Housing and Business Development Capacity Assessment 2021

Rotorua District

5th November 2021 – Draft

m.e consulting

ROTORUA LAKES COUNCIL
Te kaunihera o ngā roto o Rotorua

Housing and Business Development Capacity Assessment

Rotorua District

Prepared for

Rotorua Lakes Council
and
Kāinga Ora

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Executive Summary

This report has been prepared to provide a robust assessment of Rotorua's housing and business market in accordance with the requirements of the National Policy Statement on Urban Development 2020 (NPS-UD). It includes a detailed analysis of housing and business demand and supply patterns, including recent trends and future projections of demand over the short, medium, and long term (2020-2050). It quantifies capacity for additional housing and business development that is commercially feasible, serviced by infrastructure and reasonably expected to be realised. It addresses the sufficiency of that capacity to meet projected future demand for additional dwellings and business growth and it discusses the impact of Council planning and infrastructure on housing affordability and the competitiveness of the housing market as well sufficiency of urban business zone capacity.

2-3 page summary

Figure A – Urban Environment Dwelling Capacity Assessment Compared with Dwelling Demand

(Insert graph – net or total? growth PE, PE-CF, PE-CF-IR, RER, Demand + margin)

Figure B - Summary of Sufficiency of Urban Dwelling Capacity (All Types) in Rotorua Urban Environment

(Insert graph – RER sufficient to meet demand, RER sufficient to meet margin, RER surplus)

Figure C - Summary of Long Term Sufficiency of Urban Dwelling Capacity (All Types) by Location

(Insert graph – net or total? growth PE, PE-CF, PE-CF-IR, RER, Demand + margin by reporting area)

Figure D - Current (2020) Shortfall of Dwellings Affordable to Resident Non-Owner Households – Total District

(insert graph)

Figure E - Long Term (2050) Shortfall of Dwellings Affordable to Resident Non-Owner Households – Total District, Medium Growth, Base Case Housing Price Growth

(insert graph)

Continue business graphs.

1 Introduction

This report is the Housing and Business Development Capacity Assessment ("HBA") 2021 for Rotorua District. The requirement for this three-yearly report is set out in the National Policy Statement for Urban Development 2020 ("NPS-UD"). The report complies with the requirement for Tier 2 territorial authorities to assess the demand for housing and business land in urban environments, and the development capacity that is sufficient to meet that demand in its district in the short, medium, and long term.

1.1 Growth in Rotorua – Key Issues and Policy Context

1.1.1 Growth Pressures Facing Rotorua

Rotorua has only relatively recently started to experience more sustained population growth. In addition, future growth estimates also identify a likely change in household structure, with a significant increase in single and two-person households, and in the proportion of the population aged over 80.

Legacy issues associated with low growth has impacted on housing delivery with infrastructure planning being based on historically low growth figures. In addition, new climate change modelling and water quality standards means that servicing residential development is becoming increasingly onerous which is compounding the infrastructure provision issues.

Alongside this, the planning framework has not evolved significantly over the last 10 or more years to enable the intensification required today and in the future. As a consequence, although the council recognises the need for and want to support greater housing choice, for example, town houses and terraced housing, it is difficult to do so within the existing District Plan framework.

The issues outlined above have contributed to a housing crisis that has worsened over time with the ultra-low interest rates and a faster-than-anticipated economic recovery only serving to compound the housing affordability and supply issues. Rotorua is therefore a district that is suffering the effects of a housing crisis with the shortage of housing and rapidly increasing house prices at its heart.

In 2019 it was identified that Rotorua had a housing shortage of around 1,500 – 1,750 homes to meet the needs of the current community. Recent Corelogic data further shows that Rotorua exceeded the $500,000 average house value mark during 2020 and by December 2020 the average house value in Rotorua was $595,638, an increase of 19.2% since December 2019. This situation is leading to complex socio-economic issues for the district, key amongst these are:

- An increasing dependency on social housing - in December 2019 there were 479 applicants on the Social Housing Register and by December 2020, this number had risen to 676.
- An increasing level of homelessness - an estimated 2,000 homeless people are occupying about 45 motels across the city. In 2020, it was estimated that the Ministry of Social Development spent about $10 million on emergency housing grants in Rotorua.

As a response to these issues Te Arawa and RLC jointly developed the 'He Papakāinga, He Hapori, Taurikura Te Poupou Rautaki – The Homes and Thriving Communities Strategic Framework' (2020) and confirmed the following as key growth challenges particularly associated with housing in Rotorua:

- Homelessness
- Increasing waiting list for social housing
- Unaffordable homes both to rent and buy
- Poorly maintained homes
- Cost to build homes is high
- A shortfall of 1,500 – 1,750 homes (as at end 2019)
- Relatively high rates of unemployment
- Households are more likely to receive a social welfare benefit
- Relatively higher rates of crime and victimisation than the national average.

1.1.2 Implications for growth and urban development?

The Rotorua sub-region is served by State Highway 30 and State Highway 5 and is on the route of the Thermal Explorer Highway which runs along State Highway 5. Rotorua is located in the centre of the Bay of Plenty Region, one hour from Taupō, an hour and a half from Whakatāne and 80 minutes from Tauranga.

Rotorua is famous for its geothermal activity, with seven geothermal fields with hot pools and spectacular steam eruptions that have attracted over 3 million visitors per year. The region also includes 18 lakes, three major rivers and 100,000 hectares ("ha") of native and exotic forests with the largest commercial plantation forest in the Southern Hemisphere. There are 120 wetlands and hundreds of kilometres of walking, cycling and mountain bike tracks. Rotorua is arguably the oldest tourism destination in the country, attracting visitors for more than 150 years to experience its unique geothermal and cultural offerings.

The Rotorua 'urban environment' is one of sub-region's significant urban areas and is recognised by the NPS-UD as a Tier 2 urban environment along with Whangārei, New Plymouth, Napier-Hastings, Palmerston North, Nelson Tasman, Queenstown and Dunedin. Much of this area is subject to constraints that limit its development potential, for example, natural hazards, infrastructure and land tenure. In addition, low density zoning provisions affect the overall capacity and affordability associated with new development.

Previous low growth has also meant that the current Rotorua community has not experienced the level of intensification required to appropriately address the supply problem. There has been no direct engagement with the community around why new housing typologies, including medium density options, are a critical part of Rotorua's future urban form.

1.1.3 What sort of development and growth are we seeing?

The number of houses built in the district has been increasing steadily from a low growth point in 2015 where approximately 67 houses were built through to 2020 where 150 dwellings were constructed. The increase in construction however is still not at levels needed to meet demand. It is important to note that a greater proportion of the growth in dwellings has occurred within the urban areas and a growing

proportion of dwelling are being constructed in brownfield locations (over 70% in 2020). This may be attributed to the lack of available greenfield land rather than a preference for development in brownfield locations.

In terms of greenfield locations, land is starting to be developed within the Wharenui block to the north-east of the city centre and 160ha of rural land has been rezoned at Pukehāngi (however, there are stormwater constraints that need to be resolved before any development can occur in that location).

The majority of houses and subdivisions align with or exceed the minimum density requirements of the District Plan however, in recent years Council has started to see more applications for one or two storey dwellings on smaller lot sizes. These small dwellings however have been primarily associated with lifestyle/retirement villages or public housing. There is however an emerging interest in smaller housing typologies from some developers such as Kāinga Ora, especially in relation to the provision of affordable housing.

Some historically undeveloped sites are starting to become more economically viable and appealing to develop due to an increase in the land value and increasing demand for housing (the feasibility of this capacity is discussed later in the report). In terms of locations of new housing, the western urban area has provided the most capacity in recent years.

1.1.4 How the District Plan Provides for Development?

Residential centres within the urban area are made up of medium and low density zones along with special character areas such as Whakarewarewa, Ohinemutu and Ngapuna providing residential opportunities within an established cultural setting. The majority of the housing within the Rotorua district falls within the Residential 1 Zone which is a traditional low density zone (an average lot size of 450m2 is anticipated). The District Plan provides some provision for medium density housing close to the Central Business District ("CBD"). However, this is not resulting in the establishment of traditional town housing.

There is undeveloped residential areas such as the Pukehāngi plan change area and to the east of the CBD. However, there are constraints with much of the land, such as the management of stormwater or land tenure limiting development potential (discussed further below). There is opportunity for residential development in other zones with varying densities ranging from 250m^2 to 2500m^2.

In terms of the planning framework for the CBD, the plan allows for apartment style housing as a permitted activity. This is however, limited by the performance standards within the plan such as minimum unit size and overall limits on the heights of buildings.

The Commercial zones includes two zones specifically focused on tourist activities and accommodation. The remainder of the commercial areas are characterised by neighbourhood and local shops.

The location of the industrial zones within the Rotorua district reflect historic industrial activities often in close proximity to residential areas.

One key aspect of the current District Plan is the provision for business parks within the Business and Innovation zone. In particular the Scion Business Park which has a focus on forestry research.

The District Plan was developed during a period of low-growth and before the Covid-19 virus outbreak. In order to address the growing need for a more sustainable delivery of housing that will also meet a changing household structure, consideration is being given to developing a more fit-for-purpose District Plan through a series of plan changes. Following the development of the HBA, plan changes focusing on intensification and new greenfield will not only enable more housing but a greater housing choice to meet the needs of a changing community through enabling smaller housing typologies. A plan change focussing on flooding caused by intense rainfall events will be progressed alongside the intensification plan change to ensure that as Council enable intensification it is not increasing risk to people and the potential damage to property.

These plan changes will therefore aim to ensure that Council increases the community's resilience to the effects of climate change as the urban environment grows and have a well-functioning urban environment that will improve the ability for Rotorua's citizens to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future.

1.1.5 Key Constraints to Development

Sustained population growth for the Rotorua does bring several benefits to the district, particularly in the way of GDP growth. A significant driver of growth and jobs has been tourism. Rotorua is one of the most established and recognised tourism destinations in Aotearoa. It has a unique visitor experience based on its natural and cultural values. These values provide a strong and compelling set of iconic experiences including iwi cultural activities, thermal attractions and a solid range of adventure activities. The tourism component of the economy is clearly at significant risk due to the global Covid-19 pandemic and the decimation of international travel for a yet to be determined timeframe.

Although annual growth across economic measures of GDP, tourism expenditure and house prices show Rotorua's economy as growing slower than the Bay of Plenty Region and New Zealand average, there has, as outlined above, been a steady increase in consents issued and new dwellings constructed.

For Rotorua, the economic benefit of growth is not proportionate to the cost of enabling this growth. The sustained nature of growth is creating significant challenges for the district in delivering infrastructure to support it, along with funding and financing the costs of growth.

Key constraints to development in the Rotorua District are outlined below:

Natural Hazards

- The majority of constraints to development are associated with natural hazards and the management of them. Rotorua is built within a caldera and as such rainfall from the surrounding hills is funnelled through streams and pipes to the lake. This concentration of rainfall, along with the need to recognise climate change effects on future rainfall patterns and combined with development in some areas that has been built relatively close to streams, and a stormwater network that has not been designed to cope with increased runoff, means that the management of stormwater is a significant constraint for development (in terms of an additional cost) across most of the city. Council has sought Infrastructure Acceleration Funding to help upgrade the stormwater network to address this issue. As outlined in a previous section District Plan policy work has been initiated for a flood hazard plan change and for the risk assessments to support a plan change/plan changes to facilitate intensification in Rotorua.

- There are also geotechnical constraints associated with development with the majority of Rotorua's flat land being historical lakebed. This results in issues in some areas such as unstable soils at depth and also high water tables. Geotechnical reports are required for the majority of new buildings.
- There are also geothermal constraints in some areas including parts of the CBD and areas to the south of the city.

Infrastructure

- Significant investment and upgrades are required in the three waters networks and particularly in stormwater in order to support future growth. The analysis identified that growth is not constrained by the water supply and wastewater networks due to additional capacity, which reflects the funded or planned infrastructure. However, the information suggests that Rotorua's existing stormwater network does currently have capacity constraints, which result in additional costs for dwelling development. Stormwater planning was influenced by a long period of low growth however planning for the required capacity to meet demand has become a challenge due to the sudden increase in growth that is projected to be sustained at high rate into the future.
- The nitrogen limit on the discharge from the wastewater treatment plan could in future be a constraint on development. As noted below, Council is investigating charging an environmental fee to offset the increasing load of nitrogen to the treatment plant discharge.
- To create good community outcomes as we intensify, parks, community infrastructure such as libraries and aquatic facilities, as well as other public facilities like schools, are required. These tend to come later than they should or, are down-scaled or not provided at all due to funding constraints. Good intensification residential outcomes is linked to good quality amenity.

Finance

- In order to unlock greenfield opportunities and support intensification, significant investment is required in infrastructure. Rotorua's balance sheet like those of other Council's is constrained by debt-to-revenue limits, combined with escalating infrastructure costs. It is beyond the city's ability to fund all of the stormwater infrastructure investment required to support growth. This is compounded by the limited rates, and lack of a Development Contributions Policy and other funding options available.

Land Development

- The development of Whenua Māori / leasehold land (discussed in more detail in the supporting Technical Report) is seen as too hard by many, although there are some signs that developers will look at such opportunities further in the future. Any development is most likely to occur through a leasing or licensing model where it is feasible for Iwi to construct and then make a return on the rental of the dwellings. This is outside the traditional commercial developer market.
- The steady growth creates a significant demand for housing and commercial land. Residential growth has traditionally occurred through greenfield development and standard infill occurring in existing urban areas. A key challenge for the district is how to provide the supporting

investment and facilities required to achieve a more balanced urban form, with more development going 'up' rather than 'out'.

- Greenfield development remains the key focus for both House Builders and Land Developers due to affordability and a high demand for all areas within Rotorua. There are also relatively sizeable areas of underutilised urban land within the existing urban extent which would allow development, at scale, for house and land developers.
- Much of the larger blocks of undeveloped residentially zoned land are either affected by natural hazards or are Māori leasehold land. The remaining larger sites are owned by a small number of land owners.
- Smaller scale builders that rely on the medium to high range of the market often build for clients who already have land, either through subdividing existing sections, or rebuilding on a section where a house has been removed. These builders believe that the demand for these sorts of builds will continue regardless of the land shortage.
- There is capacity for infill development, which typically occurs on an ad-hoc basis across much of Rotorua's urban environment. However, infill opportunities are limited to smaller scale, ad-hoc development. The total number of opportunities are also limited by the relatively large minimum site size requirements across most of Rotorua's general suburban area. This development pattern has accounted for a reasonably large share of Rotorua's past development activity due to the constrained greenfield land, however, these opportunities are becoming proportionately fewer as greater shares of the easier development options are taken up. Through time, market growth will mean that more areas will become feasible to develop as achievable prices rise.
- Within the CBD, land ownership is fragmented limiting the potential for redevelopment at scale

Planning and Consenting

- Developers indicate that the consenting process is problematic, stating that it takes too long to bring land to the market and the process is complex.
- Planning for resilience and natural hazards associated with growth and intensification is a priority. However, modelling and assumptions required to support decision making can be problematic.
- The Plan needs to further enable growth 'up' as well as 'out' - the planning framework is currently limited in its ability to enable a greater range of housing typologies such as town houses and terraced housing due to density and height standards. This is discussed later in terms of housing capacity and sufficiency assessment.
- Planning and implementing an appropriate urban form for Rotorua in a timely manner is a challenge with an increasingly complex planning environment where achieving the outcomes of multiple National Policy Statements is required.

Housing stock

- There is declining stock of properties in the price range that entrants to the market can afford to finance due to population growth and land resource constraints.

- The current housing stock in Rotorua is not well aligned to the changing demographics and the prices at which people can afford to rent or purchase a home. In terms of 'new' home sales of homes built over the 2010-2019 decade, the sales price realised averaged $550,000, a significant $100,000 higher than the median sale price achieved across the district .
- Housing supply and section size are not reflective of an affordable profile in the district as the majority of homes being built are 3 and 4-bedroom dwellings and are detached. However, the evidence suggests there is some interest in medium density options like town houses and terraced housing.
- Affordable housing is becoming harder to build primarily due to land prices increasing.

1.1.6 Council's Approach to Future Planning and Strategy

The Long Term Plan 2021-2031

The Long Term Plan ("LTP") is a document which sets the direction for the district and is formally reviewed and updated every three years. It describes the activities of Council and shows the whole picture of how the activities are managed, delivered, and funded. A commitment was made in the LTP to unlock land for housing and commercial development and the investment in core infrastructure, while ensuring the prudent use of debt while interest rates were low, to initiate projects. Approximately $60m of growth projects were planned to be implemented over the next 10 years of the LTP. These include roading and three waters infrastructure to cater for growth in key areas of the district such as the Wharenui development in the east and Pukehāngi developments in the west. These infrastructure projects in the LTP are outlined in Rotorua's infrastructure strategy that provides the 30 year approach to the delivery of infrastructure across the district. The LTP also signalled the introduction of a Development Contributions Policy. This policy is critical to funding growth as a development contribution places the cost of providing infrastructure capacity on those creating the demand. The growth projections that the LTP is based on are consistent with the Infometrics projections for growth for the Rotorua district used for this HBA (and are discussed further in the Infrastructure Ready Capacity section).

There were however a few of the growth projects that could not be budgeted for in this LTP and therefore their delivery falls outside the LTP 10 year timeframe:

- A new 5,000m3 water storage tank in Wharenui Road for additional drinking water capacity to service growth.
- Eastern growth enabling stormwater upgrades. However, $15m Crown Infrastructure Partner (CIP) funding has been provided for the first 3 years and will be reviewed to reflect rate of actual development for succeeding years.
- Western growth enabling stormwater upgrades ($7.5m central government funding for the first 3 years and will be reviewed to reflect rate of actual development for succeeding years).

As discussed below, funding for unfunded stormwater projects has been sought through the Infrastructure Acceleration Fund ("IAF") in July 2021.

The total budget for infrastructure growth projects following year 10 (2031) in the LTP is $54m. These infrastructure growth projects are associated with the 3 waters. Roading is generally funded by Waka Kotahi (NZTA).

Infrastructure Acceleration Fund (IAF)

In March 2021, Central Government announced the $3.8bn Housing Acceleration Fund ("HAF") to help increase the supply of houses and improve affordability for home buyers and renters. A key component of the fund is the IAF. The IAF aims to increase the pace and scale of housing delivery by helping to fund critical infrastructure needed for developments. RLC submitted three Expression of Interests ("EOIs") in August 2021, totalling $113m for enabling stormwater infrastructure across the Central, Western and Eastern areas of the city:

Central Proposal (IAF Funding Sought = $29m)

The proposal is to significantly upgrade the stormwater infrastructure in the central area. This includes redirecting water to towards the east (away from the Utuhina Stream) by upgrading Tilsley Road pump station and increasing the stormwater pipe and drain capacity.

Western Proposal (IAF Funding Sought = $62m)

The proposal is to further progress stormwater upgrades and expansion in the western suburbs. This includes construction of four major stormwater detention ponds / basins with wetlands and upgrades to existing pipes and drains.

Eastern Proposal (IAF Funding Sought = $24m)

The proposal is to further progress stormwater upgrades for the Wharenui Blocks and expansion within the eastern suburbs. This includes construction of three detention ponds with wetlands, new stormwater drains, realigned existing channels and culvert upgrades.

Spatial Planning

The 2018 Spatial Plan provided a blueprint for how Rotorua was to look in the future, where the development should occur, what type and how much. The Spatial Plan was developed to outline how the district will grow, develop and change over thirty years to deliver Rotorua's 2030 vision and goals.

The aim of the spatial plan was to:

- Provide one picture of where the district is heading and highlight significant and key areas for growth and change.
- Provide a guide for investment decisions at a local, regional and central government level.
- Identify the key issues facing the district and the priorities that need to be advanced to address these.

Following the completion of the HBA, the RLC will develop a Future Development Strategy ("FDS"). The FDS forms the basis for integrated, strategic and long-term planning. A FDS will help RLC set the high-level vision for accommodating urban growth over the long term, and will identify strategic priorities to inform other development-related decisions, such as:

- District Plan zoning and related plan changes (e.g., greenfield and intensification plan changes)

- priority outcomes in long-term plans and infrastructure strategies, including decisions on funding and financing
- priorities and decisions in regional land transport plans.

The FDS will respond to the findings of the HBA about demand for and supply of housing and business land, and how much 'development capacity' is sufficient to meet expected demand. The FDS spatially identifies where long term growth should occur, considering other inputs like constraints on development. RLC will use the FDS to:

- set a high-level approach for achieving well-functioning urban environments.
- specify how and where Council will provide sufficient development capacity to meet future growth needs over the next 30 years.
- set out the development infrastructure and additional infrastructure required and how to integrate planning decisions with infrastructure and funding decisions.

Key infrastructure projects that will influence growth

The key infrastructure projects that will influence growth are; CIP funded projects at Wharenui that include roading, stormwater and water along with wider stormwater projects proposed, and subject to funding, within the central, eastern and western areas. This is discussed later in the report.

1.1.7 Regional Policy and Implications for Planning and Development?

The Regional Policy Statement ("RPS") provides an overarching framework to sustainably manage urban growth in the region and to enable development of a sustainable regional urban and rural form. The RPS seeks to direct and maintain compact, well-designed, and strongly connected urban areas to effectively and efficiently accommodate growth. Intensive urban development is recognised as being necessary to accommodate growth but with potential for adverse amenity, social, economic, cultural and transport effects.

The RPS takes a risk management approach to managing the development of land in relation to natural hazards. This requires risk assessments to be undertaken in relation to larger resource consent applications, when land is rezoned and when District Plans are reviewed. Developments are required to achieve a low level of risk within the development site without increasing risk outside of the development site. Depending on the natural hazard, appropriate modelling to understand risk levels is a significant work stream required to inform urban development decisions.

1.1.8 What Challenges Does the Council Have to Deal With?

Council's key role in facilitating growth is to provide much of the public infrastructure supporting development (roads, three waters, community facilities and reserves), the zoning of land to allow for development, and a regulatory framework to manage this development. The increased demand for growth requires significant additional funding to upgrade infrastructure; and increased resourcing to manage and design projects, rezone land and process consents.

Central government has in recent times provided significant investment through a number of funds. However, there is still significant work to be undertaken to unlock development, and resourcing is an

ongoing issue for Council as previously outlined. It is important to note that legislative reform and increased standards and requirements although important, create challenges.

There are a number of factors that influence development capacity and uptake which are beyond the control of Council. These are issues like:

- Demographic changes including migration rates.
- External economic shocks on employment e.g., the impact of Covid on the Tourism sector.
- Financial interest rates and lending criteria, and
- The influence of Tauranga and other regional centres on growth and employment, and the impact of significant infrastructure projects (e.g., State highway upgrades).

These external or wider economic factors, and how they influence housing price rises and future affordability are discussed later in this HBA.

1.2 HBA Objectives

The objectives of this report[1] are to:

- Provide robust information on the demand and supply and capacity of housing and business land in Rotorua;
- Quantify the development capacity that is sufficient to meet expected demand for housing and business land in the urban environment in the short, medium and long term;
- Incorporate information and feedback from the housing and business development sectors;
- Provide information on the likely impact of Council planning and infrastructure decisions on future affordability and competitiveness of the housing market; and
- Inform housing bottom lines, Resource Management Act ("RMA") planning documents and decision making, the Future Development Strategy ("FDS") and the Ten Year Plan ("LTP").

1.3 Approach Summary

The approach to this HBA (2021) has been designed to meet the requirements of the NPS-UD for a Tier 2 local authority – which Rotorua Lakes Council ("RLC") and Bay of Plenty Regional Council ("BOPRC") are now classified as a result of Rotorua being identified as a Tier 2 urban environment in the NPS-UD Appendix 2. The following is a high-level summary of the adopted approach. Further detail is provided throughout this report and in the supporting Technical Report.

The housing market and demand assessment builds on detailed information of district level customised and standard Census 2018 data, other StatisticsNZ ("SNZ") data including, but not limited to, dwelling consent data, data purchased from CoreLogic on housing values, sale prices and purchaser patterns, and Council's household growth projections. This data is used to build a comprehensive profile of current

[1] As set out in clause 3.20 of the NPS-UD.

housing demand as at June 2020 (the base year of this HBA), housing supply, future housing demand and housing affordability. It provides specific insight on how the current and likely future demands for housing by different groups in the community are met, including the demand for different types and forms of housing. It also estimates future demand for housing by location within the urban environment (discussed below) and by attached and standalone dwelling types, as well as future dwelling demand by price band for the urban environment and district as a whole.

The business market and demand assessment is driven by Council's projections of 'jobs filled' (employment) by detailed industry for the total district, SNZ data on current employment by those same detailed industries at a detailed spatial level, and national level research on land and floorspace ratios per person employed by industry. Combined, this data provides insight on how the current and likely future demand for business land and floorspace relates to current and proposed business zones in the urban environment.

The HBA draws on capacity modelling developed to comply with the scope set out in the NPS-UD and applied to Rotorua District's urban environment. Specifically, it identifies housing and business development capacity that is plan enabled in the following ways:

- Short term (2020 – 2023) – land zoned for housing and business in the Operative District Plan ("ODP").[2] This excludes any operative Future Urban Zones.
- Medium term (2023 – 2030) – as above plus land that is zoned for housing in a Proposed District Plan ("PDP"). As there is no PDP at this time, and no notified plan changes pending decision, the medium term capacity is the same as in the short term.
- Long term (2030 – 2050) – as above plus land that is identified for future urban use or urban intensification in the Rotorua Lakes Spatial Plan (2018),[3]. These areas, and the zones assigned to them are indicative only for the purpose of the HBA. Future Urban Zones identified in the ODP are also included within long term capacity.

The assessment of plan enabled capacity in the urban environment in the short, medium, and long term is a parcel level analysis that relies on the relevant development rules/standards of the zone in which it is located to quantify net additional dwelling potential for attached and standalone dwelling types and/or potential new business floorspace. The analysis takes into consideration any sub-zones, precincts or sub-areas that apply to each parcel that may impact on future dwelling or business floorspace potential.

The modelling considers potential for:

- infill development (i.e., where subdivided sections are vacant or where existing residential sections can be further subdivided to accommodate one or more additional dwellings),
- greenfield development (applicable only to land that has not yet been subdivided for urban development), and

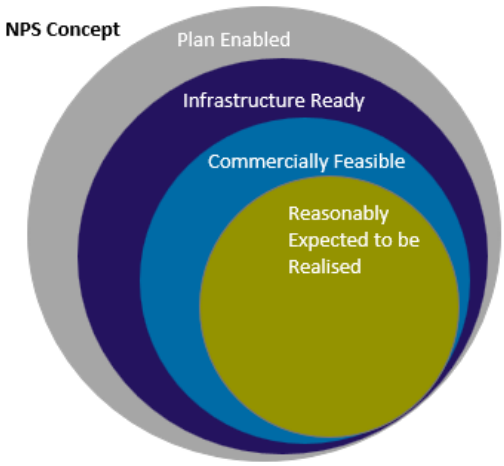
[2] Refer clause 3.4(2) of the NPS-UD. Zoned means residential dwellings and business activities have a permitted, controlled, or restricted discretionary activity status.

[3] The NPS-UD specifies long term plan enabled capacity can include land identified for future urban use or urban intensification in an FDS or other relevant plan or strategy where this supersedes either the ODP or the PDP. Council is not required to have an FDS until 2024.

- for housing only, net additional capacity through redevelopment (i.e., where any existing dwellings are theoretically removed and existing residential sections are developed to their maximum density.[4]

The NPS-UD requires that Council provides at least sufficient development capacity in its urban environment to meet expected demand for housing and business growth in each time period. This is not limited to plan enabled capacity. In order to be sufficient, the development capacity must be plan enabled, infrastructure ready, and feasible and reasonably expected to be realised (or 'suitable' in the case of business capacity). The NPS-UD guidance sets out the indicative relationship between these four aspects of capacity (as they pertain to housing development capacity), replicated in Figure 1.1 (note, the circles are not to scale). As indicated in the image, the guidance assumes that not all plan enabled capacity is likely to be infrastructure ready and/or commercially feasible (i.e., feasible to a developer). And less development capacity again is likely to be reasonably expected. Analysis for this HBA has shown that generally, Rotorua's housing capacity closely follows the relativities shown in this conceptual model.[5]

Figure 1.1 – Development Capacity Model – NPS-UD Concept v Rotorua Reality



The approach taken in this HBA to model and discuss development capacity in Part 2 (housing) and Part 3 (business) of this report follows this guidance, although commercial feasibility of residential capacity is assessed independent of infrastructure ready capacity, as well as dependent of infrastructure ready capacity in order to provide more clarity on the potential impact of Council planning as distinct to Council infrastructure on housing market competitiveness and affordability.

As such, plan enabled dwelling capacity in the short, medium, and long term is firstly assessed through the lens of what is commercially feasible. At a broad level, this modelling considers the costs of delivering housing to the market (i.e., build costs by type) relative to the potential sales price of those dwellings (influenced by location in the urban environment) to determine if they are commercially feasible (profitable) to develop.

[4] This HBA considers only redevelopment potential based on existing parcel boundaries and does not test outcomes if parcel boundaries are adjusted or adjoining parcels are aggregated.

[5] See Figure 9.1 later in this report.

Plan enabled capacity in the urban environment in the short, medium, and long term is also assessed through the lens of what is infrastructure served in each time period in terms of overall capacity at the infrastructure catchment level.[6] That is, already serviced by adequate development infrastructure in the short term, will be serviced by infrastructure identified for funding in the LTP in the medium term, or will be serviced by infrastructure identified in the Council's Infrastructure Strategy (2021-2031) in the long term.[7] The HBA relies on data supplied by Council on the quantum of dwelling (and/or employment) growth that is, or will be, infrastructure ready in regards to three waters infrastructure (although focussed on water supply and wastewater capacity). The capacity of additional infrastructure[8] to service development capacity over time is also considered at a high-level.

Finally, feasible plan enabled and infrastructure served dwelling capacity in the short, medium and long term is assessed through the lens of what is reasonably expected to be realised.[9] This considers what quantum and type of dwellings may be expected to be delivered once commercial feasibility, infrastructure constraints (including the timing of planned network extensions to service greenfield growth areas), development/site constraints and market/developer preferences (based on recent trends and anticipated shifts) are factored in, given that zoning provisions enable the maximum development outcomes and what may be reasonably expected to be developed in some locations can be an outcome less than the maximum yield. Information and commentary from stakeholders in the residential development market of the district has been incorporated in this assessment via a targeted online survey.[10] Where practical, this feedback has been used to validate or adjust modelling assumptions specifically around commercial feasibility and reasonably expected to be realised development capacity.

For business development capacity, plan enabled capacity is also assessed by what is infrastructure ready using the same data as the housing assessment, although applied through a different modelling framework. Feasibility and reasonably expected to be realised assessment is substituted for a Multi Criteria Assessment ("MCA") approach, in keeping with NPS-UD guidance. This too relied on input and feedback form stakeholders in the local commercial development market.

The HBA concludes with an assessment of the sufficiency of development capacity for housing and business demand growth in the urban environment in the short, medium, and long term. This compares demand for dwellings by type and location in the urban environment and demand for business land and floorspace in urban environment business enabled zones, inclusive of a competitive margin of an additional 20% in the short and medium term and an additional 15% in the long term, with development capacity that is plan enabled, infrastructure ready, commercially feasible and reasonably expected to be realised (or suitable) by type and location.

Sufficiency of total dwelling capacity (all types) in the district by price band is also assessed relative to total dwelling demand by non-owner households (plus a competitiveness margin) based on the price band they can afford in the short, medium, and long term.

[6] Infrastructure service catchments align with reporting areas in this HBA.

[7] Refer clause 3.4(3) of the NPS-UD.

[8] Refer Glossary.

[9] Refer clause 3.26 of the NPS-UD.

[10] See the supporting Technical Report for detailed results.

The final step in the HBA approach is to provide a discussion on the impact of council planning and the provision of infrastructure on the operation of the housing and business land market, and where possible the affordability of housing that may be constructed on that land.

1.3.1 Business as Usual Platform

It is important to recognise that this assessment is based as much as possible on a 'Business as Usual' ("BAU") base case, in which the current revealed housing preferences[11] and capabilities for each socio-demographic group are assumed to continue into the medium and long term.

This is because one key purpose of the HBA is to identify the potential effects of planning provisions and infrastructure on future housing provision, with a particular focus on housing affordability. However, affordability is affected by a wide range of factors, including dwelling typology and size, income trends, economic conditions, migration and so on, which are outside the control or influence of the Council as well as by factors where Council does have close influence – notably the sufficiency of plan enabled and estimated feasible capacity, including provision of infrastructure.

In order to understand the likely effect of those Council controlled or influenced factors, it is preferable to hold other influences as continuing at the current situation or trend, at least in the first instance. This becomes especially important for understanding the parameters of housing affordability in the future. Accordingly:

1. Population and households are estimated from current and projected demographic trends incorporated into the projection series developed for RLC by Infometrics, to reflect shifts in population size and age structure, and the numbers of households of each type expected in the district over time.

2. For future household incomes, in the first instance, the current (2020) household income distribution for households of each age and type are assumed to continue over the long term. This allows for overall household incomes and distributions (i.e., budget for housing controlling affordability) to shift according to the Treasury's national-level projections, and to Rotorua's demographic changes only, in the base situation.

3. New housing typology, particularly the detached:attached split is assumed to follow the current trend based on consents over the past 7 years. This allows for the expected mix of additional dwellings to reflect more recent trends (again reflecting revealed preferences, but also potentially influenced by planning and infrastructure parameters over that) where attached dwellings account for around one-sixth of new dwellings consented, which remains close to the current overall situation where detached dwellings account for approximately 88% of the total estate. This means the additional dwellings to accommodate the larger population are estimated according to the typology-and-value mix of current additions, or the typology-and-value mix of dwellings identified in the feasibility analysis. The nature of the mix has direct implications for the expected price of

[11] It is acknowledged that the current 'revealed preferences' of housing may not necessarily align to household's underlying preferences. I.e., they assume that households are living where they prefer, and in the dwelling they prefer. This does not reflect the trade-offs that may have been made by some households. In the absence of better data, this HBA assumes that current patterns are the revealed preferences.

new dwellings as detached dwellings are generally higher priced largely due to the cost of the land underlying them and the ratio of floorspace to land area possible.

4. For housing tenure, the starting assumption is that the owned vs not-owned split for each household group (household type and income) persists into the future. This is on the basis that households in each group will achieve the same levels of ownership in the future as the equivalent group in 2020. It is recognised that those future households will have had a different history and path to dwelling ownership or otherwise from the current households. However, rather than speculate how the mix of economic and other circumstances might see higher or lower levels of ownership in the future, the most useful starting point is simple projection of the status quo for each group.

   In particular, that provides a starting estimate of the numbers of future households in each group who would be non-owners, for the assessment of future affordability. Otherwise, there is potential to cloud the affordability assessment with assumptions about changing ownership levels.

This approach is to provide a basis for assessing the impacts of planning and infrastructure which is as clean as possible. These matters are addressed in Section 10.

1.3.2 Future Outcomes

The HBA is necessarily forward-looking, into the long term future, and housing and business outcomes in Rotorua will be driven by a wide range of influences - some having effect at the national level, some at the Bay of Plenty regional level, others at the local Rotorua level. The requirement to project forward and examine outcomes over 30 years requires multi-faceted analysis including household growth, demographic change, land supply and development, housing demands, household incomes, housing costs, land value trends, built improvement trends, and others. These are all inter-related aspects of the economy, with their own growth and change trends going forward. Importantly too, economies are characterised by cycles as well as trends, with both upward and downward shifts occurring over time, to temper the effects of short term surges.

The future outlook for each, and their combined influence on housing outcomes, needs to be informed by actual trends to date, and assumptions as to future trends. This is nothing new for future projections. However, it is important to understand that many aspects need to be examined in combination and over a long time period with effects which are cumulative and often compounding. This means that even small and apparently conservative assumptions about change and growth may have significant effects, especially on the medium and long term futures which the HBA requires to be estimated.

M.E have been careful to draw on reliable external sources where available and adopt a generally conservative line. However, an important caveat is to state that the projected outcomes and findings in this report are very sensitive to the assumptions which are applied to the analysis and projections.

1.4 Urban Environment

An HBA is an assessment of the demand for housing and business land in urban environments, and the development capacity that is sufficient to meet that demand in the short, medium, and long term. In

accordance with the NPS-UD, an urban environment means any area of land that is, or is intended to be, predominantly urban in character, and that is, or is intended to be, part of a housing and labour market of at least 10,000 people. This definition allows areas identified[12] or zoned for future urban development to be included in the defined urban environment. It also allows discrete locations of urban land that have a functional relationship with each other in terms of a housing and labour market to be part of the urban environment, even when they are not contiguous.

According to SNZ the Rotorua urban area population as at June 2020 was 63,710 making up 82.4% of the Rotorua district population (**Error! Reference source not found.**).

Table 1.1 - Rotorua District Population Estimates by Urban-Rural Area (June 2020)

Urban-Rural Name (2018)	Urban-Rural Type	Population at June 2020	% of District Population
Rotorua	Large urban area	58,500	75.7%
Ngongotaha	Small urban area	5,210	6.7%
Sub-Total Urban Area		63,710	82.4%
Hamurana	Rural settlement	1,080	1.4%
Mamaku	Rural settlement	900	1.2%
Tikitere	Rural settlement	750	1.0%
Rotoiti	Rural settlement	540	0.7%
Lake Okareka	Rural settlement	520	0.7%
Mourea	Rural settlement	420	0.5%
Kaingaroa	Rural settlement	420	0.5%
Okere Falls	Rural settlement	410	0.5%
Lake Tarawera	Rural settlement	280	0.4%
Rotoma	Rural settlement	270	0.3%
Other rural Rotorua District	Rural other	8,020	10.4%
Total Rotorua District		77,320	100.0%

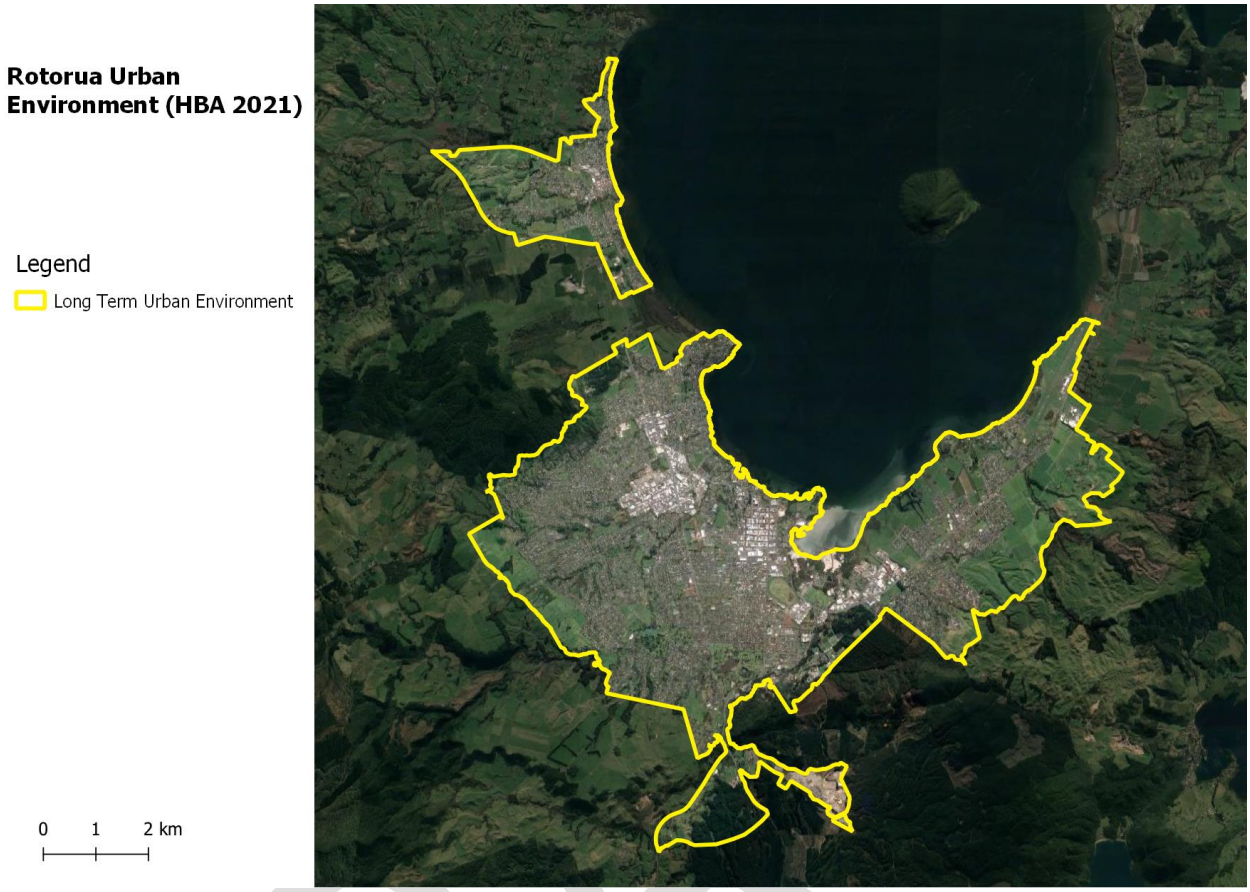
Source: SNZ

The urban environment of Rotorua has been defined in collaboration with Council and is illustrated in Figure 1.2. It was determined by overlaying the urban areas of Rotorua as defined in the SNZ Urban Rural Geography classification (**Error! Reference source not found.**) with urban zones, with the ODP providing a clear distinction between urban and rural zone types. The urban environment makes up a moderate share of the total district area, which is dominated by rural land including substantial exotic and indigenous forest areas.[13]

[12] I.e., in a growth strategy, spatial plan or FDS.

[13] Refer the supporting Technical Report for a map of the urban environment in the context of district boundaries.

Figure 1.2 – Map of Urban Environment for Rotorua District



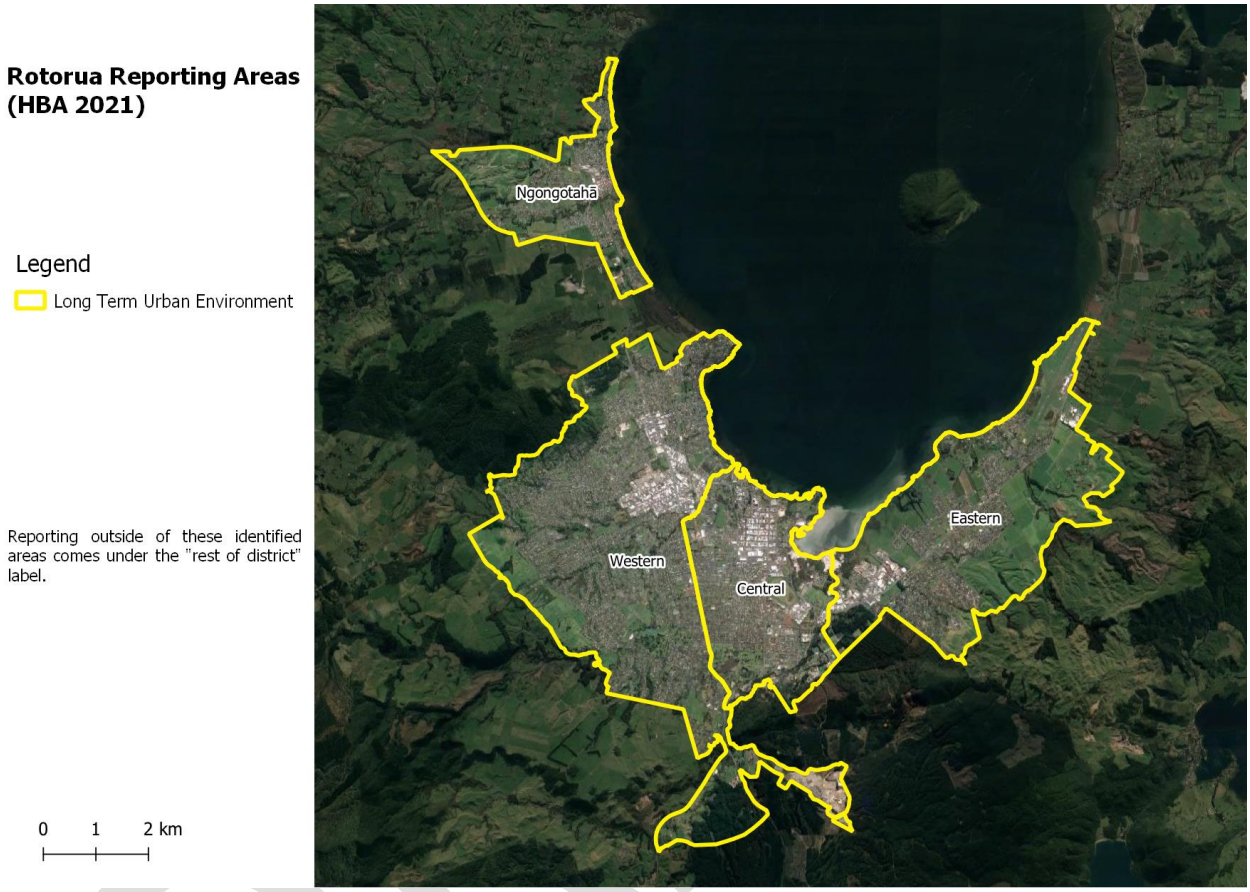
In terms of zoning, the urban environment includes Residential Zones 1, 2, 3, and 5 as well as the Future Residential 1 zone, as well as the Transitional (Residential to Light Industrial) Zone. A number of urban zones provide for both housing and business activity. These include the City Centre 1 and 3 zones, and Commercial 1-4 zones and the proposed future mixed use zone (Fenton Entranceway Residential, Visitor Accommodation, Commercial Zone). Other urban zones provide only for business activity. These include the Light and Heavy Industrial zones, Business & Innovation zones (3), City Centre 2 Zone, Commercial 5 and 6 zones, City Entranceway Mixed Use Zone, and Destination Reserves and Community Asset Reserves zoned within the extent of the urban environment boundary.

The urban environment also takes a long term perspective – including indicative areas of future urban expansion as identified in the Spatial Plan (2018). These are located in the Eastern and Ngongotahā areas of the urban environment (discussed below) and are assigned ODP zones for the purpose of the HBA.

The rest of the district area (outside of the defined urban environment) is the 'rural environment' for the purpose of this HBA. The HBA is focussed primarily on the urban environment but includes analysis at the total district level and rural environment level where appropriate. This approach satisfies the requirements of the NPS-UD.

Error! Reference source not found. illustrates the locations adopted to report demand (and later capacity and sufficiency) of housing in Rotorua's urban environment. The four locations are Eastern, Central, Western and Ngongotahā. The business assessment applies to business enabled zones within the total urban environment and does not report results by location.

Figure 1.3 – HBA 2021 Urban Location (Reporting Area) Boundaries



1.5 Report Structure

The report is organised into four parts:

1. Housing market assessment.[14] This also includes the housing demand, supply, and current affordability assessment.[15]
2. Housing development capacity assessment,[16] sufficiency of housing capacity,[17] housing bottom lines,[18] a discussion on future affordability and the impacts of planning and infrastructure.[19]
3. Business demand and capacity assessment,[20] suitability of business capacity,[21] sufficiency of business capacity and further discussion on the impacts of planning and infrastructure.[22]

[14] This responds to clause 3.23 of the NPS-UD.
[15] This responds to clause 3.24 of the NPS-UD.
[16] This responds to clause 3.25 and 3.27 of the NPS-UD.
[17] This responds to clause 3.27 of the NPS-UD.
[18] This responds to policy 7 and clause 3.6 of the NPS-UD.
[19] This responds to clause 3.23 of the NPS-UD.
[20] This responds to clause 3.28 and 3.29 of the NPS-UD.
[21] This responds to clause 3.29(1)(b)(iii) and 3.29(2) of the NPS-UD.
[22] This responds to clause 3.30 of the NPS-UD.

4. Conclusions and recommendations.

Appendix A contains a glossary of commonly used terms. This report is supported by a Technical Report that provides further detail on certain aspects of the methodology, additional analysis tables, as well as analysis based on Council's alternative growth projections (that is, projections other than Council's preferred growth outlook for planning purposes).[23] The Technical Report functions as a series of appendices for this Main Report and is not a standalone document.

[23] Growth projections are discussed further in Part 1 of this report.

PART 1 – HOUSING MARKET ASSESSMENT

2 Housing Demand

The section presents estimates of demand for housing in Rotorua District in the short, medium and long term. It takes account of expected growth in household numbers, and the socio-demography of household growth, to identify total and additional demand for housing within the district, in relation to dwelling types, and locations within the urban environment.

A high level summary of the approach to modelling housing demand is contained in the supporting Technical Report.

The NPS-UD identifies affordability as an issue and includes requirements of how well future demands will be met for "Māori and different groups in the community". It provides a non-exhaustive list of household types – those of Māori ethnicity (including demand for Papakāinga housing), older households, renters and homeowners, low income households, seasonal workers, visitors and student accommodation. The guidance is clear that the assessment should cover at least these types.

All of those groups are counted within the usually resident households of an area, except for visitors, who are either residents of other parts of New Zealand or overseas visitors temporarily in a city or district and if present are captured in the Census night population (a Tuesday in March). If seasonal workers are present at the time of the Census they are counted, though there are not specific statistics on seasonal workers at a fine grained level and household scale outside this time.

The following analysis provides key summary information on these groups (with the exception of visitors) within the Rotorua community to the extent that they are captured in the available data. This assessment identifies households of Māori ethnicity and other main ethnicity groups, and identifies older households, those in the 65-74 years and 75 years and over age groups. It also differentiates households according to dwelling tenure (including those with and without mortgages, or dwellings owned by a trust), and differentiates among households according to income, since income is one of the major influences on housing affordability, the other aspect being price.

Since the NPS-UD focus is on housing affordability, these matters are examined in more detail in Section 4 with assessment of dwelling tenure and housing affordability, including detail on tenure, incomes, and affordability for each ethnic group in the community (Section 4.2).

In relation to seasonal workers, it is noted that there is very limited information from which to identify numbers or socio-demographic characteristics, or dwelling tenure. Since they are most commonly short to medium term visitors for employment purposes, this group is characterised by relatively lower or middle to low incomes, and most are likely to be tenants (renters) rather than owners of dwellings. To that extent, seasonal workers – if they are counted at Census time as being part of the usually resident population – are most frequently included in the lower income and non-owner segments within the total population. This means they are likely to be generally counted within those identified segments, though given the timing of the Census in March are not counted specifically within the analysis and are likely to be undercounted relative to peak seasonal demands.

2.1 Population and Households

The starting point for assessing future housing demand is the outlook for population and household numbers. The NPS-UD specifies that future demand for housing be assessed on the basis of one dwelling per net additional household.

Rotorua District has adopted as the basis for its planning the population and household projections developed by Infometrics Ltd (2020). [24] These projections include three scenarios of future growth: low, medium and high.

Assessment in this HBA is based primarily on Council's medium growth scenario, with some alternative assessment based on the high growth scenario (including in the supporting Technical Report). For brevity, this HBA does not include detailed assessment of the Council's low growth scenario.

2.1.1 Total Population

Those projections are set out in Table 2.1, with the medium projection indicating population growth of 4% in the short term, 11.0% in the medium term, and 19% in the long term. That would see an additional 14,399 persons by 2050, with the district population at 90,593 compared with 76,194 in 2020. The high projection would see an additional 11,148 persons over the decade to 2030 (+15%) and an additional 27,943 (+37%) by 2050.

For comparison, Table 2.1 also shows the most recent Statistics NZ (SNZ) projections (March 2021) for Rotorua. The SNZ series indicates slower population growth than the Infometrics projections, the medium variant showing an increase of 3% in the short term, 6% in the medium term, and 11% in the long term. The most recent SNZ projections allow for substantially more growth than earlier projected by SNZ. For this assessment, the Infometrics series has been adopted, in line with Council's position.

The focus is on the medium growth future, which is prudent as more capacity (plan enabled and the infrastructure to support it) would be required than in the low growth future. It is noted that any projections of future growth are subject to uncertainties, and unforeseen events. That said, there is a considerable science base for demographic projections based on statistics on mortality and birth rates and supported by information on migration flows both within New Zealand, and to and from overseas countries.

Further, the spread of demographic projections offers scope to cover a range of outcomes. The SNZ series does not indicate probability of particular outcomes, though does indicate that the low population can be expected to be equalled or exceeded in 95% of future combinations (scenarios), the medium projection equalled or exceeded in 50% of scenarios, and the high outcome equalled or exceeded in 5% of scenarios. Equivalent indications are not available for the Infometrics series. That said, the Infometrics series represents a slightly more cautious approach for Council in the long term, given the NPS-UD requirement to provide for at least sufficient capacity for growth. Adopting a relatively strong rate of growth (relative to the SNZ medium future) reduces the prospect of under-estimating future housing needs. Importantly, projections are not forecasts. Projections are commonly used to indicate a range of possible outcomes, so

[24] Further discussion on the development of the Council's 2020 projections, and why the medium scenario is preferred can be found in the supporting Technical Report.

that their implications and differences may be understood, without tying analysis to a specific forecast of what will or is most likely to happen.

Table 2.1 – Population Growth Outlook – Short, Medium and Long Term

Projection	Current	Short Term			Medium Term			Long Term		
	2020	2023	2020-23	2020-23 %	2030	2020-30	2020-30 %	2050	2020-50	2020-50 %
Infometrics										
High	76,327	80,299	3,972	5%	87,475	11,148	15%	104,270	27,942	37%
Medium	76,194	79,265	3,071	4%	84,593	8,399	11%	90,593	14,399	19%
Low	76,075	78,356	2,281	3%	82,233	6,158	8%	80,273	4,198	6%
StatsNZ										
High	77,100	80,800	3,700	5%	86,000	8,900	12%	99,100	22,000	29%
Medium	76,400	78,900	2,500	3%	81,300	4,900	6%	85,000	8,600	11%
Low	75,700	77,100	1,400	2%	76,800	1,100	1%	71,600	- 4,100	-5%

Source: ME Housing Demand Model 2021: Infometrics 2020

2.1.2 Population Ageing

Similar to most areas of New Zealand, the Rotorua District population is expected to gradually age (the average age increases) over time. This means that children and younger age groups become relatively less important, as shares of the population, while the share in mature and older age groups increases.

Importantly, that does not mean that the population in younger age groups actually decreases, with the change driven by the increased longevity of people, and the well-recognised demographic 'bump' of the post-War baby boom. The changes in the medium and long terms for each age cohort are detailed in Table 2.2, and illustrated in Figure 2.1. The tables show that for most age cohorts, numbers increase in the medium and longer term futures.

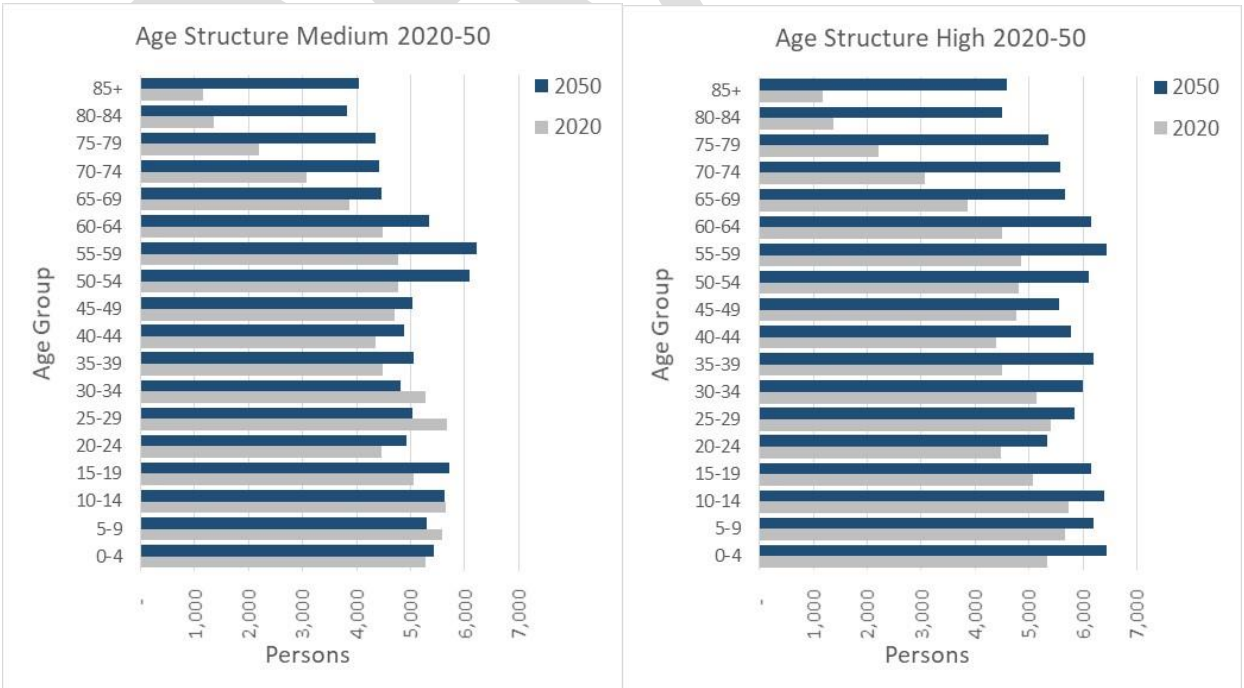
Table 2.2 – Population Growth Outlook (Medium & High Future) by Age Cohort

Age Cohort	Medium Projection					High Projection				
	2020	2030	2020-30 %	2050	2020-50 %	2020	2030	2020-30 %	2050	2020-50 %
0-4yrs	5,276	6,391	21%	5,434	3%	5,340	6,192	16%	6,432	20%
5-9yrs	5,585	5,650	1%	5,304	-5%	5,660	5,896	4%	6,204	10%
10-14yrs	5,644	5,172	-8%	5,631	0%	5,733	5,708	0%	6,401	12%
15-19yrs	5,048	5,066	0%	5,714	13%	5,070	5,532	9%	6,158	21%
20-24yrs	4,466	4,332	-3%	4,936	11%	4,484	4,620	3%	5,331	19%
25-29yrs	5,675	5,069	-11%	5,040	-11%	5,401	5,056	-6%	5,837	8%
30-34yrs	5,280	6,428	22%	4,811	-9%	5,139	5,991	17%	5,995	17%
35-39yrs	4,493	6,641	48%	5,065	13%	4,499	6,274	39%	6,205	38%
40-44yrs	4,342	5,405	24%	4,876	12%	4,395	5,453	24%	5,772	31%
45-49yrs	4,706	4,316	-8%	5,036	7%	4,758	4,616	-3%	5,555	17%
50-54yrs	4,766	4,135	-13%	6,092	28%	4,807	4,482	-7%	6,101	27%
55-59yrs	4,780	4,502	-6%	6,229	30%	4,853	4,916	1%	6,440	33%
60-64yrs	4,488	4,783	7%	5,335	19%	4,498	5,224	16%	6,150	37%
65-69yrs	3,858	4,956	28%	4,457	16%	3,858	5,271	37%	5,674	47%
70-74yrs	3,085	4,523	47%	4,416	43%	3,074	4,682	52%	5,573	81%
75-79yrs	2,185	3,453	58%	4,360	100%	2,206	3,563	62%	5,357	143%
80-84yrs	1,361	2,210	62%	3,815	180%	1,376	2,300	67%	4,500	227%
85-89yrs	1,158	1,560	35%	4,040	249%	1,179	1,698	44%	4,586	289%
Total	76,194	84,593	11%	90,593	19%	76,327	87,475	15%	104,270	37%

Source: Infometrics for Rotorua District 2020

That said, the population structure in the long term is expected to be significantly different from currently, with a more even distribution of population across the age cohorts (Figure 2.1).

Figure 2.1 –Population Age Structure 2020-50 (Medium (left) and High Futures (right))



2.1.3 Population Ethnicity Trends

The growth projections also indicate trends in ethnicity into the long term. Nationally, the expected trend is for increases in the shares of the population of Māori, Pacific and Asian ethnicities, and a corresponding decrease in the share of those of European and other ethnicities. [25] Total population of all ethnicities will also increase, but the rate at which they increase is the key driver of the proportional changes.

The SNZ ethnicity projections by ethnicity come with caveats because the Census 2018 records all ethnicities identified by respondents, and many specify two or more ethnicities. Accordingly, the SNZ ethnicity-based projections recognise two (or more) ethnicities, and so the base populations and the future projections sum to more than the counts and projections for the total population. To adjust for the over-projection, for this assessment each ethnicity-based projection has been factored down, so that the sum of the ethnicity-based projections matches the total projection. That is, it is assumed that the degree of over-count applies *pro rata* to each ethnicity.

The Rotorua District projections indicate a long term increase in the share of European ethnicity, growing from the current 57% to reach 60% by 2050 in both the medium and high projections (Table 2.3). The share of Māori ethnicity is projected to decrease, from the current 31% to 29%. The projected shares of Pacific, Asian and other ethnicities show minimal change. The projections indicate a different path for Rotorua compared with the national pattern, where medium and long term the European share of the total population is expected to decrease, while Māori, Pacific and Asian ethnicity shares are expected to increase.

Table 2.3 – Population Growth Outlook by Ethnicity Medium and Long Term

Ethnicity	Medium Projection					High Projection				
	2020	2023	2030	2050	2020-50 %	2020	2023	2030	2050	2020-50 %
European	43,500	45,480	49,190	54,220	25%	43,610	46,140	51,010	62,580	43%
Māori	23,870	24,630	25,840	26,640	12%	23,910	24,940	26,650	30,510	28%
Pacific	3,200	3,290	3,440	3,500	9%	3,210	3,330	3,550	4,010	25%
Asian	4,160	4,350	4,480	4,550	9%	4,140	4,340	4,570	5,210	26%
MELAA	360	370	400	390	8%	360	380	410	450	25%
Other	1,100	1,150	1,240	1,300	18%	1,100	1,170	1,280	1,510	37%
Total	76,190	79,270	84,590	90,600	19%	76,330	80,300	87,470	104,270	37%
Share %										
European	57%	57%	58%	60%		57%	57%	58%	60%	
Māori	31%	31%	31%	29%		31%	31%	30%	29%	
Pacific	4%	4%	4%	4%		4%	4%	4%	4%	
Asian	5%	5%	5%	5%		5%	5%	5%	5%	
MELAA	0%	0%	0%	0%		0%	0%	0%	0%	
Other	1%	1%	1%	1%		1%	1%	1%	1%	
Total	100%	100%	100%	100%		100%	100%	100%	100%	

Source: Infometrics for Rotorua District 2020; adjusted for ethnicity double-count

[25] http://nzdotstat.stats.govt.nz/wbos/Index.aspx

2.2 Household Socio-demography 2020

The key driver of housing demand is the number of resident households, while the socio-demographic characteristics of households are important influences on the nature of housing demand, and the affordability of housing. There is considerable detail from Census 2018 and other sources about Rotorua households which gives scope for analysis in some detail. That said, this section focuses on the major household characteristics known to influence housing demand and affordability – household type, especially as between one-person and couple households, and family households; household age, since stage in the life cycle is the other key driver of housing need; household ethnicity, also influencing housing preferences; and household income as the main influence on ability to pay for housing, and therefore housing affordability. These aspects are examined as two-way combinations, with household type as the common factor.

As at 2020, Rotorua has an estimated 29,000 households, an increase of 1,200 over the 2018 Census figure[26].

2.2.1 Household Type and Income

The current household structure is shown in Table 2.4. Couple households are the most numerous (9,170) accounting for nearly 32% of the total. Family households account for 41% of the total, with 8,250 2-parent families (including 1,940 larger families with 3 or more children, 6.7%) and the 3,760 1-parent families accounting for 13.09% of the total. One-person households make up a substantial share, at 6,670 in total (23%). The balance are multi-family households (420, 1.4%) and non-family households typically flatting situations (730, 2.5%).

There is a wide spread of household incomes. Some 20% of households (5,850) have incomes of $30,000 or less[27], and another 16.7% (4,840) have incomes in the $30,000 to $50,000 range. This means 37% of all households have incomes of less than $50,000, a higher share than the national pattern (34%). At the other end of the spectrum, there are an estimated 5,850 households (20.1%) with incomes of $120,000 or higher. This compares with 25.6% in that band at the national level.

The largest share of households (43.0%) lies in the mid-income bands between $50,000 and $120,000 per year. SNZ income data suggests that household incomes in the Bay of Plenty region increased by 0.6% between 2018 and 2020. Relatively large segments in the lower income bands include single person households (many of them retired persons) and 1-parent families., both in the relatively vulnerable categories for non-owner households.

[26] Infometrics 2020

[27] These are the Census 2018 income bands.

Table 2.4 – Households by Type and Income Band 2020

Household Type	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total
One Person household	3,110	1,650	950	580	200	80	100	6,670
Couple household	810	1,340	1,470	1,890	1,180	1,010	1,470	9,170
2 Parents 1-2 children	300	560	870	1,470	930	880	1,300	6,310
2 Parents 3+ children	110	200	320	490	280	220	320	1,940
1 Parent Family	1,370	910	650	470	180	80	100	3,760
Multi-family household	20	40	50	80	50	70	110	420
Non-family household	130	140	130	140	80	50	60	730
Total Households	5,850	4,840	4,440	5,120	2,900	2,390	3,460	29,000
One Person household	10.7%	5.7%	3.3%	2.0%	0.7%	0.3%	0.3%	23.0%
Couple household	2.8%	4.6%	5.1%	6.5%	4.1%	3.5%	5.1%	31.6%
2 Parents 1-2 children	1.0%	1.9%	3.0%	5.1%	3.2%	3.0%	4.5%	21.8%
2 Parents 3+ children	0.4%	0.7%	1.1%	1.7%	1.0%	0.8%	1.1%	6.7%
1 Parent Family	4.7%	3.1%	2.2%	1.6%	0.6%	0.3%	0.3%	13.0%
Multi-family household	0.1%	0.1%	0.2%	0.3%	0.2%	0.2%	0.4%	1.4%
Non-family household	0.4%	0.5%	0.4%	0.5%	0.3%	0.2%	0.2%	2.5%
Total Households	20.2%	16.7%	15.3%	17.7%	10.0%	8.2%	11.9%	100%
Relative Concentration								
One Person household	**2.31**	**1.48**	0.93	0.49	0.30	0.15	0.13	
Couple household	0.44	0.88	**1.05**	**1.17**	**1.29**	**1.34**	**1.34**	
2 Parents 1-2 children	0.24	0.53	0.90	**1.32**	**1.47**	**1.69**	**1.73**	
2 Parents 3+ children	0.28	0.62	**1.08**	**1.43**	**1.44**	**1.38**	**1.38**	
1 Parent Family	**1.81**	**1.45**	**1.13**	0.71	0.48	0.26	0.22	
Multi-family household	0.24	0.57	0.78	**1.08**	**1.19**	**2.02**	**2.20**	
Non-family household	0.88	**1.15**	**1.16**	**1.09**	**1.10**	0.83	0.69	

Source: ME Housing Demand Model 2021

To illustrate the important relationships between household types and income levels, the lower part of the table indicates the relative concentration of each type by income segment within the community. Values shaded blue show higher than just *pro rata* incidence[28]. To illustrate, one person households are strongly represented in the lowest income band, as are 1 Parent families. Couple households and 2 Parent families with children have a relatively high incidence in the middle and upper income bands.

2.2.2 Household Age

Table 2.5 shows the distribution of household types across the age cohorts. As expected, in the younger age cohorts families with children dominate, whereas in the older age cohorts single person households and couples dominate.

This pattern is as expected given the changes as households progress through the life stages, and families with children then give way to "empty nester" couples and singles later in life. That said, the affordability issue often becomes progressively more important for non-owner households in the middle and later years, as remaining lifetime earning potential reduces, and ability to access housing finance often reduces.

The relative concentration ratio shows more one person and couple households in the older age cohorts, and families with children relatively grouped into the younger age bands, consistent with their respective place and movement through the life stages.

[28] This is in effect a 'location quotient' where values greater than 1.0 show higher than pro rata incidence.

Table 2.5 – Households by Type and Age 2020

Household Type	15-29	30-39	40-49	50-64	65-74	75+	Total
One Person household	750	510	590	1,450	1,390	2,030	6,720
Couple household	1,570	530	580	2,620	2,260	1,570	9,130
2 Parents 1-2 children	1,630	1,670	1,560	1,080	230	110	6,280
2 Parents 3+ children	400	840	580	120	20	10	1,970
1 Parent Family	1,170	800	780	600	170	220	3,740
Multi-family household	110	50	90	130	40	10	430
Non-family household	350	60	60	120	90	50	730
Total Households	5,980	4,460	4,240	6,120	4,200	4,000	29,000
One Person household	2.6%	1.8%	2.0%	5.0%	4.8%	7.0%	23.2%
Couple household	5.4%	1.8%	2.0%	9.0%	7.8%	5.4%	31.5%
2 Parents 1-2 children	5.6%	5.8%	5.4%	3.7%	0.8%	0.4%	21.7%
2 Parents 3+ children	1.4%	2.9%	2.0%	0.4%	0.1%	0.0%	6.8%
1 Parent Family	4.0%	2.8%	2.7%	2.1%	0.6%	0.8%	12.9%
Multi-family household	0.4%	0.2%	0.3%	0.4%	0.1%	0.0%	1.5%
Non-family household	1.2%	0.2%	0.2%	0.4%	0.3%	0.2%	2.5%
Total Households	20.6%	15.4%	14.6%	21.1%	14.5%	13.8%	100.0%
Relative Concentration							
One Person household	0.54	0.49	0.60	**1.02**	**1.43**	**2.19**	
Couple household	0.83	0.38	0.43	**1.36**	**1.71**	**1.25**	
2 Parents 1-2 children	**1.26**	**1.73**	**1.70**	0.81	0.25	0.13	
2 Parents 3+ children	**0.98**	**2.77**	**2.01**	0.29	0.07	0.04	
1 Parent Family	**1.52**	**1.39**	**1.43**	0.76	0.31	0.43	
Multi-family household	**1.24**	0.76	**1.43**	**1.43**	0.64	0.17	
Non-family household	**2.33**	0.53	0.56	0.78	0.85	0.50	

Source: ME Housing Demand Model 2021

2.2.3 Household Ethnicity

Table 2.6 shows the estimated distribution of household types across the ethnicity groups. Households of European ethnicity are relatively concentrated in the one person and couple household segments, a pattern generally consistent with their older average ages. Households of Māori, Pacific and Asian ethnicities show relatively stronger incidence across family households with children, both 2 parent and 1 parent.

Table 2.6 – Households by Type and Ethnicity 2020

Household Type	European	Māori	Pacific	Asian	Total
One Person household	4,660	1,420	170	480	6,730
Couple household	6,030	2,150	270	690	9,140
2 Parents 1-2 children	3,400	1,910	260	720	6,290
2 Parents 3+ children	1,020	610	80	250	1,960
1 Parent Family	2,060	1,130	160	400	3,750
Multi-family household	250	120	10	40	420
Non-family household	400	220	30	60	710
Total Households	17,820	7,560	980	2,640	29,000
One Person household	16.1%	4.9%	0.6%	1.7%	23.2%
Couple household	20.8%	7.4%	0.9%	2.4%	31.5%
2 Parents 1-2 children	11.7%	6.6%	0.9%	2.5%	21.7%
2 Parents 3+ children	3.5%	2.1%	0.3%	0.9%	6.8%
1 Parent Family	7.1%	3.9%	0.6%	1.4%	12.9%
Multi-family household	0.9%	0.4%	0.0%	0.1%	1.4%
Non-family household	1.4%	0.8%	0.1%	0.2%	2.4%
Total Households	61.4%	26.1%	3.4%	9.1%	100.0%
Relative Concentration					
One Person household	**1.13**	0.81	0.75	0.78	
Couple household	**1.07**	0.90	0.87	0.83	
2 Parents 1-2 children	0.88	**1.16**	**1.22**	**1.26**	
2 Parents 3+ children	0.85	**1.19**	**1.21**	**1.40**	
1 Parent Family	0.89	**1.16**	**1.26**	**1.17**	
Multi-family household	0.97	**1.10**	0.70	**1.05**	
Non-family household	0.92	**1.19**	**1.25**	0.93	

Source: ME Housing Demand Model 2021 *(note European includes other ethnicities)*

2.3 Household Growth

The population growth underpins the growth in household numbers. Generally, household numbers tend to increase slightly ahead of population growth. There are a number of reasons for this, notably because the ageing of the population sees higher shares in the adult age groups with potential to form their own households, while social trends have seen higher shares of one-person households.

This section addresses overall household growth at the district level, and projected changes in key factors influencing housing demand, notably household type, and household incomes. The household projections are derived from Infometrics – further detail is provided in the supporting Technical Report.

2.3.1 Total Households

Estimated future household numbers are set out in Table 2.7. [29] In the medium projection, household numbers are projected to increase from the current 29,000 households (June 2020) by 6% (1,700 households) in the short term, then 15% (4,300 households) in the medium term, and 27% (7,800 households) in the long term. The annual increase would be some 580 in the short term, 430 over the next

[29] See also the supporting Technical Report for a graph of these projections from 2020-2050.

decade, and 260 over the long term. This future would see 33,300 resident households in the district by 2030, and 37,100 by 2050.

Table 2.7 – Household Growth Outlook Medium and High Futures

Future	2020	2023	2028	2030	2033	2038	2043	2048	2050
High Projection	29,000	30,900	33,600	34,300	35,500	37,300	39,500	41,700	42,600
Change		1,900	4,600	5,300	6,500	8,300	10,500	12,700	13,600
Change %		7%	16%	18%	22%	29%	36%	44%	47%
Change %pa		2.1%	1.9%	1.7%	1.6%	1.4%	1.4%	1.3%	1.3%
Medium Projection	29,000	30,700	32,800	33,300	34,000	34,700	35,600	36,500	36,800
Change		1,700	3,800	4,300	5,000	5,700	6,600	7,500	7,800
Change %		6%	13%	15%	17%	20%	23%	26%	27%
Change %pa		1.9%	1.6%	1.4%	1.2%	1.0%	0.9%	0.8%	0.8%

Source: ME Housing Demand Model 2021 Infometrics 2020 Totals rounded to nearest 100

2.3.2 Household Demography and Income

As well as growth in household numbers, considerable change is anticipated in the composition of the household sector. The general trend is for the ageing of the population to see the greatest increases in one person households and couple households, with significantly smaller net increases in family households with children (Table 2.8).[30]

Table 2.8 – Household Growth Outlook by Type – Short, Medium and Long Term (Medium Future)

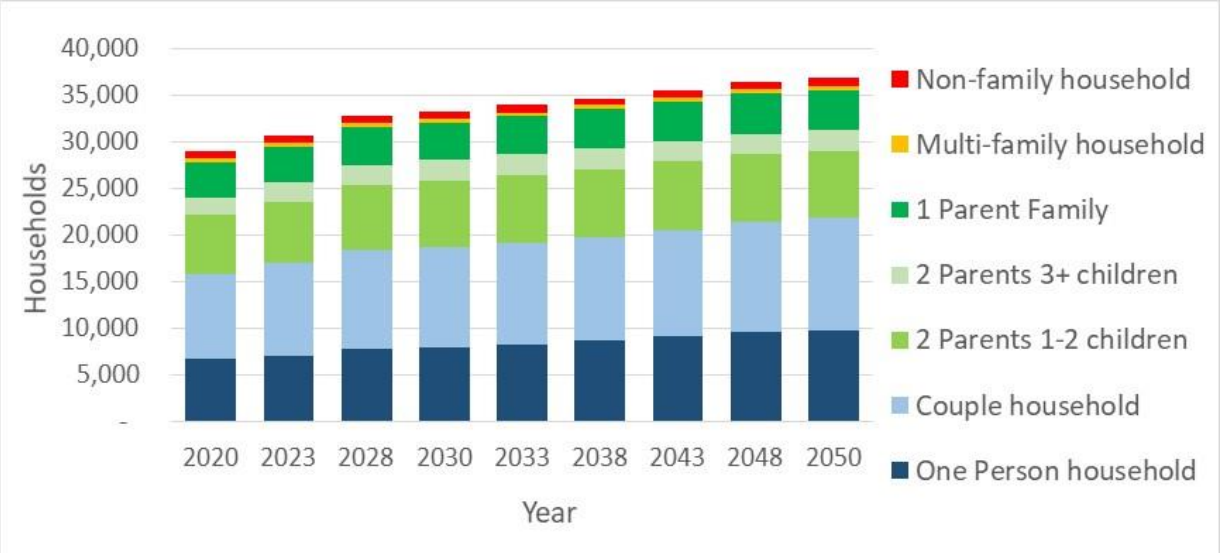
Household Type	Current	Short Term			Medium Term			Long Term		
	2020	2023	2020-23	2020-23	2030	2020-30	2020-30	2050	2020-50	2020-50
One Person household	6,670	7,080	410	6%	7,940	1,270	19%	9,780	3,110	47%
Couple household	9,170	9,920	750	8%	10,750	1,580	17%	12,120	2,950	32%
2 Parents 1-2 children	6,310	6,580	270	4%	7,130	820	13%	7,150	840	13%
2 Parents 3+ children	1,940	2,040	100	5%	2,220	280	14%	2,210	270	14%
1 Parent Family	3,760	3,880	120	3%	4,050	290	8%	4,320	560	15%
Multi-family household	440	460	20	5%	450	10	2%	450	10	2%
Non-family household	720	760	40	6%	780	60	8%	810	90	13%
Total	29,000	30,700	1,700	6%	33,300	4,300	15%	36,800	7,800	27%

Source: ME Housing Demand Model 2021 Totals rounded to nearest 10

This medium future would see one person and couple households accounting for around two-thirds of the total household growth in the medium term, and over three-quarters of the increase in the long term. Nevertheless, the socio-demographic structure of the household sector is expected to shift relatively slowly over time. This is shown in Figure 2.2.

[30] Refer the supporting Technical Report for the equivalent analysis of the Council's high growth projections.

Figure 2.2 – Projected Households Rotorua District – Medium Growth Future



The changes in household demography are likely to be associated with shifts in household incomes. As a starting point, the current relationships between household demography and household income are expected to persist into the medium term. The projected patterns in the medium future are shown in Table 2.9.

Table 2.9 – Household Growth Outlook by Income – Short, Medium and Long Term (Medium 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	6,260	380	6%	7,030	1,150	20%	8,420	2,540	43%
$30-50,000	4,840	5,160	320	7%	5,730	890	18%	6,650	1,810	37%
$50-70,000	4,440	4,730	290	7%	5,150	710	16%	5,660	1,220	27%
$70-100,000	5,120	5,400	280	5%	5,750	630	12%	6,000	880	17%
$100-120,000	2,900	3,060	160	6%	3,240	340	12%	3,340	440	15%
$120-150,000	2,380	2,490	110	5%	2,620	240	10%	2,760	380	16%
$150,000+	3,460	3,630	170	5%	3,810	350	10%	4,010	550	16%
Total	29,000	30,700	1,680	6%	33,300	4,280	15%	36,800	7,780	27%

Source: ME Housing Demand Model 2021 *Totals rounded to nearest 10*

2.4 Current Housing Demand 2020

2.4.1 Dwelling Pattern 2018

Table 2.10 provides a summary of the Rotorua District housing supply and occupancy as at Census 2018. It shows 28,563 private dwellings and 315 non-private dwellings. The non-private dwellings are shown for completeness and include dwellings described as providing communal types of accommodation - these dwellings provide for a proportion of demand, particularly temporary or transitory demand from visitors - some of these dwellings however provide temporary accommodations for residents while they are in hospital or prison so are in addition to private housing demand. Of the private dwellings 25,236 (88%) were recorded as occupied at the Census with another 7% indicated as residents being temporarily absent. That indicated up to 5% were not usually occupied. Including non-private dwellings, just under 27,400 were

indicated as occupied, with 1,383 (5%) not usually occupied. The estimate of occupied dwellings concords quite well with the number of usually resident households as at 2018.

Table 2.10 – Housing Supply Situation at Census 2018

Census 2018	Private Dwellings	Private Dwellings %	*NZ Average*	Non-Private Dwellings	Non-Private Dwellings %	*NZ Average*	Total Dwellings	Total Dwellings %	*NZ Average*
Private Dwellings	28,563	100%		315	100%		28,875	100%	
Occupied	25,236	88%	*89%*	225	71%	*66%*	25,461	88%	*89%*
Unoccupied	3,228	11%	*10%*	93	30%	*33%*	3,318	11%	*10%*
Owners Away	1,914	7%	*5%*	24	8%	*8%*	1,935	7%	*5%*
Empty Dwelling	1,314	5%	*5%*	69	22%	*25%*	1,383	5%	*5%*
Under Construction	99	0%	*1%*	-	0%	*1%*	99	0%	*1%*
Usually Occupied	27,150	95%	*94%*	249	79%	*74%*	27,396	95%	*94%*
Usually Unoccupied	1,413	5%	*6%*	66	21%	*26%*	1,479	5%	*6%*
Compare Resident Households (2018)							27,830		
Difference (n)							434		
Difference %							1.6%		

Source: Census 2018

It is noted that Census figures can over-state the numbers of usually unoccupied dwellings, especially because of the difficulty of identifying usual residents who are absent at Census time. Studies by SNZ in some main cities have shown that commonly between 0.5% and 1.0% of dwellings are usually unoccupied, in most instances a smaller figure than the Census snapshot. The situation is complicated in cities such as Rotorua where tourism is an important part of the economy, and a higher share than average of the total estate is holiday dwellings, owned by residents of other areas.

As discussed above, the NPS-UD seeks assessment for "different types and forms of housing (such as for lower-cost housing, papakāinga, and seasonal worker or student accommodation." The analysis for this HBA focuses on housing for the resident population, and it includes housing by price point which covers the "lower cost housing" category.

However, there is no Census information available on worker or student accommodation, which may be differentiated within the general non-private dwelling category, or other comprehensive data available. Nor is there specific detail on papakāinga to show the current situation or future outlook. It is assumed papakāinga are included in the private dwellings statistics, but are not differentiated as such.

2.4.2 Resident Housing Demand and Tenure 2020

Table 2.11 provides detail of the overall dwelling tenure patterns and dwelling types for 2020. These estimates are based on the patterns identified from Census 2018, factored up according to estimated growth in resident household numbers between 2018 and 2020 (based on Infometrics projections). It is assumed that the relationships between dwelling tenure and dwelling type evident in 2018 have endured across the two years, and these have been applied *pro rata* according to numbers of resident households for 2020.

As at 2020, some 87% of dwellings occupied by resident households were separate houses, with a further 3,630 attached dwellings (13%). The attached dwellings are predominantly 1-storey buildings (according to Census data), with around one-fifth of attached dwellings in building of 2 or 3 storeys.

Table 2.11 – Resident Dwelling Tenure and Dwelling Types 2020

Dwelling Tenure 2020	Detached	Attached					Total
	Separate House	Joined 1 Storey	Joined 2-3 Storey	Joined 4+ Storey	Total Attached	Other Dwelling	Total Dwellings
Owned with mortgage	7,880	370	110	-	480	-	8,360
Owned without mortgage	6,170	600	100	-	700	-	6,870
Owned by Trust	2,830	170	50	-	220	-	3,050
Total Owned or in Trust	16,880	1,140	260	-	1,400	-	18,280
Not Owned	8,580	1,640	420	20	2,080	60	10,720
Not elsewhere included	-	-	-	-	-	-	-
Total Housing	25,460	2,780	680	20	3,480	60	29,000
Owned with mortgage	27%	1%	0%	0%	2%	0%	29%
Owned without mortgage	21%	2%	0%	0%	2%	0%	24%
Owned by Trust	10%	1%	0%	0%	1%	0%	11%
Total Owned or in Trust	58%	4%	1%	0%	5%	0%	63%
Not Owned	30%	6%	1%	0%	7%	0%	37%
Not elsewhere included	0%	0%	0%	0%	0%	0%	0%
Total Housing	88%	10%	2%	0%	12%	0%	100%

Source: ME Housing Demand Model 2021 *Note - includes rounding*

The table also shows the tenure pattern across Rotorua District. Overall, some 63% of dwellings are owned or in a trust, with 37% rented. Of those owned, more than half are either owned without a mortgage (24%) or held in a trust. The other owned dwellings (29% of the total) are owned with a mortgage.

The ownership rates are higher for separate houses than for attached dwellings. The estate includes some 16,880 owned separate houses (two thirds of all separate houses), and 1,400 owned attached dwellings, or 18,280 overall. In contrast, ownership rates are lower for attached dwellings with more than half of these rented.

This base pattern is important in relation to projected growth in household numbers and implied demand for additional dwellings, especially as to considerations of dwelling affordability and future ownership and rental rates.

2.4.3 Household Type and Tenure 2020

Table 2.12 provides detail of the overall dwelling tenure patterns among different types of households. Dwellings are differentiated by detached and attached only, and the 'Not Owned' category includes a small number of dwellings for which tenure is not specified. The overall pattern reflects the household structure in the Rotorua community.

