and food services	0%	0%	0%	54%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Road transport	3%	0%	0%	0%	0%	10%	10%	0%	78%	0%	0%	0%	0%	0%	0%	100%
Other transport, postal, courier, transport support and warehousing	4%	0%	0%	0%	0%	22%	10%	0%	29%	0%	35%	0%	0%	0%	0%	100%
Air and space transport	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Information media and telecommunications	65%	0%	0%	0%	0%	29%	6%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Finance	98%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	100%
Insurance and superannuation funds	98%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	100%
Auxiliary finance and insurance services	98%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	100%
Rental, hiring and real estate services	54%	18%	2%	0%	0%	15%	0%	5%	6%	0%	0%	0%	0%	0%	2%	100%
Owner Occupied Dwellings	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Professional, scientific, technical, administrative and support activities	76%	0%	10%	0%	0%	12%	0%	0%	2%	1%	0%	0%	0%	0%	0%	100%
Central government administration, defence and public administration	19%	0%	0%	0%	0%	8%	0%	0%	8%	58%	0%	0%	8%	0%	0%	100%
Local government administration	50%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	100%
Education and training	39%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	59%	0%	0%	0%	100%
Health care and social assistance	32%	2%	30%	0%	0%	0%	0%	0%	0%	36%	0%	0%	0%	0%	0%	100%
Arts and recreation services	22%	0%	2%	0%	0%	5%	5%	0%	0%	65%	0%	0%	0%	0%	0%	100%
Personal and other services	14%	0%	39%	0%	0%	14%	10%	0%	0%	23%	0%	0%	0%	0%	0%	100%

Source: M.E., based on national averages at 6 digit ANZSIC level and aggregated to 48 sector level using weighted average approach (RLC 6 digit employment, 2020)

\* This typology is very small in employment terms in the modelling and in various tables/graphs will be incorporated with Outdoor - Industrial.

Table 12.5 is based on national level research carried by M.E, as part of the same study (see Table 12.4 above) that allocated employment in each industry to land use/building typologies. Diversity of space and land needs on a business by business basis result in wide variations between the maximums and minimums in this table. For the most part averages have been used for the modelling (refer 'in use' column). These ratios suggest, for example, that an estimated 20sqm of commercial office building floorspace (measured in GFA) is required for every worker, or conversely, an estimated 30sqm of land (developable not gross). For every worker in the accommodation sector, an estimated 100sqm of GFA is required and an estimated 200sqm of land is needed. The ratios are assumed to apply equally over the whole district, including in urban business zones, and are assumed to hold constant over time.

Table 12.5 – Employment to Building / Land Use GFA and Land Conversions

	Floorspace per Person Employed (sqm)			Land per Person Employed (sqm)		
	Min	Max	In Use	Min	Max	In Use
Office---Commercial	13	100	20	13	100	30
Office---Retail	20	100	27	20	100	45
Shops---Commercial	10	100	27	10	100	50
Shops---Food and Beverage	15	100	47	15	200	85
Accommodation	15	200	100	15	400	200
Ware house	100	200	167	100	600	350
Factory	80	200	138	80	500	265
Yard---Commercial	50	150	85	100	350	190
Yard---Industrial	50	150	100	100	350	265
Other Built---Commercial	20	120	60	20	500	120
Other Built---Industrial	20	120	60	20	500	120
Education	30	100	60	50	500	167
Outdoor---Commercial	10	100	20	10	1000	50
Outdoor---Industrial	10	100	20	10	1000	50

Source: M.E (based on data developed/analysed for Auckland)  
 Persons employed based on modified employee count (MEC) 2016, M.E.

## 12.3 Likely Future Demand for Urban Business Zone Floorspace

### 12.3.1 Results by Building/Land Use Type and Category

The following tables and graph show the results of projected future demand for urban business zones by building/land use typology and category in terms of floorspace (sqm GFA). These should be viewed in conjunction with the land area demand results in the Main Report.

Table 12.6 - Projected Floorspace Demand in Urban Business Zones by Land Use Typology 2020-2050

Category	Land Use / Building Type	Gross Floor Area Demand (sqm)					
		Cumulative			Cumulative with Competitiveness Margin		
		2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050
		Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term
Retail	Shops-Commercial	7,200	19,300	35,700	8,600	23,100	42,000
	Shops-Food and Beverage	2,700	7,800	14,300	3,200	9,300	16,800
Commercial	Office-Commercial	3,800	10,200	27,100	4,600	12,300	31,700
	Office-Retail	200	500	1,100	200	600	1,300
	Yard-Commercial	600	1,200	1,500	700	1,400	1,700
	Other Built-Commercial	13,400	42,300	118,400	16,100	50,800	138,300
	Education	3,000	9,900	22,400	3,600	11,900	26,300
	Outdoor-Commercial	600	1,200	2,300	700	1,400	2,700
Accommodation	Accommodation	4,900	14,300	26,200	5,900	17,200	30,900
Industrial	Warehouse	17,800	41,000	53,200	21,400	49,200	63,200
	Factory	9,500	24,400	68,200	11,400	29,300	79,700
	Yard-Industrial	6,400	14,800	22,300	7,700	17,800	26,400
	Other Built-Industrial	1,900	4,100	2,900	2,300	4,900	3,500
	Outdoor-Industrial	-	-	100	-	-	100
<b>Total Urban Business Zone Demand Growth (sqm)</b>		<b>72,000</b>	<b>190,900</b>	<b>395,300</b>	<b>86,400</b>	<b>229,100</b>	<b>464,200</b>

Source: M.E Rotorua Urban Business Land Demand Model (HBA 2021). GFA rounded to nearest hundred.

Projected demand within business enabled zones in defined urban environment only (as defined by SA1 2018)



Figure 12.2 - Projected Floorspace Demand in Urban Business Zones by Land Use Typology (Excl. Margin)

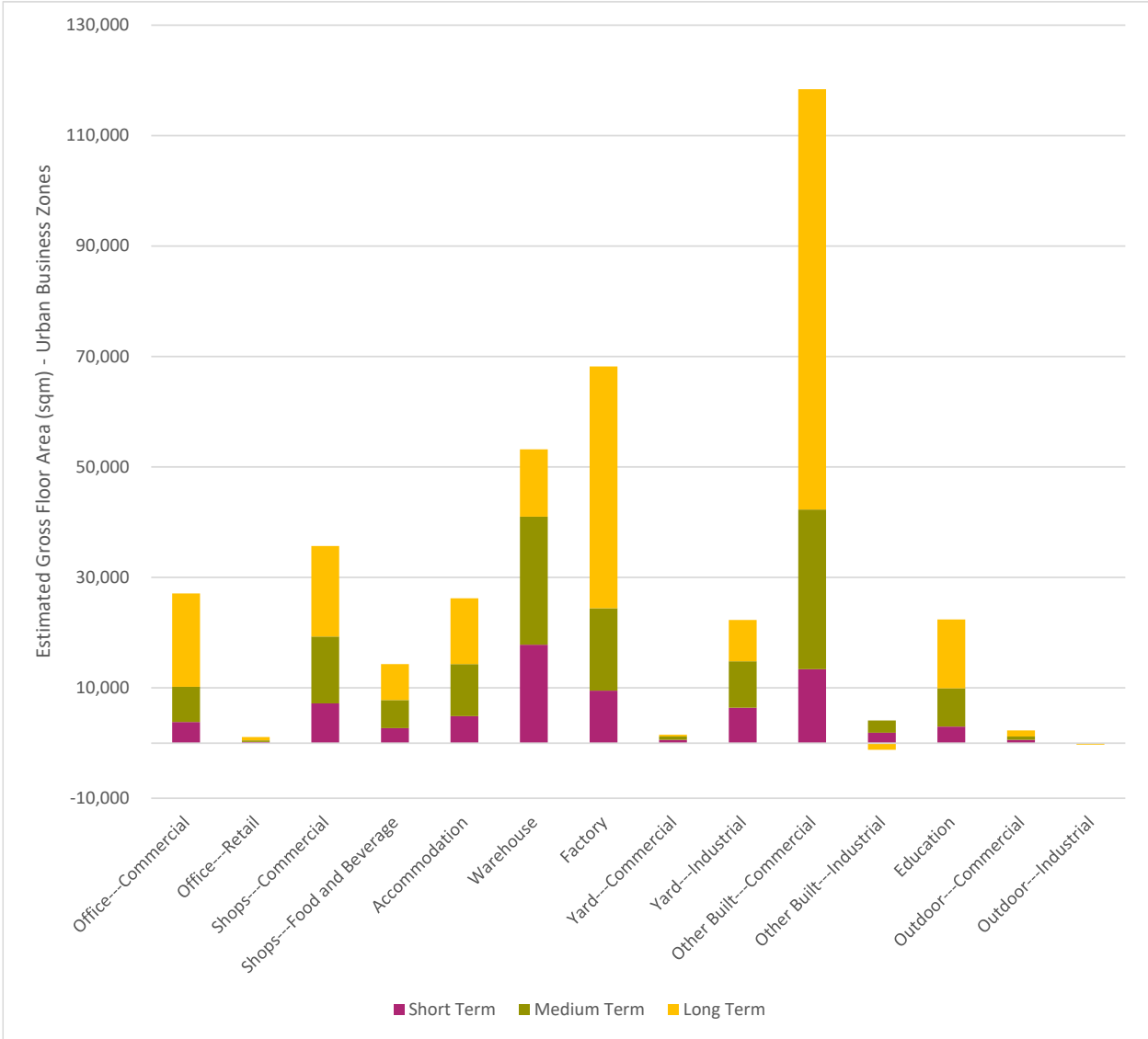


Table 12.7 - Projected Land Demand in Urban Business Zones by Land Use Category 2020-2050

Category	Gross Floor Area Demand (sqm)					
	Cumulative			Cumulative with Competitiveness Margin		
	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050
	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term
Retail	9,900	27,100	50,000	11,800	32,400	58,800
Commercial	21,600	65,300	172,800	25,900	78,400	202,000
Accommodation	4,900	14,300	26,200	5,900	17,200	30,900
Industrial	35,600	84,200	146,300	42,800	101,100	172,500
<b>Total</b>	<b>72,000</b>	<b>190,900</b>	<b>395,300</b>	<b>86,400</b>	<b>229,100</b>	<b>464,200</b>

Source: M.E Rotorua Urban Business Land Demand Model (HBA 2021). GFA rounded to nearest hundred.

Projected demand within business enabled zones in defined urban environment only (as defined by SA1 2018)

Figure 12.3 - Projected Land Demand in Urban Business Zones by Land Use Category (Excl. Margin)

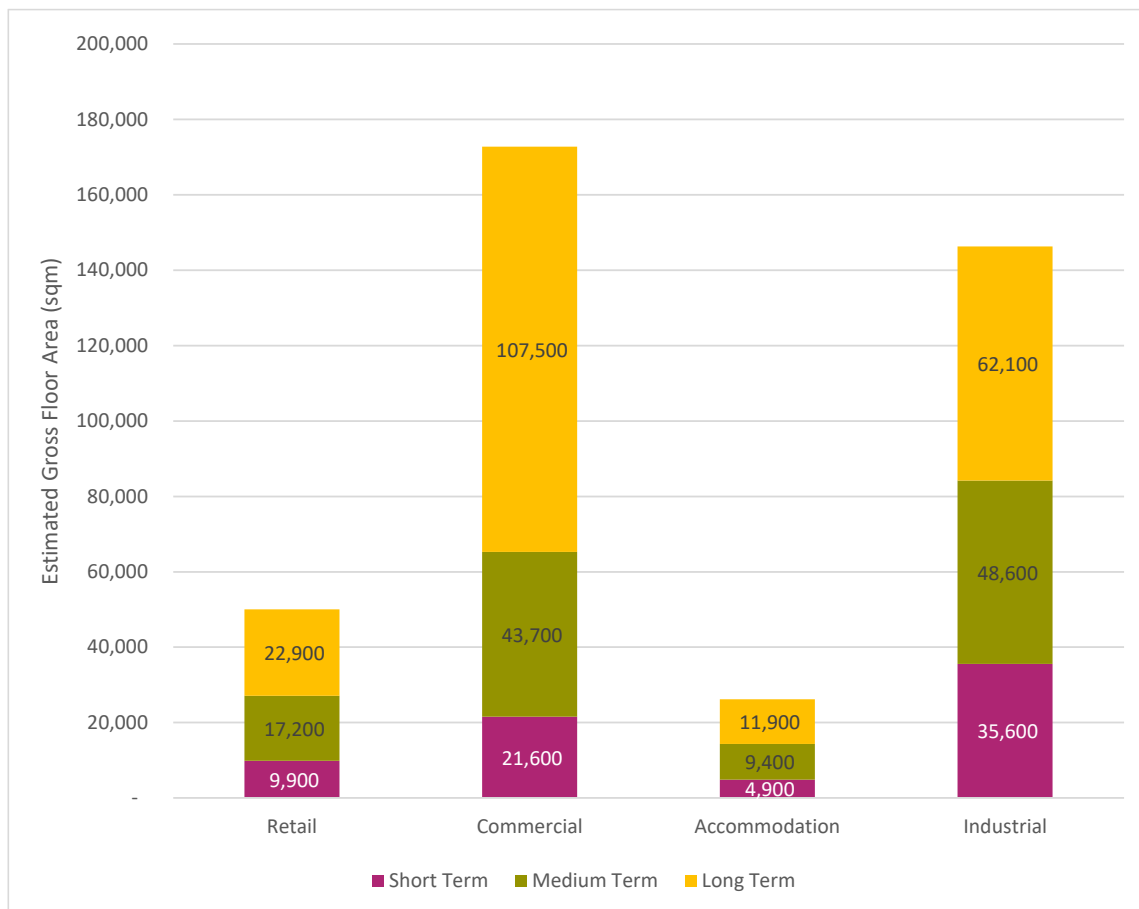
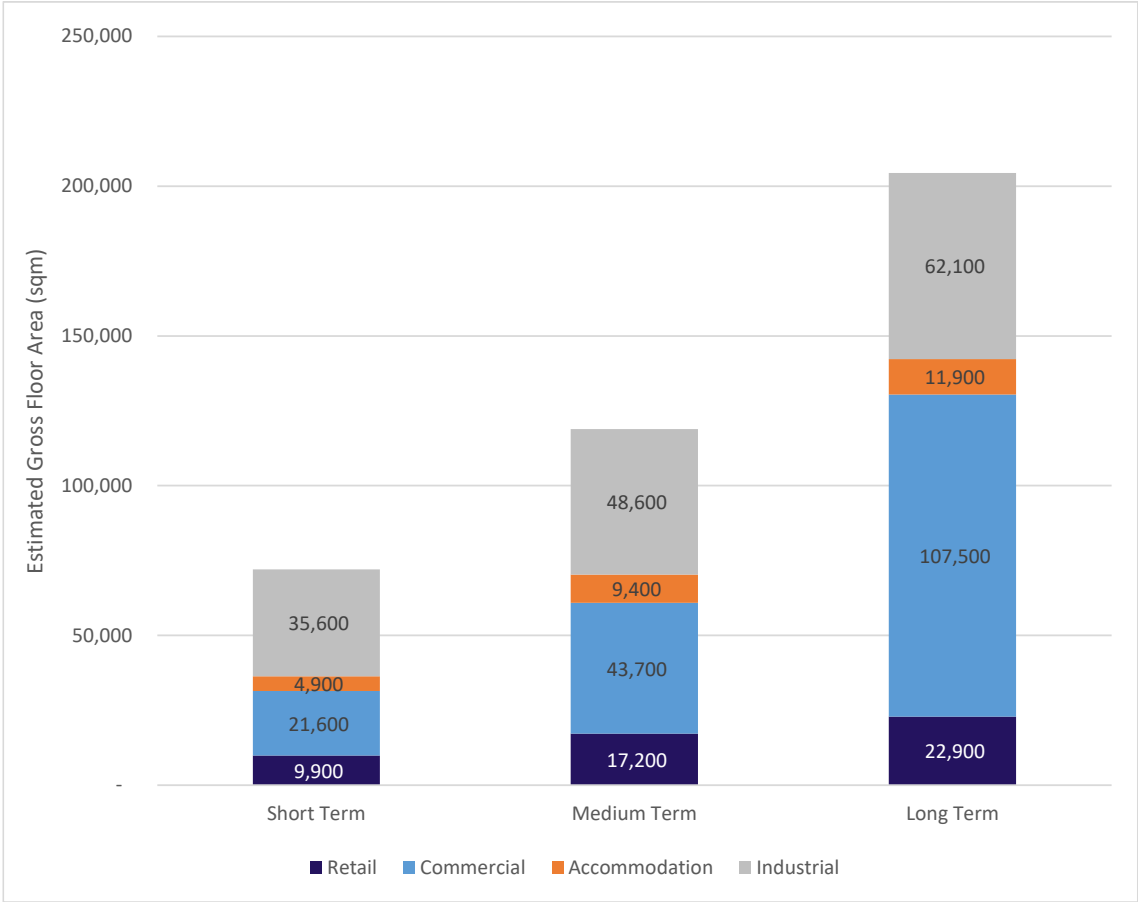




