Chapter 6: Upper Hutt City Council

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Executive Summary

Like much of the Greater Wellington Region, Upper Hutt continues to experience the pressures of housing demand through a high take-up of available housing stock, alongside continued increases in dwelling sale prices and rent prices. The demand indicators explored in this report show that housing is becoming increasingly unaffordable, and this unaffordability is likely to be impacting those on low incomes or in vulnerable circumstances, such as the elderly.

This refresh of the 2019 HBA presents an opportunity to evaluate changes to Upper Hutt's housing capacity now, and through until 2051, prior to the preparation of a new, full HBA which will start in 2022 in order to inform the 2024-2034 Long Term Plan. The HBA has sought to conceptualise housing demand against feasibly developable land and infrastructure capacity to determine an overall development sufficiency in accordance with the NPS-UD.

A growing population means increased demand for housing

Sense Partners have provided population, household and dwelling projections for Upper Hutt for the period 2021-2051 in accordance with a methodology applied across the Wellington region. The methodology is attached as Appendix 1.1 to the regional HBA and summarised in this report.

Sense Partners find that Upper Hutt is projected to grow by approximately 24,268 people between 2021-2051, from an estimated base of 48,390 people in 2021. This exceeds the high growth population projections that underpinned the original Wellington Regional Housing and Business Land Capacity Assessment (2019 HBA) assessment in 2017. This level of population growth is estimated to require up to 10,458 dwellings, nearly 5,000 more than estimated in the previous HBA. There will be a significant increase in the older population (aged 70 or older) between 2018 and 2048, and a moderate decline in the working age population as a share of the total population is expected tp 2048.

The short, medium and long-term growth projections for population and dwellings are summarised in the table below:

Table 6.1: Summary of population and dwelling growth

	Estimated baseline total 2021	Short term: 2021-2023	Medium term: 2024-2030	Long term: 2031-2051	Total increase
Population	48,390	2,704	6,632	14,932	24,268
Dwellings	19,622	1,179	2,749	6,530	10,458

Housing Trends

The population growth is expected to generate demand for an additional 10,458 dwellings over the period 2021-2051. The majority of that demand will be for standalone dwellings; though an increase in demand for joined dwellings (which includes apartments) is anticipated over the period 2021-2051. The majority of growth is anticipated to be in the central areas of Upper Hutt, close to transport links and other amenities.

The Housing Market and Impact of Planning

Since the publication of the last HBA for UHCC, subdivision consents and new dwelling consents as a proportion of all consents issued by UHCC have started to gradually increase. However, this is occurring in the context of significant projected population increase, significant increases in the median house price, and a squeeze on the number of houses available in the housing market. According to the Ministry of Housing and Urban Development's (MHUD's) dashboard, the median price of a residential dwelling in Upper Hutt in 2021 was just over $703,000 (adjusted for inflation), an increase of approximately $163,000 since the end of 2018. It will take a person on the annual average income eight years to save a deposit in Upper Hutt, which is currently higher (worse) than its long term average of six years.

The data indicates that affordability for both homeowners and renters has not improved in Upper Hutt since the publication of the 2019 HBA. Increasing housing unaffordability is generated by a number of interlinked factors including population growth, employment growth, increasing housing demand, rising rental and purchase prices and falling housing affordability. The situation is the most constrained for those wishing to buy, with one of the Governments measures of affordability, the Housing Affordability Measure (HAM) for the first home buyer household, suggesting that 72% of renters would spend more than 30 percent of their income if they bought a lower quartile house with the same number of bedrooms as their current house in Upper Hutt.

Upper Hutt is also experiencing an increase in housing need, with indicators such as the public housing register showing an increase from 32 applicants on the public housing register in 2017 to 174 applicants in March 2021 (a 444% increase), with the majority of those applicants categorised as high priority.

Upper Hutt City has sufficient capacity supply for at least the next two decades

Capacity to meet population demands was conceptualised through the assessment of greenfield growth areas (yield and feasibility) by MR Cagney and through an assessment of possible infill and/or redevelopment opportunities within established residentially-zoned allotments by Property Economics.

The findings from the theoretical, feasible and realisable work carried out by Property Economics, for all typologies for the whole of Upper Hutt 2021-2051 is summarised in the table below. It also provides a comparison between the housing projections (with the competitiveness margin applied) and the realisable capacity. It shows that infill alone cannot meet housing demand in the long term.

Table 6.2: Comparison of capacity type and typology – infill only

Capacity type	Theoretical	Standalone	Terraced	Total	% of theoretical
Theoretical	-	-	-	10.023	-
Feasible	10,023	6,343	515	6,858	68%
Realisable	10,023	5,713	215	5,928	59%
Housing projections[1]				**12,223**	
Sufficiency (difference between feasible and projected)				**-5,365**	
Sufficiency (difference between realisable and projected)				**-6,295**	

The following table includes consideration of the feasible capacity of greenfield sites in Upper Hutt City, which have been assessed as being able to supply 5,433 secions. The capacity and sufficiency are summarised in the table below. This table shows that when modelled yield from greenfield sites is included, housing demand is almost able to be met. As discussed in the body of the report, there is evidence that greenfield yields can and is exceeding modelled projections, in which case Upper Hutt will be able to meet its projected housing demand over the long term.