However, there are important differences between household types in terms of the dwellings occupied, and dwelling tenure. To show this, the lower part of the table indicates the relative concentration or incidence within the community, with blue shading showing higher than just *pro rata* incidence. The relative concentration ratios show that:

- Couple households have a high incidence of living in detached dwellings which they own.
- For one person households there is relatively high concentration into attached dwellings, both owned and rented.

- 2 Parent families show higher concentration into detached dwellings, especially larger families with 3 or more children.
- 1 Parent families have relatively low incidence of dwelling ownership, and are especially concentrated into detached rental dwellings.
- Multi-family households and non-family households are relatively concentrated in rental detached dwellings.
- The reverse obviously applies where relative incidence is less than 1.0.

Table 2.12 – Household Types and Dwelling Tenure 2020

Household Type 2020	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
One Person household	3,290	620	3,910	1,750	950	2,700	5,040	1,570	6,610
Couple household	6,700	440	7,140	1,610	430	2,040	8,310	870	9,180
2 Parents 1-2 children	3,940	200	4,140	1,820	360	2,180	5,760	560	6,320
2 Parents 3+ children	1,090	20	1,110	780	50	830	1,870	70	1,940
1 Parent Family	1,320	100	1,420	2,050	290	2,340	3,370	390	3,760
Multi-family household	240	10	250	160	20	180	400	30	430
Non-family household	290	-	290	410	30	440	700	30	730
Total Households	16,900	1,400	18,300	8,600	2,100	10,700	25,500	3,500	29,000
One Person household	11%	2%	13%	6%	3%	9%	17%	5%	23%
Couple household	23%	2%	25%	6%	1%	7%	29%	3%	32%
2 Parents 1-2 children	14%	1%	14%	6%	1%	8%	20%	2%	22%
2 Parents 3+ children	4%	0%	4%	3%	0%	3%	6%	0%	7%
1 Parent Family	5%	0%	5%	7%	1%	8%	12%	1%	13%
Multi-family household	1%	0%	1%	1%	0%	1%	1%	0%	1%
Non-family household	1%	0%	1%	1%	0%	2%	2%	0%	3%
Total Households	58%	5%	63%	30%	7%	37%	88%	12%	100%
Relative Concentration									
One Person household	0.85	**1.94**	0.94	0.89	**1.98**	**1.11**	0.87	**1.97**	
Couple household	**1.25**	**0.99**	**1.23**	0.59	0.65	0.60	**1.03**	0.79	
2 Parents 1-2 children	**1.07**	0.66	**1.04**	0.97	0.79	0.93	**1.04**	0.73	
2 Parents 3+ children	0.96	0.21	0.91	**1.36**	0.36	**1.16**	**1.10**	0.30	
1 Parent Family	0.60	0.55	0.60	**1.84**	**1.07**	**1.69**	**1.02**	0.86	
Multi-family household	0.96	0.48	0.92	**1.25**	0.64	**1.13**	**1.06**	0.58	
Non-family household	0.68	-	0.63	**1.89**	0.57	**1.63**	**1.09**	0.34	

[1] *Not Owned includes NEI* *Note - includes rounding*

These patterns offer simple but important guidance as to future housing needs and preferences, particularly because different segments within the community are expected to grow at different rates into the future. Future housing demand by type is discussed further in Section 2.5.

That said, the concentration ratios are guidance, and not absolute measures. There are substantial numbers of households across both detached and attached dwellings, and both ownership and rental (as shown in the simple number count in the upper part of Table 2.12).

2.4.4 Household Income and Tenure 2020

The relationships between household income and dwelling type and tenure also show clear patterns (Table 2.13). Middle and lower income households show relatively high incidence in rented dwellings, both

detached and attached. When dwellings are owned, there is relatively strong concentration on attached dwellings.

The pattern is rather different for middle to higher income households. These show relatively high incidence of ownership, rather than rental, and ownership of detached rather than attached dwellings. Again, the caveat is that there are substantial numbers of households in each income band across both detached and attached dwellings, and both ownership and rental.

Table 2.13 – Household Income and Dwelling Tenure 2020

Household Income	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Under $30,000	2,170	370	2,540	2,370	920	3,290	4,540	1,290	5,830
$30-50,000	2,410	260	2,670	1,730	430	2,160	4,140	690	4,830
$50-70,000	2,430	210	2,640	1,470	320	1,790	3,900	530	4,430
$70-100,000	3,200	190	3,390	1,500	230	1,730	4,700	420	5,120
$100-120,000	2,100	130	2,230	600	90	690	2,700	220	2,920
$120-150,000	1,780	100	1,880	440	60	500	2,220	160	2,380
$150,000+	2,790	140	2,930	460	80	540	3,250	220	3,470
Total Households	16,900	1,400	18,300	8,600	2,100	10,700	25,500	3,500	29,000
Under $30,000	7%	1%	9%	8%	3%	11%	16%	4%	20%
$30-50,000	8%	1%	9%	6%	1%	7%	14%	2%	17%
$50-70,000	8%	1%	9%	5%	1%	6%	13%	2%	15%
$70-100,000	11%	1%	12%	5%	1%	6%	16%	1%	18%
$100-120,000	7%	0%	8%	2%	0%	2%	9%	1%	10%
$120-150,000	6%	0%	6%	2%	0%	2%	8%	1%	8%
$150,000+	10%	0%	10%	2%	0%	2%	11%	1%	12%
Total Households	58%	5%	63%	30%	7%	37%	88%	12%	100%
Relative Concentration									
Under $30,000	0.64	**1.31**	0.69	**1.37**	**2.18**	**1.53**	0.89	**1.83**	
$30-50,000	0.86	**1.12**	0.88	**1.21**	**1.23**	**1.21**	0.97	**1.18**	
$50-70,000	0.94	**0.98**	0.94	**1.12**	**1.00**	**1.10**	**1.00**	**0.99**	
$70-100,000	**1.07**	0.77	**1.05**	**0.99**	0.62	0.92	**1.04**	0.68	
$100-120,000	**1.23**	0.92	**1.21**	0.69	0.43	0.64	**1.05**	0.62	
$120-150,000	**1.28**	0.87	**1.25**	0.62	0.35	0.57	**1.06**	0.56	
$150,000+	**1.38**	0.84	**1.34**	0.45	0.32	0.42	**1.07**	0.53	

Source: ME Housing Demand Model 2021 *1 Not Owned includes NEI* *Note - includes rounding*

These patterns imply a strong correlation between household income and tenure, and household income and type. This implies that higher income people 'prefer' or at least are able to purchase standalone houses than rent attached ones. It also highlights that lower income people 'prefer' (or have a higher incidence of) choosing to live in rented and or attached housing. These patterns are not entirely surprising given the strong correlation between type, tenure and cost, with owning (particularly the saving of a deposit in addition to paying rent) being more expensive than renting, and attached dwellings generally being less expensive (at least on a weekly-outgoings basis) to buy (or rent) than detached dwellings.

2.4.5 Tenure and Dwelling Type by Ethnicity

The relationships between household ethnicity and dwelling type and tenure show equally clear patterns (Table 2.14). Households of European and other ethnicity show higher incidence of dwelling ownership,

for both detached and attached dwellings. Households of Māori, Pacific and Asian[31] ethnicities show higher incidence in rented dwellings, again for both detached and attached typologies.

Dwelling ownership rates are higher for households of European ethnicity at nearly 70% overall compared with the Rotorua average of 63%. It is substantially higher than for households of Māori ethnicity (47%), Pacific ethnicity (41%) and Asian ethnicity (45%). However, the occupation of detached dwellings is high across all ethnicities, at 88% overall.

Table 2.14 – Household Ethnicity and Dwelling Tenure 2020

Household Ethnicity	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
European	11,600	1,090	12,690	3,730	1,070	4,800	15,330	2,160	17,490
Māori	3,630	240	3,870	3,240	710	3,950	6,870	950	7,820
Pacific	450	-	450	520	40	560	970	40	1,010
Asian	1,200	70	1,270	1,100	320	1,420	2,300	390	2,690
Total	16,900	1,400	18,300	8,600	2,100	10,700	25,500	3,500	29,000
European	40%	4%	44%	13%	4%	17%	53%	7%	60%
Māori	13%	1%	13%	11%	2%	14%	24%	3%	27%
Pacific	2%	0%	2%	2%	0%	2%	3%	0%	3%
Asian	4%	0%	4%	4%	1%	5%	8%	1%	9%
Total	58%	5%	63%	30%	7%	37%	88%	12%	100%
Relative Concentration									
European	**1.14**	**1.29**	**1.15**	0.72	0.84	0.74	**1.00**	**1.02**	
Māori	0.80	0.64	0.78	**1.40**	**1.25**	**1.37**	**1.00**	**1.01**	
Pacific	0.76	-	0.71	**1.74**	0.55	**1.50**	**1.09**	0.33	
Asian	0.77	0.54	0.75	**1.38**	**1.64**	**1.43**	0.97	**1.20**	

Source: ME Housing Demand Model 2021 *1 Not Owned includes NEI* *Note: includes rounding to 10*

2.4.6 Kāinga Ora's Role

Kāinga Ora is the main supplier of 'state' or 'public' housing in New Zealand, and they are also now a key driver and agent of urban renewal, development and residential intensification, particularly in the larger cities. A key feature of Kāinga Ora's housing development approach is collaboration, partnership, and community involvement.

Nationally, a large share of the Kāinga Ora housing estate is old, low density and not well aligned with current tenant demands/demography. This has created an opportunity to redevelop individual or adjoining low density state housing properties into new small-medium-scale developments, or when combined with land acquisition, amalgamate multiple clusters and individual state housing lots and redevelop whole communities as large-scale housing projects. The objective of these redevelopment projects is to:

- replace old state housing with warm, dry modern homes,
- increase the number of state houses (by using the land more efficiently),

[31] The definition of 'Asian' used in New Zealand is based on the categories used in the census, developed by Statistics New Zealand in 1996 (SNZ) (4). This group is made up of people with origins in the Asian continent from Afghanistan in the west to Japan in the east and from China in the north to Indonesia in the south.

- diversify the types and sizes of state housing offered (including a mix of standalone, attached/terraced, and apartment dwelling units), and where suitable,
- facilitate affordable housing (including KiwiBuild and other financial tools that reduce the barriers to home ownership) and delivery of market housing.

Typically, these large scale mixed tenure housing developments aim to deliver a third each of state, affordable and market housing.

Outside of the large cities, similar initiatives are underway in the regions, through the Regional Housing Programme. These developments are taking place on existing state housing sites (redevelopment) and/or utilise vacant Crown land. Partnerships with iwi are also being developed.

This is directly applicable to Rotorua, where Kāinga Ora currently own/manage around 686 lettable state houses[32], the significant majority of which were built before the 1970s[33] and mostly (around 80%) comprise of standalone houses[34] predominantly (but not exclusively) in the Residential Living Zone. At the time of drafting this report, Kāinga Ora had completed 14 new 1-bedroom homes, 17 new 2-bedroom homes, 5 3-bedroom homes and 2 6-bedroom homes across Fordlands, Hillcrest and Rotorua Central and a further 23 new homes were being planned or constructed under the Regional Housing Programme.

A key focus for Kāinga Ora in Rotorua is:

- to continue to redevelop and increase the supply of state housing using their existing portfolio of properties (which is concentrated in Central Rotorua, followed by a small share in the Eastside and very little supply in Ngongotahā),
- to look for opportunities to increase supply on land purchased (or leased) from other landowners, and
- urgently address demand for transitional (short-term) state housing. Due to a shortage of state housing, a large number of households on the waiting list in Rotorua are living in motels.

Kāinga Ora are aiming to substantially increase the supply of state and transitional housing in Rotorua over the next 4 years[35]. This ambitious plan is needed primarily to address the waiting list rather than cater for a projected increase in demand. In the medium and longer term, further increases in the supply of state housing can be expected to help keep pace with projected demand.

Kāinga Ora have a strong focus on developing more 1 and 2 bedroom dwellings to better match their future tenant base. While they will intensify their properties in the Residential Living Zone as much as possible within the rules of the District Plan (noting that they still have demand for standalone dwellings including some large family homes in this zone), their housing strategy is increasingly directing them to opportunities

[32] https://kaingaora.govt.nz/assets/Publications/Managed-stock/Managed-Stock-TLA-Dec-2020.pdf

[33] https://kaingaora.govt.nz/assets/Publications/OIAs-Official-Information-Requests/October-2018/OIA-29-October-2018-age-of-housing-stock.pdf (assuming consistency with national trends).

[34] https://kaingaora.govt.nz/assets/Publications/OIAs-Official-Information-Requests/February-2020/18-feb-2020-tenanted-state-houses-statistics.pdf

[35] For context, Council's growth projections of households in public housing and/or receiving the accommodation supplement estimated growth of 535 households in the next four years (2020-2024) (sourced from Infometrics). This implies that Kāinga Ora could cater for a large share of growth in demand (the share of households just in public housing will be higher again, but that sub-set of demand is not specified in the projections).

in the Medium Density Zone and Town Centre Zone where terraced and low-rise apartment dwellings are able to locate close to shops and employment.

The Kāinga Ora client base is an important component of the Rotorua housing scene, with approximately 690 households in Kāinga Ora properties. These households represent around 2.4% of total resident households, and some 6.2% of the total demand for rental dwellings. Confidential socio-demographic summaries of this group provided by Kāinga Ora allow for assessments within the wider household sector.

2.5 Future Resident Housing Demand

The descriptions of the 2020 household and resident housing situation provide important base material for assessing future housing demands in Rotorua. The current patterns have been established over many years of growth and change. While the demographic and ethnic structure of the population is expected to change, and directly affect the mix of households as well as numbers, the established socio-demographic parameters can be expected to change relatively slowly, and systematically over time. We note that the assessment is based on the Census 2018 data on Rotorua households and dwellings as at 2018, and updated to 2020. In the first instance, this assessment does not include 'latent' demand which is not being met by private or non-private dwellings, as beyond an estimate of a total shortfall in dwelling supply, there is very limited information on the key parameters (see also Section 2.6.1).

This means that several important patterns within overall resident housing demand in Rotorua are clear in the 'big picture' which is described by household demography, income and ethnicity.

Further, for the resident housing assessment it is very important to cover the total household and housing patterns in the short, medium and long term, and not focus on just the changes from 2020. This is because the resident population and the household sector changes and evolves over time. Most of the households identified in the medium term projections are already in the 2020 household structure, albeit 10 years younger than they will be in 2030. The same applies in the long term to 2050. At the same time, new household formations, child-bearing and rearing, and ageing and passing on see the population structure steadily changing. Many households who are currently non-owners will become dwelling owners in the medium term and longer term. At the same time, many younger persons will leave their family home in their later tens or early twenties, often to form their own households, and often transitioning from non-family households in renting situations to become couples and parents with families.

In the same way, dwelling tenure patterns and the dwelling estate itself will continue to change and evolve. Dwellings age and depreciate, commonly with improvement values falling or being static in real terms, even as land values characteristically rise as urban economies grow. A significant proportion of dwelling construction in the district is also likely to involve replacement either on a like for like basis (one old dwelling replaced with one new dwelling) or from redevelopment - one old dwelling replaced with 2 or more new dwellings. This means that total dwelling consents would need to be greater than population driven growth in order to keep up with resident housing demand.

All of these factors mean that the future situation cannot be assessed simply by considering the net changes from the present, and assuming those net changes can accurately represent demand for additional housing. Accordingly, this analysis covers both the total situation and the net changes for assessing resident housing needs based on the Council's preferred growth future.

The Infometrics population projections have been used as the basis for estimating numbers of future households, taking into account demography and trends in household size over time.

2.5.1 Short Term - Medium Growth Future

In the short term to 2023, the projected resident housing demand is for an additional 1,700 to 1,750 dwellings, an increase of around 6%.

Table 2.15 shows the projected change over the period by dwelling type and tenure. This assumes that current ownership patterns for each household type persist into the future, as between owned and rented dwellings, with changes reflecting the changing mix of household types. For the dwelling mix, allowance is made for both the changing mix of households and a long term trend away from detached dwellings toward attached dwellings[36].

There are two reasons. First, shifts in ownership are driven by a number of factors, including demographic change, access to finance and dwelling affordability. Attempting to project or model ownership changes is a demanding technical assessment, beyond the scope of the HBA structure. The second reason is that much of the focus of the HBA analysis is housing affordability, and the possible effects on that of planning and infrastructure. Affordability is a key driver of ownership levels. The logical path for evaluation is to start from the current levels of ownership and use the assessment of affordability to offer comment on the likelihood of ownership level improving or declining in the future. This helps isolate the effects of planning and infrastructure from the range of other factors which affect affordability and ownership levels.

The situation is more straightforward for shifts in dwelling typology. The long term trends are generally more stable and obvious, are evident nationally and are clear within Rotorua itself. For the dwelling mix, allowance is made for both the changing mix of households and a small long term trend away from detached dwellings toward attached dwellings.

[36] Dwelling consent statistics for Rotorua District show that over the Dec 2016 to Dec 2020 period, 83% of all consents were for detached dwellings, with 13% for townhouses apartment or flats, 4% for retirement units, and 1% for apartments. The current trend is for minimal change in the dwelling typology.

Table 2.15 – Dwelling Tenure and Dwelling Types 2023 Medium Future

Dwelling Tenure : Medium Projection Future	2020			2023			2020-23		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*0%pa*			
Owned with mortgage	7,880	480	8,360	8,280	540	8,820	400	60	460
Owned without mortgage	6,170	700	6,870	6,510	750	7,260	340	50	390
Owned by Trust	2,830	220	3,050	3,020	270	3,290	190	40	240
Total Owned or in Trust	16,880	1,400	18,280	17,810	1,560	19,370	930	150	1,090
Not Owned	8,580	2,140	10,720	8,980	2,360	11,340	400	200	620
Total Housing	25,460	3,540	29,000	26,800	3,900	30,700	1,330	350	1,710
Shares %									
Owned with mortgage	27%	2%	29%	27%	2%	29%	-0.2%	0.1%	-0.1%
Owned without mortgage	21%	2%	24%	21%	2%	24%	-0.1%	0.0%	0.0%
Owned by Trust	10%	1%	11%	10%	1%	11%	0.1%	0.1%	0.2%
Total Owned or in Trust	58%	5%	63%	58%	5%	63%	-0.2%	0.3%	0.1%
Not Owned	30%	7%	37%	29%	8%	37%	-0.3%	0.3%	0.0%
Total Housing	88%	12%	100%	87%	13%	100%	-0.5%	0.5%	0.0%

Source: ME Housing Demand Model 2021 *Note - includes rounding*

In the short term, only small changes are indicated in the overall dwelling and ownership structure. The base case would see the bulk of housing growth as detached dwellings, and demand predominantly for owned dwellings.

Table 2.16 shows the projected growth in demand by household type over the period, again by dwelling type and tenure. The same allowance is made for the current ownership patterns of each household type to persist, so that changes reflect shifts in the mix of household types. For the dwellings, allowance is made for a long term trend away from detached and toward attached dwellings.

In the short term to 2023, only small changes are indicated in the base case. Demand for additional dwellings is mainly from one person (26%) and couple households (43%), with a substantial share also from 2 parent families with children (21%). The orientation toward owned detached dwellings (three fifths of the net increase) is expected to continue in the short term, and rental demand is also expected to be mostly (two-thirds) for detached dwellings.

Table 2.16 – Household Types and Dwelling Tenure 2023 Medium Future

Household Type 2023 Medium Projection Future	Total Demand			Additional Demand 2020-23			Additional Demand 2020-23 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
One Person household	3,500	710	4,210	210	90	300	12%	5%	18%
Couple household	7,220	520	7,740	520	80	600	31%	5%	35%
2 Parents 1-2 children	4,050	190	4,240	110	- 10	100	6%	-1%	6%
2 Parents 3+ children	1,130	30	1,160	40	10	50	2%	1%	3%
1 Parent Family	1,360	110	1,470	40	10	50	2%	1%	3%
Multi-family household	240	10	250	-	-	-	0%	0%	0%
Non-family household	310	-	310	20	-	20	1%	0%	1%
Total Owned or Trust	17,800	1,600	19,400	940	180	1,100	55%	11%	65%
Not Owned									
One Person household	1,810	1,060	2,870	60	110	170	4%	6%	10%
Couple household	1,700	490	2,190	90	60	150	5%	4%	9%
2 Parents 1-2 children	1,950	390	2,340	130	30	160	8%	2%	9%
2 Parents 3+ children	820	50	870	40	-	40	2%	0%	2%
1 Parent Family	2,090	320	2,410	40	30	70	2%	2%	4%
Multi-family household	170	20	190	10	-	10	1%	0%	1%
Non-family household	430	30	460	20	-	20	1%	0%	1%
Total Not Owned	9,000	2,400	11,300	390	230	600	23%	14%	35%
Total	26,800	4,000	30,700	1,330	410	1,700	78%	24%	100%

Source: ME Housing Demand Model 2021 [1] *Attached includes NEI* *Note - includes rounding*

Table 2.17 shows the projected growth in demand by household income over the period, by dwelling type and tenure, with allowance for households' current tenure patterns to continue, as well as the minor long term trend toward attached dwellings.

Table 2.17 – Household Income and Dwelling Tenure 2023 Medium Future

Household Income 2023 Medium Projection Future	Total Demand			Additional Demand 2020-23			Additional Demand 2020-23 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
Under $30,000	2,320	440	2,760	150	70	220	9%	4%	13%
$30-50,000	2,590	300	2,890	180	40	220	11%	2%	13%
$50-70,000	2,590	250	2,840	160	40	200	9%	2%	12%
$70-100,000	3,370	220	3,590	170	30	200	10%	2%	12%
$100-120,000	2,190	140	2,330	90	10	100	5%	1%	6%
$120-150,000	1,850	110	1,960	70	10	80	4%	1%	5%
$150,000+	2,880	120	3,000	90	- 20	70	5%	-1%	4%
Total Owned or Trust	17,800	1,600	19,400	910	180	1,090	53%	11%	64%
Not Owned									
Under $30,000	2,470	1,030	3,500	100	110	210	6%	6%	12%
$30-50,000	1,790	470	2,260	60	40	100	4%	2%	6%
$50-70,000	1,530	360	1,890	60	40	100	4%	2%	6%
$70-100,000	1,560	250	1,810	60	20	80	4%	1%	5%
$100-120,000	630	90	720	30	-	30	2%	0%	2%
$120-150,000	460	60	520	20	-	20	1%	0%	1%
$150,000+	540	80	620	80	-	80	5%	0%	5%
Total Not Owned	9,000	2,300	11,300	410	210	620	24%	12%	36%
Total	26,800	3,900	30,700	1,320	390	1,710	77%	23%	100%

Source: ME Housing Demand Model 2021 *1 Attached includes NEI* *Note - includes rounding*

Demand for additional dwellings is spread quite broadly across household income bands, though with the largest share (25%) from lower income households. That is consistent with the higher shares from one

person and couple households (above). More than half of the net increase is indicated for households with incomes of $50,000 or more, and nearly a quarter is from households earning $100,000 or more.

Table 2.18 shows the projected growth in demand by households of major ethnic groups over the short term. Overall growth in demand is dominated by households of European ethnicity (68%), which is further apparent in the high proportions for detached and owned dwellings. Additional demand from households of other ethnicities is also linked with larger shares for rented dwellings than owned dwellings, and the somewhat higher propensity for attached dwellings.

Table 2.18 – Household Ethnicity and Dwelling Tenure 2023 Medium Future

Household Ethnicity 2023 Medium Projection Future	Total Demand			Additional Demand 2020-23			Additional Demand 2020-23 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
European	12,350	1,170	13,520	670	60	730	40%	4%	44%
Māori	3,840	240	4,080	210	10	220	13%	1%	13%
Pacific	470	-	470	40	-	40	2%	0%	2%
Asian	1,200	70	1,270	60	-	60	4%	0%	4%
Total Owned or Trust	17,800	1,600	19,400	980	70	1,050	59%	4%	63%
Not Owned									
European	4,010	1,140	5,150	220	60	280	13%	4%	17%
Māori	3,430	750	4,180	180	40	220	11%	2%	13%
Pacific	550	40	590	40	-	40	2%	0%	2%
Asian	1,090	320	1,410	60	20	80	4%	1%	5%
Total Not Owned	9,000	2,400	11,300	500	120	620	30%	7%	37%
Total	26,800	4,000	30,700	1,480	190	1,670	89%	11%	100%

Source: ME Housing Demand Model 2021 *1 Attached includes NEI* *Note - includes rounding*

2.5.2 Medium Term - Medium Growth Future

In the medium term, the projected resident housing demand is for an additional 4,300 dwellings, an increase of around 15%.

Table 2.19 shows the projected change over the period by dwelling type and tenure. Consistent with the short term, the base case assumes current ownership patterns for each household type will by and large persist into the future, though reflecting also the changing mix of household types. Allowance is again made for a long term trend away from detached dwellings toward attached dwellings.

Table 2.19 – Dwelling Tenure and Dwelling Types 2030 Medium Future

Dwelling Tenure : Medium Projection Future	2020			2030			2020-30		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*0.7%pa*			
Owned with mortgage	7,880	480	8,360	8,690	620	9,310	810	140	950
Owned without mortgage	6,170	700	6,870	7,290	960	8,250	1,120	260	1,380
Owned by Trust	2,830	220	3,050	3,310	310	3,620	480	90	570
Total Owned or in Trust	16,880	1,400	18,280	19,290	1,890	21,180	2,410	490	2,900
Not Owned	8,580	2,140	10,720	9,430	2,730	12,160	850	570	1,440
Total Housing	25,460	3,540	29,000	28,700	4,600	33,300	3,260	1,060	4,300
Shares %									
Owned with mortgage	27%	2%	29%	26%	2%	28%	-1.1%	0.2%	-0.9%
Owned without mortgage	21%	2%	24%	22%	3%	25%	0.6%	0.5%	1.1%
Owned by Trust	10%	1%	11%	10%	1%	11%	0.2%	0.2%	0.4%
Total Owned or in Trust	58%	5%	63%	58%	6%	64%	-0.3%	0.8%	0.6%
Not Owned	30%	7%	37%	28%	8%	37%	-1.3%	0.8%	-0.4%
Total Housing	88%	12%	100%	86%	14%	100%	-1.6%	1.6%	0.0%

Source: ME Housing Demand Model 2021 [1] *Not Owned includes NEI* *Note - includes rounding*

In the medium term, limited changes are indicated in the overall dwelling and ownership structure. The base case would see the bulk of housing growth (75%) as detached dwellings, and demand still predominantly for owned dwellings. The potential for intentions to own being manifest as actual ownership is discussed in the section on housing affordability.

Table 2.20 shows the projected growth in demand by household type over the period, again by dwelling type and tenure. The same allowance is made for the current ownership patterns of each household type to persist, so that changes reflect shifts in the mix of household types. For the dwellings, allowance is made for a long term trend away from detached and toward attached dwellings.

In the medium term to 2030, the changes would still be limited. Demand for additional dwellings is mainly from one person (31%) and couple households (36%), with a substantial share still from 2 parent families with children (23%). The orientation toward owned detached dwellings (nearly three fifths of the net increase) is expected to continue in the short term. The growth and shifting household typology indicates still just more than one-fifth of demand for attached dwellings, about half of those rented.

Table 2.20 – Household Types and Dwelling Tenure 2030 Medium Future

Household Type 2030 Medium Projection Future	Total Demand			Additional Demand 2020-30			Additional Demand 2020-30 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
One Person household	3,900	900	4,800	610	280	890	14%	7%	21%
Couple household	7,790	620	8,410	1,090	180	1,270	25%	4%	30%
2 Parents 1-2 children	4,370	220	4,590	430	20	450	10%	0%	10%
2 Parents 3+ children	1,230	30	1,260	140	10	150	3%	0%	3%
1 Parent Family	1,430	120	1,550	110	20	130	3%	0%	3%
Multi-family household	250	10	260	10	-	10	0%	0%	0%
Non-family household	320	-	320	30	-	30	1%	0%	1%
Total Owned or Trust	19,300	1,900	21,200	2,420	510	2,900	56%	12%	67%
Not Owned									
One Person household	1,900	1,240	3,140	150	290	440	3%	7%	10%
Couple household	1,790	560	2,350	180	130	310	4%	3%	7%
2 Parents 1-2 children	2,080	450	2,530	260	90	350	6%	2%	8%
2 Parents 3+ children	880	60	940	100	10	110	2%	0%	3%
1 Parent Family	2,160	350	2,510	110	60	170	3%	1%	4%
Multi-family household	170	20	190	10	-	10	0%	0%	0%
Non-family household	430	40	470	20	10	30	0%	0%	1%
Total Not Owned	9,400	2,700	12,100	830	590	1,400	19%	14%	33%
Total	28,700	4,600	33,300	3,250	1,100	4,300	76%	26%	100%

Source: ME Housing Demand Model 2021 [1] *Attached includes NEI* *Note - includes rounding*

Table 2.21 showing projected growth in demand by household income has demand spread quite broadly across household income bands. However, over time a higher share (29% compared with 25% in the short term) is anticipated to be lower income households ($30,000 or under). The shift is consistent with the ageing of the population, and higher shares of overall demand being from one person and couple households. Around half of the net increase is indicated for households with incomes of $50,000 or more, and 20% would be from households earning $100,000 or more.

Table 2.21 – Household Income and Dwelling Tenure 2030 Medium Future

Household Income 2030 Medium Projection Future	Total Demand			Additional Demand 2020-30			Additional Demand 2020-30 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
Under $30,000	2,650	580	3,230	480	210	690	11%	5%	16%
$30-50,000	2,940	380	3,320	530	120	650	12%	3%	15%
$50-70,000	2,840	290	3,130	410	80	490	9%	2%	11%
$70-100,000	3,580	240	3,820	380	50	430	9%	1%	10%
$100-120,000	2,310	160	2,470	210	30	240	5%	1%	6%
$120-150,000	1,940	130	2,070	160	30	190	4%	1%	4%
$150,000+	3,020	130	3,150	230	- 10	220	5%	0%	5%
Total Owned or Trust	19,300	1,900	21,200	2,400	510	2,910	55%	12%	67%
Not Owned									
Under $30,000	2,600	1,200	3,800	230	280	510	5%	6%	12%
$30-50,000	1,870	550	2,420	140	120	260	3%	3%	6%
$50-70,000	1,610	410	2,020	140	90	230	3%	2%	5%
$70-100,000	1,630	290	1,920	130	60	190	3%	1%	4%
$100-120,000	660	110	770	60	20	80	1%	0%	2%
$120-150,000	490	80	570	50	20	70	1%	0%	2%
$150,000+	560	90	650	100	10	110	2%	0%	3%
Total Not Owned	9,400	2,700	12,200	850	600	1,450	19%	14%	33%
Total	28,700	4,600	33,400	3,250	1,110	4,360	75%	25%	100%

Source: ME Housing Demand Model 2021 *1 Attached includes NEI* *Note - includes rounding*

Table 2.22 showing projected growth in demand by the major ethnic groups again highlights that demand would be dominated by households of European ethnicity (70%), consistent with the population projections applied. That is again apparent in high proportions of the additional demand being indicated for detached and owned dwellings. The structure of demand from households of other ethnicities is similar to the short term with a slightly larger shares for rented dwellings than owned dwellings, and higher propensity for attached dwellings still.

Table 2.22 – Household Ethnicity and Dwelling Tenure 2030 Medium Future

Household Ethnicity 2030 Medium Projection Future	Total Demand			Additional Demand 2020-30			Additional Demand 2020-30 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
European	13,620	1,290	14,910	1,940	180	2,120	45%	4%	49%
Māori	4,120	260	4,380	490	30	520	11%	1%	12%
Pacific	490	-	490	60	-	60	1%	0%	1%
Asian	1,230	80	1,310	90	10	100	2%	0%	2%
Total Owned or Trust	19,300	1,900	21,200	2,580	220	2,800	60%	5%	65%
Not Owned									
European	4,420	1,260	5,680	630	180	810	15%	4%	19%
Māori	3,690	810	4,500	440	100	540	10%	2%	12%
Pacific	580	50	630	70	10	80	2%	0%	2%
Asian	1,110	320	1,430	80	20	100	2%	0%	2%
Total Not Owned	9,400	2,700	12,100	1,220	310	1,530	28%	7%	35%
Total	28,700	4,600	33,300	3,800	530	4,330	88%	12%	100%

Source: ME Housing Demand Model 2021 *1 Attached includes NEI* *Note - includes rounding*

2.5.3 Long Term - Medium Growth Future

In the long term, the projected housing demand is for another 7,900 dwellings to house the resident population, an increase of some 27%.

Table 2.23 shows the projected change over the period by dwelling type and tenure. Consistent with the medium term projection, the base case assumes that current ownership patterns for each household type will persist into the future, with changes in demand driven by the changing mix of household types. Allowance is made for a long term trend away from detached dwellings toward attached dwellings.

Table 2.23 – Dwelling Tenure and Dwelling Types 2050 Medium Future

Dwelling Tenure : Medium Projection Future	2020			2050			2020-50		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*0.7%pa*			
Owned with mortgage	7,880	480	8,360	8,980	790	9,770	1,100	310	1,410
Owned without mortgage	6,170	700	6,870	8,590	1,480	10,070	2,420	780	3,200
Owned by Trust	2,830	220	3,050	3,670	430	4,100	840	210	1,050
Total Owned or in Trust	16,880	1,400	18,280	21,240	2,700	23,940	4,360	1,300	5,660
Not Owned	8,580	2,140	10,720	9,520	3,370	12,890	940	1,200	2,170
Total Housing	25,460	3,540	29,000	30,800	6,100	36,800	5,300	2,500	7,800
Shares %									
Owned with mortgage	27%	2%	29%	24%	2%	27%	-2.8%	0.5%	-2.3%
Owned without mortgage	21%	2%	24%	23%	4%	27%	2.1%	1.6%	3.7%
Owned by Trust	10%	1%	11%	10%	1%	11%	0.2%	0.4%	0.6%
Total Owned or in Trust	58%	5%	63%	58%	7%	65%	-0.5%	2.5%	2.0%
Not Owned	30%	7%	37%	26%	9%	35%	-3.7%	1.8%	-1.9%
Total Housing	88%	12%	100%	84%	17%	100%	-4.1%	4.4%	0.0%

Source: ME Housing Demand Model 2021 [1] *Not Owned includes NEI* *Note - includes rounding*

In the long term, more substantial changes are indicated in the District's dwelling and ownership structure. The base case would see a somewhat reduced share of the net additional housing as detached dwellings, at 68% compared with 75% in the medium term. Expected demand is still predominantly (72%) for owned dwellings.

Table 2.24 shows the projected growth in demand by household type by dwelling type and tenure, with the standard allowances as to ownership patterns of each household type, and the long term trend toward attached dwellings.

In the long term to 2050, the changes would be more substantial. The net increase in demand for dwellings would be heavily weighted toward from one person households at 40% of the total. Couple households would account for a further 40%, so that over four-fifths of the net additional demand is from one and two-person households. The share of the increase for 2 parent families with children would be substantially less at 15%. One parent families, and multi- and non-family households would account for only around 9% of the growth. The focus on owned detached dwellings would be somewhat less, though still around two-thirds of the net change.

Table 2.24 – Household Types and Dwelling Tenure 2050 Medium Future

Household Type 2050 Medium Projection Future	Total Demand			Additional Demand 2020-50			Additional Demand 2020-50 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
One Person household	4,740	1,380	6,120	1,450	760	2,210	18%	10%	28%
Couple household	8,650	870	9,520	1,950	430	2,380	25%	5%	30%
2 Parents 1-2 children	4,410	260	4,670	470	60	530	6%	1%	7%
2 Parents 3+ children	1,270	40	1,310	180	20	200	2%	0%	3%
1 Parent Family	1,570	150	1,720	250	50	300	3%	1%	4%
Multi-family household	240	20	260	-	10	10	0%	0%	0%
Non-family household	330	-	330	40	-	40	1%	0%	1%
Total Owned or Trust	21,200	2,700	23,900	4,340	1,330	5,700	55%	17%	72%
Not Owned									
One Person household	2,020	1,650	3,670	270	700	970	3%	9%	12%
Couple household	1,900	680	2,580	290	250	540	4%	3%	7%
2 Parents 1-2 children	1,980	500	2,480	160	140	300	2%	2%	4%
2 Parents 3+ children	840	70	910	60	20	80	1%	0%	1%
1 Parent Family	2,180	400	2,580	130	110	240	2%	1%	3%
Multi-family household	160	30	190	-	10	10	0%	0%	0%
Non-family household	440	40	480	30	10	40	0%	0%	1%
Total Not Owned	9,500	3,400	12,900	940	1,240	2,200	12%	16%	28%
Total	30,700	6,100	36,800	5,280	2,570	7,900	67%	33%	100%

Source: ME Housing Demand Model 2021 [1] *Attached includes NEI* *Note - includes rounding*

Table 2.25 showing projected growth by household income illustrates this. Additional demand is spread quite broadly across household income bands. Over time a higher share (33% compared with 25% in the short term) is anticipated to be lower income households. That is consistent with the population ageing and more one person and couple households. Only around 44% of the net growth is households with incomes of $50,000 or more, and only 17% would be from households earning $100,000 or more.

Table 2.25 – Household Income and Dwelling Tenure 2050 Medium Future

Household Income 2050 Medium Projection Future	Total Demand			Additional Demand 2020-50			Additional Demand 2020-50 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
Under $30,000	3,270	940	4,210	1,100	570	1,670	14%	7%	21%
$30-50,000	3,510	570	4,080	1,100	310	1,410	14%	4%	18%
$50-70,000	3,160	400	3,560	730	190	920	9%	2%	12%
$70-100,000	3,770	280	4,050	570	90	660	7%	1%	8%
$100-120,000	2,350	200	2,550	250	70	320	3%	1%	4%
$120-150,000	2,020	160	2,180	240	60	300	3%	1%	4%
$150,000+	3,160	160	3,320	370	20	390	5%	0%	5%
Total Owned or Trust	21,200	2,700	23,950	4,360	1,310	5,670	55%	17%	72%
Not Owned									
Under $30,000	2,690	1,530	4,220	320	610	930	4%	8%	12%
$30-50,000	1,900	670	2,570	170	240	410	2%	3%	5%
$50-70,000	1,620	490	2,110	150	170	320	2%	2%	4%
$70-100,000	1,600	340	1,940	100	110	210	1%	1%	3%
$100-120,000	660	130	790	60	40	100	1%	1%	1%
$120-150,000	500	90	590	60	30	90	1%	0%	1%
$150,000+	560	110	670	100	30	130	1%	0%	2%
Total Not Owned	9,500	3,400	12,890	960	1,230	2,190	12%	16%	28%
Total	30,700	6,100	36,800	5,320	2,540	7,860	68%	32%	100%

Source: ME Housing Demand Model 2021 *1 Attached includes NEI* *Note - includes rounding*

Table 2.26 showing projected growth in demand by the major ethnic groups is very similar to the outcomes for the short and medium terms. Demand would be dominated by households of European and other ethnicity (70%), with their high proportions of additional demand indicated for detached and owned dwellings. The structure of demand from households of other ethnicities is consistent throughout the planning horizon.

Table 2.26 – Household Ethnicity and Dwelling Tenure 2050 Medium Future

Household Ethnicity 2050 Medium Projection Future	Total Demand			Additional Demand 2020-50			Additional Demand 2020-50 %		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Owned or Trust									
European	15,570	1,480	17,050	3,890	370	4,260	50%	5%	54%
Māori	4,350	280	4,630	720	50	770	9%	1%	10%
Pacific	520	-	520	90	-	90	1%	0%	1%
Asian	1,230	80	1,310	90	10	100	1%	0%	1%
Total Owned or Trust	21,100	2,800	23,900	4,790	430	5,220	61%	5%	67%
Not Owned									
European	5,050	1,440	6,490	1,260	360	1,620	16%	5%	21%
Māori	3,890	850	4,740	640	140	780	8%	2%	10%
Pacific	610	50	660	100	10	110	1%	0%	1%
Asian	1,110	320	1,430	80	20	100	1%	0%	1%
Total Not Owned	9,500	3,500	12,900	2,080	530	2,610	27%	7%	33%
Total	30,600	6,300	36,800	6,870	960	7,830	88%	12%	100%

Source: ME Housing Demand Model 2021 *1 Attached includes NEI* *Note - includes rounding*

2.5.4 Implications

The gradual shift toward greater shares of demand being from medium and especially lower income households suggests *a priori* an increasing challenge to housing affordability. However, the situation is more complex than that, because over time households currently renting can be expected to transition to dwelling ownership, just as new households forming over the next decade are likely to commence in rented dwellings. Similarly, the greater numbers of households in the lower income bands will include older households including those retiring, but who may already be dwelling owners. That shift in the balance may see ownership rates among the lower income households increase over time.

Those shares (above) relate to net growth, not total demand. That said, the shifts do mean the overall market structure will be different in the long term. One person households will represent 35% of total housing demand (23% currently). Couple households will represent a larger share (36% compared with 32%). The 2 parent and 1 parent families will account for some 26% (currently 41%), while in future multi- and non-family households will be similar to the current 3%.

This means that the increase in the size of demand is probably the most important change. Every segment of the housing market will be larger in the medium and long terms than it is currently. Simply, there will be more households in every segment who will require housing.

Moreover, there is more limited change in the overall structure of the market in terms of household incomes. In the long term, lower income households are expected to be 29% of the total, compared with 20% currently. Households earning more than $50,000 would be 50% of the total, compared with 63% in 2020. Households earning more than $100,000 would be 21%, compared with 30% now. These long term shifts are important, though not huge.

2.5.5 Caveat

It is important to recognise that assessment of future resident housing demand is based largely on a "Business as Usual" or BAU base case, in which the current housing preferences and capabilities for each socio-demographic group are assumed to continue into the medium and long term. That means that dwelling ownership levels for each household segment will be more or less the same in 10 and 30 years time, for the segments which are around then. For example, 73% of 2 parent households in the 40-49 age band with incomes of over $120,000 resided in their own dwelling, another 10% lived in a dwelling owned by a trust. The BAU future assumes that households with those characteristics in 10 or 30 years' time will have the same ownership patterns. In a relatively stable economy and community like Rotorua, where current patterns have developed over a long period, the BAU assumption is generally the most appropriate starting point.

In particular, it provides a basis for assessing future affordability. However, the BAU demand future does not seek to model macro-economic matters, beyond the established trends in household income levels. This is considered further in relation to housing affordability.

2.6 Total Housing Demand by Location

The above detailed analysis of resident housing demand has been for the district as a whole. In accordance with clause 3.24 of the NPS-UD, the HBA must also estimate demand for additional housing in the urban environment, and in different locations within that urban environment by dwelling type. This is not limited to resident dwellings. Total urban dwelling demand is required to assess the sufficiency of residential capacity against where households and other dwelling purchasers typically seek to locate within the district and urban environment.

The Council's (Infometrics) growth projections cover household growth at a district level. Assuming one household per dwelling, this provides us with estimated resident dwellings,[37] but does not provide insight on non-resident dwellings, which will include holiday homes, dwellings used for short term accommodation (i.e., unhosted, whole house or apartment dwellings available for booking via Airbnb, Bookabach and other homeshare platforms), and also vacant dwellings.[38]

The Council's growth projections also do not assist with understanding how many total dwellings or resident dwellings fall within the defined long term urban environment as opposed to the rest of the district (i.e., the rural environment). It is noted that demand attributed to the rural environment does not necessarily mean it is demand for rural-type properties as there are a range of zones in the rural environment that deliver urban densities (including the Rural Village Zone and Lakeside Settlements Zone).

The supporting Technical Report contains M.E's approach and assumptions for estimating total dwellings in the district in 2020 and splitting those dwellings into the rural and urban environment, including allocation across locations within the urban environment and by attached and detached dwelling types. It

[37] Previously discussed as private usually occupied dwellings.

[38] Completely empty and unused dwellings are expected to make up a very minor share of total non-resident dwellings.

also includes our approach to projecting that demand structure forward over the short, medium and long term (while reconciling with Council's resident dwelling (household) projections at the district level).

2.6.1 Latent Housing Demand

As discussed in Section 1.1.1, Rotorua had a housing shortage estimated at around 1,500 – 1,750 homes to meet the needs of the current community as at the end of 2019. This estimate was calculated by MHUD who carried out a place-based assessment of Rotorua's housing demand and supply (March 2020). This shortfall of dwellings has since been acknowledged in The Homes and Thriving Communities Strategic Framework (2020).

Calculating shortfall of dwellings is not straightforward and while there are indicators available on the number of dwellings that would be needed to move residents out of motels and into dedicated emergency, transitional and social housing, there are many multi-family or multi-person households in Rotorua who are currently housed, but who would occupy more dwellings if they were available. These living situations may be causing over-crowding in their current shared dwellings. It is also difficult to estimate if the household formation rate in Rotorua is being supressed due to a lack of housing. MHUD have cautioned that the estimate of 1,500-1,750 is indicative only.

Council and M.E consider it appropriate that latent demand for housing in Rotorua be captured in the HBA.

M.E have adopted (with Council's agreement) the lower end of the MHUD range (1,500) to include in the HBA modelling. This was based on consideration of the number of total dwellings estimated in the district from the rating database, Infometrics estimates of 2020 district resident households (which, by definition, reflect occupied dwellings based on the way that SNZ collects household and dwelling data during the Census), the number of multi-family households estimated in 2020, and high level estimates of current non-residential dwellings (including anecdotal evidence of a portion of short term accommodation dwellings being made available for long term rentals due to reduced visitor demand). It was felt that on balance, these high level figures converged more towards 1,500 than 1,750[39].

The latent demand for 1,500 additional dwellings to meet current community needs has therefore been added to the future growth in housing sustained by net additions to resident households and estimated increased demand for non-residential dwellings over the short, medium and long term.[40] The assumption has been made to attribute all 1,500 additional dwellings to the urban environment, spread across the four reporting areas pro-rata the underlying projected dwelling growth in each time period. It has also been assumed that given the significant size of the shortfall relative to otherwise projected dwelling growth, that the competitiveness margin should also apply to the dwelling shortfall included in future demand.

The implication of including latent demand of 1,500 homes is that urban housing development capacity will need to be sufficient to at least cover projected new demand for dwellings as well as the demand that has not been supplied in the years leading up to 2020.

[39] This is not to say that the shortfall could not be as high as 1,750. M.E has not carried out detailed analysis to independently estimate the current dwelling shortfall. Given that the MHUD figure has been relied on for other Council strategies, it was considered appropriate to use the MHUD range for consistency.

[40] The latent demand has been included in full in the short term and not spread over time. This has a significant impact on short term dwelling demand.

2.6.2 Total Housing Demand – Medium Growth Future

M.E estimates a total of 29,950 dwellings in Rotorua District in 2020, 82.5% or 24,700 of those within the defined urban environment (refer Figure 1.2) and 5,250 (17.5%) in the rural environment (Table 2.27). This is according to the medium growth future.[41] By 2050 (the long term), total district dwellings are projected to reach 39,520, with 32,950 in the urban environment. The urban-rural structure remains broadly similar over time, with a slightly greater share in the urban environment by 2050, due to a slightly faster projected growth rate and inclusion of latent demand within urban reporting areas.

Table 2.27 - Total Dwellings Projections by Location 2020-50 (Medium Growth Future)

Reporting Area	Count of Total Dwellings (n)				Distribution of Total Dwellings (n)			
	2020	2023	2030	2050	2020	2023	2030	2050
Central	7,150	8,030	8,760	9,990	23.9%	24.2%	24.4%	25.3%
Western	11,430	12,730	13,580	14,360	38.2%	38.3%	37.8%	36.3%
Eastern	4,160	4,700	5,140	5,850	13.9%	14.1%	14.3%	14.8%
Ngongotahā	1,960	2,210	2,430	2,740	6.5%	6.7%	6.8%	6.9%
Total Urban Environment	24,700	27,670	29,910	32,950	82.5%	83.3%	83.3%	83.4%
Rural Environment	5,250	5,550	6,000	6,570	17.5%	16.7%	16.7%	16.6%
District Total	29,950	33,220	35,910	39,520	100%	100%	100%	100%

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

*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)*

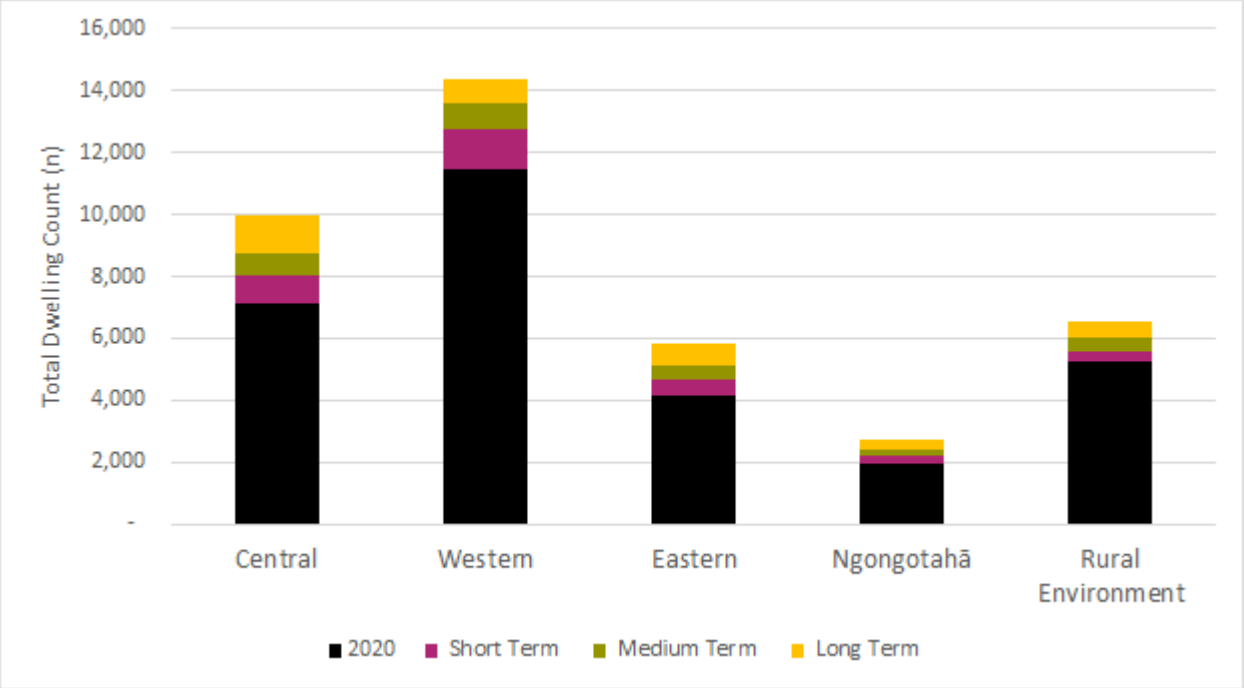
Medium Growth Future

Figure 2.3 summarises estimated total urban environment housing growth projections (including resident houses and holiday homes) by location/reporting area (refer Figure 1.3) over the 2020-2050 period (medium growth future) as well as the estimated total rural environment housing growth. Currently, the Western area accounts for an estimated 38.2% of district dwellings and 46% of total urban dwellings (2020). This is followed by the Central area with 23.9% of district housing (29% of urban housing), then the Eastern area (13.9% of district housing and 17% of urban housing) and lastly Ngongotahā (6.5% of district housing and 8% of urban housing) (Table 2.27).

Over time, the Central, Eastern and Ngongotahā areas are projected to capture an increasing percentage share of district dwelling growth, while the Western area and the rural environment, are projected to capture a reducing percentage share across the time periods. In terms of dwelling counts, the Western Area dominates housing growth in the short and medium term, but by 2050, the Central area is projected to have experienced the greatest demand growth.

[41] The tables in this report section are replicated in the Technical Report for the Council's high growth future.

Figure 2.3 – Total Dwellings by Urban and Rural Environment 2020-50 (Medium Growth Future)



The supporting Technical Report also contains tables which show a breakdown of current and projected housing by resident dwellings (i.e., those occupied by resident households) and non-resident dwellings over time. The resident dwelling growth reflects the Infometrics projections at the district level plus estimates of latent demand. M.E estimate that 23,930 out of 29,010 resident dwellings are located in the urban environment (82%) in 2020. In addition, there are an estimated 770 non-resident dwellings in the urban environment and 940 in the district overall. Resident dwellings account for 97% of all houses, and the projections assume this structure remains relatively steady over time.

In the urban environment, there is projected demand for 2,970 additional houses in the short term, 5,200 additional houses in the medium term and 8,250 additional houses in the long term, driven by projected household growth and addressing the current shortfall in housing.

In the Central area, dwelling demand is projected to grow from 7,150 in 2020 to 9,990 in 2050 (growth of 2,840). The Western area is projected to have strong growth in the short term (demand for 1,300 additional dwellings by 2023) and reach 14,360 total houses in the long term (up from 11,430 in 2020). The total growth projected in the Eastern area is 1,690 (with the number of total houses increasing from 4,160 to 5,850 in 2050). Growth projected in Ngongotahā is more modest (although above average in percentage terms), with the number of houses increasing by 780 over the next 30 years. All this demand growth assumes no constraints on supply.

Table 2.28 and 2.29 provide a breakdown of dwelling projections by attached and detached dwelling type in the urban environment by reporting area. Some key trends are as follows:

Table 2.28 – Total Dwellings by Location and Type 2020-2050 (Medium Growth Future)

Reporting Area	2020			2023			2030			2050		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Central	4,220	2,930	7,150	4,710	3,320	8,030	5,070	3,700	8,760	5,600	4,400	9,990
Western	10,360	1,070	11,430	11,470	1,260	12,730	12,070	1,510	13,580	12,360	2,000	14,360
Eastern	3,930	230	4,160	4,410	290	4,700	4,760	380	5,140	5,250	610	5,850
Ngongotahā	1,790	170	1,960	2,010	200	2,210	2,170	250	2,430	2,380	360	2,740
Total Urban Environment	20,300	4,400	24,700	22,600	5,070	27,670	24,070	5,840	29,910	25,590	7,370	32,940
Rural Environment			5,250			5,550			6,000			6,570
District Total			29,950			33,220			35,910			39,510
	Detached %	Attached %	Total %	Detached %	Attached %	Total %	Detached %	Attached %	Total %	Detached %	Attached %	Total %
Central	59%	41%	100%	59%	41%	100%	58%	42%	100%	56%	44%	100%
Western	91%	9%	100%	90%	10%	100%	89%	11%	100%	86%	14%	100%
Eastern	94%	6%	100%	94%	6%	100%	93%	7%	100%	90%	10%	100%
Ngongotahā	91%	9%	100%	91%	9%	100%	90%	10%	100%	87%	13%	100%
Total Urban Environment	82%	18%	100%	82%	18%	100%	80%	20%	100%	78%	22%	100%

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 2.29 – Growth in Total Dwellings by Location and Type 2020-2050 (Medium 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	490	850	1,380	390	760	1,460	880	1,610	2,840
Western	1,110	1,700	2,000	190	440	930	1,300	2,150	2,930
Eastern	480	830	1,320	60	150	370	540	980	1,690
Ngongotahā	220	380	590	30	80	190	250	470	780
Total Urban Environment	2,300	3,760	5,280	670	1,440	2,970	2,970	5,200	8,250
Rural Environment							300	760	1,320
District Total							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)*

- Overall, an estimated 82% of current dwellings in the urban environment are detached or standalone dwellings (2020). This equates to an estimated 20,300 houses. Just over half of these can be found in the Western area, with around a fifth in Central and Eastern areas and just under 10% in Ngongotahā.
- The balance of urban houses are attached (duplex, terraced or apartments). There are an estimated 4,400 in the urban environment in 2020, with 67% located within the Central area. This is driven by the presence of the Residential 2 – Medium Density zone (found nowhere else in the urban area) as well as the central city zones. Just under a quarter of attached dwellings (24%) are within the Western area and around 5% each in Eastern and Ngongotahā areas.
- This structure can be expected to prevail in the long term, with only gradual shifts projected. Demand for attached housing is expected to grow at a slightly faster rate than detached housing, so that by the medium term, attached housing increases by 1,440 dwellings and makes up an estimated 20% of urban housing stock (compared to 18% in 2020). At the same time, detached dwellings are projected to increase by 3,760.

- In the long term, attached dwellings are projected to increase by 2,970 (if unconstrained) and would make up 22% of the urban housing stock. By 2050, detached housing is projected to have grown by 5,280 additional dwellings.
- By 2050, the Central area could be comprised of 56% detached dwellings and 44% attached dwellings. Attached housing could make up 14% of housing in the Western area, 10% in the Eastern area and 13% in Ngongotahā in the long term (compared to 9%, 6% and 9% respectively today). This is driven by changes in demography as well as a modelled minor shift in dwelling preferences to reflect national trends.
- Table 2.30 summarises the share of growth by dwelling type in each time period. In the short term, detached housing is projected to make up 77% of housing growth across the urban environment. In all areas excluding the Central area, this share is however much higher (between 85-89% of growth 2020-2023).
- By 2030, detached housing makes up slightly less of total dwelling growth in the urban environment (72%) and between 79-81% of growth in non-Central locations. By 2050, detached housing makes up 64% of total urban housing growth (and between 68-78% of growth in non-Central locations). In other words, if unconstrained, attached housing is projected to account for 36% of all housing growth in Rotorua's urban environment over the long term in response to changing household demography and housing preferences. This demand growth is spread throughout the urban environment.

Table 2.30 – Share of Growth in Total Dwellings by Location and Type 2020-2050 (Medium Growth Future)

Reporting Area	Detached			Attached		
	2020-2023	2020-2030	2020-2050	2020-2023	2020-2030	2020-2050
Central	56%	53%	49%	44%	47%	51%
Western	85%	79%	68%	15%	21%	32%
Eastern	89%	85%	78%	11%	15%	22%
Ngongotahā	88%	81%	76%	12%	19%	24%
Total Urban Environment	77%	72%	64%	23%	28%	36%

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

2.6.3 Competitiveness Margin Applied to Urban Dwelling Demand

Clause 3.22 of the NPS-UD requires that a competitivess margin of 20% in the short and medium term and 15% in the long-term be added to projected demand for assessing capacity requirements in Tier 1 and Tier 2 urban environments.

The purpose of the margin is to support choice and competitiveness in housing and business land markets by ensuring that Council enables at least 15-20% more land capacity than would be required to meet expected demand.

It is important to recognise that the competitiveness margin is in effect provision for additional land for feasible housing capacity and the infrastructure to support it, but it is not anticipated additional dwelling supply as at 2023, 2030 or 2050. The core reason for the additional land capacity is to provide a land supply

buffer in case housing demand is higher than anticipated, with a view also to place downward pressure on land prices.

The preceding housing projections identify the number of dwellings expected to be required to accommodate Rotorua's future population (including current latent demand) and non-resident dwelling demand. From that base, the Council is required to provide for sufficient plan-enabled and serviced land to accommodate that growth, and up to 20% more for the competitiveness margin in the short and medium terms. The short term margin applies as an additional 7 months' capacity over and above the 36 month growth outlook, so that at any point in time there should be 43 or so months of plan enabled and serviced land capacity, constantly moving forward.

Within that, it is important to differentiate between provision for housing capacity, which is done by ensuring sufficient plan enabled and infrastructure serviced land supply for anticipated needs - within the power of councils - and actual construction and final delivery of that housing capacity (or "take up"), which is for the most part by private sector developers and builders.

Construction of housing capacity is undertaken largely by private interests in the case of most land development and dwelling construction, apart from historically limited public sector involvement in social housing. Efforts by community housing providers and not for profit developments supported by local and central government are also expected to increase over time. Despite this, the supply of new dwellings has, and is expected to remain predominantly a private sector activity, where private developers and builders purchase and develop land and build dwellings in expectation of sale on the open market, often with the security of contractual arrangements with an intending purchaser (pre-sale), although also in anticipation of sale during or after the dwelling construction (spec-build). Completion of new dwellings occurs predominantly in the last months and weeks of a development sequence taking 2-4 years from land acquisition through structure planning, site development, provision of local infrastructure, to dwelling construction and sale. This means provision for land capacity by councils can generally be expected to manifest as built housing capacity approximately 2-4 years later, at the earliest.

The key point is that the provision for the competitiveness margin should not give rise to expectation that the new housing capacity itself would be completed and be ready for sale 43 months or so in advance of its expected uptake. In terms of meeting the NPS-UD requirements, then, the competitiveness margin applies to provision for sufficient land, and not to the final delivery of built housing capacity.

Table 2.31 and 2.32 show medium growth dwelling projections in the urban environment by location inclusive of the competitiveness margin. Total growth in the short term is 3,560 dwellings, increasing to 6,240 in the medium term and 9,740 in the long term. Again, the equivalent tables for the Council's high growth future are included in the supporting Technical Report. It is these dwelling projections (with the margin included) that form the basis of the sufficiency assessment, discussed later in Section 10.

Table 2.31 – Total Urban Dwellings by Location and Type Including Margin (Medium Growth Future)

Reporting Area	2020			2023			2030			2050		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Central	4,220	2,930	7,150	4,810	3,400	8,210	5,240	3,850	9,090	5,850	4,650	10,500
Western	10,360	1,070	11,430	11,690	1,290	12,990	12,410	1,600	14,010	12,750	2,160	14,910
Eastern	3,930	230	4,160	4,510	300	4,810	4,920	410	5,330	5,490	670	6,160
Ngongotahā	1,790	170	1,960	2,050	210	2,260	2,250	270	2,520	2,490	400	2,880
Total Urban Environment	20,300	4,400	24,700	23,060	5,200	28,270	24,820	6,130	30,950	26,580	7,880	34,450

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 2.32 – Growth in Total Urban Dwellings by Location and Type Including Margin (Medium 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	590	1,020	1,630	470	920	1,720	1,050	1,930	3,350
Western	1,330	2,040	2,380	230	530	1,100	1,560	2,580	3,480
Eastern	580	990	1,560	70	180	440	650	1,170	1,990
Ngongotahā	260	460	700	40	100	230	300	560	920
Total Urban Environment	2,760	4,510	6,270	810	1,730	3,490	3,560	6,240	9,740

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)*

2.7 Housing Bottom Lines

Clause 3.6(1) of the NPS-UD requires that "the amount of development capacity that is sufficient to meet expected housing demand plus the appropriate competitiveness margin" in the short-medium and in the long term is clearly stated in each district of a tier 2 urban environment. The Housing Bottom Line is to be based on the amount of "*feasible, reasonably expected to be realised development capacity that must be enabled to meet demand, along with the competitiveness margin*". Once determined, the Housing Bottom Lines must be inserted into the District Plan and Regional Policy Statement.

The following are the calculated Housing Bottom Lines for the Rotorua urban environment for the short, medium and long term. They are based on the analysis set out above in Section 2.6, and specifically 2.6.2 above, and are driven by Council's preferred medium growth future. Sufficient zoned and infrastructure-served, feasible development capacity is required to meet demand to accommodate the following number of projected additional dwellings in each time period:[42]

i. Short Term: an additional 3,560 dwellings.
ii. Medium Term: an additional 6,240 dwellings.
iii. Long Term: an additional 9,740 dwellings.

[42] It is important to note that if Council's growth projections are updated, that these Housing Bottom Lines would also need to be updated, as would this HBA.

3 Housing Supply

This section examines the Rotorua residential property estate, to identify the current dwelling mix and property values. The focus is on the housing for the resident population. It includes analysis of the additions to housing supply in the recent past from consents and estimated land values, then considers the likely future dwelling estate, taking account of the current estate, and potential additions to that estate, in the context of different trends in land values and improvements values, and how these affect dwelling values and prices. A high level summary of the approach to modelling housing supply is contained in the supporting Technical Report[43].

3.1 Current Dwelling Estate

Table 3.1 provides a summary of the Rotorua District residential property estate as at 2020 (June). The Corelogic dataset does not match directly with the Census descriptions of dwelling types, and it includes dwellings utilised by usually resident households, and also visiting households (such as holiday homes). However, it offers very useful detail for understanding affordability issues.

Table 3.1 – Residential Property Estate Rotorua District 2020

Property Category	Count	Land Value ($m)	Improved Value ($m)	Capital Value ($m)	Mean LV ($000)	Mean IV ($000)	Mean CV ($000)	LV as % CV
Residential Dwelling	24,000	$ 4,800	$ 4,845	$ 9,646	$ 200	$ 202	$ 402	50%
Residential Home & Income	360	$ 87	$ 98	$ 185	$ 242	$ 272	$ 514	47%
Residential Apartments	1,950	$ 306	$ 388	$ 693	$ 157	$ 199	$ 356	44%
Residential Rental flats	230	$ 62	$ 77	$ 139	$ 269	$ 336	$ 605	44%
Residential Convert Flats	10	$ 3	$ 2	$ 5	$ 289	$ 237	$ 526	55%
Sub-total Residential	26,550	$ 5,258	$ 5,411	$ 10,669	$ 198	$ 204	$ 402	49%
Lifestyle Improvement	2,570	$ 928	$ 939	$ 1,867	$ 361	$ 365	$ 726	50%
Total	29,120	$ 6,186	$ 6,349	$ 12,536	$ 212	$ 218	$ 430	49%

Source: ME 2020; Corelogic 2020

The table shows some 29,120 residential properties in total, which concords well with the Census-based estimate of 29,000 resident households in occupied dwellings for June 2020.

The Corelogic data identifies a total property value (capital value or "CV") of $12,536m, including $6,168m of land value ("LV"), and $6,349m of improvement value ("IV"). Across the estate, land values account for just under half the total capital value.

The main residential types are shown as a group, and these generally represent urban residential properties, with the 'Residential Dwelling' and 'Residential Apartments' the dominant categories.

[43] For clarity, note that the report refers to resident households (those living in the district on a permanent basis, as distinct from those visiting for a short period). The residential property estate is the land and buildings which provide capacity for resident households and for visitors including holiday dwellings. Demand for dwellings is focussed on resident households.

Table 3.2 shows how the mean values in Rotorua District compare with the New Zealand pattern. Rotorua values (and prices) for the residential types are significantly lower than the New Zealand average for LV, IV (predominantly the built dwelling), and overall CV. For the main residential types, Rotorua values are 50% to 70% of the national figure (Rotorua values are -30% to -50% below the national average). For Lifestyle properties, the Rotorua estate is much closer to the New Zealand average values, though it is still around 20% lower.

Table 3.2 – Residential Property Parameters - Rotorua District and New Zealand 2020

Property Category	Count	Mean LV ($000)	Mean IV ($000)	Mean CV ($000)	LV as % CV	Mean LV as % NZ	Mean IV as % NZ	Mean CV as % NZ
Residential Dwelling	24,000	$ 200	$ 202	$ 402	50%	49%	71%	58%
Residential Home & Income	360	$ 242	$ 272	$ 514	47%	37%	65%	48%
Residential Apartments	1,950	$ 157	$ 199	$ 356	44%	53%	73%	63%
Residential Rental flats	230	$ 269	$ 336	$ 605	44%	54%	81%	67%
Residential Convert Flats	10	$ 289	$ 237	$ 526	55%	44%	77%	55%
Sub-total Residential	26,550	$ 198	$ 204	$ 402	49%	50%	71%	59%
Lifestyle Improvement	2,570	$ 361	$ 365	$ 726	50%	80%	84%	82%
Total	29,120	$ 212	$ 218	$ 430	49%	53%	73%	62%

Source: ME 2020; Corelogic 2020

Table 3.3 provides further indication, comparing median value and the 20th to 80th percentiles. The lower percentile values are important in relation to housing affordability and can provide a more accurate indication of affordability than the blunter median values and median incomes comparators, since new owners entering the housing market often purchase dwellings in the lower value bands because that is the entry point which is affordable.

Table 3.3 – Residential Property Percentiles - Rotorua District and New Zealand 2020

Property Value Indicator ($000)	Rotorua District ($000)	New Zealand ($000)	Rotorua District as % NZ
Median Value	$ 350	$ 575	61%
20th percentile	$ 250	$ 350	71%
40th percentile	$ 313	$ 500	63%
60th percentile	$ 400	$ 675	59%
80th percentile	$ 525	$ 950	55%

Source: ME 2020; Corelogic 2020

Figure 3.1 shows the current distribution of residential property values in Rotorua, with strong grouping evident in the lower value bands (less than $600,000). This contrasts with the New Zealand distribution (Figure 3.2), which shows much lower incidence in the lower value bands, and a broader spread across middle value bands especially over $800,000.

Figure 3.1 – Distribution of Rotorua Residential Property Values 2020

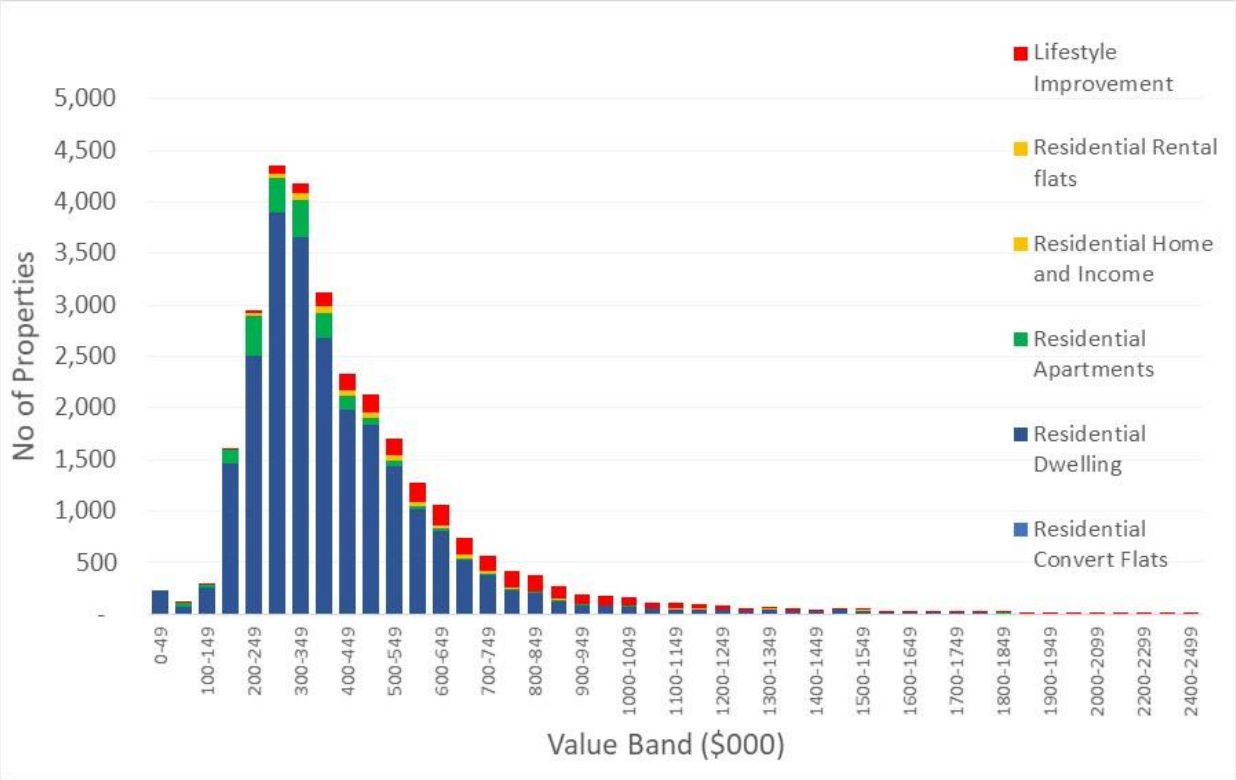


Figure 3.2 – Distribution of Rotorua and New Zealand Residential Property Values 2020

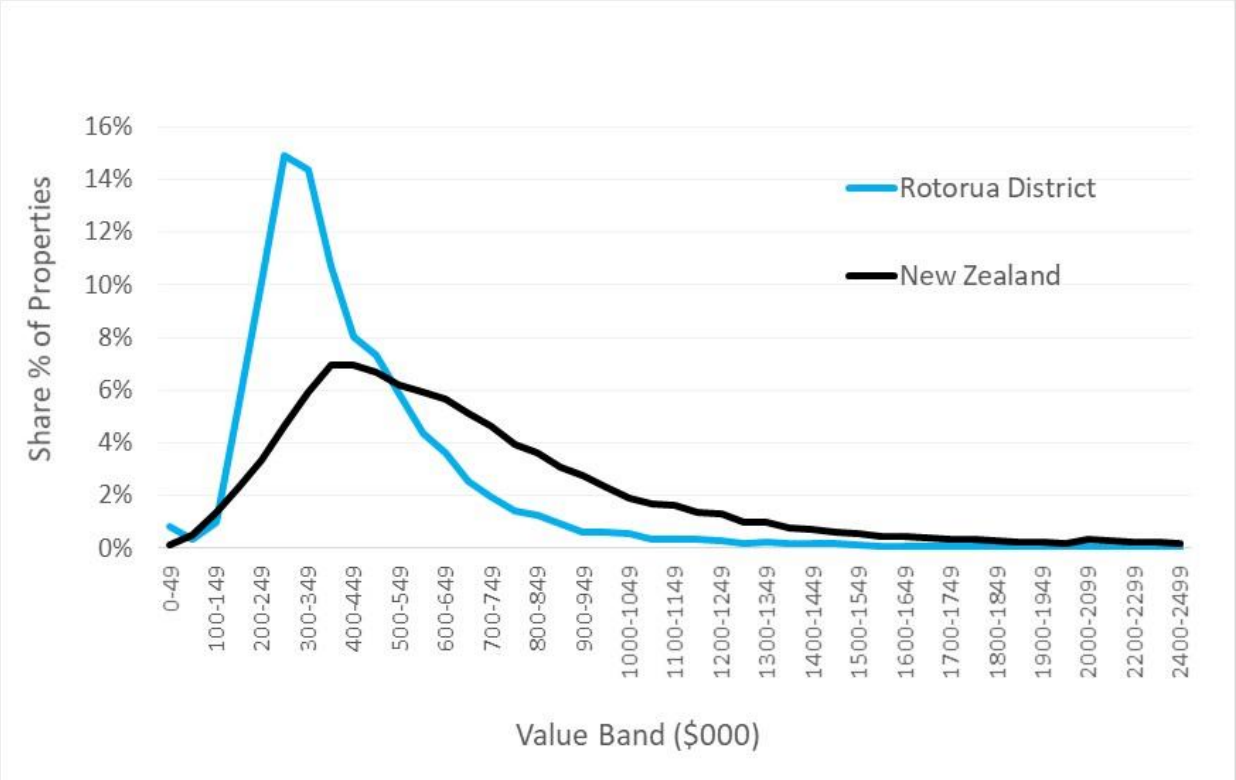


Figure 3.3 shows the mean property values at each ventile (every 5th percentile) for the district, with LV and IV. The pattern indicates a fairly stable property estate. Across the property value bands, the LV component is fairly consistent at around half of the total value. This consistency is in tune with an economy

showing moderate growth, and a residential property estate where expansion has been predominantly via greenfield development and infill, rather than intensification of lots. Over time, the land value share of total property value tends to increase, as the built improvements age.

Figure 3.3 – Rotorua Residential Property Land and Improvement Values 2020

3.2 Dwelling Value Trends

Housing prices are commonly the focus of market assessments. Since 2000, residential property values have increased significantly throughout New Zealand. This has been driven by a number of factors, including the ease of accessing finance, high consumer confidence (especially in the lead-up to the GFC), constraints on construction capacity, supply shortfalls, strong inward migration, overseas investment in New Zealand's housing market (until 2018), interest rates (currently very low) and the taxation environment. While the increase has been evident across all cities and districts, the incidence of value and price growth has varied by region and at different times.

Mean housing values in Rotorua District have been identified from the Corelogic residential property index, which offers monthly data across 125 locations. The key changes over the two decades to 2020 are summarised in Table 3.4, which shows mean values in both nominal (dollars of the day) and real terms (CPI-adjusted showing values in $2020). Notable features are:

a) In nominal terms, Rotorua prices increased by 374% (3.74 times) over the 20 years, an average annual rate of 6.8%.

b) This was slower than the New Zealand average (421%, 7.5%pa)

c) In real terms, Rotorua's 247% increase equated to 4.6%pa.

d) Over the same period, average household incomes in the Bay of Plenty Region increased by 53%, or 2.2%pa, less than half the rate of housing values.

e) Following the significant growth in the lead-up to the GFC in 2008, Rotorua values decreased, and by 2015 were around 16% lower than the GFC peak.

f) However, since 2015 Rotorua values have increased by around 82% in real terms, and by 21% in the last two years, more than double the national average.

g) That said, the mean Rotorua value in 2020 is around 30% lower than the national average.

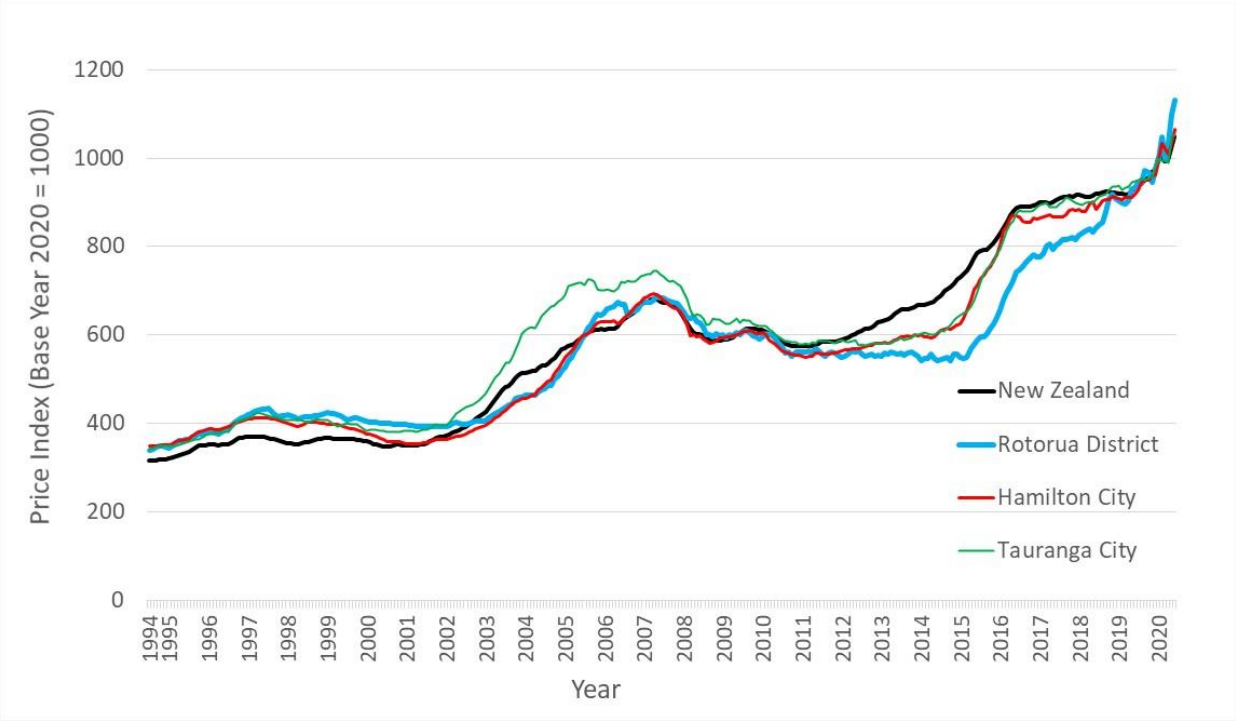
The longer term pattern (starting in 1994) and showing all years is shown in Figure 3.4 where the Rotorua pattern is graphed alongside New Zealand, and also two comparator cities in Hamilton and Tauranga. While Rotorua values were substantially below the national and other regional trend by 2015, since then it has caught up to the national pattern, and over the last year has been close to the national trend.

Table 3.4 – Residential Property Value Trends - Rotorua District and New Zealand 2000-2020

		Mean Property Value ($000)							Value Change since:				
Location	Indicator	June 2001	June 2008	June 2012	June 2015	June 2018	June 2019	June 2020	2001-20 (%)	2001-20 (%) pa	Last 5 Yrs (%)	Last 2 Yrs (%)	Last Year (%)
Rotorua District	Nominal Value	144	287	265	273	425	472	520	361%	7.0%	90%	22%	10%
	Real (CPI adj)	211	347	291	291	438	479	520	246%	4.9%	79%	19%	9%
New Zealand	Nominal Value	181	402	408	518	674	687	738	408%	7.7%	42%	9%	7%
	Real (CPI adj)	265	487	448	554	695	697	738	278%	5.5%	33%	6%	6%
Hamilton City	Nominal Value	158	346	335	382	559	585	628	397%	7.5%	64%	12%	7%
	Real (CPI adj)	232	418	368	408	576	594	628	271%	5.4%	54%	9%	6%
Tauranga City	Nominal Value	211	463	431	486	700	744	794	376%	7.2%	63%	13%	7%
	Real (CPI adj)	309	560	474	519	722	755	794	257%	5.1%	53%	10%	5%

Source: Corelogic all Residential Index 2021; Values in $000

Figure 3.4 – Rotorua and Comparator City Residential Property Values 1994-2020



These patterns are addressed further in the examination of housing affordability, and consideration of the role of planning in the operation of land and development markets.

3.3 "New" Dwellings – Additions to the Estate

It is important to understand current trends in additions to the Rotorua dwelling estate. Construction activity provides several important indicators for the housing market. Dwelling consents[44] issued is a key indicator of the scale, value and typologies of those additions, as the majority of consents issued do manifest as new dwellings within the following 12-24 months from issue. [45]

The number and value of consents indicates the built improvements, and it is also critical to consider the land component, since the total (capital) value of properties obviously includes land and dwelling. For this, we have estimated the land component of new dwellings, drawing on analysis of the observed relationships between improvement value and land value for some 23,000 new residential properties in regional cities and districts constructed over the 2013 to 2017 period[46].

The analysis is able to draw on the observed relationships between consent values, which account for most of the IV of new residential properties, and final property capital values taking also into account land values.

The consent and LV information is used here to understand recent trends in consents, as well as expected future trends, to indicate the future supply of new dwellings ("new" defined as being 2020 and later) over the short, medium and long terms. The initial high-level approach bases projected numbers on current trends and dwelling mix, applied to the total indicated land supply including greenfield and infill estimates. Note that this provides a first approximation of new dwelling supply, because it does not include detailed analysis of feasibility of new dwellings on greenfield and infill land. The recent trends in consenting are taken as a general indicator of feasibility, recognising that in most council areas a very high proportion of consented builds progress to completions, and that indicates general feasibility especially when considered over the medium term.

3.3.1 Dwelling Consents 2000-2020

The scale and nature of new dwelling consents in Rotorua District since 1996 is shown in Figure 3.5. Following substantial consenting and building activity in the 2000-08 period at around 250 annually, the number of consents fell dramatically in the generally depressed economic conditions following the GFC. The 2012-15 period saw only 80-90 consents issued annually, although the number has subsequently increased to 150-200 over the last 5 years since 2016.

[44] These relate to building consents, as distinct from resource consents.

[45] The residential consent data does not provide any visibility (detail) on the end use of the dwelling unit. It may be owned and occupied by a resident household, built for long term rental, built as a holiday home, or used for short term residential visitor accommodation. There is however lots of flexibility to switch from one use to another.

[46] This analysis of Corelogic datasets covered Hamilton City, Tauranga City, and New Plymouth, Whangarei, Western Bay of Plenty, Waikato, Waipa, Queenstown Lakes, Waimakariri and Selwyn districts.