Figure 12.4 - Projected Floorspace Demand in Urban Business Zones by Time Period (Excl. Margin)





# 13 Business Capacity

This section complements the Business Capacity section in the Main Report. It sets out some of the key assumptions underpinning the capacity assessment including what defines a vacant land parcel, how potential floorspace on vacant parcels is estimated, how District Plan activities in business zones translate to HBA building typologies and land use categories, and the allocations assumptions of the Alternative Capacity Scenario. This section also includes some additional capacity result summary tables excluded from the Main Report (for brevity), including the floorspace capacity results by zone and reporting area and land use category.

## 13.1 Vacant Land Identified

### 13.1.1 Assumptions

It is important that the approach of classifying sites as vacant and not vacant is consistently applied (including for future monitoring). Key assumptions applied in the ground truthing process were:

- If the site contained an operational yard, this was not considered vacant (and is a legitimate and important industrial land use).
- If the site contained a formed (sealed) car park, and was being used, this was not considered vacant.
- If the site contained an unformed car park, this was considered vacant on the premise that the use of the site for vehicle parking was likely to be a temporary and opportunistic use in agreement with the owner.
- If the site contained an allotment of vacant land and this was clearly delineated (i.e. by a fence) from the actively used/developed portion of the site, then it was considered vacant, and the vacant share of the total land parcel was estimated and applied.
- Even if the building had a building consent issued and construction had not started, the site was considered vacant, but noted for the purpose of analysis.
- If the site contained a building under construction, it was still considered vacant, but noted for the purpose of analysis. The reason for this is that until the building is complete and occupied by one or more businesses, it has not absorbed any employment growth (demand). The same applies for a recently completed building being advertised for tenants. Only once occupied is a site considered not vacant.
- While redevelopment capacity is not captured in the HBA, in limited cases, a site was included as vacant if it has considerable or imminent redevelopment potential. This applied only to the Transitional (Residential to Light Industrial) Zone. While currently occupied by dwellings, it was assumed that in the long term – when industrial development was considered enabled – removal of the dwellings would be part of any industrial development on site.

- Given the unique nature of the Destination Reserve Zone, Community Asset Reserve Zone, Scion Business Park and Waipa Business Park, this HBA assumes that no vacant sites exist in these zones.
- While there are some greenfield business areas zoned (short term) or identified (long term) that have not yet been defined by cadastral boundaries, these zones have been defined with indicative boundaries, or their vacant area has been identified through other existing documentation. This includes the Future Eastgate Business Park, two potential future neighbourhood centres (large and small) in the Upper Eastside, and the commercial precincts in the Pukehangi Plan Change area.

### 13.1.2 Vacant Land by Zone and Location

Table 13.1 – Developable Vacant Land Area by Status – Short-Long Term by Reporting Area

Reporting Area	Developable Land Area Demand (Ha)											
	Vacant Unconsented			Vacant & Consented** Not Under Construction			Vacant & Under Construction			Total Vacant *		
	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050
	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term
Central	2.9	2.9	2.9	-	-	-	5.3	5.3	5.3	8.2	8.2	8.2
Eastern	20.8	20.8	58.6	1.6	1.6	1.6	0.2	0.2	0.2	22.6	22.6	60.4
Western	22.4	22.4	28.6	0.1	0.1	0.1	1.2	1.2	1.2	23.7	23.7	29.9
Ngongotahā	0.1	0.1	8.7	-	-	-	0.1	0.1	0.1	0.3	0.3	8.8
<b>Total</b>	<b>46.3</b>	<b>46.3</b>	<b>98.8</b>	<b>1.7</b>	<b>1.7</b>	<b>1.7</b>	<b>6.8</b>	<b>6.8</b>	<b>6.8</b>	<b>54.8</b>	<b>54.8</b>	<b>107.3</b>

Source: M.E Business Capacity Model 2021. \* Vacant includes sites under construction on the basis that they do not absorb employment demand until occupied. \*\* Active Consent

## 13.2 Estimating Plan Enabled Building GFA

The following assumptions and exceptions were applied in the business capacity modelling to estimate the maximum building envelope available for business activities in each zone. Where these assumptions and exceptions do not apply, the building height and site coverages specified in the District Plan simply apply:

- In some zones, the plan does not specify a site coverage. As the modelling is dependent on a site coverage input, and assuming 100% site coverage is not practical, M.E carried out an analysis of current site coverage using building footprints relative to parcel and total zone area. The averages of these zones were applied for the model.
- In City Centre 1 Zone (Mid City), slightly different development rules applied for sites fronting Tutanekai Street. M.E identified rating properties that fronted Tutanekai Street to create a sub-zone area (with the Rest of Mid City also forming a sub-zone). Note, this and subsequent sub-zones discussed below are mapped in Figure 13.1 for the short and long term.
- In the City Centre 2 Zone (Southern City), the district plan identifies Precincts A and B and a rest of zone area. These sub-zones were also incorporated in the model.
- In the City Centre 3 Zone (Northern Edge) the district plan identifies Precincts 1 and 2 and a rest of zone area. These sub-zones were incorporated in the model, but as the current parcel boundaries do not allow Precinct 1 and 2 to be accurately distinguished, they have had to be amalgamated the development rules for the larger Precinct 2 adopted for the model.



- In the Light Industrial Zone and City Entranceway Mixed Use Zone, there are different planning provisions for sites adjoining a Residential Zone. This sub-zone is not defined in the Plan, and so M.E has selected parcels that immediately adjoin a residential zone, or directly face a residential zone over the road or waterway (as advised by Council). In addition, the Light Industrial Zone has different rules for sites adjoining the Transitional Zone. This sub-zone applies only in the short term (while the zone remains in residential use), but in the long term, the Transitional Zone is treated as the Light Industrial Zone and the rules around adjoining a residential zone then apply. These sub-zones are mapped in the Technical Report.
- As part of the data collection for Reasonable Expected to be Realised housing capacity (Section 8), the Council estimated the likely storeys of development in mixed use zones (i.e., those where business and housing is enabled). This approach was extended to Business Only classified zones. These ‘likely storeys’ are less than the number of storeys implied by plan enabled building heights. M.E has taken a conservative approach and applied this ‘expected’ storeys to the business modelling of maximum building envelope. This is a slight departure from the NPS-UD guidance, but one that reflects the situation in Rotorua where building heights are rarely maximised.

### 13.2.1 Vacant Land GFA by Zone and Location

Table 13.2 – Maximum Building Envelope on Vacant Land Area by Reporting Area – Short-Long Term

Reporting Area	Maximum Building Envelope on Developable Vacant Land		
	2020-2023	2020-2030	2020-2050
	Short Term	Medium Term	Long Term
Central	92,800	92,800	94,600
Eastern	213,100	213,100	867,400
Western	126,800	126,800	155,200
Ngongotahā	1,600	1,600	48,800
<b>Total</b>	<b>434,400</b>	<b>434,400</b>	<b>1,166,000</b>

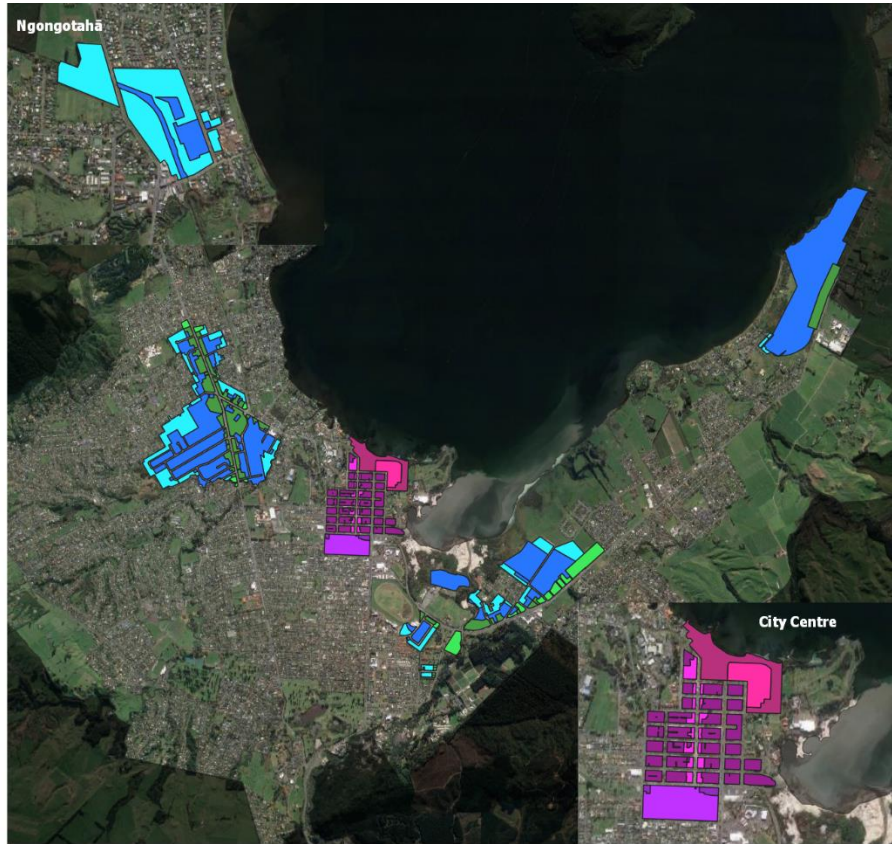
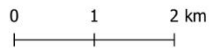
Source: M.E Business Capacity Model 2021.

Figure 13.1 – Map of Business Zone Sub-Zones – Short and Long Term Zoning

**Sub-Zones - Short Term**

**Legend**

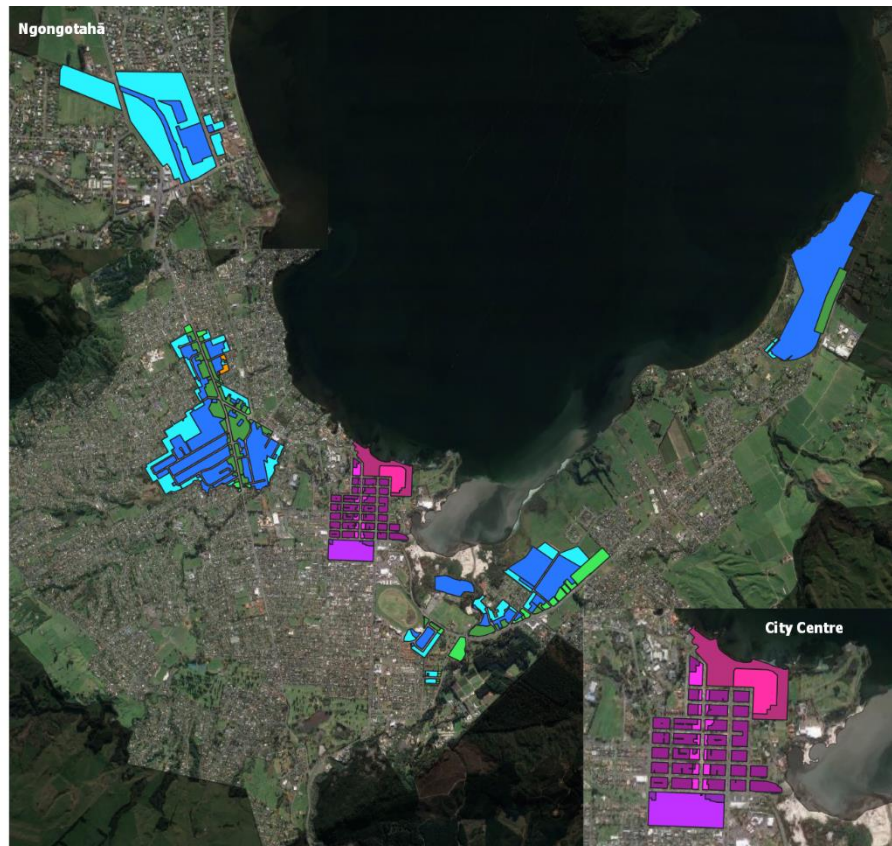
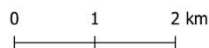
- Sub-Zones - Short Term
- CC1 Tutanekai Street Frontage
  - CC1 Rest of zone
  - CC2 Precinct A and B
  - CC2 Rest of zone
  - CC3 Precinct 1 and 2
  - CC3 Rest of zone
  - ID1 Adjoining Residential Zone
  - ID1 Adjoining Transition Zone
  - ID1 Rest of Zone
  - ID1E Adjoining Residential Zone
  - ID1E Rest of Zone