[1] *Compeitiveness margin applied.*

Table 6.3: Comparison of capacity and housing demand projection

Capacity type		Total capacity	% of which GF	% housing demand met
Infill Feasible	Greenfield (GF) Feasible			
6,858	5,433	12,291	44%	101%
Infill Realisable	Greenfield (GF) Feasible			
5,928	5,433	11,361	47%	93%

Source: Property Economics, UHCC

However, there are infrastructure constraints that will need to be addressed

External reporting completed by Wellington Water Limited (WWL) has evaluated the capacity of infrastructure to cater for the projected residential demand. The evaluation found that there are heavy constraints on wastewater, with limited constraints on potable water, and sufficient stormwater capacity for modelled areas. Constraints identified will inevitably curtail the rate at which development capacity can be enabled and will require careful consideration of how available three waters infrastructure is managed.

A copy of the WWL three waters infrastructure assessment is attached as **Appendix 1.4** of the regional HBA.

The local roading infrastructure was evaluated by UHCC and found that local roading in Upper Hutt is generally in good condition. Recent housing and residential growth has begun to increase pressure on key assets, prompting some roading projects provided for in the LTP to be brought forward. Additionally, UHCC has invested in several opportunities to assist in demand management, including the construction of cycle ways and cycle safety infrastructure at intersections, improvements to railway stations and ongoing monitoring and review of city centre parking provision.

A copy of the UHCC Roading Infrastructure Assessment is attached as **Appendix 6.1.**

The Council's open spaces assessment to support the implemention of the NPS-UD found that from a citywide view, Upper Hutt appears to be well-served with an abundance of open space, containing a significant portion of the Wellington region's regional park area, while making up only 8.4% of the region's population. However, at a more detailed suburb or Statistical Area 2 level there is significant variation in provision of open space.

A copy of the UHCC Open Spaces Assessment is attached as **Appendix 6.2.**

Next Steps

HBA reporting for Upper Hutt has revealed both current and future land development constraints for residential development. The information produced as part of this HBA

refresh will be used to support current reviews of the District Plan such as Plan Change 50, underpin regulatory planning decisions for development in the City, and assist in the ongoing implementation, monitoring and review of UHCC strategies and policies.

In addition, the preparation of a HBA refresh in collaboration with other territorial authorities, following the production of the original HBA in 2019, has enabled the region to develop the capacity and technology to monitor housing supply and demand over the long term effectively and efficiently. Consequently, UHCC and its partner councils in the region are well placed to commence work on the next full HBA in 2021-2022.

As per clause 3.6 of the NPS-UD, as soon as practicable after this HBA is made publicly available, Greater Wellington Regional Council will insert into its Regional Policy Statement a housing bottom line for the short, medium and long term for the Urban Environment. UHCC must do the same in its District Plan. The housing bottom line only refers to the Urban Environment because the NPS-UD requires this obligation in relation to the Urban Environment. The housing bottom lines for the Urban Environment are the amount of feasible, reasonably expected to be realised development capacity along with the competitiveness margin for the short, medium and long terms. These are in the table below.

When considering these figures, it is important to bear in mind this HBA is an evaluation of housing supply and demand against the **operative** resource management and infrastructure planning framework; and that this HBA, like the original HBA published in 2019, will help inform UHCC and its housing and community stakeholders to formulate policy and other responses that will be effective in ensuring housing demand is met appropriately across the City. Specifically, this means that this evaluation is therefore on the sufficiency of the 2004 Upper Hutt District Plan to be able to provide housing for the next 30 years.

It should also be noted that the above numbers do not include any increase in housing supply that might arise from implementation of the Medium Density Residential Standards announced as part of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill 2021.

Table 6.4 Housing Capacity and Sufficiency over the short, medium and long term.

	Short term	Medium term	Long term	Total
Demand (+NPS-UD Margin)	1,414	3,299	7,510	12,223
Greenfield capacity	543	1,268	3,622	5,433
Realisable capacity	593	1,382	3,952	5,928
Total Capacity[2]	**1,136**	**2,650**	**7,574**	**11,361**
Difference	**-278**	**-649**	**+64**	**-862**

[2] *For the purposes of this HBA refresh, the capacity has been annualised to arrive at the short, medium and long term capacity figures and to determine sufficiency.*

1 Introduction

Upper Hutt City Council's (UHCC) first HBA was published in 2019, under the precursor to this NPS-UD, the National Policy Statement on Urban Development Capacity 2016. While there are similarities in the approach taken under both NPS documents, the NPS-UD introduced new requirements, creating the need for an updated assessment of the residential development capacity. This report sets out the findings of this latest assessment.