Figure 3.5 – Rotorua Dwelling Consents 1996-2020

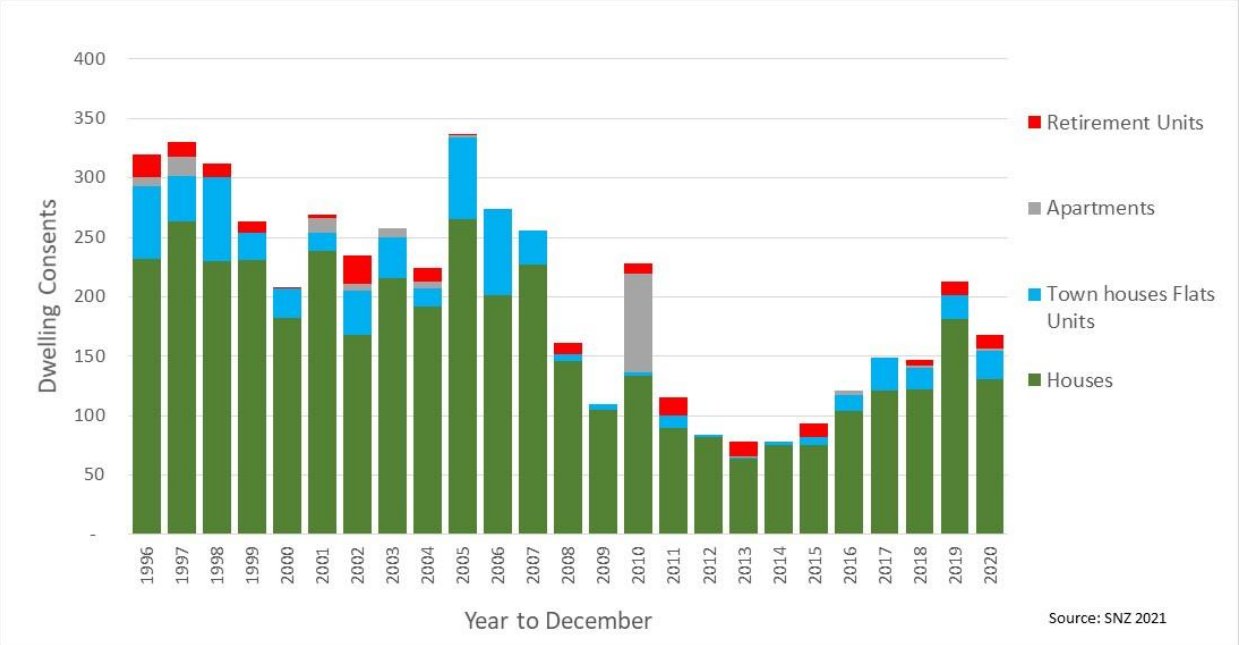


Table 3.5 – Dwelling Consent Summary Rotorua - Total 2016-2020

Parameter	Houses	Town houses Flats Units	Apartments	Retirement Units	Dwellings
2016-2020 Period					
Number of Consents	659	103	7	29	798
Total Value ($m)	$ 241	$ 16	$ 0	$ 8	$ 266
Total Value (Real $m) 2020	$ 248	$ 16	$ 0	$ 8	$ 273
Floor Area of Consents (sqm)	121,423	8,724	460	2,973	133,580
Mean Value ($000)	$ 361	$ 155	$ 23	$ 186	$ 328
Mean Real Value ($000)	$ 373	$ 159	$ 24	$ 189	$ 338
Mean Floor Area (sqm)	185	87	43	61	168
Mean Value $ per Sqm	$ 1,966	$ 1,752	$ 380	$ 1,881	$ 1,960
Mean Real Value $2020 per Sqm	$ 2,027	$ 1,807	$ 397	$ 1,918	$ 2,021

Source: Statistics NZ 2021

The 2016-20 period has seen nearly 800 consents issued , with a total value of $273m in $2020 terms (Table 3.5). Mean dwelling size is currently 168m^2, with houses at 185m^2, and apartments, retirement units and townhouses substantially smaller. Mean value per m^2 is just over $2,020, in current terms. A comparison of the 2016 and 2020 situations (December years) is shown in Table 3.6 for basic parameters, including annual value of consents (up 62%), mean value (up 17% in real terms), mean floor area (down by -10%), and mean value per m^2 (up by 30% in real terms).

Table 3.6 – Dwelling Consent Parameters – Key Changes in Rotorua 2016 to 2020

Time Period	Houses	Town houses Flats Units	Apartments	Retirement Units	Dwellings	Residential Buildings
N of Consents						
2016	104	13	4	-	121	121
2020	131	24	1	12	168	168
2016-2020	*27*	*11*	*-3*	*12*	*47*	*47*
Change 2016-2020 %	26%	85%	-75%	0%	39%	39%
Change 2016-2020 %pa	5.9%	16.6%	-29.3%	0.0%	8.6%	8.6%
Value of Consents ($m)						
2016	$ 32	$ 2	$ 0	$ -	$ 34	$ 34
2020	$ 49	$ 6	$ 0	$ 3	$ 58	$ 58
2016-2020	*$ 18*	*$ 4*	*-$ 0*	*$ 3*	*$ 25*	*$ 25*
Change 2016-2020 %	56%	229%	-88%	0%	74%	74%
Change 2016-2020 %pa	11.8%	34.6%	-41.7%	0.0%	14.8%	14.8%
Value of Consents (Real $m) 2020						
2016	$ 34	$ 2	$ 0	$ -	$ 36	$ 36
2020	$ 49	$ 6	$ 0	$ 3	$ 58	$ 58
2016-2020	*$ 16*	*$ 4*	*-$ 0*	*$ 3*	*$ 22*	*$ 22*
Change 2016-2020 %	46%	207%	-89%	0%	62%	62%
Change 2016-2020 %pa	9.9%	32.4%	-42.7%	0.0%	12.9%	12.9%
Mean Value of consents ($000)						
2016	$ 304	$ 146	$ 33	$ -	$ 278	$ 278
2020	$ 377	$ 260	$ 15	$ 230	$ 348	$ 348
2016-2020	*$ 73*	*$ 114*	*-$ 18*	*$ 230*	*$ 70*	*$ 70*
Change 2016-2020 %	24%	78%	-54%	0%	25%	25%
Change 2016-2020 %pa	5.5%	15.5%	-17.6%	0.0%	5.7%	5.7%
Mean Real Value of Consents ($000)						
2016	$ 325	$ 156	$ 35	$ -	$ 297	$ 297
2020	$ 377	$ 260	$ 15	$ 230	$ 348	$ 348
2016-2020	*$ 52*	*$ 104*	*-$ 20*	*$ 230*	*$ 50*	*$ 50*
Change 2016-2020 %	16%	66%	-57%	0%	17%	17%
Change 2016-2020 %pa	3.8%	13.6%	-19.0%	0.0%	4.0%	4.0%
Mean Floor Area of Consents (sqm)						
2016	195	90	32	-	178	178
2020	172	123	35	112	160	160
2016-2020	*-23*	*34*	*3*	*112*	*-18*	*-18*
Change 2016-2020 %	-12%	38%	9%	0%	-10%	-10%
Change 2016-2020 %pa	-3.1%	8.3%	2.3%	0.0%	-2.6%	-2.6%
Mean Real Value $2020 sqm of Consents						
2016	$ 1,667	$ 1,740	$ 1,086	$ -	$ 1,667	$ 1,667
2020	$ 2,188	$ 2,104	$ 429	$ 2,051	$ 2,169	$ 2,169
2016-2020	*$ 521*	*$ 363*	*-$ 658*	*$ 2,051*	*$ 502*	*$ 502*
Change 2016-2020 %	31%	21%	-61%	0%	30%	30%
Change 2016-2020 %pa	7.0%	4.9%	-20.7%	0.0%	6.8%	6.8%

Source: Statistics NZ 2021

3.3.2 Consent Size Trends 2000-2020

The distribution of sizes (sqm) of consents is shown in Figure 3.6 for houses, and for townhouses, flats and units in Figure 3.7.[47]Importantly, the shift toward more smaller dwellings has been in detached dwellings, as distinct from a shift towards townhouses, terrace houses and apartments. While the average size of a

[47] The y axis has been kept constant between graphs to highlight the relative scale of the two dwelling groups.

house decreased by -12%, in 2020 houses accounted for 78% of consents, down only somewhat from the 86% share seen in 2016.

The increases in housing prices have seen efforts to make new dwellings more affordable by construction of medium-sized and smaller dwellings. Over the last 5 years, there is evidence of more dwellings in the middle and smaller dwelling sizes, notably the 60-100sqm, 100-140sqm and 140-180sqm bands. That has seen the average consent size across all residential buildings some -10% lower by 2020 compared with 2016.

Figure 3.6 – Rotorua House Dwelling Consents by Size (sqm) 2000-2020

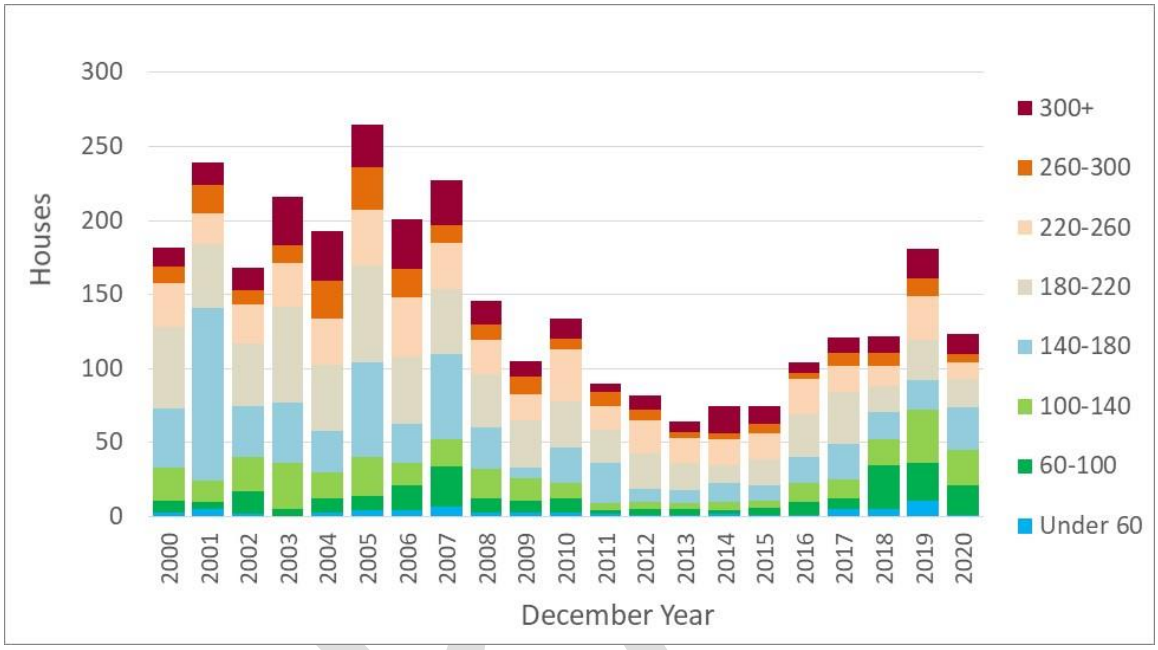
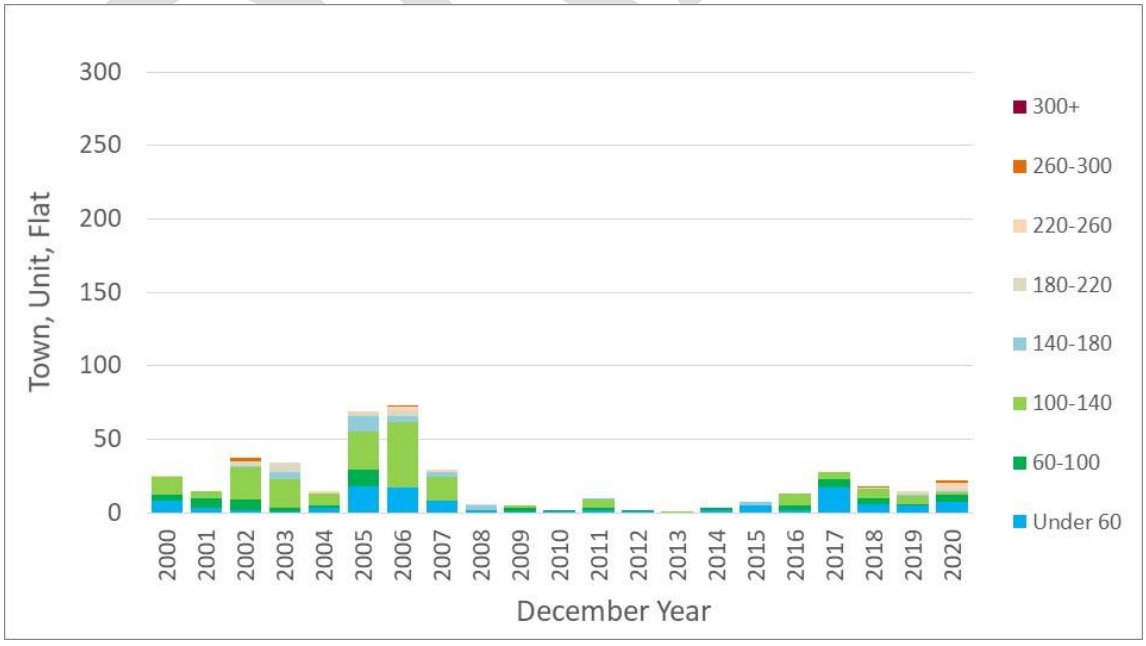


Figure 3.7 – Rotorua Unit Flat and Townhouse Dwelling Consents by Size 2000-2020



Compared with the New Zealand pattern, Rotorua shows a lower share of consents in the smaller size bands (less than 100 m^2) and in the middle size bands (100-180m^2), and correspondingly higher shares in the larger sizes. To a considerable degree this is because a high share of Rotorua consents are still for detached dwellings. Within the detached dwelling typology, Rotorua has a higher than average proportion in the small (less than 100m^2) band.

3.3.3 Consent Value of Works Trends 2000-2020

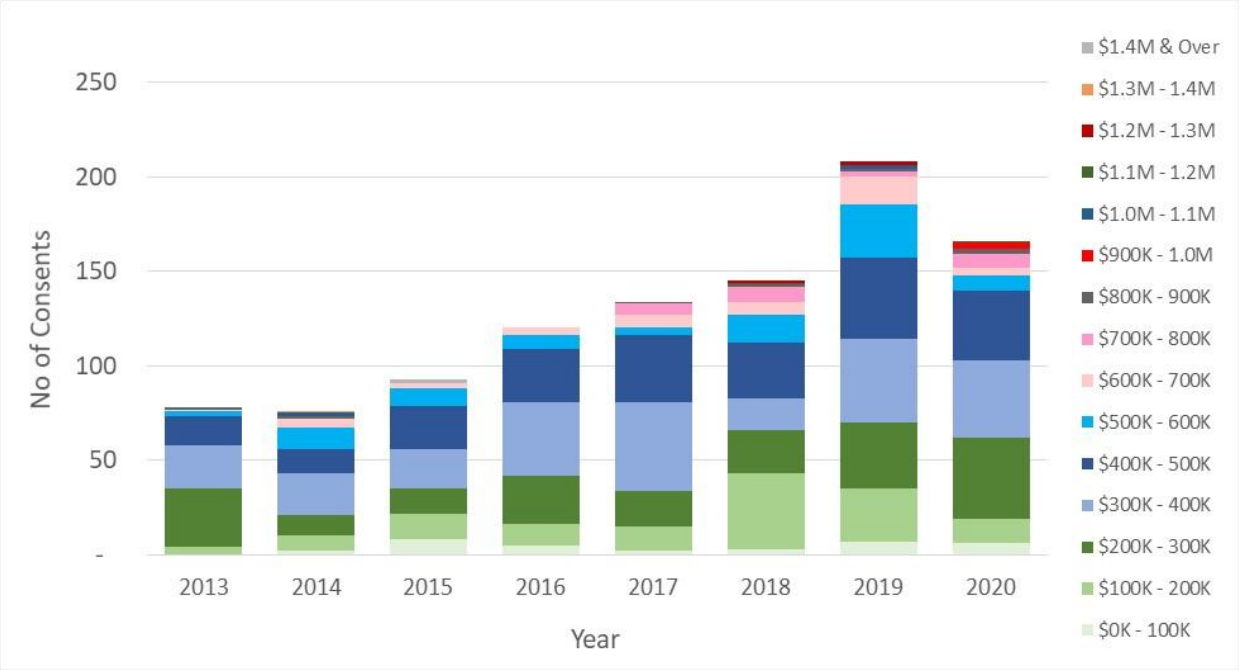
Data in this section reflects 'value of works' from building consent applications to RLC. This includes the applicants pre-start estimated cost of works shown in the consent documentation (including professional building related fees, constructions costs including material and labour) and does not include land, lawyer's fees, consent fees, finance, or profit margins for developers. However, the construction cost of building houses is a major determinant of the final cost profile and is relevant to consideration of the potential feasibility of future development and final sale prices.

There has been some minor shift toward a larger share of medium to lower value dwellings, as shown in Table 3.7. In 2020, some 38% of consents were valued at $300,000 or less, slightly more than the 35% of 2016 and 25% of 2017. The latest year shows 85% of consents were at values of less than $600,000, a similar share to what has been seen since around 2016. The distribution of consents in each broad value band for each year is shown in Figure 3.8.

Table 3.7 – Share of Dwelling Consents by Value of Works ($2020) – Rotorua 2013 to 2020

Value Band	2013	2014	2015	2016	2017	2018	2019	2020
$0K - 100K	0%	3%	9%	4%	1%	2%	3%	4%
$100K - 200K	5%	11%	15%	9%	10%	28%	13%	8%
$200K - 300K	40%	14%	14%	22%	14%	16%	17%	26%
$300K - 400K	29%	29%	23%	33%	35%	12%	21%	25%
$400K - 500K	19%	17%	25%	23%	26%	20%	21%	22%
$500K - 600K	4%	14%	10%	6%	3%	10%	13%	5%
$600K - 700K	1%	7%	3%	3%	5%	5%	7%	2%
$700K - 800K	0%	0%	0%	0%	4%	6%	1%	4%
$800K - 900K	1%	1%	0%	0%	1%	1%	0%	2%
$900K - 1.0M	0%	0%	0%	0%	0%	0%	0%	2%
$1.0M - 1.1M	0%	3%	0%	0%	0%	0%	1%	0%
$1.1M - 1.2M	0%	0%	0%	0%	0%	1%	0%	1%
$1.2M - 1.3M	0%	0%	0%	0%	0%	1%	1%	0%
$1.3M - 1.4M	0%	1%	0%	0%	0%	0%	0%	0%
$1.4M & Over	0%	0%	2%	0%	0%	0%	0%	0%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

Figure 3.8 – Rotorua Dwelling Consents by Value of Works Band 2013-2020



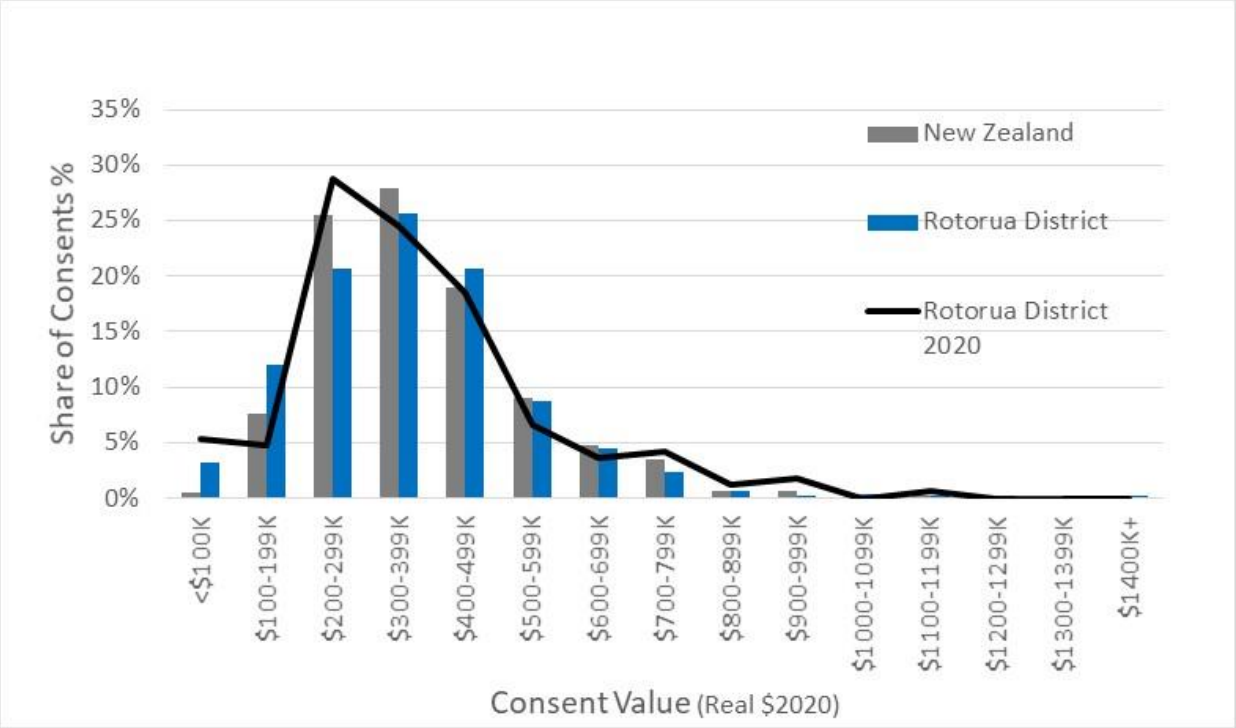
The distribution of consents by dwelling type in each value band for each year is shown in Table 3.8. Obviously detached houses dominate, and some 60% of all consents lie within the $250,000 to $499,000 bands (all values in constant $2020 terms). Townhouses units and flats and other smaller dwelling typologies show a relatively greater concentration in the lower value bands. The Rotorua District and New Zealand distributions by value for all consents is shown in Figure 3.9. Rotorua shows a higher incidence of lower value of works consents (less than $200,000), and a smaller share in the $200,000 to $400,000 band.

Table 3.8 – Dwelling Consents by Value of Works ($2020) – Rotorua 2016 to 2020

Consent Value Band	Houses	Apartments	Retirement Units	Townhouse Unit Flat	Total Dwellings	Houses	Apartments	Retirement Units	Townhouse Unit Flat	Total Dwellings
Under $50K	-	-	-	-	-	0%	0%	0%	0%	0%
$50-99K	10	4	-	17	31	1%	0%	0%	2%	4%
$100-149K	28	2	11	15	56	3%	0%	1%	2%	6%
$150-199K	48	-	-	15	63	6%	0%	0%	2%	7%
$200-249K	36	-	-	23	59	4%	0%	0%	3%	7%
$250-299K	77	-	12	11	100	9%	0%	1%	1%	12%
$300-349K	89	-	12	-	101	10%	0%	1%	0%	12%
$350-399K	108	-	-	-	108	12%	0%	0%	0%	12%
$400-449K	103	-	-	-	103	12%	0%	0%	0%	12%
$450-499K	82	-	5	5	92	9%	0%	1%	1%	11%
$500-549K	54	-	-	-	54	6%	0%	0%	0%	6%
$550-599K	16	-	-	1	17	2%	0%	0%	0%	2%
$600-649K	23	-	-	3	26	3%	0%	0%	0%	3%
$650-699K	12	-	-	2	14	1%	0%	0%	0%	2%
$700-749K	19	-	-	-	19	2%	0%	0%	0%	2%
$750-799K	5	-	-	-	5	1%	0%	0%	0%	1%
$800-849K	2	-	-	-	2	0%	0%	0%	0%	0%
$850-899K	4	-	-	-	4	0%	0%	0%	0%	0%
$900-949K	-	-	-	-	-	0%	0%	0%	0%	0%
$950-999K	3	-	-	-	3	0%	0%	0%	0%	0%
$1000-1049K	-	-	-	-	-	0%	0%	0%	0%	0%
$1050-1099K	2	-	-	-	2	0%	0%	0%	0%	0%
$1100-1149K	1	-	-	-	1	0%	0%	0%	0%	0%
$1150-1199K	1	-	-	-	1	0%	0%	0%	0%	0%
$1200-1249K	1	-	-	-	1	0%	0%	0%	0%	0%
$1250-1299K	2	-	-	-	2	0%	0%	0%	0%	0%
$1300-1349K	-	-	-	-	-	0%	0%	0%	0%	0%
$1350-1399K	-	-	-	-	-	0%	0%	0%	0%	0%
$1400-1449K	2	-	-	-	2	0%	0%	0%	0%	0%
$1450-1499K	-	-	-	-	-	0%	0%	0%	0%	0%
$1500K+	-	-	-	-	-	0%	0%	0%	0%	0%
TOTAL	728	6	40	92	866	84%	1%	5%	11%	100%

Source: ME Housing Demand Model 2021; Statistics NZ 2021

Figure 3.9 – Rotorua Dwelling Consents by Value vs New Zealand 2013-2020



3.3.4 Total New Dwelling Value

However, the consent data shows only the estimated value of the dwellings to be built. It does not show the value of other built improvements to the land, nor does it show the value of the land itself. The distribution of the total values of new dwellings including land is shown in Table 3.9 and it shows a wide range of values for new dwellings entering the Rotorua property estate[48]. The estimates draw from an analysis of detailed data on some 27,800 new dwellings across Tier 1 and Tier 2 territorial authorities, to identify LV as a share of total CV for dwellings in each (capital) value band, and for each dwelling type. For Rotorua, the LV to CV relationship evident in regional cities and districts has been applied. In contrast, in Auckland and Christchurch (large metropolitan markets), the LV component is a generally higher share of CV than is the case in the other cities.

[48] Note that the estimates in Table 3.9 show the same number of dwellings built as consents issued. Not all of the new dwelling consents which are issued end up as new dwellings constructed (there is some attrition). However, it is useful for the purposes of this analysis to assume that all are 'built' so that the comparison of consent values and final dwelling values is as clear as possible, and not further complicated by making allowances for that attrition.

Table 3.9 –New Dwellings by Estimated Total Value Band – Rotorua 2016 to 2020

Value Band	Houses	Apartments	Retirement Units	Townhouse Unit Flat	Total Dwellings	Houses	Apartments	Retirement Units	Townhouse Unit Flat	Total Dwellings
Under $50K	-	1	-	6	7	0%	0%	0%	1%	1%
$50-99K	-	1	-	6	7	0%	0%	0%	1%	1%
$100-149K	2	1	2	7	12	0%	0%	0%	1%	1%
$150-199K	9	1	2	10	22	1%	0%	0%	1%	2%
$200-249K	9	1	2	14	26	1%	0%	0%	1%	3%
$250-299K	20	-	2	11	33	2%	0%	0%	1%	3%
$300-349K	26	-	5	10	41	3%	0%	0%	1%	4%
$350-399K	45	-	7	10	62	4%	0%	1%	1%	6%
$400-449K	61	-	7	7	75	6%	0%	1%	1%	7%
$450-499K	61	-	7	2	70	6%	0%	1%	0%	7%
$500-549K	77	-	7	2	86	8%	0%	1%	0%	9%
$550-599K	68	-	3	1	72	7%	0%	0%	0%	7%
$600-649K	72	-	1	1	74	7%	0%	0%	0%	7%
$650-699K	69	-	1	1	71	7%	0%	0%	0%	7%
$700-749K	69	-	1	1	71	7%	0%	0%	0%	7%
$750-799K	54	-	1	2	57	5%	0%	0%	0%	6%
$800-849K	54	-	-	1	55	5%	0%	0%	0%	5%
$850-899K	35	-	-	1	36	3%	0%	0%	0%	4%
$900-949K	22	-	-	1	23	2%	0%	0%	0%	2%
$950-999K	22	-	-	1	23	2%	0%	0%	0%	2%
$1000-1049K	13	-	-	-	13	1%	0%	0%	0%	1%
$1050-1099K	13	-	-	-	13	1%	0%	0%	0%	1%
$1100-1149K	12	-	-	-	12	1%	0%	0%	0%	1%
$1150-1199K	6	-	-	-	6	1%	0%	0%	0%	1%
$1200-1249K	7	-	-	-	7	1%	0%	0%	0%	1%
$1250-1299K	5	-	-	-	5	0%	0%	0%	0%	0%
$1300-1349K	5	-	-	-	5	0%	0%	0%	0%	0%
$1350-1399K	3	-	-	-	3	0%	0%	0%	0%	0%
$1400-1449K	6	-	-	-	6	1%	0%	0%	0%	1%
$1450-1499K	6	-	-	-	6	1%	0%	0%	0%	1%
$1500K+	8	-	-	-	8	1%	0%	0%	0%	1%
TOTAL	859	5	48	95	1,007	85%	0%	5%	9%	100%

Source: ME Housing Demand Model 2021

The distribution of consent values and total residential property values is shown in Figure 3.10 for all dwellings, and in Figure 3.11 for houses only. For new houses in most value bands, land accounts for 38-42% of total CV. For apartments and townhouses, the LV component is smaller, in the range of 28-33% reflecting the greater dwelling to land ratios efficiencies possible - however making use of this ratio efficiency is only justified by relatively higher land values.

In the graphs, the difference between the lines showing value of consents and total property value reflects the land component of new dwellings. It is noted that the LV share for new dwellings is in most instances substantially less than for the established dwelling estate. This reflects the fact that new builds are generally to a greater level of intensity (i.e., less land area per dwelling) than the urban average[49].

[49] This is one key reason why the Price Cost Ratio (PCR) methodology is not well suited for any assessment of urban economies and housing land markets (see Section 10.6.1).

Figure 3.10 – All New Dwellings Consent Value and Final Property Value : Rotorua 2016 – 2020

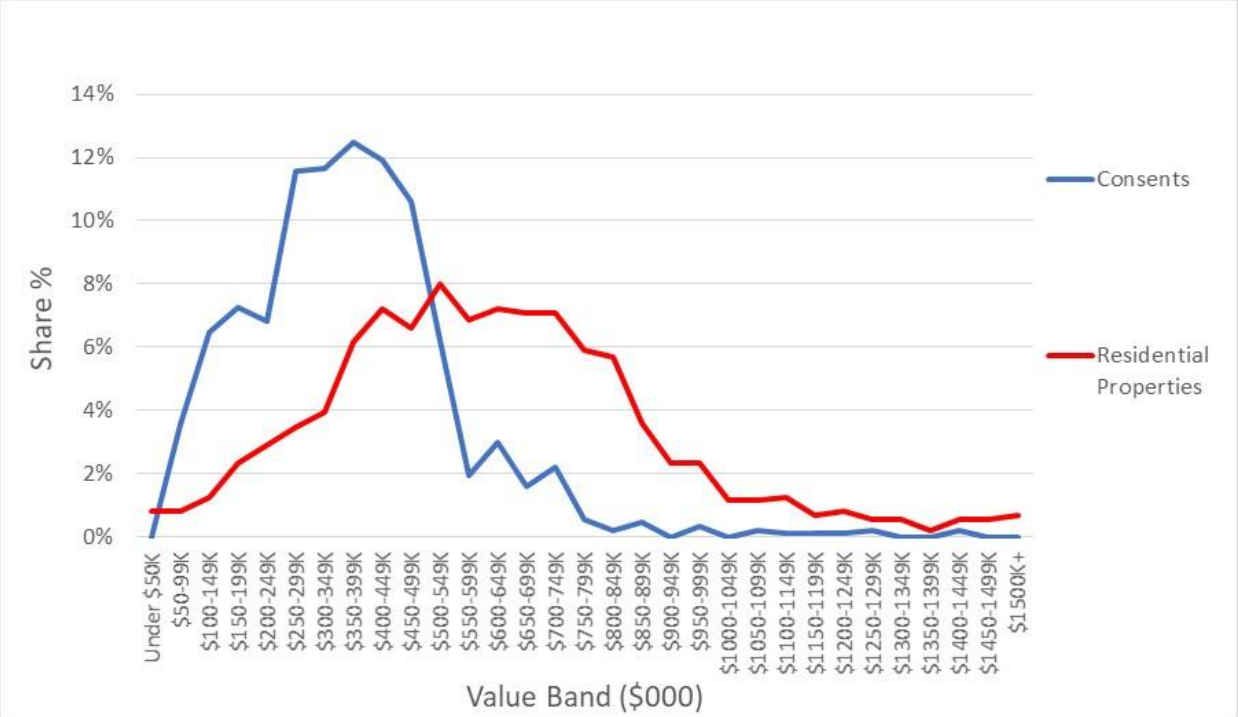
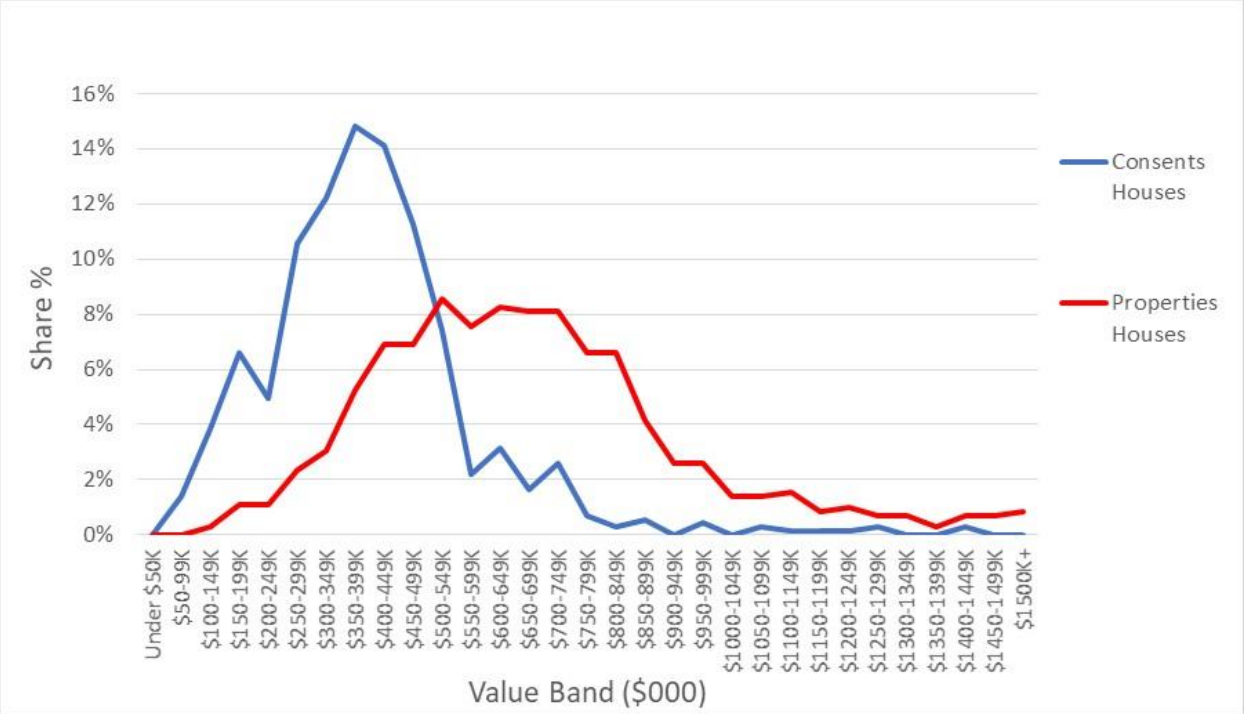


Figure 3.11 – New House Consent Value and Final Property Value : Rotorua 2016 – 2020



3.4 Future Dwelling Estate

Rotorua's expected future dwelling estate is estimated according to the current estate, and estimated additional dwellings required to accommodate additional households in the district. In accordance with the NPS-UD provisions, allowance is made for one additional dwelling for every additional household.

This approach[50] takes account of the existing dwelling estate, and the projected "new" dwellings, to provide estimates of the future estate by dwelling types and value bands. This is important for assessing future housing affordability.

3.4.1 Property Value Trends

A key requirement is to understand likely changes in the property values of both the existing and new estates, over the NPS-UD time periods. The long run evidence in New Zealand, covering periods of economic boom and bust, population growth and decline, and periods of relative housing under and over supply, points to LV generally increasing at a faster rate than the IV (the value of everything else permanently built on or attached to the land) of individual sites.

Land value increase is generally driven mainly by growth in market size as cities expand, a key reason why mean land values in larger cities are substantially higher than smaller cities and towns. Other influences include the rate of growth, with faster economies generally showing more rapid increase in land values than slower growing economies, and the available land and housing supply relative to demand. Final consumer demand is predominantly for residential properties including land and improvements (dwellings), which means that constraints on supply of housing in an area may be expected to affect the value of the land component as well as the improvements. As well as localised influences, several exogenous influences are important, including home loan interest rates, loan to value ratios ("LVRs") and the availability of finance for house purchases, which commonly have effect at the national level and local level, including by setting expectations about future prices.

To reflect actual changes, the analysis draws on observed trends in property values over the last two decades in Tier 1 urban environments across New Zealand. [51] Corelogic datasets have been analysed to show the relative shifts in land values and improvement values over time[52]. This analysis has identified that LV in Tier 1 economies changes at a different rate from IV, in almost every city. LV typically grows faster because the value of land is generally driven by growth in the size of an urban economy, though also drop faster than IV in periods of economic downturn.

The value of improvements on the land – mainly a dwelling – typically shows a different pattern of change, increasing at a slower rate than LV, and often remaining static or decreasing in real terms, as built improvements depreciate. This slower growth reflects that built structures age and depreciate, with their technology becoming increasingly outdated over time. This ongoing depreciation is also offset by additions and alterations, renovation and maintenance, and the inherent use value of existing structures.

This means that in urban economies, while LV has generally shown positive growth, the IV component of property value has also shown positive growth but grows more slowly and may decline in real (inflation-adjusted) terms. Whether the rate of increase is fast or slow or negative is less important than the overall differential whereby the rate of change in LV is greater than IV, leading to impetus for eventual redevelopment to a 'higher and better use', typically more intensive (higher total value per site, not

[50] ME *Housing Supply Model 2021*

[51] Auckland, Hamilton, Tauranga, Wellington and Christchurch.

[52] A consistent, no-change dataset of 5,000 urban properties has been used to examine the effects of land value and improvement value change where there has not been any significant change to the dwelling (including replacement). That vis to remove the effect on improvement values of replacement dwellings or major upgrades which could distort the pattern.

necessarily more expensive per dwelling) reflecting the current economy (as opposed to the economy at the time of the original development).

The overall pattern for Tier 1 cities is shown in Figure 3.12, where land values rose substantially ahead of improvement values in the 2001-2007 period, then declined 2008-2011 (affected by the GFC-related downturn in economic conditions), then remained ahead of improvement values through the 2012-2018 period.

Similar patterns are evident in the cities closest to Rotorua district, for Tauranga City (Figure 3.13) and Hamilton City (Figure 3.14) across the last two decades.

Figure 3.12 – Tier 1 Residential Property – Land and Improvement Value Trends (Real) 2000-2018

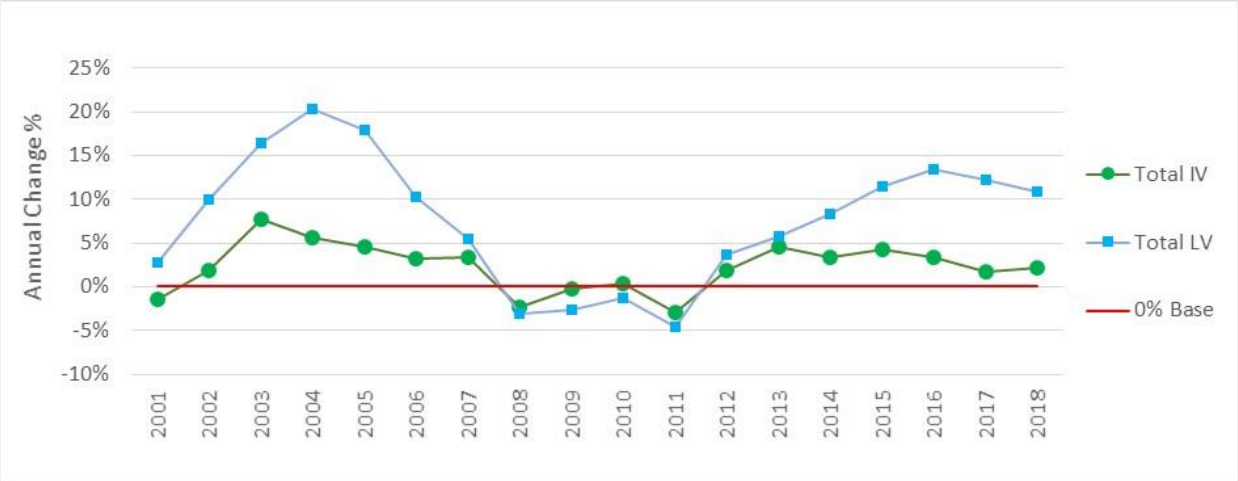
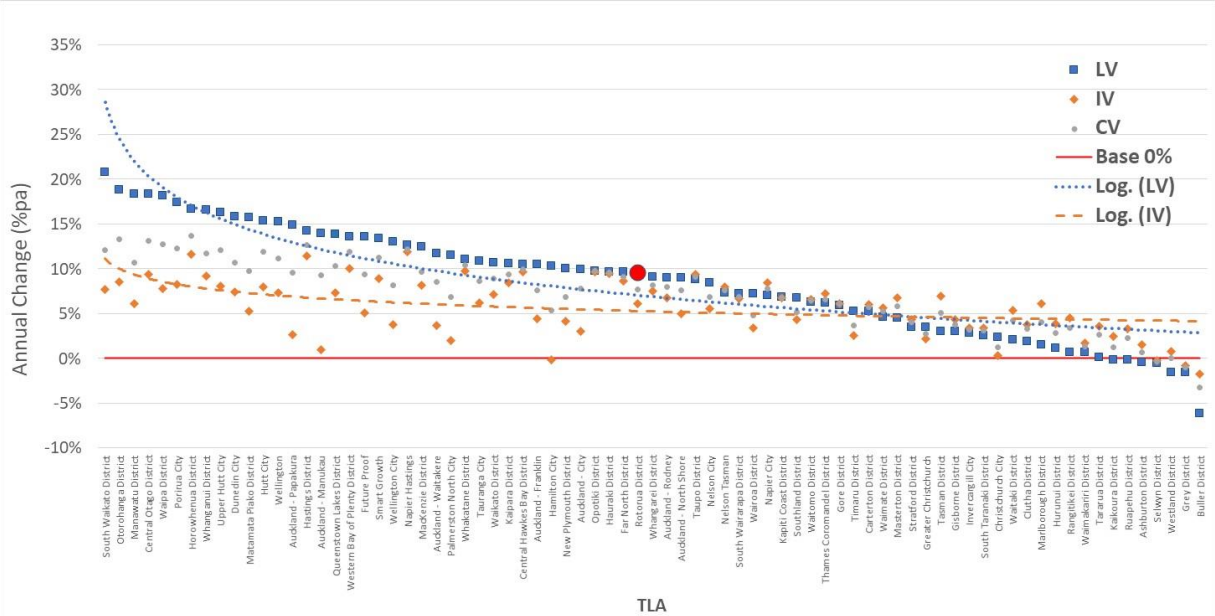


Figure 3.13 – Residential Land and Improvement Value Trends (Real) Tauranga City 2000-2018

Figure 3.14 – Residential Land and Improvement Value Trends (Real) Hamilton City 2000-2018

These patterns are evident throughout New Zealand. Figure 3.15 shows the recent pattern across all TLAs[53], over the 2016-2020 period. The key feature of the graph is that for most TLAs, the annual change in average LV per residential property has stayed ahead of the shifts in IV per property. In this instance, while detail for all TLAs is available, the relatively short (4-year) time period and the fact that the 2020 includes properties added since 2016 means that the big picture pattern – LV generally increases faster than IV - is the key indicator. Rotorua's position is shown by the red circle.

Figure 3.15 – Residential Land and Improvement Value Trends (Real) by TLA 2016-2020



This evidence base has been drawn on for the assessment of property values in Rotorua district (as a Tier 2 urban environment), over the 2020-2050 period for the NPS-UD.

[53] Territorial Local Authorities.

3.4.2 Current Estate : Values 2020-2050

The distribution of property values in the existing estate has been identified for the 2020 base year from the Corelogic property counts and estimated for future years allowing for expected trends in LV and IV over the short, medium and long term. This is on the basis that one household equates with one dwelling, as required by the NPSUD, such that projected future dwellings equate with projected future households.

The estimates of future value take account of expected changes in land and improvement values over time, which is expressed as annual % changes in LV and IV, assuming a constant (compounding) rate over time. This draws on analysis of past trends, as well as future expectations, and it also allows for patterns of change to be slower or faster than the Base Case (to differentiate from medium or high growth rates in the Rotorua District population). The projected changes for the Base Case, High and Low change futures are shown in Table 3.10. Note that for clarity the text, tables and graphs focus on the Base Case, and cover this for medium growth future.

The Base Case future allows for annual change of +2.9% in land values, and 0.7% in improvement values (both in real inflation adjusted terms). This is consistent with the broader pattern where land values have growth at around 3-4 times the rate of improvement values in real terms.

Table 3.10 – Projected Real Changes in Property Values (%pa) 2020-2050

Indicator	Base Case	National Outlook	High	Low
LV Trend	2.9%	3.1%	3.2%	2.6%
IV Trend	0.7%	0.8%	0.8%	0.7%
Construction Cost Trend	0.9%	0.9%	1.0%	0.8%
Household Income Trend	1.8%	1.5%	2.0%	1.6%

Source: ME Housing Demand Model 2021

The indicated shifts in property values in the existing dwelling estate (under the Base Case) are summarised in Table 3.11. This shows the number of dwellings in each value band (in real $2020 terms) currently, and in the short, medium and long terms. The ongoing increases in LV, together with the more modest changes in IV for the current dwelling estate, would see important shifts in the medium and long terms. That is to be expected, given the outlook for land values to continue to grow.

Currently (2020) most of the dwelling estate is in values of less than $400,000 (52%) and in the $400-600,000 range (28%). Another 12% of dwellings are in the $600-800,000 band, with around 8% valued at $800,000 or higher.

There would be limited change to 2023, when around 75% of the total district estate would be in value bands of $600,000 or less, and only 11% in bands of $800,000 or more.

There would be more substantial change in the medium term, although by 2030 at the projected rates of change some 68% of dwellings (19,900) would remain in the $600,000 or less value band, with the $800,000 and over band by then accounting for 14% of the total district estate (some 4,300 dwellings). However, in the long term dwelling numbers in the $600,000 and under bands would account for only 41% of the total district estate (11,740 dwellings) and some 35% (10,400 dwellings) would be in the $800,000 and over bands.

The table shows changes in the value patterns of only the existing dwelling estate, at the assumed rates of property price escalation. Importantly, the projections allow for some continued increase in the value of the already built dwellings, when longer term the built estate is subject to depreciation and a growing 'technology gap'.

When applied over the medium and long term, the compounding rates of change would generate substantial price increases in real terms (though without allowance at this point for parallel increases in household incomes). Importantly, they are a representation of the recent past projected into the future, to indicate the potential extent of change in housing prices. They are not a forecast of price changes. They are intended to represent the effects of long term changes in the property market as LVs continued to increase, and IVs increased but more slowly. A faster rate of change in market conditions for both land values and improvement values would see somewhat greater shifts in the medium term, though it is again only in the long term that the existing dwelling estate would show substantially different value patterns from the current. A slower rate of change, including a future where improvement values showed a drop in real terms, would see quite limited changes in the value patterns for the existing estate.

Table 3.11 – Total Current Estate by Value Band –2020 to 2050 (Base Case)

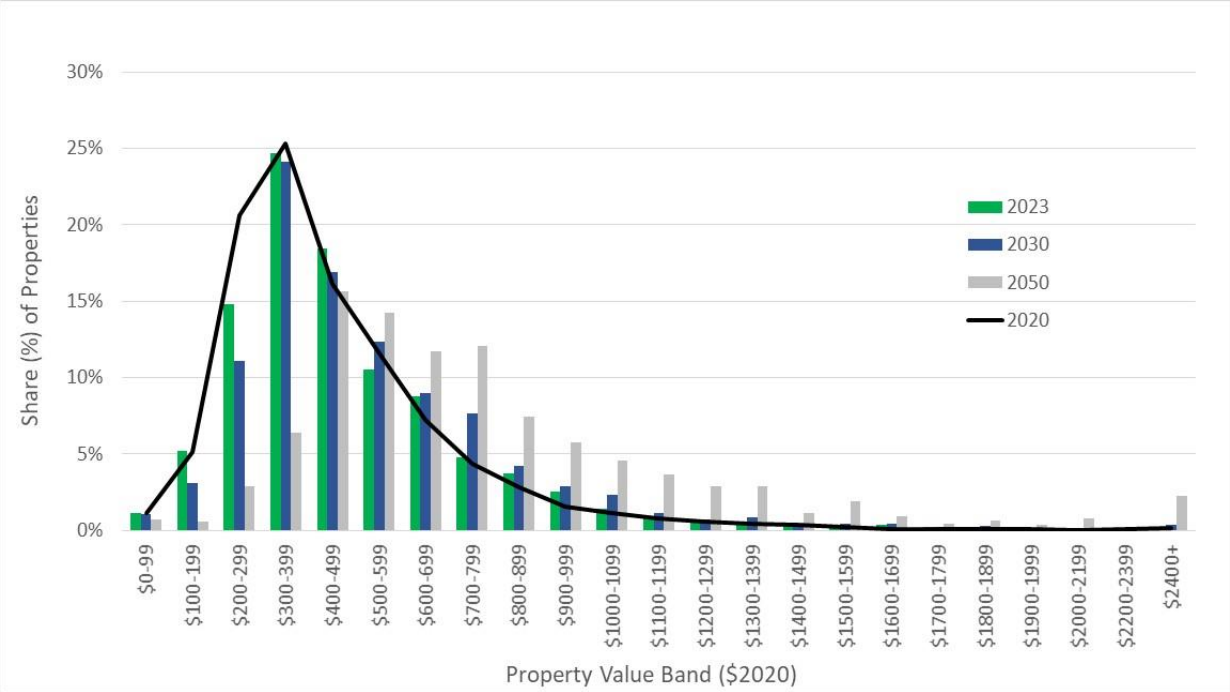
Rotorua District	All Growth Futures				Includes Lifestyle		
Value Band ($000, $2020)	LV Trend	2.9%	IV Trend	0.7%			(all %pa)
	2020	2023	2030	2050	2020-23	2020-30	2020-50
$0-99	330	330	310	210	-	- 20	- 120
$100-199	1,490	1,510	890	160	20	- 600	- 1,330
$200-299	5,980	4,300	3,220	840	- 1,680	- 2,760	- 5,140
$300-399	7,340	7,170	7,000	1,860	- 170	- 340	- 5,480
$400-499	4,680	5,360	4,900	4,540	680	220	- 140
$500-599	3,360	3,060	3,580	4,130	- 300	220	770
$600-699	2,110	2,540	2,600	3,400	430	490	1,290
$700-799	1,260	1,380	2,230	3,500	120	970	2,240
$800-899	810	1,090	1,230	2,170	280	420	1,360
$900-999	460	730	840	1,680	270	380	1,220
$1000-1099	320	420	680	1,330	100	360	1,010
$1100-1199	230	240	340	1,060	10	110	830
$1200-1299	160	180	210	830	20	50	670
$1300-1399	130	170	240	840	40	110	710
$1400-1499	110	110	120	330	-	10	220
$1500-1599	70	90	130	560	20	60	490
$1600-1699	30	100	130	260	70	100	230
$1700-1799	30	60	70	120	30	40	90
$1800-1899	30	30	80	180	-	50	150
$1900-1999	20	30	50	110	10	30	90
$2000-2199	10	20	40	220	10	30	210
$2200-2399	20	20	30	40	-	10	20
$2400+	40	60	100	650	20	60	610
Total	**29,000**	**29,000**	**29,000**	**29,000**	**-**	**-**	**-**
Under $400K	52%	46%	39%	11%			
$400-599K	28%	29%	29%	30%			
$600-799K	12%	14%	17%	24%			
$800-999K	4%	6%	7%	13%			
$1000-1499K	3%	4%	5%	15%			
Over $1500K	1%	1%	2%	7%			

Source: ME Housing Demand Model 2021

The Base Case outlook is shown in Figure 3.16 with the current distribution indicated by the black line, and then the bars for the short, medium and long terms showing the relatively gradual shift in property values over time.

The pattern is important in regard to housing affordability. In the medium growth future, the existing estate will account for around 93-94% of total dwellings in 2023, and 85-87% in 2030 (assuming limited replacement of existing dwellings). Even in the long term, the 28,900 or so dwellings which are currently there will still represent 70-78% of the total housing stock (assuming 10-15% will have been replaced by then), with new dwellings yet to be built accounting for around 22% of the total.

Figure 3.16 – Properties by Value 2020-2050 – Existing Estate (Base Case)



3.4.3 "New" Estate Values over time

The balance of the Rotorua residential estate will be dwellings which are yet to be built, to be constructed in response to growth in demand for housing primarily from growth in the resident population. There will also be some demand from outside the district for holiday dwellings or short term visitor accommodation. This analysis focuses on demand from the resident population. Understanding that new estate is again important in relation to future affordability, as construction cost trends, LV trends, and IV trends will influence the prices of dwellings in the future and the quantity, rate, and location of new builds. We note that the projected growth in households is based on the Infometrics projections as to the net increases over each period and does not allow for any catch-up to accommodate latent demand in additional dwellings[54].

[54] The projections are based on established relationships between persons, households of each type, income and dwellings as at Census 2018. This allows the future projections to reflect the underlying demographics. The latent demand is a single estimate of a number of households, undifferentiated according to type or housing requirements.

As noted above, the mix of dwelling values and types for the new estate is based initially on the observed patterns in Rotorua's new dwelling consents over the past 6 years, with allowance for the land component according to Corelogic datasets.

It is noted that a common approach for the NPS- UDC, and other studies including more recently for the NPS-UD, has been to examine new dwelling price trends for land and construction costs, and project those forward across the total new estate to estimate future values in the short, medium and long term futures. Some studies have indicated substantial increases in future new dwelling prices. That approach has tended to over-state the future values of housing, and accordingly over-state the negative impacts on housing affordability - in some instances quite substantially.

It is important to recognise that Rotorua's new estate will be built progressively over time, as it is in any market. The "new" estate in the medium term (2030) will not be dwellings all constructed in 2030 at 2030 prices[55]. Rather it will be dwellings which were new in 2021 built at 2021 prices (and by 2030 some 9 years old), plus some new in 2022 and built at 2022 prices (and 8 years old) and so on. Hence, the M.E model allows for the future additions to be progressively built over the period, and with their values in 2030 and 2050 reflecting the initial cost when built and the age of the dwelling itself, together with the underlying growth in land values expected over the period.

The estimated values of the new dwelling estate are shown in Table 3.12.[56] In the short term, the expected additional 1,700 dwellings would be mostly (64%) in the under $800,000 value bands, though with substantial shares in the higher value brackets – consistent with dwelling consent trends.

[55] It is noted that one approach for the NPS-UDC and other studies has been to apply new dwelling price trends for land and construction costs, and simply compound those forward across the total new estate to estimate future values in the short, medium and long term futures. Some studies have indicated substantial increases in future new dwelling prices because they in effect assume that all new dwellings are built in the final year of the planning horizon, at final year prices.

[56] Refer to the supporting Technical Report for the equivalent analysis for the high growth future.

Table 3.12 – New Estate by Value Band – Rotorua 2020 to 2050 Medium Growth

Rotorua District	Medium Projection Growth Future		
Value Band ($000)($2020)	LV Trend &IV	2.9%	0.7%
	2020-23	2020-30	2020-50
$0-99	10	30	10
$100-199	60	60	100
$200-299	60	170	200
$300-399	120	240	190
$400-499	190	320	300
$500-599	240	550	460
$600-699	220	470	500
$700-799	180	440	780
$800-899	210	540	590
$900-999	160	410	760
$1000-1099	60	320	740
$1100-1199	50	200	550
$1200-1299	40	110	520
$1300-1399	40	80	620
$1400-1499	40	100	360
$1500-1599	30	80	200
$1600-1699	10	70	170
$1700-1799	-	70	90
$1800-1899	-	10	130
$1900-1999	-	-	110
$2000-2199	-	-	130
$2200-2399	-	-	130
$2400+	-	-	140
Total	**1,700**	**4,300**	**7,800**
Under $400K	15%	12%	6%
$400-599K	25%	20%	10%
$600-799K	24%	21%	16%
$800-999K	22%	22%	17%
$1000-1499K	14%	19%	36%
Over $1500K	2%	5%	14%

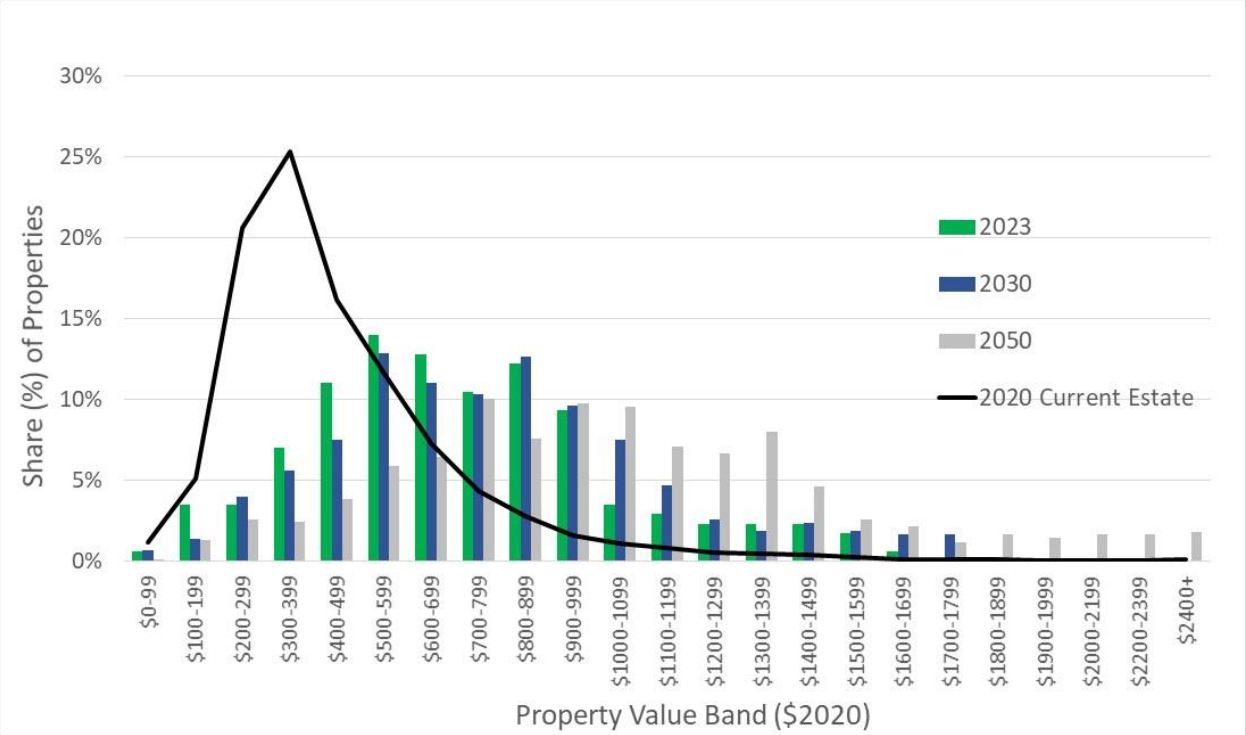
Source: ME Housing Demand Model 2021

In the medium term, there would be an additional 2,600 dwellings for 4,300 in total, with their value distribution reflecting the combined effects of new dwellings being built at prevailing prices in the year of construction, plus the ageing of new dwellings once built and the value of those improvements changing in line with the overall trend (around 0.7%pa), while the land value component of the new estate would change also at the district average (2.9%pa). In the medium term, around 53% of dwellings added since 2020 would be under the $800,000 mark, and 24% (around 1,000) over the $1m mark.

In the long term, the additional 7,800 dwellings would be weighted toward the middle and higher value bands, with only around 32% in the under $800,000 bands.

The Base Case outlook is shown in Figure 3.17. The contrast with the current dwelling estate is very clear, with new properties showing a broader distribution initially and over time, and higher proportions in the higher value bands.

Figure 3.17 – Properties by Value 2020-2050 – New Estate Medium Growth (Base Case)



3.4.4 Total Future Dwelling Estate

The total future district dwelling estate will be the existing estate, plus the new estate. The overall pattern for the medium growth future (Base Case) is shown in Table 3.13. The value structure is dominated in the short and medium term by the existing estate, and the assumed moderate rate of value change among those properties.

In the medium growth future (Base Case) there would be limited change to 2023, by which time around 73% of the total future estate would be in value bands of $600,000 or less, with 14% in the $600-800,000 band, and around 12% in bands of $800,000 or more. Only 5% of all dwellings would be valued at $1m or higher.

There would be more substantial change in the medium term. By 2030 at the projected rates of change together with ageing of the estate and additions from new dwellings would see some 64% of dwellings in the $600,000 or less value band, another 17% in the $600-800,000 band, with 19% in the $800,000 and over band. Around 10% would be in the $1m or more bands.

In the long term the number of dwellings in the lower to middle value bands would still account for 58% of the total estate, including 36% in the $600,000 and under bands and 22% in the $600-800,000 bands. By that stage in the medium growth future, dwellings over $800,000 would account for 43% of the total (compared with 8% currently), and there would be around 29% of dwellings at $1m or more.

While the long term numbers show substantial change, it is very important to recognise that the changes would occur progressively over 30 years. The largest effect would be the expected long term increase in land values, which is driven largely by growth in the economy and economic conditions, and applies to all sites, irrespective of the age and size of the dwelling and other built improvements, though the amount of

uplift for any given site will be a function of demand, and the amenities (e.g. slope, views, proximity to desirable facilities and features, etc). Over the long term, allowance is made for LV to more than double in real terms, accounting for well over three-quarters of the total value increase across the Rotorua property estate.

It is also important to recognise that household incomes will also rise into the long term, with future affordability mainly relating to both prices and incomes. The pattern in the past 20 years has been for incomes to rise more slowly than dwelling prices. This matter is addressed further in Section 11.

Table 3.13 – Total Future Estate by Value Band – Rotorua 2020 to 2050 Medium Growth

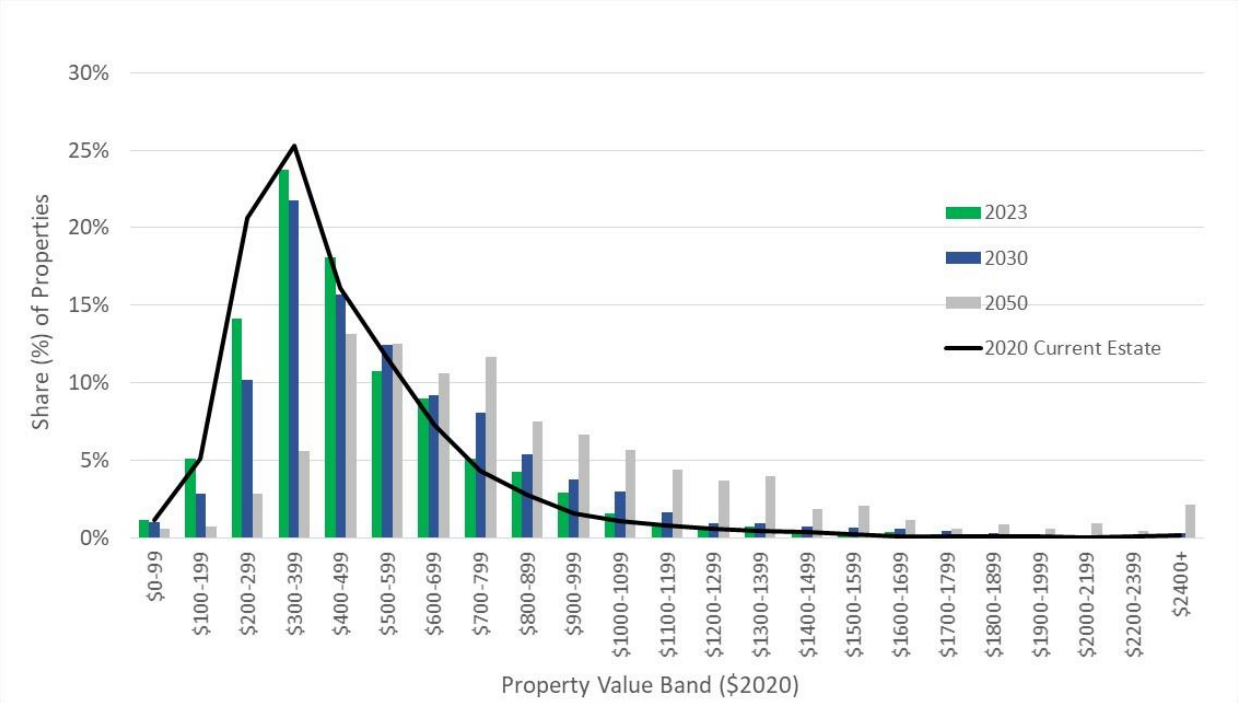
Rotorua District	Medium Projection Growth Future				Includes Lifestyle		
Value Band	LV Trend	2.9%	IV Trend	0.7%	Construction	0.9%	(all %pa)
($000)($2020)	2020	2023	2030	2050	2020-23	2020-30	2020-50
$0-99	330	350	330	220	20	-	- 110
$100-199	1,480	1,560	950	260	80	- 530	- 1,220
$200-299	5,980	4,350	3,390	1,050	- 1,630	- 2,590	- 4,930
$300-399	7,340	7,290	7,240	2,050	- 50	- 100	- 5,290
$400-499	4,680	5,550	5,220	4,830	870	540	150
$500-599	3,360	3,310	4,130	4,590	- 50	770	1,230
$600-699	2,110	2,770	3,060	3,890	660	950	1,780
$700-799	1,260	1,560	2,680	4,280	300	1,420	3,020
$800-899	810	1,300	1,780	2,750	490	970	1,940
$900-999	460	890	1,250	2,450	430	790	1,990
$1000-1099	320	480	1,000	2,080	160	680	1,760
$1100-1199	230	290	550	1,620	60	320	1,390
$1200-1299	160	220	310	1,350	60	150	1,190
$1300-1399	130	220	310	1,460	90	180	1,330
$1400-1499	110	150	230	690	40	120	580
$1500-1599	70	120	210	750	50	140	680
$1600-1699	30	110	200	430	80	170	400
$1700-1799	30	60	140	210	30	110	180
$1800-1899	30	30	90	320	-	60	290
$1900-1999	20	30	50	220	10	30	200
$2000-2199	10	20	40	350	10	30	340
$2200-2399	20	20	30	160	-	10	140
$2400+	40	60	100	790	20	60	750
Total	**29,000**	**30,700**	**33,300**	**36,800**	**1,700**	**4,300**	**7,800**
Under $400K	52%	44%	36%	10%			
$400-599K	28%	29%	28%	26%			
$600-799K	12%	14%	17%	22%			
$800-999K	4%	7%	9%	14%			
$1000-1499K	3%	4%	7%	20%			
Over $1500K	1%	1%	3%	9%			

Source: ME Housing Demand Model 2021

A faster rate of change in market conditions for both land values and improvement values would see somewhat greater shifts in the medium term, though it is again only in the long term that the existing dwelling estate would show substantially different value patterns from the current. A slower rate of change, including a future where improvement values showed a drop in real terms, would see quite limited changes in the value patterns for the existing estate.

The Base Case outlook for the total estate for the medium growth future is shown in Figure 3.18. The structure shows the strong influence of the existing estate into the medium term, with the real growth in values most evident over the long term.

Figure 3.18 – Properties by Value 2020-2050 – Total Future Estate Medium Growth (Base Case)



4 Current Housing Affordability

This section examines current housing affordability in the district, taking account of overall demand for housing from key segments in the community. The assessment also considers the affordability of rental housing. The estimates of future affordability are set out in Part 2, as they need to draw on the assessment of feasible capacity and sufficiency of capacity and take into account possible trends in conditions in the wider economy, all of which will influence households' ability to be dwelling owners.

For a brief discussion on understanding housing affordability generally and in the context of this HBA, refer to the supporting Technical Report.

4.1 Housing Affordability 2020

The focus of the housing affordability assessment is on non-owner households, on the basis that those households which already own a dwelling are reasonably well placed to afford ownership – particularly given the uplift value uplift evident in the last 12-18 months and more which has accrued to existing owners.

In Rotorua there are an estimated 10,750 non-owner households, who are predominantly renting in the private market (Table 4.1). Kāinga Ora data indicates there are 730 households renting from this state provider, representing around 6.7% of the total rental sector.

Table 4.1 – Overall Dwelling Tenure by Household Income Rotorua District 2020

Income Band	Owner House holds	Non-Owner House holds	Total	Owner House holds %	Non-Owner House holds %
<$20,000	1,100	1,620	2,720	40%	60%
$20-30,000	1,600	1,330	2,930	55%	45%
$30-40,000	1,450	1,050	2,500	58%	42%
$40-50,000	1,450	1,050	2,500	58%	42%
$50-70,000	2,650	1,910	4,560	58%	42%
$70-100,000	3,370	1,860	5,230	64%	36%
$100-120,00(	2,170	740	2,910	75%	25%
$120-150,00(	1,820	600	2,420	75%	25%
$150,000+	2,700	550	3,250	83%	17%
Total	18,300	10,700	29,000	63%	37%

Source: ME Housing Demand Model 2021

4.1.1 Ownership Affordability 2020

For this assessment, affordability has been estimated in terms of ownership affordability, for first home purchasers. Affordability is calculated for a first home purchaser with a 20% deposit, who will seek to finance a dwelling over a 30-year term, at a mortgage interest rate of 5% per annum. This assumed rate is

higher than current mortgage rates, however affordability is assessed over the whole mortgage term, and it is likely that interest rates will be higher in the future.

It is important to recognise that the first home buyer perspective does not represent the whole housing market. Households which already own a dwelling are generally much better placed than a first home buyer to purchase a second or subsequent dwelling, as they typically have reasonable equity in their existing dwelling, and the initial step into ownership is typically substantially greater than subsequent steps through the market to purchase a more valuable dwelling(s).

To illustrate this, the 20th percentile dwelling value in Rotorua is around $250,000, which means a first home buyer would need a mortgage of around $200,000 to purchase such a dwelling, assuming a 20% deposit. The 40th percentile dwelling is around $350,000. This means an existing owner seeking to move up from the 20th to the 40th percentile value band could do so with an increase in an existing mortgage by of around $100,000. That lift in indebtedness for the existing owner is about half that required for the step from non-owner to owner. Moreover, the recent lifts in housing prices have accrued as increases in equity to existing owners, placing them in a generally better position for an upward move in the housing market.

This is an important consideration, because around 64% of Rotorua households own a dwelling, and for the most part their equity position will have improved over the last 24 months – according to Corelogic data, the median value increased by around $106,000 between 2018 and 2020, and by $258,000 between 2015 and 2020. In the future, the value of increases in housing prices will also accrue predominantly to existing owners. With housing loans predominantly structured to see 3-4% of principal repaid annually, their combined effects will enhance affordability for existing owners in the future, making movement to higher value dwellings more feasible. Although the value of existing built improvements may increase relatively slowly or decline in real terms, the key driver of property value increase remains the relatively steady real increase in land values.

Accordingly, the appropriate focus of current affordability in the Rotorua market is based on what first home buyers in each income band would be able to afford, based on the loan parameters above, applied to the distribution of dwelling values in the district. Both are assessed here in current $2020 terms. This approach allows for closer examination of the market and offers a more nuanced view of affordability than do the gross indicators such as median income level compared with median dwelling price (the median multiple approach). Since median incomes include all households whether owners or non-owners, and median dwelling price represents only the mid-point of the market, the median-multiple approach can disguise the affordability of lower value dwellings to non-owner households in the middle and lower income bands. Moreover, that approach is of little use in understanding affordability for owner households who have substantial equity in their dwellings, for whom the relationship between dwelling price and income is of little relevance. The median multiple is potentially useful for some comparison at the urban area level, or for tracking over time, but assists little in understanding finer-grained household level affordability. The key indicator – for both owner and non-owner households – is the debt to income ratio, not the dwelling price to income ratio.

Key parameters of the current affordability situation in the Rotorua market are set out in Table 4.2. This table shows:

i. The household income band in $2020 terms, and the number of households in each band (detail on the household types is in Table 4.1 above);

ii. The dwelling value percentile which would be affordable for a household on this income band. For example, at the current price structure for housing, households earning $20-30,000 would be able to afford a dwelling up to the 4th percentile (the lowest 4% of dwellings by value) or in the order of $200,000.

iii. The fourth column ('*No. of Dwellings Can Afford*') shows the number of dwellings which households in this income band could potentially afford. This includes the dwellings in this percentile band plus all lower value bands. For the household earning $20-30,000 there are around 1,800 dwellings in value bands which are potentially affordable.

iv. The final column (*'Share % of Dwellings Required'*) shows the share of dwellings in this value band which would be required to enable all households in this income band to become owners. This is a very simple calculation, where non-owner households are shown as a percentage of the dwellings they could afford. For the 1,740 households in the $20-30,000 income band, there are at most 1,800 dwellings which they could afford. In other words, even if all 1,800 dwellings in that band came on to the market, that would be just enough dwellings to enable all 1,740 households to become owners (even if they wanted to).

v. However, non-owner households in the $40-50,000 income band would be able to afford dwellings up to the 40th percentile (around $350,000) and there are some 11,670 such dwellings. In broad terms, if all of those non-owner households opted to become owners, then their demand would represent some 9% of total dwelling supply up to that value band. Obviously, the ownership options are wider for households in the higher income bands.

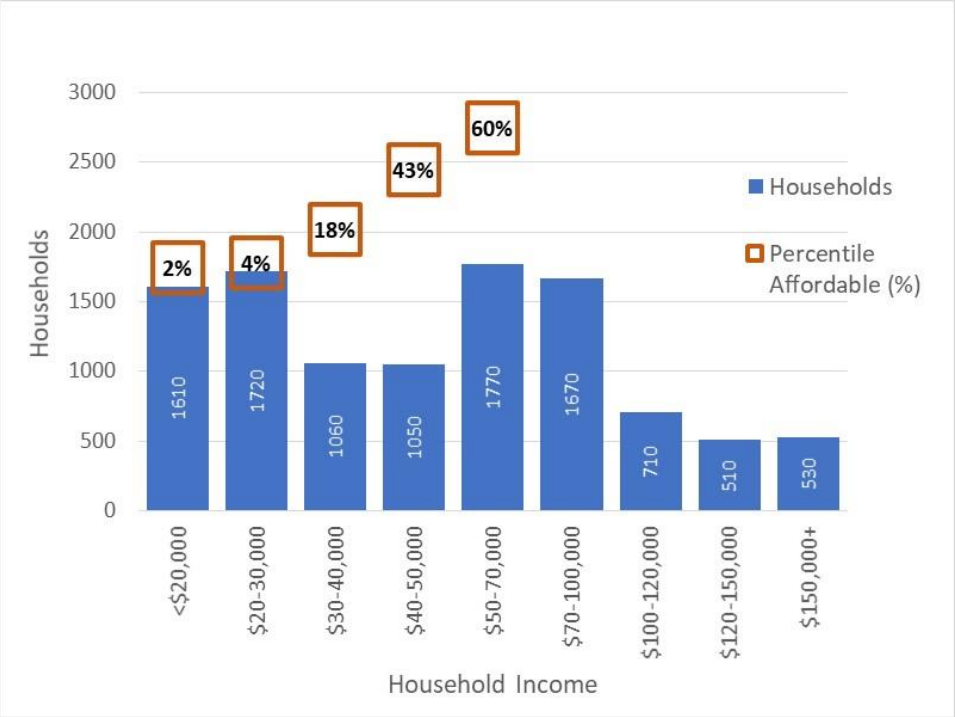
Table 4.2 – Dwelling Affordability Parameters Rotorua District 2020

Household Income	2020				
	Non-Owner Households	Dwelling Percentile Value Affordable (%)	Dwelling Value Affordable ($000)	No. of Dwellings Can be Afforded	Share % of Dwellings Required
<$20,000(1)	1,574	2%	$ 150	570	100+%
$20-30,000	1,740	6%	$ 200	1,800	97%
$30-40,000	1,091	14%	$ 250	4,180	26%
$40-50,000	1,078	40%	$ 350	11,670	9%
$50-70,000	1,795	61%	$ 450	17,600	10%
$70-100,000	1,721	80%	$ 600	23,030	7%
$100-120,000	720	91%	$ 800	26,380	3%
$120-150,000	515	95%	$ 950	27,450	2%
$150,000+	546	98%	$ 1,200	28,180	2%

Source: ME Housing Demand Model 2021 *(1) includes 729 Kainga Ora client households*

The situation for 2020 is set out graphically in Figure 4.1. The top graph shows the number of households in each income band (bars) and the dwelling value percentile which those households can afford. The bottom graph shows the numbers of households, and the dwelling value band ($000).

Figure 4.1 – Housing Affordability by Percentile and Value Band Rotorua District 2020



4.1.2 Rental Affordability 2020

The NPS-UD requires detail on rental patterns and rental affordability. This assessment draws on information from MBIE (2021) on rental levels by council area. It is noted that the MBIE data is based on tenancy numbers and bond information, and shorter term rentals (less than 90 days) are not covered. The total number of rental tenancies will therefore be greater than the MBIE totals. Nevertheless, the MBIE data provides reasonably robust information on long term tenancies, relevant to the usually resident population of Rotorua. All values are in dollars of the day (i.e., not inflation adjusted).

Table 4.3 shows the mean dwelling rental levels for Rotorua across the last two decades. Over the long term, rental prices increased steadily, at 5%pa overall. The average annual growth was slower than the increases in dwelling values (7%), especially in the last 5-6 years (rental +9%pa, dwellings +14%pa). Average rentals by 2020 reached $427 per week, including $460 for houses. By 2021, average rentals have risen further to $446 per week across all dwelling types, and $492 for houses.

The trends in property mean rentals by category are shown in Figure 4.2.

Table 4.3 – Mean Rentals by Dwelling Type Rotorua District 2000-2021

Year	House	Flat	Apartment	Total	Mean Dwelling ($000)
2000	$ 177	$ 135	na	$ 163	$ 143
2005	$ 215	$ 169	$ 173	$ 202	$ 191
2010	$ 275	$ 175	$ 200	$ 248	$ 277
2015	$ 291	$ 205	$ 290	$ 271	$ 271
2016	$ 316	$ 182	$ 358	$ 287	$ 295
2017	$ 348	$ 259	$ 288	$ 326	$ 380
2018	$ 389	$ 279	$ 330	$ 362	$ 417
2019	$ 388	$ 280	$ 339	$ 361	$ 445
2020	$ 460	$ 309	$ 363	$ 427	$ 500
2021	$ 492	$ 284	$ 349	$ 446	$ 601
2000-21	5%	4%		5%	7%
2010-21	5%	4%	5%	5%	7%
2015-21	9%	6%	3%	9%	14%
2010-19	4%	5%	6%	4%	5%
2019-21	8%	1%	2%	7%	13%
2020-21	7%	-8%	-4%	4%	20%

Source: ME Housing Demand Model 2021; MBIE 2021; Corelogic 2021

Figure 4.2 – Rental Trends by Dwelling Type QLD 1993-2021

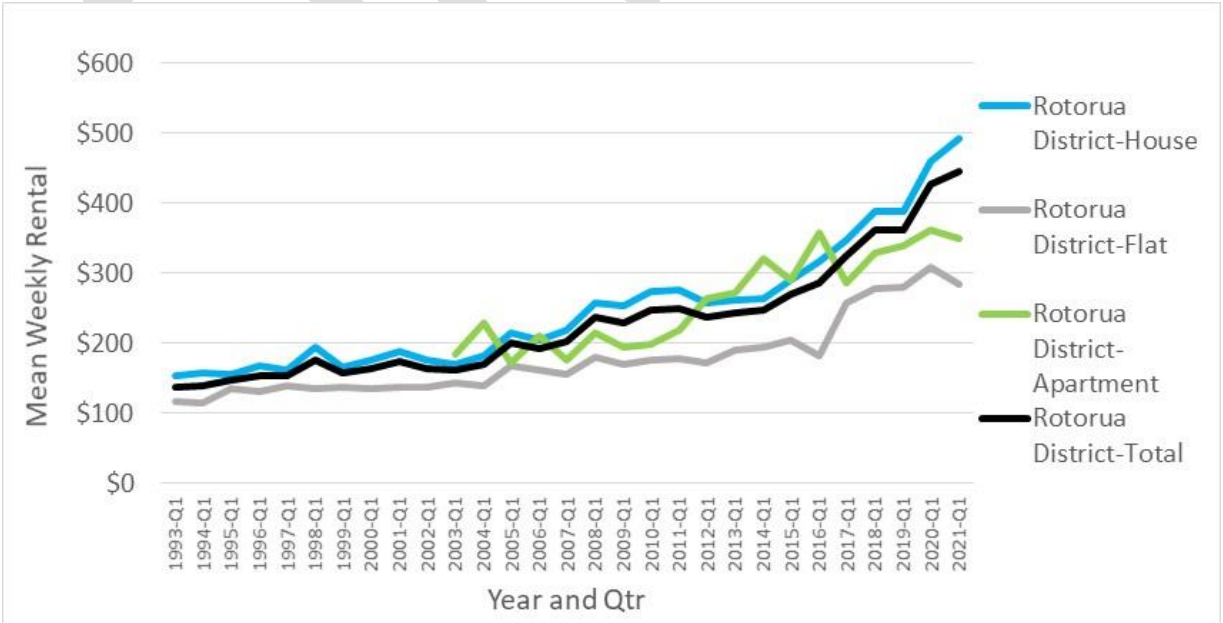


Table 4.4Table 4.4 – Rental Tenancies by Dwelling Type Rotorua District 2000-2021

shows the numbers of recorded tenancies in Rotorua since 2000. The number of tenancies has been relatively steady in the 5,600-6,000 range in the last 6 years since 2015. However, the number of rental tenancies per 100 private dwellings was lower in 2021 than the peak in 2015[57]. In total, the MBIE data shows 5,607 tenancies in the district as at March 2021, up slightly from the 2020 figure. The share of tenancies identified as "houses" has increased slightly since 2015, and there has been a corresponding small increase in the share identified as "apartments"[58].

Table 4.4 – Rental Tenancies by Dwelling Type Rotorua District 2000-2021

Year	House	Flat	Apartment	Total	Rentals per 100 Private Dwellings
2000	2,358	1,092	-	3,450	13.8
2005	3,012	1,182	48	4,242	16.2
2010	3,789	1,383	57	5,229	19.4
2015	4,464	1,428	108	6,000	21.6
2016	4,431	1,272	90	5,793	20.6
2017	4,386	1,371	120	5,877	20.8
2018	4,284	1,365	144	5,793	20.3
2019	4,134	1,326	144	5,604	19.5
2020	4,191	1,077	159	5,427	18.8
2021	4,311	1,119	177	5,607	19.4

Source: ME Housing Demand Model 2021; MBIE 2021

Rental levels in the district are now close to the New Zealand average, after being 8% to 14% lower than the national figure since the early 2000s. Figure 4.3 shows the trend since 1993, for average rentals in the March quarter of each year.

[57] The number of tenancies does not necessarily represent the number of properties which are rented, as there may be several tenancies in one built dwelling. Accordingly, tenancies per 100 private dwellings is an appropriate indicator.

[58] The MBIE property categories do not necessarily concord with Census or Corelogic property definitions, however there is believed to be quite close concordance.

Figure 4.3 – Rental Trends Compared to New Zealand : Rotorua 1993-2021

The district rental levels relative to New Zealand as a whole are shown in Table 4.5.

Table 4.5 – Rotorua Weekly Rentals as % New Zealand Average 2000-2021

Year	House	Flat	Apartment	Total
2000	103%	93%		101%
2005	97%	92%	59%	95%
2010	96%	80%	58%	90%
2015	91%	78%	72%	86%
2016	95%	67%	89%	88%
2017	97%	84%	68%	92%
2018	101%	86%	74%	96%
2019	95%	81%	74%	90%
2020	105%	84%	77%	100%
2021	106%	71%	70%	98%

Source: ME Housing Demand Model 2021; MBIE 2021

4.2 Dwelling Tenure and Affordability Patterns 2020

It is important to set the assessment of housing affordability in context. The NPS-UD requires detail on housing tenure and affordability for the community overall, and for important segments within the community, especially in terms of incomes, ethnicity and age group.

Maintaining the focus on non-owner households and ownership affordability, the following sections provide important detail on ownership and affordability for key segments within Rotorua District as at 2020.