**Sub-Zones - Long Term**

**Legend**

- Sub-Zones - Long Term
- CC1 Tutanekai Street Frontage
  - CC1 Rest of zone
  - CC2 Precinct A and B
  - CC2 Rest of zone
  - CC3 Precinct 1 and 2
  - CC3 Rest of zone
  - ID1 Adjoining Residential Zone
  - ID1 Rest of Zone
  - ID1E Adjoining Residential Zone
  - ID1E Rest of Zone
  - T Adjoining Residential Zone



## 13.3 Allocating Vacant Land/GFA to Land Use/Building Typologies

Table 13.3 – Concordance Between District Plan Activities (RLC) and Building/Lane Use Typologies

District Plan Activities	Building / Land Use Typology	Building / Land Use Category
Bed and Breakfast	Accommodation	Accommodation
Tourist Accommodation, Incl Resort Spas	Accommodation	Accommodation
Education Activities / Training	Education	Commercial
Offices	Office-Commercial	Commercial
Day Care/child care Facilities	Office-Commercial	Commercial
Commercial Services (incl travel and real estate agents)	Office-Retail	Commercial
Car Rental Agency	Office-Retail	Commercial
Day Spas / Medical Spas	Other Built-Commercial	Commercial
Convention Centre	Other Built-Commercial	Commercial
Outdoor Commercial Recreation	Other Built-Commercial	Commercial
Indoor Commercial Recreation	Other Built-Commercial	Commercial
Racecourse, Golf Course	Other Built-Commercial	Commercial
Commercial Recreation Assoc. with a Geothermal Resource	Other Built-Commercial	Commercial
Cinemas/Theatres	Other Built-Commercial	Commercial
Medical Centres / Health Services	Other Built-Commercial	Commercial
Community Facilities	Other Built-Commercial	Commercial
Funeral Homes	Other Built-Commercial	Commercial
Car Park Building	Other Built-Commercial	Commercial
Fire Training Facilities	Other Built-Commercial	Commercial
Veterinary Hospitals	Other Built-Commercial	Commercial
Motor Sports and Firearm Sports	Other Built-Commercial	Commercial
Ancillary Retail	<i>Excluded</i>	<i>Excluded</i>
Ancillary Offices	<i>Excluded</i>	<i>Excluded</i>
Rural industry and forestry on the area bounded by State Highway	Outdoor-Rural	<i>Excluded</i>
Agricultural Production Activities	Outdoor-Rural	<i>Excluded</i>
Industrial or trade process	Factory	Industrial
Sawmilling	Factory	Industrial
Dairy Manufacturing and Assoc. Activities	Factory	Industrial
Biomass Processing	Factory	Industrial
Pulp Mills	Factory	Industrial
Recycling Facility	Other Built-Industrial	Industrial
Utilities	Other Built-Industrial	Industrial
Offensive Trades	Other Built-Industrial	Industrial
Prospecting and Exploration	Outdoor-Industrial	Industrial
Motor Repair Workshops/Repair Garages	Ware house	Industrial
Wholesale and retail of bulk goods, vehicles, vessels, heavy machinery, building, trade or farming supplies or motor vehicle parts, Incl Warehouses	Ware house	Industrial
Carriers and Couriers incl transport operators/Vehicle transport	Ware house	Industrial
Commercial Storage Facility	Ware house	Industrial
Truck Stop	Yard-Industrial	Industrial
Wood or timber storage on Lot 1 DPS 70760 (Owhatiura South)	Yard-Industrial	Industrial
Community Housing (see above ground floor rule)	Residential (excluding ancillary)	Residential
Rest Homes/Retirement Homes	Residential (excluding ancillary)	Residential
Household Units (See above ground floor rule)	Residential (excluding ancillary)	Residential
Conversion of Tourist Accommodation To Residential	Residential (excluding ancillary)	Residential
Retail Shops	Shop-Commercial	Retail
Supermarkets	Shop-Commercial	Retail
Convenience Retail	Shop-Commercial	Retail
Trade Retail	Shop-Commercial	Retail
Garden Centres	Shop-Commercial	Retail
Service Stations	Shop-Commercial	Retail
Outdoor Recreation Outlet Store	Shop-Commercial	Retail
Restaurants and Cafes	Shop-Food and Beverage	Retail
Takeaway food facilities / Lunch Bar	Shop-Food and Beverage	Retail
Drive Through Restaurants	Shop-Food and Beverage	Retail
Bars/Taverns	Shop-Food and Beverage	Retail

Source: RLC District Plan, M.E.

## 13.4 Results - Maximum Capacity Scenario

### 13.4.1 Vacant Land Capacity by Land Use Category

Table 13.4 – Short & Medium Term Business Land Capacity by Category & Reporting Area (ha) – Maximum Capacity Scenario

Reporting Area	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommodation
Central	6.4	6.4	1.0	7.1
Eastern	22.6	22.6	18.0	-
Western	20.5	20.5	19.8	3.2
Ngongotahā	0.3	0.3	0.3	-
<b>Total Urban Environment</b>	<b>49.8</b>	<b>49.8</b>	<b>39.0</b>	<b>10.3</b>

Source: M.E Business Capacity Model 2021

Maximum Capacity Scenario (Includes Overlap of Capacity Between Enabled Categories)

Table 13.5 – Long Term Business Land Capacity by Category & Reporting Area (ha) – Maximum Capacity Scenario

Reporting Area	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommodation
Central	8.2	8.2	1.0	7.1
Eastern	60.4	60.4	59.3	-
Western	26.7	22.0	21.2	3.2
Ngongotahā	8.8	8.8	8.8	-
<b>Total Urban Environment</b>	<b>104.2</b>	<b>99.4</b>	<b>90.4</b>	<b>10.3</b>

Source: M.E Business Capacity Model 2021


Maximum Capacity Scenario (Includes Overlap of Capacity Between Enabled Categories)

### 13.4.2 Vacant Land Floorspace Capacity by Category

Table 13.6 contains the outputs for floorspace capacity on vacant land in the short and medium term, summarised by Commercial, Retail, Tourist Accommodation and Industrial land uses. Again, the assessment shows the Maximum Capacity Scenario – regardless of use and the amount available to each of the four broad categories. There is category overlap in most zones and the capacity is not additive. Development of one category is likely to reduce the capacity for other categories.

Vacant ground floor business space is attributed to enabled building typologies in the same manner as vacant land area. However, an additional step is included in the model before vacant upper floorspace is attributed to relevant space types.

- M.E has assumed that there is no potential for Retail (i.e., ‘Shops – Commercial’ and ‘Shops – Food and Beverage’) to locate above ground floor (i.e., they are constrained to ground floor capacity only). This is to reflect their strong location preference for ground floor premises. In



some circumstances retail (including hospitality) does operate above ground floor, although typically where there is also ground floor space. To be conservative, this is not assumed to apply for remaining vacant capacity and is considered appropriate for the Rotorua market.

- M.E has also assumed that sites enabled for 'Warehouse', 'Factory' and 'Other Built – Industrial' building typologies are constrained to ground floor development (i.e., have no upper floorspace capacity or above ground floor separate tenancies). The reason for this is different from shops. Generally (but not always), warehouses and factories are taller (require high internal building height), single use buildings and are unlikely to have other land use activities developing above them (i.e., they are the single occupant of the site). Often, these activities may have some of their own office space on upper floors, but this is ancillary to the main use and the model excludes this space).
- Yards also, by nature, do not typically have floorspace 'above them' (with buildings tending to play a lesser role on the site). Therefore, any floorspace attributed to 'Yard – Commercial', 'Yard – Industrial' and 'Outdoor – Industrial' is limited to the ground floor only.
- These assumptions take a conservative approach to estimating capacity. Overall, all Industrial floorspace capacity on vacant sites is ground floor only in the Capacity Model. This does not preclude such developments from building structures that achieve the maximum or likely building height.

The effect of these assumptions is evident in Table 13.6 where within a zone, the maximum potential GFA may differ between categories, even when the maximum potential land area did not differ (see for example the City Entranceway Mixed Use Zone where Industrial and Retail activities are limited to ground floor capacity and Commercial activities are enabled on ground and upper floor capacities, so have a higher maximum floorspace capacity).<sup>1</sup>

Table 13.6 shows that in the short-medium term zone, there is a maximum of nearly 390,000sqm GFA for Commercial development on vacant sites. There is a maximum of 210,000sqm GFA for Retail development, just over 148,000sqm GFA estimated for Industrial development and around 114,000sqm GFA for Accommodation development.

Table 13.7 shows that Eastern reporting area provides for the majority of the maximum Commercial floorspace capacity (over 213,000sqm GFA), followed by the Western area (just under 100,000sqm GFA) and the Central area (up to 76,400sqm GFA). This pattern is similar for Retail floorspace under the Maximum Capacity Scenario, although Industrial floorspace is largely limited to the Western and Eastern areas, with the Central area having very little vacant land left.

Table 13.6 – Short & Medium Term Business Floorspace Capacity by Category & Zone (sqm GFA) – Maximum Capacity Scenario

Zone	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
City Entranceway Accommodation	-	-	-	44,800
City Entranceway Mixed Use	44,300	25,300	25,300	-
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	500	500	500	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	116,200	46,500	46,500	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial **	-	-	-	-
Future Community Asset Reserve **	-	-	-	-
Heavy Industrial	13,000	8,600	8,600	-
Light Industrial	116,800	67,200	67,200	-
Mid City	1,500	600	-	1,500
Neighbourhood Centres	23,600	23,600	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	68,100	34,000	-	68,100
PC 2 Commercial Precincts	5,600	3,800	-	-
Residential to Light Industrial **	-	-	-	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
<b>Total Urban Environment</b>	<b>389,600</b>	<b>210,100</b>	<b>148,100</b>	<b>114,400</b>

Source: M.E Business Capacity Model 2021

\* Assumed no vacant capacity for purpose of HBA. \*\* Long term capacity only.

Maximum Capacity Scenario (Includes Overlap of Capacity Between Enabled Categories)

Table 13.7 – Short & Medium Term Business Floorspace Capacity by Category & Reporting Area (sqm GFA) – Maximum Capacity Scenario

Reporting Area	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
Central	76,400	39,500	4,300	86,000
Eastern	213,100	113,600	90,500	-
Western	98,500	55,900	52,200	28,400
Ngongotahā	1,600	1,100	1,100	-
<b>Total Urban Environment</b>	<b>389,600</b>	<b>210,100</b>	<b>148,100</b>	<b>114,400</b>

Source: M.E Business Capacity Model 2021

Maximum Capacity Scenario (Includes Overlap of Capacity Between Enabled Categories)

Table 13.8 contains the maximum floorspace capacity outputs according to identified long term zoning by category. The maximum floorspace capacity for Commercial, Retail and Industrial development increases significantly compared to the short/medium term due to the indicative future Eastgate Business Park Zone which enables activities in all three categories. The change in zoning along Fenton Street from City

Entranceway Accommodation to (indicatively) a mixed use commercial zoning (with a higher likely number of building storeys) also adds up to 18,200sqm GFA for Commercial development. However, this will compete with Retail for the ground floor, and Accommodation also.

The long term maximum capacity for Commercial development totals an estimated 1.14 million sqm GFA of floorspace. There could be up to 505,900sqm for ground floor Retail floorspace and up to around 455,000sqm for ground floor Industrial floorspace. The Accommodation sector could develop up to 116,000 sqm GFA on long term vacant and zoned sites (according to a June 2021 snap-shot of vacant developable land area).

Table 13.8 – Long Term Business Floorspace Capacity by Category & Zone (sqm GFA) – Maximum Capacity Scenario

Zone	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
City Entranceway Accommodation	-	-	-	28,400
City Entranceway Mixed Use	91,400	56,800	56,800	-
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	500	500	500	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	788,400	315,300	315,300	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial **	18,200	7,300	-	18,200
Future Community Asset Reserve **	19,200	-	-	-
Heavy Industrial	13,000	8,600	8,600	-
Light Industrial	116,800	67,200	67,200	-
Mid City	1,500	600	-	1,500
Neighbourhood Centres	5,700	5,700	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	68,100	34,000	-	68,100
PC 2 Commercial Precincts	5,600	3,800	-	-
Residential to Light Industrial **	9,200	6,100	6,100	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
<b>Total Urban Environment</b>	<b>1,137,600</b>	<b>505,900</b>	<b>454,500</b>	<b>116,200</b>

Source: M.E Business Capacity Model 2021

\* Assumed no vacant capacity for purpose of HBA. \*\* Long term capacity only.

Maximum Capacity Scenario (Includes Overlap of Capacity Between Enabled Categories)

Table 13.9 contains a summary of long term maximum floorspace capacity by reporting area. The spread is the same as in the short term, but the distribution is even more concentrated in the Eastern reporting area.

Table 13.9 – Long Term Business Floorspace Capacity by Category & Reporting Area (sqm GFA) – Maximum Capacity Scenario

Reporting Area	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
Central	94,600	46,800	4,300	87,800
Eastern	867,400	364,600	359,400	-
Western	126,800	62,000	58,300	28,400
Ngongotahā	48,800	32,500	32,500	-
<b>Total Urban Environment</b>	<b>1,137,600</b>	<b>505,900</b>	<b>454,500</b>	<b>116,200</b>

Source: M.E Business Capacity Model 2021

Maximum Capacity Scenario (Includes Overlap of Capacity Between Enabled Categories)

## 13.5 Discussion

### 13.5.1 Alternative Vacant Capacity Outcomes – Removing the Overlap


The following table sets out the assumptions M.E has made for the allocation of vacant capacity by category in urban business zones. The approach is based on the following:

Table 13.10 – Alternative Capacity Scenario – Category Allocation Assumptions (Land & GFA)

Zone	Estimated Developable Land (ha)				Estimated Ground Floor GFA				Estimated Upper Floors GFA			
	Commercial	Retail	Industrial	Accommodation	Commercial	Retail	Industrial	Accommodation	Commercial	Retail	Industrial	Accommodation
City Entranceway Mixed Use **	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	100%
City Entranceway Mixed Use **	100%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%
City Entranceway Mixed Use	67%	33%	33%	0%	33%	33%	33%	0%	67%	0%	0%	0%
Compact Commercial Centres	50%	50%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%
Eastgate Business Park **	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Eastgate Business Park	30%	10%	60%	0%	30%	10%	60%	0%	30%	0%	0%	0%
Heavy Industrial	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Light Industrial **	100%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%
Light Industrial	10%	10%	80%	0%	10%	10%	80%	0%	20%	0%	0%	0%
Residential to Light Industrial *	10%	10%	80%	0%	10%	10%	80%	0%	20%	0%	0%	0%
Mid City	50%	50%	0%	67%	50%	50%	0%	0%	33%	0%	0%	67%
Neighbourhood Centres	30%	70%	0%	0%	30%	70%	0%	0%	0%	0%	0%	0%
Northern Edge **	80%	0%	0%	50%	80%	0%	0%	20%	50%	0%	0%	50%
PC 2 Commercial Precinct	100%	70%	0%	0%	30%	70%	0%	0%	100%	0%	0%	0%
Future Community Asset Reserve *	100%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%
City Entranceway Accommodation	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	100%
Fenton Entranceway Residential, Visitor Accommodation, Commercial *	50%	33%	0%	50%	33%	33%	0%	33%	50%	0%	0%	50%

Source: ME Business Capacity Model 2021 - Alternative Capacity Scenario Assumptions. \* Long Term Zone Only. \*\* Allocation based on what is already consented and under construction (site specific).