4.2.1 Ownership by Household Type and Income

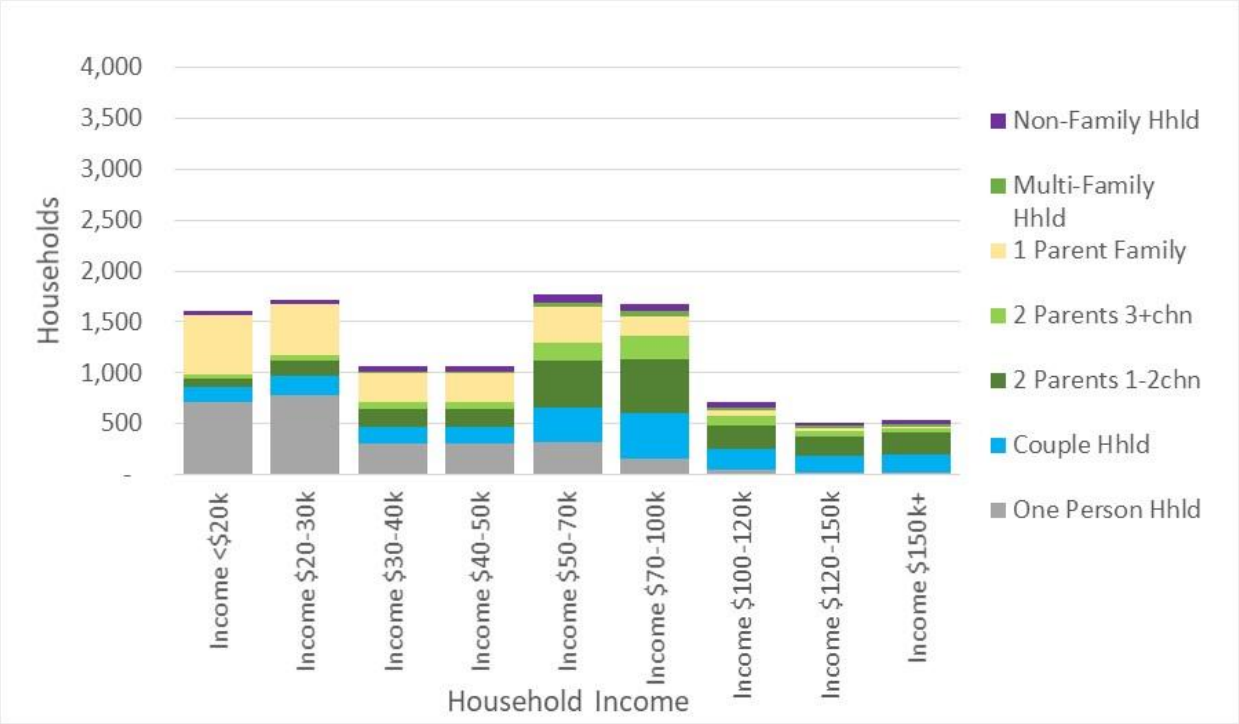
First, dwelling ownership varies according to household type and household income. The estimated numbers of non-owner households of each type and in each income band are shown in Table 4.6. Households in the lower and lower-middle income bands ($70,000 and below) are less likely to be owners, more likely to be renters. Of the 10,700 non-owner households, some 36% have incomes of $40,000 or less. Another 28% have incomes of 40,000 to $70,000. Only 18% of non-owner households have incomes of $100,000 or higher. Some 25% of non-owner households are single persons, the great majority with incomes of $70,000 or less. Another 22% are 1-parent families, again with most earning $70,000 or less. This pattern in shown in Figure 4.4.

Table 4.6 – Non-Owner Households by Type and Income 2020

Household Type	Household income Band									
	<$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+	Total
One Person Hhld	776	684	327	327	352	171	28	10	24	2,700
Couple Hhld	88	95	174	174	388	527	237	201	152	2,040
2 Parents 1-2chn	42	68	134	134	476	614	249	235	228	2,180
2 Parents 3+chn	15	23	46	46	184	251	105	84	70	820
1 Parent Family	546	408	313	313	414	214	77	32	22	2,340
Multi-Family Hhld	2	2	7	7	28	42	20	29	36	170
Non-Family Hhld	34	23	46	46	109	80	43	25	34	440
Total	1,500	1,300	1,050	1,050	1,950	1,900	760	620	570	10,700
One Person Hhld	7%	6%	3%	3%	3%	2%	0%	0%	0%	25%
Couple Hhld	1%	1%	2%	2%	4%	5%	2%	2%	1%	19%
2 Parents 1-2chn	0%	1%	1%	1%	4%	6%	2%	2%	2%	20%
2 Parents 3+chn	0%	0%	0%	0%	2%	2%	1%	1%	1%	8%
1 Parent Family	5%	4%	3%	3%	4%	2%	1%	0%	0%	22%
Multi-Family Hhld	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Non-Family Hhld	0%	0%	0%	0%	1%	1%	0%	0%	0%	4%
Total	14%	12%	10%	10%	18%	18%	7%	6%	5%	100%

Source: ME Housing Demand Model 2021

Figure 4.4 – Non-Owner Households by Type and Income Rotorua District 2020



The general characteristics of owner households are quite different, as shown in Table 4.7. Of the 18,300 owner households, only 20% have incomes of $40,000 or less (compared with 36% of non-owners). Another 22% have incomes of 40,000 to $70,000 (28% for non-owners). Around 37% of owner households have incomes of $100,000 or higher (18% for non-owners).

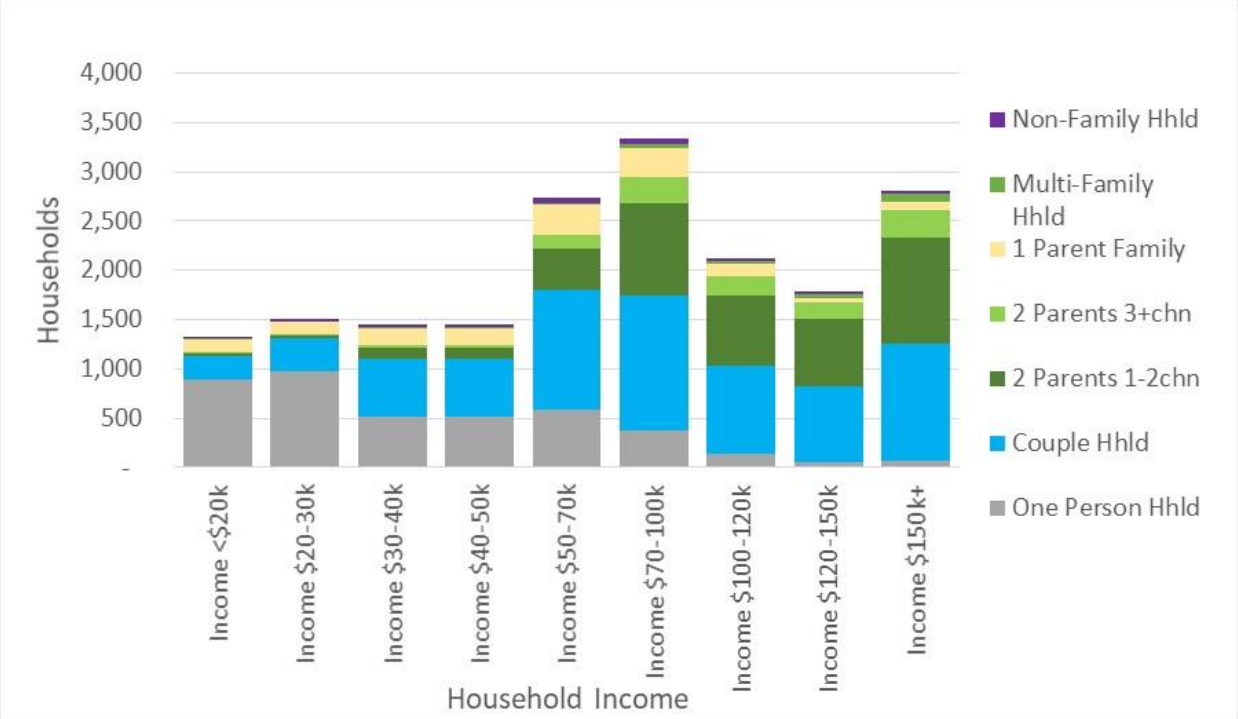
Single person households are an important segment, accounting for 21% of owner households. Importantly, many of these households are in the lower income bands, reflecting the significant numbers of older single-person households, often retired. Substantial numbers of couple households are dwelling owners, at 39% of the total, especially those in the middle to higher income bands. There is a similar incidence of 2-parent family households who are owners (a 29% share and mostly in the middle to higher income bands compared with 28% of non-owners), but a low incidence of 1-parent families (8% compared with a 22% share for non-owners). This pattern in shown in Figure 4.5.

Table 4.7 – Owner Households by Type and Income 2020

Household Type	Household income Band									
	<$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+	Total
One Person Hhld	661	1,126	449	449	642	422	71	28	60	3,910
Couple Hhld	112	178	605	605	1,099	1,468	1,055	901	1,112	7,140
2 Parents 1-2chn	25	44	88	88	418	925	725	688	1,144	4,150
2 Parents 3+chn	10	16	25	25	127	267	204	159	278	1,110
1 Parent Family	115	121	162	162	351	280	121	50	60	1,420
Multi-Family Hhld	1	2	3	3	12	37	31	44	113	250
Non-Family Hhld	20	15	32	32	52	73	29	17	24	290
Total	940	1,500	1,360	1,360	2,700	3,470	2,240	1,890	2,790	18,300
One Person Hhld	4%	6%	2%	2%	4%	2%	0%	0%	0%	21%
Couple Hhld	1%	1%	3%	3%	6%	8%	6%	5%	6%	39%
2 Parents 1-2chn	0%	0%	0%	0%	2%	5%	4%	4%	6%	23%
2 Parents 3+chn	0%	0%	0%	0%	1%	1%	1%	1%	2%	6%
1 Parent Family	1%	1%	1%	1%	2%	2%	1%	0%	0%	8%
Multi-Family Hhld	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Non-Family Hhld	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Total	5%	8%	7%	7%	15%	19%	12%	10%	15%	100%

Source: ME Housing Demand Model 2021

Figure 4.5 – Owner Households by Type and Income Rotorua District 2020



The ownership rates of households of each type and income are shown in Table 4.8. Ownership rates (percentage of households who are owners) are highest in the middle and higher income bands, as well as for couple households and smaller 2-parent families (1-2 children). Rates are lower in the lower and lower middle income bands, and for 1-parent families and non-family households.

Table 4.8 – Dwelling Ownership by Household Type and Income – All Ethnicities 2020

Household Type	Household income Band									
	<$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+	Total
One Person Hhld	53%	53%	59%	59%	**64%**	**71%**	**74%**	**77%**	**77%**	59%
Couple Hhld	61%	62%	**76%**	**76%**	**76%**	**74%**	**81%**	**82%**	**88%**	**77%**
2 Parents 1-2chn	20%	20%	39%	39%	47%	**64%**	**76%**	**79%**	**83%**	**65%**
2 Parents 3+chn	18%	19%	35%	34%	43%	53%	**67%**	**72%**	**85%**	57%
1 Parent Family	19%	19%	35%	35%	46%	60%	**66%**	**67%**	**86%**	38%
Multi-Family Hhld	**90%**	**86%**	14%	17%	31%	43%	60%	**64%**	**81%**	57%
Non-Family Hhld	30%	29%	40%	39%	38%	48%	40%	40%	39%	39%
Total	42%	45%	55%	55%	59%	**66%**	**75%**	**78%**	**84%**	**63%**

Source: ME Housing Demand Model 2021

The relative incidence of dwelling ownership is shown in Table 4.9, the shaded cells highlighting the much higher incidence among higher income households, and couple households in particular.

Table 4.9 – Relative Incidence of Dwelling Ownership by Household Type and Income 2020

Household Type	Household income Band									
	<$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+	Total
One Person Hhld	0.73	0.99	0.92	0.92	**1.02**	**1.13**	**1.14**	**1.17**	**1.13**	0.94
Couple Hhld	0.89	**1.03**	**1.23**	**1.23**	**1.17**	**1.17**	**1.29**	**1.30**	**1.39**	**1.23**
2 Parents 1-2chn	0.59	0.62	0.63	0.63	0.74	0.95	**1.18**	**1.18**	**1.32**	**1.04**
2 Parents 3+chn	0.63	0.65	0.56	0.56	0.65	0.82	**1.05**	**1.04**	**1.27**	0.91
1 Parent Family	0.28	0.36	0.54	0.54	0.73	0.90	0.97	0.97	**1.16**	0.60
Multi-Family Hhld	0.53	0.79	0.48	0.48	0.48	0.74	0.96	0.96	**1.20**	0.94
Non-Family Hhld	0.59	0.63	0.65	0.65	0.51	0.76	0.64	0.64	0.66	0.63
Total	0.61	0.85	0.89	0.89	0.92	**1.02**	**1.18**	**1.19**	**1.32**	1.00

Source: ME Housing Demand Model 2021

These patterns are not surprising, given the close link between household income and dwelling affordability, and the generally lower household costs for couples compared with families with children. Nonetheless, it is important to understand the dimensions and characteristics of non-owner households.

4.2.2 Ownership by Household Income and Ethnicity

Dwelling ownership also varies significantly by household ethnicity. The estimated distribution of non-owner households by ethnicity, household type, and income is shown in Table 4.10[59]. While the numbers of non-owner households show a broad spread across the community, there is relatively higher incidence among households of Māori ethnicity (24% of all households, 37% of non-owner households) and Pacifica ethnicity (2.6% of all households, 5% of non-owner households) when compared with the overall pattern. There is relatively higher incidence among households of Asian ethnicity (6.8% of all households, 13% of non-owner households).

[59] Census data does not offer complete tabulation across households and ethnicities and income levels, as there are inevitably gaps in data and responses which cannot be reliably coded and shown as "Other" or "Not Specified" and so on. Consequently some estimation is necessary, in most instances by assuming that missing data can be represented pro rata according to available data.

Table 4.10 – Estimated Non-owner Households by Ethnicity, Type and Income Rotorua 2020

Household Type	Household income Band									
	<$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+	Total
European and Other										
One Person Hhld	367	392	175	175	207	90	15	6	14	1,440
Couple Hhld	32	41	97	97	178	276	133	114	89	1,060
2 Parents 1-2chn	20	22	39	39	182	272	116	110	135	940
2 Parents 3+chn	4	8	13	13	65	91	36	29	31	290
1 Parent Family	168	136	121	121	144	66	27	12	8	800
Multi-Family Hhld	-	1	2	2	8	8	6	8	16	50
Non-Family Hhld	12	9	18	18	44	29	19	11	20	180
Total	**600**	**610**	**470**	**470**	**830**	**830**	**350**	**290**	**310**	**4,760**
Share %	*6%*	*6%*	*4%*	*4%*	*8%*	*8%*	*3%*	*3%*	*3%*	*44%*
Maori										
One Person Hhld	322	218	107	107	96	48	8	3	6	920
Couple Hhld	22	29	33	33	94	115	53	44	25	450
2 Parents 1-2chn	11	22	49	49	143	155	86	82	47	640
2 Parents 3+chn	6	15	25	25	91	127	49	39	20	400
1 Parent Family	328	236	161	161	221	119	39	16	13	1,290
Multi-Family Hhld	3	1	4	4	16	27	10	14	12	90
Non-Family Hhld	15	12	20	20	45	29	12	7	9	170
Total	**680**	**510**	**370**	**370**	**630**	**550**	**220**	**180**	**110**	**3,960**
Share %	*6%*	*5%*	*3%*	*3%*	*6%*	*5%*	*2%*	*2%*	*1%*	*37%*
Pacific										
One Person Hhld	29	19	8	8	9	9	-	-	-	80
Couple Hhld	-	-	7	7	7	15	7	6	5	50
2 Parents 1-2chn	-	-	7	7	25	46	13	11	13	120
2 Parents 3+chn	3	-	4	4	12	18	15	12	15	80
1 Parent Family	43	30	20	20	38	18	12	5	-	190
Multi-Family Hhld	-	-	-	-	-	5	-	2	3	10
Non-Family Hhld	-	-	4	4	14	-	-	-	-	20
Total	**60**	**40**	**40**	**40**	**80**	**80**	**30**	**30**	**30**	**550**
Share %	*1%*	*0%*	*0%*	*0%*	*1%*	*1%*	*0%*	*0%*	*0%*	*5.1%*
Asian										
One Person Hhld	43	20	26	26	21	20	4	1	4	170
Couple Hhld	40	26	34	34	117	117	37	31	28	460
2 Parents 1-2chn	11	29	49	49	147	156	33	30	24	530
2 Parents 3+chn	3	-	5	5	20	20	8	6	5	70
1 Parent Family	19	12	12	12	17	17	-	-	-	90
Multi-Family Hhld	-	-	2	2	5	5	5	6	6	30
Non-Family Hhld	9	1	6	6	7	25	13	7	4	80
Total	**100**	**70**	**100**	**100**	**250**	**270**	**80**	**60**	**50**	**1,430**
Share %	*1%*	*1%*	*1%*	*1%*	*2%*	*3%*	*1%*	*1%*	*0%*	*13.4%*
Total All Ethnicities	**1,440**	**1,230**	**980**	**980**	**1,790**	**1,730**	**680**	**560**	**500**	**10,700**
One Person Hhld	*13%*	*11%*	*9%*	*9%*	*17%*	*16%*	*6%*	*5%*	*5%*	*100%*

Source: ME Housing Demand Model 2021

The supporting Technical Report contains more detailed tables that offer a closer view of dwelling ownership for each ethnic group, and from that, patterns of housing affordability.

The dwelling ownership rates for the four ethnicity groups are summarised in Figure 4.6 for each household income band. Figure 4.7 shows the pattern by ethnicity and household type.

Figure 4.6 – Dwelling Ownership by Income and Ethnicity 2020

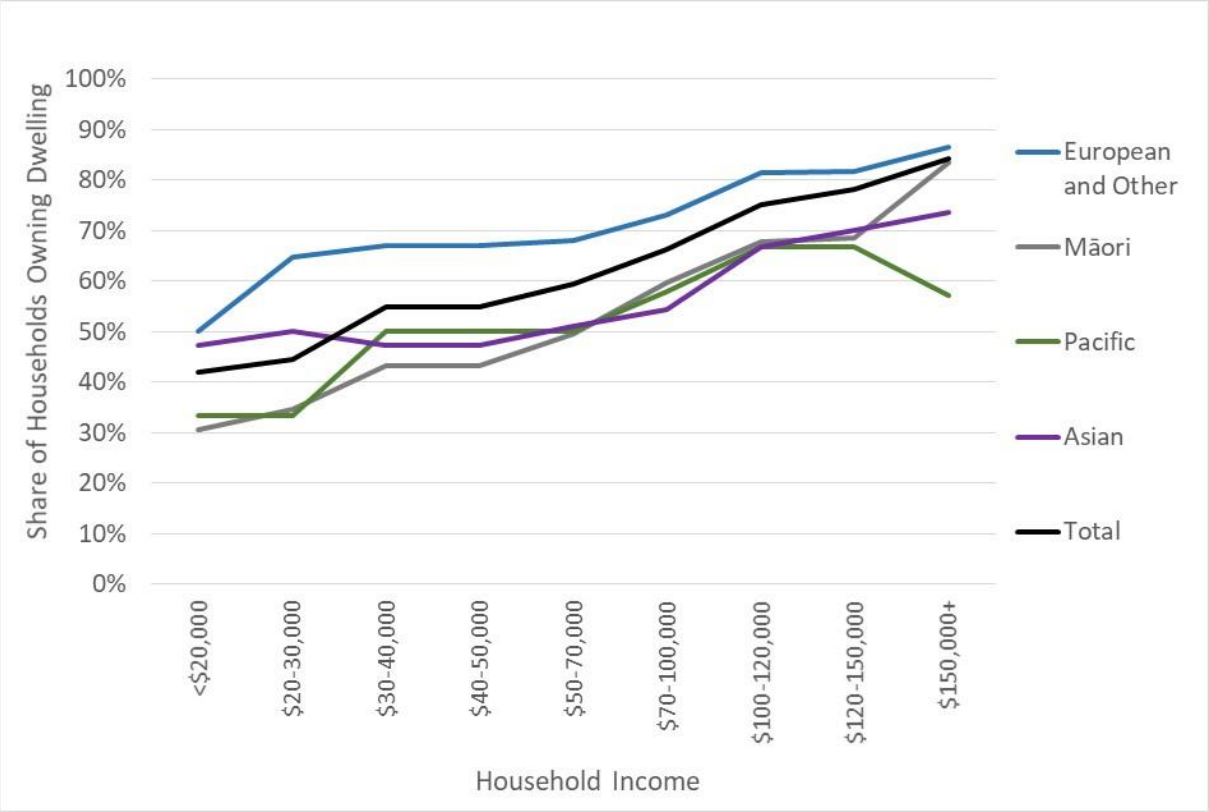
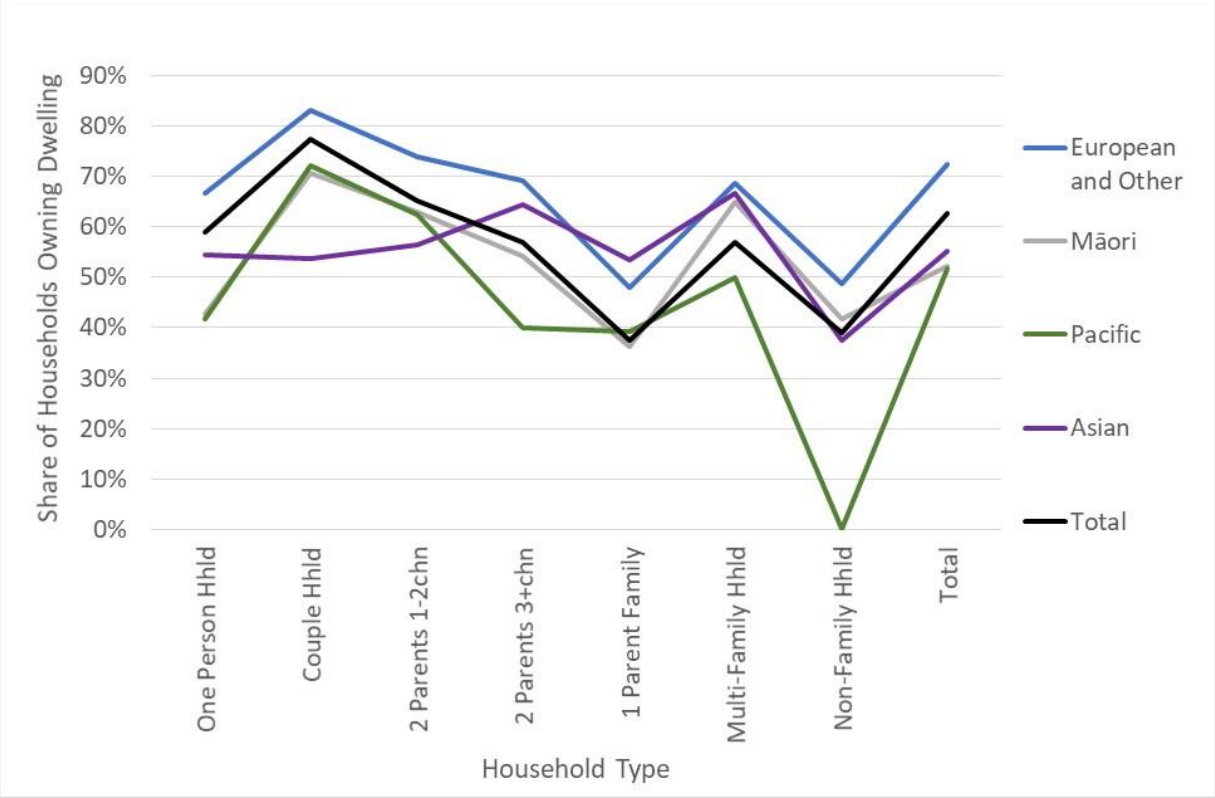


Figure 4.7 – Dwelling Ownership by Household Type and Ethnicity 2020



PART 2 – HOUSING CAPACITY ASSESSMENT

5 Plan Enabled Capacity

This section quantifies the maximum zoned dwelling capacity that is provided under the planning framework. It includes the capacity provided under the ODP (Short to Medium Term) and the selected future growth areas from the 2018 Spatial Plan (Long Term). M.E's Plan Enabled Capacity Model (2021) estimates infill and redevelopment capacity in existing urban areas as well as capacity in areas classified as greenfield land. Capacity in some greenfield areas has been provided by associated Structure Plans and combined with the parcel level modelling results. The plan enabled capacity reflects the zoned capacity without the application of infrastructure constraints. Areas of zoned opportunity that are excluded from development by other requirements of the Plan have been removed from the capacity identified within this section.

A detailed discussion on the approach used to quantify plan enabled capacity in the urban environment is contained in the supporting Technical Report.

5.1 Short and Medium Term Plan Enabled Capacity

The following short term plan enabled capacity results relate to the areas classified as Residential Only (blue) or Business and Residential (orange) in Figure 5.1.[60] These areas represent the zones in the defined urban environment that enable housing in the ODP.[61]

Table 5.1 shows that there is a total plan enabled capacity for an additional 23,700 dwellings within the RLC urban environment. The total additional urban environment plan enabled capacity amounts to a similar size to the existing urban household base. Capacity within the existing urban area amounts to around 84% of the existing urban household base, meaning that the existing urban area could theoretically accommodate nearly double the number of existing households under the Plan. Nearly all of this would need to occur through redevelopment of the existing household stock, with infill potential amounting to around 26% of the existing household base. The zoned greenfield capacity amounts to only around 15% of the existing base. However, this zoned opportunity does not take into account infrastructure constraints or the commercial feasibility of capacity.

Nearly all (20,100 dwellings; 85%) of the plan enabled capacity is within the existing urban environment. Most (17,600 dwellings; 88%) of this is within developed areas of the urban environment, with a portion (2,500 dwellings; 12%) on underutilised urban land within the existing urban area. Greenfield areas of urban expansion account for only 15% of the plan enabled capacity within the short to medium-term.

Standalone dwellings account for nearly all of the infill and greenfield capacity (5,500 and 3,500 dwellings respectively), which reflects the predominant patterns of residential dwelling development that have

[60] Areas shaded grey are within the urban environment but do not enable housing at all, or withing this time period.

[61] Excludes the Future Residential 1 Zone (only applies to the long term). The Transitional Residential to Light Industrial Zone is included as housing capacity in the short and medium term only.

occurred across much of Rotorua. Nearly all of the standalone dwelling capacity occurs within the Residential 1 Zone, which covers the bulk of Rotorua's suburban residential area.

A small share of the infill and greenfield capacity is in higher density dwelling typologies of duplex/terraced houses (100 dwellings) or apartments (650 dwellings). The Residential 2 Zone is the only suburban residential zone that provides for higher density dwelling typologies with higher density planning provisions for these types of developments.

The higher density dwelling typologies account for a much larger share of the redevelopment capacity. Apartments are provided for within the ODP within the commercial zones, including the City Centre as well as other smaller commercial centres across the suburban area. Most of the apartment development capacity occurs as redevelopment capacity as many of these areas are already developed, with limited infill potential.

In total, the ODP provides for up to around 8,600 apartment dwellings through redevelopment within the commercial zones. There is also a small amount of capacity (1,350 dwellings) for duplex/terraced housing within the Residential 2 zone.

The largest share of plan enabled capacity occurs within the Central reporting area. It contains 43% of the capacity overall (10,100 dwellings). Nearly all of this capacity occurs on brownfield land, with only a small share on underutilised urban land and no greenfield capacity. Capacity in the central area is primarily made up of apartment dwellings within commercial zones, and is focused toward redevelopment capacity. A large share of this occurs within the City Centre 1 and 3 zones. These account for around two-thirds (6,500 dwellings) of the Central areas' capacity, and one-third of the capacity in Rotorua's existing urban area overall. Significant areas of apartment development capacity also occur within the Commercial 4 Zone along Fenton Street within the Central area.

Around one-quarter of capacity is contained in each of the Western and Eastern areas (6,400 and 5,700 dwellings respectively). Nearly all of the capacity within these areas is within standalone dwellings and is less concentrated toward redevelopment capacity than the Central area (although redevelopment capacity is higher than infill-only capacity). Significant amounts of the existing urban area capacity within these reporting areas occurs on underutilised urban land, particularly within the Eastern area, where around half (1,700 dwellings; 49%) of the existing urban capacity is on these areas.

The Eastern and Western areas contain the city's short to medium-term greenfield expansion areas. In total, there is capacity for an additional greenfield areas account for 3,600 dwellings within these greenfield areas, amounting to 30% of the total plan enabled capacity across these areas. There is an estimated plan enabled capacity for around 2,200 additional dwellings within the Eastern area, amounting to around 60% of Rotorua's total greenfield capacity. A proportion of this capacity occurs on leasehold land, which will be assessed further in Section 6. The remainder of the greenfield capacity (1,500 dwellings) occurs within the Western area, and is located on the western urban edge, including the Pukehāngi Plan Change area.

The remainder (1,600 dwellings; 7%) of the capacity occurs within the Ngongotahā reporting area. This capacity all occurs within the existing urban area, with no greenfield urban expansion areas within the short to medium-term. Capacity in Ngongotahā is heavily dominated by standalone dwellings, with a small

amount of apartments (90 dwellings) through redevelopment capacity within the Commercial 1 zone of Ngongotahā main centre.

It is important to note that capacity within the Ngongotahā reporting area may be affected by flooding constraints. There was insufficient information on these constraints in Ngongotahā to include their effect within the modelling. Therefore, capacity within Ngongotahā may be less than the modelled capacity identified through this assessment.

Figure 5.1 – Short and Medium Term Land Zoned for Housing in Rotorua's Urban Environment

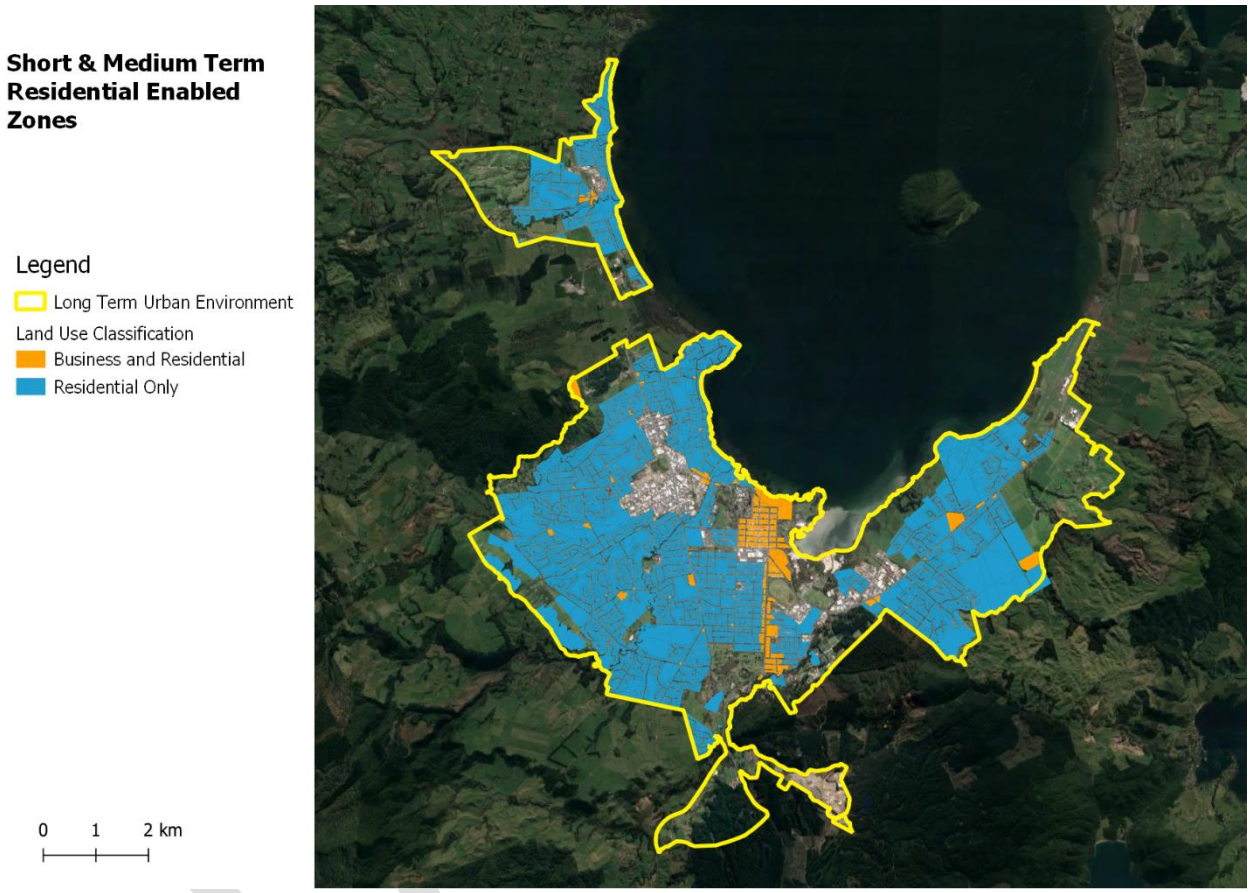


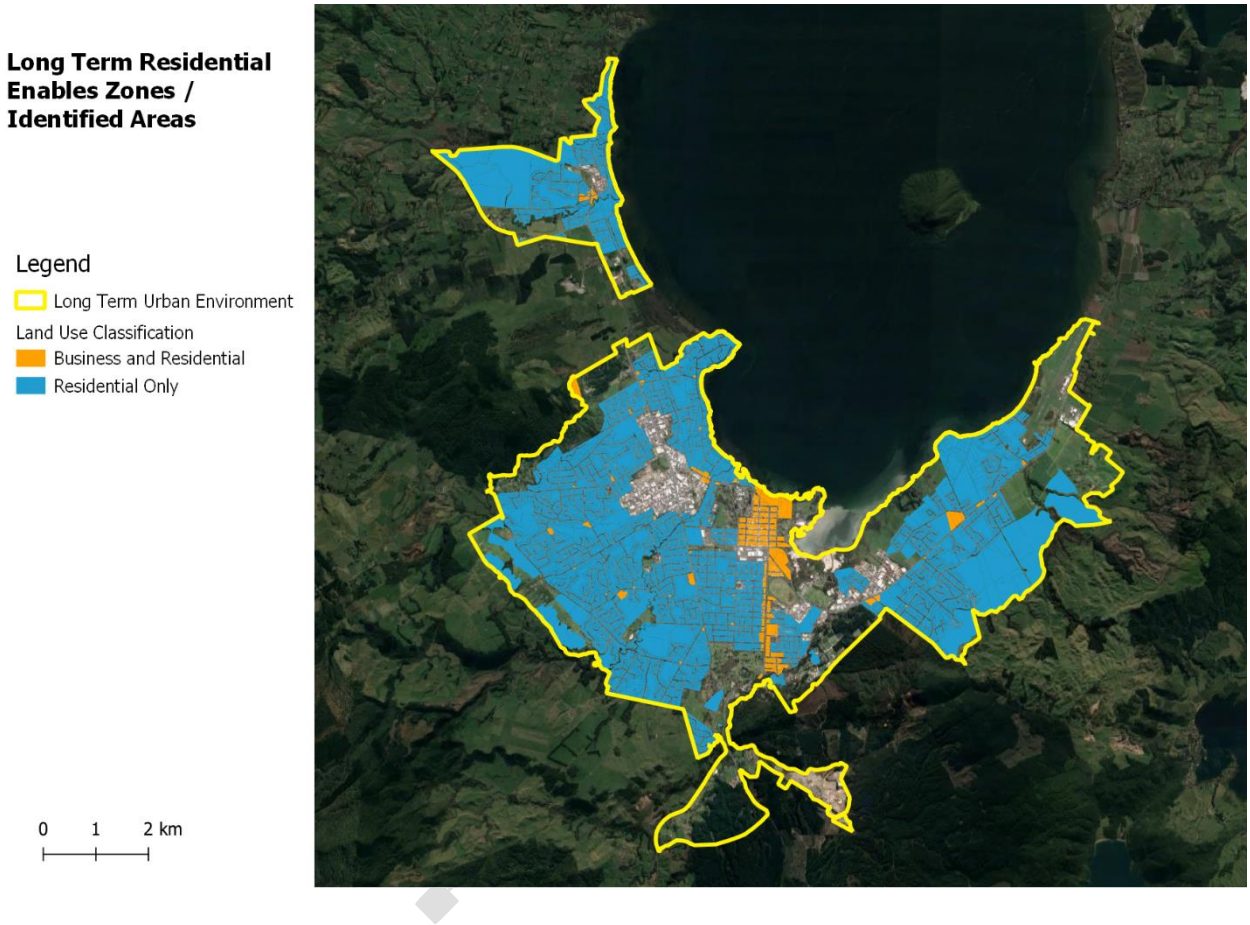
Table 5.1 – Short to Medium Term Plan Enabled Dwelling Capacity in the Rotorua Lakes District Urban Environment

		Plan Enabled Capacity														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	800	-	-	800	1,800	-	10	1,800	1,800	-	-	-	-	800	1,800
Eastern	Underutilised Urban Land	1,300	-	-	1,300	1,700	-	-	1,700	1,700	-	-	-	-	1,300	1,700
Eastern	Greenfield	-	-	-	-	-	-	-	-	-	2,100	-	70	2,200	2,200	2,200
Eastern	**Total**	**2,100**	**-**	**-**	**2,100**	**3,500**	**-**	**10**	**3,500**	**3,500**	**2,100**	**-**	**70**	**2,200**	**4,200**	**5,700**
Central	Brownfield	300	10	600	900	800	1,300	8,100	10,000	10,000	-	-	-	-	900	10,000
Central	Underutilised Urban Land	40	90	-	90	40	90	-	90	90	-	-	-	-	90	90
Central	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	**Total**	**300**	**100**	**600**	**1,000**	**800**	**1,300**	**8,100**	**10,100**	**10,100**	**-**	**-**	**-**	**-**	**1,000**	**10,100**
Western	Brownfield	1,900	-	-	1,900	3,900	-	300	4,300	4,500	-	-	-	-	1,900	4,500
Western	Underutilised Urban Land	400	-	-	400	400	-	-	400	400	-	-	-	-	400	400
Western	Greenfield	-	-	-	-	-	-	-	-	-	1,500	-	-	1,500	1,500	1,500
Western	**Total**	**2,300**	**-**	**-**	**2,300**	**4,400**	**-**	**300**	**4,700**	**4,900**	**1,500**	**-**	**-**	**1,500**	**3,800**	**6,400**
Ngongotahā	Brownfield	600	-	-	600	1,200	-	90	1,300	1,300	-	-	-	-	600	1,300
Ngongotahā	Underutilised Urban Land	300	-	-	300	300	-	-	300	300	-	-	-	-	300	300
Ngongotahā	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ngongotaha	**Total**	**800**	**-**	**-**	**800**	**1,500**	**-**	**90**	**1,500**	**1,600**	**-**	**-**	**-**	**-**	**800**	**1,600**
TOTAL Urban Env.	**Existing Urban**	**3,600**	**10**	**600**	**4,200**	**7,600**	**1,300**	**8,600**	**17,300**	**17,600**	**-**	**-**	**-**	**-**	**4,200**	**17,600**
TOTAL Urban Env.	**Underutilised Urban Land**	**2,000**	**90**	**-**	**2,000**	**2,400**	**90**	**-**	**2,500**	**2,500**	**-**	**-**	**-**	**-**	**2,000**	**2,500**
TOTAL Urban Env.	**Greenfield**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3,500**	**-**	**70**	**3,600**	**3,600**	**3,600**
TOTAL Urban Env.	**Total**	**5,500**	**100**	**600**	**6,200**	**10,100**	**1,300**	**8,600**	**19,800**	**20,100**	**3,500**	**-**	**70**	**3,600**	**9,800**	**23,700**

Source: M.E RLDC Capacity Model 2021.

5.2 Long Term Plan Enabled Capacity

The following long term plan enabled capacity results relate to the areas classified as Residential Only (blue) or Business and Residential (orange) in Figure 5.2 – Long Term Land Zoned for Housing in Rotorua's Urban Environment



. These areas represent the zones in the defined urban environment that enable housing in the ODP in the long term (including the Future Residential 1 Zone but excluding the Transitional Residential to Light Industrial Zone in the Western reporting area) and selected future growth areas from the 2018 Spatial Plan. The spatial extent of the land area able to be considered for plan enabled capacity in the long term is larger than in the short or medium term due to the addition of the Spatial Plan future urban expansion areas.

Council has identified areas within the spatial plan that could provide future capacity for housing and commercial development. These include Ngongotahā and areas within the Eastern Suburbs comprised mainly of land administered by Ngati Whakaue Tribal Lands (NWTL). Indicative zoning for the Eastside has also been signalled though the Eastside Community Wellness Plan.

Within the existing urban area, the residential zoning patterns predominantly remain the same between the short to medium-term ODP and the long term. However, Council has identified the Fenton Street Commercial 4 Zone as an area that could be rezoned to better enable mixed use activities being both residential, commercial and tourist accommodation activities (including higher densities of development) that would support the surrounding residential community. For the long term plan enabled capacity this

report has assessed these future indicative zoning scenarios, however it is to be noted these are indicative only and are yet to be tested through the formal Resource Management Act process.

Pukehāngi.

Table 5.2 and Table 5.3 show that the total plan enabled capacity is estimated to increase by 26% (+6,100 dwellings) between the short to medium and long-term to reach a total capacity of 29,800 additional dwellings. Nearly all of the increase in capacity occurs within the greenfield areas where additional greenfield capacity is provided in the long-term. The total long-term capacity amounts to around 124% of the existing urban household base.

The inclusion of the Spatial Plan future growth areas over doubles the greenfield capacity in the long-term (+130%). It increases the total greenfield plan enabled capacity to an additional 8,300 dwellings. This equates to around one-third (34%) of the existing urban household base. It increases the share of additional capacity within greenfield areas from 15% in the short to medium-term to 28% in the long-term. Capacity within these areas is dominated by standalone dwellings.

The net increase in greenfield capacity is split relatively evenly across the Eastern and Ngongotahā reporting areas, with a small increase in the Western reporting area. Greenfield capacity of around 2,300 dwellings is added to the Ngongotahā reporting area in the long-term, increasing overall capacity in this reporting area by 148%. In the long-term, Ngongotahā is estimated to contain 28% of the city's greenfield capacity, and 13% of capacity overall.

A further 2,200 dwelling capacity is added to the Eastern reporting area greenfield capacity in the long-term, making it the largest greenfield area in the city. The area is estimated to contain over half (53%; 4,400 dwellings) of the city's greenfield dwelling capacity in the long-term. Increases in the plan enabled capacity within this area have occurred through a combination of up-zoning existing greenfield areas (from Residential 5 to Residential 1), as well as the geographic expansion of the greenfield areas. Up-zoning the existing greenfield areas accounts of around one-third of the plan enabled capacity increases, with the remainder occurring through the expansion of the zoned area. Almost all of the long-term additional greenfield land in the Eastern area is on leasehold land.

Additional capacity is also provided within the long-term within the existing urban area through limited areas of zoning changes. The Commercial 4 zoned area along Fenton Street is up-zoned to Mixed Use Zone in the long-term, increasing the plan-enabled capacity in the Central reporting area by 1,400 additional dwellings. This occurs through the additional height provided in this area from the planned change in zoning.

The spatial structure of the city's capacity changes between the short to medium and long-term. The addition of greenfield capacity means that the share of capacity within the outer urban reporting areas (Ngongotahā and Eastern reporting areas) has increased from 30% in the short to medium term, to 40% in the long-term. The share of capacity in the central urban area (Central and Western reporting areas) correspondingly decreases from 70% to 60%.

Figure 5.2 – Long Term Land Zoned for Housing in Rotorua's Urban Environment

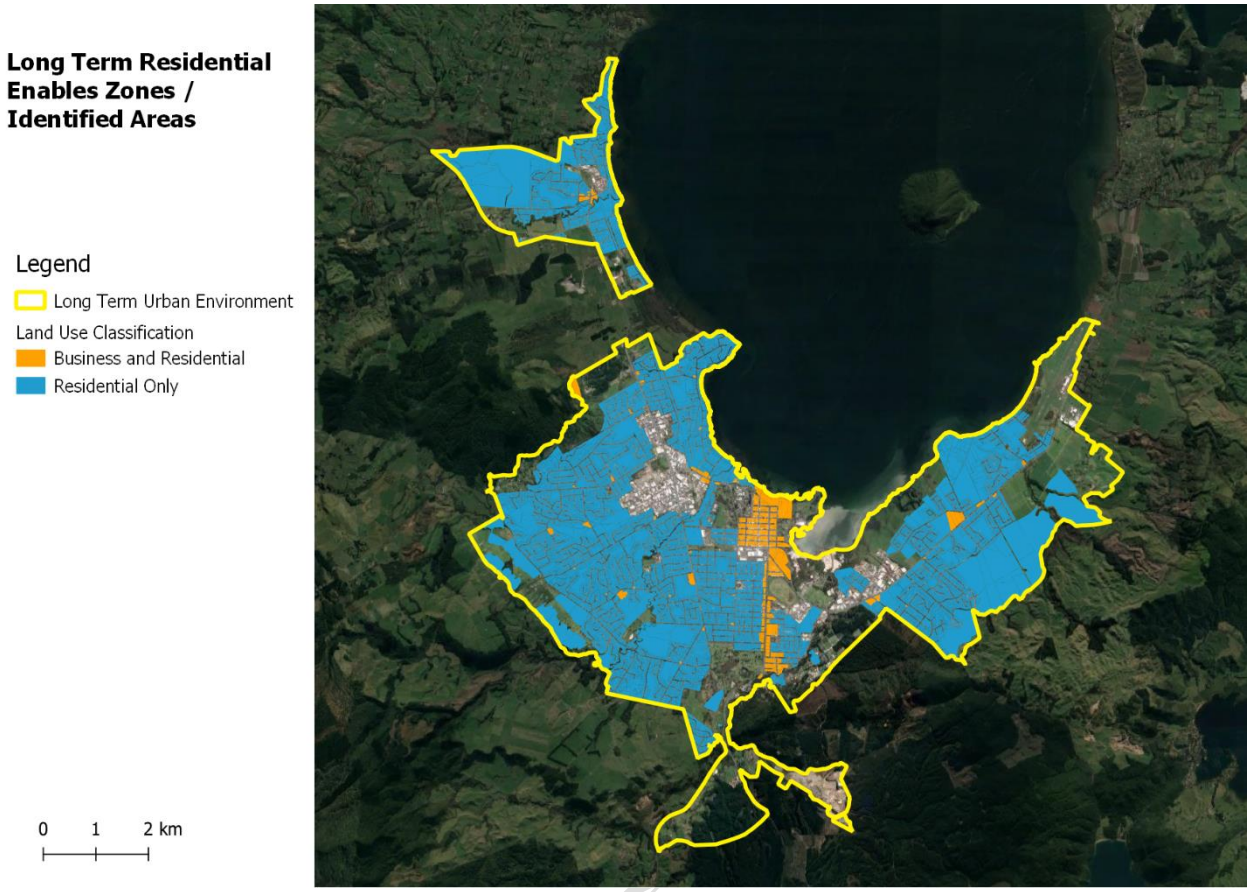


Table 5.2 – Long Term Plan Enabled Dwelling Capacity in the Rotorua Lakes District Urban Environment

		Plan Enabled Capacity														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	800	-	-	800	1,800	-	10	1,800	1,800	-	-	-	-	800	1,800
Eastern	Underutilised Urban Land	1,300	-	-	1,300	1,700	-	-	1,700	1,700	-	-	-	-	1,300	1,700
Eastern	Greenfield	-	-	-	-	-	-	-	-	-	4,400	-	-	4,400	4,400	4,400
Eastern	**Total**	**2,100**	**-**	**-**	**2,100**	**3,500**	**-**	**10**	**3,500**	**3,500**	**4,400**	**-**	**-**	**4,400**	**6,500**	**7,900**
Central	Brownfield	300	10	700	1,000	800	1,300	9,600	11,400	11,400	-	-	-	-	1,000	11,400
Central	Underutilised Urban Land	40	90	-	90	40	90	-	90	90	-	-	-	-	90	90
Central	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	**Total**	**300**	**100**	**700**	**1,100**	**800**	**1,300**	**9,600**	**11,500**	**11,500**	**-**	**-**	**-**	**-**	**1,100**	**11,500**
Western	Brownfield	1,900	-	-	1,900	3,900	-	300	4,300	4,500	-	-	-	-	1,900	4,500
Western	Underutilised Urban Land	400	-	-	400	400	-	-	400	400	-	-	-	-	400	400
Western	Greenfield	-	-	-	-	-	-	-	-	-	1,600	-	-	1,600	1,600	1,600
Western	**Total**	**2,300**	**-**	**-**	**2,300**	**4,300**	**-**	**300**	**4,700**	**4,900**	**1,600**	**-**	**-**	**1,600**	**3,900**	**6,400**
Ngongotahā	Brownfield	600	-	-	600	1,200	-	90	1,300	1,300	-	-	-	-	600	1,300
Ngongotahā	Underutilised Urban Land	300	-	-	300	300	-	-	300	300	-	-	-	-	300	300
Ngongotahā	Greenfield	-	-	-	-	-	-	-	-	-	2,300	-	-	2,300	2,300	2,300
Ngongotaha	**Total**	**800**	**-**	**-**	**800**	**1,500**	**-**	**90**	**1,500**	**1,600**	**2,300**	**-**	**-**	**2,300**	**3,200**	**3,900**
TOTAL Urban Env.	**Existing Urban**	**3,600**	**10**	**700**	**4,300**	**7,600**	**1,300**	**10,000**	**18,700**	**19,000**	**-**	**-**	**-**	**-**	**4,300**	**19,000**
TOTAL Urban Env.	**Underutilised Urban Land**	**2,000**	**90**	**-**	**2,000**	**2,400**	**90**	**-**	**2,500**	**2,500**	**-**	**-**	**-**	**-**	**2,000**	**2,500**
TOTAL Urban Env.	**Greenfield**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**8,300**	**-**	**-**	**8,300**	**8,300**	**8,300**
TOTAL Urban Env.	**Total**	**5,500**	**100**	**700**	**6,300**	**10,000**	**1,300**	**10,000**	**21,200**	**21,500**	**8,300**	**-**	**-**	**8,300**	**14,600**	**29,800**

Source: M.E RLDC Capacity Model 2021.

Table 5.3 – Changes to Short-Medium to Long Term Plan Enabled Urban Dwelling Capacity

		Plan Enabled Capacity														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern	Underutilised Urban Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern	Greenfield	-	-	-	-	-	-	-	-	-	2,300	-	- 70	2,200	2,200	2,200
Eastern	**Total**	-	-	-	-	-	-	-	-	-	**2,300**	-	**- 70**	**2,200**	**2,200**	**2,300**
Central	Brownfield	-	-	100	100	-	-	1,400	1,400	1,400	-	-	-	-	100	1,400
Central	Underutilised Urban Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	**Total**	-	-	**100**	**100**	-	-	**1,400**	**1,400**	**1,400**	-	-	-	-	**100**	**1,400**
Western	Brownfield	-	-	-	-	- 30	-	-	- 30	- 30	-	-	-	-	-	- 30
Western	Underutilised Urban Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Western	Greenfield	-	-	-	-	-	-	-	-	-	100	-	-	100	100	100
Western	**Total**	-	-	-	-	**- 30**	-	-	**- 30**	**- 30**	**100**	-	-	**100**	**100**	**70**
Ngongotahā	Brownfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ngongotahā	Underutilised Urban Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ngongotahā	Greenfield	-	-	-	-	-	-	-	-	-	2,300	-	-	2,300	2,300	2,300
Ngongotaha	**Total**	-	-	-	-	-	-	-	-	-	**2,300**	-	-	**2,300**	**2,300**	**2,300**
TOTAL Urban Env.	**Existing Urban**	-	-	**100**	**100**	**- 30**	-	**1,400**	**1,400**	**1,400**	-	-	-	-	**100**	**1,400**
TOTAL Urban Env.	**Underutilised Urban Land**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL Urban Env.	**Greenfield**	-	-	-	-	-	-	-	-	-	**4,800**	-	**- 70**	**4,700**	**4,700**	**4,700**
TOTAL Urban Env.	**Total**	-	-	**100**	**100**	**- 30**	-	**1,400**	**1,400**	**1,400**	**4,800**	-	**- 70**	**4,700**	**4,800**	**6,100**

Source: M.E RLDC Capacity Model 2021.

5.3 Plan Enabled Urban Environment Capacity Summary

The modelling has found that Rotorua has substantial plan enabled capacity overall, but substantial shares of this capacity are through development pathways that differ to long-established development patterns within the Rotorua market.

The overall size of the zoned greenfield opportunity within the short to medium-term is relatively limited in comparison to the existing urban household base (around 15% of the existing base). Some of the greenfield development opportunities are underway within the eastern and western urban edges, although a portion of the Eastern reporting area capacity is on leasehold land.

There is a reasonable amount of infill and redevelopment options across much of the general suburban areas of the city. A significant share of this capacity is on underutilised urban land, particularly within the Eastern reporting area. However, a large share of the Eastern reporting area underutilised urban land capacity is on leasehold land, which may constrain development opportunities.

There is significant redevelopment opportunity across much of the city's suburban residential areas, with sizeable opportunity provided under the Plan for redevelopment of standalone dwellings. However, redevelopment is not yet well established within the Rotorua market and is unlikely to represent a significant development pathway for the commercial sector within the short-term.

Much of the plan enabled capacity across the general suburban and greenfield areas is characterised by standalone dwellings on full sites. There is limited opportunity for higher density development within these areas, with most of the higher density typology development opportunities provided as apartment development within commercial zone areas. There are only limited areas within the suburban areas for higher density duplex/terraced housing developments that could occur on smaller sites.

A large share of the total capacity is concentrated into the Central reporting area. It accounts for nearly half (43%) of the short to medium-term capacity. Capacity within this area is heavily dominated by apartment capacity within commercial zones, with around one-third of the city's total existing urban capacity occurring within the City Centre.

Additional plan enabled greenfield capacity is provided in the long-term in Rotorua. Further urban expansion is provided for in the outer areas of the city (Ngongotahā and Eastern reporting areas). However, all of the long-term additional greenfield capacity in the Eastern area (half of the total additional greenfield capacity) is on leasehold land.

There is very limited changes to capacity within Rotorua's existing urban area in the long-term. Increases in capacity are largely limited to increases in the height limits through up-zoning of the commercial area along Fenton Street, which provides for apartment development.

This section has identified the zoned opportunity for development provided by the Plan. It takes into account specific areas of zoned capacity that are excluded for development under the Plan, which are set out within the supporting Technical Report. Plan enabled assessment is critical to understand whether there are likely to be any constraints in the level of zoned opportunity. However, this stage of the assessment does not take into account infrastructure constraints or feasibility assessment. The following sections identifies the feasibility of this urban capacity and the effect of infrastructure constraints on capacity.

6 Commercially Feasible Capacity

This section quantifies the plan enabled capacity that is commercially feasible to develop for a commercial developer. It shows the range of plan enabled capacity available to the market that is estimated to be commercially feasible to construct. Importantly, it shows the range of development opportunities available, a share of which are likely to be taken up by the market.

At a high level, the approach calculates the cost to construct the dwellings on each land parcel, then compares this to the likely dwelling sales price. If a sufficient profit margin is achieved, then the capacity is regarded as commercially feasible. In accordance with the NPS-UD, the assessment is based on current costs and prices within the 2020 market[62] for the short to medium term. Additional scenarios are provided for the long term, that allow a gradual level of growth within the market through time.

A detailed discussion on the approach used to model commercially feasibility capacity is contained in the supporting Technical Report.

Commercially feasible capacity has been calculated across the total urban plan enabled zoned opportunity. This is important because infrastructure constraints apply to different areas within the city at the wider catchment scale. Infrastructure is able to support certain levels of growth occurring across each catchment in aggregate, rather than constraining specific areas within the catchment. The assessment identifies the range of development opportunities within the wider infrastructure catchments that are likely to be feasible to develop if infrastructure were supplied.

An assessment of the commercially feasible capacity that is served by infrastructure is contained in Section 8. The sequencing of the infrastructure assessment is important because the infrastructure constraints apply at the catchment level that include both areas that are already urbanised as well as areas for potential future urban expansion. The 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 once the combined levels of development have been estimated through the reasonably expected to be realised capacity as the infrastructure ready capacity of each area is dependent upon the level of take up across the catchment overall.

6.1 Short & Medium Term Commercially Feasible Capacity

The following short term commercially feasible capacity results relate to the urban environment short term plan enabled capacity results contained in Section 5.1. Table 6.1 and Table 6.2 show that around one-third (31%) of the short to medium-term plan enabled capacity is estimated to currently represent commercially

[62] Increases in prices through time, in response to growth in demand, are an important driver of feasibility. 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 baseline scenario of current prices shows the level of feasibility of capacity if prices remained constant, with further scenarios able to show the additional level of capacity that is likely to become feasible through time.

feasible development opportunities for the market. The total feasible capacity amounts to an estimated commercially feasible capacity of an additional 7,200 dwellings across the urban environment. This equates to around 30% of the existing urban household base.

Greenfield areas account for around 41% of the feasible development capacity (2,900 additional dwellings). The level of feasibility within greenfield areas is higher than within the existing urban areas, reflecting the easier nature of this development option within the Rotorua market. Over four-fifths (82%) of the existing plan enabled capacity within the greenfield areas is estimated to represent commercially feasible development options, compared to around only one-fifth (21%) of the capacity within the existing urban area.

Nearly all of the greenfield capacity within the Western reporting area is estimated to be currently commercially feasible. There is an estimated 1,400 dwelling capacity currently feasible within this area. This includes the Pukehāngi Plan Change area where a large scale greenfield development has recently been zoned.

High shares of the greenfield development capacity are also estimated to represent currently commercially feasible development options within the Eastern reporting area. Over two-thirds (69%; 1,400 dwellings) of the plan enabled capacity is estimated to be commercially feasible development options. A share of the plan enabled capacity (500 dwellings) is on leasehold land[63], which is estimated to not represent feasible development options.

It is estimated there is a feasible development capacity of around 4,300 dwellings across Rotorua's existing urban area. Within the existing urban area, the estimated feasible development options are relatively concentrated into the Central reporting area. This area contains over half (58%; 2,500 dwellings) of the city's feasible dwellings within the existing urban area. These are mainly apartment redevelopment options within the City Centre, and higher density duplex/terraced housing redevelopment options within the Residential 2 Zone (through Comprehensive Residential Development Plans). However, higher density apartment development patterns are not yet well established within the Rotorua market and may only meet a minor share of the dwelling construction activity in the short to medium term.

Feasible development options across other parts of the general suburban area of Rotorua's existing urban area are predominantly standalone dwellings. This reflects the zoning provisions, where there is limited provision for higher density development within the general suburban areas. Higher shares of the plan enabled capacity in higher value areas is feasible, with smaller shares in lower value areas. Higher value areas can achieve higher sales prices, which increase the feasibility of development in these locations.

In total, there is feasible capacity for an additional 1,800 dwellings in the existing urban area across the Eastern, Western and Ngongotahā reporting areas. All of this capacity is within standalone dwellings, with no apartments estimated to be currently feasible in the smaller commercial centres within these general suburban areas.

[63] In the short-medium term, this includes a strip of Whenua Māori within the Wharenui Road Development Area.

Table 6.1 – Short to Medium Term Commercially Feasible Dwelling Capacity in the Rotorua Lakes District Urban Environment

		Commercially Feasible														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	100	-	-	100	100	-	-	100	200	-	-	-	-	100	200
Eastern	Underutilised Urban Land	300	-	-	300	300	-	-	300	300	-	-	-	-	300	300
Eastern	Greenfield	-	-	-	-	-	-	-	-	-	1,500	-	70	1,500	1,500	1,500
Eastern	**Total**	**400**	**-**	**-**	**400**	**400**	**-**	**-**	**400**	**500**	**1,500**	**-**	**70**	**1,500**	**1,900**	**2,000**
Central	Brownfield	80	10	400	500	20	800	1,500	2,400	2,400	-	-	-	-	500	2,400
Central	Underutilised Urban Land	40	-	-	40	-	90	-	90	90	-	-	-	-	40	90
Central	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	**Total**	**100**	**10**	**400**	**600**	**20**	**900**	**1,500**	**2,500**	**2,500**	**-**	**-**	**-**	**-**	**600**	**2,500**
Western	Brownfield	500	-	-	500	400	-	-	400	700	-	-	-	-	500	700
Western	Underutilised Urban Land	200	-	-	200	100	-	-	100	200	-	-	-	-	200	200
Western	Greenfield	-	-	-	-	-	-	-	-	-	1,400	-	-	1,400	1,400	1,400
Western	**Total**	**700**	**-**	**-**	**700**	**500**	**-**	**-**	**500**	**900**	**1,400**	**-**	**-**	**1,400**	**2,100**	**2,300**
Ngongotahā	Brownfield	100	-	-	100	100	-	-	100	200	-	-	-	-	100	200
Ngongotahā	Underutilised Urban Land	200	-	-	200	40	-	-	40	200	-	-	-	-	200	200
Ngongotahā	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ngongotaha	**Total**	**300**	**-**	**-**	**300**	**100**	**-**	**-**	**100**	**400**	**-**	**-**	**-**	**-**	**300**	**400**
TOTAL Urban Env.	**Existing Urban**	**800**	**10**	**400**	**1,200**	**700**	**800**	**1,500**	**3,000**	**3,500**	**-**	**-**	**-**	**-**	**1,200**	**3,500**
TOTAL Urban Env.	**Underutilised Urban Land**	**700**	**-**	**-**	**700**	**400**	**90**	**-**	**500**	**800**	**-**	**-**	**-**	**-**	**700**	**800**
TOTAL Urban Env.	**Greenfield**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,900**	**-**	**70**	**3,000**	**3,000**	**3,000**
TOTAL Urban Env.	**Total**	**1,500**	**10**	**400**	**1,900**	**1,100**	**900**	**1,500**	**3,500**	**4,300**	**2,900**	**-**	**70**	**3,000**	**4,900**	**7,300**

Source: M.E RLDC Capacity Model 2021.

Table 6.2 – Short to Medium-Term Commercially Feasible Capacity as a Share of Plan Enabled Capacity

		Commercially Feasible														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	15%	0%	0%	15%	8%	0%	0%	8%	13%	0%	0%	0%	0%	15%	13%
Eastern	Underutilised Urban Land	21%	0%	0%	21%	16%	0%	0%	16%	16%	0%	0%	0%	0%	21%	16%
Eastern	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	70%	0%	100%	71%	71%	71%
Eastern	**Total**	**19%**	**0%**	**0%**	**19%**	**12%**	**0%**	**0%**	**12%**	**14%**	**70%**	**0%**	**100%**	**71%**	**45%**	**36%**
Central	Brownfield	30%	100%	74%	60%	3%	65%	19%	24%	24%	0%	0%	0%	0%	60%	24%
Central	Underutilised Urban Land	95%	0%	0%	42%	0%	100%	0%	98%	98%	0%	0%	0%	0%	42%	98%
Central	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Central	**Total**	**38%**	**6%**	**74%**	**58%**	**3%**	**67%**	**19%**	**24%**	**25%**	**0%**	**0%**	**0%**	**0%**	**58%**	**25%**
Western	Brownfield	25%	0%	0%	25%	10%	0%	0%	9%	16%	0%	0%	0%	0%	25%	16%
Western	Underutilised Urban Land	42%	0%	0%	42%	32%	0%	0%	32%	42%	0%	0%	0%	0%	42%	42%
Western	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	0%	0%	99%	99%	99%
Western	**Total**	**28%**	**0%**	**0%**	**28%**	**12%**	**0%**	**0%**	**11%**	**18%**	**99%**	**0%**	**0%**	**99%**	**55%**	**37%**
Ngongotahā	Brownfield	18%	0%	0%	18%	8%	0%	0%	8%	13%	0%	0%	0%	0%	18%	13%
Ngongotahā	Underutilised Urban Land	87%	0%	0%	87%	14%	0%	0%	14%	76%	0%	0%	0%	0%	87%	76%
Ngongotahā	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ngongotaha	**Total**	**39%**	**0%**	**0%**	**39%**	**10%**	**0%**	**0%**	**9%**	**25%**	**0%**	**0%**	**0%**	**0%**	**39%**	**25%**
TOTAL Urban Env.	**Existing Urban**	**22%**	**100%**	**74%**	**29%**	**9%**	**65%**	**18%**	**17%**	**20%**	**0%**	**0%**	**0%**	**0%**	**29%**	**20%**
TOTAL Urban Env.	**Underutilised Urban Land**	**36%**	**0%**	**0%**	**35%**	**18%**	**100%**	**0%**	**21%**	**30%**	**0%**	**0%**	**0%**	**0%**	**35%**	**30%**
TOTAL Urban Env.	**Greenfield**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**82%**	**0%**	**100%**	**82%**	**82%**	**82%**
TOTAL Urban Env.	**Total**	**27%**	**6%**	**74%**	**31%**	**11%**	**67%**	**18%**	**18%**	**21%**	**82%**	**0%**	**100%**	**82%**	**50%**	**31%**

Source: M.E RLDC Capacity Model 2021.

6.2 Long Term Commercially Feasible Capacity

The following long term commercially feasible capacity results relate to the urban environment long term plan enabled capacity results contained in Section 5.2. They show the portion of the long term plan enabled capacity that is estimated to represent potentially feasible development options for commercial developers.

Two scenarios of feasible capacity have been provided for Rotorua's urban environment for the long term. In accordance with the NPS-UD requirements, the first scenario shows the capacity enabled by the Plan in the long term that is estimated to be feasible in today's market – the 'Current Prices Scenario'. 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.

In alignment with the NPS-UD, a further scenario – 'Market Growth Scenario' - has been developed to assess long term capacity. 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 is an important driver of feasibility within urban economies where development opportunities correspondingly change as demand increases for dwellings and different development types.

Under the Market Growth Scenario, an annual growth rate of 2.5% has been applied to dwelling sales prices and land prices. 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.

The first part of this section contains the estimated feasible capacity within the Current Prices Scenario, while the Market Growth Scenario is in the latter part of the section.

6.2.1 Current Prices Scenario

Table 6.3 shows that there is an estimated commercially feasible capacity of around 9,000 dwellings under the Current Prices Scenario in the long-term in Rotorua's urban environment. This is an increase of around 1,800 dwellings from the estimated feasible capacity of the short to medium-term.

Under the Current Prices Scenario changes in feasibility can only occur as a result of changes in the underlying zoning structure as the market is otherwise held constant. Consequently, the increases in feasible capacity development options reflect the changes in plan enabled capacity through the expansion and up-zoning of greenfield areas and the limited up-zoning (predominantly along Fenton Street) within the existing urban area. No change in the feasibility of capacity is expected to occur across most of the existing urban area and the existing greenfield areas where up-zoning has not occurred.

Almost all of the increase in the estimated feasible development opportunities occurs within the greenfield areas (with new greenfield areas identified in the long term in the Spatial Plan). There is an increase of around 1,700 additional feasible dwelling development options across the greenfield areas, resulting in an estimated total feasible 4,700 dwellings development options. The largest increase occurs in Ngongotahā, with the addition of around 1,100 feasible dwellings, through the provision of greenfield areas of urban expansion in the long term. Under the Current Prices Scenario, it is estimated that around half (47%) of the greenfield capacity in Ngongotahā currently represents commercially feasible development options. However, if an alternative development model occurred, where the feasibility was assessed for a commercial developer to construct a dwelling on a section already purchased by a household, then a much greater share of the greenfield area is estimated to be feasible. This may reflect previous development patterns within Ngongotahā where land has been subdivided and served with local infrastructure, but only gradually developed with dwellings incrementally through time.

Increases in feasible greenfield capacity in the long term also occur in the Eastern reporting area. It has an estimated increase in feasible development options of around 500 dwellings, resulting in a total feasible dwelling capacity of around 2,000 dwellings. The feasible dwelling increase is made up of an increase in around 600 feasible standalone dwellings, but a decrease of around 70 apartment dwellings due to the absence of the Commercial 3 Zone in the long-term.[64] Most of the increase in feasible capacity occurs on the short term plan enabled land through an up-zoning from Residential 5 to Residential 1.

Almost all of the additional greenfield land supplied in the long term in the Eastern reporting area is estimated to not represent feasible development opportunities. This is predominantly due to its leasehold status, which affects the likely sales prices and therefore the feasibility for a commercial developer. The zoned provision expansion, that is not feasible, decreases the share of plan enabled capacity that is feasible, despite the overall increases in the feasible capacity (Table 6.4).

The feasible development capacity within the existing urban area is limited to areas of zoning changes as the market is held constant under this scenario. As there is only limited change in the zoning provisions, there is correspondingly only a small change in the estimated feasible development capacity within the existing urban area. In total, there is a net increase of around 60 dwellings, bringing the total estimated

[64] This operative zone included at least 2.5ha within the Commercial 3 zone extent for medium density housing. In the long term, this zone is excluded, and two alternative neighbourhood centres may be anticipated if a structure plan approach to the Upper Eastside were pursued. These would likely take a more traditional zoning approach with any residential development limited to residential zoning outside the commercial centre zone, rather than within it (notwithstanding any above ground floor apartments that are enabled in the Commercial 3 zone).

feasible development options to 4,400 dwellings within the existing urban area. The net increase occurs along Fenton Street within the Central reporting area, where the height limits are proposed to increase in the long term with an indicative shift to a Mixed Use Zone (this is an indicative zoning scenario for the purpose of this HBA).

Table 6.3 – Long Term Commercially Feasible Dwelling Capacity in the Rotorua Lakes District Urban Environment: Current Prices Scenario

		Commercially Feasible														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	100	-	-	100	100	-	-	100	200	-	-	-	-	100	200
Eastern	Underutilised Urban Land	300	-	-	300	300	-	-	300	300	-	-	-	-	300	300
Eastern	Greenfield	-	-	-	-	-	-	-	-	-	2,000	-	-	2,000	2,000	2,000
Eastern	**Total**	**400**	**-**	**-**	**400**	**400**	**-**	**-**	**400**	**500**	**2,000**	**-**	**-**	**2,000**	**2,400**	**2,500**
Central	Brownfield	80	10	400	500	20	800	1,600	2,400	2,500	-	-	-	-	500	2,500
Central	Underutilised Urban Land	40	-	-	40	-	90	-	90	90	-	-	-	-	40	90
Central	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	**Total**	**100**	**10**	**400**	**600**	**20**	**900**	**1,600**	**2,500**	**2,600**	**-**	**-**	**-**	**-**	**600**	**2,600**
Western	Brownfield	500	-	-	500	400	-	-	400	700	-	-	-	-	500	700
Western	Underutilised Urban Land	200	-	-	200	100	-	-	100	200	-	-	-	-	200	200
Western	Greenfield	-	-	-	-	-	-	-	-	-	1,500	-	-	1,500	1,500	1,500
Western	**Total**	**700**	**-**	**-**	**700**	**500**	**-**	**-**	**500**	**900**	**1,500**	**-**	**-**	**1,500**	**2,200**	**2,400**
Ngongotahā	Brownfield	100	-	-	100	100	-	-	100	200	-	-	-	-	100	200
Ngongotahā	Underutilised Urban Land	200	-	-	200	40	-	-	40	200	-	-	-	-	200	200
Ngongotahā	Greenfield	-	-	-	-	-	-	-	-	-	1,100	-	-	1,100	1,100	1,100
Ngongotaha	**Total**	**300**	**-**	**-**	**300**	**100**	**-**	**-**	**100**	**400**	**1,100**	**-**	**-**	**1,100**	**1,400**	**1,500**
TOTAL Urban Env.	**Existing Urban**	**800**	**10**	**400**	**1,200**	**700**	**800**	**1,600**	**3,100**	**3,600**	**-**	**-**	**-**	**-**	**1,200**	**3,600**
TOTAL Urban Env.	**Underutilised Urban Land**	**700**	**-**	**-**	**700**	**400**	**90**	**-**	**500**	**800**	**-**	**-**	**-**	**-**	**700**	**800**
TOTAL Urban Env.	**Greenfield**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4,700**	**-**	**-**	**4,700**	**4,700**	**4,700**
TOTAL Urban Env.	**Total**	**1,500**	**10**	**400**	**1,900**	**1,100**	**900**	**1,600**	**3,600**	**4,400**	**4,700**	**-**	**-**	**4,700**	**6,600**	**9,000**

Source: M.E RLDC Capacity Model 2021.

Table 6.4 – Long Term Commercially Feasible Capacity as a Share of Plan Enabled Capacity: Current Prices Scenario

		Commercially Feasible														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	15%	0%	0%	15%	8%	0%	0%	8%	13%	0%	0%	0%	0%	15%	13%
Eastern	Underutilised Urban Land	21%	0%	0%	21%	16%	0%	0%	16%	16%	0%	0%	0%	0%	21%	16%
Eastern	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	46%	0%	0%	46%	46%	46%
Eastern	**Total**	**19%**	**0%**	**0%**	**19%**	**12%**	**0%**	**0%**	**12%**	**14%**	**46%**	**0%**	**0%**	**46%**	**37%**	**32%**
Central	Brownfield	30%	100%	61%	52%	3%	65%	17%	21%	22%	0%	0%	0%	0%	52%	22%
Central	Underutilised Urban Land	95%	0%	0%	42%	0%	100%	0%	98%	98%	0%	0%	0%	0%	42%	98%
Central	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Central	**Total**	**38%**	**6%**	**61%**	**51%**	**3%**	**67%**	**17%**	**22%**	**22%**	**0%**	**0%**	**0%**	**0%**	**51%**	**22%**
Western	Brownfield	25%	0%	0%	25%	10%	0%	0%	9%	16%	0%	0%	0%	0%	25%	16%
Western	Underutilised Urban Land	42%	0%	0%	42%	32%	0%	0%	32%	42%	0%	0%	0%	0%	42%	42%
Western	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	0%	0%	99%	99%	99%
Western	**Total**	**28%**	**0%**	**0%**	**28%**	**12%**	**0%**	**0%**	**11%**	**19%**	**99%**	**0%**	**0%**	**99%**	**56%**	**38%**
Ngongotahā	Brownfield	18%	0%	0%	18%	8%	0%	0%	8%	13%	0%	0%	0%	0%	18%	13%
Ngongotahā	Underutilised Urban Land	87%	0%	0%	87%	14%	0%	0%	14%	76%	0%	0%	0%	0%	87%	76%
Ngongotahā	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	47%	0%	0%	47%	47%	47%
Ngongotaha	**Total**	**39%**	**0%**	**0%**	**39%**	**10%**	**0%**	**0%**	**9%**	**25%**	**47%**	**0%**	**0%**	**47%**	**45%**	**38%**
TOTAL Urban Env.	**Existing Urban**	**22%**	**100%**	**61%**	**28%**	**9%**	**65%**	**16%**	**16%**	**19%**	**0%**	**0%**	**0%**	**0%**	**28%**	**19%**
TOTAL Urban Env.	**Underutilised Urban Land**	**36%**	**0%**	**0%**	**35%**	**18%**	**100%**	**0%**	**21%**	**30%**	**0%**	**0%**	**0%**	**0%**	**35%**	**30%**
TOTAL Urban Env.	**Greenfield**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**56%**	**0%**	**0%**	**56%**	**56%**	**56%**
TOTAL Urban Env.	**Total**	**27%**	**6%**	**61%**	**30%**	**11%**	**67%**	**16%**	**17%**	**20%**	**56%**	**0%**	**0%**	**56%**	**45%**	**30%**

Source: M.E RLDC Capacity Model 2021.

Table 6.5 - Changes to Short-Medium to Long Term Commercially Feasible Urban Dwelling Capacity: Current Prices Scenario

		Commercially Feasible														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern	Underutilised Urban Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern	Greenfield	-	-	-	-	-	-	-	-	-	600	-	- 70	500	500	500
Eastern	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**600**	**-**	**- 70**	**500**	**500**	**500**
Central	Brownfield	-	-	-	-	-	-	60	-	60	-	-	-	-	-	60
Central	Underutilised Urban Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**60**	**60**	**60**	**-**	**-**	**-**	**-**	**-**	**60**
Western	Brownfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Western	Underutilised Urban Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Western	Greenfield	-	-	-	-	-	-	-	-	-	100	-	-	100	100	100
Western	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**100**	**-**	**-**	**100**	**100**	**100**
Ngongotahā	Brownfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ngongotahā	Underutilised Urban Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ngongotahā	Greenfield	-	-	-	-	-	-	-	-	-	1,100	-	-	1,100	1,100	1,100
Ngongotaha	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,100**	**-**	**-**	**1,100**	**1,100**	**1,100**
TOTAL Urban Env.	**Existing Urban**	**-**	**-**	**-**	**-**	**-**	**-**	**60**	**60**	**60**	**-**	**-**	**-**	**-**	**-**	**60**
TOTAL Urban Env.	**Underutilised Urban Land**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL Urban Env.	**Greenfield**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,800**	**-**	**- 70**	**1,700**	**1,700**	**1,700**
TOTAL Urban Env.	**Total**	**-**	**-**	**-**	**-**	**-**	**-**	**60**	**60**	**60**	**1,800**	**-**	**- 70**	**1,700**	**1,700**	**1,800**

Source: M.E RLDC Capacity Model 2021.

6.2.2 Market Growth Scenario

Table 6.6 shows that there is an estimated commercially feasible capacity for an additional 20,900 dwellings under the Market Growth Scenario. This is nearly two and a half times the estimated feasible capacity within the Current Prices Scenario, and an additional 13,600 feasible dwellings from the short to medium-term modelling (Table 6.8). Table 6.7shows that under this scenario, around 70% to 74% of the plan enabled capacity is estimated to represent commercially feasible development options.

When an allowance is made for growth in the market, a greater range of development options become feasible through time. Under this scenario, a wider range of development options within the existing urban area become feasible, with the largest increases in higher density redevelopment options. This suggests that demand, and therefore achievable prices, may increase in the long-term for these higher density options, increasing their feasibility. Under this scenario, nearly three-quarters (72%; 14,900 dwellings) of the feasible capacity is within the existing urban area.

Most of the existing urban area feasible capacity increase occurs within the Central reporting area, where there are large increases in the commercially feasible redevelopment options for apartments. Under this scenario, feasible redevelopment options for apartments occur within the City Centre 1 (5,100 dwellings), Mixed Use (2,000 dwellings), City Centre 3 (1,100 dwellings) and Commercial 2 (750 dwellings) zones. There are also a significant number of higher density duplex/terraced housing feasible options (1,100 dwellings) within the Residential 2 Zone, although most of these are already estimated to represent commercially feasible development options under the Current Prices Scenario.

A greater range of the plan enabled capacity across the wider general suburban area also represents commercially feasible development options under the Market Growth Scenario. Larger numbers of standalone dwellings are estimated to represent feasible infill or redevelopment options. In total, there are an estimated 4,000 feasible infill standalone dwelling development options, and 2,500 feasible redevelopment standalone dwellings (although this capacity is not additive).

The largest proportional increases occur within the Western reporting area. Currently, much of the plan enabled capacity within the general suburban areas of this reporting area is not feasible due to the lower potential sales prices. However, the modelling shows that if the prices gradually rise through time with demand growth, then a larger share of the capacity within this area is likely to become feasible.

Under the Market Growth Scenario, there are also increases in feasible development options within the greenfield areas. Allowing for market growth increases the feasible capacity by an additional 1,300 dwellings (in comparison to the Current Prices Scenario), bringing the total feasible capacity to an estimated 6,000 dwellings within the greenfield areas.

The increase in feasible greenfield capacity (from the Current Prices Scenario) occurs predominantly within the Ngongotahā reporting area. Capacity within this area increases by around 1,000 dwellings, to a total of 2,100 dwellings. Increases in feasible greenfield capacity in other areas are smaller, where nearly all of the greenfield capacity within the Western reporting area already represents feasible development options.

Table 6.6 - Long Term Commercially Feasible Dwelling Capacity in the Rotorua Lakes District Urban Environment: Market Growth Scenario

		Commercially Feasible														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	600	-	-	600	200	-	-	200	700	-	-	-	-	600	700
Eastern	Underutilised Urban Land	400	-	-	400	500	-	-	500	500	-	-	-	-	400	500
Eastern	Greenfield	-	-	-	-	-	-	-	-	-	2,300	-	-	2,300	2,300	2,300
Eastern	**Total**	**1,000**	**-**	**-**	**1,000**	**700**	**-**	**-**	**700**	**1,200**	**2,300**	**-**	**-**	**2,300**	**3,300**	**3,500**
Central	Brownfield	200	10	700	900	50	1,000	9,000	10,100	10,200	-	-	-	-	900	10,200
Central	Underutilised Urban Land	40	90	-	90	40	90	-	90	90	-	-	-	-	90	90
Central	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	**Total**	**200**	**100**	**700**	**1,000**	**90**	**1,100**	**9,000**	**10,200**	**10,300**	**-**	**-**	**-**	**-**	**1,000**	**10,300**
Western	Brownfield	1,800	-	-	1,800	700	-	-	700	2,200	-	-	-	-	1,800	2,200
Western	Underutilised Urban Land	400	-	-	400	400	-	-	400	400	-	-	-	-	400	400
Western	Greenfield	-	-	-	-	-	-	-	-	-	1,500	-	-	1,500	1,500	1,500
Western	**Total**	**2,200**	**-**	**-**	**2,200**	**1,100**	**-**	**-**	**1,100**	**2,600**	**1,500**	**-**	**-**	**1,500**	**3,700**	**4,100**
Ngongotahā	Brownfield	400	-	-	400	300	-	20	300	600	-	-	-	-	400	600
Ngongotahā	Underutilised Urban Land	200	-	-	200	300	-	-	300	300	-	-	-	-	200	300
Ngongotahā	Greenfield	-	-	-	-	-	-	-	-	-	2,100	-	-	2,100	2,100	2,100
Ngongotaha	**Total**	**600**	**-**	**-**	**600**	**600**	**-**	**20**	**600**	**900**	**2,100**	**-**	**-**	**2,100**	**2,700**	**3,000**
TOTAL Urban Env.	**Existing Urban**	**2,900**	**10**	**700**	**3,700**	**1,300**	**1,000**	**9,000**	**11,400**	**13,700**	**-**	**-**	**-**	**-**	**3,700**	**13,700**
TOTAL Urban Env.	**Underutilised Urban Land**	**1,100**	**90**	**-**	**1,100**	**1,200**	**90**	**-**	**1,200**	**1,300**	**-**	**-**	**-**	**-**	**1,100**	**1,300**
TOTAL Urban Env.	**Greenfield**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**6,000**	**-**	**-**	**6,000**	**6,000**	**6,000**
TOTAL Urban Env.	**Total**	**4,000**	**100**	**700**	**4,800**	**2,500**	**1,100**	**9,000**	**12,600**	**14,900**	**6,000**	**-**	**-**	**6,000**	**10,700**	**20,900**

Source: M.E RLDC Capacity Model 2021.

Table 6.7 - Long Term Commercially Feasible Capacity as a Share of Plan Enabled Capacity: Market Growth Scenario

		Commercially Feasible														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	71%	0%	0%	71%	14%	0%	0%	14%	40%	0%	0%	0%	0%	71%	40%
Eastern	Underutilised Urban Land	32%	0%	0%	32%	28%	0%	0%	28%	28%	0%	0%	0%	0%	32%	28%
Eastern	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	52%	0%	0%	52%	52%	52%
Eastern	**Total**	**47%**	**0%**	**0%**	**47%**	**21%**	**0%**	**0%**	**21%**	**34%**	**52%**	**0%**	**0%**	**52%**	**51%**	**44%**
Central	Brownfield	71%	100%	100%	92%	6%	82%	94%	88%	89%	0%	0%	0%	0%	92%	89%
Central	Underutilised Urban Land	100%	100%	0%	100%	95%	100%	0%	98%	100%	0%	0%	0%	0%	100%	100%
Central	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Central	**Total**	**75%**	**100%**	**100%**	**93%**	**11%**	**83%**	**94%**	**88%**	**90%**	**0%**	**0%**	**0%**	**0%**	**93%**	**90%**
Western	Brownfield	93%	0%	0%	93%	19%	0%	1%	17%	48%	0%	0%	0%	0%	93%	48%
Western	Underutilised Urban Land	100%	0%	0%	100%	89%	0%	0%	89%	100%	0%	0%	0%	0%	100%	100%
Western	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	100%	100%
Western	**Total**	**94%**	**0%**	**0%**	**94%**	**26%**	**0%**	**1%**	**24%**	**53%**	**100%**	**0%**	**0%**	**100%**	**96%**	**64%**
Ngongotahā	Brownfield	68%	0%	0%	68%	26%	0%	18%	25%	45%	0%	0%	0%	0%	68%	45%
Ngongotahā	Underutilised Urban Land	93%	0%	0%	93%	92%	0%	0%	92%	92%	0%	0%	0%	0%	93%	92%
Ngongotahā	Greenfield	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	0%	0%	90%	90%	90%
Ngongotaha	**Total**	**75%**	**0%**	**0%**	**75%**	**39%**	**0%**	**18%**	**38%**	**54%**	**90%**	**0%**	**0%**	**90%**	**86%**	**76%**
TOTAL Urban Env.	**Existing Urban**	**82%**	**100%**	**100%**	**85%**	**18%**	**82%**	**90%**	**61%**	**72%**	**0%**	**0%**	**0%**	**0%**	**85%**	**72%**
TOTAL Urban Env.	**Underutilised Urban Land**	**55%**	**100%**	**0%**	**56%**	**47%**	**100%**	**0%**	**48%**	**50%**	**0%**	**0%**	**0%**	**0%**	**56%**	**50%**
TOTAL Urban Env.	**Greenfield**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**72%**	**0%**	**0%**	**72%**	**72%**	**72%**
TOTAL Urban Env.	**Total**	**73%**	**100%**	**100%**	**76%**	**25%**	**83%**	**90%**	**59%**	**70%**	**72%**	**0%**	**0%**	**72%**	**74%**	**70%**

Source: M.E RLDC Capacity Model 2021.

Table 6.8 - Changes to Short-Medium to Long Term Commercially Feasible Urban Dwelling Capacity: Market Growth Scenario

		Commercially Feasible														
		Infill				Redevelopment					Greenfield				Combined Total	
Reporting Area	Area Type	Standalone House	Duplex / Terrace	Apartments	MAX	Standalone House	Duplex / Terrace	Apartments	MAX	Max Infill or Redevelopment	Standalone House	Duplex / Terrace	Apartments	MAX	Greenfield and Max Infill	Greenfield and Max Infill or Redevelopment
Eastern	Brownfield	500	-	-	500	100	-	-	100	500	-	-	-	-	500	500
Eastern	Underutilised Urban Land	100	-	-	100	200	-	-	200	200	-	-	-	-	100	200
Eastern	Greenfield	-	-	-	-	-	-	-	-	-	800	-	-	70	800	800	800
Eastern	**Total**	**600**	**-**	**-**	**600**	**300**	**-**	**-**	**300**	**700**	**800**	**-**	**-**	**70**	**800**	**1,300**	**1,500**
Central	Brownfield	100	-	300	400	30	200	7,500	7,700	7,800	-	-	-	-	400	7,800
Central	Underutilised Urban Land	-	90	-	50	40	-	-	-	-	-	-	-	-	50	-
Central	Greenfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Central	**Total**	**100**	**90**	**300**	**400**	**60**	**200**	**7,500**	**7,700**	**7,800**	**-**	**-**	**-**	**-**	**400**	**7,800**
Western	Brownfield	1,300	-	-	1,300	300	-	-	300	1,400	-	-	-	-	1,300	1,400
Western	Underutilised Urban Land	200	-	-	200	200	-	-	200	200	-	-	-	-	200	200
Western	Greenfield	-	-	-	-	-	-	-	-	-	100	-	-	100	100	100
Western	**Total**	**1,500**	**-**	**-**	**1,500**	**600**	**-**	**-**	**600**	**1,700**	**100**	**-**	**-**	**100**	**1,700**	**1,800**
Ngongotahā	Brownfield	300	-	-	300	200	-	20	200	400	-	-	-	-	300	400
Ngongotahā	Underutilised Urban Land	20	-	-	20	200	-	-	200	50	-	-	-	-	20	50
Ngongotahā	Greenfield	-	-	-	-	-	-	-	-	-	2,100	-	-	2,100	2,100	2,100
Ngongotaha	**Total**	**300**	**-**	**-**	**300**	**400**	**-**	**20**	**400**	**500**	**2,100**	**-**	**-**	**2,100**	**2,400**	**2,600**
TOTAL Urban Env.	**Existing Urban**	**2,200**	**-**	**300**	**2,400**	**700**	**200**	**7,500**	**8,400**	**10,100**	**-**	**-**	**-**	**-**	**2,400**	**10,100**
TOTAL Urban Env.	**Underutilised Urban Land**	**400**	**90**	**-**	**400**	**700**	**-**	**-**	**700**	**500**	**-**	**-**	**-**	**-**	**400**	**500**
TOTAL Urban Env.	**Greenfield**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3,100**	**-**	**-**	**70**	**3,000**	**3,000**	**3,000**
TOTAL Urban Env.	**Total**	**2,500**	**90**	**300**	**2,900**	**1,400**	**200**	**7,500**	**9,100**	**10,600**	**3,100**	**-**	**-**	**70**	**3,000**	**5,900**	**13,600**

Source: M.E RLDC Capacity Model 2021.

Additional plan enabled greenfield capacity within the Eastern reporting area is not modelled to be feasible under this market growth scenario. The achievable prices of dwellings on leasehold land would require much larger price growth to represent feasible development options for commercial developers under a house and land package sale model.

6.3 Commercially Feasible Capacity Summary

The commercially feasible capacity modelling has found that a share of the plan enabled capacity is likely to represent commercially feasible development options for developers in Rotorua's urban environment.

In the short to medium term, just under one-third of the overall plan enabled capacity is estimated to represent feasible development options. A larger share of the capacity within the greenfields areas is estimated to be commercially feasible, excluding the areas on leasehold land.

The largest amounts of feasible capacity within the existing urban area are estimated to occur within the Central reporting area, a large share of which is higher density apartment developments. However, only a small share of this capacity is likely to get taken up in the short-term where the apartment market is not currently well established within Rotorua. The main areas of feasible greenfield capacity occur on the outer eastern and western urban edges of the city and Ngongotahā.

Greater shares of the plan enabled capacity within higher value areas of the existing general suburban area are estimated to represent commercially feasible development options. Higher achievable prices within these areas mean that greater shares of development are likely to be feasible. Price growth in the long term means that increased shares of the lower value areas area also likely to become feasible in the long term. This means that, while not currently feasible, some of the lower value areas within the Western and Eastern reporting areas are likely to potentially represent feasible development options within the long term. However, patterns of take up may still favour higher value locations due to the higher prices and margins likely to occur within these areas.

Under the Current Prices Scenario, where the market is held constant with no growth, the only changes to feasible capacity in the long term occur through changes to the zoning provisions. There are some increases in feasible capacity within the greenfield area where additional zoned area is provided within Ngongotahā and due to up-zoning of existing greenfield areas within the Eastern reporting area.

Almost all of the additional greenfield area provided in the long term within the Eastern reporting area (beyond that zoned within the short to medium term) is estimated to not be commercially feasible for a house and land package development option. This is because it is on Whenua Māori (leasehold land), resulting in achievable sales prices that are lower than that required for the development to be commercially feasible. Capacity on leasehold land is also not estimated to represent feasible house and land package development options for commercial developers under the modelled Market Growth Scenario in this assessment.

If a level of market growth is applied under the Market Growth Scenario, then a larger share of the plan enabled capacity is estimated to become feasible in the long term. In total, it is estimated that around 70% of the total long term plan enabled capacity potentially represents commercially feasible development options.

With market demand growth, a greater range of development options become feasible through time, with increasing shares of the capacity become feasible within the existing urban area. This particularly occurs within the Central reporting area where a significant share of the apartment redevelopment capacity is estimated to represent feasible development options. However, there is currently very limited apartment development within Rotorua, and only a share of this feasible capacity is likely to get taken up through time.

There is some estimated increase in the feasibility of infill and redevelopment across the rest of Rotorua's general suburban area with market growth through time. However, this is largely limited to standalone dwellings where the Plan provides only limited opportunity for higher density dwelling development within these areas.

An increased share of the capacity on underutilised urban land is estimated to become commercially feasible to develop with market growth through time. However, the feasibility of this capacity continues to be restricted within the Eastern reporting area due to a substantial share of this land being leasehold.

The feasibility modelling generally suggests that a proportion of the plan enabled capacity is likely to represent feasible development options. There are a range of feasible options available to the market. Although the feasible capacity modelling does not take into account the constraints of infrastructure (which are analysed within the following section), it is an important step in the analysis. It is important to understand though the feasibility of capacity irrespective of infrastructure because:

i. It assesses the range of options available to the market.

ii. Assists in distinguishing whether any potential constraint relates to the zoned provision (i.e., planning), or the supply of infrastructure.

The former is critical because infrastructure constraints are applied at a catchment wide level as a function of total growth across the catchment, rather than being tightly tied to a specific area of zoned land. It is therefore important to identify whether there is flexibility through the range of feasible development options across the catchment for growth to occur within the infrastructure limit. The following section applies the infrastructure constraints where reasonably expected to be realised capacity is constrained by infrastructure limits.

7 Infrastructure Ready Capacity

This section examines what amount of dwelling growth is estimated to be infrastructure ready. This element of the NPS-UD is central to the requirement for well-planned urban environments whereby infrastructure and land use provision are to be aligned, and the provision of infrastructure is timely so to avoid unnecessary costs. Quantifying urban housing capacity that is infrastructure ready also helps to determine the impact that planning and infrastructure is having on the capacity for growth and the affordability and competitiveness of the Rotorua housing market.

Clause 3.4(3) of the NPS-UD states that development capacity is infrastructure ready if:

a) In relation to the short term, there is adequate existing development infrastructure to support the development of land.

b) In relation to the medium term, either paragraph (a) applies, or funding for adequate infrastructure to support development of the land is identified in a long term plan.

c) In relation to the long term, either paragraph (b) applies, or the development infrastructure to support the development capacity is identified in the local authority's infrastructure strategy (as required as part of its LTP).

Clause 3.5 of the NPS-UD states that local authorities must be 'satisfied' that the additional infrastructure to service the development capacity is likely to be available.

7.1 Overview of Development and Additional Infrastructure

Development infrastructure refers to network infrastructure for water supply, wastewater and stormwater (referred to here as 'three waters infrastructure' and land transport controlled by a local authority or council-controlled organisation. In the case of Rotorua, three waters infrastructure is controlled by RLC and public land transport infrastructure is controlled by RLC, with BOPRC controlling public transport services. Additional infrastructure means public open space, community infrastructure, social infrastructure like schools and healthcare facilities, telecommunication, electricity and gas networks, and land transport that is not controlled by local authorities. The latter includes private roads and land transport infrastructure controlled by Waka Kotahi – New Zealand Land Transport Agency ("NZTA").

Ensuring existing infrastructure networks and services are well-maintained, safe, and compliant is Council's core infrastructure business.

The key strategic priorities for RLC in relation to the three waters are to:

- Provide safe and healthy water for our people
- Protect and enhance our environment
- Promote efficiency and resilience for out three water infrastructure

- Enable sustainable and timely growth of our District

While in relation to transport, road safety, sustainable funding of roading infrastructure, ensuring an efficient road network, changing mode demand and improved resilience are key drivers. Enabling housing is important for Rotorua and infrastructure is vital for supporting this strategic priority for both Te Arawa and Council.

There are significant issues facing Rotorua, which may intensify in future years unless RLC actively manages and attempts to mitigate them. These issues will have a flow on impact on the timing, manner and location of infrastructure that is delivered in the district.

RLC operates in a financially constrained environment which requires regular trade-offs to be made between competing priorities. Council struggles to achieve the key priorities associated with the pressing issues within its means, needing to fund deferred maintenance and renewals of its infrastructure assets, and fund its ambitious growth and development plans. These plans are pivotal in ensuring the development of a well-functioning urban environment that meets future housing demand, enables future employment, and ensures greater prosperity for the district community. It is however a challenge for Council to balance strategic priorities, core infrastructure service needs and regulatory requirements.

Given the socio-economic composition of the district community it is important to keep rates affordable. Many within the community are already under financial pressure, which is exacerbated by the impact of Covid-19. Council must find other ways to generate revenue such as entering partnerships to increase investment in the development of the district. Central government is also providing financial assistance in relation to core infrastructure projects supporting housing.

7.1.1 Three Waters Infrastructure

Three waters infrastructure is comprised of water supply, wastewater, and stormwater. Key considerations in relation to the management of Council's core infrastructure includes the following:

- The three waters reform will impact on how RLC delivers water services to its community
- The need to ensure there is an enduring partnership with iwi so cultural values are embedded into the way infrastructure is managed
- The impact of climate change with both increase in extreme rainfall events and drought duration
- The resilience of infrastructure to natural hazards
- Enabling growth to support quality housing
- The need for greater energy efficiency and reduced greenhouse gas emissions
- Sustainably funding investment in infrastructure

To help address these challenges Master Plans have been developed for both Water Supply and Wastewater while a Stormwater Master Plan is currently in development.

Water Supply

District-wide Council's water supply assets consist of:

- ten defined supply areas including three urban areas
- eleven water sources
- nine water supply treatment plans
- approximately 768km of pipelines
- fifteen water pump stations

Most pipe assets are about halfway through their design lives while most plant asset classes are less than halfway through their design life. All water supplies are fully compliant with NZ drinking water standards and water leakage is within acceptable industry for the two main urban schemes (Eastern and Central) but not for Ngongotahā.

The average daily residential water consumption (per capita) is higher than the national median based on an industry performance benchmarking review.

A Water Supply Master Plan (2020) has been developed as an overarching framework to consider interrelated issues including consent requirements, resilience, demand management and growth. The Master Plan anticipates that the central and eastern areas are where most development and growth are forecast to occur. Water supply from the Central Area is forecast to accommodate this additional demand if the existing consented take is rolled over and Council's proposed demand management programme is implemented. This will mean that no new water source will be required until 2051 for the Central Area. The two springs (Waipā and Hemo) that supply the Eastern Area have sufficient capacity to accommodate this additional demand if the existing consented takes are rolled over.

Wastewater

District-wide Council's wastewater supply assets consist of:

- A total of 405km of gravity pipelines and 150km of rising mains
- The servicing of three urban areas of Rotorua (Ngongotahā, city and eastern suburbs) and some rural lakeside communities
- Two wastewater treatment plants (Rotorua and Rotomā/Rotoiti), and
- A total of 81 wastewater pump stations

A key challenge for Council is managing the discharge from Rotorua Wastewater Treatment Plant. Te Arawa Lakes Trust, CNI Iwi Holdings and Council are working together towards a new long-term solution for the discharge of wai tātari (recovered wastewater) from the Rotorua Waste Water Treatment Plant ("WWTP"). The parties have agreed to a sustainable forest approach that will include the upgrading of the Council's wastewater treatment plant, and the short to medium-term continuation of discharging treated wastewater in Whakarewarewa Forest.

In addition, the Nitrogen limit on the discharge from the Wastewater Treatment Plant has the potential to limit future residential growth if it is not appropriately managed or offset. Council is investigating an environmental fee (or a transfer of nitrogen instead of payment) that will be used to offset the increasing load of nitrogen in the treatment plant discharge as the population and community grow.

Capital works are also scheduled over the next few years to expand the capacity of the existing Rotorua WWTP. A Wastewater Treatment Solution for Tarawera is expected to be completed in 2024.

In terms of the condition of the assets, about two thirds of the gravity mains are asbestos concrete pipes and are approaching, or have exceeded, their design life. About one quarter are plastic pipes and most are less than halfway through their design life. The rising (pressure) main network is relatively new. Most of the plastic pipes are less than a quarter through their design life. Council has entered into a long term contract with an experienced operator as a partner to manage the asset risks and provide cost certainty.

Storm Water

District-wide Council's stormwater supply assets consist of:

- A total 284km of urban reticulated pipelines
- A total of 153km of open drains
- Services three urban areas of Rotorua (Ngongotahā, city and eastern suburbs)
- Reporoa land drainage scheme

A significant issue for the future growth of the City is the capacity of the stormwater system to cope with heavy rainfall events especially when additional hard surfacing associated with anticipated growth and climate change are taken into consideration. A Stormwater Master Plan is being developed which focuses on community based storage solutions to address these issues in part. The first upgrades associated with this work are scheduled to start in late 2021 with upgrades to the Linton Park Dam.

The ability to take forward these projects is dependent on funding. There is funding within the LTP which has been supplemented by central government funding (CIP and DIA). In addition, as previously outlined, Council has recently applied for Infrastructure Acceleration Funding to facilitate growth related projects.

7.1.2 Land Transport Infrastructure

Council owns and manages land transport assets including over 1,000km of roads (sealed and unsealed), 82 road bridges, 385km of footpaths, 43km of shared paths, 5,061 streetlights and 10,555 signs. Rotorua has key routes that connect primary industry with the Port of Tauranga, is a tourist destination, and provides tourism links to Taupo, Waikato and Auckland. Rotorua Airport is regionally significant and serves both the district's tourism and business sectors.

The issues for land transport include:

- Maintaining long term investment in both the maintenance and renewal of the land transport network
- Adverse impacts from forestry vehicles on road condition
- Achieving greater mode shift from cars to public transport, walking and cycling
- Meeting legislation (including upcoming changes) including Road to Zero Strategy, Zero Carbon Act and the new Government Policy Statement on Land Transport (2021)
- Ensuring the road network is resilient to natural hazards.

Key projects include holistic development of an urban cycleway, upgrading of footpaths to cater for a range of users, resealing roads, replacing culverts and strengthening bridges.

7.1.3 Additional Infrastructure

Additional infrastructure is critical to the creation of well-functioning urban environments. In recent years, Council has actively worked with Waka Kotahi to align transport planning with urban growth planning.

There are four State Highways traversing the district. Waka Kotahi (NZTA) work in the roading network involves upgrades to State Highways, supporting Council in achieving modal shift through improved walking and cycling networks along with subsidising funding of the wider road network.

Currently Waka Kotahi is undertaking significant upgrades on both SH5 at Ngongotahā and SH30 along Te Ngae Road. The overall Waka Kotahi work programme aligns well with the work being undertaken by RLC to support growth.

There are 40 schools within the district. The majority are decile 1 – 4 schools. The Ministry of Education has been actively involved in recent growth planning.

There is relatively good access to open space in many parts of the city and wider district. However, the quality of the open space varies greatly across the district with some exceptional open spaces such as Government Gardens, contrasted with some of the smaller parks often in low socio-economic areas which tend to be of a much lower standard. There is also a deficit in quality sports fields.

Council is commencing a process to develop a Play, Active Recreation and Sport Strategy to identify priorities and guide future provision of play, active recreation and sport facilities across the Rotorua District.

7.2 Approach for Infrastructure Ready Capacity

The following sets out how data has been prepared by Council and modelled by M.E for this HBA, including key assumptions, to inform infrastructure ready housing capacity in Rotorua's urban environment.

7.2.1 Three Waters Development Infrastructure

Infrastructure master plans for each of the three waters were developed from two key inputs; the Infometrics 30 year projections and expected development areas. From this information infrastructure upgrade requirements to enable the corresponding growth were identified for the capital works programme which informs the infrastructure strategy.

Once funding levels and timing are confirmed as part of the LTP, the infrastructure ready capacity for each of the three waters can be calculated by working back from network expansion funding to the development areas and additional capacity that they provide.

The key outputs from the RLC supplied three waters infrastructure information identified the total number of HUEs served across Rotorua City. The HUE capacity information contained capacity limits that occurred across each catchment area (Central, Eastern and Ngongotahā) as well as capacity limits that occurred at

the total city level (in relation to the wastewater treatment plant). The information also showed the timing at which infrastructure would be extended geographically to each of the greenfield areas.

Council to include graphs or tables from Sean's analysis to show output of Council approach.

M.E have applied Council's infrastructure information to the capacity assessment in several key stages to limit the capacity within each area to that which is able to be supported by the existing and planned future infrastructure networks. It is noted that stormwater infrastructure constraints have been applied in the form of additional costs within the model as these are able to be mitigated, at additional cost, within the property or subdivision. The approach to stormwater costs are described in Section 7.3.6 of the Technical Report.

M.E have undertaken additional calculations on the water supply and wastewater infrastructure data supplied by Council to translate the amount of serviced capacity into potential additional dwellings able to be serviced by water supply and/or wastewater in each year, as required for input to the capacity assessment. Key steps for the water supply network included:

- **Estimate the total potential unmetered connections[65] able to be sustained within each catchment.** The total potential number of unmetered (residential) connections were estimated within each catchment in relation to the total potential capacity of the reservoir and network. The maximum potential water use was calculated from the minimum of the consented water take and the reservoir capacity (i.e., the aspect with the greatest constraint). The projected use (from Council's projections, which includes the effect of water demand management plans) was subtracted from these limits to identify the spare capacity. The spare volumetric capacity was converted to potential unmetered connections based on the average use of the projected connections. Together, these formed the total potential unmetered connections.
- **Convert potential connections to estimated dwelling capacity.** The existing 2020 base year relationship between total dwellings and total unmetered connections[66] within each catchment was identified through comparing the unmetered connections with our estimates of existing dwellings. These ratios were applied to the potential future connections to convert them into potential dwellings.
- **Calculation of net additional dwellings.** The existing dwellings were subtracted from the potential future dwellings to calculate the potential net additional dwellings within each catchment. This includes any existing surplus capacity within the networks as well as any further capacity added through future infrastructure investment included within the data.

Rotorua's wastewater treatment plant ("WWTP") serves the total urban environment and would therefore represent a potential constraint at the city level. Analysis was undertaken to estimate whether capacity within the WWTP would exceed the estimated water supply capacity limits and therefore form a city level constraint to be applied within the modelling.

The WWTP serves both household and business demand and demand arising from processing water from environmental events (e.g., flooding). The approach identified the level of demand generated from

[65] Unmetered connections also include business connections. These have been assumed to remain a constant proportion of connections through time and are therefore implicitly captured in the projected future capacity.

[66] The number of dwellings may exceed the number of unmetered connections as some connections serve multiple dwellings.

projected household use to understand the level of remaining capacity. Data on observed total wastewater processed was compared to data on total water used across the 2018 to 2020 period. This provided an estimate of the share of total water supplied that would be returned for treatment at the WWTP. This share was applied to the projected total water use to estimate the future household WWTP demand.

In the short to medium term (to 2026), household and business[67] demand is projected to amount to around 44% to 49% of the WWTP capacity. Significant investment is planned for 2027, increasing the capacity by 63%. Projected household demand would amount to around one-third (31% to 35%) of the total WWTP capacity from 2027 to 2050.

The remainder of the capacity is available to manage environmental demand that exceeds average daily demands such as flooding events. The WWTP has the dual function of serving demand from urban activity as well as having the requirement to have spare capacity to manage peak environmental events. Previous data show that this demand is highly concentrated into peak events, with very large variability relative to baseline average urban activity demand. There have been a few instances where these have exceeded the WWTP's capacity, resulting in the planned additional capacity being supplied in 2027.

Based on the above assessment, capacity within the WWTP has not been applied as a constraint, to a greater extent than the water supply capacity limits, to future household growth. Large capacity increases in 2027 mean future capacity beyond that required for urban activity demand will exceed the previous peak flow demand from environmental events generated over the past 8 year data period.

Prior to 2027, the change in the level of demand from projected urban growth is of a much smaller magnitude than the variability from environmental events. If the events of the same size as those creating a previous overflow occurred in this time period, the overflows would still occur irrespective of urban growth. For the purposes of the assessment, it has not been applied as a constraint prior to the upgrade as the plant capacity is able to process urban activity demand. The constraint is instead the ability to meet the demand for the much larger scale of the variability of environmental events.

In addition to the total catchment network servicing limits, further constraints were applied within the modelling to reflect the timing at which infrastructure networks are geographically extended into greenfield areas. The time at which each greenfield area was served by both wastewater and water supply was identified within the model from spatial infrastructure extension timing data supplied by Council. These were applied as limits within the model to determine when greenfield areas could contribute to RER capacity. If a greenfield area was estimated to be feasible in the current market, but not currently served by infrastructure, then it would not be able to contribute to RER capacity estimates until the year at which it is planned to be served by both water infrastructures.

The above approach provided capacity limits that were applied to the commercially feasible and plan enabled capacity in the subsequent estimation of the share that is estimated to be reasonably expected to be realised. The model was able to allocate feasible capacity within each catchment area within the infrastructure limits, taking account of catchment, citywide, and specific greenfield area spatial extension

[67] WWTP data includes business wastewater output. It has been assumed the ratio between household and business demand remains relatively constant through time and therefore business demand will grow at a similar rate to projected future household demand.

timings. The calculation of reasonably expected to be realised capacity is set out in Section **Error! Reference source not found.**.

7.2.2 Land Transport Infrastructure

The major growth projects for roading are included in the Waka Kotahi Programme.

Brief comment here that it was decided to exclude land transport infrastructure for this HBA. The aim is to include this in future HBA updates.

7.3 Infrastructure Serviced Capacity

Table 7.1 provides an estimate of the plan enabled and infrastructure serviced capacity for additional residential dwellings across Rotorua's urban area.[68] It shows that at the total urban area level there is significant infrastructure capacity for additional residential dwellings. The capacity estimates reflect the capacity within the wastewater and water supply networks through the key stages set out in Section **Error! Reference source not found.**.

The capacity information shows that there is currently capacity for an estimated additional 9,620 dwellings across Rotorua's urban area. Nearly three-quarters of the capacity (+6,960 dwellings) is within the Central catchments (Central and Western Reporting Areas). The remaining capacity is within the Eastern (+1,800 dwellings) and Ngongotahā (+860 dwellings) catchments.

The total capacity is projected to increase by a further 5,700 dwellings in the medium term, to reach a total capacity for an additional 15,330 dwellings by 2030. Most of the capacity increase is spread across the Central (+2,470 dwellings) and Eastern (+2,600 dwellings) catchments, with a smaller increase in Ngongotahā (+640 dwellings).

In the long term, the dwelling capacity increases by a further 2,290 dwellings to reach a total dwelling capacity of 17,620 additional dwellings. Around two-thirds of this further capacity increase occurs in the Central catchment (central and western reporting areas combined). In the long term, nearly two-thirds (62%; +11,010 dwellings) of the additional capacity is estimated to occur within the Central catchment area. This includes much of Rotorua's existing general suburban areas and the greenfield areas of urban expansion around the Pukehāngi Plan Change area and adjacent areas.

Significant additional capacity (+4,970 dwellings) is also provided within the Eastern catchment in the long term. This includes an existing surplus of 1,800 dwellings, and further additional capacity during the medium and long term. The eastern area includes large shares of Rotorua's future greenfield expansion capacity.

[68] These figures do not take into account commercial feasibility of that capacity.

Table 7.1 - Infrastructure Serviced Urban Housing Capacity by Catchment (Reporting Area) 2020-2050

Infrastructure Catchment	Additional Residential HUE Capacity within Urban Environment		
	Current (Short-Term)	Medium-Term	Long-Term
Central (incl. Western)	6,960	9,430	11,010
Eastern	1,800	4,390	4,970
Ngongotahā	860	1,510	1,640
Total Urban Area	**9,620**	**15,330**	**17,620**

Source: M.E and RLDC.

As discussed above, capacity within each area has been further limited by the timing of the geographical extensions of infrastructure networks into the greenfield areas. Table 7.2**Error! Reference source not found.** shows the proportion of estimated plan enabled and commercially feasible capacity within greenfield areas that is within the geographic extent of current or planned future infrastructure networks[69]. The feasible capacity within these areas is still limited within the assessment by the overall infrastructure network capacity that occurs at the catchment level that includes demand from across both the greenfield and existing urban areas.

Table 7.2 – Proportion of Estimated Commercially Feasible Capacity in Greenfield Areas within the Geographical Extent of Current and Planned Future Infrastructure Networks

Reporting Area	Short-Term (Current)	Medium-Term	Long-Term (Current Prices Scenario)	Long-Term (Market Growth Scenario)
	Commercially Feasible Capacity			
Central	-	-	-	-
Western	1,440	1,440	1,540	1,550
Eastern	1,530	1,530	2,020	2,300
Ngongotahā	-	-	1,100	2,110
Total Urban Environment	**2,970**	**2,970**	**4,660**	**5,960**
	Commercially Feasible Capacity with Infrastructure Coverage			
Central	-	-	-	-
Western	80	1,440	1,440	1,440
Eastern	-	1,460	2,020	2,300
Ngongotahā	-	-	160	190
Total Urban Environment	**80**	**2,900**	**3,620**	**3,930**

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

The table shows that there is currently an estimated feasible capacity of nearly 3,000 dwellings across the city's greenfield areas (refer Section 6). However, only an area with capacity for 80 dwelling is currently covered by existing infrastructure networks. In the medium term, infrastructure networks are planned to expand to cover most of the commercially feasible greenfield area (2,900 dwellings). However, the above catchment level analysis shows that around half of this occurs within the central (incl. western reporting

[69] Existing urban areas, including underutilised urban land, are within the extent of the existing infrastructure networks.

area) infrastructure catchment, which has no further capacity at the catchment level. The infrastructure-served greenfield capacity within the eastern area is within the eastern infrastructure catchment limit.

In the long term, further zoned greenfield land is provided within the eastern and Ngongotahā catchment areas. The additional greenfield area is estimated to be commercially feasible within Ngongotahā. However, most of this additional area does not have planned infrastructure coverage in the long term, hence capacity there is significantly impacted by infrastructure (as currently planned and identified).

The effect of the above capacity limits depends on the demand projected for those locations and whether any shortfalls in reasonably expected to be realised and infrastructure ready capacity can be met by surpluses in other nearby locations (and at an affordable price). The estimated infrastructure limits above have been applied within the analysis of reasonable expected to be realised capacity at both the spatial scale of areas covered by the extent of the network (greenfield and existing urban areas) as well as the application of catchment-wide capacity limits. This is discussed in the following section.

8 Serviced, Feasible & Reasonably Expected Capacity

This section contains the results of infrastructure serviced, feasible and reasonably expected to be realised dwelling capacity estimates in the short, medium, and long term, collectively referred to here as "RER" capacity. The results estimate the amount of commercially feasible capacity (calculated in Section 6) that is likely to represent RER capacity across each time period within each of the reporting areas. They take into account the infrastructure constraints across the urban environment outlined in Section 7 as well as the likely development patterns across the district's urban environment.

A detailed discussion on the approach used to model RER is contained in the supporting Technical Report. The approach estimates the commercially feasible development options that are likely to represent RER capacity. A detailed analysis of title formation and building consent data was undertaken to establish the recent patterns and relative proportions of development activity occurring across the district's existing and greenfield urban environment. Levels of development were then limited by infrastructure constraints within each area as set out in Section 7. The RER capacity reflects the likely yields in the commercially feasible greenfield areas, and the corresponding levels of development across different parts of the existing urban environment. It is not an estimate of up-take of capacity as this is driven by demand projections by dwelling type, location, and price band (discussed already in Section 2.6).

The following outlines estimated RER capacity within each time period across the district's urban environment. These form the inputs into the subsequent sufficiency assessment in Section 9 of this HBA.

8.1 Short Term Serviced, Feasible & RER Capacity

The estimated RER capacity in the short term is shown in Table 8.1. There is an estimated, infrastructure-served, commercially feasible RER capacity of around 1,700 additional dwellings in the short term.

Half (50%; 800 dwellings) of the short term RER capacity is within areas of underutilised urban land[70], and a small amount in greenfield areas. These areas typically involve larger scale development across multiple lots or dwelling units. RER capacity within the underutilised urban land is spread over the main suburban areas of the City across the Eastern, Western and Ngongotahā reporting areas. Capacity in these areas is all in detached dwellings due to the current District Plan site size requirements, meaning that only standalone dwellings are feasible to construct with a full site.

While there is an estimated feasible capacity of nearly 3,000 dwellings within the greenfield areas, only a small portion is currently served by infrastructure and can therefore be included as RER capacity in the short term. This is located within the Western reporting area, with capacity for an additional 80 dwellings.

[70] Refer Figure 6.4 of the Technical Report for a map of residential land by development type.

The rest of the RER capacity is within the brownfield areas of the existing urban area. Approximately three-quarters (76%) of this capacity is located within the central suburban areas of the Western and Central reporting areas. The remaining brownfield RER capacity is located within the Eastern (100 dwellings) and Ngongotahā (80 dwellings) reporting areas.

The RER capacity within Rotorua is heavily weighted toward standalone dwellings on full sites, largely due to the planning minimum site size requirements across the Residential 1 Zone. While this form of development is well established within the Rotorua market, there is limited ability for the market to move toward smaller, higher density dwellings due to these planning requirements across most of the general suburban area. There is likely to be demand among developers to construct smaller, cheaper dwellings, but these are not feasible to construct on larger sites.

The assessment has found that brownfield RER capacity is limited within the Central reporting area due to limitations in the feasibility of capacity. A lower share of the plan enabled detached dwellings are feasible within the Central area than other reporting areas, flowing through into lower rates of RER. Feasibility is somewhat limited by the larger site size requirements across this area. It is likely that feasibility would improve with smaller site sizes where higher returns could occur through developing these more central sites at a greater density with more dwellings.

Most of the RER capacity within the Central reporting area occurs as attached dwellings. This includes a mixture of lower density attached dwellings within the Residential 2 (medium density) Zone, and apartment dwellings within the City Centre. It is likely that, in the short term, a greater share of this will occur as lower density duplex/terraced housing within the Residential 2 Zone as the apartment market is not well established within Rotorua.

Table 8.1 – Short Term Serviced, Feasible and RER Urban Dwelling Capacity

		RER Dwelling Capacity		
Reporting Area	**Area Type**	Detached	Attached	Total
Eastern	Greenfield and Underutilised Urban Land	300	-	300
Eastern	Existing Urban Brownfield	100	-	100
Eastern	**Total**	**400**	**-**	**400**
Central	Greenfield and Underutilised Urban Land	-	90	90
Central	Existing Urban Brownfield	30	200	300
Central	**Total**	**30**	**300**	**400**
Western	Greenfield and Underutilised Urban Land	300	-	300
Western	Existing Urban Brownfield	400	-	400
Western	**Total**	**600**	**-**	**600**
Ngongotaha	Greenfield and Underutilised Urban Land	200	-	200
Ngongotaha	Existing Urban Brownfield	80	-	80
Ngongotaha	**Total**	**300**	**-**	**300**
TOTAL Urban Env.	**Greenfield and Underutilised Urban Land**	**700**	**90**	**800**
TOTAL Urban Env.	**Existing Urban Brownfield**	**600**	**200**	**800**
TOTAL Urban Env.	**Total**	**1,300**	**300**	**1,700**

Source: M.E RLDC Capacity Model 2021.

Table 8.2 shows that nearly one-quarter (23%) of the commercially feasible capacity and 7% of the plan enabled capacity is RER and infrastructure-served in the short term. The share of commercially feasible greenfield capacity that is RER is lower as only a small portion is currently served by infrastructure.

Within the brownfield areas, around 50% of the feasible detached dwellings are estimated to be RER, amounting to 8% of the plan enabled capacity. Lower shares of the feasible brownfield attached dwellings are RER due to the higher density nature of these typologies within the plan (i.e., apartments) and the limited establishment of this form of development within the Rotorua market. Overall, only 10% of the feasible attached dwellings are estimated to be RER, and 2% of the plan enabled dwellings. Although a reasonable proportion of these dwellings are feasible, it is less likely they will be taken up due to the limited operation of the apartment dwelling market.

Table 8.2 – Share of Plan Enabled and Commercially Feasible Capacity that is Infrastructure Served and RER: Short Term

		RER as share of Commercially Feasible			RER as share of PEC		
Reporting Area	**Area Type**	Detached	Attached	Total	Detached	Attached	Total
Eastern	Greenfield and Underutilised Urban Land	16%	0%	15%	7%	0%	7%
Eastern	Existing Urban Brownfield	50%	0%	50%	6%	0%	6%
Eastern	**Total**	**20%**	**0%**	**19%**	**7%**	**0%**	**7%**
Central	Greenfield and Underutilised Urban Land	0%	100%	100%	0%	100%	98%
Central	Existing Urban Brownfield	41%	10%	11%	4%	3%	3%
Central	**Total**	**41%**	**13%**	**14%**	**4%**	**3%**	**3%**
Western	Greenfield and Underutilised Urban Land	15%	0%	15%	13%	0%	13%
Western	Existing Urban Brownfield	51%	0%	51%	9%	0%	8%
Western	**Total**	**26%**	**0%**	**26%**	**10%**	**0%**	**10%**
Ngongotaha	Greenfield and Underutilised Urban Land	100%	0%	100%	76%	0%	76%
Ngongotaha	Existing Urban Brownfield	50%	0%	50%	7%	0%	7%
Ngongotaha	**Total**	**78%**	**0%**	**78%**	**21%**	**0%**	**19%**
TOTAL Urban Env.	**Greenfield and Underutilised Urban Land**	**21%**	**55%**	**22%**	**13%**	**55%**	**14%**
TOTAL Urban Env.	**Existing Urban Brownfield**	**50%**	**10%**	**23%**	**8%**	**2%**	**5%**
TOTAL Urban Env.	**Total**	**28%**	**13%**	**23%**	**10%**	**3%**	**7%**

Source: M.E RLDC Capacity Model 2021.

8.1 Medium Term Serviced, Feasible and RER Capacity

There is an estimated plan enabled, commercially feasible, infrastructure served RER capacity of around 4,800 additional dwellings estimated across Rotorua's urban environment in the medium term (Table 8.3). Overall, this equates to around 20% of the plan enabled capacity being RER, and two-thirds (67%) of the commercially feasible capacity (Table 8.4).

Around three-quarters (76%; 3,700 dwellings) of the RER capacity is estimated to occur within the greenfield areas and areas of underutilised urban land. The largest areas of these are within the Eastern and Western reporting areas, which contain the city's main areas of infrastructure-served greenfield expansion. The large share of greenfield capacity within these reporting areas means that they are projected to contain the dominant share (81%) of Rotorua's RER capacity in the medium term.

In the medium term, nearly all of the projected feasible greenfield areas are served by infrastructure, resulting in a high share of the feasible capacity as RER. With the exception of the underutilised Residential 2 Zone land within the Central reporting area, all other areas of this capacity are projected to contain detached dwellings.

The remaining RER capacity of an additional 1,200 dwellings is projected to occur within the brownfield areas of the existing urban area. The largest shares of these are located within the Central and Western reporting areas. Brownfield RER capacity within the Western area consists of detached dwellings on full sites, while RER capacity within the Central area is nearly all in attached dwellings. There are smaller amounts of brownfield RER capacity within the Eastern (100 dwellings) and Ngongotahā (100 dwellings) reporting areas.

Table 8.4 shows that overall, around two-thirds of the commercially feasible capacity is projected to be RER in the medium term, and 20% of the plan enabled capacity. Within this, much lower shares of the brownfield capacity is projected to be RER. In part, this is due to the application of current prices within the feasibility modelling (due to the NPS-UD requirements), meaning a lower share of the plan enabled capacity is projected to be feasible.

The modelling estimates that only small shares of the higher density attached dwellings are likely to be RER capacity within the medium-term. This is because a high share of this capacity is within higher density apartment dwellings, which are not yet well-established within the Rotorua market. The brownfield attached dwellings RER capacity within the Central Reporting Area amounts to 20% of commercially feasible capacity, and 5% of the plan enabled capacity.

Table 8.3 – Medium Term Serviced, Feasible and RER Urban Dwelling Capacity

		RER Dwelling Capacity		
Reporting Area	**Area Type**	Detached	Attached	Total
Eastern	Greenfield and Underutilised Urban Land	1,700	-	1,700
Eastern	Existing Urban Brownfield	100	-	100
Eastern	**Total**	**1,900**	**-**	**1,900**
Central	Greenfield and Underutilised Urban Land	-	90	90
Central	Existing Urban Brownfield	30	500	500
Central	**Total**	**30**	**600**	**600**
Western	Greenfield and Underutilised Urban Land	1,600	-	1,600
Western	Existing Urban Brownfield	400	-	400
Western	**Total**	**2,100**	**-**	**2,100**
Ngongotaha	Greenfield and Underutilised Urban Land	200	-	200
Ngongotaha	Existing Urban Brownfield	100	-	100
Ngongotaha	**Total**	**300**	**-**	**300**
TOTAL Urban Env.	**Greenfield and Underutilised Urban Land**	**3,600**	**90**	**3,700**
TOTAL Urban Env.	**Existing Urban Brownfield**	**700**	**500**	**1,200**
TOTAL Urban Env.	**Total**	**4,300**	**600**	**4,800**

Source: M.E RLDC Capacity Model 2021.

Table 8.4 – Share of Plan Enabled and Commercially Feasible Capacity that is Infrastructure Served and RER: Medium Term

		RER as share of Commercially Feasible			RER as share of PEC		
Reporting Area	**Area Type**	Detached	Attached	Total	Detached	Attached	Total
Eastern	Greenfield and Underutilised Urban Land	100%	0%	96%	46%	0%	45%
Eastern	Existing Urban Brownfield	60%	0%	60%	8%	0%	8%
Eastern	**Total**	**95%**	**0%**	**92%**	**34%**	**0%**	**33%**
Central	Greenfield and Underutilised Urban Land	0%	100%	100%	0%	100%	98%
Central	Existing Urban Brownfield	49%	20%	21%	5%	5%	5%
Central	**Total**	**49%**	**23%**	**24%**	**5%**	**6%**	**6%**
Western	Greenfield and Underutilised Urban Land	100%	0%	100%	86%	0%	86%
Western	Existing Urban Brownfield	61%	0%	61%	11%	0%	10%
Western	**Total**	**88%**	**0%**	**88%**	**34%**	**0%**	**32%**
Ngongotaha	Greenfield and Underutilised Urban Land	100%	0%	100%	76%	0%	76%
Ngongotaha	Existing Urban Brownfield	60%	0%	60%	8%	0%	8%
Ngongotaha	**Total**	**83%**	**0%**	**83%**	**22%**	**0%**	**20%**
TOTAL Urban Env.	**Greenfield and Underutilised Urban Land**	**100%**	**55%**	**98%**	**60%**	**55%**	**60%**
TOTAL Urban Env.	**Existing Urban Brownfield**	**60%**	**20%**	**33%**	**9%**	**5%**	**7%**
TOTAL Urban Env.	**Total**	**90%**	**22%**	**67%**	**31%**	**6%**	**20%**

Source: M.E RLDC Capacity Model 2021.

8.2 Long Term Serviced, Feasible & RER Capacity

This section contains the RER capacity in the long term for the Current Prices and Market Growth Scenarios (as discussed in Section 6). The RER capacity differs under the scenarios due to the differences in commercial feasibility of capacity when allowance is made for market growth.

8.2.1 Current Prices Scenario

Table 8.5 shows the estimated RER capacity in the long term by location within Rotorua's urban environment. In total, there is an estimated RER capacity of around 6,100 additional dwellings. Around three-quarters (76%; 4,600 dwellings) of this capacity is within the Eastern and Western reporting areas as they contain the city's main areas of infrastructure-served greenfield capacity. RER capacity in these areas is entirely made up of detached dwellings due to the underlying planning minimum site size requirements encouraging the delivery of standalone dwellings.

Under the Current Prices Scenario, greenfield areas and underutilised urban land account for nearly three-quarters (72%; 4,400 dwellings) of RER capacity. The remaining capacity (1,700 dwellings) occurs within brownfield areas. Approximately half of the brownfield capacity is in attached dwellings within the Central reporting area. These are likely to be a mixture of medium density duplex/terraced housing and higher density apartment dwellings. However, under the Current Prices Scenario, long term uptake of apartment dwellings is limited by the application of 2020 market conditions where these are not well established.

The level of RER within the existing urban area is limited under the Current Prices Scenario by no changes in commercial feasibility of existing capacity over the long term. Changes within the RER capacity occur through increased levels of uptake of currently feasible development options. These are limited by other factors that may prevent these development options becoming available to the market and therefore forming part of the RER capacity. As such, RER capacity within the brownfield areas amounts to around half of the commercially feasible capacity. Within detached dwellings, it is limited to 75% of the feasible dwellings. Within attached dwellings, RER capacity amounts to 35% of feasible capacity and 8% of plan

enabled capacity, taking into consideration the current level of market activity within higher density development options.

In total, Table 8.6 shows that around two-thirds of the commercially feasible capacity in the urban environment is estimated to be RER, and 21% of the plan enabled capacity. Within this, there is a decrease in the shares of greenfield commercially feasible and plan enabled capacity that is projected to be RER in comparison to the medium term. This is due to the addition of further zoned capacity that is either feasible and not served by infrastructure (i.e., within Ngongotahā) or not feasible due to being leasehold land (i.e., within the Eastern reporting area).

Table 8.5 – Long Term Serviced, Feasible and RER Urban Dwelling Capacity: Current Prices Scenario

		RER Dwelling Capacity		
Reporting Area	**Area Type**	Detached	Attached	Total
Eastern	Greenfield and Underutilised Urban Land	2,300	-	2,300
Eastern	Existing Urban Brownfield	200	-	200
Eastern	**Total**	**2,500**	**-**	**2,500**
Central	Greenfield and Underutilised Urban Land	-	90	90
Central	Existing Urban Brownfield	40	800	900
Central	**Total**	**40**	**900**	**1,000**
Western	Greenfield and Underutilised Urban Land	1,600	-	1,600
Western	Existing Urban Brownfield	600	-	600
Western	**Total**	**2,200**	**-**	**2,200**
Ngongotaha	Greenfield and Underutilised Urban Land	400	-	400
Ngongotaha	Existing Urban Brownfield	100	-	100
Ngongotaha	**Total**	**500**	**-**	**500**
TOTAL Urban Env.	**Greenfield and Underutilised Urban Land**	**4,300**	**90**	**4,400**
TOTAL Urban Env.	**Existing Urban Brownfield**	**900**	**800**	**1,700**
TOTAL Urban Env.	**Total**	**5,200**	**900**	**6,100**

Source: M.E RLDC Capacity Model 2021.

Table 8.6 – Share of Plan Enabled and Commercially Feasible Capacity that is Infrastructure Served and RER: Long Term Current Prices Scenario

		RER as share of Commercially Feasible			RER as share of PEC		
Reporting Area	**Area Type**	Detached	Attached	Total	Detached	Attached	Total
Eastern	Greenfield and Underutilised Urban Land	100%	0%	100%	38%	0%	38%
Eastern	Existing Urban Brownfield	75%	0%	75%	9%	0%	9%
Eastern	**Total**	**98%**	**0%**	**98%**	**31%**	**0%**	**31%**
Central	Greenfield and Underutilised Urban Land	0%	100%	100%	0%	100%	98%
Central	Existing Urban Brownfield	62%	35%	36%	7%	8%	8%
Central	**Total**	**62%**	**37%**	**38%**	**7%**	**9%**	**8%**
Western	Greenfield and Underutilised Urban Land	94%	0%	94%	82%	0%	82%
Western	Existing Urban Brownfield	76%	0%	76%	14%	0%	12%
Western	**Total**	**89%**	**0%**	**89%**	**36%**	**0%**	**34%**
Ngongotaha	Greenfield and Underutilised Urban Land	29%	0%	29%	14%	0%	14%
Ngongotaha	Existing Urban Brownfield	75%	0%	75%	11%	0%	10%
Ngongotaha	**Total**	**34%**	**0%**	**34%**	**13%**	**0%**	**13%**
TOTAL Urban Env.	**Greenfield and Underutilised Urban Land**	**81%**	**100%**	**81%**	**40%**	**100%**	**41%**
TOTAL Urban Env.	**Existing Urban Brownfield**	**75%**	**35%**	**48%**	**12%**	**8%**	**9%**
TOTAL Urban Env.	**Total**	**80%**	**37%**	**68%**	**28%**	**8%**	**21%**

Source: M.E RLDC Capacity Model 2021.

8.2.2 Market Growth Scenario

The RER capacity increases to 9,400 additional dwellings in the long term under the Market Growth Scenario (Table 8.7). The largest increase in capacity between the two scenarios occurs within the brownfield capacity as a much greater range of development options are projected to become commercially feasible through time with market growth. Increases in greenfield RER also occur, but to a lesser extent as high shares of the greenfield capacity are already feasible under the Current Prices Scenario.

Under the Market Growth Scenario, 55% of the RER capacity (5,200 dwellings) is projected to occur within the greenfield areas and underutilised urban land, and 45% within the existing urban brownfield areas (4,200 dwellings). An additional 500 dwelling greenfield capacity within the Eastern reporting area is projected to become feasible and form part of the RER. Additional greenfield capacity is also projected to become feasible within the Ngongotahā reporting area, however, most of this is not planned to be served by infrastructure and therefore excluded from the RER capacity.

Increases in capacity within the brownfield area occur under the Market Growth Scenario as a greater range of the plan enabled capacity is projected to become feasible with market growth. The largest increase is projected to occur within the Western reporting area, with smaller increases in the Eastern and Ngongotahā reporting areas. Overall, the Western reporting area contains the largest amount of RER brownfield capacity, all of which is projected to be in detached dwellings.

Brownfield capacity within the Central reporting area is still limited under this scenario due the minimum site size planning provisions that occur across most of the suburban area. The feasibility of capacity within these central areas would be likely to increase through providing for smaller site sizes so higher returns could be achieved through developing a greater number of higher density dwellings within these areas. Currently, the plan enabled capacity for higher density dwellings is largely concentrated into the commercial zones in the form of apartments, with a limited Residential 2 Zone area providing for duplex/terraced housing. The RER capacity of apartments, albeit higher under the Market Growth Scenario, is still likely to provide limited RER capacity due to the very limited nature of this market within the Rotorua commercial developer sector (even with allowance for some supply shifts over the long term).

Under the Market Growth Scenario, it is projected that around 45% of commercially feasible capacity is likely to be RER and around one-third (32%) of plan enabled capacity (Table 8.8). These shares are lower within the existing urban brownfield areas. Under the current planning provisions, it is unlikely that the RER within the existing urban area would increase significantly beyond these levels. RER capacity within the brownfield detached dwellings amounts to 75% of feasible capacity. It is unlikely to approach 100% of feasible capacity due to the presence of other factors that would result in these development opportunities not becoming available to the market.

Although the RER share of feasible brownfield attached dwellings is lower, at 15%, this is also unlikely to substantially increase due to the composition of this capacity. The modelling has shown that around 90% of the feasible attached dwelling capacity is in the form of apartments. There is a feasible capacity of around 1,200 duplex/terraced housing dwellings, which are much more likely to get developed. If around three quarters of this feasible capacity were developed, then this would still result in around 600 apartment dwellings. Any further increases in the share of feasible attached dwellings as RER capacity would

necessarily require the uptake of further apartment dwellings. This is considered unlikely to occur as this market is not well established and would require a large market shift over the long term.

Table 8.7 - Long Term Serviced, Feasible and RER Urban Dwelling Capacity: Market Growth Scenario

		RER Dwelling Capacity		
Reporting Area	**Area Type**	Detached	Attached	Total
Eastern	Greenfield and Underutilised Urban Land	2,800	-	2,800
Eastern	Existing Urban Brownfield	500	-	500
Eastern	**Total**	**3,300**	**-**	**3,300**
Central	Greenfield and Underutilised Urban Land	-	90	90
Central	Existing Urban Brownfield	100	1,500	1,600
Central	**Total**	**100**	**1,600**	**1,700**
Western	Greenfield and Underutilised Urban Land	1,900	-	1,900
Western	Existing Urban Brownfield	1,600	-	1,600
Western	**Total**	**3,500**	**-**	**3,500**
Ngongotaha	Greenfield and Underutilised Urban Land	500	-	500
Ngongotaha	Existing Urban Brownfield	400	-	400
Ngongotaha	**Total**	**900**	**-**	**900**
TOTAL Urban Env.	**Greenfield and Underutilised Urban Land**	**5,100**	**90**	**5,200**
TOTAL Urban Env.	**Existing Urban Brownfield**	**2,700**	**1,500**	**4,200**
TOTAL Urban Env.	**Total**	**7,800**	**1,600**	**9,400**

Source: M.E RLDC Capacity Model 2021.

Table 8.8 - Share of Plan Enabled and Commercially Feasible Capacity that is Infrastructure Served and RER: Long Term Market Growth Scenario

		RER as share of Commercially Feasible			RER as share of PEC		
Reporting Area	**Area Type**	Detached	Attached	Total	Detached	Attached	Total
Eastern	Greenfield and Underutilised Urban Land	100%	0%	100%	45%	0%	45%
Eastern	Existing Urban Brownfield	75%	0%	75%	30%	0%	30%
Eastern	**Total**	**95%**	**0%**	**95%**	**42%**	**0%**	**42%**
Central	Greenfield and Underutilised Urban Land	0%	100%	98%	0%	100%	98%
Central	Existing Urban Brownfield	64%	15%	16%	19%	14%	14%
Central	**Total**	**64%**	**16%**	**17%**	**19%**	**15%**	**15%**
Western	Greenfield and Underutilised Urban Land	95%	0%	95%	95%	0%	95%
Western	Existing Urban Brownfield	76%	15%	76%	40%	0%	37%
Western	**Total**	**85%**	**15%**	**85%**	**57%**	**0%**	**54%**
Ngongotaha	Greenfield and Underutilised Urban Land	19%	0%	19%	18%	0%	18%
Ngongotaha	Existing Urban Brownfield	75%	15%	73%	36%	3%	33%
Ngongotaha	**Total**	**30%**	**15%**	**30%**	**23%**	**3%**	**23%**
TOTAL Urban Env.	**Greenfield and Underutilised Urban Land**	**72%**	**100%**	**72%**	**48%**	**100%**	**48%**
TOTAL Urban Env.	**Existing Urban Brownfield**	**75%**	**15%**	**31%**	**35%**	**14%**	**22%**
TOTAL Urban Env.	**Total**	**73%**	**16%**	**45%**	**42%**	**14%**	**32%**

Source: M.E RLDC Capacity Model 2021.

8.3 Serviced, Feasible & RER Capacity Summary

The modelling within this section has estimated the future patterns of RER capacity across Rotorua's urban environment. The estimates of RER capacity take into account the zoned potential, the commercial feasibility of development, the infrastructure constraints by location and the likely patterns of development across existing urban areas and greenfield urban expansion.

The assessment has found that RER increases through time, from a total of 1,700 additional dwellings in the short term, to 4,800 dwellings in the medium term, to 9,400 dwellings in the long term. Changes in the RER occur as infrastructure networks are extended out to greenfield growth areas, and further zoned provision is made, with corresponding increases in uptake within the existing urban area. More capacity becomes feasible through time in the long term Market Growth Scenario, increasing the RER capacity.

In the short term, there are higher shares of RER occurring within the existing urban area due to the limited infrastructure provision within greenfield areas and is a continuation of recent development patterns across the city. Most of the existing urban area RER is projected to occur in detached housing due to planning provisions and established market patterns. Attached housing RER is largely focused on duplex or terraced housing, with only small uptake within apartments. This is constrained by the small extent of the zoned area that effectively provides for the duplex/terraced housing, and the limited operation of the apartment market within Rotorua. RER within the Central reporting area is constrained by the lower feasibility of capacity, which is focussed on standalone dwellings on larger sites. The feasibility would be likely to increase in this area with an expanded provision for smaller non-apartment attached dwellings (e.g., duplexes/terraced housing) on smaller site sizes.

RER capacity is modelled to increase in the medium term as more infrastructure is supplied to the feasible greenfield areas. There is a decrease in the share of RER occurring within the existing urban area as a result of greater greenfield supply, but also due to the increased level of absorption of currently feasible capacity where easier development options get taken up first. The medium term modelling does not allow for market growth, meaning the commercially feasible options available to RER reflect only what is currently feasible within the market.

Within the long term, there are further increases to RER. Some additional greenfield land is supplied together with further increases to the infrastructure networks. However, a significant proportion of the additional greenfield land is not projected to be feasible due to the leasehold status (in the Eastern reporting area) or served by infrastructure (in the Ngongotahā reporting area).

In the long term, the level of RER capacity within the existing urban area depends significantly on the modelled growth scenario. Existing urban RER capacity is limited under the Current Prices Scenario as the commercially feasible capacity is constrained to include only capacity that is currently feasible. The uptake is therefore limited as saturation of the detached dwelling capacity option is reached. Attached dwelling RER is also limited by the current market conditions, where uptake is mainly limited to the currently feasible typologies (i.e., duplexes/terraced housing). There is only small RER within the higher density apartment capacity as this market is not currently established within Rotorua.

Higher levels of RER capacity occur in the long term within the existing urban area under the Market Growth Scenario. Greater shares of the plan enabled capacity become feasible through time, with market growth, meaning that greater rates of uptake can occur as RER capacity. This scenario also allows for some growth in the apartment market. However, this is limited to a reasonable extent (relative to the projected market demand shift required) and reflects only a small share of the total plan enabled development options.

Overall, RER in Rotorua is limited by the level of infrastructure-served, feasible greenfield land. This occurs across all three time periods but is particularly constraining within the short term. RER is also limited within the existing urban area due to the existing planning provisions that apply across most of the general suburban areas. A relatively large minimum site size requirement prevents the delivery of smaller dwellings, such as duplexes or terraced housing, across much of the urban area. This constrains the feasibility of sites

within the Central reporting area where the development of standalone dwellings on full sites would generate lower returns than developing sites in these Central areas to contain a greater number of dwellings. The minimum site size requirement is also likely to lower the potential RER that could occur across other parts of the district's suburban areas where smaller dwellings on smaller sites are likely to be feasible and better align with demand for cheaper dwellings.

While the overall capacity for additional dwellings within the existing urban environment is relatively large in comparison to demand, a high share of this capacity is for apartment dwellings. This market is not well established within Rotorua and is unlikely to make a sizeable contribution to meeting demand. The RER within the existing urban environment is limited by reasonable levels of uptake within the higher density apartment capacity to avoid over-reliance on this capacity.

9 Sufficiency of Housing Capacity

This section assesses the sufficiency of capacity to meet future urban dwelling demand across the district's urban environment. It compares the level of RER capacity estimated in Section 8 with the demand for urban dwellings in Section Error! Reference source not found..6. Our approach to the sufficiency assessment and the sufficiency results by dwelling type and location across the district's urban environment in the short, medium, and long term are contained in the sub-sections below.

9.1 Approach

Clause 3.2 of the NPS-UD specifies that RLC must provide at least sufficient development capacity in its urban environment "to meet expected demand for housing: (a) in existing and new urban areas; and (b) for both standalone dwellings and attached dwellings; and (c) in the short term, medium term, and long term". That development capacity must be plan enabled, infrastructure ready, feasible and reasonably expected to be realised and include the appropriate competitiveness margin. The requirement to assessment sufficiency for housing development capacity is also set out in clause 3.27 of the NPS-UD.

To test whether the Rotorua urban environment provides at least sufficient capacity to meet projected demand, M.E has used the outputs from the RER assessment (in Section 8). These identify the RER dwelling capacity that is feasible, expected to be realised and constrained by infrastructure limitations. This is then compared to the net additional demand (using the medium growth scenario), including a margin, for the dwellings within the urban environment. The demand includes a 20% margin in the short and medium term and a 15% margin in the long term. The supporting Technical Report contains additional sufficiency assessment tables for the high demand growth scenario.

Sufficiency is assessed by dwelling type (detached vs. attached) by each location across the urban environment. An assessment of sufficiency by dwelling value band is contained within the Impact of Planning and Infrastructure on Future Housing Affordability section (Section 10.3) and not here. It is a more nuanced model of sufficiency that differs from the assessments below which compare total demand with total capacity, irrespective of price and whether the dwelling if for resident households or holiday homes or is owned or un-owned. The assessment in Section 10.3 considers the demand by non-owner households for dwellings at different prices based on what they can afford, compared to current and projected future dwelling supply by price band.

9.2 Urban Environment Sufficiency by Type and Location

The following sub-sections contain the sufficiency assessment results by dwelling type and location in the urban environment in the short, medium, and long term. The first section of each table shows the projected future demand for detached and attached dwellings within each location. This includes the competitiveness margin on demand, which is applied to the net increase in demand across the assessment time period. The

middle section of each table then shows the potential future dwelling estate. This includes the existing dwelling estate together with the RER capacity estimated in Section 8.

The final section of the table contains the sufficiency analysis. It shows the net difference in the potential future estate to the future demand (with a margin). Net differences greater than zero suggest a surplus in capacity, while negative net differences indicate a potential shortfall in capacity.

9.2.1 Short Term Sufficiency

Table 9.1 contains the sufficiency assessment for Rotorua's urban environment in the short term (2020-2023). In total, it shows that there is a total demand for 28,260 future urban dwellings. This includes the existing dwelling demand (including the latent demand) and the projected future demand (including a demand margin). There is a total projected future dwelling estate of 26,370 urban dwellings, including existing and potential future dwellings. This equates to a projected total shortfall of 1,890 dwellings within the short term.

Table 9.1 shows that the projected shortfall occurs across the extent of Rotorua's main urban area to include the Central, Western and Eastern reporting areas. The largest shortfalls occur within the Western (-940 dwellings) and Central (-700 dwellings) reporting areas, with a smaller shortfall of 260 dwellings in the Eastern reporting area. The projected future dwelling estate matches the projected demand in Ngongotahā, resulting in no surplus or shortfall.

Shortfalls are projected to occur across both the detached and attached dwelling typologies. The largest shortfalls are projected for detached dwellings due to the higher shares of demand for this typology. Shortfalls are also projected to occur across the attached dwelling typologies and are due to the RER constraints in the type of attached dwelling capacity demanded.

Within the short term, the shortfalls are predominantly due to limitations in the level of infrastructure provision within greenfield land. There is only an infrastructure-served feasible capacity for around 80 dwellings within Rotorua's greenfield areas (located within the Western reporting area), with sizeable areas of feasible greenfield land not currently served by infrastructure[71]. However, underutilised urban land (which is also commercially feasible) is currently served by infrastructure, and can meet some of this demand (as included within the assessment).

Minimum site size planning requirements are also likely to contribute to the short term shortfall within the existing urban area. This particularly occurs within attached dwellings where demand is likely to be concentrated into medium density dwellings such as duplexes and terraced housing, which are less feasible within the current provisions.

The inclusion of a latent demand for an additional 1,500 dwellings contributes to the projected shortfall within the short term. However, even if this was excluded, the shortfall would still be projected to occur, albeit at a smaller scale.

[71] The NPS-UD requires all short term RER capacity to be currently served by infrastructure. Additional areas of greenfield land are projected to be served by infrastructure by 2023, however, this can only be included within the medium term sufficiency assessment.

Table 9.1 – Short Term Sufficiency of RER Dwelling Capacity - Rotorua Urban Environment

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	4,810	3,400	8,210	4,250	3,260	7,510	- 560	- 140	- 700
Western	11,690	1,290	12,990	10,980	1,070	12,050	- 710	- 230	- 940
Eastern	4,510	300	4,810	4,320	230	4,550	- 190	- 70	- 260
Ngongotahā	2,050	210	2,260	2,100	170	2,260	40	- 40	-
Total Urban Environment	23,070	5,200	28,260	21,650	4,720	26,370	**- 1,420**	**- 480**	**- 1,890**

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. Medium Growth Future. Current Prices Scenario.*

9.2.2 Medium Term Sufficiency

Table 9.2**Error! Reference source not found.** contains the sufficiency assessment for Rotorua's urban environment in the medium term (2020-2030). It shows that there is a projected total demand for 30,950 future urban dwellings. This includes the existing dwelling demand (including the latent demand) and the projected future demand (including a demand margin). There is a total projected future dwelling estate of 29,550 urban dwellings, including existing and potential future dwellings. This equates to a projected total shortfall of 1,400 dwellings within the medium term.

There are projected shortfalls across most reporting areas, with the exception of the Eastern reporting area, where there is a projected surplus of around 700 dwellings. This is composed of a surplus of 880 detached dwellings and a shortfall of 180 attached dwellings. There are projected shortfalls across most other combinations of dwelling typologies and locations.

The projected shortfall is smaller in the medium term primarily due to the additional infrastructure provision within feasible greenfield areas. In the medium term, RER capacity within the feasible greenfield areas increases by around 2,800 additional dwellings from infrastructure extensions in the Western and Eastern reporting areas.

Limitations of RER within the existing urban area are likely to be contributing to the projected shortfalls in capacity. Constraints in the delivery of smaller dwellings due to minimum site size requirements are likely to reduce RER capacity, contributing to shortfalls. This can be seen through the larger projected shortfalls for attached dwellings, as well as the largest shortfalls within the Central reporting area. Minimum site size requirements are likely to be affecting the commercial feasibility of capacity within this area, where feasibility is likely to increase through greater dwelling yields and increased density. Although the modelling shows there are feasible apartment options within this area, the apartment market is not well established within Rotorua and is therefore considered unlikely to contribute substantially to meeting the shortfall in attached dwellings even in the medium term.

It is important to note however, that this scenario does not allow for any market growth due to the NPS-UD requirement to use current prices in the medium term. If growth were allowed, then more capacity would become feasible (and therefore become RER), but it is unlikely that this would completely eliminate the shortfall.

Table 9.2 – Medium Term Sufficiency of RER Dwelling Capacity - Rotorua Urban Environment

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	5,240	3,850	9,090	4,250	3,490	7,750	- 980	- 360	- 1,340
Western	12,410	1,600	14,010	12,420	1,070	13,490	20	- 530	- 520
Eastern	4,920	410	5,330	5,800	230	6,030	880	- 180	700
Ngongotahā	2,250	270	2,520	2,110	170	2,280	- 140	- 100	- 240
Total Urban Environment	24,820	6,130	30,950	24,590	4,960	29,550	**- 230**	**- 1,170**	**- 1,400**

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. Medium Growth Future*

9.2.3 Long Term Sufficiency

The long term (2020-2050) sufficiency assessment for Rotorua's urban environment is contained in Table 9.3 for the Current Prices Scenario and Table 9.4 for the Market Growth Scenario. There is a projected demand for 34,450 dwellings under both scenarios, although the sufficiency differs due to differences in the projected future dwelling estate.

Under the Current Prices Scenario, there is a projected future dwelling estate of 30,820 dwellings, including existing and future potential (RER) dwellings. When compared to the projected demand, this equates to a shortfall of around 3,630 dwellings.

Similar to the medium term, there is a projected shortfall across nearly all dwelling types and locations. The exception is the Eastern reporting area, where an overall surplus of 470 dwellings is due to a surplus of 910 detached dwellings. The largest shortfall is projected to occur within the Central reporting area (-2,370 dwellings) where the largest shortfall occurs in detached dwellings. The next largest shortfall (-1,310 dwellings) is projected to occur within the Western reporting area, meaning that the shortfalls are centred around Rotorua's central suburban areas.

Table 9.3 – Long Term Sufficiency of RER Dwelling Capacity - Rotorua Urban Environment: 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	5,850	4,650	10,500	4,260	3,870	8,130	- 1,580	- 790	- 2,370
Western	12,750	2,160	14,910	12,530	1,070	13,600	- 210	- 1,100	- 1,310
Eastern	5,490	670	6,160	6,400	230	6,630	910	- 440	470
Ngongotahā	2,490	400	2,880	2,290	170	2,460	- 190	- 230	- 420
Total Urban Environment	26,570	7,880	34,450	25,490	5,330	30,820	**- 1,080**	**- 2,550**	**- 3,630**

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. Medium Growth Future. Current Prices Scenario.*

The long term projected shortfall decreases to only 320 dwellings within the Market Growth Scenario. This is mainly due to the increased feasibility of development within the existing urban area, with some increases in feasible, infrastructure served capacity within greenfield areas.

Under the Market Growth Scenario, the Central reporting area is the only area with a sizeable total projected shortfall (-1,620 dwellings). The feasibility of detached dwellings within the Central area is the main contributor to this shortfall. The overall shortfall is smaller than the Current Prices Scenario due to the reduction in the attached dwellings shortfall. This occurs through the market growth increasing the feasibility and therefore gradual growth in the uptake of higher density apartment dwellings.

The RER capacity in the long term has around 850-1,500 apartments within the Central reporting area. This is at the upper end of the range which is considered likely to be reasonable as the apartment market would require a reasonably large market shift for demand to be accommodated in this way. Although Rotorua has a long term demand for more attached dwellings, these are much more likely to be in lower density forms, such as duplexes or terraced housing. The upper end of this RER range (under the Market Growth Scenario) at 1,500 RER apartments, relies on a market shift within the attached dwelling demand towards apartments.

While all other reporting areas have no sizeable shortfalls in total, all areas have projected shortfalls in attached dwellings.

Table 9.4 – Long Term Sufficiency of RER Dwelling Capacity - Rotorua Urban Environment: 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	5,850	4,650	10,500	4,340	4,540	8,880	- 1,510	- 110	- 1,620
Western	12,750	2,160	14,910	13,860	1,070	14,930	1,110	- 1,100	20
Eastern	5,490	670	6,160	7,240	230	7,480	1,760	- 440	1,320
Ngongotahā	2,490	400	2,880	2,670	170	2,840	190	- 230	- 40
Total Urban Environment	26,570	7,880	34,450	28,120	6,010	34,130	**1,550**	**- 1,870**	**- 320**

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. Medium Growth Future. Market Growth Scenario.*

The assessment has found that there are several factors that are likely to be contributing to the long term projected shortfalls. These include:

- Planning restrictions in relation to the Residential 1 zone that require full sites with a single dwelling at 450m2. This reduces both plan enabled and feasible capacity (particularly within the Central reporting area) as it is less feasible to develop relatively large sites with only one dwelling. It reduces the ability of the market to deliver a greater number of smaller (attached) dwellings on smaller sites.
- The provision of greenfield land. A large proportion of the additional greenfield land that is identified within the long term is on leasehold land (which is in the Eastern reporting area), which is not projected to be commercially feasible.

- The extension of infrastructure networks within feasible greenfield areas. Some of the greenfield land in Ngongotahā is feasible under the Market Growth Scenario but does not have infrastructure supply identified in the Infrastructure Strategy. Although there is only a small shortfall in Ngongotahā, additional supply in this area may be able to meet some of the shortfall occurring within other areas.

9.2.4 Summary of Sufficiency within the Urban Environment

The sufficiency of capacity is summarised by location in Rotorua's urban environment across the short, medium, and long term in Table 9.5, and displayed graphically in Figure 9.1 for the total urban envrionment. As well as showing the sufficiency of RER capacity (which is constrained by infrastructure limits), the table also shows the sufficiency assessment using plan enabled and commercially feasible capacity (without infrastructure constraints). This is important because it shows the level of zoned and/or feasible development opportunity available to the market in the absence of infrastructure constraints, which is a core aspect of understanding whether there is sufficient zoned development capacity.

Table 9.5 – Summary of Sufficiency – Plan Enabled, Commercially Feasible and RER Capacity by Urban Reporting Area

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	9,070	1,460	- 800	8,190	580	- 1,400	8,190	- 770	- 2,440	8,190	6,980	- 1,670
Western	4,800	790	- 840	3,780	- 230	- 460	2,940	- 1,040	- 1,240	2,940	640	60
Eastern	5,010	1,390	- 260	4,480	860	700	5,910	530	470	5,910	1,500	1,320
Ngongotahā	1,270	90	-	1,010	- 170	- 240	2,990	560	- 420	2,990	2,040	- 40
Total Urban Environment	**20,150**	**3,720**	**- 1,890**	**17,470**	**1,030**	**- 1,400**	**20,030**	**- 720**	**- 3,630**	**20,030**	**11,160**	**- 320**

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. Medium Growth Future.

The sufficiency assessment has shown that there are projected shortfalls in RER capacity across all three time periods. These are largest in the short term and in the long term under the Current Prices Scenario. However, the projected shortfall decreases to only 320 dwellings in the long term under the Market Growth Scenario.

The largest shortfalls are projected to occur across Rotorua's main central areas of the Central and Western reporting areas. The Western reporting area shortfalls are projected to resolve in the long term under the Market Growth Scenario as greater amounts of the plan enabled capacity within the existing urban area is projected to become feasible and therefore available to RER capacity.

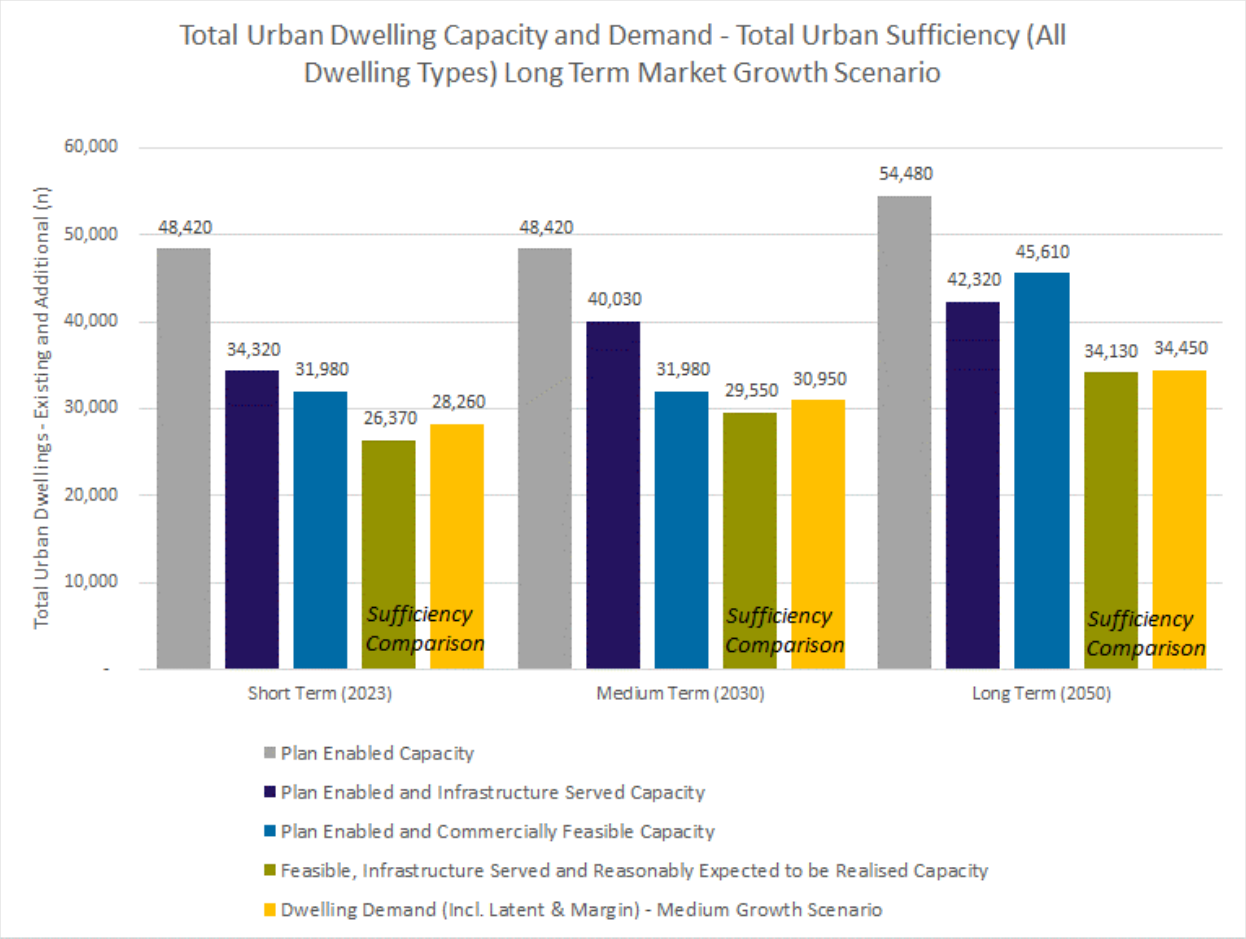
The shortfalls in RER in Rotorua are due to a combination of the provision of greenfield land (with infrastructure constraints in the short term), as well as the ability of the existing urban area to accommodate the remaining required level of growth. The latter is largely due to planning restrictions in the minimum site size requirements, with limited ability (i.e., only within the Residential 2 Zone, which covers a small area) to deliver attached dwellings at a lower density than apartments (i.e., duplexes or terraced housing). This is a constraint as there is market demand for this already. It is also likely to adversely affect housing affordability. Currently, the capacity relies on quite a large uptake of apartment dwellings within Rotorua, which is less likely as this market is not well established.

The middle column within each time period in Table 9.5 shows that many of the projected shortfalls do not occur if demand is instead compared to the commercially feasible capacity. This shows that there are feasible development opportunities beyond the RER capacity. However, a significant share of this capacity, particularly within the short term and in Ngongotahā in the long term, occurs in feasible greenfield areas that do not have modelled infrastructure extensions within the time period.

The infrastructure assessment has shown that infrastructure is not likely to be a constraint at the catchment level. It is only a constraint in relation to the timing of geographical extensions to greenfield areas which may be something that Council can resolve. This is particularly the case in the short term, but it is important to note that this shortfall would not occur if latent demand were not included.

A significant share of the commercially feasible capacity within the Central reporting area is also within apartments. This market is not well established within Rotorua and is therefore unlikely to represent significant RER capacity development options. This assumption will need to be monitored over time in case the market shifts faster than estimated.

Figure 9.1 - Summary of Sufficiency – Full Capacity Assessment vs Demand (Includes Existing Estate) – Total Urban Environment



To test the effect of this, the modelling considered what would be required within the existing urban environment to accommodate the required growth (medium + latent demand + margin) for there to be no

shortfall. In the absence of additional greenfield land supply or relaxation of minimum site size requirements, this would require a very high level of apartment uptake, which is currently considered unrealistic in that time period. For example, if it were assumed that 75%-100% of feasible detached dwellings were taken up (also an unrealistic assumption), then it would require 1,500 to 1,800 apartments in the short term, 1,400 to 1,700 apartments in the medium term, and 900 to 2,400 apartments in the long term.

10 Impact of Planning and Infrastructure

This section builds on the analyses of housing demand and feasibility and sufficiency of capacity to provide the assessment of how RLC's planning decisions and provision of infrastructure is likely to affect the affordability and competitiveness of the local housing market, as required in clause 3.23 of the NPS-UD. Underpinning this section is a discussion of the concept of 'competitive land markets' which is central to the NPS-UD's focus on housing affordability. It then considers how Council's planning decisions and provision of infrastructure may impact on housing affordability in the future and competitiveness of the housing market.

That assessment takes account of the current situation with regard to the patterns of Rotorua growth and the evolution of the land and development market over the last two decades. Understanding the key influences evident in Rotorua over that period is important to distinguish between the effects of planning and infrastructure provision by Council and the effects of other influences on housing affordability and development.

10.1 Approach to s3.23

Clause 3.23 is a core requirement of the NPS-UD. It requires councils to analyse "*..how … planning decisions and provision of infrastructure affects the affordability and competitiveness of the local housing market.*" This analysis *"..must be informed by .. market indicators, including .. housing affordability, housing demand, and housing supply; and information about household incomes, housing prices, and rents; and price efficiency indicators."*

Prima facie, this is a demanding economic analysis, especially at the local authority level. A key issue is that affordability and competitiveness are influenced by many factors, local and national, which are outside the ambit of council planning decisions and infrastructure. Separating the role of different factors in the past has been extremely difficult at the national level, let alone the district council level.

The assessment for this HBA is necessarily forward looking – while planning decisions and the provision of infrastructure have affected market conditions in the past, none of that can be changed now. At issue is how, from the current situation and moving forward, planning decisions and infrastructure can be expected to influence affordability into the future.

To minimise the complexity arising from a need to examine the long term outlook for key aspects of the national economy and each regional economy, the focus here is on housing affordability and competitiveness and the influence of planning decisions and infrastructure – but it is only on those matters. Ideally, all the other key influences on affordability and competitiveness would be held constant, to be able to address the question:

> *"What is the likely effect on affordability and competitiveness of planning and infrastructure decisions in and of themselves."*

Otherwise, the impacts of planning and infrastructure will inevitably become conflated, as other core influences including interest rates, availability of finance, investment from overseas, migration, labour supply, materials costs, central government regulations and so on will inevitably have significant influence on housing prices.

Much of the analysis required for clause 3.23 is therefore addressed in the assessment of sufficiency of capacity (refer Section 10). As identified in the Randerson Review[72], the main impact of planning is through 'regulatory stringency' if the supply of housing to meet market demands is constrained by planning provisions. The most common paths are first, where there has not been sufficient land area provided for in appropriate locations and at appropriate times – predominantly through not zoning enough infrastructure ready land in suitable locations in time for its release and development to provide enough opportunity for the construction sector to produce housing capacity in time to meet demands – and second, where zoning provisions for the land are not sufficiently encompassing to enable the range of dwelling typologies and sizes which the housing market demands.

If the assessment of sufficiency does show that there is or will be sufficient capacity for housing growth, including the provision for additional land for the competitiveness margins, then *a priori* it is to be expected that the key planning decisions – provision for sufficient land area serviced by infrastructure, and provision for a range of dwelling typologies and size – will have a largely neutral or net positive impact on housing affordability and competitiveness of the land market.

In this regard, one key indicator of the potential effect of planning on affordability is the level of price increase which is required for there to be sufficient feasible and reasonably expected to be realised capacity to meet future housing needs. In conditions where there is sufficient land area provided for, and sufficient range of dwelling typology and size enabled in the Plan (including the LTP, Infrastructure Strategy and long term urban growth strategies), then such future price increase would indicate the maximum or upper limit of the effect of planning and infrastructure by itself on future affordability. This approach is appropriate to help ensure that planning decisions and infrastructure do not materially reduce housing affordability and market competitiveness.

There is also potential for planning decisions and infrastructure to have a positive impact on affordability. This is predominantly where the Plan provides for dwellings which are relatively land-efficient, including smaller site sizes or land area per dwelling, leading to potentially lower land values per dwelling, and where dwelling sizes may be smaller and less costly than the average in the current market.

That said, it is important also to not expect that planning decisions and provision of infrastructure will necessarily bring material improvement to the established housing affordability and competitiveness conditions in Rotorua. That is because the current affordability conditions have arisen from a range of influences, including national and international economic conditions and trends, which are likely to have had significantly greater impact on housing prices than have planning decisions and infrastructure. While there is some literature which advances the view that planning and regulation have been a principal or even *the* principal cause of the growth in housing prices world-wide, and in New Zealand, there is also substantial research to show the effects of planning have been much less than has been promoted – including in studies relating to the development of the NPS- UDC.

[72] https://environment.govt.nz/publications/new-directions-for-resource-management-in-new-zealand/

Consequently, there is not a requirement to demonstrate that RLC planning decisions and infrastructure provision will **by themselves** have sufficient influence to offset those accumulated effects.

The appropriate focus is to ensure that planning decisions and infrastructure provision going forward are unlikely to have negative impacts on affordability and competitiveness.

An important aspect is to examine the concept of the Competitive land Market ("CLM"), or as it is being referred to in relation to Resource Management reforms, the Competitive Urban Land Market ("CULM"), and to consider how planning decisions may have impact on this. That consideration is to help identify a suitable evaluation framework (Section 10.2.3), to show whether negative impacts on affordability and competitiveness are likely. These matters are considered further also in the supporting Technical Report.

10.2 Competitive Land and Development Markets (CULM)

10.2.1 NPS-UD Provisions

A fundamental part of the NPS-UD is to support and contribute to "*competitive land and development markets*". That is set out at objective and policy level, and is referenced in various clauses:

> ***Objective 2:*** *Planning decisions improve housing affordability by supporting competitive land and development markets.*
>
> ***Policy 1:*** *Planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum:*
>
> *d. support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets;*

These aspects underpin the requirements set out in ***clause 3.23 Analysis of housing market and impact of planning***, under which:

> *1. Every HBA must include analysis of how the relevant local authority's planning decisions and provision of infrastructure affects the affordability and competitiveness of the local housing market.*
>
> *3. The analysis must be informed by:*
>
> *a. market indicators, including:*
>
> *i. indicators of housing affordability, housing demand, and housing supply; and*
>
> *ii. information about household incomes, housing prices, and rents; and*
>
> *b. price efficiency indicators.*

Objective 2 sits at the highest level and has two main elements – the expectation that planning decisions can contribute to improving the affordability of housing, and the related expectation that this will be through supporting land and development markets to be "competitive". The NPS-UD wording appears to

imply that the main apparent route through which planning decisions may improve housing affordability is by supporting[73] markets to be competitive.

However, as noted there are many influences on housing affordability, which include but are not limited to competition within the market.

10.2.2 Defining a Competitive Urban Land Market (CULM)

The NPS-UD itself does not contain a definition of competitive land markets, nor is there definition in the documents which support the NPS. However, the review of the Resource Management Act (the Randerson Review) does offer a useful definition, as follows:

> *Defining a competitive urban land market*
>
> *126. Competitive land markets should not be thought of as a laissez-faire regulatory approach to urban areas. In our view, a competitive urban land market is a well-planned and well-regulated built environment:*
>
> *• by 'competitive', we mean there is ample supply of alternative opportunities for development with the result that the price of land is not artificially inflated through scarcity*
>
> *• by 'well-planned' we mean that infrastructure and land use provision is aligned and timely provision of infrastructure avoids unnecessary costs*
>
> *• by 'well-regulated' we mean that the positive and negative external effects of land and resource use are considered in decision-making, and the costs of regulation are minimised and commensurate with the benefits. Positive effects include economies of agglomeration*, and the benefits of proximity and access to urban amenities. Negative effects include pollution and effects from industry, effects of development on heritage and character features, traffic congestion, and infrastructure costs (where they are not covered by development or user charges).*
>
> **This concept of agglomeration relates to the productivity gains of economies of scale, clustering and network effects.*

We have examined carefully the definition in the Randerson review, and we consider that it offers a sound basis for this HBA. That definition is adopted here for the assessment.

That Review acknowledges generally how urban economies function, and how council planning may affect competition within the market, and that this is appropriate where the benefits of doing so are articulated and exceed the costs. Of particular note, it acknowledges that competition within markets is an important aspect, but it does not seek to place reliance for urban planning on the operation of competitive markets alone[74].

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[73] The term *supporting* is not defined, although it presumably equates with 'contributing positively to', or 'having a positive effect on'.