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- If there is a site under construction (June 2021) (or consented and additional information confirmed that construction for the consented activity was imminent), and that activity was one of a number of categories enabled on that site, then the development capacity of that site for land and GFA is allocated to the category identified in the consent notes (if available). M.E has not however adopted the GFA of the consent (if known) as this would introduce variance from the assumptions in the demand model. Instead, we retain the GFA estimated in the Capacity Model for that site associated with the assigned category. Examples of this include:
    - In the City Entranceway Mixed Use Zone where one site was under construction for a motel and another for a commercial activity (car yard and service centre), which also captured an adjoining Light Industrial vacant parcel.
    - In the Eastgate Business Park Zone, two sites were consented and one under construction and the other about to be constructed (confirmed from stakeholder feedback), both were for primarily industrial activities (one with ancillary commercial/retail activity).
    - In the Northern Edge Zone, a commercial activity is being constructed (a spa and wellness centre). However, stakeholder feedback indicated that this occupied part of the site and in future stages, accommodation was also likely (in conjunction with residential apartments). As such, a portion of land/GFA estimated by M.E is attributed to Accommodation.
  - In all other cases, M.E either assigned capacity to a single category (i.e., in the City Entranceway Accommodation – 100% to Accommodation, in the Heavy Industrial Zone – 100% to Industrial, in the Future Community Asset Reserve – 100% Commercial), or a mix of the enabled categories. Where a mix was applied, the assumption can be interpreted as a single site containing a mix or the two or three activities (as applicable), or, across vacant sites in that zone, some would develop as one sort, some would develop as another sort etc in accordance with the estimated proportions. Either way, the capacity outcome is the same. Some examples of this approach include:
    - In the City Entranceway Mixed Use Zone, it was assumed that a third of sites/the site would be for Industrial development, a third for Retail development anticipated in that zone and a third for Commercial development anticipated in that zone. This is the ground floor allocation. Only the Retail and Commercial development could have upper floor capacity, and this is limited to Commercial Use, hence two thirds of any upper floor building envelope is assigned to Commercial capacity (and this applies also to the land – which takes an aerial approach of the maximum commercial footprint).
    - In the Eastgate Business Park Zone, it was assumed that 60% of sites/the site would be for Industrial development, 10% for Retail development anticipated in that zone and 30% for Commercial development anticipated in that zone. This is the ground floor allocation. Given the nature of Retail activity anticipated in the zone, only the Commercial development is anticipated to have upper floor capacity, and this is limited to Commercial Use, hence 30% of any upper



floor building envelope is assigned to Commercial capacity (and this applies also to the land – which takes an aerial approach of the maximum commercial footprint).

- In the Light Industrial Zone (which includes the Transitional Zone in the long term), it was assumed that 80% of sites/the site would be for Industrial development, 10% for Retail development anticipated in that zone and 10% for Commercial development anticipated in that zone. This is the ground floor allocation. Given the nature of Retail activity anticipated in the zone, only the Commercial development is anticipated to have upper floor capacity, and this is limited to Commercial Use, hence 10% of any upper floor building envelope is assigned to Commercial capacity (and this applies also to the land – which takes an aerial approach of the maximum commercial footprint).
  - Other zones can be interpreted in a similar way as these zones. Only Commercial or Accommodation is assigned to upper floor floorspace capacity, and this has flow on consequences for the land allocation approach. The allocation has considered the nature of activity in each category that is anticipated by the District Plan and the forms of development that these activities tend to take.
- As alluded to above, the Alternative Capacity Scenario eliminates the overlap in floorspace between capacities on the ground floor and upper floors (although they are treated separately), but because an aerial view is taken of the footprint of activities across multiple floors, there is still some overlap in the land allocation.<sup>46</sup> This is necessary to acknowledge that land is available for mixed use buildings and that the mix of floorspace allocated to the ground and upper floors can differ. This differs from the Maximum Capacity Scenario where there is double or triple counting of total site land area even when mixed use buildings might eventuate.

The following tables show the results of the Alternative Capacity Scenario in the short/medium term and the long term for land and floorspace GFA.

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<sup>46</sup> The land coverage is the maximum of floor coverage on either the ground or the upper floors.

Table 13.11 – Short & Medium Term Business Land Capacity by Category & Reporting Area (Ha) – Alternative Capacity Scenario

Reporting Area	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommodation
Central	4.4	0.3	0.7	4.5
Eastern	6.1	5.7	11.9	-
Western	3.8	2.1	15.5	3.7
Ngongotahā	0.0	0.0	0.2	-
<b>Total Urban Environment</b>	<b>14.3</b>	<b>8.0</b>	<b>28.4</b>	<b>8.2</b>

Source: M.E Business Capacity Model 2021

Alternative Capacity Scenario (Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.12 – Long Term Business Land Capacity by Category & Reporting Area (Ha) – Alternative Capacity Scenario

Reporting Area	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommodation
Central	5.3	0.9	0.7	3.6
Eastern	17.4	7.3	36.8	-
Western	8.7	2.2	16.6	3.7
Ngongotahā	5.8	2.9	3.1	-
<b>Total Urban Environment</b>	<b>37.2</b>	<b>13.3</b>	<b>57.2</b>	<b>7.3</b>

Source: M.E Business Capacity Model 2021

Alternative Capacity Scenario (Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.13 – Short & Medium Term Business Floorspace Capacity by Category & Zone (sqm GFA) – Alternative Capacity Scenario

Zone	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
City Entranceway Accommodation	-	-	-	44,800
City Entranceway Mixed Use	19,800	7,400	7,400	4,300
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	300	300	-	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	32,700	3,600	32,000	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial	-	-	-	-
Future Community Asset Reserve **	-	-	-	-
Heavy Industrial	-	-	8,600	-
Light Industrial	19,200	6,600	52,500	-
Mid City	600	300	-	600
Neighbourhood Centres	7,100	16,500	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	44,300	-	-	23,800
PC 2 Commercial Precincts	3,000	2,600	-	-
Residential to Light Industrial **	-	-	-	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
<b>Total Urban Environment</b>	<b>126,900</b>	<b>37,300</b>	<b>100,600</b>	<b>73,500</b>

Source: M.E Business Capacity Model 2021

\* Assumed no vacant capacity for purpose of HBA. \*\* Long term capacity only.

Alternative Capacity Scenario (Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.14 – Short & Medium Term Business Floorspace Capacity by Category & Reporting Area (sqm GFA)  
– Alternative Capacity Scenario

Reporting Area	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
Central	46,000	1,300	3,100	40,900
Eastern	55,900	27,200	61,300	-
Western	24,700	8,800	35,300	32,700
Ngongotahā	200	100	900	-
<b>Total Urban Environment</b>	<b>126,900</b>	<b>37,300</b>	<b>100,600</b>	<b>73,500</b>

Source: M.E Business Capacity Model 2021

Alternative Capacity Scenario (Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.15 – Long Term Business Floorspace Capacity by Category & Zone (sqm GFA) – Alternative Capacity Scenario

Zone	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
City Entranceway Accommodation	-	-	-	28,400
City Entranceway Mixed Use	40,800	17,900	17,900	4,300
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	300	300	-	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	274,700	30,500	193,300	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial	7,900	2,400	-	7,900
Future Community Asset Reserve **	19,200	-	-	-
Heavy Industrial	-	-	8,600	-
Light Industrial	19,200	6,600	52,500	-
Mid City	600	300	-	600
Neighbourhood Centres	1,700	4,000	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	44,300	-	-	23,800
PC 2 Commercial Precincts	3,000	2,600	-	-
Residential to Light Industrial **	1,200	600	4,900	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
<b>Total Urban Environment</b>	<b>412,700</b>	<b>65,200</b>	<b>277,200</b>	<b>65,000</b>

Source: M.E Business Capacity Model 2021

\* Assumed no vacant capacity for purpose of HBA. \*\* Long term capacity only.

Alternative Capacity Scenario (Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.16 – Long Term Business Floorspace Capacity by Category & Reporting Area (sqm GFA) – Alternative Capacity Scenario

Reporting Area	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
Central	53,900	3,700	3,100	32,300
Eastern	292,500	41,500	222,600	-
Western	45,100	9,400	40,200	32,700
Ngongotahā	21,200	10,600	11,400	-
<b>Total Urban Environment</b>	<b>412,700</b>	<b>65,200</b>	<b>277,200</b>	<b>65,000</b>

Source: M.E Business Capacity Model 2021

Alternative Capacity Scenario (Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

### 13.5.2 Alternative Conservative Capacity Scenario – Excluding Māori Land

Table 13.17 – Short & Medium Term Business Land Capacity by Category & Reporting Area (Ha) – Alternative Conservative Capacity Scenario

Reporting Area	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommodation
Central	4.4	0.2	0.7	4.3
Eastern	1.8	0.7	6.0	-
Western	1.9	1.0	9.7	3.7
Ngongotahā	0.0	0.0	0.2	-
<b>Total Urban Environment</b>	<b>8.1</b>	<b>1.9</b>	<b>16.6</b>	<b>8.0</b>

Source: M.E Business Capacity Model 2021

Alternative Conservative Capacity Scenario (Excludes vacant Maori Land. Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.18 – Long Term Business Land Capacity by Category & Reporting Area (Ha) – Alternative Conservative Capacity Scenario

Reporting Area	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommodation
Central	5.2	0.7	0.7	3.5
Eastern	1.8	0.7	6.0	-
Western	6.8	1.1	10.9	3.7
Ngongotahā	5.8	2.9	3.1	-
<b>Total Urban Environment</b>	<b>19.5</b>	<b>5.5</b>	<b>20.6</b>	<b>7.2</b>

Source: M.E Business Capacity Model 2021

Alternative Conservative Capacity Scenario (Excludes vacant Maori Land. Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.19 – Short & Medium Term Business Floorspace Capacity by Category & Zone (sqm GFA) – Alternative Conservative Capacity Scenario

Zone	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
City Entranceway Accommodation	-	-	-	43,000
City Entranceway Mixed Use	2,300	200	200	4,300
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	-	-	-	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	32,700	3,600	32,000	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial	-	-	-	-
Future Community Asset Reserve **	-	-	-	-
Heavy Industrial	-	-	5,900	-
Light Industrial	9,600	2,900	23,100	-
Mid City	600	300	-	600
Neighbourhood Centres	200	500	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	44,300	-	-	23,800
PC 2 Commercial Precincts	3,000	2,600	-	-
Residential to Light Industrial **	-	-	-	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
<b>Total Urban Environment</b>	<b>92,700</b>	<b>10,100</b>	<b>61,200</b>	<b>71,700</b>

Source: M.E Business Capacity Model 2021

\* Assumed no vacant capacity for purpose of HBA. \*\* Long term capacity only.

Alternative Conservative Capacity Scenario (Excludes vacant Maori Land. Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.20 – Short & Medium Term Business Floorspace Capacity by Category & Reporting Area (sqm GFA) – Alternative Conservative Capacity Scenario

Reporting Area	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
Central	45,800	1,000	3,100	39,000
Eastern	34,300	4,300	36,400	-
Western	12,300	4,600	20,800	32,700
Ngongotahā	200	100	900	-
<b>Total Urban Environment</b>	<b>92,700</b>	<b>10,100</b>	<b>61,200</b>	<b>71,700</b>

Source: M.E Business Capacity Model 2021

Alternative Conservative Capacity Scenario (Excludes vacant Maori Land. Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.21 – Long Term Business Floorspace Capacity by Category & Zone (sqm GFA) – Alternative Conservative Capacity Scenario

Zone	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
City Entranceway Accommodation	-	-	-	28,400
City Entranceway Mixed Use	23,200	10,700	10,700	4,300
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	-	-	-	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	32,700	3,600	32,000	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial	7,000	2,200	-	7,000
Future Community Asset Reserve **	19,200	-	-	-
Heavy Industrial	-	-	5,900	-
Light Industrial	9,600	2,900	23,100	-
Mid City	600	300	-	600
Neighbourhood Centres	200	500	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	44,300	-	-	23,800
PC 2 Commercial Precincts	3,000	2,600	-	-
Residential to Light Industrial **	1,200	600	4,900	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
<b>Total Urban Environment</b>	<b>141,000</b>	<b>23,400</b>	<b>76,500</b>	<b>64,100</b>

Source: M.E Business Capacity Model 2021

\* Assumed no vacant capacity for purpose of HBA. \*\* Long term capacity only.

Alternative Conservative Capacity Scenario (Excludes vacant Maori Land. Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)

Table 13.22 – Long Term Business Floorspace Capacity by Category & Reporting Area (sqm GFA) – Alternative Conservative Capacity Scenario

Reporting Area	Developable Floorspace on Vacant Land by Land Use Category (sqm GFA)			
	Commercial	Retail	Industrial	Accommodation
Central	52,800	3,200	3,100	31,500
Eastern	34,300	4,300	36,400	-
Western	32,700	5,300	25,700	32,700
Ngongotahā	21,200	10,600	11,400	-
<b>Total Urban Environment</b>	<b>141,000</b>	<b>23,400</b>	<b>76,500</b>	<b>64,100</b>

Source: M.E Business Capacity Model 2021

Alternative Conservative Capacity Scenario (Excludes vacant Maori Land. Excludes floorspace overlap of capacity between enabled categories. Includes some land area overlap in certain zones to account for a change of likely use on upper floors)





# 14 Suitability of Capacity

This section complements the Suitability of Capacity section in the Main Report. It describes the approach of the Multi Criteria Analysis (“MCA”) and includes maps showing the zone locations referred to in the assessment frameworks. The detailed tables of MCA scoring results carried out jointly by Council and M.E are included, as are the summary graphs of suitability versus vacant land capacity for the Alternative Capacity Scenario (with the Maximum Capacity Scenario results included in the Main Report).

## 14.1 Approach – Multi Criteria Analysis

The following maps show the zone-location combinations that have been evaluated in the MCA for the Rotorua HBA. A detailed zone level approach has been adopted to improve the reliability of the MCA and to make the results more tangible for Council. While this creates a much larger number of locations that need to be scored, this approach avoids the limitations associated with scoring broad areas. The broad area approach is often more difficult to score because some areas may not include zones that enable some categories of land use (and so requires a ‘theoretical’ scoring approach) or are too large in extent to arrive at a score that is representative of the development opportunities within that area (i.e., relies of high level averages).

The locations for the business enabled zones in the urban environment were determined by Council, to be meaningful in the local market context. In some cases, the same ‘location’ is applicable to different business zones found in the same locality. When zone and location are combined, they create a unique identifier. Very large business zones have been divided into smaller locations to reflect locational differences.

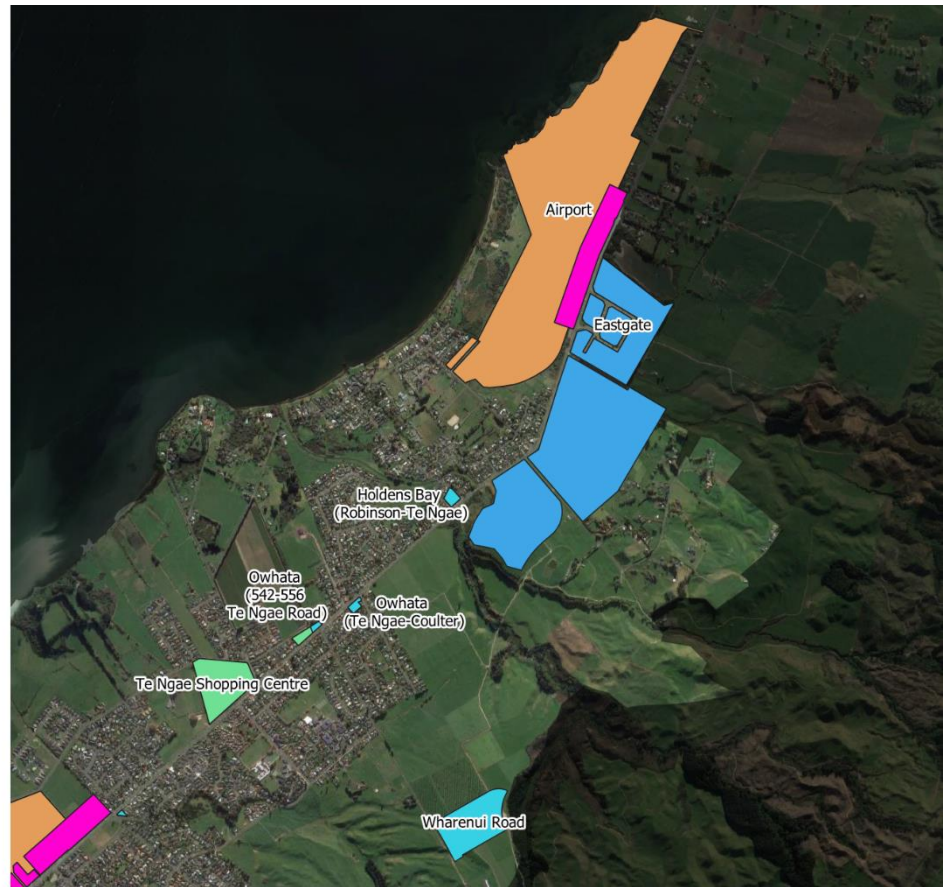
Figure 14.1 – Urban Business Zone Locations Used for the MCA (Multiple Maps)

**Business Zone Locations  
Airport**

**Legend**

Zones - Short Term/Long Term Blend

- City Entranceway Mixed Use
- Compact Commercial Centres
- Eastgate Business Park
- Light Industrial
- Neighbourhood Centres



**Business Zone Locations  
City Centre**

**Legend**

Zones - Short Term/Long Term Blend

- City Entranceway Accommodation
- Compact Commercial Centres
- Fenton Entranceway Residential, Visitor Accommodation, Commercial
- Light Industrial
- Mid City
- Neighbourhood Centres
- Northern Edge
- Southern City
- Southern Edge Commercial Centre

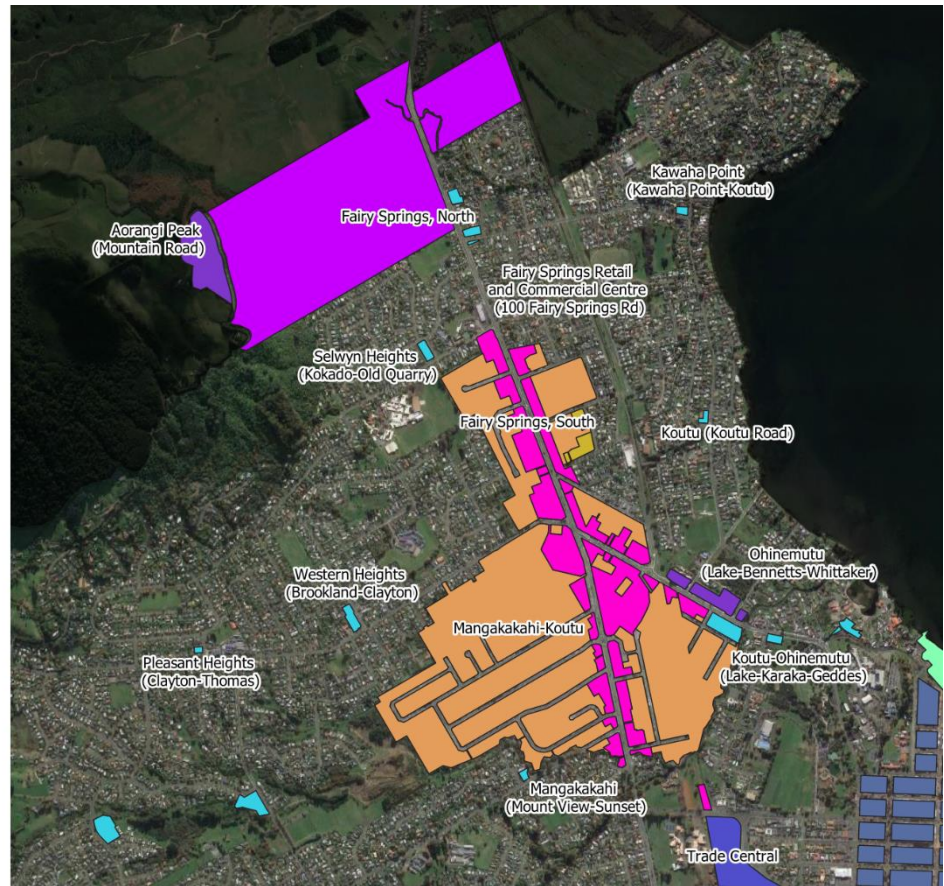


## Business Zone Locations Fairy Springs

### Legend

Zones - Short Term/Long Term Blend

- City Entranceway Accommodation
- City Entranceway Mixed Use
- City Entranceway Tourism
- Light Industrial
- Mid City
- Neighbourhood Centres
- Northern Edge
- Residential to Light Industrial
- Southern Edge Commercial Centre



## Business Zone Locations Fenton Street

### Legend

Zones - Short Term/Long Term Blend

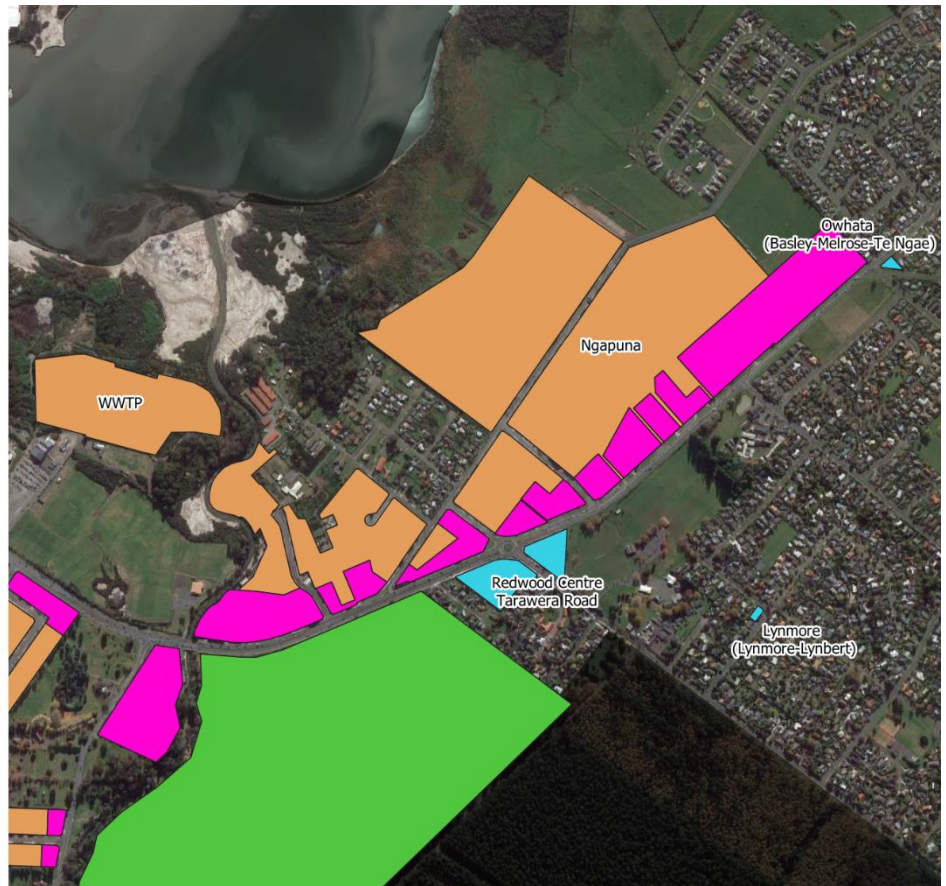
- City Entranceway Mixed Use
- City Entranceway Tourism
- Compact Commercial Centres
- Fenton Entranceway Residential, Visitor Accommodation, Commercial
- Light Industrial
- Mid City
- Neighbourhood Centres
- Scion Innovation Park
- Southern City
- Southern Edge Commercial Centre
- Waipa Business Park



**Business Zone Locations  
Ngapuna**

**Legend**

- Zones - Short Term/Long Term Blend
- City Entranceway Mixed Use
  - Light Industrial
  - Neighbourhood Centres
  - Scion Innovation Park



**Business Zone Locations  
Ngongotahā**

**Legend**

- Zones - Short Term/Long Term Blend
- City Entranceway Mixed Use
  - Light Industrial
  - Ngongotaha Centre

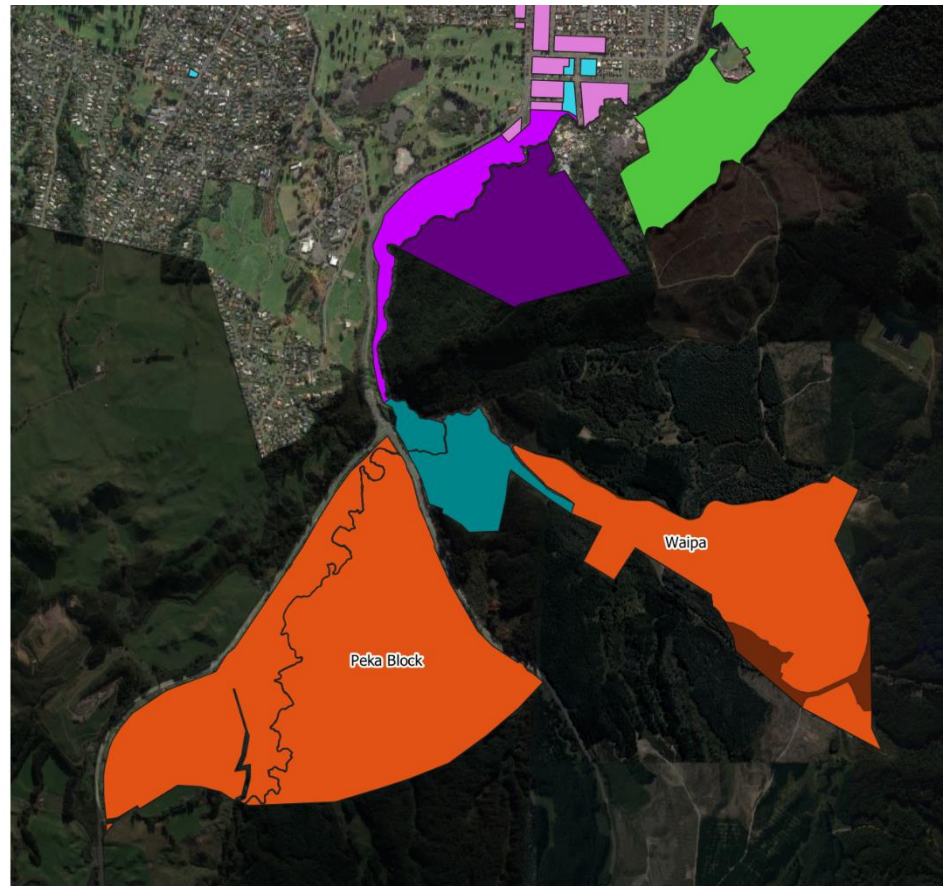


## Business Zone Locations Tihiotonga

### Legend

Zones - Short Term/Long Term Blend

- City Entranceway Tourism
- Fenton Entranceway Residential, Visitor Accommodation, Commercial
- Heavy Industrial
- Neighbourhood Centres
- Scion Innovation Park
- Waipa Business Park