[74] The Randerson Review acknowledges there are some key challenges for the NPS-UD around competitive markets, noting (para 134) that *it "…addresses these issues to some extent. In our view, this work should be further developed and refined through national direction under our proposed Natural and Built Environments Act."* (p354)

Importantly, it offers a straightforward definition of the term competitive - *"by 'competitive', we mean there is ample supply of alternative opportunities for development with the result that the price of land is not artificially inflated through scarcity."* That indicates the key condition to be met – *"..ample supply of alternative opportunities for development.."* – and the key effect to be avoided – *"..the price of land is not artificially inflated through scarcity."*

The Review also offers guidance on how councils' planning and infrastructure are most likely to have direct effect on housing and land prices, which it identifies as "*regulatory stringency*".

> *"Data and analysis of land prices can be used to measure the extent to which local regulations impact the type of development that is occurring. This is sometimes referred to in urban economics as regulatory stringency."*[75]

While somewhat simplified, since it can be difficult to separate out the effects of regulatory stringency from other effects on supply and development, that approach offers a useful and practical basis for meeting the requirements of clause 3.23. It allows focus on the extent to which regulations affect the type and scale of housing development, and land prices are seen as an indication of this. And it helps place attention on local (district level) conditions within the control (or potential influence) of the Council in the first instance.

Importantly, the definition in the Randerson Review is consistent with the Cabinet Minute on Objectives for the housing market[76] which confirm the government's overarching objectives for the housing market include to:

> *"4.3 Create a housing and urban land market that credibly responds to population growth and changing house preferences, that is competitive and affordable for renters, and homeowners, and is well planned and well-regulated."*

These documents impose a more nuanced view of competitive land markets than has been evident in earlier reports such as the *Signals of Under Capacity* report which was very influential in the evolution of the NPS-UDC and indicated a closer adherence to perfectly competitive markets.

A key feature of the definitions in both the Randerson Review and the Cabinet Minute is the expectation of well-planned and well-regulated markets, within which the competitive aspects of land markets would function.

10.2.3 Framework for Assessing Competitive Markets

Drawing from the above guidance, we may identify the two main arms of the CULM requirement:

1. first, that there is "*..ample supply of alternative opportunities for development..*"; and
2. second, that *"..the price of land is not artificially inflated through scarcity."*

[75] Randerson Report, para 130, p353.

[76] CAB-21-MIN-0045

The first arm is informed by the assessment of sufficiency, to show whether there is adequate feasible capacity for future growth with the substantial margins which are built in as the Competitiveness Margin (which increases the estimated demand) and the RER concept (which reduced the estimated supply).

The second arm can be informed by both sufficiency and the degree of choice in the market. If the assessment shows there is sufficient capacity, and it further demonstrates that the sufficient capacity includes a range of choices as to location and to dwelling type and to dwelling value, then it may be concluded that the price of land is unlikely to be "*artificially inflated through scarcity*" which can be attributed to planning decisions or infrastructure. In this, it is important to consider the effects of the Competitiveness Margin which builds in a 2-year margin in the medium term (20% of 10 years) and a 3 year margin in the long term (15% of the final 20 year period); and the RER filter which in most instances adds a buffer of at least those margins again. Taking account of the time lag between identifying land for urbanisation, and having it serviced and development ready, demonstration of sufficiency is taken here to show that the price of land will not be *"..artificially inflated through scarcity."*

We note that there are potentially other conditions which may contribute to scarcity which lie outside matters which Council can influence – for example, constraints in construction capacity or labour, or landowners' or developers' decisions on land release.

It is also important to note that competitive conditions vary through time, as the urban economy develops, and some opportunities become fully taken up and others emerge (especially more land for development). At the same time, the level of active demand also varies through time as new households arrive as incremental growth, their demands for housing arising and being met progressively. Moreover, the housing market includes existing and new dwellings, with already resident households and new arrivals having choice across both aspects.

On that basis, the assessment here is informed primarily by those two arms identified in the Randerson definition.

10.3 Impact of Planning and Infrastructure on Future Housing Affordability

In this section, the assessment draws together the analysis set out in previous sections covering the current and projected values of residential properties and dwelling tenure patterns, and dwelling feasibility, and adds in the other major influence on housing affordability – the possible future trends in household incomes. In combination, these aspects will influence households' ability to be dwelling owners in the short, medium, and long term in Rotorua. This provides insight on the sufficiency of RER capacity by price band to meet the demand of resident non-owner households in the short, medium, and long term and helps determine the impact of council planning and infrastructure on housing affordability as required in clause 3.23 of the NPS-UD.

10.3.1 Approach

As identified in Section 4, Rotorua's expected future dwelling estate is estimated from the current estate, and the estimated additional dwellings required to accommodate the net increase in households in the

district. It also takes account of the apparent existing shortfall in dwelling supply, estimated at 1,500 dwellings for this assessment. The focus is on the number of dwellings likely to be developed in each value band, as a key indicator of the opportunity for non-owner households to become owner households.

Estimating the affordability of housing is relatively straightforward as a calculation, in terms of the using information on what households can afford to pay to compile deposits and meet mortgage commitments. From that, it is not difficult to calculate the price/value of dwelling which a non-owner household in each income band can afford to purchase – assuming that these households have access to finance. This method is relatively robust, in that it reflects very closely the process which most households go through to secure finance from a bank or other financial institution in order to purchase a dwelling. That process is replicated all over the country each year as households purchase their first dwelling or seek to purchase a higher value dwelling. The financing perspective focuses on the debt-to-income ratio (rather than the dwelling price to income ratio) and the lender's comfort as to the security of the income streams on which the households rely.

The more challenging aspects of this assessment relate to the key assumptions which must be made to inform the modelling, particularly the likely rate of increase (or decrease) in household incomes over time, as well as the future changes in the values of dwellings in the existing estate, and the new dwellings whose prices/values are subject to trends in land value and construction costs.

Household Incomes

A key influence on future affordability is the likely real growth in household income levels. This presents some challenge, because household incomes are not influenced strongly by council planning or the provision of infrastructure. However, it is important to allow for some change in household incomes because the strongest influence on affordability arises from the combined effects of housing price levels and income levels. Simply, where household incomes rise faster than housing prices, then affordability improves. Where incomes lag behind housing price rises, then affordability declines. Moreover, planning decisions affect mainly the prices of new housing since the direct path is through providing for sufficient land and the plan provisions which affect the cost of the housing itself.

The base position for the assessment is that Rotorua household incomes will change in line with anticipated real growth at the national level, and with the regional effect identified from SNZ time series. Over the period since 2000, incomes in the Bay of Plenty region have increased by 2.2% per annum in real terms, which is faster than the New Zealand pattern (1.6% per annum).

The latest Treasury HYEFU[77] (June 2021) indicates an increase in real consumption per capita of 1.5% per annum in the period to 2025. Allowing for longer term income growth of that order of magnitude at the national level, the base case projection for the affordability assessment is for income growth of 1.8% per annum compounding.

[77] Half Year Economics and Fiscal Update.

Housing Costs

The projected increase in the cost of new dwellings is based on feasibility analysis and sufficiency assessment, according to the increase in prices needed for enough development to be feasible, and expected to be realised, to meet housing demand into the long term.

However, the assessment above (Section 9) shows that there is unlikely to be sufficient feasible capacity in Rotorua's urban environment. This is because there is not sufficient RER capacity provided for. While new dwelling development is commercially feasible at current cost levels and current prices, the assessment shows there is unlikely to be enough capacity for dwellings (of appropriate types) to meet growth in housing demand, including to offset the current shortfall in dwelling supply.

Part of the issue is an anticipated shortfall in infrastructure capacity to enable sufficient additional dwellings. Another important aspect is the provisions in the Plan which currently limit the opportunity to develop more than one dwelling on a lot, when there is likely to be substantial demand for duplex and terrace house style dwellings going forward.

There is clear evidence of growth in housing prices in the last 2-3 years especially, with population and household growth estimates indicating a clear shortfall between demand for housing (in terms of dwelling numbers) and the numbers of new dwellings being consented.

On that basis, planning provisions and infrastructure are shown to have placed upward pressure on housing prices, including through land prices for new dwellings. We have not sought to model the relationship, including because the recent price growth has occurred over a relatively short time period, and has coincided with price increases throughout New Zealand – with consequent difficulty in distinguishing local impacts from national effects.

10.3.2 Implications for Affordability

This circumstance where only a portion of additional RER capacity is feasible without price increase, indicates that planning and the provision of infrastructure is likely to have a negative impact on housing affordability in Rotorua, until there is sufficient capacity to mean there is no supply capacity constraint impacting on housing prices.

This means that on the basis of planning and infrastructure alone, housing affordability may be expected to decline in Rotorua. This is because housing land and other costs are likely to be pushed up by supply constraints, even though household incomes are expected to continue to grow in line with income trends at the national level, and the increasing size of the Rotorua, including any associated increase in employment opportunities.

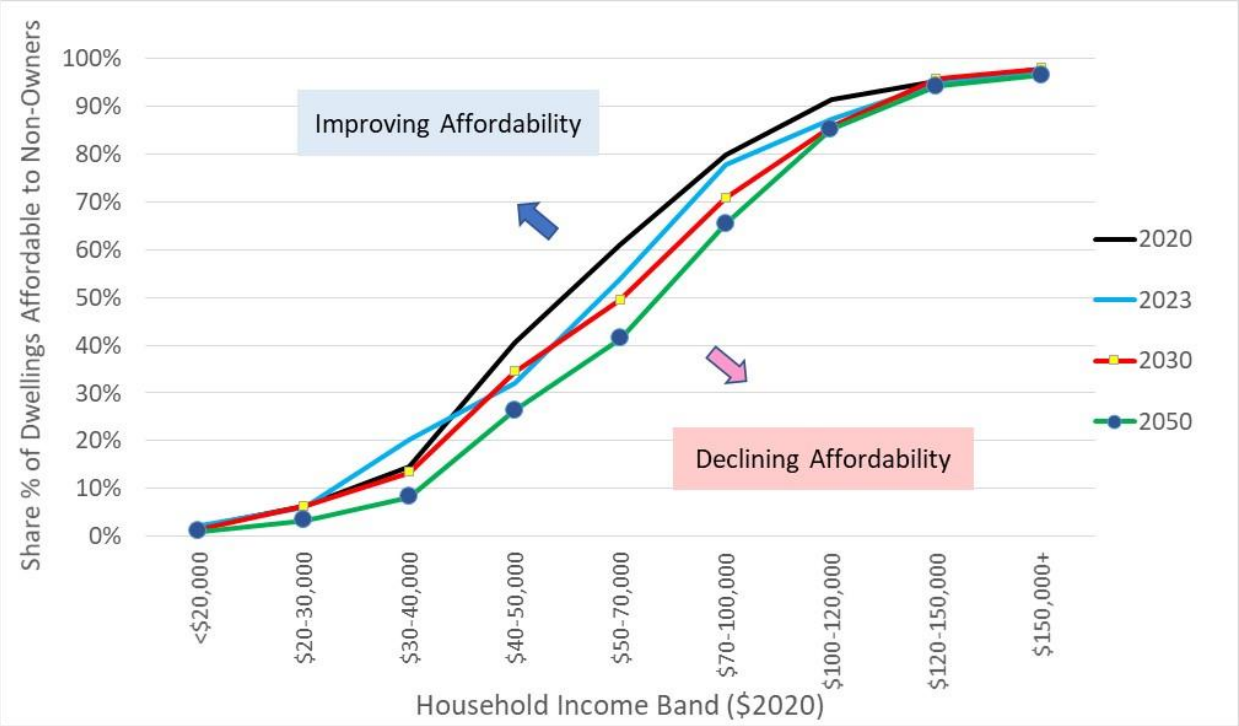
Over time, without planning and infrastructure response, housing affordability in Rotorua would decline. This is portrayed in Figure 10.1, where the affordability curve is shown to move progressively to the right, indicating reducing affordability, as household income growth does not keep pace with housing costs.

Table 10.1 shows the indicated shortfall in housing by dwelling value band into the short, medium, and long terms for the total district. In the table, a shortfall is indicated where the number of non-owner resident households who could afford to own a dwelling in that value band is greater than the number of dwellings expected in the same value band. For example, there are an estimated 770 households who would be able

to afford (if they were non-owners) a dwelling in the $0-99,000 value band, if there were sufficient dwellings in 2020 (but there are not). In the higher value bands, the model indicates there are more dwellings in Rotorua than the resident non-owner population demands and could pay for.

Note that the analysis is based on projected dwelling numbers in each period. These do not include a margin of additional dwellings. The Competitiveness Margin applies an additional 20% and 15% to projected demand for housing, and this is translated to feasible capacity and RER on the basis that land would be available for the extra dwellings, and if there was demand then the dwellings could be feasibly built.

Figure 10.1 – Total District Resident Housing Affordability Trends 2020-2050 – Medium Growth Future - Planning and Infrastructure Cost Only



Note: The above graph only includes planning and infrastructure cost and doesn't allow for other variables including growth in the economy, costs of labour and construction materials, migration, investment from overseas, consumer confidence, and availability of finance which also affect housing prices (refer Figure 10.2 and discussed below).

However, the comparison here examines projected demand for housing on the basis that each additional resident household would demand one dwelling. While the Competitiveness Margin is assumed to be in place as potentially available land to help keep down the price of housing, the demand projections assume that the projected increase in households is the actual increase, and it is not assumed that additional dwellings would be constructed for the notional 15% or 20% additional households.

The value bands which show a shortfall do not indicate that households are homeless. Rather, it shows that for the Rotorua dwelling estate, those households for which there are not sufficient dwellings that they could afford are (predominantly) in private rental accommodation (or social housing). A significant number of households are non-owners, primarily in rental accommodation (around 10,700 households currently,

37% of total district resident houses) and a moderate number of dwellings owned by absentee owners (as holiday dwellings or short term accommodation).

Table 10.1 indicates that there are current shortfalls of dwellings in price bands less than $400,000 to meet the demands of non-owner resident households. This equates to a gross shortfall of 3,550 dwellings in those price bands relative to a gross surplus of 2,060 dwellings in price bands greater than or equal to $400,000. This indicates a net deficit of 1,500 dwellings, which corresponds to the current shortfall estimated by MHUD. The shortfall is similar into the long term, on the basis that the current indicated shortfall remains. Note that this analysis focuses on shifts in affordability and does not take account of estimated shortfall in supply due to capacity constraints.

Table 10.1 – Indicated Total District Resident Housing Shortfall by Value Band – Planning and Infrastructure Cost Only

Dwelling Value Band ($000)	2020	2023	2030	2050
$0-99	- 1,530	- 2,660	- 2,800	- 2,790
$100-199	- 1,610	- 1,190	- 1,150	- 2,880
$200-299	- 300	- 620	- 440	- 1,020
$300-399	- 110	- 160	- 240	- 650
$400-499	10	10	- 50	- 480
$500-599	30	30	40	- 250
$600-699	560	900	80	- 130
$700-799	480	630	230	100
$800-899	320	580	890	970
$900-999	190	390	690	760
$1000-1099	130	190	510	890
$1100-1199	100	100	200	960
$1200-1299	60	70	90	780
$1300-1399	50	80	100	770
$1400-1499	50	50	50	240
$1500-1599	30	40	50	260
$1600-1699	10	40	60	110
$1700-1799	10	30	30	50
$1800-1899	10	10	40	80
$1900-1999	10	10	30	80
$2000-2199	-	10	20	110
$2200-2399	10	10	10	40
$2400+	-	-	10	70
Net Outcome	**- 1,480**	**- 1,430**	**- 1,520**	**- 1,510**
Shortfall	- 3,550	- 4,630	- 4,680	- 8,200
Surplus	2,060	3,180	3,130	6,270

Note: Includes 2020 estimated shortfall

Source: ME Housing Demand Model 2021

As noted, the shortfalls relate to dwelling ownership. Most households unable to afford to purchase a dwelling will rent a dwelling to live in (or seek government assistance to do so). The projected numbers show usually resident households in the district, on the basis that all households are in a dwelling, whether as owner-occupiers or tenants (renters). The key implication of the table is that the dwelling shortfall shows limited change and does not increase as rapidly as the resident population over time.

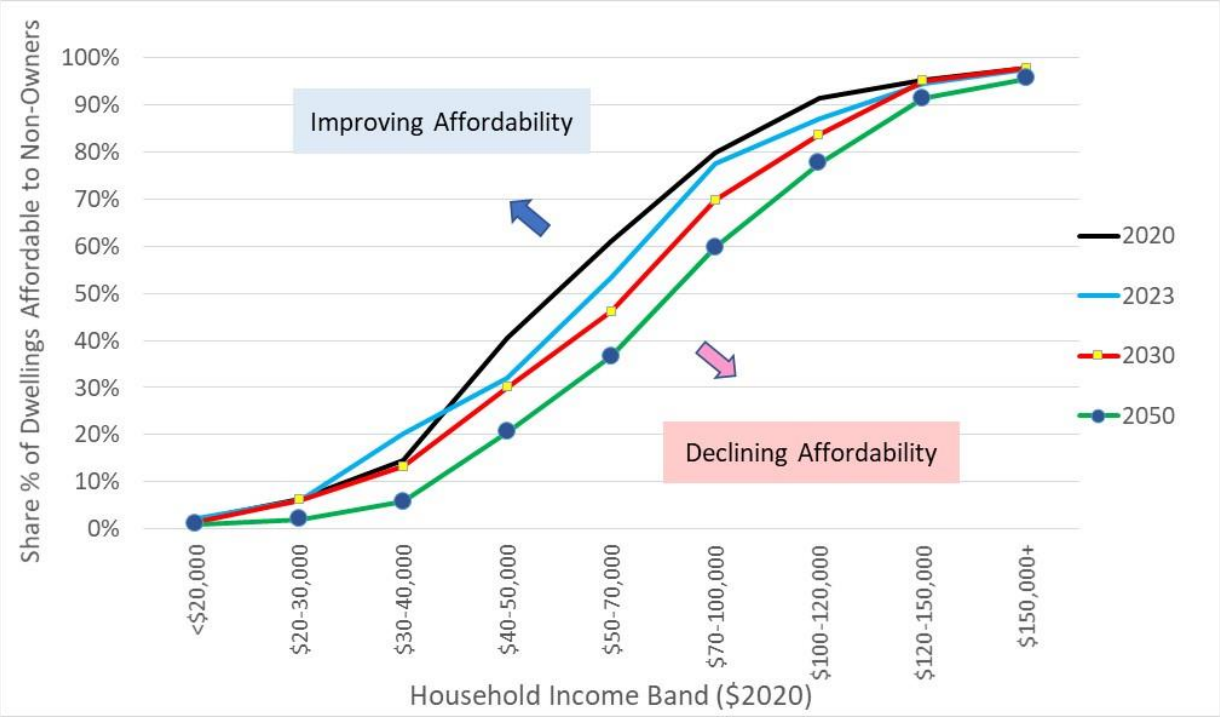
This indicates that with growth in household incomes, and likely upward pressure on prices attributable to planning and infrastructure, that would contribute to a worsening of housing affordability in Rotorua. Note also that the assessment relates to Rotorua District resident households only, it excludes non-resident households.

10.3.3 Future Outcome with Housing Price Growth

Nevertheless, it is important to place this indication in perspective. The above table and graph show the indicated change where the only two influences on housing affordability are income growth, and the effects of planning and infrastructure (i.e., RER capacity). That is important, as it indicates that the Rotorua plan context is likely to contribute to a decline in affordability.

Moreover, when the other influences on housing prices and affordability are taken into account, the future outcome would likely be similar. Over time, it is to be expected that Rotorua housing prices *will* continue to increase for a range of other reasons, including from growth in the Rotorua economy, growth in population, growth in employment opportunity, changes in interest rates and the availability of finance, and in rising construction materials costs (something that local stakeholders in the residential development sector have identified). Commonly, urban land values increase at least in line with the growth of the economy.

Figure 10.2 – Total District Resident Housing Affordability Trends 2020-2050 – High Growth Future which Includes allowance for faster Land Price Growth



Accordingly, over time unless household incomes in Rotorua increase at a faster rate than the price of housing then housing affordability for non-owner households in the district can be expected to decline over the long term. The outcome depicted in Figure 10.2 indicates a future where land prices rise faster in

Rotorua as a result of supply constraints, at 3.6% per annum compound, compared with 2.9% per annum in the Base Case[78] (a price change faster than the growth in real incomes).

The indicated shortfall in affordable housing by dwelling value band over time is shown in Table 10.2 and Figure 10.3 for the total district. The difference from the previous table is clear, as housing prices would grow faster than household incomes, and the indicated shortfall in each value band would increase.

Table 10.2 – Indicated Total District Resident Housing Shortfall – Medium Growth Future - Base Case Housing Price Growth

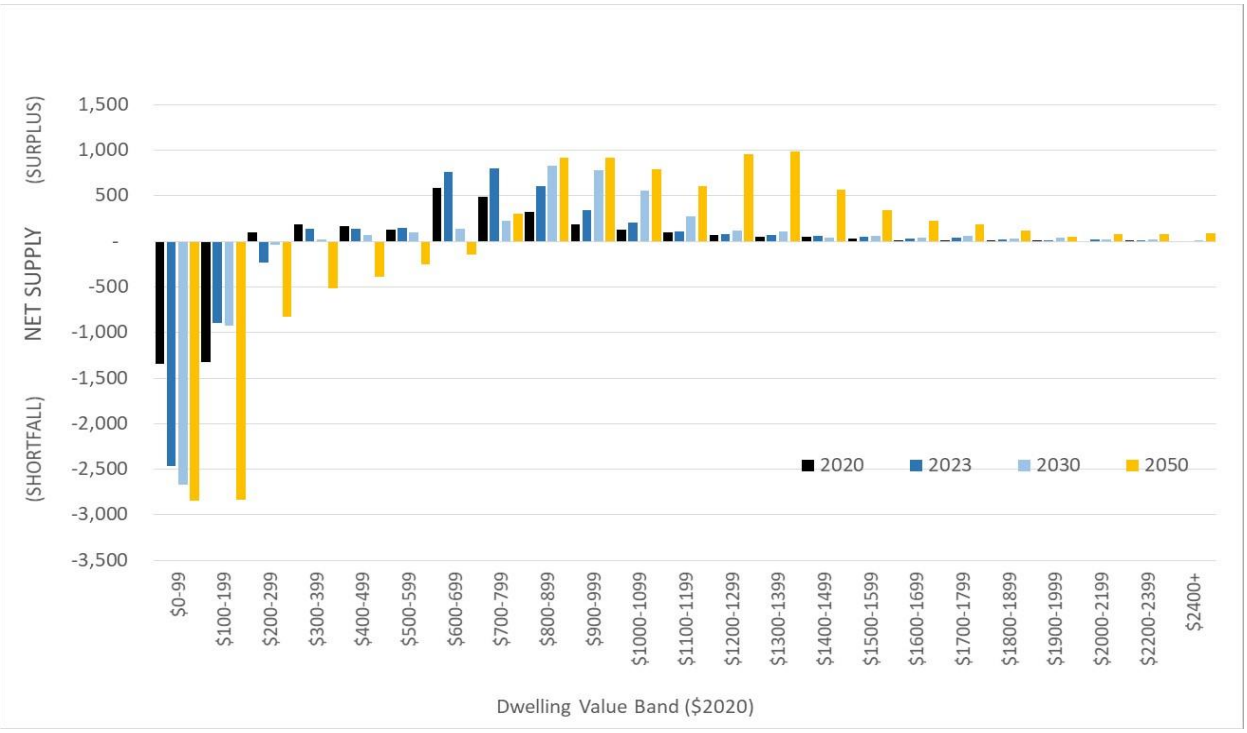
Dwelling Value Band ($000)	2020	2023	2030	2050
$0-99	- 1,530	- 2,660	- 2,860	- 3,030
$100-199	- 1,610	- 1,190	- 1,200	- 3,120
$200-299	- 300	- 630	- 440	- 1,230
$300-399	- 110	- 170	- 290	- 830
$400-499	10	- 20	- 90	- 550
$500-599	30	60	10	- 340
$600-699	560	720	110	- 180
$700-799	480	780	220	290
$800-899	320	600	830	920
$900-999	190	330	770	910
$1000-1099	130	210	560	790
$1100-1199	100	110	270	610
$1200-1299	60	80	120	960
$1300-1399	50	70	110	990
$1400-1499	50	60	40	570
$1500-1599	30	50	60	340
$1600-1699	10	30	40	230
$1700-1799	10	40	60	190
$1800-1899	10	20	30	120
$1900-1999	10	10	40	50
$2000-2199	-	20	20	80
$2200-2399	10	10	20	80
$2400+	-	-	10	90
Net Outcome	**- 1,480**	**- 1,430**	**- 1,530**	**- 1,550**
Shortfall	- 3,550	- 4,670	- 4,880	- 9,280
Surplus	2,060	3,200	3,320	7,220

Note: Includes 2020 estimated shortfall

Source: ME Housing Demand Model 2021

[78] Refer Table 3.10 for input assumptions.

Figure 10.3 - Indicated Total District Resident Housing Shortfall – Medium Growth Future - Base Case Housing Price Growth



The urban dwelling sufficiency by price band results for resident households in Table 10.2 is further detailed in Figure 10.4 to Figure 10.7 for the current situation and the short, medium and long term respectively.

The graphs relate to the total district and include demand (lines) for resident houses and total dwellings (inclusive of the competitiveness margin). These include the estimated current shortfall, which for assessment we have assumed is weighted heavily (80%) to the under $400,000 value bands. The bars show the existing dwelling estate (supply) by price band and how this is projected to change over time, together with new dwellings that are RER and assumed to be built to meet district household growth in each period. Any remaining RER (surplus) not required to meet that demand is assumed to be not built. Supply and potential supply are distributed by price band based on recent and expected supply trends, and and value changes over time. The graphs show that the price band profile of expected future supply does not necessarily match the price band profile of expected future demand (based on what would be affordable for resident first time buyers). Hence where the indicated capacity bars (built dwellings) are below the 'lines' of demand, that represents a shortfall of dwellings that can be afforded in each time period.

In 2020, the shortfall of dwellings affordable for non-owner resident households is estimated at 3,550 dwellings. These lie within price bands of less than (and including) $400,000 in current (2020) prices. While there is some RER (feasible and infrastructure ready) capacity in these lower price bands, it has not been delivered by the development market. For those non-owner households that can afford dwellings in higher price bands, there is a surplus of dwellings potentially available in the market (estimated above in Table 10.2 at around 2,060 dwellings over and above demand) (Figure 10.4).

Figure 10.4 – Current (2020) Shortfall of Dwellings Affordable to Resident Non-Owner Households – Total District

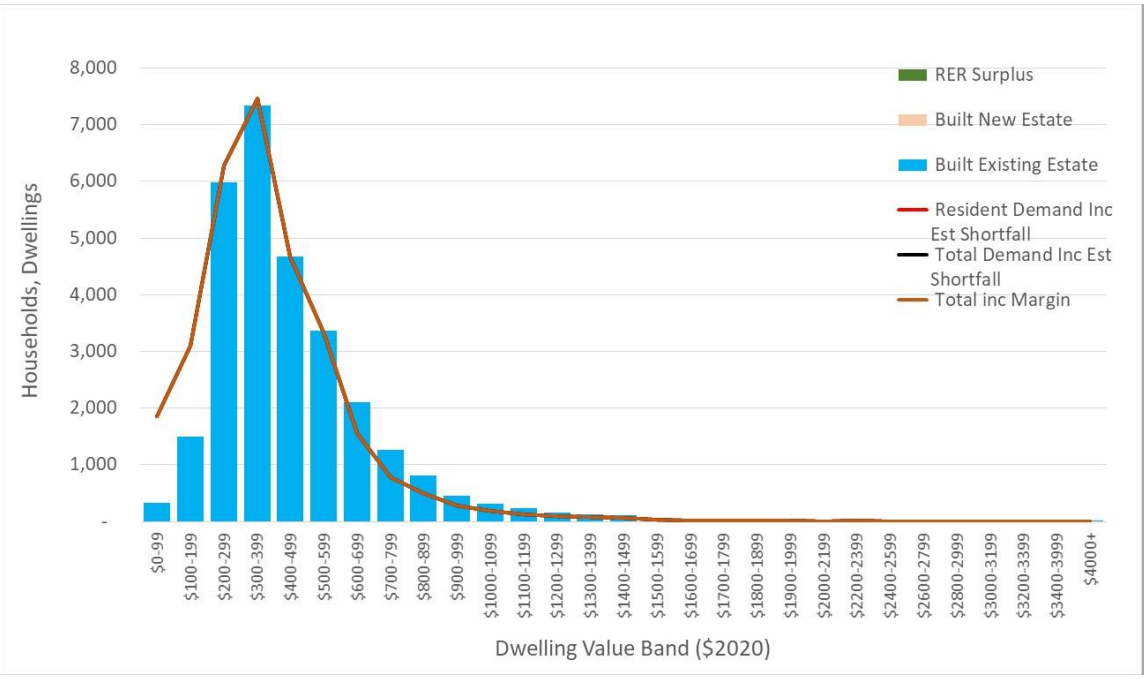
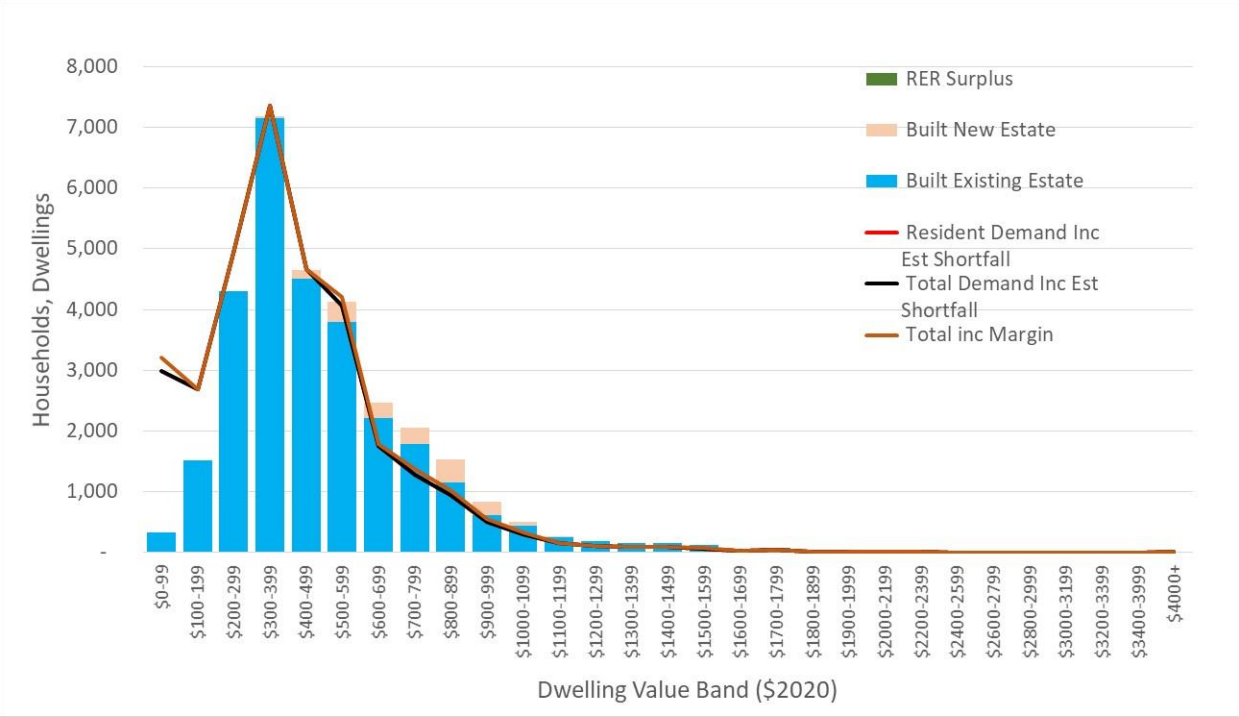


Figure 10.5 – Short Term (2023) Shortfall of Dwellings Affordable to Resident Non-Owner Households – Total District, Medium Growth Future, Base Case Housing Price Growth

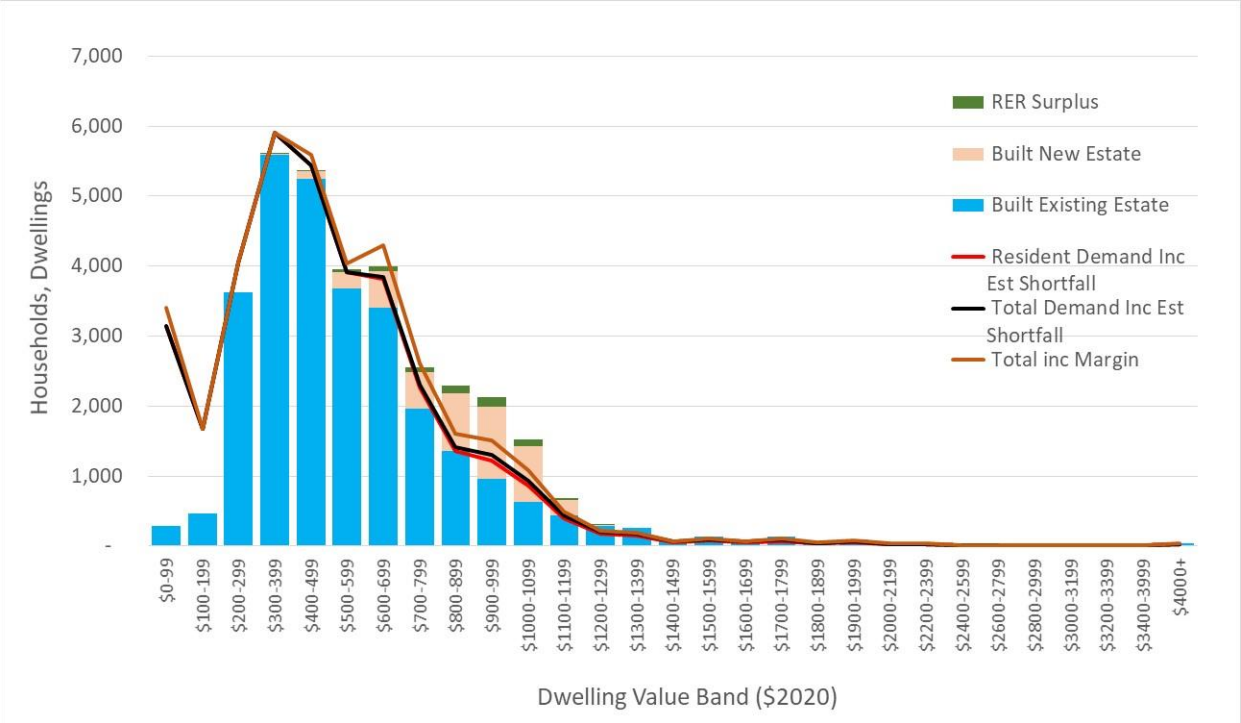


By 2023, the shortfall of affordable dwellings for non-owner resident households increases to 4,630 for dwellings priced up and including $400,000 (Table 10.2 and Figure 10.5). Again, while there is RER capacity estimated in these price bands, not all of it is expected to be delivered, with some supply instead targeted

at dwellings in higher price bands (i.e., higher than non-owner residents could afford in 2023 but potentially affordable for existing homeowners (not graphed) and for holiday home/investor demand).[79]

In the medium term (to 2030), the shortfall increases to 4,680 also for dwellings, including some priced up to and including $500,000 (Table 10.2 and Figure 10.6). This is despite a significant share of expected new supply being built in price bands more affordable to non-owner resident households. There is, however, very little RER capacity in the lowest price bands, and the small amount that is not expected to be delivered would not be sufficient to offset the expected shortfall of affordable dwellings in any case.

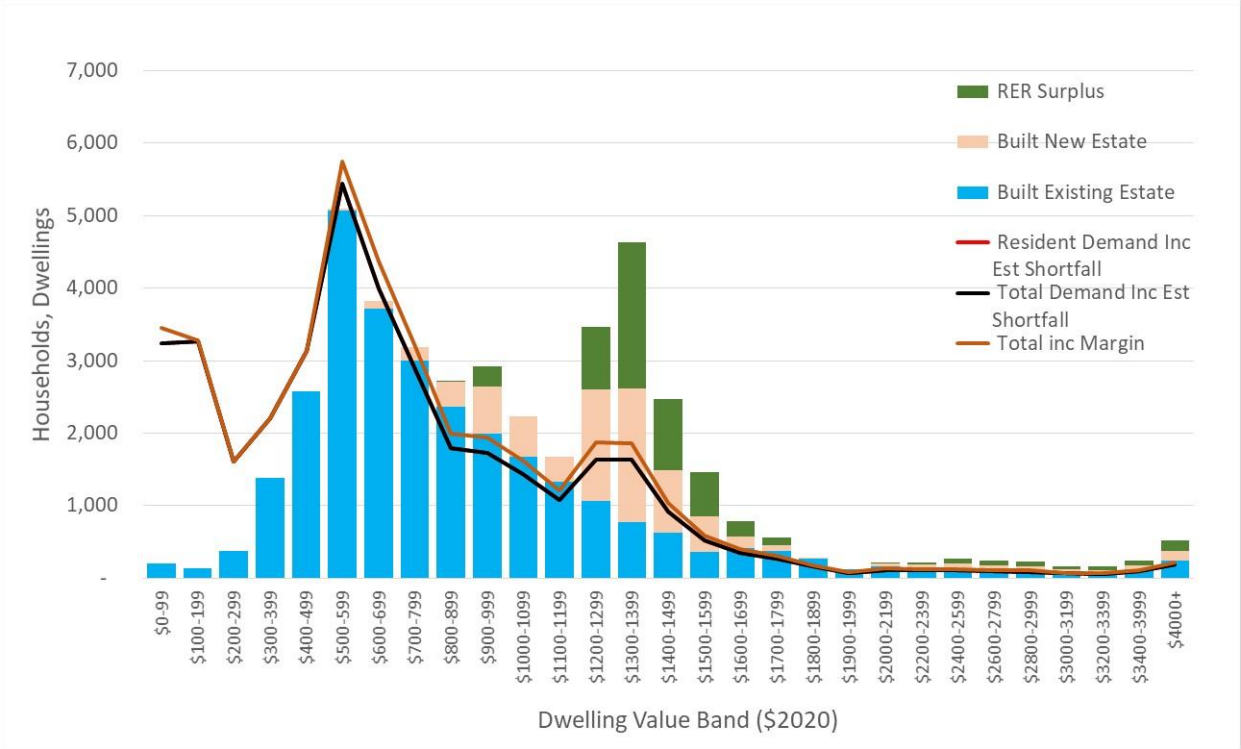
Figure 10.6 – Medium Term (2030) Shortfall of Dwellings Affordable to Resident Non-Owner Households – Total District, Medium Growth Future, Base Case Housing Price Growth



By 2050, the shortfall is larger (in keeping with growth in demand) and equates to an estimated shortfall of 8,200 dwellings which would be affordable for non-owner resident households. The indicated shortfall is mainly in the lower value bands, but includes shortfalls of dwellings priced over $500,000(Table 10.2 and Figure 10.7). The most significant shortfalls, as expected, fall into the price bands less than $400,000. The effect of the increasing value of the existing estate is clear in the long term. Positively, the new estate expected to be built shows higher incidence in price bands more affordable to many non-owner residents, but again, there is insufficient RER in the lowest price bands (even if all was delivered) to cater for projected future demand.

[79] The demand accounts for all district resident and total dwellings, but shows demand based on owning a dwelling, and that cost of owning is based on first home buyers across all income brackets. The graphs therefore represent the maximum / worst case gap between demand and supply and do not represent what is affordable to second home buyers, investors or what is affordable to rent.

Figure 10.7 – Long Term (2050) Shortfall of Dwellings Affordable to Resident Non-Owner Households – Total District, Medium Growth Future, Base Case Housing Price Growth



10.3.4 Affordability for Owner Households

It is also relevant to consider housing affordability for owner households. Although the focus of affordability assessment is firmly on non-owners, owner households have a significant role in the housing market, and in the further development of the dwelling estate.

This is because households which do own a dwelling are generally able to afford that dwelling and, in many cases, could afford a higher value dwelling. A key reason is that with housing price rises, the value uplift accrues to the dwelling owner. With price inflation acting to increase their equity, many current dwelling owners are in a position where they could afford to shift to a more valuable dwelling. That includes new dwellings. Since new dwellings are generally more expensive than existing dwellings on a like-for-like basis, upgrades by existing owners are an important driver of new housing. This is supported by the survey of local residential developers, where more respondents ranked 'second home buyers' first as their most common/targeted buyer, and fewer ranking 'first home buyers' as their most comment buyer.[80] One consequence of housing price growth is the greater incentive for developers and builders to add to the estate, at the same time as there is greater ability for existing owners to be able to afford those new dwellings.

[80] Refer Section 9 of the supporting Technical Report for survey findings.

10.4 Impact of Planning and Infrastructure on Competitiveness in the Housing Market

In this section, we draw on the analysis above and the framework defined, to present findings about the impacts of planning and infrastructure on competitiveness in the QLD housing market.

As identified above (section 10.2.3) we have drawn on the Randerson guidance to identify the two arms of assessment of competitive urban land markets.

The first arm, whether there is *"..ample supply of alternative opportunities for development.."* is informed by the sufficiency assessment (Section 9). That shows Rotorua District does not have adequate feasible capacity, with the Competitiveness Margin and the RER included. On that basis, we conclude the first arm is not satisfied.

The second arm is the evidence to show *"..the price of land is not artificially inflated through scarcity."* The analysis detailed above shows that in Rotorua there is not sufficient capacity. While there is capacity in a range of locations, offering some choices as to location and to dwelling type and to dwelling value, at the aggregate level the assessment indicates that the Rotorua housing market is likely to see the price of land artificially inflated through scarcity which is at least in part attributable to council planning and infrastructure. On that basis, we conclude that the second arm is not satisfied.

10.5 Other Effects on the Rotorua Market

It is also important to consider the wider market conditions which are likely to have impacted on prices and competitiveness in Rotorua and will likely continue to do so. For this, we have examined the competitive situation in other parts of the housing sector, including the land development and housing construction industry where opportunity may have been affected by regulatory stringency; and the development patterns evident in housing construction, which may indicate the opportunity to develop a range of dwelling typologies and dwelling sizes and dwelling values. It is also relevant to consider the overall volumes of dwelling sales in the district, given that new dwellings are one component of the market, a significant number of sales are of existing rather than new dwellings, and purchasers have the option to draw from either part of the market.

10.5.1 Residential Development Sector

The Rotorua residential construction sector is substantial (Table 10.3). There are some 779 entities engaged in construction, with 2,017 persons engaged (MECs). In residential construction specifically there are 229 entities (581 persons), in land development and subdivision 163 entities (410 persons) and in other housing construction and finishing some 387 entities (1,026 persons). The table shows the sector has been substantial throughout the last two decades at least, and the large number of entities indicates a highly competitive sector in the district.

This is especially the case because the average business size is small, which suggests that there has been extensive choice among providers of construction services.

Table 10.3 – Residential Construction Sector Rotorua District 2001-2020

Activity	Entities (Geos)			Employment		
	2001	2010	2020	2001	2010	2020
Water & Waste & Drainage	6	6	4	76	50	15
Waste Collection	3	3	16	20	27	25
Waste treatment	8	14	14	28	81	72
Residential building construction	147	192	229	279	396	581
Other Building	21	26	26	153	111	85
Roading & Civil	32	29	45	290	446	641
Land Development & Subdivision & Preparation	42	47	71	78	149	183
Concreting & Bricklaying & Roofing & Steelwork	45	41	57	134	109	149
Plumbing & Electrical & AirCon & Fire & Other	151	173	193	524	609	595
Plaster Carpentry Paint Tiling Glazing	117	100	138	282	291	283
Landscape and Other	38	52	92	77	119	227
Construction Total	593	660	849	1,816	2,229	2,743
Construction & Utilities	610	683	883	1,940	2,387	2,855
Residential construction	147	192	229	279	396	581
Land Development and Subdivision	80	99	163	155	268	410
Other Housing Construction and Finishing	313	314	387	940	1,009	1,026
Mainstream Housing and Development	540	605	779	1,374	1,673	2,017

Source: SNZ Business Frame 2021

10.5.2 Housing Price Trends

Housing prices are a critical aspect of affordability. The analysis of Rotorua housing prices (Section 3.2) identifies how the trends in the district adhered quite closely to the national patterns, albeit with a significant lag after 2012 before a catchup from 2016. That indicates Rotorua prices during most of the last two decades have been driven primarily by national-level influences.

That said, the most recent shifts have seen Rotorua prices rising faster than the national trend, and at the same time the number of new dwellings consented has lagged significantly behind household growth since at least 2016 (see 10.5.5 below). That indicates local upward pressure on housing prices, as supply is currently lagging behind demand growth.

10.5.3 Rent Price Trends

Rotorua rent trends have been examined in Section 4.1.2. The rental sector is substantial in Rotorua. The usually resident households seeking longer term accommodation face some competition from holiday visitors seeking shorter term tenancies, and who are generally able to afford higher rentals as a consequence. The incidence of holiday dwellings is higher than average in Rotorua, although in the long term the city's well established commercial accommodation sector, especially motels, has handled most of the visitor demand.

Rotorua rental rates were consistently lower than the New Zealand average, throughout the period from 2000 to 2019, and only recently have they approached the national average rentals.

Given that Rotorua is an established regional city, we would expect mean rental levels to remain somewhat below the national average. The recent increase in rentals is very likely related to the increase in housing prices, most especially the recent pattern of new dwellings lagging behind the increase in resident households, indicating a supply shortfall.

10.5.4 New Consents and Construction Activity

The consent and new dwelling data for the past 5 years (at least) shows that the Rotorua housing construction sector is delivering a range of values and typologies and has a value range which is quite close to the New Zealand pattern (as detailed in Section 3.3). That diversity and range over an extended period indicates that conditions are generally competitive, with the market able to serve a range of housing needs. The range of values and dwelling typologies is evident in every year, indicating that construction in each point of the market continues to be viable.

Importantly, there is no clear concentration of new dwellings into the middle and higher value bands, and away from the lower bands. One feature of new housing markets where supply is constrained is for land prices to rise and the construction sector focuses on delivering on higher value dwellings, to justify the higher land prices and maximise return for the consequently higher cost[81].

However, the increasing margin between household growth and new dwelling consents, together with the uplifts in housing prices and in rental levels at the same time, points to a shortfall in supply. Since the new supply has been predominantly detached dwellings, that indicates a relative shortfall in attached dwellings, with Rotorua lagging behind the national shift in this trend, and reflecting the limited opportunity for more intensive housing development in the Plan provisions.

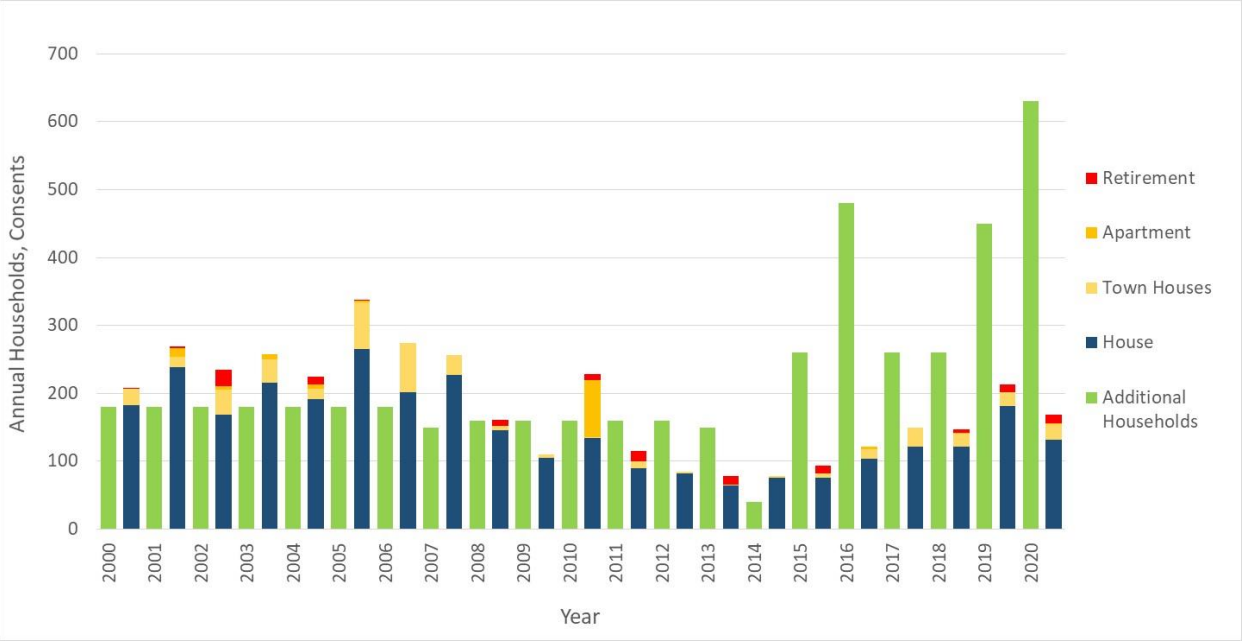
10.5.5 Household Growth, Housing Growth, and Prices

A further key indicator is the relationship between household growth and the changes in housing capacity over time. This helps inform the second arm of the competitiveness question, as to whether there is evidence of constraints in the supply of land and housing which may have led to "*..the price of land being artificially inflated..*" The number of dwellings built is relevant, since construction depends on the availability of land.

Figure 10.8 shows the pattern of dwelling consents issued each year, and the indicated additional resident households in the district, over the 2000-2020 period. While new dwelling consents numbers were well ahead of household growth in the 2000-2010 period, since then household growth has outstripped the supply of new dwellings (new consents). This has been particularly the case since 2015, when household numbers began to increase significantly. Over the past 6 years, there has been an increase of some 2,300 households, while new dwelling consents have totalled just under 900. Currently, total consents are lagging the growth in resident households.

[81] Such a pattern was evident in the Auckland market in the years leading up to the GFC, when high consumer confidence and easy access to finance combined to push property values significantly higher. When revaluations occurred, the value uplift was attributed predominantly to the land, as for the great majority of properties the dwelling (improvement value) had not changed since the previous valuation. Significantly higher land values, combined with high incidence of single house zoning, saw the house construction sector focus heavily on larger, more expensive new dwellings in order to make contracts of land plus dwelling packages viable. The number of small and medium sized new dwellings fell away dramatically after 2005. Even though the housing price inflation in Auckland was slower than for every other region in that period, the land values as a share of total value were already relatively high, a consequence of the greater value of lots in a large urban market. When the Unitary Plan became operative in 2016, its more permissive provisions enabled a wider range of dwelling sizes and values. That saw a substantial increase in smaller and lower value dwellings, generally additional to the existing trends in medium and large sized dwellings. It also saw a period of stability in Auckland housing prices.

Figure 10.8 – Rotorua Household Growth and New Dwelling Consents by Type 2000-2020



The graph also shows the limited diversity in dwelling typology over the period, with detached dwellings accounting for well over 80% of new growth.

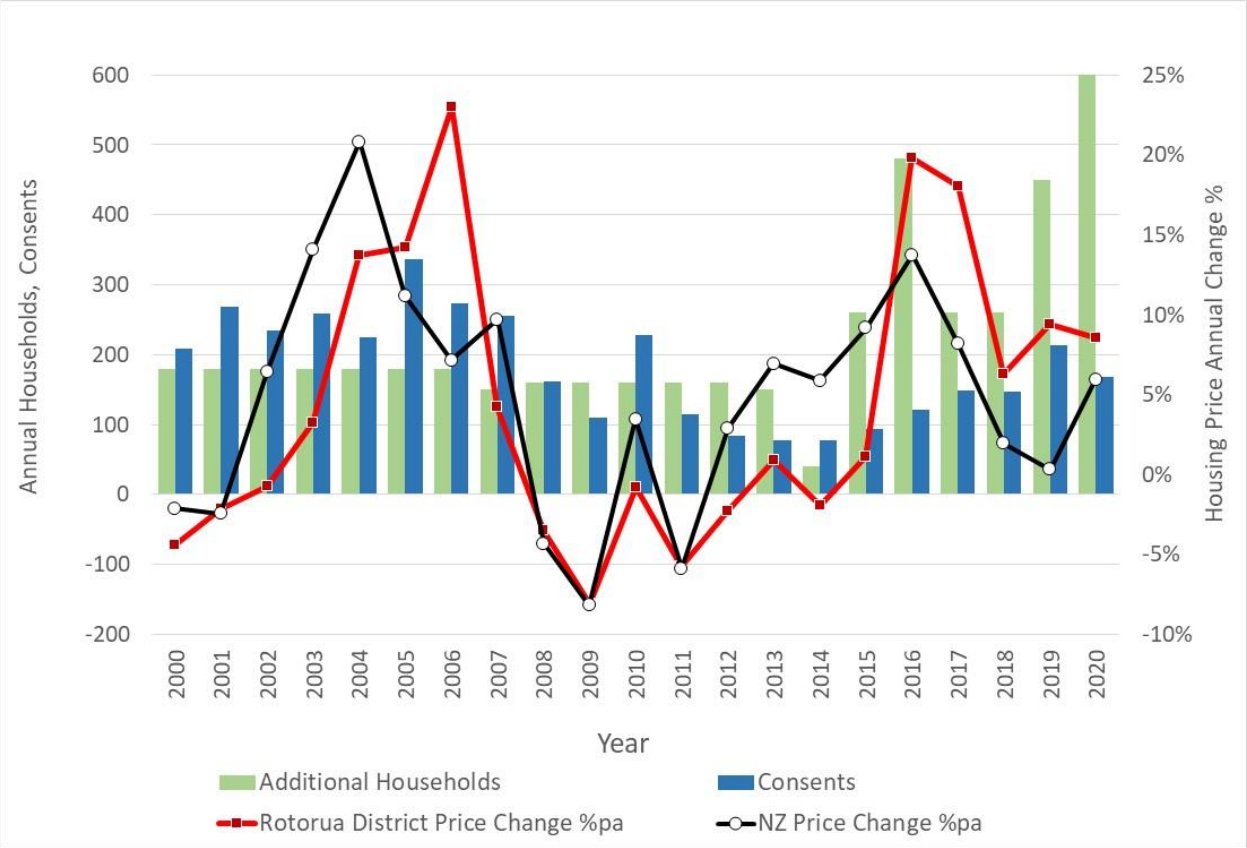
The pattern of annual household growth, dwelling growth and housing price inflation is shown in Figure 10.9. This graph draws together information on housing demand vs housing supply, and the changes in prices. The period 2000 to 2008 shows the lead up to the GFC, and the increase in prices in Rotorua and nationally (discussed in Section 3.2). The number of consents was then well ahead of the growth in households, indicating that housing supply kept well ahead of population change.

In the period to 2012, consent numbers dropped substantially, and at the same time there was negative growth in housing prices. This pattern is expected, as consenting and building activity is closely influenced by housing prices (rising prices generally stimulate increases in supply).

However, since the GFC Rotorua consent numbers have lagged behind household growth. In the period to 2014, the difference was relatively small, and some of the shortfall may have been picked up by previously consented dwellings being constructed.

However, from 2015 onwards, the shortfall has been quite clear. As noted, this period has seen significant growth in housing prices. Since 2015, Rotorua prices increased by around 90% in nominal terms, and 79% in real terms, well ahead of the New Zealand average (42% nominal, 33% real).

Figure 10.9 – Rotorua District Household Growth, Consents and Price Changes 2000-2020



The patterns are as would be expected in the conditions:

a. The changes in Rotorua District's housing prices have remained fairly close to the national patterns, indicating that national-level influences have been the main driver of price growth (see also Figure 3.4).

b. The supply response with the slow-down in consent numbers across the 2009-13 period is consistent with the downturn following the GFC, where consent numbers throughout New Zealand remained subdued.

c. After 2012, Rotorua housing prices did not follow the national uplift. However, in 2016 and 2017 there were substantial price increases, ahead of the national trend. At the same time, there was quite strong growth in household numbers, a change not matched by the number of new dwelling consents, and additional housing supply.

d. Since 2016, household numbers grew by an estimated 2,080. However, over the same period, there have been only 798 dwellings consented, which shows a substantial shortfall. For the last 2 years, that indicated shortfall has increased, and Rotorua's housing prices increased by around 9% in both 2018-19 and 2019-20.

e. This pattern is consistent with the anecdotal evidence and consultation among developers of supply constraints in Rotorua, directly affecting price levels.

10.5.6 Housing Market Sales Activity

The Rotorua housing market shows substantial activity. The Ministry of Housing and Urban Development ("MHUD") Housing Market Indicators Dashboard indicates 180-250 dwellings currently being sold per quarter, equating to a rate of around 1.8-2.0% per annum (dwellings sold per 100 dwellings).The trend in Rotorua follows generally that for Waikato-Bay of Plenty, however the rates are substantially below those seen in Hamilton and Tauranga, and well below the most recent peak of 3% in 2017.

This indicates a reasonable level of competition in the housing market between owners offering existing dwellings, and the construction sector offering new dwellings to the market.

10.6 Price Efficiency Indicators

Finally, we consider the Price Efficiency indicators on the MHUD Dashboard, which is a requirement of clause 3.23(3)(b). The Dashboard offers three price efficiency indicators relevant to housing assessment (housing price cost ratio, rural-urban differential, and land concentration control).

10.6.1 Price Cost Ratio

The first indicator is the Price Cost Ratio[82] ("PCR"). This is closely linked to the land value share indicator (discussed already in Section 3.4.1). The rationale for the PCR is that land value should represent no more than $33^{1/3}$ % of total property value, which would produce a PCR of 1.50 (simply, PCR = 1/(1-LV%)). If a market has an average PCR of more than 1.50, then it is deemed according to the Dashboard to be not performing efficiently. A PCR above this 1.5 threshold indicates *"..it appears there are constraints on the supply of infrastructure-serviced sections relative to demand*." – generally interpreted as showing a planning constraint.

The PCR for Rotorua in 2021 is 1.82, up from 1.25 in 2018, and its low of 0.97 in 2014. According to the NPS-UD guidance, this would indicate a supply constraint of new sections.

However, the PCR has significant limitations as an overall indicator of urban markets[83]. One key issue is the selection of $33^{1/3}$ % as some ideal or norm. Also, as a measure of just the land value to total value relationship, its main utility is to assess new housing, to show the relative contributions of land and built improvements to the property estate. That indicates whether the latest additions are more or less intensive (lower land value share) than for new developments in previous periods.

However, when the measure is applied across whole towns or cities, then the results are dominated by residential properties which were developed and improved many years ago[84]. Even if a city is growing by 2% per annum, its current estate will have 78+% of properties developed more than a decade ago, and well over half the estate developed more than 20 years ago. The general trend has been for housing to become more intensive over time, as plan provisions and market preferences trended toward smaller lot sizes and larger dwelling sizes. This means that analysis of the whole estate includes a cross-section of older

[82] National Policy Statement on Urban Development Capacity - Price efficiency indicators technical report: Price-cost ratios (hud.govt.nz)

[83] Market Economics Ltd. Land Efficiency of Auckland's New Housing 2013-17. Report for Auckland Council, November 2018.

[84] JDM Fairgray; Unaffordable Housing: the case against land use planning. October 2021 : New Zealand Planning Institute

properties with higher PCR values, and newer properties with lower PCRs. The average PCR, even with CPI adjustments to estimate the replacement cost of existing dwellings, must reflect that city-wide average. Tracking the PCR value year to year must inevitably show very small change to the average, because in the course of a year or 5 years, the number of new dwellings is too small to indicate a material change. The study for Auckland Council (2018) found it could be used to compare the relative land efficiency of new dwellings added to the estate each year, though not the total estate.

Moreover, the PCR is dominated by overall shifts in the market, and not by the land efficiency of new dwellings. This is clear in the substantial changes in PCR values contained in the Dashboard. The shifts from year to year are much greater than could have been generated by new properties entering the market.

To illustrate, the PCR calculated for Rotorua was 1.25 in 2018, which means on average that land accounted for around 20% of total property value. By 2020, the value was 1.80, with land accounting for around 45% of property value. In that time, the number of residential properties (dwellings) increased by less than 2%[85]. The Rotorua change could not have been due to the effects of new properties, instead it arose from an estimated district-wide shift in the relative values of land and built improvements. This means that any PCR change over time is likely to reflect predominantly trends in valuation and revaluation, which are influenced by much more than current planning provisions. There are wider limitations to this PCR method[86], and for these reasons we consider the PCR approach does not offer a robust basis for interpreting urban markets.

Even when applied to examine only new residential properties, the PCR indicator has to be applied with care. This is because market preferences may see new dwellings added which have relatively high PCR values, even though the Plan provisions enable developments with much lower PCRs. For example, construction of standalone dwellings on larger lots sizes means the land value share may be around 40% of the final property value (PCR of 1.67). If standalone dwellings are being constructed on lots that are above the minimum size / implied density enabled in the Plan, and if a high share of the dwelling sales price is land (with the enabled densities adequately supported by local amenity/infrastructure), then this would indicate the land value share (and PCR) is higher as a result of factors outside of planning.

On the other hand, if new dwellings are being constructed at the highest densities enabled by the Plan, and the final land value share is deemed above the benchmark indicated by the PCR, and there is demand for smaller lots and/or higher built intensity, then this could indicate a planning constraint, which would directly affect dwelling prices.

However, a more fundamental matter is that where the PCR is high for an individual lot – the land value component of a residential lot is high compared with the improvement value – that generally indicates potential for redevelopment or intensification. This is because the market confers value on land according

[85] Based on the RDC projections.

[86] There are other significant limitations to this PCR method, including its core assumption of some 'ideal' land value share, but more fundamentally from its built in assumptions that the current dwelling accounts for all of the value of land, and therefore that the current dwelling must represent the maximum development intensity possible on the land (otherwise there would be other factors, including potential for intensification which would influence land value. The consequent assumption that every residential lot in a city is already developed to its maximum potential causes substantial distortions, especially in relation to a city's growth potential if all growth must be greenfield. The research experience in New Zealand including for HBA work shows instead that well over 80% of already developed sites have potential for intensification.

to its use potential, and if a property has potential to be utilised more intensively than currently, its land value share of total value will be relatively high – hence a high PCR.

In any case, the calculation of a housing PCR depends on the residential lot being already improved with a dwelling. The indicator is not appropriate for undeveloped lots (the PCR will approach infinity).

Accordingly, where the average PCR value is relatively high for a city, that is an indicator that its already developed sites have relatively high potential for further intensification. One important aspect is that land value is influenced directly by a site's development potential, so that zoning provisions which enable intensification can be expected to result in higher valuation for the land component of properties. In contrast, where developed land has limited potential for further intensification, this will also affect the property valuation, with land valued relatively lower if there is limited potential to intensify.

This means that while the Price Efficiency indicators contend that a high PCR value is an indicator of under-supply, the opposite is likely to be the case. Zone provisions which enable intensification can be expected to put upward pressure on the PCR indicator, such that a higher PCR indicates not a shortfall in supply, but rather a relatively high potential for more dwelling capacity through intensification. Hence our concerns about the use of the PCR at all, and about how the PCR indicator should be interpreted.

10.6.2 Rural Urban Differential

The MHUD Dashboard contains an indicator on the differential in land prices on either side of the rural-urban boundary. For this indicator, the Dashboard compares land prices of standalone dwellings within Rotorua's urban area[87] within 2 kilometres of the rural urban boundary with those of rural residential (lifestyle) properties outside, but within 2 kilometres, of the urban edge. The land values on a per m^2 basis of these two groups were compared to produce a differential between the land values. Some adjustment has been made for distance to amenity and the charged (development contributions) infrastructure costs.

However, in an urban economy a substantial price differential is to be expected between urban land and non-urban land. Such a differential does not indicate any planning constraint. It arises because urban land is much more valuable on a per m^2 or per ha basis as it can be utilised much more intensively than non-urban land. That higher intensity of use and consequent higher land value is enabled by infrastructure. Its higher intensity of use means it may generate higher returns per hectare, with the higher land values reflect that higher return. The most obvious difference is in residential land, since urban land can carry many more dwellings per hectare than non-urban land.

The common pattern for cities and towns is for the highest land values to occur in the centre – the central place – with values decreasing as distance from the central place increases. Higher value uses – commerce and retail – typically command the most accessible – most central – locations. Housing generates lower returns per hectare than commerce, so it command the areas outside the centre. The infrastructure necessary for urban intensity levels has high scale economies, with networks focused on the centre (as the first location developed). This means that the urban intensity can generally be sustained only to the extent of the infrastructure, which is determined by the size of the economy. Accordingly, there is a substantial

[87] Not necessarily the same as the urban environment defined for this HBA.

decrease in intensity at the urban/infrastructure edge. There is a corresponding significant drop in land value at the urban edge, as evidenced in all of the land value profiles provided in the MHUD datasets.

This pattern is directly consistent with the dynamics of cities, where the benefits of co-location and concentration are greatest in the centre, and decrease with distance from that centre, while the intensity enabled by infrastructure is needed to best secure those benefits. One important implication is that a sharp differential in land value at the urban edge is indicative of an efficient urban form, where the maximum urban activity is sustained within the minimum urban land area, and the differential in intensity of land use is also sharp. In the urbanised area, a significant share of the developed land area (typically around 30% to 40%) is taken up for roads and reserves.

Outside of the urbanised area – usually coinciding with the end of the urban zoning and the edge of the infrastructure-serviced area – the land value profile would show a sharp drop but a further gradient, as the non-urban land closest to the edge has greater value than that further away because its potential for early urbanisation is greater. Beyond the current urban edge, land is most commonly in rural lifestyle properties, characterised by significantly larger land area per dwelling, limited infrastructure, and lower intensity of use. Land values per ha reflect this lower potential, even though individual lots are commonly of much higher value than smaller urban lots. The average property size, development yields and infrastructure costs that arise from these land use gradients account for a large share of any differential. The MHUD methodology controls for some effects, but it does not account for the major difference arising from intensity of use. Genuine rural production uses are more common as distance from the urban edge increases, with lower land values per ha than lifestyle lots, though commonly larger holdings.

Importantly, the relationship between parcel size and land value shows only a weak linearity. This is because much of the value of an urban lot arises simply from its ability to accommodate a dwelling. Larger lots are more valuable, but the key matter is whether a lot is large enough to accommodate a dwelling. This is evident from analysis of land price curves (from the Ratings Database) from the feasibility modelling assessment. Urban lots typically have much higher values per m^2 than lifestyle lots, hence the clear value differential between urban and lifestyle land.

Accordingly, the Rural Urban Differential indicates that the Rotorua land market is performing relatively efficiently.

We note that the Rural Urban Differential is no longer listed on the MHUD Dashboard as a Price Efficiency indicator (from October 2021)

10.6.3 Residential Land Concentration

This MHUD Dashboard indicator of Land Concentration control showed substantial potential for residential development in the district. However, the Ministry's website no longer provides this information.

10.7 Summary of the Impact of Planning and Infrastructure

The foregoing analysis has provided comprehensive assessment of the housing and land markets in Rotorua, and demand for housing from the Rotorua population. It covers all of the key aspects which the NPS-UD sets out.

It shows in the current and anticipated conditions for Rotorua that Council planning and infrastructure are expected to have adverse impact on housing affordability and competitive aspects of the market in the short-medium term. The Plan does not yet provide for sufficient capacity for growth, even though there are opportunities in a range of locations in the district, and that is expected to place upward pressure on prices.

PART 3 – BUSINESS DEMAND & CAPACITY

11 Business Demand

This section provides an analysis of future demand for business land and floorspace in Rotorua's urban business enabled zones. That is, zones that anticipate business activity, including in mixed use zones where housing is also anticipated by the District Plan. It begins with Council's employment projections and an analysis of projected trends. It focusses on the portion of employment that is expected to occur in the urban environment over the long term future and then within urban business zones. That employment growth is converted into estimates of business land and floorspace demand using average ratios of space requirements per worker.

11.1 Employment Projections

11.1.1 Total District Employment Projection

This report is informed by Council's district-level 'base' employment projections (developed by Infometrics) for the period 2020 to 2050 by industry/sector.[88] These projections assume there are no constraints to growth, and there is adequate land available to accommodate business growth, particularly those that require an urban business enabled zone. Figure 11.1 shows total current 'jobs filled'[89] equates to just over 36,000 in 2020.

This is projected to rise strongly in the short-medium term before slowing somewhat in the long term. An estimated 1,670 additional filled jobs are projected between 2020 and 2023 (growth of 5% or close to 560 additional jobs per annum). By 2030 (the medium term), an additional 4,550 filled jobs are projected (total growth of 13% of an annual average growth rate of just under 460 per annum. By 2050, the number of jobs filled in the district is projected to reach just over 45,320 (total growth of around 9,320 or 26% and a long run average of around 310 jobs per annum).

[88] Refer Technical Report for a summary of Council's district employment projections by 48 economic sectors.

[89] Includes employees and those that are self-employed.

Figure 11.1 – Estimated Total Rotorua District Employment Growth (Preferred Scenario)

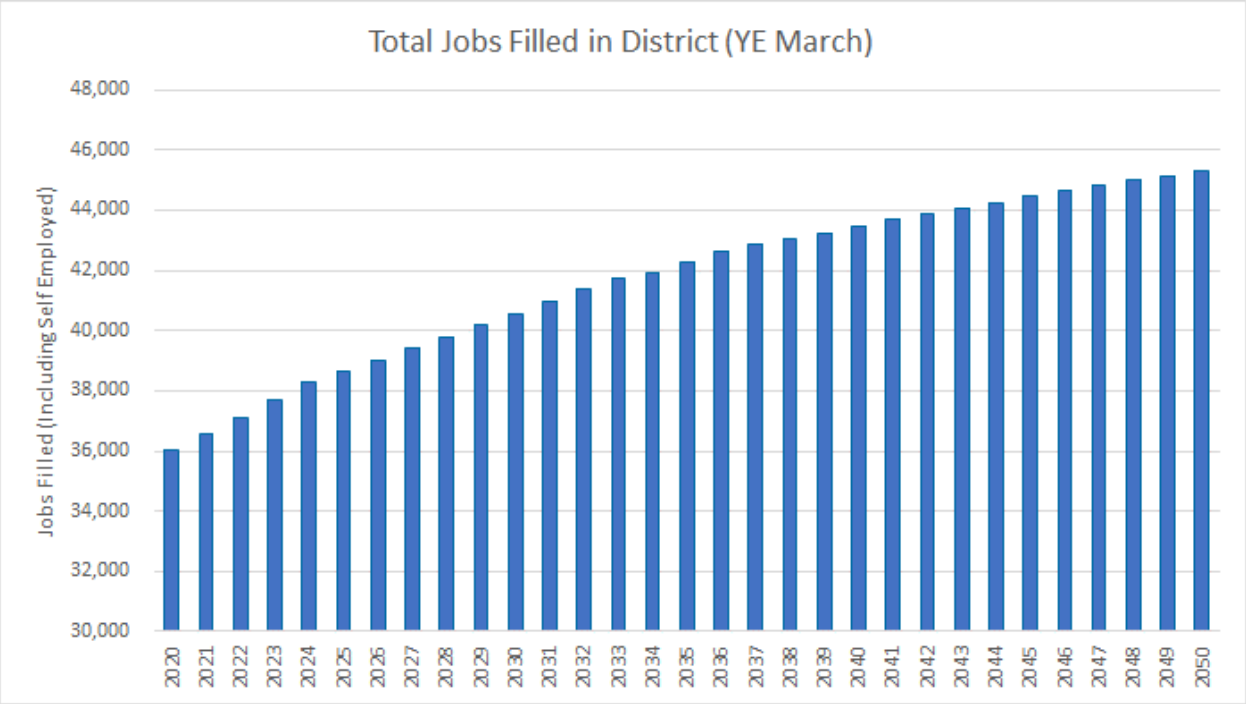


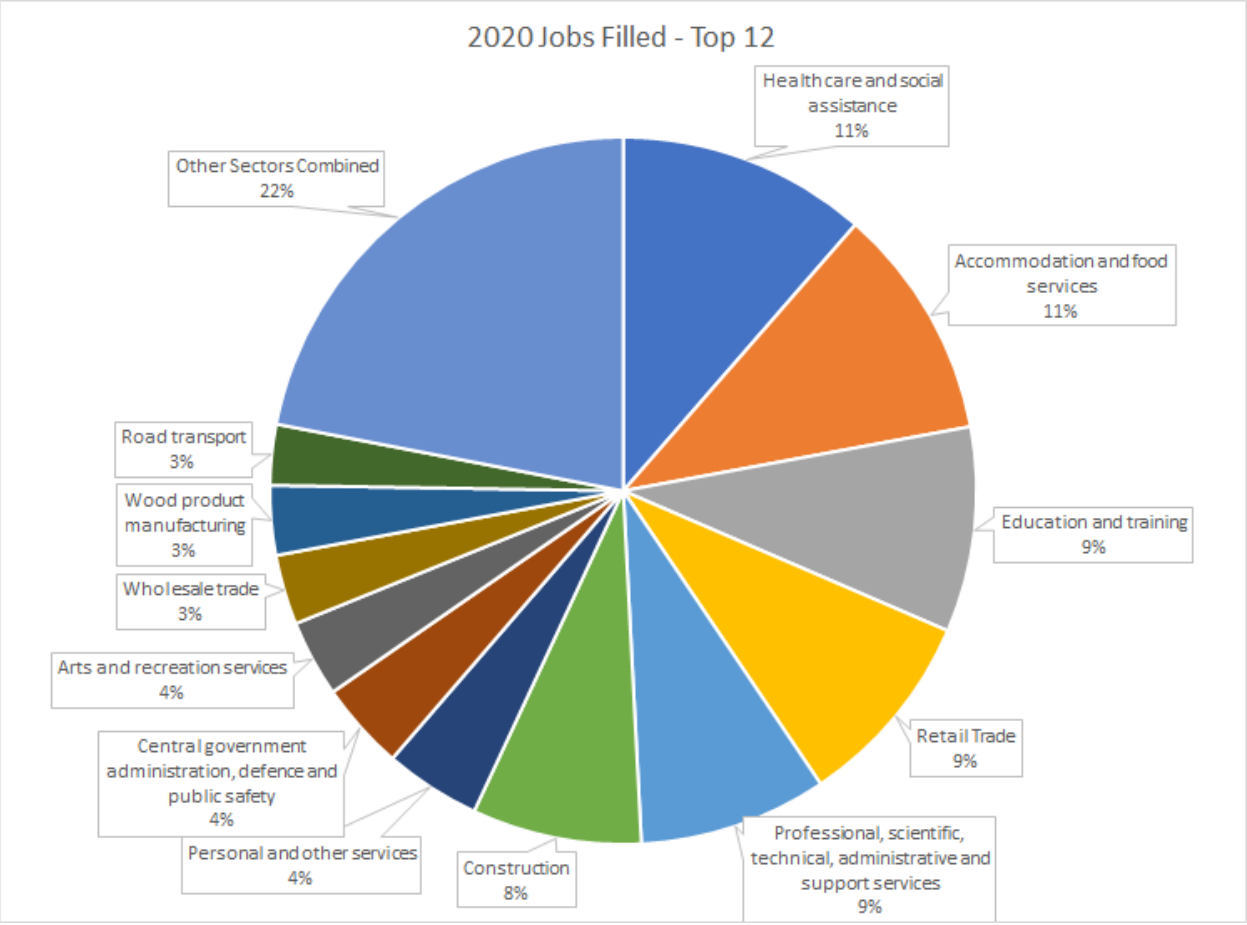
Figure 11.2 shows that the top 12 of 48 economic sectors make up 78% of jobs filled in the district in 2020. By 2050, the top 12 sectors are projected to make up 81% of total district employment, with Agriculture, Forestry and Fishing Support Services moving into 12th spot (displacing Road Transport down to 13th). The somewhat larger sectors expected to have an increasing percentage share of employment over time (because they are projected to grow at a faster rate compared to other sectors and/or because some (17) sectors are projected to contract and have fewer workers in the long term) include:

- Health Care and Social Assistance,
- Education and Training,
- Personal and Other Services,
- Central Government Administration & Public Safety,
- Local Government,
- Machinery and Equipment Manufacturing,
- Fabricated Metal Product Manufacturing,
- Transport Equipment Manufacturing,
- Other Food Manufacturing and
- Finance.

So, while there is growth overall in employment, which will put greater pressure on capacity in business enabled zones, the structure of the economy is projected to change slightly, which gives an indication of the types of zones where growth pressure will be directed. The growth sectors are a mix of sectors responding to the growth of households and also manufacturing and forestry. However, with some sectors

requiring less room and some requiring more in the future, it is the net growth in land demand in each time period that is important.

Figure 11.2 – Top 12 of 48 Economic Sectors by Jobs Filled, Rotorua District 2020 (Infometrics)



11.1.2 Urban Environment Employment Projection

Given the key purpose of the NPS-UD to assess demand and capacity in the urban environment, estimates have been made on the share of district employment by sector that is located in the urban environment (as defined in Figure 1.2).

M.E has relied on the SNZ Business Directory ("BD") which contains annual employment estimates for 2020, also by 6D ANZSIC. While broadly compatible with the LEED data, the results differ slightly in some sectors. However, the advantage of the BD data is that it is broken down to relatively small geographic areas. M.E aggregated Statistical Areas 1 ("SA1s") to approximate the urban environment boundary to estimate that percentage share of total district employment that falls within the urban environment, and the share that falls in the rural environment (rest of district). This percentage structure has been applied to the Infometrics employment projections.

The analysis shows that in 2020, an estimated 87% of district employment is based in the main urban environment of Ngongotahā, Central, Western and Eastern. Just 13% of district employment is currently based in the rural environment. As would be expected, the sectors which have only a low share of

employment in the urban environment are the primary production sectors (agriculture, forestry, mining/quarrying) and beverage product manufacturing.

11.1.3 Urban Business Zones

The next step in the demand analysis is to convert Council's urban level employment projections into projections of demand for combined urban business enabled zoned land for the period 2020 to 2050. This step is important so as to focus on the employment and business growth that would seek a business zone in the urban environment, rather than seek a location in an urban residential zone[90]. This is because the NPS-UD requires that Council provide at least sufficient capacity to provide for urban business demand, and this occurs primarily through the appropriate zoning of urban business land (including the provisions within those zones). The amount of zoned land combined with the type of zoning and its location are all relevant to meeting demand in a way that supports a well-functioning urban environment.

In accordance with the NPS-UD (clause 3.4(2)) only land where business use is a "*permitted, controlled or restricted discretionary activity on that land*" is that land 'zoned' for business. The supporting Technical Report provides a list of the business zones included in this HBA. They are a mix of business only zones (where residential housing is not provided for) and mixed-use business zones (where residential housing is also provided for). This classification of the business zones is mapped in Figure 11.3. These combined areas define the extent of urban business zones.

There are some minor changes in business zoning between the short-medium term and the long term. Notably, in the Eastern reporting area, there is greenfield Commercial 3 (neighbourhood centre) zone on Wharenui Road in the Wharenui Development Plan Area. This operative zone is included in the short-medium term spatial framework, but the decision was made to exclude it from the long term spatial framework of the HBA and instead replace it with two alternative neighbourhood centres that could be more strategically located should extensive residential zoning occur on the rural land east of Te Ngae Road (as indicated by the 2018 Spatial Plan)[91]. As the location of those potential future centres is not known, they are not shown in the long term map in Figure 11.3, but are still taken into the account in the capacity assessment (Section 12).

Relatedly, within that same Eastern indicative Spatial Plan urban growth area, is a potential extension of the Eastgate Business Park zoning. This applies in the long term only (as only operative zones can be included in the short term).

Also in the long term, the Spatial Plan indicates an area of new business zoning south of Ngongotahā. For this HBA, that is assigned a City Entranceway Mixed Use zoning. The Future Community Asset Reserve zoning in Pukehāngi would also only qualify as enabling business development in the long term under the NPS-UD.[92] Last, the Transitional – Residential to Light Industrial Zone is treated as a Light Industrial Zone in the long term but is not a business zone in the short term (where it remains residential capacity). All other business zones do not change in extent between the short and the long term.

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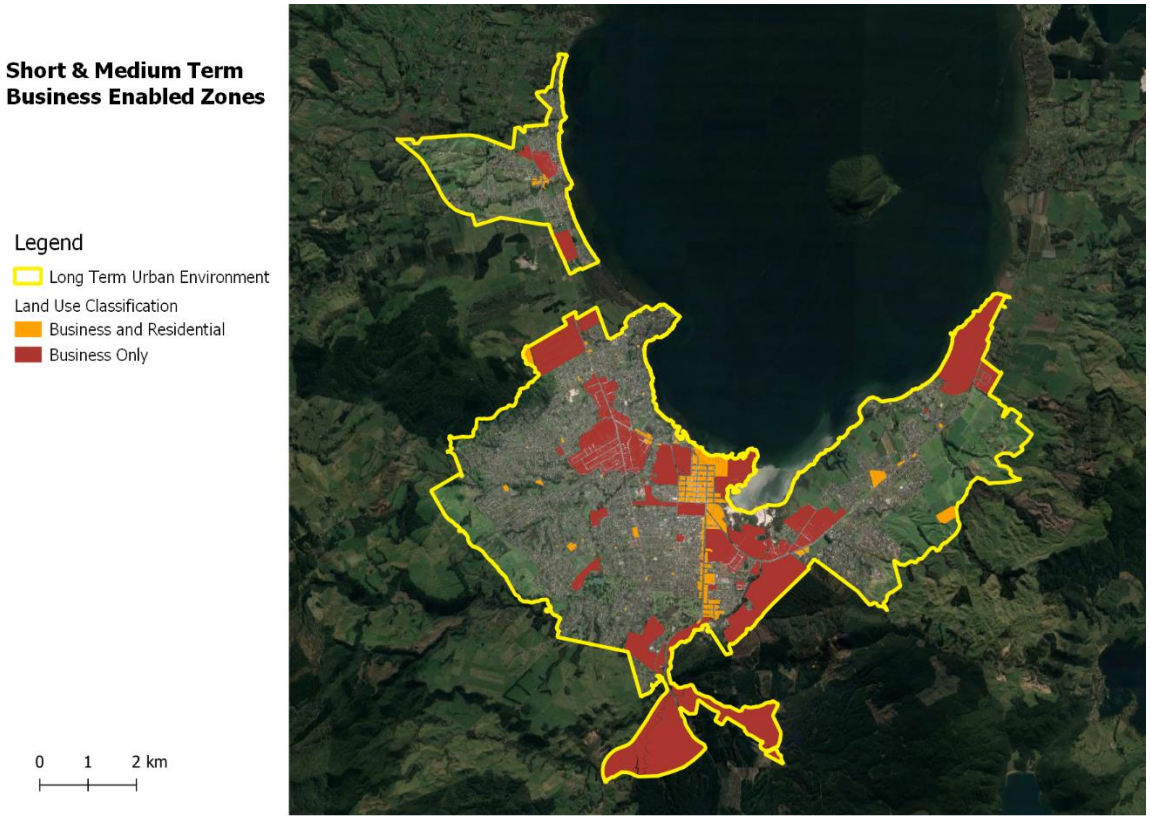
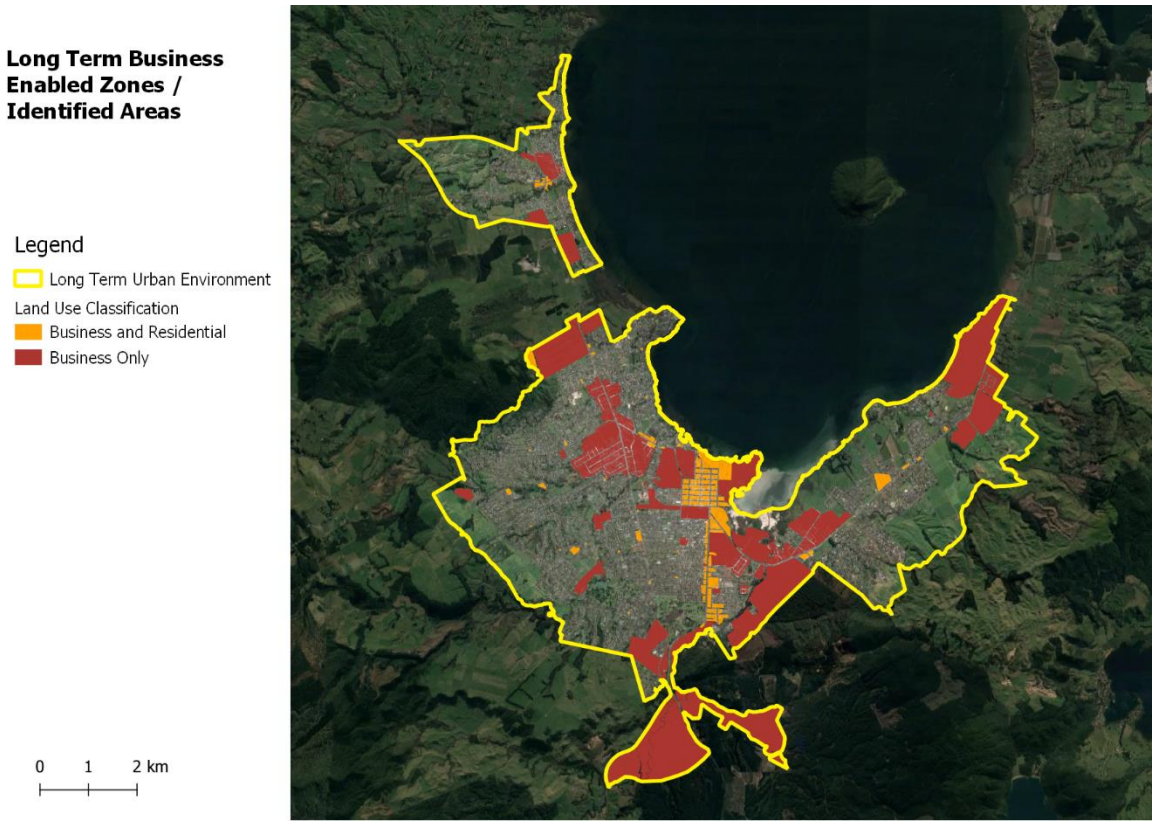
[90] This mainly covers businesses that operate from a residential address. This includes a large share of the construction sector for example, with self-employed trades people administering their business from home but working throughout the district on a daily basis.

[91] This greenfield area is included as a long term residential growth area in the housing capacity assessment.

[92] Council note that a consent has been sought for a retirement village within this area which is not anticipated by the Plan.

Figure 11.3 – Short and Long Term Land Zoned for Business in Rotorua's Urban Environment





11.1.4 Urban Business Zone Employment Projection

The business enabled zones mapped above follow property and other boundaries. SNZ BD employment data is only available (at its finest level of resolution) at SA1 boundaries. In order to estimate the share of urban environment employment that falls within the combined urban business zones, M.E has selected the SA1s that most closely align with the zoned extent. The Technical Report includes a map showing the overlap of SA1s to the urban business zone extent and briefly discusses some of the limitations of using this approach. Overall, the approach is likely to be slightly conservative in terms of ensuring sufficient business zone capacity as it may slightly overstate the share of employment located in urban business zones in 2020. This is considered more appropriate than underestimating future business zone demand to inform future planning decisions.

Based on this approach, an estimated 68% of total district employment in 2020 is based in business enabled zones in that urban environment, with an estimated 19% located in other zones in the main urban environment (primarily in residential zones). This means that just within the urban environment, 78% of employment is located in business zones.[93]

Some economic sectors have an above average propensity to locate in an urban business zone as opposed to other locations in the district. Sectors which have demonstrated (2020) a high propensity to locate in an urban business zone include:

- most manufacturing sectors;
- Water, Sewerage, Drainage & Waste Services;
- Wholesale Trade;
- Retail Trade;
- Finance & Insurance;
- Accommodation;
- Food Services;
- Local and Central Government administration and services;
- Professional Services; and
- Health and Social Services.

An estimated 37% of construction sector employment is in urban residential zones, compared to 49% in urban business zones and 14% in the rest of the district (refer the 48 sector summary in the Technical Report). This trend is common to all districts and reflects those trades people that are self-employed/contractors and have registered their businesses to their home address.

The following demand assessment focusses just on the 68% of district employment in urban business zones. This is the portion of demand that Council needs to ensure is sufficiently provided for in terms of zoned

[93] I.e., 68% as a share of 87% urban environment share.

capacity within the urban environment. This share is applied to the Infometrics district employment projections.

The model assumes that the share of district employment in urban business zones by sector remains constant over time, based on 2020 trends. This assumption potentially masks changing preferences in some sectors as to where they locate but is considered appropriate for the purpose of this analysis.

Figure 11.4 – Estimated Urban Business Zone Employment Projections (M.E, Infometrics)

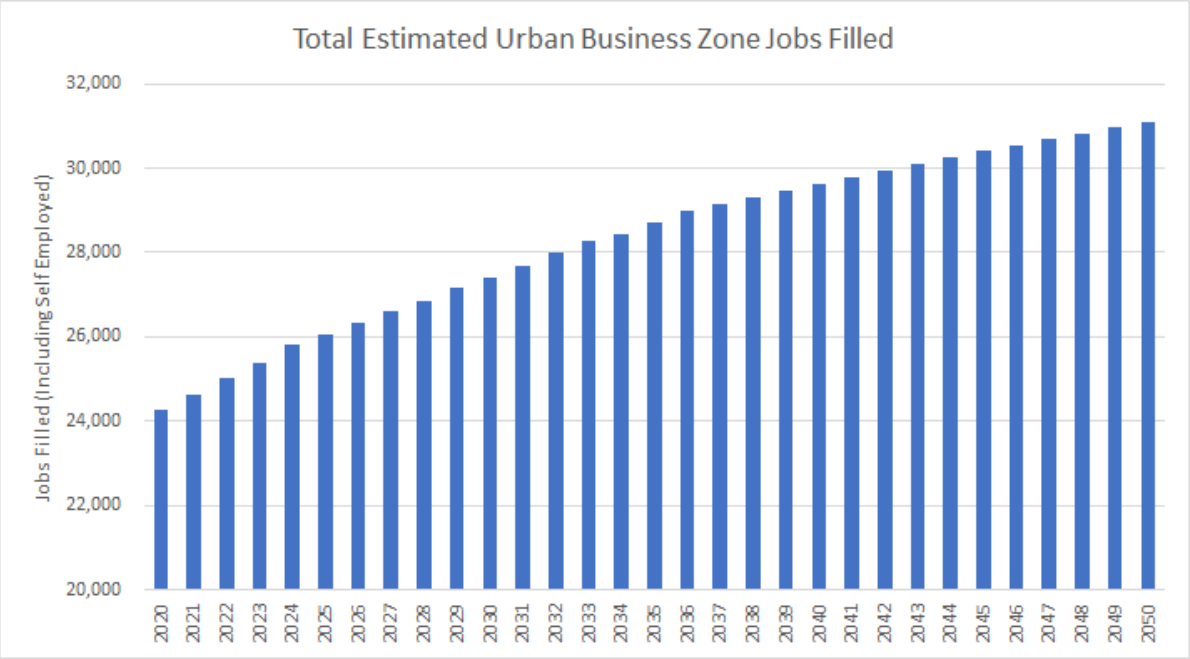


Figure 11.4 shows the estimated employment growth projections seeking an urban business zone location increasing from approximately 24,260 in 2020 to approximately 31,100 in 2050. An estimated 1,140 additional filled jobs are projected between 2020 and 2023 (growth of 5% or close to 380 additional jobs on average per annum). By 2030 (the medium term), an additional 3,130 filled jobs are projected (total growth of 13% of an annual average growth rate of just over 310 per annum. By 2050, the total growth of urban business zone jobs is projected at 6,840 or a 28% increase over 2020 (230 annual average growth over the long term).

The Technical Report contains a full breakdown of projected urban business zone employment by 48 economic sectors over the short, medium and long term. There are some sectors expected to have declining employment according the Infometrics projections (across the district generally).[94] These include significant reduction of the Meat and Meat Product Manufacturing sector employment (which while only a small sector compared to many, all but disappears in urban business zones by 2050); moderate reduction in Wood Product Manufacturing (with the decline projected to occur between the medium and long term only); decline in insurance related sectors, Road Transport (again after the medium term) and others.

The big growth sectors in urban business zones include Non-Metallic Mineral Product Manufacturing (growth of 186% over the long term, although a net change of 150 jobs); Central Government

[94] Employment decline can be attributable to a contracting sector and/or the effects of increased automation.

Administration and Public Safety (1,530 additional jobs to 2050); Healthcare and Social Services (1,790 additional jobs to 2050), as well as strong growth in retail, accommodation and hospitality. The nature of growth by sector gives a strong indication of the sorts of zones and locations that will be in demand in Rotorua's urban business zones over time.

11.2 Likely Future Demand for Urban Business Zone Land

M.E has distributed these urban business zone employment projections across 14 different types of land uses or building typologies based on prior M.E research[95]. That research looked at the trends in building types or land uses across the country occupied by businesses, examined at the detailed 6-digit ANZSIC level. M.E has calibrated the distribution to Rotorua's economic structure (2020) and then summarised it at 48 economic sectors, as shown in supporting Technical Report. This percentage allocation is also assumed to hold constant over time.

Table 11.1 shows the result of applying that land use/building typology structure to projected urban business zone employment. There is strong demand for shops, commercial offices and other types of commercial buildings, and moderately strong demand for factories, warehouses, food and beverage outlets, and education/training budlings.

Table 11.1 - Estimated Urban Business Zone Employment Projections by Land Use Typology 2020-2050

Category	Land Use / Building Type	Urban Business Enabled Zones Jobs 2020	Jobs Growth (n)			Jobs Growth (%)		
			2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term
Retail	Shops---Commercial	4,304	265	714	1,322	6%	17%	31%
	Shops---Food and Beverage	1,625	57	167	304	3%	10%	19%
Commercial	Office---Commercial	4,926	190	511	1,353	4%	10%	27%
	Office---Retail	140	6	18	43	4%	13%	30%
	Yard---Commercial	114	7	14	18	6%	13%	16%
	Other Built---Commercial	3,287	223	706	1,973	7%	21%	60%
	Education	848	49	165	373	6%	19%	44%
	Outdoor---Commercial	297	29	60	117	10%	20%	40%
Accommodation	Accommodation	1,398	49	143	262	3%	10%	19%
Industrial	Warehouse	2,745	107	246	318	4%	9%	12%
	Factory	2,296	69	177	494	3%	8%	22%
	Yard---Industrial	1,583	64	148	223	4%	9%	14%
	Other Built---Industrial	628	31	68	48	5%	11%	8%
	Outdoor---Industrial	67	- 1	- 4	- 10	-1%	-5%	-15%
Total Urban Business Zone Demand Growth (jobs filled)		24,258	1,144	3,133	6,837	5%	13%	28%

Source: M.E Rotorua Urban Business Land Demand Model (HBA 2021), Infometrics/RLC. Preferred Growth Scenario.

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

[95] These typologies should not be confused with 'activities' defined in the District Plan, although there are similarities and activities in the Plan have been matched to the typologies as part of the capacity assessment.

Table 11.2 further summarises projected urban business zone employment by land use category. Currently demand for commercial land/building types dominates the employment structure (2020). This category is also expected to have above average employment growth in urban Rotorua over the long term.

Table 11.2 - Estimated Urban Business Zone Employment Projections by Category 2020-2050

Category	Urban Business Enabled Zones Jobs 2020	Jobs Growth (n)			Jobs Growth (%)		
		2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term
Retail	5,929	322	881	1,626	5%	15%	27%
Commercial	9,612	503	1,474	3,877	5%	15%	40%
Accommodation	1,398	49	143	262	3%	10%	19%
Industrial	7,319	270	635	1,072	4%	9%	15%
Total	24,258	1,144	3,133	6,837	5%	13%	28%

Source: M.E Rotorua Urban Business Land Demand Model (HBA 2021), Infometrics/RLC. Preferred Growth Scenario.

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

Some businesses will require more land area and built space than others, and this has obvious implications for development capacity. For example, on average industrial activities are likely to require more land area than retail shops for a given number of workers. To assess land area and floorspace requirements for projected employment growth, employment is translated into likely building floorspace and developable land area[96] demand using estimated ratios per worker in each building typology/land use. This is derived from the same national research discussed above. The ratios are set out in the supporting Technical Report.

Relying on national average ratios and typology-sector relationships is a limitation of this analysis as it does not necessarily reflect the land development trends occurring in Rotorua – where businesses in any one sector may be of above or below the national average size in employment terms and/or tend to occupy greater or lesser site areas compared to the national average.[97] Nonetheless, we consider this approach suitable for the purpose of this report.[98]

11.2.1 Results by Building/Land Use Type and Category

Having applied the ratios of land area/worker to the employment distributed over building typology / land use in urban business zones, Table 11.3 and Figure 11.5 show the detailed results. Strong demand in the short to medium term is estimated for urban business zone land, slowing over the long term, in keeping with the location and structure of district employment projections.

Between 2020 and 2050, M.E estimates that around 80.2ha of developable zoned land will be required to accommodate employment growth seeking an urban business zone. Nearly half of this zoned land demand

[96] This is the area of already subdivided sites and for larger greenfield sites, excludes 30% of gross site area for roads and open space/reserves.

[97] In future updates, a Rotorua specific matrix could be developed. This would establish a more accurate relationship between local business activity and development/land use patterns.

[98] The same methodology has been applied in HBAs for other Tier 1 and Tier 2 local authorities. The same assumptions are used on both the demand and capacity side of the assessment, so this provides consistency.

(39.3ha) occurs in the next 10 years. When the competitiveness margin is added[99], long term developable land demand in urban business zones increases to 94.1ha (2050) (Table 11.3).

Table 11.3 - Projected Land Demand in Urban Business Zones by Land Use Typology 2020-2050

Category	Land Use / Building Type	Developable Land Demand (ha)					
		Cumulative			Cumulative with Competitiveness Margin		
		2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term
Retail	Shops-Commercial	1.3	3.6	6.6	1.6	4.3	7.8
	Shops-Food and Beverage	0.5	1.4	2.6	0.6	1.7	3.0
Commercial	Office-Commercial	0.6	1.5	4.1	0.7	1.8	4.7
	Office-Retail	0.0	0.1	0.2	0.0	0.1	0.2
	Yard-Commercial	0.1	0.3	0.3	0.1	0.3	0.4
	Other Built-Commercial	2.7	8.5	23.7	3.2	10.2	27.6
	Education	0.8	2.8	6.2	1.0	3.3	7.3
	Outdoor-Commercial	0.1	0.3	0.6	0.2	0.4	0.7
Accommodation	Accommodation	1.0	2.9	5.2	1.2	3.4	6.2
Industrial	Warehouse	3.7	8.6	11.1	4.5	10.3	13.2
	Factory	1.8	4.7	13.1	2.2	5.6	15.3
	Yard-Industrial	1.7	3.9	5.9	2.0	4.7	7.0
	Other Built-Industrial	0.4	0.8	0.6	0.4	1.0	0.7
	Outdoor-Industrial	- 0.0	- 0.0	- 0.1	- 0.0	- 0.0	- 0.1
Total Urban Business Zone Demand Growth (ha)		14.8	39.3	80.2	17.7	47.1	94.1

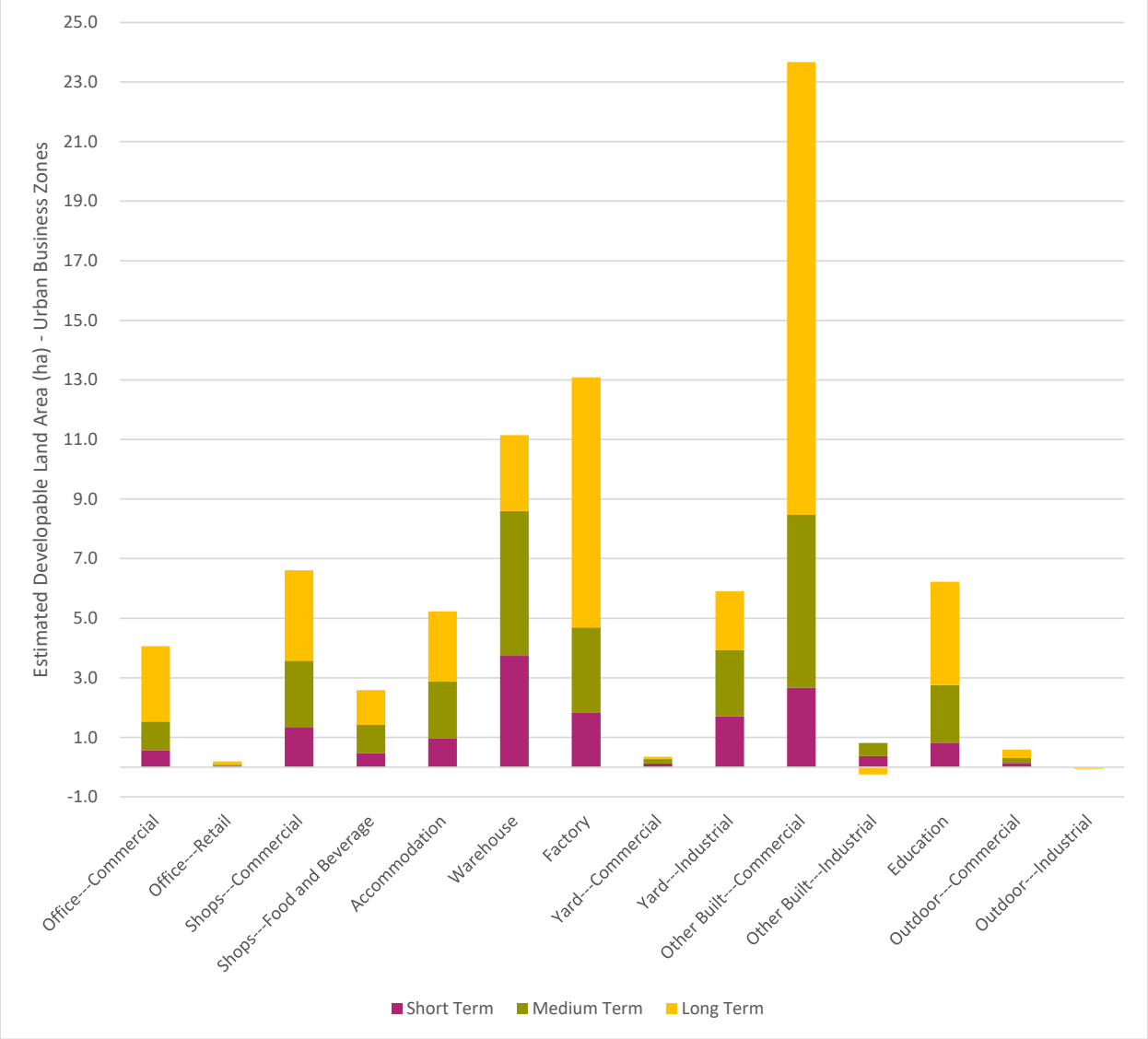
Source: M.E Rotorua Urban Business Land Demand Model (HBA 2021)

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

According to the model, the building typology / land use showing the greatest demand (23.7ha) over the long term is 'Other' commercial buildings. These are neither offices, schools, or commercial yards, but in the case of Rotorua, include demand for activities like police stations/facilities, fire stations, district courts, security, hospitals, ambulance services, churches and funeral services. These industries are driven strongly by household growth projected in the district.

[99] Clause 3.22 of the NPS-UD.

Figure 11.5 - Projected Land Demand in Urban Business Zones by Land Use Typology (Excl. Margin)



The building typology / land use that is projected to need the most land in the short term (i.e. to 2023) is warehouse space. It is estimated that 3.7ha of developable land in urban business zones is needed to accommodate growth in warehouse type developments (large utilitarian buildings) and around 8.6ha is needed by 2030, but relatively little after that out to 2050. Demand for land to accommodate industrial factories is larger overall compared to demand for warehouses, but that demand is weighted more towards the long term rather than the short to medium term. Demand for industrial yard based land is however more evenly spread over the time periods (although noting that the time periods themselves have increasing lengths, hence a gradual reduction in the annual average demand over time).

The combined demand for zoned land to accommodate growth of retail shop space in the urban environment is estimated at 9.2ha over the long term[100] excluding the competitiveness margin, as shown in the category summary of Table 11.4 and Figure 11.6. Demand for land to accommodate growth in all

[100] The 'retail' category results in this model do not supersede specific retail demand modelling - it is a high level, total urban business area model that does not distinguish retail store types, sizes or centre functions.

types of commercial activity is 35.1ha by 2050 (excluding the margin), followed closely to total industrial land use demand of 30.7ha.

Table 11.4 - Projected Land Demand in Urban Business Zones by Land Use Category 2020-2050

Category	Developable Land Demand (ha)					
	Cumulative			Cumulative with Competitiveness Margin		
	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term
Retail	1.8	5.0	9.2	2.2	6.0	10.8
Commercial	4.4	13.4	35.1	5.2	16.1	41.0
Accommodation	1.0	2.9	5.2	1.2	3.4	6.2
Industrial	7.6	18.0	30.7	9.2	21.6	36.2
Total	14.8	39.3	80.2	17.7	47.1	94.1

Source: M.E Rotorua Urban Business Land Demand Model (HBA 2021)
Projected demand within business enabled zones in defined urban environment only (as defined by SA1 2018)

Figure 11.6 - Projected Land Demand in Urban Business Zones by Land Use Category (Excl. Margin)

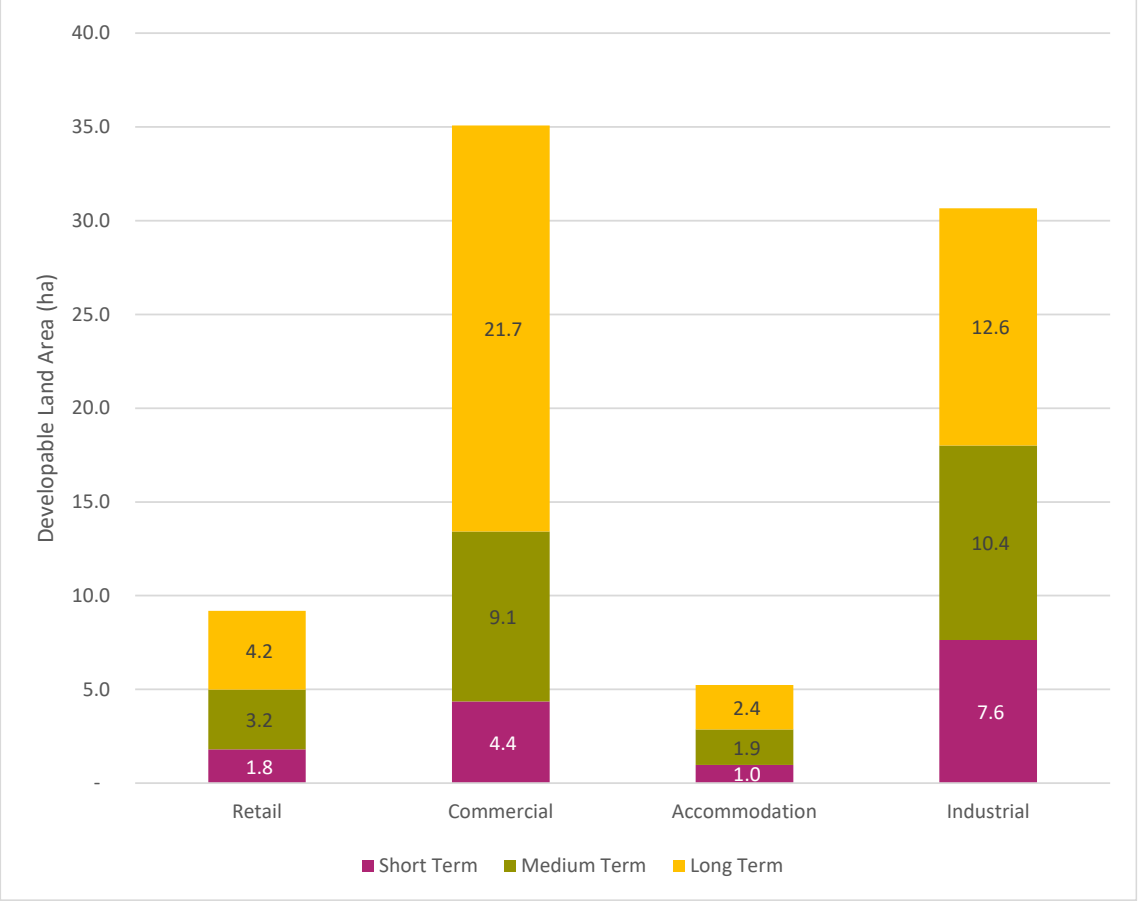
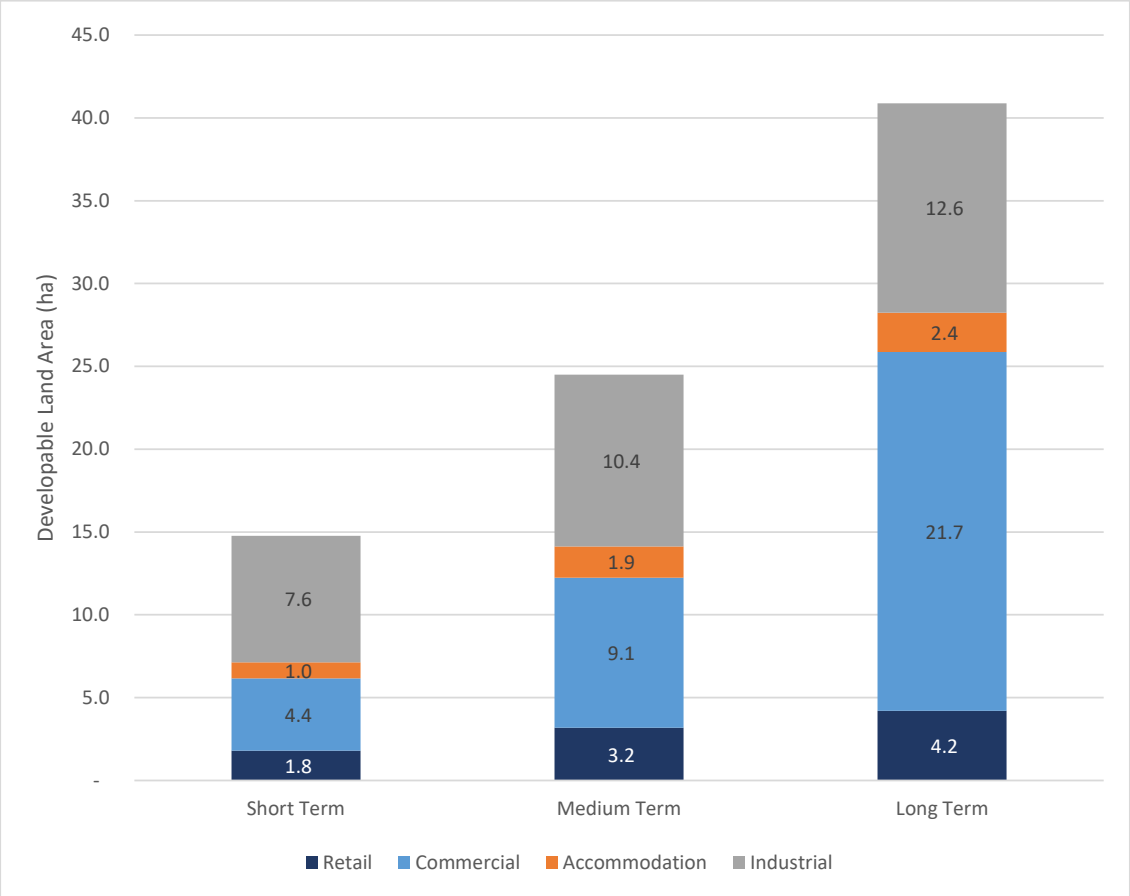


Figure 11.7 highlights where the demand is focussed in the short, medium and long term in Rotorua's urban business zones, with industrial land being of greatest demand in the short term, industrial and commercial land being of greatest demand in the medium term and commercial land being the greatest overall demand in the long term.

Figure 11.7 - Projected Land Demand in Urban Business Zones by Time Period (Excl. Margin)



For brevity, the equivalent analysis expressed in terms of sqm of GFA (floorspace) demand projected for urban business zones is set out and discussed in the supporting Technical Report. The results show the same trends and broad order of magnitude between categories and over time as for land demand projections.

11.3 Discussion

The demands for additional business land area should be considered in terms of developable zone area and not gross zone area as the ratios applied relate to site coverage and exclude public land (roads and landscape/reserve areas). This is particularly relevant as new zone area is often (but not always) created as greenfield land in what was previously rural zoning. When planning for new business zoning to help meet projected demand, Council must consider that developable land area equates to around 70% of gross zone if the land has not already undergone land development.

The measure of additional land demand is considered more relevant for future planning for industrial growth as industrial activities are more land extensive and not easily accommodated in mixed-use buildings. The measure of additional land demand is also likely to be more relevant for future planning for retail growth as retail activities are generally limited to the ground floor. However, the measure of additional floorspace is most relevant for future planning of commercial and tourist accommodation growth (particularly commercial office) as the bulk of these activities is more easily located above ground (with lobbies often limited to the ground floor) and in conjunction with retail activities. This is particularly so in CBD zones. However, as some resorts and commercial activities (including commercial yards) are reliant on land area more than built space, the land demand results still need to be considered.

It is important to note that this demand analysis does not dictate specifically which zones are needed to accommodate projected demand. Across the business enabled zones in the urban environment there are options available to accommodate a mx of building typologies / land uses depending on the rules of the District Plan and the nexus between activities and the typologies used in M.E's model. This is discussed further in section 12 with regard to business capacity.

Feedback from Rotorua property stakeholders sought prior to commencing the HBA was that the greatest demand in the urban area is for industrial land and premises – this was the area of greatest current shortfall. They indicated a real shortage of good industrial land close to the CBD on both main streets and side streets. That demand was for conventional industrial land for industrial service workshops, engineering companies (and their suppliers), forestry related machinery manufacturing, servicing and sale etc.

Any small piece of industrial land that has come up for sale recently has been snapped up. Anything up to 2ha is being taken. Vacancy rates in industrial zones have been going down for the last 7 years and are now less than 4% vacancy according to Telfer Young (a new low). This low vacancy rate is said to be constraining business growth, with businesses having little or no options to expand or move so are having to stay put even when they have out-grown their premises or site.

This feedback is consistent with the demand projections developed for this HBA where there is (continued) strong demand in the short-medium term for industrial type development. This feedback is discussed again in terms of the sufficiency findings of Part 3.

Feedback gathered specifically for this HBA agreed that more industrial capacity was needed to meet demand. They also provided some insight on a potential new source of demand for business zoned land in Rotorua that may not be anticipated by the Infometrics employment projections. One key developer felt that Rotorua has a lot going for it and they were expecting to see strong migration of businesses out of Auckland in the near future. Auckland was becoming very vulnerable (as a result of Covid-19, or whatever comes next) in their view, and this is creating major issues for supply chains and logistics (particularly for things like building supplies where wholesalers and retailers are struggling to get stock from Auckland based manufacturers and distributors).

Rotorua and Tauranga are well placed to capture some of that demand according to this local developer. They think Rotorua will see the bigger corporations changing the way that they hold and distribute stock – developing large distribution centres outside of Auckland where they can store stock and distribute with less disruption (as they do in Europe). They felt this would translate into more demand for vacant capacity. Specifically large sites in strategic locations for good transport accessibility.

Should this market prediction play out, and if this demand growth is not captured in the employment projections relied on for this HBA, demand for industrial land in particular could be higher than modelled, particularly in the short to medium term. That said, if the capacity isn't available, that market demand will look elsewhere. It therefore represents an opportunity for further economic growth if sufficient and suitable capacity can be provided in a timely manner.

12 Business Capacity

This section assesses the business land and floorspace capacity that is plan enabled[101] in Rotorua's urban business zones. This is based on planning rules applied to vacant parcels that have been identified in those zones through a ground survey. It is this vacant capacity that provides an important pathway for future business growth.[102] This analysis does not consider the amount or timing of land that will actually be developed (take-up of vacant capacity will be tracked through Council monitoring) and makes no call as to the developability of the capacity identified. That aspect is discussed in section 13.

12.1 Vacant Land Identified

Land parcels that were vacant[103] as at June 2021 in Rotorua's urban business enabled zones were initially identified using a desktop analysis of building footprints combined with parcel boundaries and aerial imagery. These parcels were mapped and formed the basis of a field survey where each parcel was physically inspected (where practical), validating if the parcels were indeed vacant or not. Refer to the supporting Technical Report for assumptions applied to identify vacant sites. Care was taken to also identify any vacant sites that did not get identified through the desktop process due to out of date or inconclusive data or recent changes (including demolished buildings). Given that the database of vacant sites is central to the HBA business modelling and also becomes the baseline for future monitoring, care was taken to ensure the results were robust. The mapping and ground truthing was an iterative process, with Council providing cross checks against their own in-house data in order to finalise.

Figures 12.1 and 12.2 map the final vacant land parcels in Rotorua's urban business zones as at June 2021 according to short and long term zoning. In a small number of cases, only a portion of the site is considered vacant, although the map shows the total parcel.

[101] Refer Section 1 discussion of what qualifies as plan enabled under the NPS-UD.

[102] Growth of employment in existing business premises, utilisation of vacant premises by new businesses and redevelopment being other ways in which demand can be accommodated. These aspects are discussed further in this section.

[103] Not to be confused with unoccupied (vacant) premises.

Figure 12.1 – Map of Short and Medium Term Vacant Sites by Zone

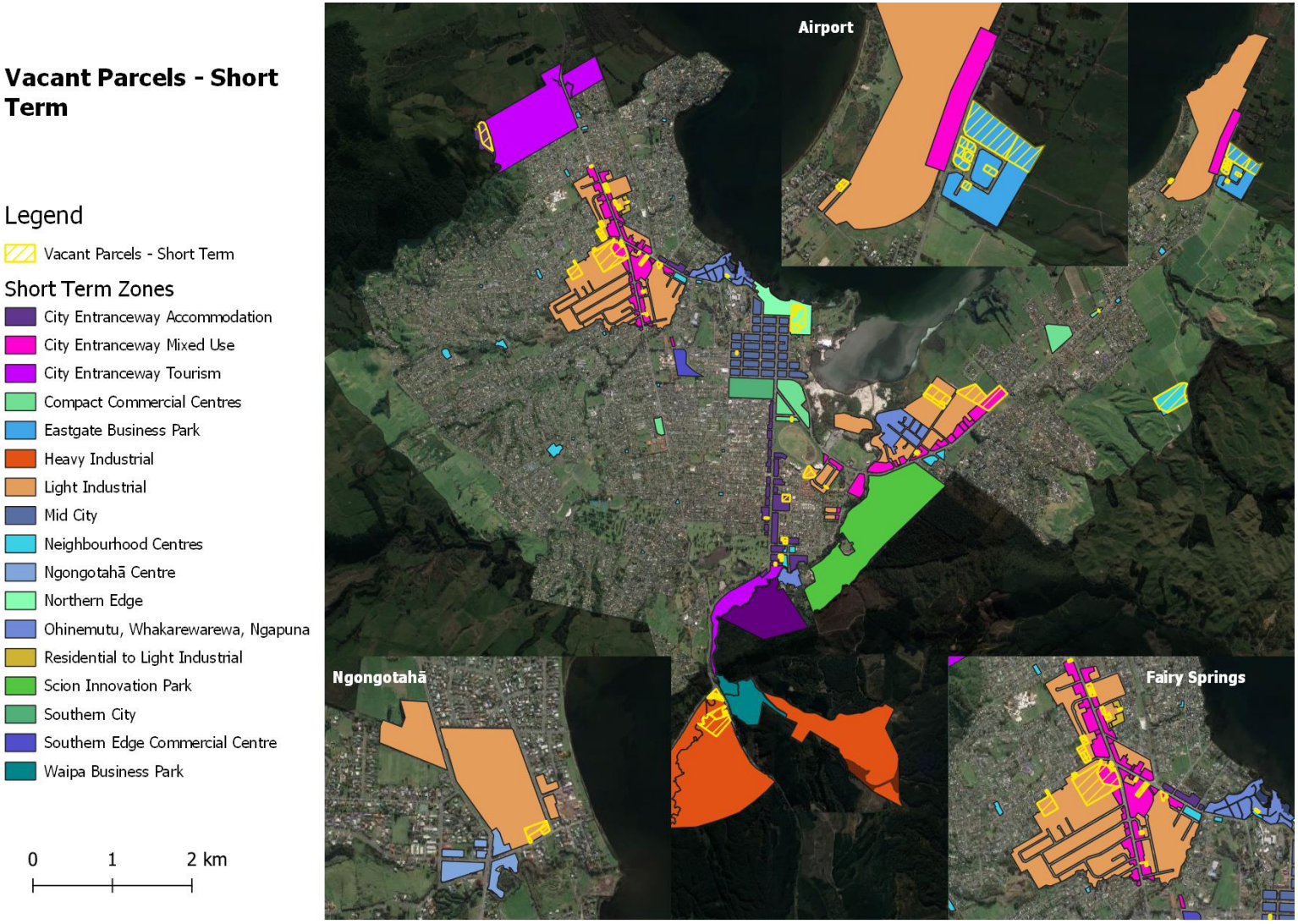
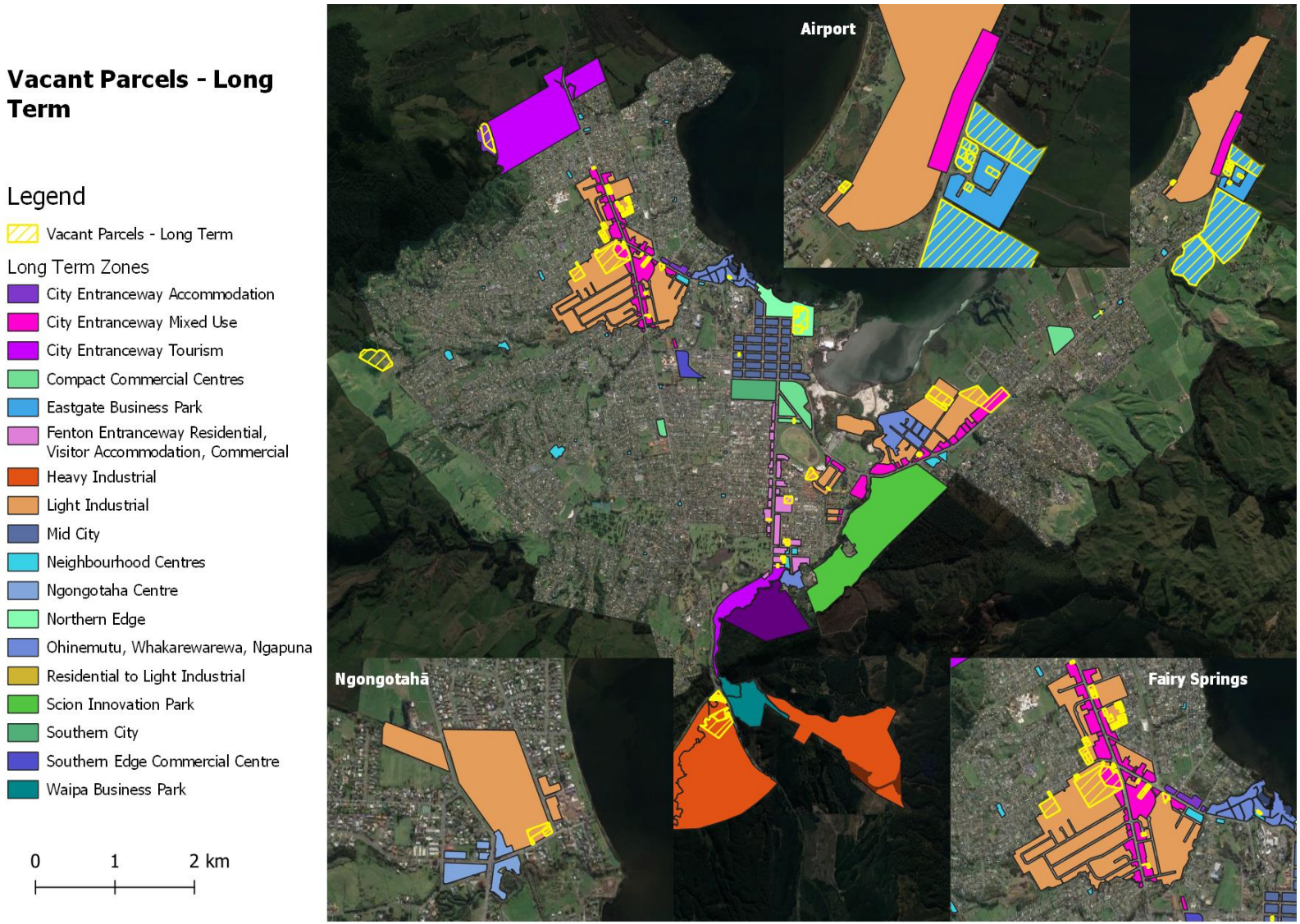


Figure 12.2 – Map of Long Term Vacant Sites by Zone



12.1.1 Vacant Land by Zone and Location

The total area of parcels confirmed as vacant business capacity was 54.8ha in the short term (based on operative zoning excluding Future Urban Zones) and 107.3ha in the long term (based on operative zoning and identified future growth areas) (Table 12.1). This is the developable land area and takes into account not only the vacant share of the parcel determined by the ground survey, but that some parcels in greenfield areas were large in size and had no or limited internal roads. This means that the gross vacant parcel area would over-estimate the likely developable area (once the land is fully subdivided). In order to bring all vacant parcels to a consistent net developable area, 30% of parcel area was excluded from selected large parcels to accommodate likely final road and open space areas.[104]

Table 12.1 shows the final estimates of developable vacant land capacity in Rotorua's urban environment by business zone. In the short term, 29% of the vacant developable land area is in the Light Industrial Zone and 17% is in the Heavy Industrial Zone. A further 13% is in the City Entranceway Mixed Use Zone and Eastgate Business Park respectively. Approximately 10% is in the Northern Edge of the CBD, in the Neighbourhood Centre Zone and the City Entranceway Accommodation Zone. The commercial precincts in the Pukehāngi Plan Change Structure Plan make up just 1% of short term vacant land capacity. This quantum and structure of vacant developable land also applies for the medium term.

Under long term (indicative) zoning, an additional 52.5ha of vacant business land is created. This increase is attributable to the new area of City Entranceway Mixed Use zone indicated south of Ngongotahā (approximately 8.6ha of net developable land area estimated), the extension of the Eastgate Business Park zoning (+41.4ha of net developable land area), the inclusion of the Future Community Asset Reserve Zone in Pukehāngi and the Light Industrial change in the Transitional Zone. There is a net reduction in Neighbourhood Centre vacant capacity, reflecting the change from the large zone area in the Wharenui Road Development Plan area to two more tightly zoned potential centres elsewhere (but nearby).

Under long term zoning, the Eastgate Business Park (exiting and indicative) accounts for 45% of total vacant developable land area, followed by the Light Industrial Zone which drops to a 15% share of the total (but no change in vacant land extent). The City Entranceway Mixed Use zone also makes up 14% of the long term total. Combined these three zones make up 74% of vacant capacity.

Importantly, there are several urban business zones that have no current vacant capacity, with none also provided for in the long term. These 'fully occupied' zones include (but are not limited to) the City Entranceway Tourism Zone,[105] Ngongotahā Centre Zone, Southern City Zone, and Southern Edge Commercial Centre Zone. The Mid City Zone has just one small vacant lot.

Refer to the Technical Report for a summary of vacant developable land area by reporting area. In the short and medium term, 43% is located within the Western area, followed by 41% in the Eastern area. Just 15% is available in the Central Area and less than 1% in Ngongotahā. In the long term, the Eastern area

[104] While some sites in the Heavy Industrial zone were large and had not undergone land development, no deduction was made in this zone given the nature of development anticipated.

[105] This zone is relatively unique. This HBA acknowledges that there may be potential to further intensify these zones, as they are predominantly occupied by outdoor activities. This will be down to individual land/business owners and is not easily captured through this modelling approach.

dominates vacant capacity (56% of the total). The Western area accounts for 28% and the Central and Ngongotahā areas 8% each.

Table 12.1 – Developable Vacant Land Area by Status – Short-Long Term by Zone

Zone	Developable Land Area Demand (Ha)											
	Vacant Unconsented			Vacant & Consented** Not Under Construction			Vacant & Under Construction			Total Vacant ****		
	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term	2020-2023 Short Term	2020-2030 Medium Term	2020-2050 Long Term
City Entranceway Accommodation	4.9	4.9	3.2	-	-	-	0.1	0.1	-	5.0	5.0	3.2
City Entranceway Mixed Use	6.1	6.1	14.7	-	-	-	0.8	0.8	0.8	6.9	6.9	15.5
City Entranceway Tourism	-	-	-	-	-	-	-	-	-	-	-	-
Community Asset Reserve *	-	-	-	-	-	-	-	-	-	-	-	-
Compact Commercial Centres	0.1	0.1	0.1	-	-	-	-	-	-	0.1	0.1	0.1
Destination Reserve *	-	-	-	-	-	-	-	-	-	-	-	-
Eastgate Business Park	5.6	5.6	47.0	1.6	1.6	1.6	-	-	-	7.2	7.2	48.5
Fenton Entranceway Residential, Visitor Accommodation, Commercial **	-	-	1.7	-	-	-	-	-	0.1	-	-	1.8
Future Community Asset Reserve **	-	-	4.7	-	-	-	-	-	-	-	-	4.7
Heavy Industrial	9.1	9.1	9.1	-	-	-	-	-	-	9.1	9.1	9.1
Light Industrial	14.9	14.9	14.9	0.1	0.1	0.1	0.7	0.7	0.7	15.7	15.7	15.7
Mid City	0.1	0.1	0.1	-	-	-	-	-	-	0.1	0.1	0.1
Neighbourhood Centres	4.7	4.7	1.1	-	-	-	-	-	-	4.7	4.7	1.1
Ngongotahā Centre	-	-	-	-	-	-	-	-	-	-	-	-
Northern Edge	-	-	-	-	-	-	5.2	5.2	5.2	5.2	5.2	5.2
PC 2 Commercial Precincts	0.8	0.8	0.8	-	-	-	-	-	-	0.8	0.8	0.8
Residential to Light Industrial **	-	-	1.4	-	-	-	-	-	-	-	-	1.4
Scion Innovation Park *	-	-	-	-	-	-	-	-	-	-	-	-
Southern City	-	-	-	-	-	-	-	-	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-	-	-	-	-	-	-	-	-
Waipa Business Park *	-	-	-	-	-	-	-	-	-	-	-	-
Total	46.3	46.3	98.8	1.7	1.7	1.7	6.8	6.8	6.8	54.8	54.8	107.3

*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*

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

Table 12.1 provides a breakdown of developable vacant business land area according to its status as at June 2021. It shows the amount that is already under construction – and hence not likely to be vacant in the next 6-12 months (depending on the scale and stage of construction). 6.8ha or 12% of short term vacant capacity is under construction spread over 4 locations.[106] While still treated as vacant for the purpose of this HBA, this is the sort of change that would show up through regular monitoring (with vacant capacity decreasing if there was no further change to overall zoning).

A further 1.7ha of vacant developable area has an active consent, but was not under construction as at June 2021. This includes sites in the Eastgate Business Park and the Light Industrial Zone. This too might change status to being under construction if regular monitoring takes place. 46.5ha or 84% of short term vacant developable land is however unconsented meaning that there are no immediate plans for development.

[106] The area of City Entranceway Accommodation Zone along Fenton Street (extending to Hemo Road) changes to the Fenton Entranceway Residential, Visitor Accommodation, Commercial Zone (a.k.a. Mixed Use Zone) in the long term.

12.2 Estimating Plan Enabled Building GFA

The NPS-UD requires that vacant business capacity also be expressed in floorspace terms. To calculate the building envelope on each vacant business site, Council provided data from the district plan on site coverage and building height rules by zone. These two parameters were applied to the developable vacant site area to estimate the ground floor GFA and the number of storeys (upper floor GFA[107]) enabled by the plan in the short and the long term. A number of exceptions applied and were taken account of in the modelling. These are discussed further in the Technical Report.

12.2.1 Cross over with Housing Capacity

Many of the district's business enabled zones also provide for residential activity (namely apartments). Generally, this is limited to above ground floors. Council and M.E have agreed on estimates for the share of 'likely' building storeys in mixed business zones that are estimated to be taken up by residential apartments. These storeys are deducted from the likely building envelope. This was necessary to avoid over estimating business capacity. The model reduced the number of storeys available for business capacity by subtracting the estimated residential floor take-up.

The same estimates were used to ensure that residential capacity was not over-stated in mixed business zones (i.e., the share of total enabled building envelopes that was likely to be occupied by business activity (including visitor accommodation) was removed. Through this process, double counting of capacity between the housing and business capacity modelling is avoided.

12.2.2 Vacant Land GFA by Zone and Location

Table 12.2 shows the final estimates of maximum building floorspace on developable vacant land in Rotorua's urban business zones (as at June 2021), having applied the relevant development parameters. In total, the urban business zones have remaining vacant capacity for a maximum of 434,400sqm GFA in the short term, increasing to 1.166 million sqm GFA under long term zoning.

In the short and medium term, 27% each of the maximum building floorspace is located in the Eastgate Business Park and Light Industrial Zone. A further 16% is in the Northern Edge, and 10% each in the City Entranceway Mixed Use and City Entranceway Accommodation zones. Other zones have minor shares. In the long term, the Eastgate Business Park accounts for 68% of vacant site floorspace capacity, with the other zones dropping shares pro-rata.

The Technical Report contains a table showing the distribution of maximum building floorspace by reporting area. Eastern dominates in the short term (49%) and long term (74%), with Western and Central areas with less than a third each in the short term, and a reduced share of the total in the long term (although an increase in capacity in real (GFA) terms).

[107] An average of 3m was applied to calculate storeys from building height provisions. Upper floor GFA was calculated as ground floor area multiplied by the number of above ground storeys.

Table 12.2 – Maximum Building Envelope on Vacant Land Area by Zone – Short-Long Term

Zone	Maximum Building Envelope on Developable Vacant Land		
	2020-2023	2020-2030	2020-2050
	Short Term	Medium Term	Long Term
City Entranceway Accommodation	44,800	44,800	28,400
City Entranceway Mixed Use	44,300	44,300	91,400
City Entranceway Tourism	-	-	-
Community Asset Reserve *	-	-	-
Compact Commercial Centres	500	500	500
Destination Reserve *	-	-	-
Eastgate Business Park	116,200	116,200	788,400
Fenton Entranceway Residential, Visitor Accommodation, Commercial **	-	-	18,200
Future Community Asset Reserve **	-	-	19,200
Heavy Industrial	13,000	13,000	13,000
Light Industrial	116,800	116,800	116,800
Mid City	1,500	1,500	1,500
Neighbourhood Centres	23,600	23,600	5,700
Ngongotahā Centre	-	-	-
Northern Edge	68,100	68,100	68,100
PC 2 Commercial Precincts	5,600	5,600	5,600
Residential to Light Industrial **	-	-	9,200
Scion Innovation Park *	-	-	-
Southern City	-	-	-
Southern Edge Commercial Centre	-	-	-
Waipa Business Park *	-	-	-
Total	434,400	434,400	1,166,000

Source: M.E Business Capacity Model 2021.

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

12.3 Allocating Vacant Land/GFA to Land Use/Building Typologies

Using the same land uses / building typologies identified to place business demand 'on the ground' (section 11.2), a matrix that approximately aligns these space types with the activities that are permitted, controlled or restricted discretion status in each of the business zones has been developed by M.E.

The supporting Technical Report contains a copy of the final matrix. A '1' denotes that a particular land use /building typology is enabled in the zone and a '0' means that it is not enabled. That same table shows a category summary of land uses enabled.[108] So long as one land use in a category is enabled, that category applies. This approach shows that 6 zone-sub-zone combinations (9%) are associated with just one category of land use (i.e., are more specialist zones), 36 zone-sub-zone combinations (56%) are associated

[108] The categories are Retail, Commercial, Tourist Accommodation and Industrial.

with 2 categories of land use, 22 (34%) are associated with three categories (i.e., are more mixed use) and none anticipate all four categories.

At a parcel level, the vacant developable land area identified and calculated ground floor and upper floor GFA capacity is attributed to each land use / building typology that is coded '1' according to the zone or sub-zone it is located within. The results (described in the following sections) are vacant land and GFA area by enabled space types – an output compatible with the demand modelling outputs.

Importantly, because there are many cases where multiple uses are allowed on one piece of land (discussed above), vacant land and floorspace capacities are not additive. The allocation of land/GFA to commercial land uses may mean that the land cannot be used for opposing/different land use types, for example. In other words, allocating vacant land for the development of an office block would remove the land as a potential hotel site, and vice versa. Therefore, the vacant land and GFA capacity in the following sections should not simply be summed (and accordingly totals are not shown across the space types).

12.4 Results – Maximum Capacity Scenario

12.4.1 Vacant Land by Land Use Category

Table 12.3 contains the vacant land capacity outputs for the Maximum Capacity Scenario in the short and medium term, summarised by Commercial, Retail, Tourist Accommodation and Industrial land uses. The assessment shows the maximum potential capacity – regardless of use and the amount available to each of the four broad categories. As discussed above, out of necessity, zone provisions in the plans are often broad, meaning that most parcels identified as vacant are able to meet a relatively wide range of needs. This means that capacity may not be exclusively sheeted back to one space type/category or another.

At the category level, only the City Entranceway Accommodation Zone is exclusively enabled for Accommodation land uses according to model assumptions (5.0ha).[109] In total however, there is a maximum of 10.3ha potentially available for Accommodation development in Rotorua's urban business zones. There is a maximum of 49.8ha of vacant developable land available for Commercial development, although this same land is potentially available for retail development. As discussed above, up-take by one category could exclude up-take the other, although there is potential for Commercial to occur on upper floors above Retail in some zones, so some overlap is still feasible. This is discussed further in terms of floorspace capacity.

There is also a maximum of 39.0ha of vacant developable land available for Industrial development in the short and medium term. All of this occurs in zones that also enable some forms of Retail and Commercial development – so Industrial is likely to compete for the vacant land that is available.

Table 12.3 shows that the Light Industrial Zone, Heavy Industrial Zone and Eastgate Business Park zone contribute most to maximum vacant capacity for Commercial, Retail and Industrial development, with the City Entranceway Mixed Use Zone the next largest. The Northern Edge provides 5.2ha of vacant

[109] While the zone enables ancillary retail and office activities, this is intended to be in conjunction with tourist accommodation activities.

developable land potential for Commercial, Retail and Accommodation (although much of this is already consented for Commercial development.

The Technical Report contains a summary of short-medium term maximum vacant land capacity by reporting area. Commercial, Retail and Industrial capacity is potentially available in all four areas of the urban environment, although the amount potentially available in the Central area and Ngongotahā is very minor, particularly for Industrial. The Accommodation capacity is in Western and Central reporting areas only.

Table 12.3 – Short & Medium Term Business Land Capacity by Category & Zone (ha) – Maximum Capacity Scenario

Zone	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommo-dation
City Entranceway Accommodation	-	-	-	5.0
City Entranceway Mixed Use	6.9	6.9	6.9	-
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	0.1	0.1	0.1	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	7.2	7.2	7.2	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial **	-	-	-	-
Future Community Asset Reserve **	-	-	-	-
Heavy Industrial	9.1	9.1	9.1	-
Light Industrial	15.7	15.7	15.7	-
Mid City	0.1	0.1	-	0.1
Neighbourhood Centres	4.7	4.7	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	5.2	5.2	-	5.2
PC 2 Commercial Precincts	0.8	0.8	-	-
Residential to Light Industrial **	-	-	-	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
Total Urban Environment	49.8	49.8	39.0	10.3

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 12.4 contains the maximum vacant land capacity outputs according to identified long term zoning by category. The maximum vacant 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 maximum capacity for Commercial development is slightly higher at 104.2ha due to the inclusion of the Future Community Asset Reserve which is available solely for commercial (i.e., education) development.[110] The maximum capacity for Retail development is

[110] It is noted that at the time of drafting, a consent had been lodged for a retirement village on this site. If granted, the capacity of this long term zone for employment growth would be reduced (as retirement villages fall under residential capacity).

99.4ha of land and Industrial is 90.4ha. The maximum vacant land capacity for Accommodation does not change in the long term (and sits at up to 10.3ha).

Table 12.4 – Long Term Business Land Capacity by Category & Zone (ha) – Maximum Capacity Scenario

Zone	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommo-dation
City Entranceway Accommodation	-	-	-	3.2
City Entranceway Mixed Use	15.5	15.5	15.5	-
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	0.1	0.1	0.1	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	48.5	48.5	48.5	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial **	1.8	1.8	-	1.8
Future Community Asset Reserve **	4.7	-	-	-
Heavy Industrial	9.1	9.1	9.1	-
Light Industrial	15.7	15.7	15.7	-
Mid City	0.1	0.1	-	0.1
Neighbourhood Centres	1.1	1.1	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	5.2	5.2	-	5.2
PC 2 Commercial Precincts	0.8	0.8	-	-
Residential to Light Industrial **	1.4	1.4	1.4	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
Total Urban Environment	104.2	99.4	90.4	10.3

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)

The Technical Report contains a summary of long term maximum vacant land capacity by reporting area. The spread is the same as in the short term, but the distribution is more concentrated in the Eastern reporting area.

The Technical Report also provides further discussion on how floorspace on vacant developable land is attributed to ground and upper floor capacity in the model as well as the results by zone and reporting area according to maximum floorspace capacity in the short/medium and long term.

In summary, there is maximum capacity for up to 390,000sqm GFA of Commercial floorspace in the short-medium term on plan enabled vacant land, increasing up to 1.34 million sqm GFA in the long term. For all forms of Retail development, there is up to 210,000sqm GFA of floorspace capacity in the short-medium term, increasing up to nearly 506,000sqm GFA in the long term. For all forms of Industrial development, there is up to 148,100sqm GFA of floorspace capacity in the short-medium term, increasing up to 455,00sqm GFA in the long term. Finally, there is up to 114,000sqm GFA for Tourist Accommodation development in the short term, changing only slightly (due to indicative building height rule change) to a maximum of 116,200sqm in the long term.

12.5 Discussion

12.5.1 Timing of Ground Survey

A minor limitation of the business capacity modelling is that the ground survey of vacant sites was conducted in June 2021, but the base year of demand (which it gets compared against) is March 2020 (i.e., the year end of the Infometrics employment projections). This difference in the baseline was unavoidable for this first HBA under the NPS-UD, but in future HBAs, might be able to be aligned (or aligned more closely) if Council conducts regular monitoring of vacant sites. For this HBA however, we do not consider that the difference in timing will materially impact on the analysis findings, as the zoning has not materially changed (only the addition of Plan Change 2 (Pukehāngi) that is now operative, but which contained a very small area of vacant business land) and because the vast majority of the vacant sites have no active consents for development as at June 2021, which means that they were also not consented back in March 2020. This gives us confidence that there would have been limited change in current estimate of vacant sites. Council have confirmed this assumption based on their knowledge or recent developments in in business zones.

12.5.2 Unoccupied Premises

When undertaking ground truthing checks across the urban business zones, it was noted that there exist some developed – but unoccupied – premises. Council also collects data on vacant tenancies on a regular basis through a third party supplier (Telfer Young Rotorua). The Rotorua Business Capacity Model does not take these unoccupied premises into account in terms of capacity, due to the difficulty required to isolate these sites and distinguish them from other developed (but occupied) sites in a format consistent with the HBA modelling. Adding to this, the number and size of unoccupied premises are often in flux, with occupation and relocation of businesses. This essentially means that there may be some extra capacity available for new businesses to occupy, but these are unable to be modelled effectively.

By excluding this from the assessment, the report presents a conservative picture with respect to capacity. The Council is keen to include vacant tenancy data in future HBA updates.

Telfer Young's January 2020 survey results showed:

- Commercial Office: "The Rotorua commercial office leasing market is in two distinct tiers. Good quality prime new space is sought after, and rental rates have established a new level. The secondary office leasing market is static with limited demand only. Sales activity is limited due to a shortage of supply."
- Industrial: "The industrial market has been buoyant for an extended period in Rotorua. Vacancy levels remain at al all-time low level and development land is scarce. Rental levels are increasing across the board and yields are continuing to firm."
- Retail: "The Rotorua CBD retail leasing market has slowed in recent months and vacancy rates appear to be slowly increasing. Rental rates are still very inconsistent. There is strong demand for well tenanted investment properties, however sales activity is limited due to properties being tightly held."[111]

[111] https://www.telferyoung.com/news-item/rotorua-market-insights

12.5.3 Redevelopment Capacity

There will be some capacity available through the redevelopment process. Redevelopment occurs when a piece of already occupied land is purchased and additional development occurs to either change its usage, or to increase the amount of use that is made of it currently.

One way to estimate the amount of additional capacity potentially available in an area is to look at the average level of development intensity (number of storeys or floor area ratios) achieved across the entire area, then look at the level of intensity on sites that are significantly lower than the average. These may be sites that have redevelopment potential to bring them closer to the revealed development intensity of the balance of the area.

This can be done across commercial centres and industrial areas. However, there are issues with redevelopment capacity that arise when the type and nature of business land use is not taken into consideration. For example, it may be that through an analysis of an industrial area, a number of seemingly under-utilised sites are identified that may represent capacity. However, they may exist as important parts of the production process either as turning bays for trucks or as storage areas for completed or partially completed goods.

In this study a conservative stance has been adopted and it has been assumed that the only capacity that is truly available is **vacant capacity**. This is an area that could be investigated further by RLC if they wished to understand the depth of true capacity within the district's urban business zones.

As a general guide, if the existing business zones prove to have provided for sufficient capacity by simply providing for vacant capacity, then redevelopment capacity is not required. Conversely, if it proves insufficient, the redevelopment capacity becomes more relevant. Also, the amount of redevelopment capacity that is taken up over the short, medium and long-term will obviously have an effect on (reduce) the take up of vacant capacity. It is recommended that Council monitor this.

12.5.4 Business Capacity in the Rural Environment

As discussed in Section 11.1.2 there are business enabled zones outside the defined urban environment. Vacant capacity has not been modelled or identified in those zones. It is assumed that any vacant capacity in those locations will be utilised for demand attributed to the rural environment.

12.5.5 Alternative Vacant Capacity Outcomes – Removing the Overlap

The approach adopted in the previous sections by M.E to demonstrate vacant land (and GFA) capacity for future business development in Rotorua's urban environment reflects the flexibility of some district plan zones to enable a range of potential land uses. Hence the overlap of capacity. The approach does not assume a development outcome on any particular vacant parcel as this is unknown (except if it is under construction). However, it is possible to develop a potential "scenario" of development that reflects recent trends, potential market pressures, including maximising investment returns in particular parts of the district, as well as known development outcomes on those vacant sites that are under construction.

M.E has developed a single, alternative scenario that removes the overlap of capacity in those zones where flexibility is enabled between Retail, Commercial, Tourist Accommodation and/or Industrial activity. The

scenario is **indicative only** – monitoring of vacant land uptake will indicate how accurate this scenario may or may not be in the future. The scenario is based on a series of allocation rules (set out the supporting Technical Report) which apply to vacant parcels in each zone.

Table 12.5 presents the results of the Alternative Capacity Scenario for vacant land area capacity in urban business zones in the short and medium term. Under these allocation assumptions, it is estimated that there is currently 14.3ha of vacant land capacity available for Commercial development (out of a maximum plan enabled capacity of 49.8ha), 8.0ha for Retail development (out of a maximum capacity of 49.8ha), 28.4ha for Industrial development (out of a maximum capacity of 39.0ha) and 8.2ha for Tourist Accommodation development (out of a maximum of 10.3ha). The Technical Report provides a summary of this land capacity by reporting area. These significant deductions once double/triple counting is removed highlights the rationale of the Alternative Capacity Scenario and the risk of relying on a Maximum Capacity Scenario approach for understanding sufficiency of business zoning.

Table 12.5 – Short & Medium Term Business Land Capacity by Category & Zone (ha) – Alternative Capacity Scenario

Zone	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommo-dation
City Entranceway Accommodation	-	-	-	5.0
City Entranceway Mixed Use	4.3	2.0	2.0	0.6
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	0.1	0.1	-	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	1.7	0.6	4.9	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial	-	-	-	-
Future Community Asset Reserve **	-	-	-	-
Heavy Industrial	-	-	9.1	-
Light Industrial	1.9	1.5	12.3	-
Mid City	0.0	0.0	-	0.1
Neighbourhood Centres	1.4	3.3	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	4.2	-	-	2.6
PC 2 Commercial Precincts	0.8	0.5	-	-
Residential to Light Industrial **	-	-	-	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
Total Urban Environment	14.3	8.0	28.4	8.2

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 12.6 presents the results of the Alternative Capacity Scenario for vacant land area capacity in urban business zones in the long term. Under these allocation assumptions, it is estimated that there could be 37.2ha of vacant land capacity available for Commercial development (a large increase due to the

estimated share of the identified future Eastgate Business Park and City Entranceway Mixed Use zones taken up by Commercial activities), 13.3ha for Retail development (a relatively small change compared to the short term), 57.2ha for Industrial development (a large increase attributable to the industrial capacity apportioned to the indicative future Eastgate Business Zone), and 7.3ha for Tourist Accommodation development. The latter decreases slightly in the long term because the vacant sites along Fenton Street to Hemo Road in the short term City Entranceway Accommodation Zone compete with retail and commercial development in the long term with the change to a more mixed use zoning. The Technical Report provides a summary of this long term land capacity by reporting area as well as the tables for floorspace capacity results in the short and long term under the Alternative Capacity Scenario. Again, the estimated capacity likely to be available for each land use is significantly less than what is plan enabled in the Maximum Capacity Scenario.

While only a scenario of possible uptake of vacant capacity in urban business zones, and subject to a number of assumptions and a limited number of known outcomes for those sites under construction, M.E considers that more weight should be given to the results of the Alternative Capacity Scenario for the purpose of sufficiency analysis and to inform future planning and decision making in this HBA. This is because the Maximum Capacity Scenario – while adhering to NPS-UD guidance – does not work well when zones provide for a range of activities that span different categories of land use. M.E considers the Maximum Capacity Scenario to have more limitations and potentially greater risk for plan making and decision making if relied upon to represent capacity.

Table 12.6 – Long Term Business Land Capacity by Category & Zone (ha) – Alternative Capacity Scenario

Zone	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommo-dation
City Entranceway Accommodation	-	-	-	3.2
City Entranceway Mixed Use	10.0	4.9	4.9	0.6
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	0.1	0.1	-	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	14.1	4.7	29.7	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial	0.9	0.6	-	0.9
Future Community Asset Reserve **	4.7	-	-	-
Heavy Industrial	-	-	9.1	-
Light Industrial	1.9	1.5	12.3	-
Mid City	0.0	0.0	-	0.1
Neighbourhood Centres	0.3	0.8	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	4.2	-	-	2.6
PC 2 Commercial Precincts	0.8	0.5	-	-
Residential to Light Industrial **	0.1	0.1	1.1	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
Total Urban Environment	37.2	13.3	57.2	7.3

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)

12.5.6 Alternative Conservative Capacity Scenario – Excluding Whenua Māori

That said, there is another relevant issue to assessing vacant capacity in urban business zones in Rotorua that needs to be acknowledged. That is the relatively significant presence of whenua Māori with those zones.

Feedback from one commercial developer who has been in business for 20-25 years and now is solely focussed on developing retail, commercial, industrial and tourist accommodation properties in Rotorua primarily for national clients says that their policy is not to invest in any Whenua Māori. Their development model is based on purchasing and holding freehold land so that they can respond to client enquires and offer a design-build-lease development. Freehold land is critical to their commercial feasibility. According to this developer, national clients (i.e., those that have a presence across New Zealand) only want to be on freehold land. It was their view that Māori land will be a constraint for development in Rotorua in terms of current zoning.

Conversely, another one of Rotorua's key commercial sector developers is a Māori economic entity (the Pukeroa Oruawhata Trust). Their mandate is to realise the economic potential of Crown land returned to the iwi in and around the central city and have been involved in that development for the last 20-25 years.

Some of Rotorua's most high profile retail developments are theirs including Rotorua's Central Mall and Trade Central. They are currently developing a hot springs and spa resort on the lake front (northern edge of the CBD) and in future have plans for further commercial and residential development on that site.

Their success (with the Ngati Whakaue Education Endowment Trust commercial development in the CBD another good example) shows that when iwi are well resourced and have (or can generate) capital, that development of leasehold land can be commercially feasible (under a cash return model). Pukeroa's developments have focussed on design-build and lease model as opposed to selling of ground leases and they think this how development of Whenua Māori is best delivered (i.e., when iwi are the developers and building owners). Building on scale is also important in their experience (several buildings not just one) as this reduces the risk of losing a tenant and therefore income, and banks can be more confident lending against the projected income if not the asset itself. However, they indicate that lack of capital, experience, connections for most iwi is what is holding back the development of more Whenua Māori. Having the equity to get started is just the first hurdle.

Based on the location of Māori land parcels relative to short term business zoning in the urban environment, it is calculated that on average 44% or 6.2ha of the vacant developable land estimated to be available for future Commercial development in the Alternative Capacity Scenario is Māori leasehold land. Most of this leasehold land (4.3ha) occurs in the Eastern area (where is makes up 70% of vacant capacity likely to be available for Commercial development). In the long term, leasehold land makes up an average of 48% of likely Commercial land capacity, including a significant 90% share within the Eastern Area.

Of the vacant developable land assumed to be available for Retail development in urban business zones, an average of 76% (6.1ha) falls on Māori leasehold land in the short term. In the Eastern area, the leasehold share is 87% and in the Western area it is 52% of the estimated Retail total (Alternative Capacity Scenario). Under long term zoning, the amount of vacant zoned leasehold land likely to be available for Retail development increases to 7.8ha. This accounts for 59% (on average) of the total in that time period, but in the Eastern area, the leasehold share increases to 90% of that vacant and likely Retail capacity.

Of the vacant developable land assumed to be available for Industrial development in urban business zones, an average of 41% (11.7ha) falls on Māori leasehold land in the short term. In the Eastern area, the leasehold share is 50% and in the Western area it is 37% of the estimated Industrial total (Alternative Capacity Scenario). Under long term zoning, the amount of vacant zoned leasehold land likely to be available for Industrial development increases to 36.6ha. This accounts for 64% (on average) of the total in that time period, but in the Eastern area, the leasehold share increases to 84% of that vacant and likely Industrial capacity.

Vacant developable land assumed to be available for Tourist Accommodation development in the Alternative Capacity Scenario is almost all on freehold land, with just 0.2ha Māori leasehold land (2%). This decreases in the long term to just 0.1ha (1% of the assumed total).

M.E has tested the effect of removing all Māori leasehold business land that is not already under construction from available vacant capacity to form an 'Alternative Conservative Capacity Scenario'. This is a worst case scenario and is not intended to imply that vacant Māori leasehold land parcels in urban business zones will never be developed. There is evidence that Māori leasehold land can be successfully developed in Rotorua's business zones, particularly in the CBD and CBD fringe when those landowners have the capital and capability to do so. There is also evidence elsewhere in New Zealand where leasehold land

has been taken up by commercial and industrial development.[112] There are however known barriers to developing Māori land, and stakeholder feedback indicates that the general commercial development sector (i.e., those that need to source land for development) are highly unlikely to choose to invest and develop on leasehold land (unless some form of partnership development model can be agreed that is commercially feasible for both parties).

It is considered prudent to include this Alternative Conservative Capacity Scenario in the HBA to highlight the degree to which Council (through the District Plan and Spatial Plan) is reliant on the development of Māori leasehold land to cater for future business growth. It helps to identify the potential planning risks associated with relying on that Māori land in the context of obligations under the NPS-UD to ensure at least sufficient plan enabled, infrastructure ready and suitable (commercially feasible) capacity to meet demand in the short, medium, and long term.

The scenario represents the lower bound of estimated vacant development capacity (land and GFA) in Rotorua's urban business zones, with the Alternative Capacity Scenario forming an estimated upper bound. The reality is that vacant capacity is likely to be somewhere within this range.

Table 12.7 shows that under the Alternative Conservative Capacity Scenario, there is 8.1ha of vacant developable land area for Commercial development in the short term. In addition, there is 1.9ha of Retail land capacity, 16.6ha of Industrial land capacity (with 6.2ha of that in the Heavy Industrial Zone), and 8.0ha of Accommodation capacity.

In the long term (Table 12.8), Commercial capacity (excluding Māori leasehold land not currently under construction) increases to 19.5ha. Retail capacity increases to 5.5ha and Industrial capacity increases only modestly to 20.6ha. Accommodation land capacity decreases slightly to 7.2ha in the long term (as discussed above, this is driven by indicative changes to zoning along Fenton Street). The Technical Report contains the summary of vacant land capacity for the Alternative Conservative Capacity Scenario by reporting area in the short and long term, as well as the detailed analysis of floorspace capacity on vacant land.

[112] Napier example.

Table 12.7 – Short & Medium Term Business Land Capacity by Category & Zone (ha) – Alternative Conservative Capacity Scenario

Zone	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommo-dation
City Entranceway Accommodation	-	-	-	4.8
City Entranceway Mixed Use	0.3	0.1	0.1	0.6
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	-	-	-	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	1.7	0.6	4.9	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial	-	-	-	-
Future Community Asset Reserve **	-	-	-	-
Heavy Industrial	-	-	6.2	-
Light Industrial	1.0	0.7	5.4	-
Mid City	0.0	0.0	-	0.1
Neighbourhood Centres	0.0	0.1	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	4.2	-	-	2.6
PC 2 Commercial Precincts	0.8	0.5	-	-
Residential to Light Industrial **	-	-	-	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
Total Urban Environment	8.1	1.9	16.6	8.0

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 12.8 – Long Term Business Land Capacity by Category & Zone (ha) – Alternative Conservative Capacity Scenario

Zone	Vacant Developable Land by Land Use Category (Ha)			
	Commercial	Retail	Industrial	Accommo-dation
City Entranceway Accommodation	-	-	-	3.2
City Entranceway Mixed Use	6.1	2.9	2.9	0.6
City Entranceway Tourism	-	-	-	-
Community Asset Reserve *	-	-	-	-
Compact Commercial Centres	-	-	-	-
Destination Reserve *	-	-	-	-
Eastgate Business Park	1.7	0.6	4.9	-
Fenton Entranceway Residential, Visitor Accommodation, Commercial	0.8	0.5	-	0.8
Future Community Asset Reserve **	4.7	-	-	-
Heavy Industrial	-	-	6.2	-
Light Industrial	1.0	0.7	5.4	-
Mid City	0.0	0.0	-	0.1
Neighbourhood Centres	0.0	0.1	-	-
Ngongotahā Centre	-	-	-	-
Northern Edge	4.2	-	-	2.6
PC 2 Commercial Precincts	0.8	0.5	-	-
Residential to Light Industrial **	0.1	0.1	1.1	-
Scion Innovation Park *	-	-	-	-
Southern City	-	-	-	-
Southern Edge Commercial Centre	-	-	-	-
Waipa Business Park *	-	-	-	-
Total Urban Environment	19.5	5.5	20.6	7.2

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)

13 Suitability of Capacity

This section examines the suitability of vacant land capacity in Rotorua's urban business zones from a development or developer perspective. The NPS-UD provides flexibility on how 'suitability' is determined, but at a minimum, must include suitability in terms of location and site size. This HBA adopts a Multi Criteria Analysis ("MCA") approach in keeping with the guidance under the earlier NPS-UDC. This section sets out the general MCA approach, feedback from stakeholders in Rotorua's non-residential development market, infrastructure constraints and final MCA results.

13.1 Approach – Multi Criteria Analysis

Section 12 above focuses on establishing plan-enabled capacity, and various scenarios of that capacity by land use category. However, identified capacity may not translate to actual business properties available to the market unless it is "feasible" to develop. Feasible means commercially viable for a developer to develop given current costs, revenues and yield. However, for business land the situation is complex. The type and nature of business development is far more varied than residential – retail and commercial clients have a wide range of development types that might be suitable for a single piece of land. Ownership models differ widely as will appetite for debt and risk profiles. A developer willing to occupy a site for a lifetime may be able to amortise costs across a very long timeframe, so is motivated differently from a developer looking to build more generic tilt slab industrial units for rapid sale.

Because of these complexities a residual land value type model is not appropriate for business land assessments. The MCA approach has been used because it allows Council and other stakeholders to identify the key metrics that are important in the selection and development process for the land. MCA provides a way for Councils to frame the development opportunities within their district by scoring them against a set of agreed criteria. Each criterion plays a large or small role in the development and locational decision, so is given a large or small share of the total decision making score.

Each business zone location (refer maps in the supporting Technical Report) is then scored against the criteria and the ratings added up to provide an overall score. That scoring focusses on the relative differences between locations for a given development category (anticipated activities). The scoring is based on the current situation – in future there may be changes that could see the same location get a higher or lower score (i.e., if infrastructure is improved or if congestion gets worse).

Comparisons can then be made between where the plan enabled capacity resides (Section 12) and the MCA score (ranking) for those areas. If capacity is provided in the zone locations that score/rank highly in the MCA, Councils can be confident that development is likely to proceed so long as there is demand. Conversely, if capacity is provided in zone locations that score poorly against the decision making criteria, it is likely to be a low priority for development relative to better options elsewhere in the district (or outside of the district), and in some cases may not be taken up if the constraints to the location are significant.

An MCA framework has been set up for Commercial, Retail, Industrial and Tourist Accommodation development potential, consistent with the demand and capacity analysis. Zone locations are assigned to each MCA framework based on the nexus between activities enabled by the District Plan and the land/building typologies used throughout this business assessment (subsequently grouped to land use categories). Given the flexibility of many zones to provide for different types of activities (discussed in Section 12 with regards to the Maximum Capacity Scenario), most zone locations are in the Commercial and Retail MCA, with somewhat less in the Industrial MCA. Very few zone-location are however assessed in the Accommodation MCA.

A limitation of the MCA is that within each land use category there are a range of different forms of development – with each likely to have slightly different site requirements. For example, in the Retail category, there are different site requirements for small format retail versus large format retail. Similarly, within Commercial land use, there is everything from offices to tourist attractions to schools to contend with, just as in Industrial, there is both light and heavy industries that may require different types of development sites. It is difficult to cater for all possible development outcomes, so each framework necessarily assesses location suitability at a general level. To aid in this though, the scoring took into consideration the sort of commercial, retail etc activities that were anticipated in that zone, so scored them relative to their intended role.[113]

13.2 Final Criteria and Weighting

Table 13.1 summarises the final criteria and weighting assigned to each MCA framework. There is a mixture of unique and shared criterion. 'Access to major transport routes' and 'exposure/visibility', for example, are common to all development activities. 'Distance to the port of Tauranga' is a criterion important just for Industrial development/investment, and 'proximity to the lakeside/lake views' is a criterion important just to Tourist Accommodation development.

Many of these criteria have been developed for MCAs carried out in other districts (including for HBAs) by M.E, however care has been taken to ensure that the four MCA frameworks are relevant for Rotorua. As such, some criteria used in past studies have been removed and others added specifically for the Rotorua context.

The criteria and weighting has been discussed in detail with two prominent non-residential developers in Rotorua. This was a key process in refining what criteria were relevant and what were not, and also to adjust the weighting to reflect the key investment considerations applicable in Rotorua.

While 'natural hazards' such as geothermal, stormwater management and geotechnical constraints are key issues in parts of Rotorua, it was considered likely to be reflected in the price of the business land (especially when the issues are known). It was reported that to be treated properly on site, such issues can add significant cost to a development. For example, the new St Johns facility required a large rubber 'seal' to be put in place under the building which was expensive. If the land price is reduced, these additional costs can be met without affecting overall feasibility.

[113] Most criteria are however about the location and not the activity itself.

'Access to geothermal resources' is also a criterion included in the MCA. Despite being active in industrial development, one stakeholder had had no experience with industrial clients wanting to make use of the geothermal resource in urban Rotorua, so it was considered a geotechnical disadvantage rather than a benefit. However, it was considered potentially beneficial for commercial visitor accommodation and facilities like hospitals (which have large scale heating requirements). The stakeholder's company does not go out of their way to invest in sites with geothermal potential unless a client has a specific need for it. The criterion was limited to the Commercial and Accommodation MCA frameworks in response to this feedback.

'Ownership structure' was given a higher weighting than provisionally estimated because of the significant preference for freehold land (and the prevalence of Māori Land in some zones). One developer indicated that his national clients (which span commercial, retail, accommodation and industrial chains) would not want to be on Māori land, and as such the developer has a policy to only invest in freehold land). The MCA therefore scores zone locations that have a high coverage of Māori land low (least suitable within that criterion) and zone locations with a high coverage of freehold land high (most suitable within that criterion). The MCA does not deem any location entirely unsuitable because of being Māori land, despite the very binary approach taken by one developer. There are some opportunities to develop Māori land that are feasible, and the MCA approach takes that into account (this issue is also addressed in the capacity assessment discussed above in Section 12).

Proximity to labour was agreed by stakeholders to only have limited weighting on site selection decisions given that the overall size of Rotorua is relatively small and compact – with all locations relatively accessible to the labour force. While not captured in the MCA, feedback was that getting residential accommodation for staff brought in from other districts was a bigger issue for the operators that they develop for.

The weighting for 'exposure/profile' was also increased for the Industrial MCA based on stakeholder feedback. While already weighted higher for Retail and Commercial, one stakeholder indicated that Industrial operators (particularly those that operate nation-wide) were also particularly focussed on high profile sites, irrespective of whether they were public facing businesses.

'Parking availability' was given a lower weighting based on feedback. Both stakeholders indicated that there was not an issue with parking supply in Rotorua, but that there was an issue with parking behaviour – with staff unnecessarily taking up customer parking rather than parking slightly further away.

A final example of the changes recommended by the stakeholders was to decrease the weighting for 'proximity to tourist activities' in the Accommodation MCA and increase the weighting for 'proximity to the lake or lake views.' It was considered that all tourist activities are relatively accessible from hotels/motels in Rotorua, with specific mention of the cycle ways that allow visitors to bike to various bike attractions with relative ease. On the contrary, sites with a lake view were highly sought after, particularly for some of the higher end hotel operators.

Table 13.1 – Matrix of Rotorua MCA Criteria and Weighting

Criteria (Site Attributes for Investment / Development Decision Making)	Commercial	Retail	Industrial	Accom-modation
Ability to buffer adverse effects from residential and sensitive activities, distance from sensitive land uses			15%	
Ability to develop a range of space types including multi-storey buildings	8%			7%
Ability to utilise geothermal energy/ resource	4%			3%
Access to major Road / transport routes; good transport access, especially road/motorway	12%	14%	15%	14%
Co-location or clustering with complementary business activities	8%	14%	11%	
Distance to Port of Tauranga			4%	
Existing or proposed public transport	4%	5%		3%
Exposure / profile / visibility	8%	10%	7%	10%
Flat land, large land parcel, contiguous sites (functional location)			7%	
Low level of traffic congestion in vicinity	4%	5%	7%	
Natural Hazards (i.e. flood, geotechnical issues, stormwater management)	8%	10%	7%	7%
Ownership structure (tenure i.e. predominantly freehold land)	12%		11%	10%
Parking availability	12%	10%		
Potential for co-location or clustering with complementary businesses				7%
Proximity to CBD				14%
Proximity to labour			4%	
Proximity to Lakeside amentiy, including water views				10%
Proximity to market - dense employment in walkable catchment		5%		
Proximity to market - dense resident or tourist population in walkable catchment	8%			
Proximity to market - dense resident population in walkable catchment		10%		
Proximity to market - tourist accommodation and attractions		5%		
Proximity to Rotorua Airport - transport to and from hotels				3%
Proximity to tourist activities (including bike parks)				3%
Service infrastructure in place	12%	14%	11%	7%
Total Consideration/Decision Making	100%	100%	100%	100%

Source: M.E: Rotorua HBA 2021 MCA

13.3 Infrastructure

'Service Infrastructure in place' (freshwater, wastewater, roading, power, high speed internet) is a criterion included in the MCA (with it being a particularly important consideration for Commercial and Industrial development decision making). This is a high level approach to capturing infrastructure constraints within the MCA, but the issue warrants further discussion.

Generally roading infrastructure was not considered a constraint for business development in Rotorua (and for this reason has not been included in the assessment of Infrastructure Ready housing capacity in Part 2 of this report). There are some roading infrastructure projects underway at present to help improve service

levels and accommodate growth, including around Ngongotahā, but the only constraint associated with these capital projects is the short term traffic congestion they are causing – captured in a criterion specifically on localised congestion.

Similarly, there was no perceived constraint with accessing high-speed fibre internet in Rotorua's urban business zones.

Feedback from stakeholders highlighted that there was only one power network company operating in Rotorua (Unison). Their experience is that Unison have an aggressive approach, requiring new developments to fund upgrades to the network which adds additional costs that may not have been required when doing a similar development in other parts of the country. The feedback was that the network was not well maintained, with little reinvestment (and with the high sulphur content causing corrosion, particularly in the main geothermal field). This was stated as having flow-on effects for investors wanting surety on power supply and associated infrastructure in Rotorua. To account for this in the MCA, slightly lower scores were given to zone-locations within the main geothermal field where additional costs were considered more likely.

The Council's LTP and Infrastructure Strategy provides sufficient water supply (reservoir and/or consented water take limits) and wastewater capacity (WWTP processing capacity) to cover anticipated long term employment growth in addition to anticipated housing growth in each reporting area. There is expected surplus capacity in the current infrastructure to cater for growth in the short term, and part of the medium term. Reservoir and WWTP investment will see additional capacity scheduled to come on-line in 2027 to cater for medium and long term growth. Timing of network extensions into greenfield growth areas will however need to wait for those scheduled capital works projects in some locations (especially in the Eastern area). The MCA gives a lower score to those locations that are not serviced by wastewater and water supply infrastructure today (but will be in the future) relative to those locations already serviced.