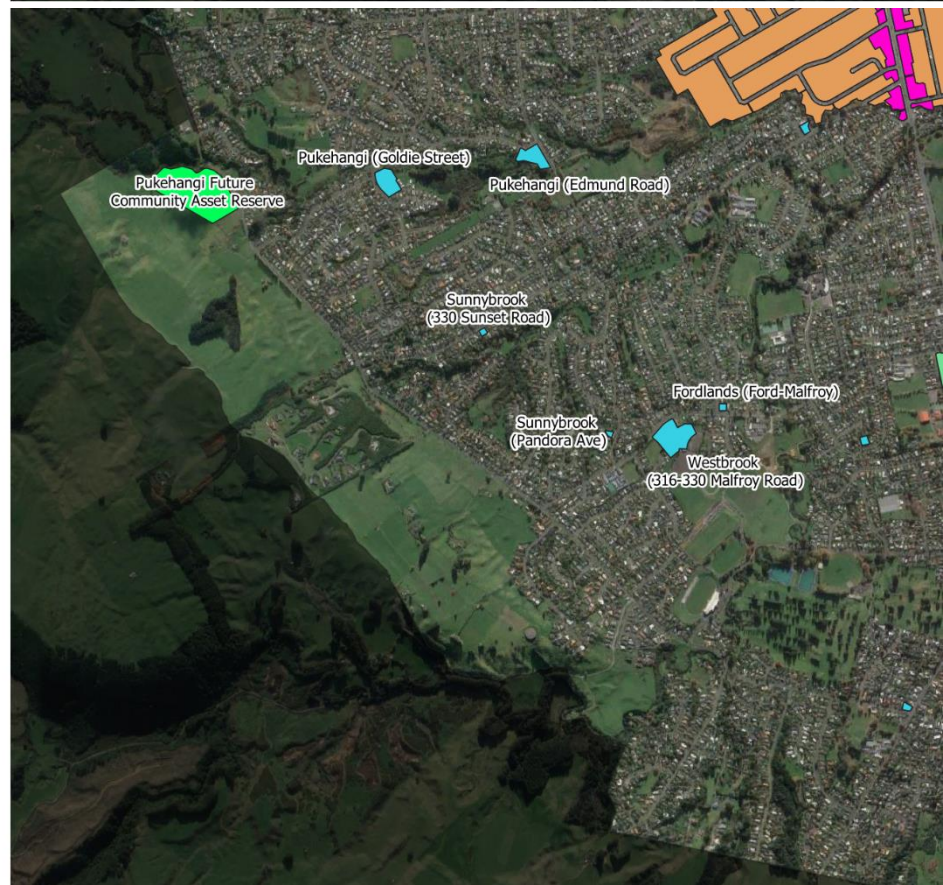


## Business Zone Locations Western Suburbs

### Legend

Zones - Short Term/Long Term Blend

- City Entranceway Mixed Use
- Compact Commercial Centres
- Future Community Asset Reserve
- Light Industrial
- Neighbourhood Centres



## 14.2 Results

Table 14.1 – MCA Results 2021 – Commercial Development Suitability

Location of Zoned Area	TOTAL (Max Score 125)	Range	1 to 15	1 to 10	1 to 15	1 to 10	1 to 10	1 to 5	1 to 15	1 to 15	1 to 10	1 to 5	1 to 10	1 to 5	Rank (based on Total)
		Maximum score	15	10	15	10	10	5	15	15	10	5	10	5	
		% Weighting	12%	8%	12%	8%	8%	4%	12%	12%	8%	4%	8%	4%	
		Access to major Road / transport routes, good transport access, especially road/motorway	Proximity to market - dense resident or tourist population in walkable catchment	Ownership structure (tenure i.e. predominantly freehold land)	Natural Hazards (i.e. flood, geotechnical issues, stormwater management)	Co-location or clustering with complementary business activities	Ability to utilise geothermal energy/ resource	Parking availability	Service infrastructure in place	Ability to develop a range of space types including multi-storey buildings	Low level of traffic congestion in vicinity	Exposure / profile / visibility	Existing or proposed public transport		
Fenton Entranceway Residential, Visitor Accommodation, Commercial - Fenton Street ***	98	10	10	15	5	7	5	10	12	7	5	9	3	9	
Fenton Entranceway Residential, Visitor Accommodation, Commercial - Whakarewarewa (Hemo Road) ***	100	15	10	15	5	7	1	10	12	7	5	10	3	7	
Fenton Entranceway Residential, Visitor Accommodation, Commercial - Whakarewarewa-Fenton Park ***	98	15	10	15	5	7	1	10	12	7	5	8	3	9	
City Entranceway Mixed Use - Airport	85	15	1	15	5	7	1	3	15	5	5	10	3	36	
City Entranceway Mixed Use - Fairy Springs, South	98	15	10	15	5	10	1	6	15	5	5	9	2	8	
City Entranceway Mixed Use - Fenton Park (Marguerita-White)	92	10	10	15	5	10	5	3	12	5	5	10	2	19	
City Entranceway Mixed Use - Fenton Park (Sala Street)	88	10	10	15	5	10	5	2	12	5	5	7	2	23	
City Entranceway Mixed Use - Fenton Park (Scott Street)	87	10	10	15	5	10	5	3	12	5	5	6	1	26	
City Entranceway Mixed Use - Mangakakahi-Koutu	93	15	10	12	5	10	1	3	15	5	5	9	3	18	
City Entranceway Mixed Use - Ngapuna	87	15	10	12	5	10	1	2	12	5	2	10	3	26	
City Entranceway Mixed Use - Ngongotaha South ***	87	15	10	15	1	10	1	2	12	5	5	8	3	26	
City Entranceway Tourism - Fairy Springs, North	88	15	10	15	5	7	1	10	15	1	2	6	1	24	
City Entranceway Tourism - Whakarewarewa (Hemo Road)	92	15	10	15	5	7	1	10	12	1	5	8	3	20	
Compact Commercial Centres - City Centre Blocks 32- 34	100	10	10	12	5	10	5	10	12	7	5	9	5	6	
Compact Commercial Centres - Owkata (542-556 Te Ngae Road)	102	15	10	15	5	7	1	10	15	7	4	10	3	4	
Compact Commercial Centres - Te Ngae Shopping Centre	105	15	10	15	5	7	1	15	15	7	4	8	3	3	
Compact Commercial Centres - Westend Shopping Centre	106	15	10	15	5	10	1	15	12	7	5	9	2	1	
Eastgate Business Park - Eastgate	87	15	1	15	5	7	1	5	15	8	5	7	3	31	
Eastgate Business Park - Eastside Future Business Park ***	64	15	1	1	1	7	1	5	10	8	5	7	3	70	
Future Community Asset Reserve - Pukehangi Future Community Asset Reserve ***	69	5	10	15	5	7	1	1	15	2	5	2	1	66	
Heavy Industrial - Peka Block	56	15	1	1	5	3	1	1	15	3	5	5	1	71	
Heavy Industrial - Waipa	74	15	1	15	5	3	5	1	15	3	5	5	1	64	
Light Industrial - Ngongotaha North **	84	15	10	15	1	10	1	1	15	2	2	9	3	37	
Light Industrial - Airport	88	15	1	15	5	7	1	10	15	2	5	9	3	24	
Light Industrial - Fairy Springs, South	87	15	10	15	5	10	1	5	15	2	3	4	2	26	
Light Industrial - Fenton Park (Marguerita-White)	85	10	10	15	5	10	5	3	12	2	5	6	2	33	
Light Industrial - Fenton Park (Scott Street)	83	10	10	15	5	10	5	3	12	2	5	5	1	56	
Light Industrial - Mangakakahi-Koutu	84	15	10	12	5	10	1	5	15	2	3	3	3	37	
Light Industrial - Ngapuna	77	15	10	12	5	10	1	2	12	2	2	3	3	62	
Light Industrial - Ngongotaha Central	86	15	10	15	1	10	1	5	15	2	2	7	3	32	
Light Industrial - Ngongotaha South	80	15	10	15	1	7	1	1	15	2	2	8	3	61	
Light Industrial - WWTP	76	15	10	15	5	10	1	1	12	2	2	1	2	63	
Mid City - City Centre Blocks 1-27, 30-31	101	10	10	12	5	10	5	13	12	7	5	7	5	5	
Neighbourhood Centres - Wharenui Road **	67	10	10	1	5	7	1	7	10	5	5	4	2	67	
Neighbourhood Centres - Fairy Springs, North	94	15	10	15	5	10	1	7	15	5	5	4	2	13	
Neighbourhood Centres - Fordlands (Ford-Malfroy)	84	5	10	15	5	10	1	7	15	5	5	4	2	37	
Neighbourhood Centres - Glenholme (Ranolf-Devon)	81	5	10	15	5	10	1	7	12	5	5	4	2	57	
Neighbourhood Centres - Glenholme (Ranolf-Wallace)	81	5	10	15	5	10	1	7	12	5	5	4	2	57	
Neighbourhood Centres - Hillcrest (Jarvis Street)	84	5	10	15	5	10	1	7	15	5	5	4	2	37	
Neighbourhood Centres - Holdens Bay (Robinson-Te Ngae)	84	5	10	15	5	10	1	7	15	5	5	4	2	37	
Neighbourhood Centres - Kawaha Point (Kawaha Point-Koutu)	84	5	10	15	5	10	1	7	15	5	5	4	2	37	
Neighbourhood Centres - Koutu (Koutu Road)	84	5	10	15	5	10	1	7	15	5	5	4	2	37	
Neighbourhood Centres - Koutu-Ohinemutu (Lake-Karaka-Geddes)	85	5	10	15	5	10	5	7	12	5	5	4	2	33	
Neighbourhood Centres - Kuirau Park (Tarewa-Lake)	81	5	10	15	5	10	1	7	12	5	5	4	2	57	

Table 14.1 Continued....

Location of Zoned Area	Range	1 to 15	1 to 10	1 to 15	1 to 10	1 to 10	1 to 5	1 to 15	1 to 15	1 to 10	1 to 5	1 to 10	1 to 5	Rank (based on Total)
	Maximum score	15	10	15	10	10	5	15	15	10	5	10	5	
	% Weighting	12%	8%	12%	8%	8%	4%	12%	12%	8%	4%	8%	4%	
	TOTAL (Max Score 125)	Access to major Road / transport routes; good transport access, especially road/motorway	Proximity to market - dense resident or tourist population in walkable catchment	Ownership structure (tenure i.e. predominantly freehold land)	Natural Hazards (i.e. flood, geotechnical issues, stormwater management)	Co-location or clustering with complementary business activities	Ability to utilise geothermal energy/ resource	Parking availability	Service infrastructure in place	Ability to develop a range of space types including multi-storey buildings	Low level of traffic congestion in vicinity	Exposure / profile / visibility	Existing or proposed public transport	
Neighbourhood Centres - Lynmore (Lynmore-Lynbert)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Mangakakahi (Mount View-Sunset)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Ohinemutu (Lake-Houkotuku)	85	5	10	15	5	10	5	7	12	5	5	4	2	33
Neighbourhood Centres - Owkata (542-556 Te Ngae Road)	94	15	10	15	5	10	1	7	15	5	5	4	2	13
Neighbourhood Centres - Owkata (Basley-Melrose-Te Ngae)	94	15	10	15	5	10	1	7	15	5	5	4	2	13
Neighbourhood Centres - Owkata (Te Ngae-Coulter)	94	15	10	15	5	10	1	7	15	5	5	4	2	13
Neighbourhood Centres - Pleasant Heights (Clayton-Thomas)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Pukehangi (Edmund Road)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Pukehangi (Goldie Street)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Redwood Centre-Tarawera Road	94	15	10	15	5	10	1	7	15	5	5	4	2	13
Neighbourhood Centres - Selwyn Heights (Kokado-Old Quarry)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Springfield (Otonga-Old Taupo)	81	5	10	15	5	10	1	7	12	5	5	4	2	57
Neighbourhood Centres - Springfield (Otonga-Springfield)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Sunnybrook (330 Sunset Road)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Sunnybrook (Pandora Ave)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Utuhina (Old Taupo-Pereika)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Westbrook (316-330 Malfroy Road)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Western Heights (Brookland-Clayton)	84	5	10	15	5	10	1	7	15	5	5	4	2	37
Neighbourhood Centres - Whakarewarewa-Fenton Park	91	15	10	15	5	10	1	7	12	5	5	4	2	21
Ngongotaha Centre - Ngongotaha Central	97	15	10	15	1	10	1	10	15	6	2	9	3	11
Northern Edge - City Centre Block 29	90	10	10	12	5	7	5	5	12	10	5	5	4	22
Residential to Light Industrial - Fairy Springs, South ***	87	15	10	15	5	10	1	5	15	2	3	4	2	26
Southern City - City Centre Block 28	97	10	10	12	5	10	5	15	12	3	5	8	2	11
Southern Edge Commercial Centre - Trade Central	105	15	10	15	5	10	1	15	12	5	5	9	3	2
PC 2 Commercial Precinct - Pukehangi Plan Change	70	5	10	15	1	7	1	7	10	3	5	4	2	65
Neighbourhood Centres - Eastside Future Neighbourhood Centre Large ***	64	10	10	1	1	10	1	7	10	5	3	4	2	68
Neighbourhood Centres - Eastside Future Neighbourhood Centre Small ***	64	10	10	1	1	10	1	7	10	5	3	4	2	68

Source: M.E, RLC. \*\* Short Term Zone only. \*\*\* Long Term Zone only. MCA excludes Scion Innovation Park, Waipo Business Park, Community Asset Reserve, Destination Reserve zones and centres consented in residential zones.







Table 14.2 Continued....