NgongotahāNgongotahāThe approach to stormwater infrastructure in this HBA is to treat it as a constraint to development that drives up cost rather than a constraint that prevents development all together. This issue is discussed further in Section 1 and Section 7 of this Report and the MCA includes stormwater as part of the 'natural hazards/geotechnical constraints' criterion rather than the 'infrastructure' criterion.

That said, feedback from one stakeholder is that lack of stormwater infrastructure has meant that they have not been able to develop a vacant site they own in Ngapuna because the cost of dealing with stormwater on-site is cost prohibitive. The site is prime arterial land which the developer had planned for a large scale industrial building. The site has no stormwater infrastructure and they stated that the Council just expects developers to fund that (i.e., large underground detention tanks etc). The site is not considered commercially feasible by the developer in the current market and will remain vacant for the time being.

The MCA takes a softer approach and has not deemed any zone-location entirely unsuitable for development because of a lack of stormwater infrastructure. This is also considered in the sufficiency discussion in Section 14.

13.4 Results

The MCA analysis showed that there are no zone locations that 'tick all the boxes' (i.e., achieve the perfect score) in terms of what an investor or developer may be looking for in Rotorua, although this is rare in any market. The supporting Technical Report contains copies of the score assigned to each location and criterion. The scores are based on local insight and consideration of the total extent of each zone location – and reflect a current snap-shot. The highest ranked locations when scored against the criteria achieve between 85-87% of the maximum possible score. The criteria that consistently prevent locations from reaching the maximum score in Rotorua include:

- 'Natural Hazards (i.e., flood, geotechnical issues, stormwater management)'. This criterion is given moderate weight in development decisions making – while important, it does not get a higher weighting because, in theory, the constraints on the site are anticipated to be reflected in the price of the land which is a mitigating factor. Every location in urban business zones in Rotorua is impacted by hazards to some degree. Hence the highest score achieved for this criterion is 5 out of 10, with a few locations scoring as low as 1 out of 10 (i.e., those that face many hazards). In future, if Council's stormwater infrastructure can be addressed (funded), this might help elevate these scores, other hazards notwithstanding.
- 'Existing or proposed public transport'. While given relatively low weight in development decision making in Rotorua, the significant majority of zone locations have only limited penetration by public bus services. Most locations score just 2 out of 5, with just a handful of locations scoring 4 or 5. These are in or near the CBD.
- 'Parking availability'. This criterion is given a relatively high weighting in commercial development decision making, and a moderate weighting in retail development decision making. The scoring for this criterion considered opportunities for generous on-site parking, or otherwise, is mainly based on the ability for adequate and convenient off-site (roadside or parking building) parking for staff and customers. Just four zone locations achieved maximum points with the majority of other zone locations providing only limited access to parking (including in nearby residential streets). The City Entranceway Mixed Use Zone and Light Industrial Zone in particular score low for parking.

The top-ranking locations for Commercial development (keeping in mind that the types of commercial activities plan enabled in each zone differ and are not necessarily comparable) are:

- the Westend Shopping Centre. This Compact Centre Zone is located on a state highway so provides good access and exposure/profile. It has a relatively dense residential population within walking distance, is wholly freehold land, provides good parking if one considers adjoining residential streets and the supermarket carpark, and as a suburban centre, could provide for a good mix of complementary business activities. While lacking in recent investment, the zone in theory offers good potential for commercial activities anticipated in the zone (including health services, childcare facilities, community facilities and indoor recreation).
- The other Compact Centre Zone locations (Te Ngae, Owhata, City Centre Blocks 32-34) score highly for similar reasons, with some variation on some criteria. These high ranks suggest that these suburban centres are in good locations for their intended commercial role.

- The Southern Edge Zone (Trade Central) is the second highest ranked location for commercial development, noting that the zone enables indoor and outdoor recreation, health services, childcare facilities and community facilities.
- Mid City Zone – This zone provides for the greatest range of commercial activity types. As it also enables a range of retail activities, it scores highly in terms of co-location/clustering of complementary activities. It scores relatively highly for car parking availability, exposure/visibility and scores highly for low traffic congestion and public transport services. With its higher building height and site coverages, it also provides a high degree of flexibility for commercial development and could provide for geothermal heating due to being in the main geothermal field. There are some areas of leasehold land in the zone, but relative to the overall zone area, this has only a limited impact on the ownership criterion.
- In the long term, if the City Entranceway Accommodation Zone along Fenton Street and through to Hemo Road changes to a mixed use zone as proposed for the purpose of this HBA, these locations would also, in theory, score highly in terms of suitability for commercial office development, health services and childcare facilities.

The top-ranking locations for Retail development are:

- The Southern Edge Zone (Trade Central) is the highest ranked retail development location (albeit that anticipated retail is limited to trade retail, service stations, garden centres, takeaways and drive throughs and not all core retail or hospitality). It scores particularly high on access, exposure/visibility, parking and lack of traffic congestion. It also has a lot of market demand in close proximity to the zone.
- City Entranceway Mixed Use – Fairy Springs, South and Mangakakahi-Koutu both score highly. This zone provides for a similar mix of retail activities as the Southern Edge Zone, but also anticipates supermarket development. They score highly across the criteria and benefit from a lot of employment in the vicinity as well as nearby residential households for parts of the zones. Parking availability was considered better in Fairy Springs.
- Mid City Zone and Southern City Zone. These zones enable a full range of retail activities which makes them excellent locations for cross shopping and multi-purpose shopping trips (in conjunction with commercial activities). The Southern City scored slightly better for parking and exposure, while Mid City scored better for public transport services across the zoned extent.
- The Compact Commercial Centres (including Ngongotahā Centre) also scored highly in terms of an ability to deliver their retail role.

It is important to note feedback from non-residential developers in Rotorua on the current state of the CBD. They highlighted a key issue with rough sleepers which is detracting from the amenity of the CBD (i.e. Mid City Zone) to the extent that it is constraining investment and redevelopment. One developer indicated that businesses are looking at options to move out of the CBD because they want to be somewhere with better amenity and safety for their customers and staff.

Another developer said that while they own a number of previously developed and fully leased retail and commercial properties in the CBD and plan to retain these, and that there were several sites that could be purchased with redevelopment opportunities in mind, due to the amenity issues facing the CBD, they are

no longer investing in this location. They expressed no "confidence" in the CBD as a place to invest. In their view, nobody is going to want to buy and apartment or lease an office that has homeless people sleeping on the doorstep. That developer did not preclude purchasing a site in the CBD if they had a client that specifically wanted to be in the CBD, but said that they would not invest their own money in the CBD until this issue was resolved and the perceptions of the CBD improved.

The top-ranking locations for Industrial development are:

- City Entranceway Mixed Use Zone in the Fairy Springs, South location, Airport location and Mangahakahi-Koutu location. At the Airport location, the land is flat and there is potential for large land parcels. By comparison, the other two locations are highly fragmented now, meaning they scored relatively lower on that aspect. Conversely, the smaller size and isolated location means that the Airport location for this zone scored lower on agglomeration benefits/clustering, while the other two older and established areas scored the maximum on this criterion. Otherwise, these locations have good access to main transport routes, are wholly or largely freehold land, are serviced with infrastructure and offer good exposure/visibility for new businesses. The Airport location offered a slightly shorter travel distance to the Port of Tauranga.
- Eastgate Business Park - Like the Airport location of the City Entranceway Mixed Use Zone, this Business Park zone scored highly on most criteria. It was considered relatively more suitable in terms of functionality and parcel sizes but scored slightly lower on visibility/exposure (due only to the depth of the zone away from the main road means that not all businesses can achieve a high profile site.

The top-ranking locations for Accommodation development are:

- Mid City Zone – With much of this zone set back from the main transport corridor, this zone location did not score as high as say Fenton Street's City Entranceway Zone on accessibility or exposure/profile but ranked highly because of being the CBD and the building heights and high site coverages that are associated with that. It also achieved the maximum score for colocation with complementary retail and commercial activities. It provides relatively few hazards, potential for geothermal resource access and public transport.
- Northern Edge Zone – While similar to the adjoining Mid City Zone, this zone location achieved the maximum score for proximity to lakeside amenity and views, but as a result is affected slightly more by flood potential.

In terms of the range of overall suitability scores, only 35 points separated the top Retail development location from the bottom ranked location.[114] The range across locations with some form of Industrial potential was slightly broader (39 percentage points).[115] The scores were more diverse for Commercial development locations (50 points between top and bottom ranked locations).[116] However, the greatest range was across the locations that enable Tourist Accommodation. While most locations scored relatively well, one location (City Entranceway Accommodation – Aorangi Peak (Mountain Road) scored 74 points

[114] The least suitable site scored 54 out of a potential 105 points.

[115] The least suitable site scored 79 out of a potential 135 points.

[116] The least suitable site scored 56 out of a potential 125 points.

less than the most suitable site.[117] Located on the urban-rural fringe well away from the CBD, this location is considered less suitable for motel and hotel development, although is likely to be suitable for lodge type development opportunities.

It is noted that while some zone locations score relatively low within a particular land use category, this can signal that while that particular land use is enabled in the Plan, it is more likely to be taken up by other 'more suitable' land uses. This aligns with the Alternative Capacity Scenario approach discussed in Section 12.5.5. An example of this is the Heavy Industrial Zone in Waipa. This zone location is assessed for suitability for Retail (although limited to takeaways) where it ranks 68th= out of 70 zone locations that provide for Retail development. On the contrary, it ranks 10th for Industrial development suitability (out of 29 zone locations). It is only when zone locations demonstrate poor suitability across all anticipated land use categories that the zoning is likely to experience limited or no development uptake or result in inefficient land use outcomes. Scarcity, however, can result in less suitable locations being developed when there is no alternative, and businesses need to be located in Rotorua.

The following graphs compare the desirability/suitability of zone locations across the urban environment (based on their total MCA score, in descending order) against the maximum potential vacant land capacity in those same areas (Maximum Capacity Scenario).[118]

13.4.1 Suitability of Commercial or Retail Capacity

The MCA analysis shows that the most suitable areas that enable Retail or Commercial development contain very little vacant land capacity (with only small vacant areas available in the City Entranceway Mixed Use zone in the short-long term). This is a positive outcome when looking back on District Plan zoning, as it suggests that the zoning in those locations has been both efficient and effective. In terms of providing for future growth though, the most desirable locations are constrained. However, these same areas would be expected to provide redevelopment opportunities in the short, medium and long term as a means of creating more capacity for employment growth – particularly on the older blocks/sites where buildings are nearing the end of their useful lifespan.

A portion of the maximum vacant land capacity for Retail and Commercial development is in locations considered moderately suitable (in a relative sense) and much of the maximum vacant land capacity is in zone locations considered least suitable for Retail and Commercial development/investment. As discussed above, this includes the two Heavy Industrial Zone locations – which is not concerning given that they are relatively better suited for Industrial development in any case.

In the Retail MCA, the Eastgate Business Park has some vacant land capacity at present, and the proposed Future Eastgate Business Park has considerable vacant land capacity in the long term, but this zone location is considered relatively less suitable for Retail land use.[119] It is for this reason that in the Alternative Capacity Scenario, 100% of the existing zone capacity is estimated to be taken up by Industrial development and only 10% of the long term zone is estimated by be taken up by Retail development.

[117] The least suitable site scored 51 out of a potential 145 points.

[118] Refer the supporting Technical Report for the equivalent graphs based on the Alternative Capacity Scenario.

[119] Limited to restaurants, cafes, drive throughs, convenience retail, service stations and trade retail.

It is relevant to note that the existing vacant retail centre precincts in the Pukehāngi Plan Change area and the Neighbourhood Centre Zone in the Wharenui Road area, and the indicative alternative long term retail centre zones in the Upper Eastside, all score relatively poorly for Retail development at present. The Pukehāngi and long term zone locations are impacted by natural hazards (particularly a lack of current stormwater infrastructure). They are also set back from main roads, so this means that they will be reliant on their immediate residential catchments only to be commercially viable as opposed to benefiting from some pass-by customers as many other Neighbourhood Centres do.

In the Commercial MCA, it is notable that the indicative long term City Entranceway Mixed Use zone in Ngongotahā South scores moderately well for Commercial development (as it does for Retail and Industrial). This indicates that a mixed use zone is likely to be appropriate in that location. Some of the small vacant land areas within the Light Industrial Zone in Fairy Springs South and Fenton Park are also moderately suitable for Commercial development.[120]

[120] These findings are consistent with the approach taken in the Alternative Capacity Scenario.

Figure 13.1 – MCA Results – Suitability of Rotorua Retail Enabled Zone Locations vs. Maximum Retail Capacity

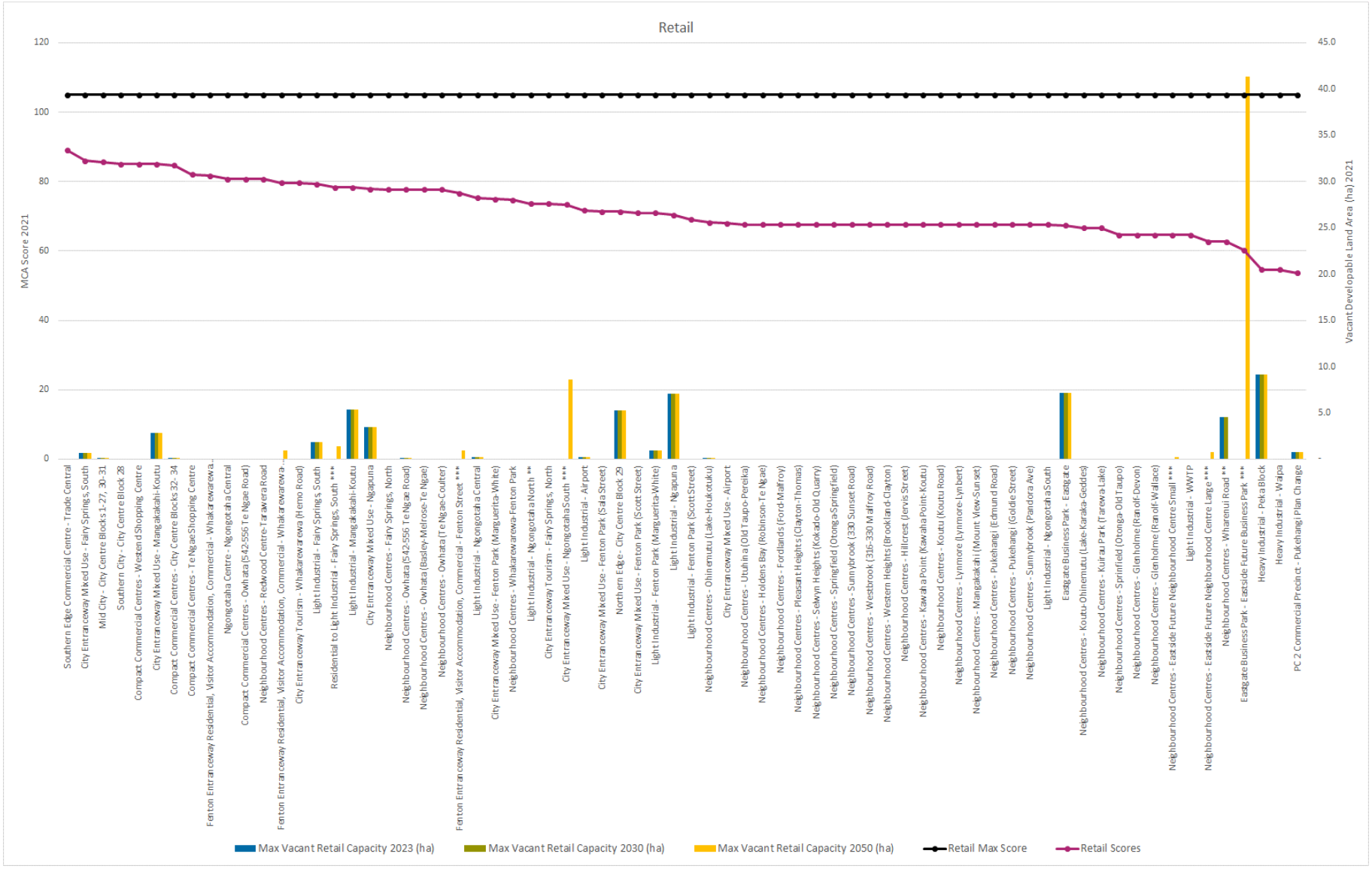
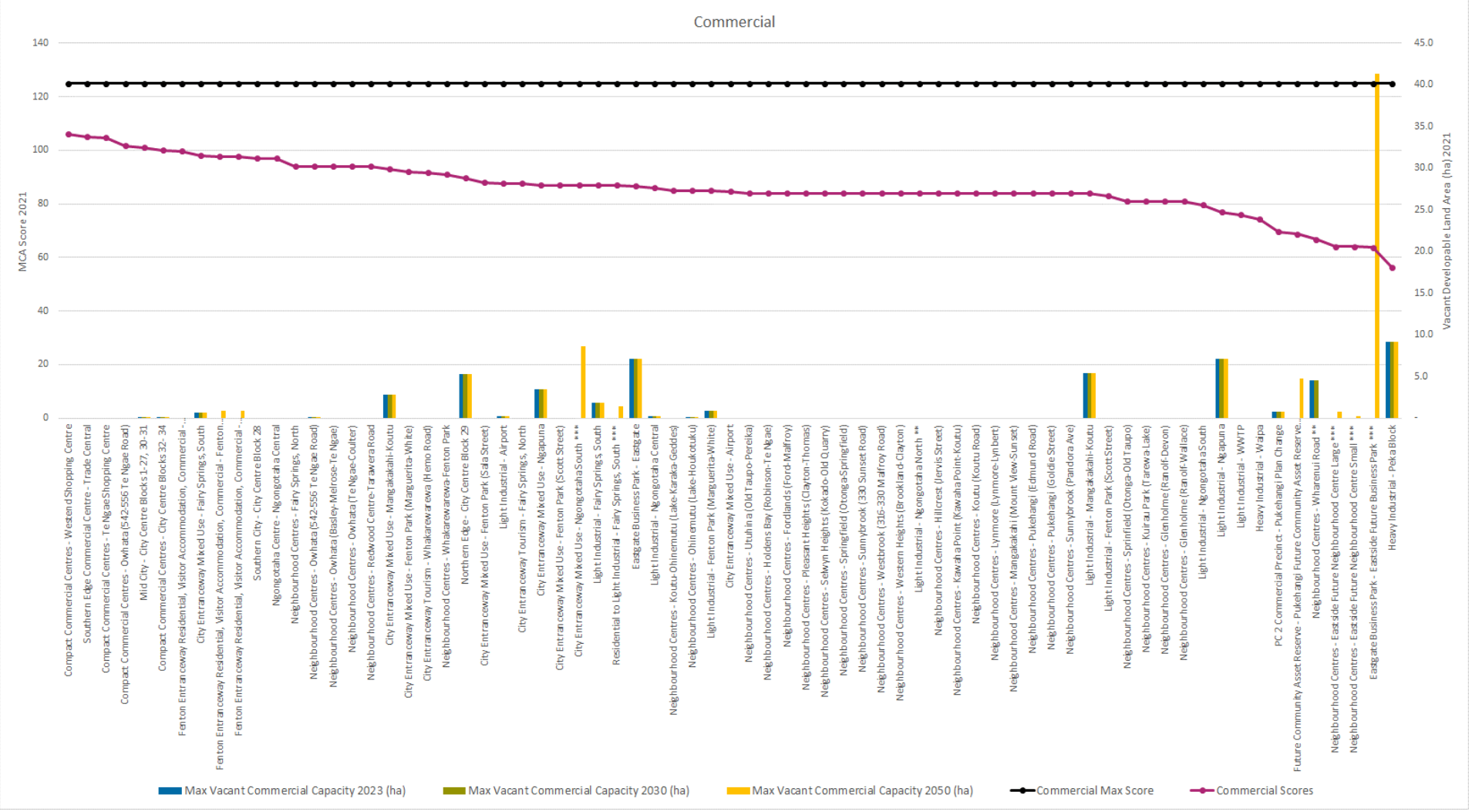


Figure 13.2 – MCA Results – Suitability of Rotorua Commercial Enabled Zone Locations vs. Maximum Commercial Capacity



Of those zone locations that score relatively less in terms of suitability for Commercial development, little weight should be given to the scores given to vacant capacity in the Light Industrial Zones, as these locations score better for Industrial development in any case. The four zone locations in the Upper Eastside (including Future Eastgate Business Park) score poorly as a result of being un-serviced by stormwater infrastructure at present[121] and being Māori Land – which for the general development market, is likely to be a deterrent relative to alternative freehold locations.[122]

13.4.2 Suitability of Industrial Capacity

There is some vacant land capacity in the most suitable/desirable Industrial zone locations and Council can be reasonably confident that this zoning is appropriate is terms of location and the nature of the land zoned (particularly the freehold land). The City Entranceway Mixed Use zones have tended to show relatively greater suitability for Industrial development compared to the Light Industrial zone locations and exposure/profile is a key reason for this (with the Light Industrial Zone tending to be zoned behind the mixed use zone which sleeves the main transport corridors). There is however limited capacity left in the mixed use zones in the short to medium term. The indicative City Entranceway Mixed Use zone in Ngongotahā South scores moderately well for Industrial suitability and will appropriate to zone (sooner rather than later).

There are several areas where development of remaining vacant land capacity may be constrained in terms of market acceptance of product. This includes the Heavy Industrial Zone in the Peka Block location, and Light Industrial Zone in the Ngapuna and Mangakakahi-Koutu locations.

The Peka Block scores relatively well in terms of accessibility, large flat land parcels, infrastructure serviced, low levels of traffic congestion and an ability to buffer adverse effects from residential and sensitive activities. But, has lower suitability (for anticipated industrial activities) due to areas in Māori ownership, limited clustering of complementary/supporting businesses, low visibility/exposure and a slightly longer trip to the Port of Tauranga.

Both the Light Industrial locations with vacant capacity are already heavily or moderately fragmented, have limited appeal to businesses looking for good exposure (high profile sites), contain only a portion of Māori land (although this is concentrated into the remaining vacant sites), and the Ngapuna location is impacted by local congestion along Te Ngae Road in peak periods. These sites may struggle to attract investment while other options are still available.

Based on the MCA, the small area of long term capacity assumed to be available in the Transitional Residential to Light Industrial Zone, scores relatively low for Industrial development, but relatively high for Retail development (as anticipated in the Light Industrial Zone), and moderately well for commercial development that is plan enabled. A key factor in these results is that the sites face residential land use, which is beneficial for retail and commercial activities serving household demand but is a constraint for light industrial activities with noise, heavy vehicle or dust effects.

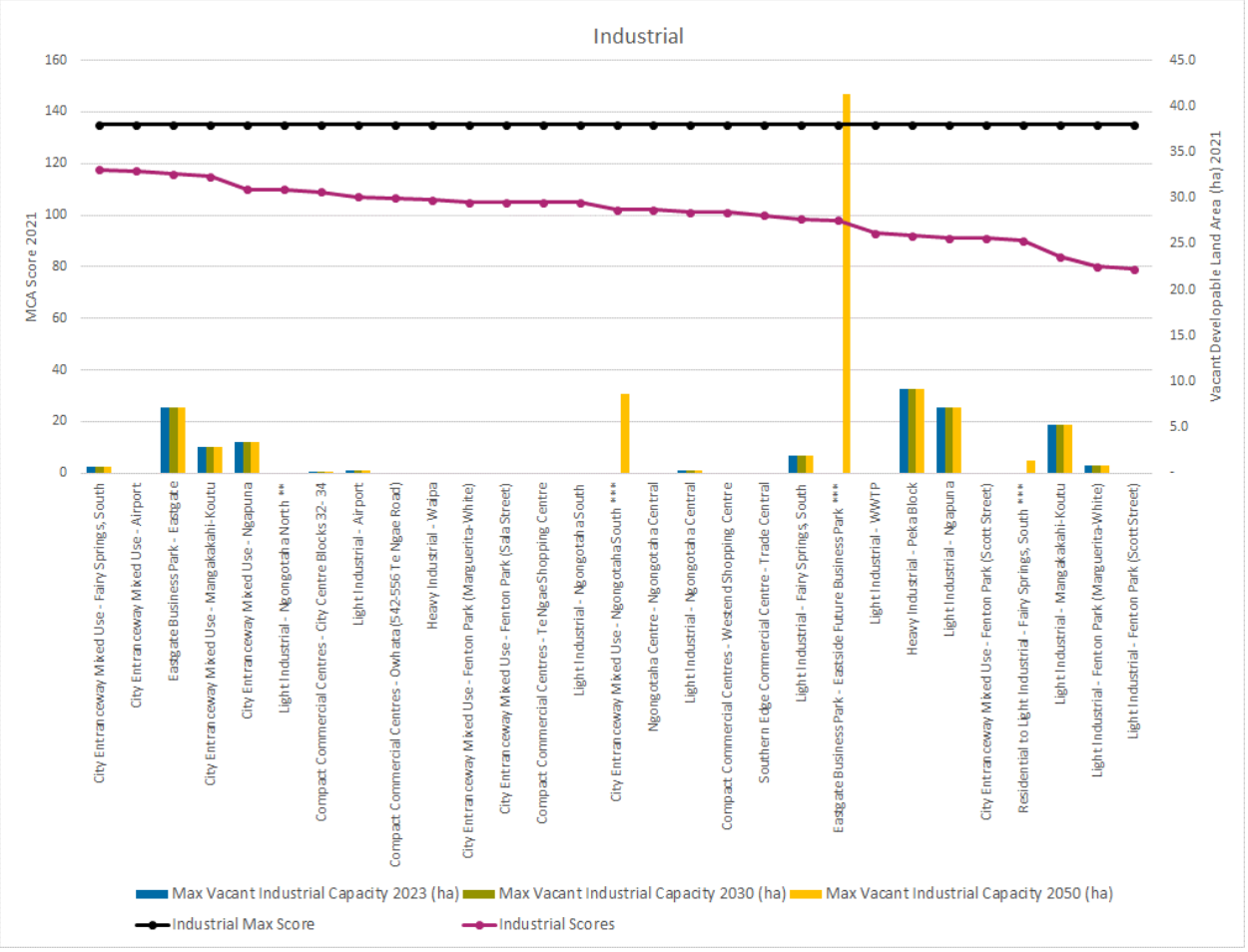
Last, the indicative future Eastgate Business Park provides the potential for significant vacant land capacity for Industrial development in the long term, but this also shows relatively low suitability from a

[121] If future funding is secured for stormwater infrastructure, these zone locations could score better in future updates.

[122] This does not preclude the landowners (Ngati Whakaue) from developing these business zones (i.e., build and lease model).

development perspective. Compared to the operative Eastgate Business Park, it shares many positive locational attributes including accessibility, large flat sites, relatively few constraints from sensitive land uses, low levels of traffic congestion and relatively high exposure/profile on many sites. It scores relatively better in terms of ability to co-locate with complementary business activities because of its size (and therefore future critical mass). However, it scores lower on infrastructure (including stormwater management) and land ownership – which is key. It is Māori land which, in the current and foreseeable market, is likely to deter most developers from investing in this location. Because of its other positive attributes, it may still be an attractive location in the long term for businesses prepared to lease land/premises, but this is most likely to come about with the landowners being the developers. Caution is therefore advised in relying on this large indicative business zone to attract development and therefore provide suitable capacity to meet future demand growth.

Figure 13.3 – MCA Results – Suitability of Rotorua Industrial Enabled Zone Locations vs. Maximum Industrial Capacity



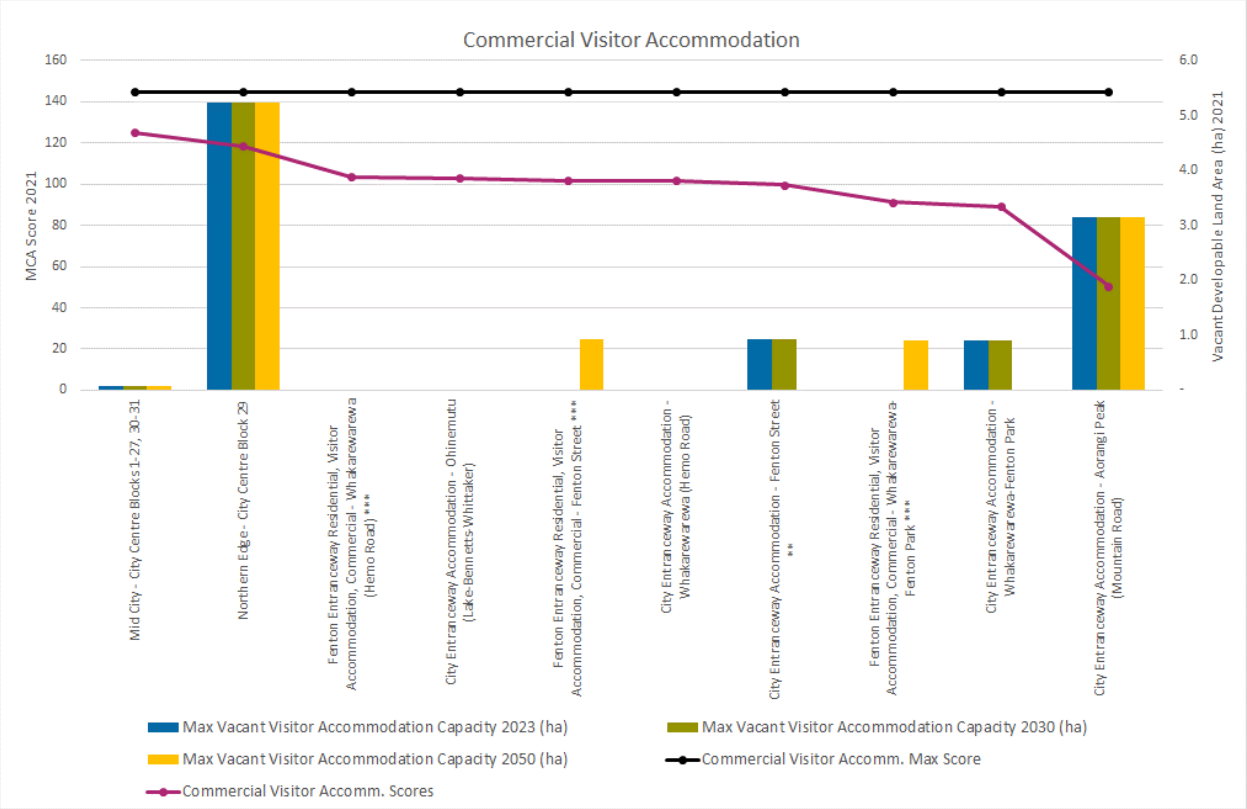
13.4.3 Suitability of Tourist Accommodation Capacity

The largest area of vacant land capacity available for Tourist Accommodation development is in the Northern Edge Zone, which is considered highly suitable for that development purpose (although also scores relatively well for Commercial development). With construction already underway (for a tourist focussed commercial activity), much of this land will not be 'vacant' in the near future. The next largest

area of vacant land capacity is in the least suitable zone location (Mountain Road) and it is considered that this has a low probability of attracting motel or hotel development in the future (but may attract other forms of tourist accommodation). There is a small amount of vacant capacity in Fenton Street, although it scores marginally higher in the long term under a mixed use zoning than it does currently as City Entranceway Accommodation zone. This comes down to an indicative higher building height rule which would allow for more flexibility to develop accommodation (including in mixed use buildings).

After Fenton Street, the Whakarewarewa-Fenton Park vacant capacity is considered the next most suitable for Accommodation development, with the change in zoning provisions again likely to improve its suitability (although it would increase the competition for vacant land with retail and commercial activities).

Figure 13.4 – MCA Results – Suitability of Rotorua Accommodation Enabled Zone Locations vs. Maximum Accommodation Capacity



13.4.4 Summary of Suitability

Overall, the significant majority of plan enabled capacity provided in Rotorua's urban business zones is considered suitable to develop. Some areas are more suitable than others for a particular land use, and some areas are more suitable for one land use than they are for another (which supports the rationale of the Alternative Capacity Scenario adopted for this HBA).

In terms of vacant developable land capacity to help cater for future employment demand growth (in addition to redevelopment and use of vacant premises), a portion does fall within zone locations determined to be relatively less suitable for commercial development and this tends to include the vacant land that is Whenua Māori. In particular, it is recommended that care is taken in assuming that the capacity

provided in the Heavy Industrial Zone – Peka Block and indicative future Eastgate Business Park (which could provide capacity for a mix of industrial, commercial and retail activities) will help cater for business growth in urban Rotorua. The inclusion of these zones may overstate capacity – this is considered further in the following Sufficiency section.

Based on the suitability assessment, priority should be given to zoning (and servicing) the City Entranceway Mixed Use Zone indicated in the Spatial Plan for Ngongotahā South as opposed to the business land in the Upper Eastside. As with other locations with this zone type, it is expected (based on the assumptions made and notwithstanding the limitations of the MCA to reflect actual developer investment decisions) to be suitable for a mix of industrial, commercial, and retail businesses.

14 Sufficiency of Capacity

In this section the results of the demand and capacity assessments are brought together to provide a quantitative comparison to determine the sufficiency of capacity provided for in Rotorua's urban business zones in the short, medium, and long term. The suitability of capacity determined by the MCA as well as infrastructure capacity is also considered in the overall assessment.

Clause 3.30 of the NPS-UD specifies that RLC "must clearly identify, for the short term, medium term and long term, whether there is sufficient development capacity to meet demand for business land". That development capacity must be plan enabled, infrastructure ready, and suitable. Demand must include the appropriate competitiveness margin. The following sections provide the results by land use category for total urban environment business zones according to the single scenario of demand and the three scenarios of capacity.

14.1 Sufficiency Results

14.1.1 Maximum Capacity Scenario

As discussed in Section 12, less weight is given to the Maximum Capacity Scenario for the purpose of determining sufficiency. This is because it can grossly over-estimate capacity by double counting vacant developable land across two or sometimes three different land use outcomes according to the approach adopted for this HBA.

For completeness, the sufficiency results for the Maximum Capacity Scenario are included in the supporting Technical Report, but we do not discuss them in any detail. However, under this capacity scenario, the modelling shows that based on what is plan enabled in the short-medium term and identified in the Spatial Plan in the long term, that there is at least sufficient vacant land capacity (including potential floorspace capacity on that land) to cater for projected demand for urban business zones (inclusive of the margin) out to 2050.Ngongotahā However, if the least suitable capacity is removed – particularly vacant Māori land including but not limited to within the Heavy Industrial Zone – Peka Block and long term future Eastgate Business Park, then Rotorua may have a shortfall of developable industrial land in the urban environment in the medium and long term. It is considered that the Alternative Capacity Scenario provides a more accurate assessment of this potential outcome.

14.1.2 Alternative Capacity Scenario

This section compares the demand for urban business zone land by category against vacant developable land capacity (and associated building floorspace) according to the Alternative Capacity Scenario which removes overlap of capacity between the four categories of land use (based on assumptions set out in the Technical Report). This scenario captures some key findings of the MCA – particularly results that showed that some zone locations were better suited for some land uses but not others that may be enabled by the Plan.

Table 14.1 and Figure 14.1 show that in the short term, there is at least sufficient vacant land capacity (including potential floorspace capacity on that land) to cater for projected demand for urban business zones (inclusive of the margin) out to 2023. The same applies when considered in floorspace terms (Table 14.4). In the medium term (to 2030), there would be at least sufficient vacant land capacity (including potential floorspace capacity on that land) to cater for projected demand for urban business zones (inclusive of the margin) for Retail and Tourist Accommodation growth. However, there would be a shortfall of vacant land capacity for Commercial development (reaching -1.8ha by 2030, with the shortfall itself becoming apparent around 2028-2029).

When looking at demand in terms of floorspace however (Table 14.2), the model indicates that there is at least sufficient capacity for Commercial development demand out to 2030. This is because Commercial development can occur on ground and upper floors, meaning that floorspace capacity can meet demand vertically (particularly for office based activities) rather than through the provision of more land. Care is however needed, because the Commercial category includes a range of activity types, and some will be more driven by a need for sites (land) and others will be more driven by a need for floorspace.

Table 14.1 – Plan Enabled Business Land Sufficiency by Category (Ha) – Alternative Capacity Scenario

Category	Developable Land Demand and Capacity (ha)											
	Demand with Competitiveness Margin			Capacity (Alternative 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	8.0	8.0	13.3	5.9	2.1	2.5	Sufficient	Sufficient	Sufficient
Commercial	5.2	16.1	41.0	14.3	14.3	37.2	9.1	-1.8	-3.8	Sufficient	Insufficient	Insufficient
Accommodation	1.2	3.4	6.2	8.2	8.2	7.3	7.1	4.8	1.2	Sufficient	Sufficient	Sufficient
Industrial	9.2	21.6	36.2	28.4	28.4	57.2	19.2	6.7	21.0	Sufficient	Sufficient	Sufficient
Total	17.7	47.1	94.1									

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)

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)

The Alternative Capacity Scenario is sensitive to assumptions around the future take-up of zoned vacant land and floorspace (particularly in the City Entranceway Mixed Use Zone).[123] On the basis that there is an estimated surplus of Retail land in this scenario in the medium term (+2.1ha), and that this could cater for the shortfall estimated for Commercial land (-1.8ha), M.E consider that it is likely that Commercial demand out to 2030 can be catered for with existing vacant land capacity (and assuming no further constraints associated with land tenure – discussed in the following section).

While the modelling shows a surplus of industrial land capacity to meet demand in the medium term (+6.7ha), the floorspace sufficiency model (Table 14.2) shows a very minor shortfall of just 500sqm . This is considered within the margin on error but is potentially relevant.

The reason that the floorspace result shows a different outcome from the land result for Industrial development is that the demand is likely to be weighted towards industrial activities that have relatively

[123] Although, the assumptions made are supported by the findings of the MCA.

higher site coverages (i.e., warehouses and workshops), and a portion of the industrial land capacity available provides for only low site coverages for buildings according to the assumptions made – this is in the Heavy Industrial Zone. This signals that the inclusion of the Heavy Industrial Zone capacity in the Peka Block (around 8ha) is masking a shortfall of vacant land capacity suitable for light industrial demand in the medium term.

Figure 14.1 - Plan Enabled Business Land Sufficiency by Category (Ha) – Alternative Capacity Scenario

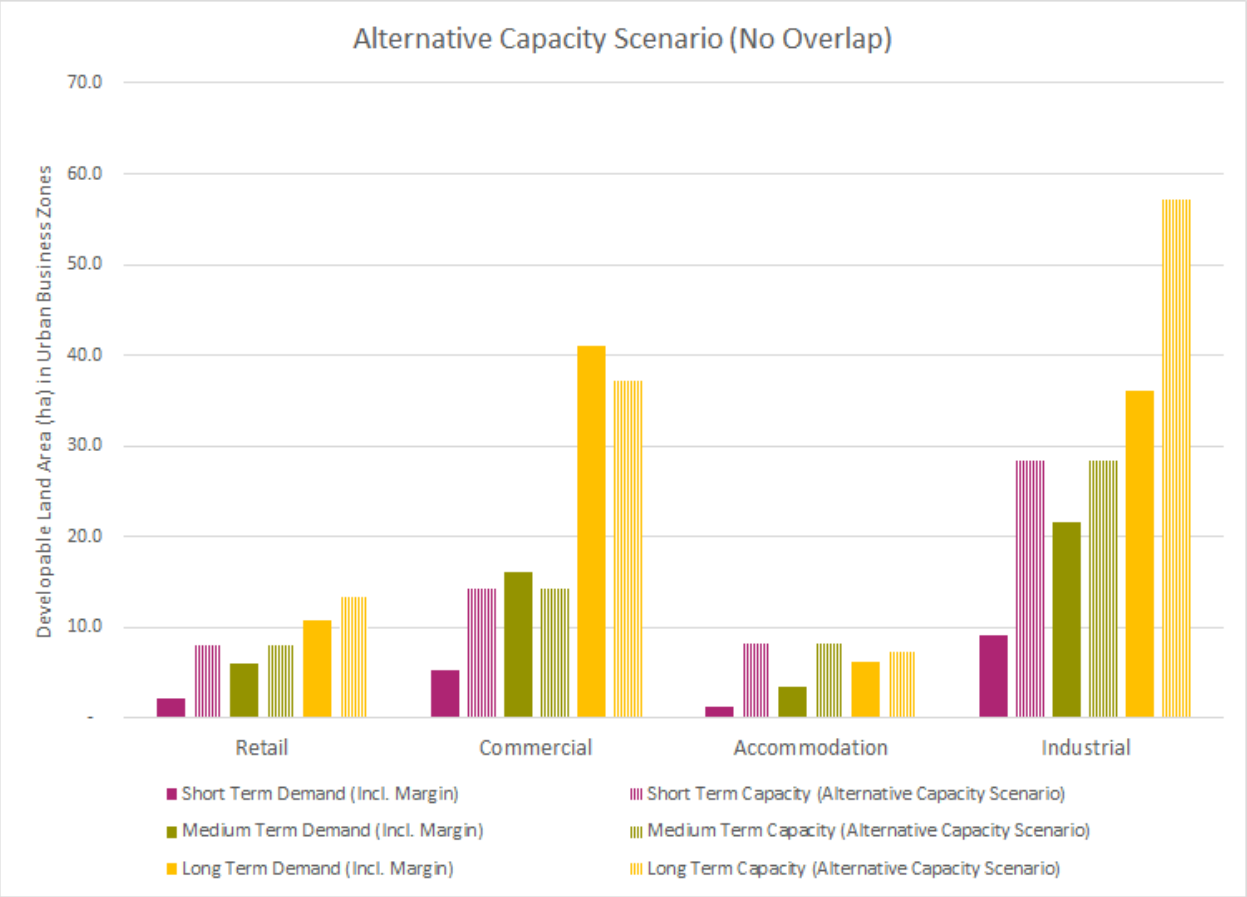


Table 14.2 – Plan Enabled Business Floorspace Sufficiency by Category (sqm GFA) – Alternative Capacity Scenario

Category	Floorspace Demand and Capacity (sqm GFA)											
	Demand with Competitiveness Margin			Capacity (Alternative 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	37,300	37,300	65,200	25,500	4,900	6,400	Sufficient	Sufficient	Sufficient
Commercial	25,900	78,400	202,000	126,900	126,900	412,700	101,000	48,500	210,700	Sufficient	Sufficient	Sufficient
Accommodation	5,900	17,200	30,900	73,500	73,500	65,000	67,600	56,300	34,100	Sufficient	Sufficient	Sufficient
Industrial	42,800	101,100	172,500	100,600	100,600	277,200	57,800	- 500	104,700	Sufficient	Insufficient	Sufficient
Total	86,400	229,100	464,200									

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)

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)

In the long term under the Alternative Capacity Scenario, the analysis shows that there would be ample land and floorspace capacity to cater for long term demand for Retail, Industrial and Accommodation land uses in urban business zones (assuming no tenure and other suitability implications). Given an assessed lower suitability for the City Entranceway Accommodation zone location in Aorangi Peak (around 3ha) for motel and hotel development, a long term shortfall for Accommodation demand may still eventuate (and is not shown in Table 4.1).[124]

It is estimated that there would be a shortfall of Commercial land between 2030 and 2050, in the order of -3.8ha. As per the medium term, this shortfall is not apparent in floorspace terms, but that result should be considered with caution. Unlike in the medium term, any transfer of surplus land capacity indicatively allocated to Retail development could not offset the shortfall of Commercial land in the long term (i.e., it may reduce it, but will not totally resolve the shortfall).

14.1.3 Alternative Conservative Capacity Scenario

As discussed in Section 12.5.6, the Alternative Conservative Capacity Scenario provides the lower range of likely vacant business capacity to accommodate future growth, by excluding all zoned vacant Māori land. This capacity scenario also aligns with the finding of the MCA, particularly those results which showed that leasehold land was often relatively less suitable from a development perspective, particularly in light/heavy industrial zones and the indicative future Eastgate Business Park.

Table 14.3 and Figure 14.2 show that in the short term, when all vacant Māori land is excluded, there is an estimated minor shortfall of vacant Retail land capacity (including potential floorspace capacity on that land) to cater for projected demand for urban business zones (inclusive of the margin) out to 2023. This shortfall is estimated at around -0.2ha or just -1,700sqm GFA. This is not considered material in the wider context and is unlikely to leave any communities without access to convenience or core retail stores (and can likely be addressed through increased productivities in existing stores).

[124] It is possible that home-share accommodation could grow to meet long term demand not met by the commercial sector, although this has implications on the availability of dwellings for household growth.

In the medium term however (to 2030), if all capacity on Māori land was excluded from the analysis, there is an estimated shortfall of vacant land capacity for Retail, Commercial and Industrial demand growth (plus a margin). The same applies when considered in floorspace terms (Table 14.4), but only for Industrial and Retail demand (with both land uses assumed to be limited to ground floor premises). In the long term (to 2050), the same results are evident. While there is additional capacity on freehold land identified in the long term, it is not sufficient to meet long term demand plus the margin for Retail, Commercial and Industrial development if Māori land does not contribute to capacity. The Industrial land shortfall is estimated at -15.5ha, the Retail land shortfall is estimated at -5.3ha, and the Commercial shortfall is estimated at -21.5ha by 2050. Floorspace sufficiency assessment shows the same result, including this time, for Commercial land use.

Only sufficiency for Accommodation development demand growth is unaffected by land tenure, with there being at least sufficient land and floorspace to meet anticipated demand plus the margin over the long term. Again though, when suitability is factored in, a long term shortfall may become apparent.

Table 14.3 – Plan Enabled Business Land Sufficiency by Category (Ha) – Alternative Conservative Capacity Scenario

Category	Developable Land Demand and Capacity (ha)											
	Demand with Competitiveness Margin			Capacity (Alternative 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	1.9	1.9	5.5	-0.2	-4.0	-5.3	Insufficient	Insufficient	Insufficient
Commercial	5.2	16.1	41.0	8.1	8.1	19.5	2.8	-8.0	-21.5	Sufficient	Insufficient	Insufficient
Accommodation	1.2	3.4	6.2	8.0	8.0	7.2	6.9	4.6	1.1	Sufficient	Sufficient	Sufficient
Industrial	9.2	21.6	36.2	16.6	16.6	20.6	7.5	-5.0	-15.5	Sufficient	Insufficient	Insufficient
Total	17.7	47.1	94.1									

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)

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)

Figure 14.2 - Plan Enabled Business Land Sufficiency by Category (Ha) – Alternative Conservative Capacity Scenario

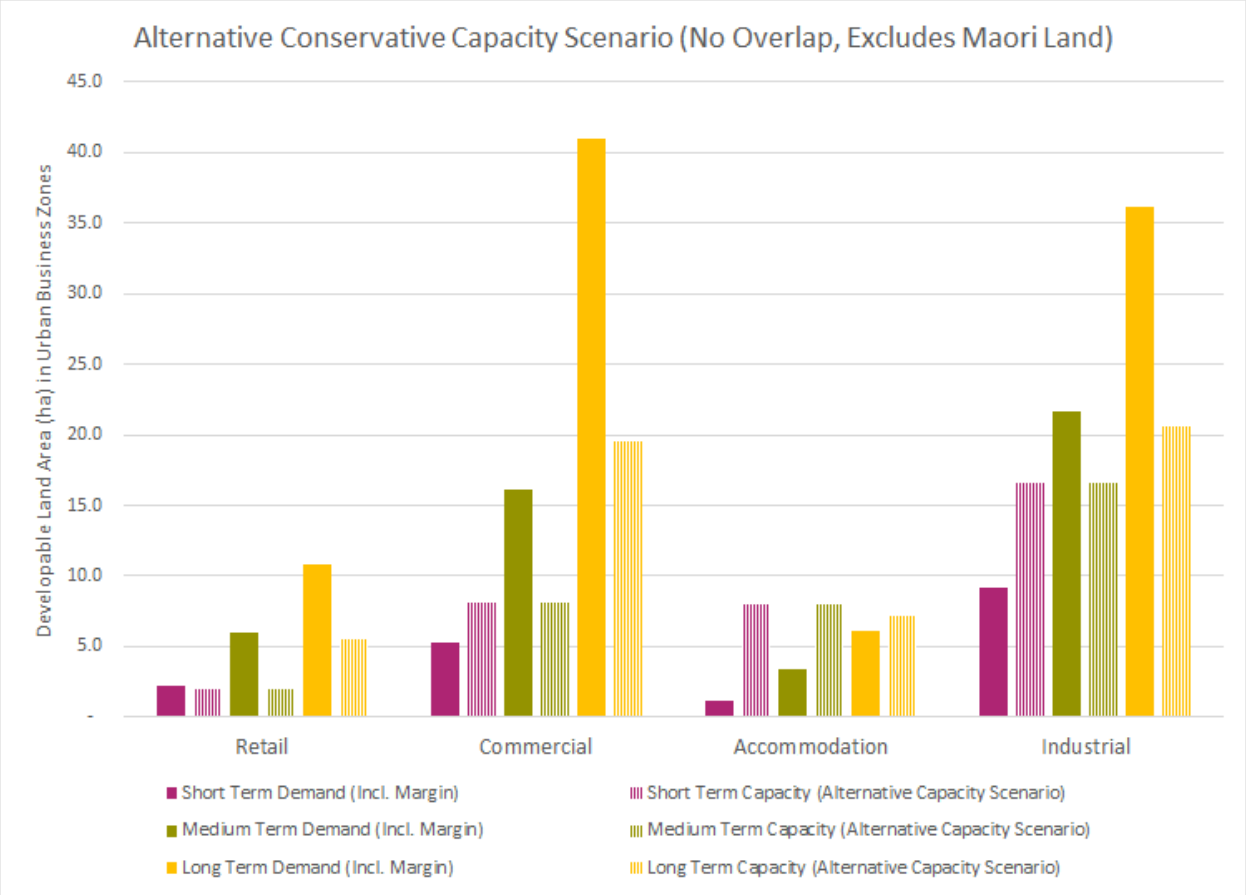


Table 14.4 – Plan Enabled Business Floorspace Sufficiency by Category (sqm GFA) – Alternative Conservative Capacity Scenario

Category	Floorspace Demand and Capacity (sqm GFA)											
	Demand with Competitiveness Margin			Capacity (Alternative 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	10,100	10,100	23,400	- 1,700	- 22,300	- 35,400	Insufficient	Insufficient	Insufficient
Commercial	25,900	78,400	202,000	92,700	92,700	141,000	66,800	14,300	- 61,000	Sufficient	Sufficient	Insufficient
Accommodation	5,900	17,200	30,900	71,700	71,700	64,100	65,800	54,500	33,200	Sufficient	Sufficient	Sufficient
Industrial	42,800	101,100	172,500	61,200	61,200	76,500	18,400	- 39,900	- 96,000	Sufficient	Insufficient	Insufficient
Total	86,400	229,100	464,200									

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)

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)

14.2 Discussion

The following graphs help consolidate the findings of the sufficiency assessment for urban business zones (focussed on vacant land demand and capacity results). Based on the range of results generated by the Alternative Capacity Scenario (high end or best case outcome) and Alternative Conservative Capacity Scenario (low end or worst case outcome), Rotorua is likely to have a least sufficient capacity for business demand growth in the short term.

In the medium term, there may be insufficient capacity if vacant Māori land that enables Retail and Commercial activities does not get developed (Figures 14.3 and 14.4 respectively). If Council were to take a precautionary approach, they would plan for this potential shortfall.[125]

While Figure 14.5 shows potential sufficiency under the best case outcome for Industrial demand growth, this result is influenced by the vacant capacity in the Heavy Industrial Zone, which is not necessarily where demand is concentrated. As such, it is considered that there is likely to be a shortfall of appropriate land for Industrial demand growth in the medium term (particularly for light industrial activities that may be looking for space in the Light Industrial Zone, City Entranceway Mixed Use Zone or Business Park zones). This shortfall will be exacerbated (and more certain) if zoned and vacant Māori land is not developed. Planning for this shortfall should be a priority for Council.

In the long term, it would be appropriate to plan for a shortfall in Commercial development capacity (Figure 4.4). This may be only minor (and redevelopment could certainly help mitigate this if it could be facilitated). Alternatively, it could be a more significant shortfall if Māori land does not contribute to realised capacity.

It Council is keen to concentrate growth of Accommodation sector demand into business enabled zones over the long term, then a potential long term shortfall for this land use should also be planned for – particularly capacity suitable for motels and hotels. Again, more intensive redevelopment (particularly in the Mid City Zone and along Fenton Street) could help provide for expected long term demand if provisions are enabling.

In the long term, Māori land capacity makes a significant difference as to whether there is a surplus of Industrial development capacity or a significant shortfall (Figure 4.5). It is considered that relying on the future Eastgate Business Park to help meet Industrial demand growth in the urban environment carries moderate risk and that other options for freehold zoning suitable for light industrial businesses (and not already included in the modelling) should be identified, particularly if any planning solutions focussed on addressing a medium term shortfall will only be effective in meeting medium term demand.

Similarly, in the long term, Māori land capacity makes a significant difference as to whether there is a surplus of Retail development capacity or a significant shortfall (Figure 4.3). It is considered that relying on the future Eastgate Business Park to help meet a portion of Retail demand growth in the urban environment carries moderate risk and that other options for freehold zoning suitable for trade retail or bulk goods retail businesses (and not already included in the modelling) should be identified, particularly if any planning solutions focussed on addressing a medium term Retail land shortfall will only be effective in meeting medium term (or local shopping centre) demand.

[125] This may include working with Māori landowners to see how Council can help this zoned capacity to be realised.

Figure 14.3 – Summary of Sufficiency Results by Scenario – Retail Land Use Category

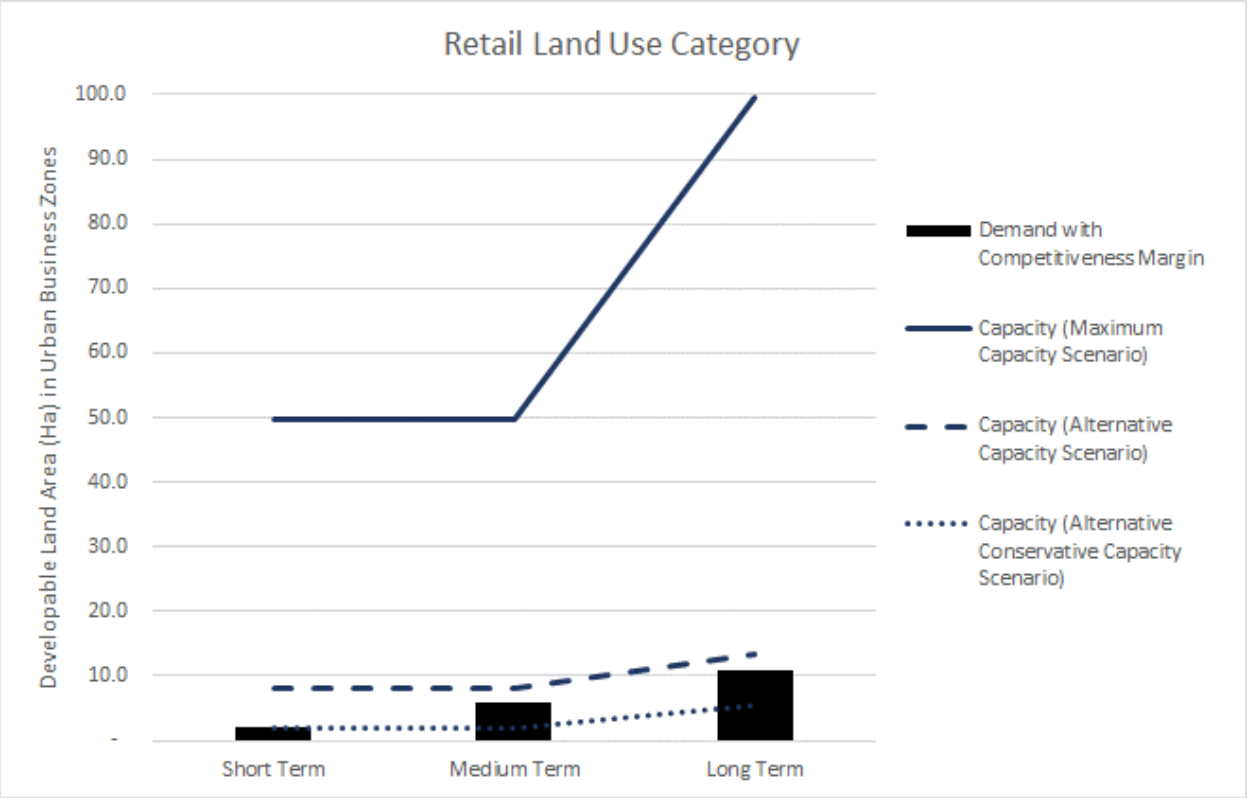


Figure 14.4 – Summary of Sufficiency Results by Scenario – Commercial Land Use Category

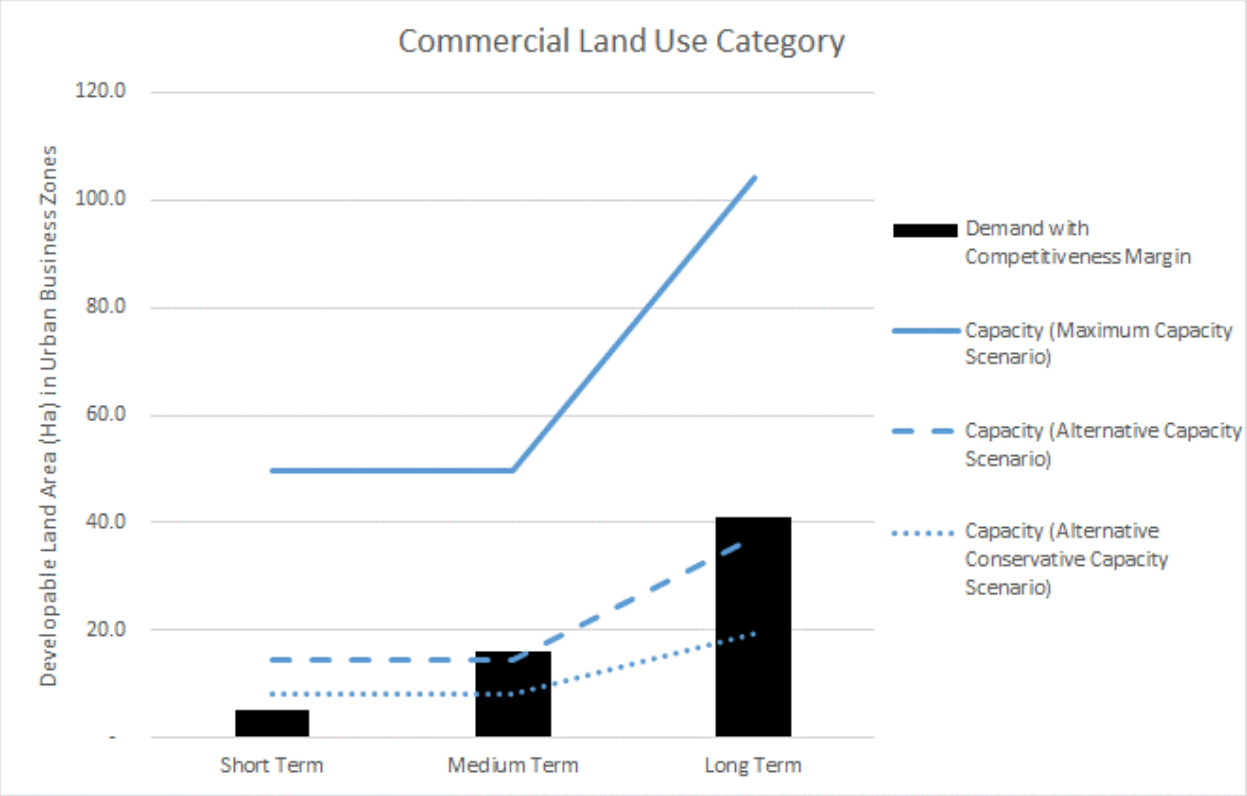


Figure 14.5 – Summary of Sufficiency Results by Scenario – Industrial Land Use Category

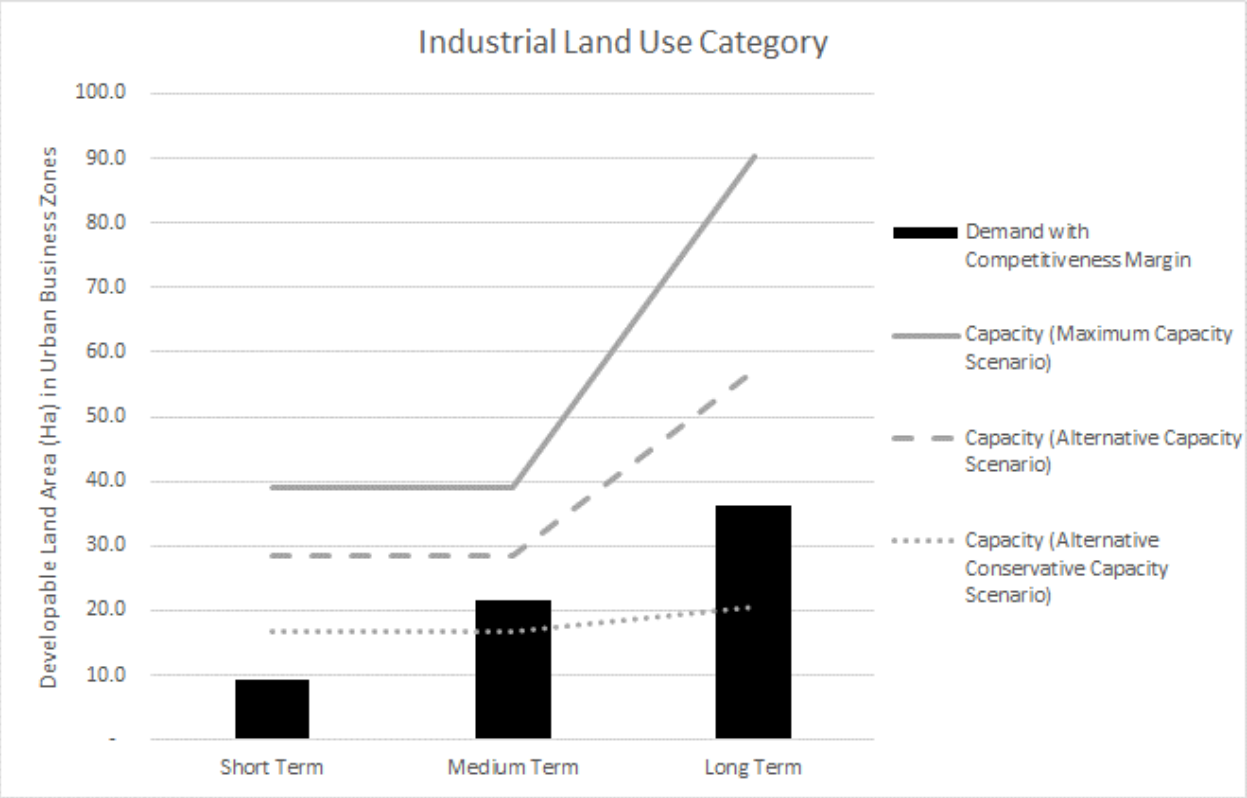
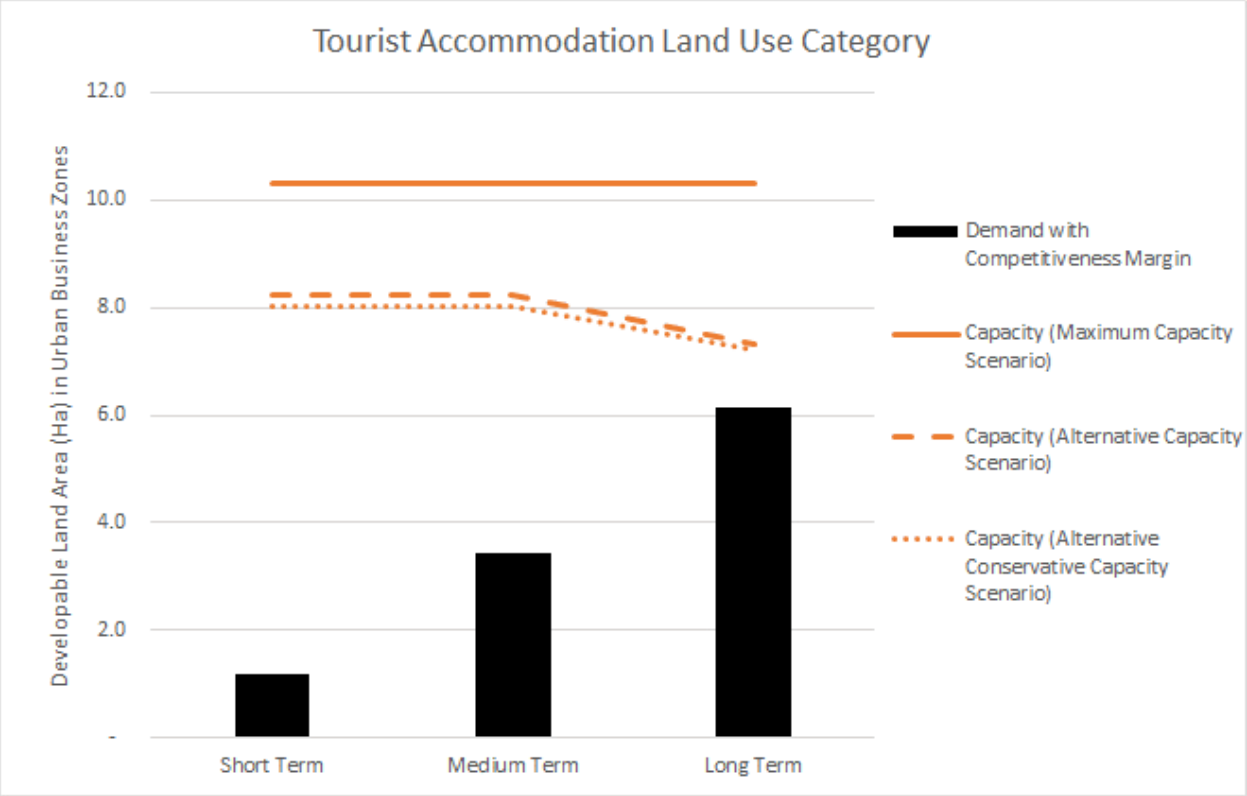


Figure 14.6 – Summary of Sufficiency Results by Scenario – Accommodation Land Use Category



The sufficiency assessment has not taken in account any latent demand, for which previous stakeholder feedback has indicated is an issue for Industrial land. This HBA analysis has shown sufficient capacity to meet Industrial demand out to 2023 (even if Heavy Industrial Zone capacity and Māori land is excluded). This would suggest that there is no evidence of a current shortfall. However, the feedback was directed at a shortfall of high quality industrial land in central locations. It is clear that most of the vacant capacity available today is not in central zone locations. It falls within Eastgate, the Airport, Ngongotaha, Fairy Springs and the Peka Block, with some also in Ngapuna (where the Light Industrial Zone has been shown to be relatively less suitable than other locations at this time).

Zoning more Industrial development capacity in central locations is not possible and it is realistic that growth requiring vacant sites is directed increasingly to the zone locations on the periphery of the urban environment in the future (even if they would have preferred a more central location). By way of example, despite a period of relatively slow uptake, recent consent data shows that Eastgate Business Park is now attracting new demand, and there are no known constraints to the zone location that would suggest that it won't be fully developed in time. As such, it is not considered that Council need to take into account (anecdotal) latent Industrial demand in addition to the future demand growth assessed in this HBA. Council can instead focus on providing additional business zone capacity to meet medium and long term demand as discussed above.

While vacant premises can help accommodate future growth, this HBA has not collected data to substantiate that vacancy rates are notably above those found in regional cities (whereby a small amount of vacant premises is beneficial in the market to allow for churn). Some vacancies are likely to be a consequence of Covid-19 and the impact this has had on international tourism. Demand for these premises may return if international travel returns to pre-Covid levels. Overall, it is not considered that inclusion of vacant premises data would materially affect the conclusions on sufficiency of urban business land in the medium and long term, although this has been identified as a potential improvement in future updates and something that could be monitored regularly.

Last, high level consideration has been given to the effect of redevelopment to help mitigate or reduce the shortfalls modelled. This is most relevant to Commercial and Accommodation development capacity and is likely to be focussed on central locations. While Council is keen to promote brownfields redevelopment opportunities (including to consolidate the CBD and intensify CBD and CBD fringe land), opportunities for large scale (transformational) redevelopment are often difficult to realise and may require Council/Crown partnerships to unlock potential and show the way for other developers to follow (I.e., create a snow-ball effect).

14.3 Causes and Contributions to Insufficiency

The key cause of the projected medium and long term insufficiency in urban business zones is planning not being commensurate with the scale or timing of growth. Greenfield zoning for light industrial activities in particular has not kept ahead of supply growth and given the lead in times needed to enable more development capacity, a lack of forward planning will soon be constraining growth (with some suggesting it is already constrained).

A large amount of current development capacity is Whenua Maori. This gives the appearance of plenty of zoned land to cater for growth in the short to medium term, but in industrial and mixed use zones, there is

limited evidence that development is taking place. The constraints to developing this land are significant for most (but not necessarily all) iwi and those constraints are unlikely to change in near future. Reluctance of commercial developers to invest in Whenua Maori (where they are not already the land owner) is a further contributor to future insufficiencies.

While the 2018 Spatial Plan has identified some indicative areas for future business zoning, this relies on the development of more Whenua Māori in the Eastern reporting area or has potential infrastructure constraints (Ngongotaha). It is considered that Council's long term planning has not included enough land for greenfield expansion of business land, in enough locations (i.e. different options) in order to satisfy the NPS-UD requirement of providing at least sufficient development capacity to meet long term demand while also minimising the risk of one (or more) long term options not being suitable or realised.

A lack of stormwater infrastructure is also contributing to some existing vacant capacity not being developed and is preventing the efficient use of zoned business land in some locations. When these costs are pushed onto landowners/developers, this can influence whether a site is feasible to develop or not.

There was also feedback from stakeholders that Council approval processes are holding up non-residential development and adding costs. A number of suggestions were made on to help resolve these issues including implement a bond system for developers – to get fast resource consents off the ground; having an approved developer panel for the purpose of consent applications where proven developers could get a more streamlined process; separating non-residential from resident consent processing with staff dedicated to commercial, retail, industrial etc applications so that residential consents do not 'clog up processing capacity'; having dedicated non-residential building inspectors with specific expertise in non-residential developments; and for high frequency or approved consent applicants (developers), shift to a monthly invoice process to allow consents to be released in advance of payment.

Last, while this HBA has not modelled redevelopment, there was further feedback from stakeholders on the state of the CBD that is considered relevant, given that a CBD plays a significant role in an urban economy, including in terms of supporting a functional and effective urban form. Feedback suggested that the CBD was in a "death spiral". Causes of a lack of development/redevelopment included the 1960s-70s style footprint, fragmented ownership and a loss of amenity. Changes in the retail market towards large format retail have contributed, but so too has decision making that has allowed office development to occur outside of the CBD according to one stakeholder.

Stakeholders agreed that the CBD needed to be consolidated and that it would be impossible to safe the whole CBD (and that this would be futile). They felt that Council needed to think bigger/bolder in terms of re-imagining the CBD. It was considered that redevelopment initiatives need to have a critical mass to start a snowball effect of investment. Developing one or two buildings in an otherwise poor city block will not be effective.

PART 4 – CONCLUSIONS

15 Conclusions and Recommendations

This section draws together key findings and conclusions from the HBA report, including the housing market analysis, housing and business capacity assessments, sufficiency assessments, and impact of planning and infrastructure evaluations. It includes several recommendations for RLC to help guide future planning and decision making.

15.1 Key Findings and Conclusions

More text to come here on housing demand and supply conclusion.

M.E's housing capacity assessment has found that there is a sizeable amount of plan enabled capacity relative to demand. In the short to medium term, the current planning provisions provide for around 23,700 additional dwellings across the urban environment. In the long-term, additional zoned greenfield areas and limited up-zoning within the existing urban area increase the plan enabled capacity to a total of 29,800 additional dwellings.

While there is a sizeable amount of plan enabled capacity, the assessment has found that much of the capacity is unlikely to be developed into dwellings by the commercial developer sector due to a lack of feasibility. A substantial share of the greenfield capacity and underutilised urban land capacity (within the Eastern reporting area) is leasehold land and is therefore not likely to be feasible for commercial developers (although may be feasible for some forms of development if lead by iwi).

The commercial feasibility of significant shares of Rotorua's plan enabled capacity is also adversely affected by a number of technical constraints across portions of the city's urban area. These increase the cost and complexity of development, therefore reducing the margin able to be achieved through the development. These include geotechnical constraints, additional costs to manage stormwater on site and flooding hazards.

The assessment has found that the current planning provisions are also likely to affect the likely development of housing capacity. A high share of the capacity within the existing urban area (within the Central reporting area and as a share of total capacity overall) is in the form of higher density apartments. The apartment market is not well established within Rotorua, meaning that it is unlikely any substantial share of this capacity will be taken up.

Planning provisions for attached dwellings in Rotorua are largely limited to higher density apartments within commercial zones. With the exception of the small area of Residential 2 Zone, there is little provision for other types of attached dwellings across most of the city's general suburban area. There are relatively large minimum site size requirements, meaning that sites need to be developed as full sites with single standalone dwellings. This reduces the overall capacity, as well as constrains the ability of the market to deliver smaller, cheaper dwellings that align with a large share of the demand. Some locations have been found to require development at a higher yield than single dwellings on full sites to achieve commercially feasible development options.

In addition to feasibility constraints, the likely development of capacity within the greenfield areas is limited by the timing and presence of planned infrastructure network extensions. While there is sufficient capacity within the networks to cater for long term growth (medium-series demand projection) at the catchment level, the infrastructure network extensions are not planned to cover all greenfield areas.

The plan enables the development of 8,290 dwellings within the greenfield areas in the long term. It is projected that around three-quarters (71%; 5,950 dwellings) of these are on areas that are projected to be commercially feasible to develop (with the remainder largely on leasehold land, and therefore, not likely to be commercially feasible). However, the planned infrastructure networks only cover around two-thirds of the feasible developable areas, which amount to less than half of the overall plan enabled greenfield areas. The greenfield housing areas that are projected to be commercially feasible to develop and covered by infrastructure networks have an estimated yield of 3,930 dwellings.

Overall, the total RER housing capacity within the greenfield areas, together with the underutilised urban land which would enable larger scale development, has a projected long-term yield of 5,180 dwellings. This amounts to around half (53%) of the long term dwelling demand for the urban area. This means that if all long term urban dwelling demand were to be met, then nearly half would need to be met through intensification of already developed areas (incl. vacant parcels) within the existing urban environment. It is considered that this is a high share of growth to be met through urban intensification within an urban economy such as Rotorua.

Taking the above factors into account, the assessment has projected the RER capacity across the total urban area (greenfield, underutilised urban and urban intensification) to be around 1,670 dwellings in the short term and around 4,840 dwellings in the medium term under the current planning provisions. In the long term, the RER capacity is projected to increase to between 6,120 dwellings if the current feasibility picture is held constant, or around 9,420 dwellings if allowance is made for market growth.

The projected levels of RER capacity mean that there are likely to be shortfalls in capacity across the urban environment across all three time periods. In the short term, the projected shortfall is 1,890 dwellings, which includes the latent demand for 1,500 dwellings. Shortfalls in the short term are mainly due to lack of infrastructure networks in greenfield areas together with some effect from the minimum site size requirements across much of the urban area.

In the medium term, the projected shortfall is projected to amount to 1,400 dwellings. This includes the latent demand, meaning that the shortfall would not occur if this were excluded. Shortfalls in the medium term are mainly due to the limitations to take-up within the existing urban area. Constraints in the delivery of smaller dwellings due to minimum site size requirements are likely to reduce feasibility and therefore, RER capacity, contributing to shortfalls. It is important to note however, that the NPS-UD requires the application of current prices in the medium-term, which produces a lower feasibility (and therefore RER capacity) than is likely to occur.

In the long-term, the projected shortfall is 320 dwellings when allowance is made for market growth (and around 3,630 dwellings if the current market situation is applied 30 years into the future). The assessment has found that the limited supply of feasible and infrastructure-served greenfield land contributes to this shortfall, together with the constraints from planning provisions in relation to the required minimum site sizes (and limited provision for duplex/terraced housing) across much of Rotorua's general suburban area.

Brief conclusion on the impact on planning and infrastructure on affordability and competition to come.

Brief conclusion on business demand, capacity, and sufficiency and causes to come.

15.2 Recommendations

Housing focussed recommendations

1. Include provision of smaller site sizes for attached dwellings within the general suburban areas. This could amount to site sizes of around 200m2 per dwelling for attached dwellings for example to enable the market to deliver smaller, cheaper dwellings such as duplexes or terraced housing.
    a. This would increase the feasibility of suburban development within the Central reporting area, which is not feasible to develop as standalone dwellings on larger site sizes.
    b. It would increase the capacity across much of the general suburban area overall as a greater number of dwellings could be accommodated. These would also increase affordability as they would be cheaper and better aligned with demand for cheaper dwellings, which is important within the Rotorua market.
2. Provide more infrastructure-served, feasible greenfield land. A reasonably high share of the Rotorua growth would need to rely on development within the existing urban area in relation to other similar urban economies where greenfield development provides for a greater share of growth.
3. Issues of assumed high shares of residential development along Fenton Street under an indicative mixed use zoning, with assumption that commercial accommodation would relocate to the central area. This is potentially unrealistic.
    a. The commercia accommodation market is unlikely to relocate to the central area. Much of the value of these businesses is associated with the physical buildings, and a relocation to the City Centre would effectively be the establishment of a new business.
    b. There is very limited demand for apartments within Rotorua. The apartment market is not well established and is unlikely to take up a significant share of the capacity along Fenton Street.
    c. The location is shown to meet a number of location attributes for retail, commercial and tourist accommodation development. It would continue to attract tourist accommodation if enabled.
4. Greenfield leasehold land is unlikely to be feasible for a commercial developer to develop. However, there may be other development models under which this can be developed, such as Papakāinga housing. Continue to work with owners of Whenua Māori to help them realise development opportunities.
5. Other to be discussed.

Business focussed recommendations

- Encourage and facilitate redevelopment of central commercial zones, particularly the Mid City Zone through large scale initiatives in strategic locations.
- Continue to address rough-sleeping in the CBD to increase its attractiveness for investment.
- Consider bringing forward Ngongotaha South City Entranceway Mixed Use zone (particularly if it can be serviced by infrastructure) to help with demand growth in the medium term.
- Pursue mixed use zoning along Fenton Street to provide additional capacity for retail, commercial and tourist accommodation activities. Care is needed not to undermine the redevelopment of the CBD.
- Consider opportunities (or incentives) to increase building heights within practical and safe limits in central areas to help with intensification and commercial feasibility.
- Continue to plan for zoning of leasehold business land in the Eastern area so as not to preclude the opportunity for this land to be developed but identify additional options for providing medium and long term development capacity on freehold land to spread growth over more locations/landowners and minimise risk.
- Continue to seek funding that will help alleviate stormwater constraints on existing zoned vacant land
- Investigate parking management strategies for workers in (but not limited to) the CBD (else improved mode shift to sustain more efficient and feasible public transport.
- Other to be discussed.

Appendix A - Glossary of Terms

Additional Infrastructure	In accordance with the NPS-UD, additional infrastructure means public open space, community infrastructure, land transport not controlled by local authorities, social infrastructure such as schools and healthcare facilities, telecommunications networks, gas, and electricity networks.
Attached Housing	Where one or more dwellings are joined horizontally with a shared wall (i.e., duplexes or terrace housing) or vertically (i.e., apartments).
Capital Value	The value ($) of land value and improvement value combined. It is the total value of a property, as recorded in the Council's rating database.
Commercially Feasible	Means commercially viable to a developer based on the relationship between costs and revenue (i.e,. is profitable)
Commercially Feasible Capacity	The share of plan enabled capacity that would be commercially viable to a developer based on the relationship between costs and revenue.
Competitiveness Margin	A margin of development capacity, over and above the expected demand that tier 1 and 2 local authorities are required to provide, that is required in order to support choice and competitiveness in housing and business land markets. The margins are 20% for the short term, 20% for the medium term and 15% for the long term.
Detached Housing	Means standalone dwelling units, not attached to other dwelling units.
Development Infrastructure	In accordance with the NPS-UD, development infrastructure means network infrastructure for water supply, wastewater, or stormwater and land transport, both of which are controlled by a local authority or council controlled organisation.
Dwelling Estate / Built Estate	Total dwellings in the district (total dwelling stock)
Greenfield Capacity	The yield of large, yet to be subdivided parcels of zoned land, once allowance is made for required roading, access, open space, landscaping areas (set at 30% of the gross site area for Rotorua based on feedback from Council).
HBA	Housing and Business Development Capacity Assessment, as set out in the NPS-UD.
Improvement Value	The value ($) of any physical structures or features of a property, including buildings, fencing, landscaping, as recorded in the Council's rating database.
Infill Capacity	Development that can occur in the existing urban area on vacant subdivided lots or within existing developed lots that could be further subdivided to the meet the District Plan zone rules, without needing to remove or shift the existing dwelling/buildings. I.e., add one or more dwellings at the rear or front of the existing dwelling.
Infrastructure Ready	Refers to plan enabled capacity for housing or business development that is already serviced by infrastructure in the short term, has the necessary infrastructure planned for (with funding allocated) in the long term plan in the medium term, and has the necessary infrastructure identified in an infrastructure strategy in the long term.
Kāinga Ora	Officially Kāinga Ora – Homes and Communities, is a Crown agency that provides rental housing for New Zealanders in need. It has Crown entity status under the Kāinga Ora–Homes and Communities Act 2019.
Kaumātua Housing	Kaumātua housing is specifically for the accommodation of elders and is often part of a papakāinga development. Kaumātua housing has also been

	built in close proximity to many marae so that kaumātua can support the activities that take place on the marae. See papakāinga housing.
Land Value	The value ($) of the land (section) excluding the value of any improvements or structures on that land, as recorded in the Council's rating database.
Long Term	Between 10 and 30 years.
Medium Term	Between 3 and 10 years.
Non-owner Households	Households that do not already own a residential dwelling and may be renting a dwelling.
NPS-UD	National Policy Statement for Urban Development (2020) – national direction under the Resource Management Act.
Owner Households	Households that already own a residential dwelling (with or without a mortgage).
Papakāinga Housing	The term papakāinga can have different meanings depending on the context. For the purpose of this HBA, a papakāinga refers to a group of houses, of three or more, on whenua Māori as a 'community' which may include broader support and occupant involvement. Forms of papakāinga can include: Affordable rental housing (for rōpū Māori who wish to own and provide affordable rental housing for whānau) or Owner-occupied housing (for whānau who wish to live in a papakāinga where the homes will be owned and occupied by whānau, generally with a Māori Land Court registered Licence to Occupy. Whānau will borrow/finance the house construction themselves).
Plan Enabled Capacity	The maximum count, type, density and location of development that can occur if the District Plan rules were applied. I.e., the yield if all lots were developed at the site minimums and all apartment buildings were developed at the building height maximums etc.
Reasonably expected to be realised (RER)	The amount, type, density, and location of housing that can be expected to be developed based on recent trends and within the bounds of what is plan enabled. This may include a tendency to deliver larger sections that the zone minimums, a particular type of dwelling where choices are enabled, a different height of apartment buildings than the maximum building height etc.
Redevelopment Capacity	The net additional yield of a subdivided lot in the existing urban environment if existing dwellings were removed and the site was redeveloped using the site minimums for the zone. Implies further subdivision of the existing lot to smaller lots sizes enabled by the Plan.
Reporting Area	Aggregations of geographic areas across Rotorua's urban environment, used to summarise and report results in this HBA.
Rural Environment	Means the rest of the district, excluding the urban environment.
Short Term	Within the next 3 years.
Sufficiency	In the context of this HBA, refers to the comparison between demand and capacity. Can result in a surplus or a shortfall.
Three Waters Infrastructure	A collective term for water supply, wastewater, and stormwater infrastructure.
Transitional Housing	Temporary accommodation and support for individuals or families who are in urgent need of housing.
Urban Environment	In accordance with the NPS-UD, means any area of land (regardless of size and irrespective of local authority or statistical boundaries) that is, or is intended to be, predominantly urban in character and is, or is intended to be, part of a housing and labour market of at least 10,000 people.

Whenua Māori	Whenua Māori is land administered under the Te Ture Whenua Māori Act 1993 (or Māori Land Act 1993)