Location of Zoned Area	Retail Activities Enabled	TOTAL (Max Score = 105)	Range	1 to 15	1 to 10	1 to 5	1 to 10	1 to 15	1 to 10	1 to 15	1 to 5	1 to 5	1 to 10	1 to 5	Rank (based on Total)		
			Maximum score	15	10	5	10	15	10	15	10	15	5	5		10	5
			% Weighting	14%	10%	5%	10%	14%	10%	14%	5%	5%	10%	5%			
			Access to major Road / transport routes; good transport access, especially road/motorway	Proximity to market - dense resident population in walkable catchment	Proximity to market - dense employment in walkable catchment	Natural Hazards (i.e. flood, geotechnical issues, stormwater management)	Co-location or clustering with complementary business activities	Parking availability	Service infrastructure in place	Proximity to market - tourist accommodation and attractions	Low level of traffic congestion in vicinity	Exposure / profile / visibility	Existing or proposed public transport				
Neighbourhood Centres - Redwood Centre-Tarawera Road	Rest/Café, Takeaways, Convenience	81	15	10	4	5	15	5	15	1	5	4	2	10			
Neighbourhood Centres - Selwyn Heights (Kokado-Old Quarry)	Rest/Café, Takeaways, Convenience	68	5	10	1	5	15	5	15	1	5	4	2	39			
Neighbourhood Centres - Springfield (Otonga-Old Taupo)	Rest/Café, Takeaways, Convenience	65	5	10	1	5	15	5	12	1	5	4	2	60			
Neighbourhood Centres - Springfield (Otonga-Springfield)	Rest/Café, Takeaways, Convenience	68	5	10	1	5	15	5	15	1	5	4	2	39			
Neighbourhood Centres - Sunnybrook (330 Sunset Road)	Rest/Café, Takeaways, Convenience	68	5	10	1	5	15	5	15	1	5	4	2	39			
Neighbourhood Centres - Sunnybrook (Pandora Ave)	Rest/Café, Takeaways, Convenience	68	5	10	1	5	15	5	15	1	5	4	2	39			
Neighbourhood Centres - Utuhina (Old Taupo-Pereika)	Rest/Café, Takeaways, Convenience	68	5	10	1	5	15	5	15	1	5	4	2	39			
Neighbourhood Centres - Westbrook (316-330 Mallfroy Road)	Rest/Café, Takeaways, Convenience	68	5	10	1	5	15	5	15	1	5	4	2	39			
Neighbourhood Centres - Western Heights (Brookland-Clayton)	Rest/Café, Takeaways, Convenience	68	5	10	1	5	15	5	15	1	5	4	2	39			
Neighbourhood Centres - Whakarewarewa-Fenton Park	Rest/Café, Takeaways, Convenience	75	15	10	1	5	15	5	12	1	5	4	2	26			
Ngongotaha Centre - Ngongotaha Central	Retail, Rest/Café, Supermarkets, Takeaways	81	15	10	3	1	15	7	15	1	2	9	3	10			
Northern Edge - City Centre Block 29	Retail, Supermarkets, Outdoor Recreation	71	10	10	4	5	10	3	12	3	5	5	4	31			
Residential to Light Industrial - Fairy Springs, South ***	Takeaways, Garden Centre, Service	78	15	10	3	5	15	3	15	3	3	4	2	16			
Southern City - City Centre Block 28	Retail, Rest/Café, Supermarkets, Takeaways	85	10	10	5	5	15	10	12	3	5	8	2	4			
Southern Edge Commercial Centre - Trade Central	Takeaways, Drive Through, Garden Centre	89	15	10	3	5	15	10	12	2	5	9	3	1			
PC 2 Commercial Precinct - Pukehangi Plan Change	Rest/Café, Takeaways, Convenience	54	5	10	1	1	10	5	10	1	5	4	2	70			
Neighbourhood Centres - Eastside Future Neighbourhood Centre Large ***	Rest/Café, Takeaways, Convenience	63	10	10	2	1	15	5	10	1	3	4	2	65			
Neighbourhood Centres - Eastside Future Neighbourhood Centre Small ***	Rest/Café, Takeaways, Convenience	65	10	10	4	1	15	5	10	1	3	4	2	60			

Source: M.E, RLC. \*\* Short Term Zone only. \*\*\* Long Term Zone only. MCA excludes Scion Innovation Park, Waipa Business Park, Community Asset Reserve, Destination Reserve zones and centres consented in residential zones.

Table 14.3 – MCA Results 2021 – Industrial Development Suitability

Location of Zoned Area	TOTAL (Max Score = 135)	Range	1 to 20	1 to 15	1 to 10	1 to 15	1 to 15	1 to 10	1 to 5	1 to 20	1 to 10	1 to 10	1 to 5	Rank (based on Total)
		Maximum score	20	15	10	15	15	10	5	20	10	10	5	
		% Weighting	15%	11%	7%	11%	11%	7%	4%	15%	7%	7%	4%	
		Access to major Road / transport routes; good transport access, especially road/motorway	Ownership Structure (tenure i.e. predominantly freehold land)	Flat land, large land parcel, contiguous sites (functional location)	Service infrastructure in place	Co-location or clustering with complementary business activities	Natural Hazards (i.e. flood, geotechnical issues, stormwater management)	Proximity to labour	Ability to buffer adverse effects from residential and sensitive activities, distance from sensitive land uses	Low level of traffic congestion in vicinity	Exposure / profile / visibility	Distance to Port of Tauranga		
City Entranceway Mixed Use - Airport	117	20	15	8	15	5	5	4	20	10	10	5	2	
City Entranceway Mixed Use - Fairy Springs, South	118	20	15	1	15	15	5	4	20	10	9	4	1	
City Entranceway Mixed Use - Fenton Park (Marguerita-White)	105	20	15	2	12	5	5	4	20	10	10	2	11	
City Entranceway Mixed Use - Fenton Park (Sala Street)	105	20	15	5	12	5	5	4	20	10	7	2	11	
City Entranceway Mixed Use - Fenton Park (Scott Street)	91	20	15	2	12	5	5	4	10	10	6	2	24	
City Entranceway Mixed Use - Mangakakahi-Koutu	115	20	12	2	15	15	5	4	20	10	9	3	4	
City Entranceway Mixed Use - Ngapuna	110	20	12	5	12	15	5	4	20	4	10	3	5	
City Entranceway Mixed Use - Ngongotaha South ***	102	20	15	10	12	2	1	4	15	10	8	5	15	
Compact Commercial Centres - City Centre Blocks 32- 34	109	20	12	8	12	7	5	4	20	10	9	2	7	
Compact Commercial Centres - Owata (542-556 Te Ngae Road)	107	20	15	5	15	1	5	4	20	8	10	4	9	
Compact Commercial Centres - Te Ngae Shopping Centre	105	20	15	5	15	1	5	4	20	8	8	4	11	
Compact Commercial Centres - Westend Shopping Centre	101	20	15	3	12	1	5	4	20	10	9	2	17	
Eastgate Business Park - Eastgate	116	20	15	10	15	5	5	4	20	10	7	5	3	
Eastgate Business Park - Eastside Future Business Park ***	98	20	1	10	10	10	1	4	20	10	7	5	21	
Heavy Industrial - Peka Block	92	20	1	9	15	2	5	4	20	10	5	1	23	
Heavy Industrial - Waipa	106	20	15	9	15	2	5	4	20	10	5	1	10	
Light Industrial - Ngongotaha North **	110	20	15	7	15	10	1	4	20	4	9	5	5	
Light Industrial - Airport	107	20	15	9	15	5	5	4	10	10	9	5	8	
Light Industrial - Fairy Springs, South	99	20	15	1	15	15	5	4	10	6	4	4	20	
Light Industrial - Fenton Park (Marguerita-White)	80	10	15	1	12	5	5	4	10	10	6	2	28	
Light Industrial - Fenton Park (Scott Street)	79	10	15	1	12	5	5	4	10	10	5	2	29	
Light Industrial - Mangakakahi-Koutu	84	10	12	1	15	15	5	4	10	6	3	3	27	
Light Industrial - Ngapuna	91	10	12	3	12	15	5	4	20	4	3	3	24	
Light Industrial - Ngongotaha Central	101	20	15	5	15	10	1	4	15	4	7	5	17	
Light Industrial - Ngongotaha South	105	20	15	8	15	5	1	4	20	4	8	5	11	
Light Industrial - WWTP	93	10	15	9	12	10	5	4	20	4	1	3	22	
Ngongotaha Centre - Ngongotaha Central	102	20	15	4	15	5	1	4	20	4	9	5	15	
Residential to Light Industrial - Fairy Springs, South ***	90	15	15	3	15	15	5	4	5	6	4	3	26	
Southern Edge Commercial Centre - Trade Central	100	20	15	5	12	3	5	4	15	10	9	2	19	

Source: M.E, R.L.C. \*\* Short Term Zone only. \*\*\* Long Term Zone only. MCA excludes Scion Innovation Park, Waipa Business Park, Community Asset Reserve, Destination Reserve zones and centres consented in residential zones.



Table 14.4 – MCA Results 2021 – Tourist Accommodation Development Suitability

Location of Zoned Area	TOTAL (Max Score = 145)	Range	1 to 5	1 to 10	1 to 20	1 to 15	1 to 5	1 to 10	1 to 10	1 to 10	1 to 15	1 to 15	1 to 5	1 to 5	Rank (based on Total)
		Maximum score	5	10	20	15	5	10	10	10	15	15	5	5	
		% Weighting	14%	3%	7%	14%	10%	3%	7%	7%	7%	10%	10%	3%	
		Access to major Road / transport routes; good transport access, especially road/motorway	Proximity to Rotorua Airport - transport to and from hotels	Natural Hazards (i.e. flood, geotechnical issues, stormwater management)	Proximity to CBD	Ownership Structure (tenure i.e. predominantly freehold land)	Proximity to tourist activities (including bike parks)	Potential for co-location or clustering with complementary businesses	Service infrastructure in place	Ability to develop a range of space types including multi-storey buildings	Proximity to Lakeside amenity, including water views	Exposure / profile / visibility	Existing or proposed public transport	Ability to utilise geothermal energy/ resource	
City Entranceway Accommodation - Aorangi Peak (Mountain Road)	51	1	1	7	1	15	1	1	10	3	8	2	1	1	10
City Entranceway Accommodation - Fenton Street **	100	15	4	7	15	15	3	3	8	3	6	14	3	5	7
City Entranceway Accommodation - Ohinemutu (Lake-Bennetts-Whittaker)	103	15	3	10	16	15	3	4	8	3	6	11	5	5	4
City Entranceway Accommodation - Whakarewarewa (Hemo Road)	102	20	4	7	10	15	4	5	8	3	3	15	3	5	5
City Entranceway Accommodation - Whakarewarewa-Fenton Park	89	20	4	7	10	6	4	5	8	3	3	12	3	5	9
Fenton Entranceway Residential, Visitor Accommodation, Commercial - Fenton Street ***	102	15	4	7	15	15	3	3	8	5	6	14	3	5	5
Fenton Entranceway Residential, Visitor Accommodation, Commercial - Whakarewarewa (Hemo Road) ***	104	20	4	7	10	15	4	5	8	5	3	15	3	5	3
Fenton Entranceway Residential, Visitor Accommodation, Commercial - Whakarewarewa-Fenton Park ***	91	20	4	7	10	6	4	5	8	5	3	12	3	5	8
Mid City - City Centre Blocks 1-27, 30-31	125	15	4	10	20	13	3	10	8	10	12	11	5	5	1
Northern Edge - City Centre Block 29	119	15	4	7	19	12	3	9	8	8	15	10	4	5	2

Source: M.E, R.L.C. \*\* Short Term Zone only. \*\*\* Long Term Zone only. MCA excludes Scion Innovation Park, Waipa Business Park, Community Asset Reserve, Destination Reserve zones and centres consented in residential zones.

### 14.2.1 Suitability of Capacity Results – Alternative Capacity Scenario

Figure 14.2 - MCA Results – Suitability of Rotorua Commercial Enabled Zone Locations vs. Alternative (Commercial) Capacity Scenario

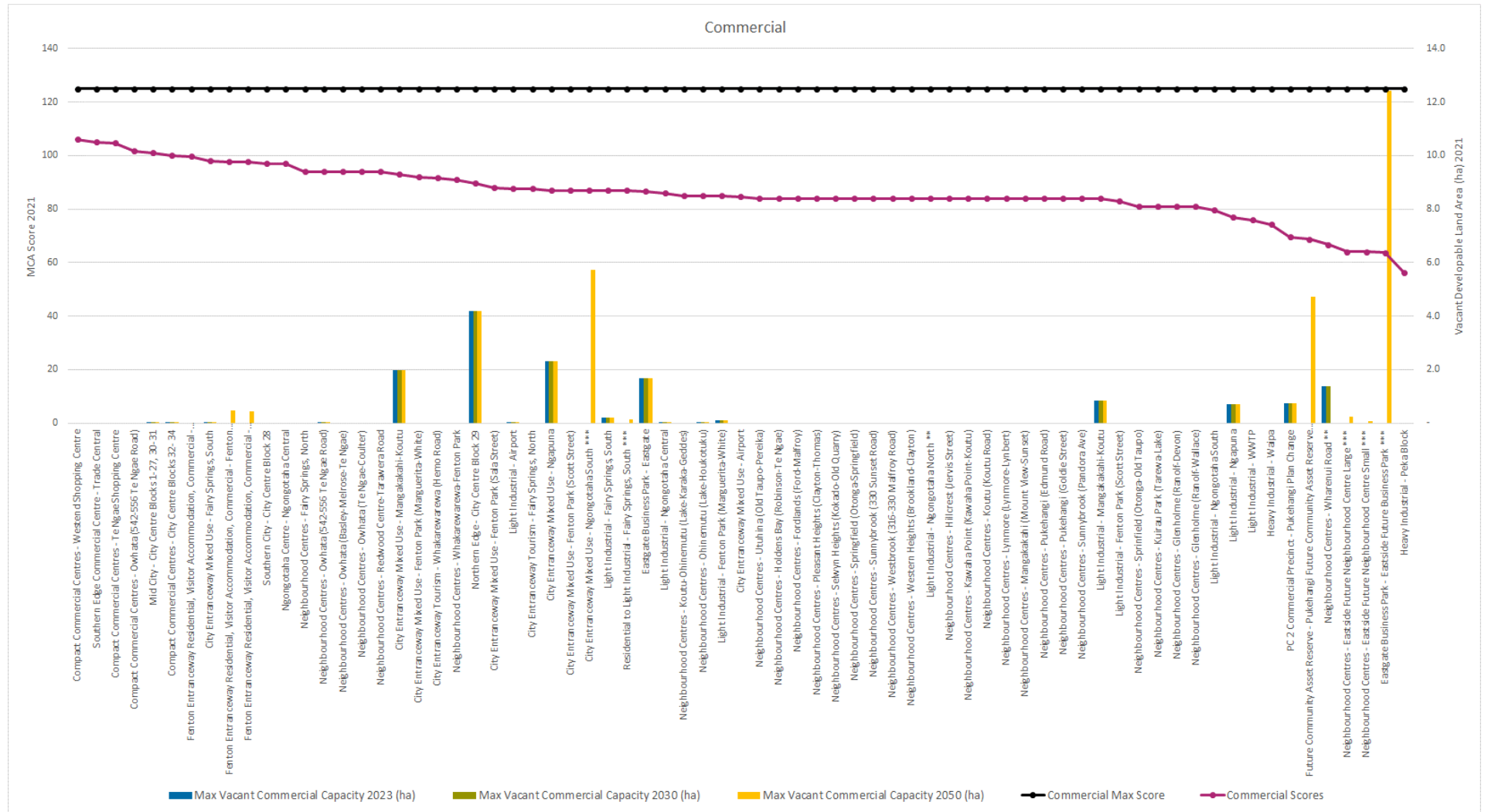




Figure 14.3 - MCA Results – Suitability of Rotorua Retail Enabled Zone Locations vs. Alternative (Retail) Capacity Scenario

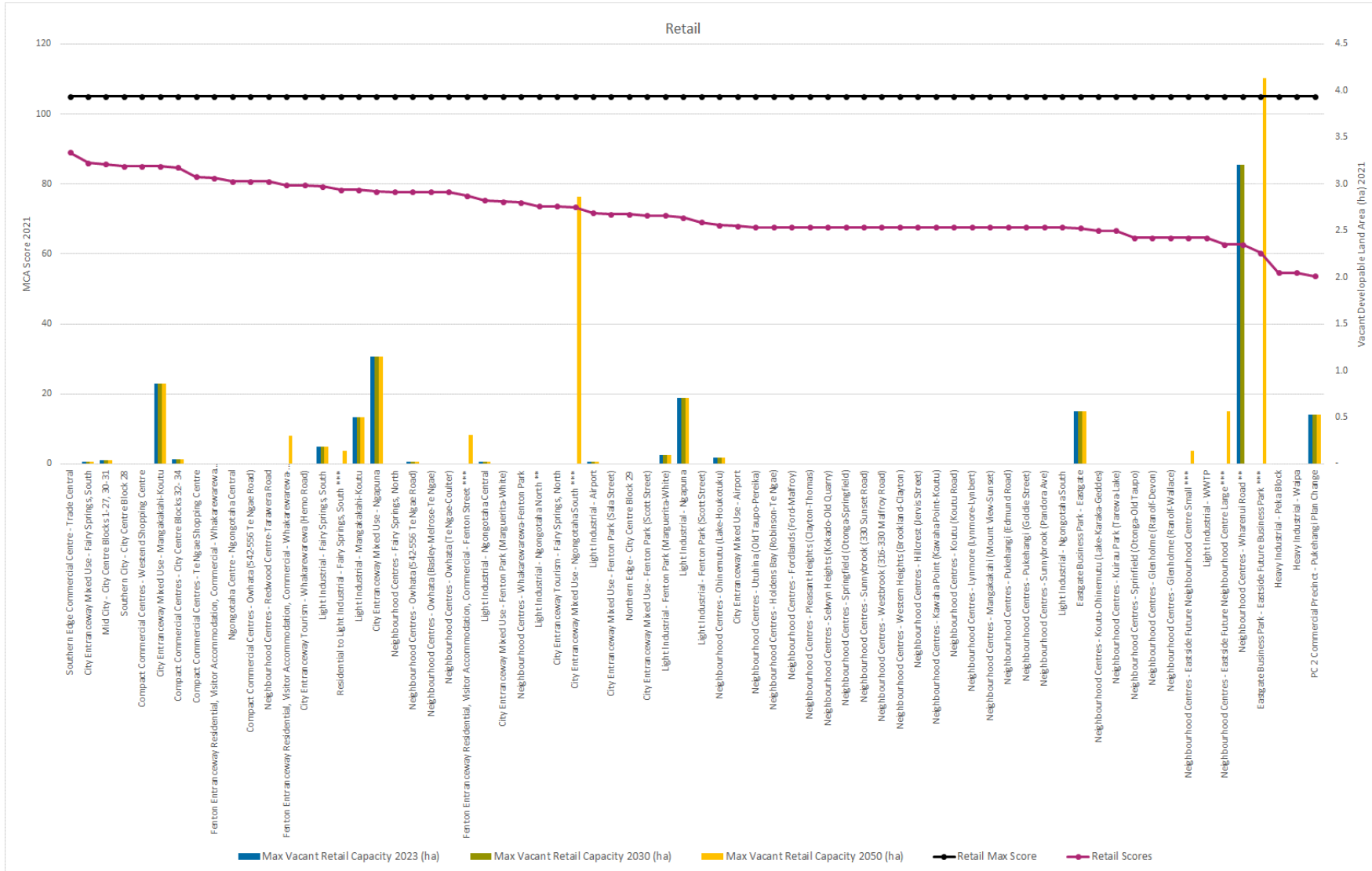




Figure 14.4 - MCA Results – Suitability of Rotorua Industrial Enabled Zone Locations vs. Alternative (Industrial) Capacity Scenario

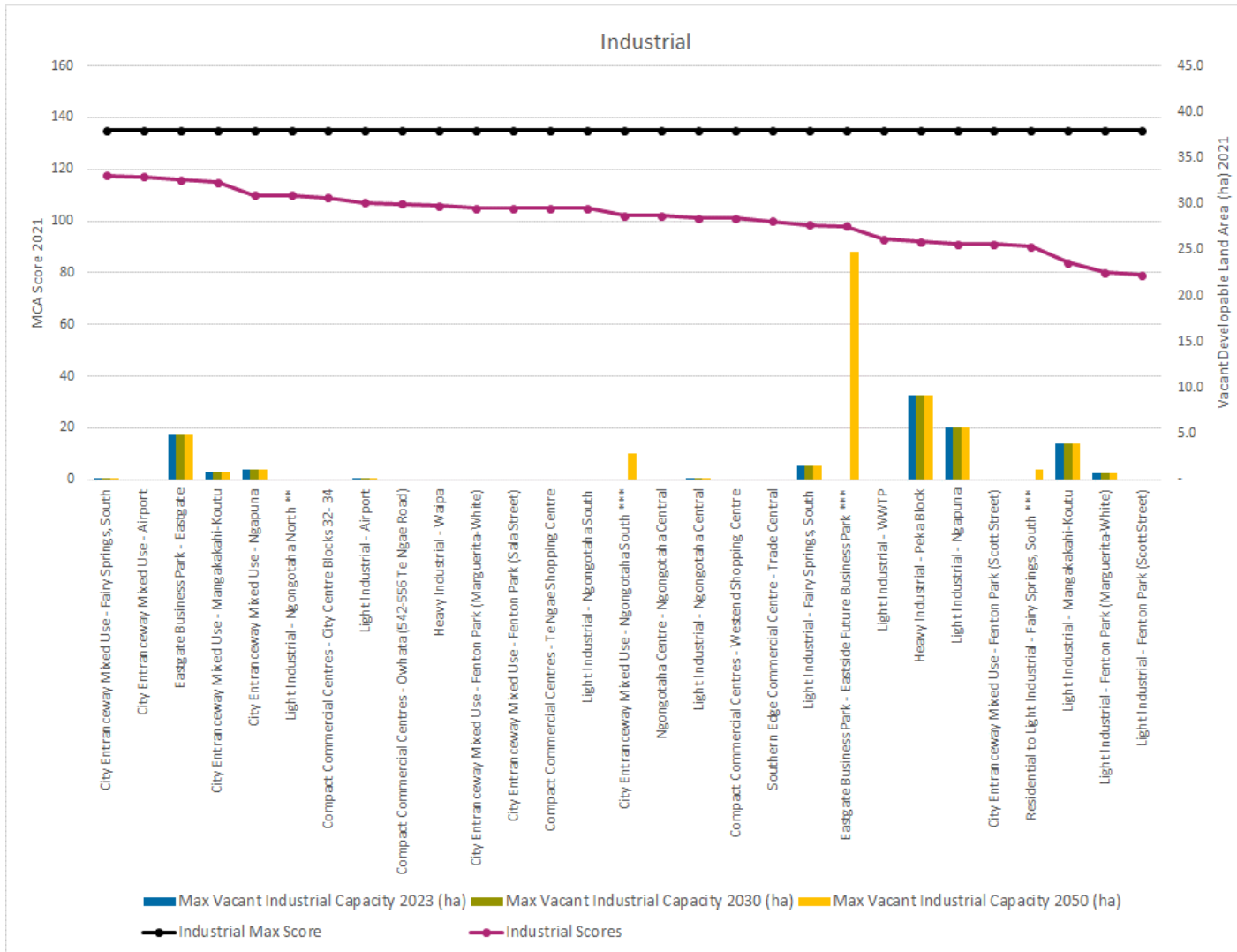
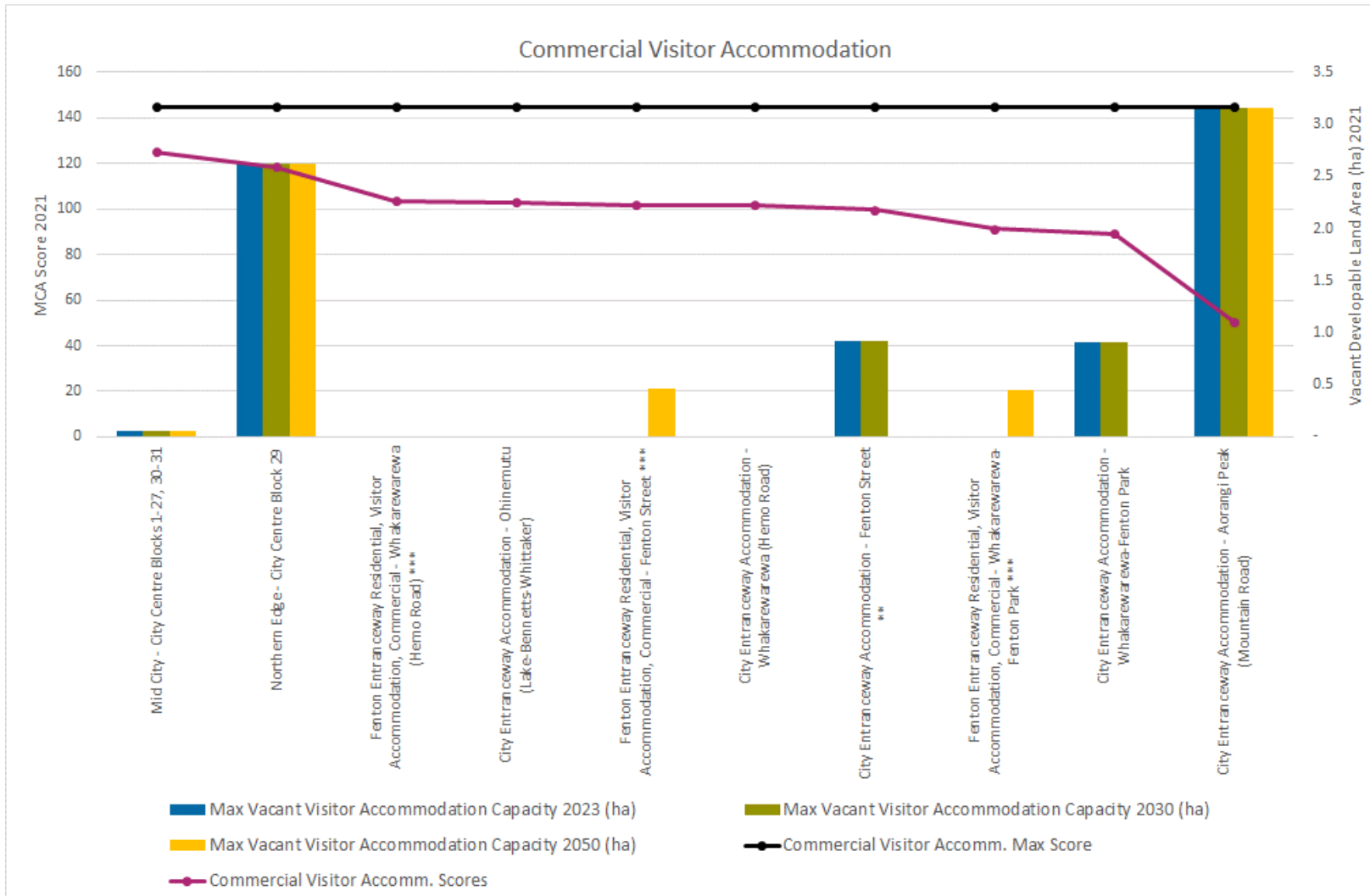




Figure 14.5 - MCA Results – Suitability of Rotorua Accommodation Enabled Zone Locations vs. Alternative (Accommodation) Capacity Scenario



# 15 Sufficiency of Capacity

The section complements the Sufficiency of Capacity section in the Main Report. It is limited to the sufficiency result tables for the Maximum Capacity Scenario, which are included for completeness, noting that this HBA gives greater weight to the Alternative and Alternative Conservative Capacity Scenarios discussed in the Main document.

## 15.1 Sufficiency Results

### 15.1.1 Maximum Capacity Scenario

Table 15.1 – Plan Enabled Business Land Sufficiency by Category (Ha) – Maximum Capacity Scenario

Category	Developable Land Demand and Capacity (ha)											
	Demand with Competitiveness Margin			Capacity (Maximum Capacity Scenario)			Sufficiency (n)			Sufficiency		
	2020-2023	2020-2030	2020-2050	2020-2023	2024-2030	2031-2050	2020-2023	2020-2030	2020-2050	2020-2023	2024-2030	2031-2050
	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term
Retail	2.2	6.0	10.8	49.8	49.8	99.4	47.6	43.8	88.6	Sufficient	Sufficient	Sufficient
Commercial	5.2	16.1	41.0	49.8	49.8	104.2	44.6	33.7	63.1	Sufficient	Sufficient	Sufficient
Accommodation	1.2	3.4	6.2	10.3	10.3	10.3	9.1	6.9	4.1	Sufficient	Sufficient	Sufficient
Industrial	9.2	21.6	36.2	39.0	39.0	90.4	29.8	17.4	54.2	Sufficient	Sufficient	Sufficient
<b>Total</b>	<b>17.7</b>	<b>47.1</b>	<b>94.1</b>									

Source: M.E Rotorua Urban Business Land Demand Model (HBA 2021), M.E Business Capacity Model 2021.  
 Projected demand within business enabled zones in defined urban environment only (as defined by SA1 2018)  
 Maximum Capacity Scenario (Includes Overlap of Capacity Between Enabled Categories)

Table 15.2 – Plan Enabled Business Floorspace Sufficiency by Category (sqm GFA) – Maximum Capacity Scenario

Category	Floorspace Demand and Capacity (sqm GFA)											
	Demand with Competitiveness Margin			Capacity (Maximum Capacity Scenario)			Sufficiency (n)			Sufficiency		
	2020-2023	2020-2030	2020-2050	2020-2023	2024-2030	2031-2050	2020-2023	2020-2030	2020-2050	2020-2023	2024-2030	2031-2050
	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term	Short Term	Medium Term	Long Term
Retail	11,800	32,400	58,800	210,100	210,100	505,900	198,300	177,700	447,100	Sufficient	Sufficient	Sufficient
Commercial	25,900	78,400	202,000	389,600	389,600	1,137,600	363,700	311,200	935,600	Sufficient	Sufficient	Sufficient
Accommodation	5,900	17,200	30,900	114,400	114,400	116,200	108,500	97,200	85,300	Sufficient	Sufficient	Sufficient
Industrial	42,800	101,100	172,500	148,100	148,100	454,500	105,300	47,000	282,000	Sufficient	Sufficient	Sufficient
<b>Total</b>	<b>86,400</b>	<b>229,100</b>	<b>464,200</b>									

Source: M.E Rotorua Urban Business Land Demand Model (HBA 2021), M.E Business Capacity Model 2021.  
 Projected demand within business enabled zones in defined urban environment only (as defined by SA1 2018)  
 Maximum Capacity Scenario (Includes Overlap of Capacity Between Enabled Categories)