This chapter of the Wellington Region HBA refresh seeks to meet the requirements of the NPS-UD for UHCC, along-side the overall assessment at the beginning of this report. This chapter addresses the requirements of Policy 2 which states:

> *Tier 1, 2, and 3 local authorities, at all times, provide at least sufficient development capacity to meet expected demand for housing and for business land over the short term, medium term, and long term.*

Development capacity is defined in the NPS-UD as follows:

- *the capacity of land to be developed for housing or for business use, based on:*
  - *a. the zoning, objectives, policies, rules, and overlays that apply in the relevant proposed and operative RMA planning documents; and*
  - *b. the provision of adequate development infrastructure to support the development of land for housing or business use.*

Development infrastructure means:

- *the following, to the extent they are controlled by a local authority or council-controlled organisation (as defined in section 6 of the Local Government Act 2002):*
  - a. *network infrastructure for water supply,* wastewater, or stormwater
  - *b.* land transport (as defined in section 5 of the *Land Transport Management Act 2003).*

Short, medium and long term are defined in 1.4 of the NPS-UD, Interpretation, as follows:

Short term	means within the next 3 years.
Medium term	means between 3 and 10 years.
Long term	means between 10 and 30 years.

1.1 Existing Policy Context

Since the publication of the 2017 HBA in 2019, UHCC's strategic policy framework in respect of land use, open space, sustainability and resilience has progressed significantly. This has been in response to the opportunities and challenges associated with population growth, as well as national policy drivers established by the NPS-UD and the National Policy Statement for Freshwater Management 2020 (NPS-FM).

As explained in the executive summary, this HBA is an evaluation of housing supply and demand against the operative resource management and infrastructure planning framework; and that this HBA, like the original HBA published in 2019, will help inform UHCC and its housing and community stakeholders to formulate policy and other responses that will be effective in ensuring housing demand is met appropriately across the City. Specifically, this means that this evaluation is therefore on the sufficiency of the 2004 Upper Hutt District Plan to be able to provide housing for the next 30 years.

1.1.1 The Long Term Plan 2021-2031

The current 2021 LTP uses the growth and housing projections in the 2019 HBA, which indicated significant population growth in Upper Hutt of between 20% and 29% and a growth in residential dwellings of between 4,900 to 5,600 dwellings between 2017 and 2047. The LTP acknowledges the latest population and household projections produced by Sense Partners and which form the basis of this report and states the latest figures will be used to inform the next full HBA, expected to commence development in 2021-2022.

1.1.2 Upper Hutt District Plan

The Upper Hutt District Plan is how UHCC sets land use and subdivision standards, largely adopting a framework of land zoning to control the spatial distribution of land development. It was adopted in 2004, and in many respects is out of date and unable to respond effectively to the challenges and opportunities presented by population growth.

UHCC has been engaged in a rolling district plan review process, with the recent focus being on the rural and residential provisions, called Plan Change 50 (PC50). Impetus and direction for PC50 was provided by the findings of the 2019 HBA, which anticipated Upper Hutt to experience a shortfall of up to 2,100 homes by 2047. PC50 identifies ways in which the city can accommodate more growth. In July 2021, a draft of PC50 was released for public feedback, which factored in the renewed direction in the NPS-UD to enable greater housing to meet demand, including specific requirements to enable high density living within at least a walkable catchment of existing and planned transport and edge of city centre zones. PC50 is anticipated to be fully notified in 2022, with the HBA providing a valuable input into the evaluation of future policy changes. This plan change will also be developed alongside a business and mixed-use zone review, set to be notified in the same period as PC50, giving effect to NPS-UD intensification direction for business zones.

1.1.3 Land Use Strategy 2016

UHCC's 2016 Land Use Strategy set the city's growth agenda from 2016-2043. However, the work necessary to implement the then NPS-UDC and the subsequent findings from the 2017 HBA exercise have largely overtaken this strategy. Nevertheless, some of the areas it identified remain relevant as locations suitable for intensification. These include Gillespies Road and the Southern Growth Area above Pinehaven and Silverstream.

1.1.4 Sustainability Strategy 2020

Rautaki Whakauka Sustainability Strategy was adopted in 2020. With respect to the impacts of population growth, this strategy supports the adoption of more compact urban form, and encouraging adapting lifestyles that result in less consumption. This is seen as essential to accommodating new residents while restoring, preserving and enhancing the environment and quality of life. The aims of the Sustainability Strategy are consistent with Objective 8 of the NPS-UD which seeks to ensure that New Zealand's urban environments support reductions in greenhouse gas emissions; and are resilient to the current and future effects of climate change.

1.1.5 Affordable Housing Strategy 2020

UHCC's vision is that all people living in Upper Hutt are well housed and have access to adequate, affordable housing that meets their needs. Whilst UHCC does not and will not own any social housing, this strategy states UHCC's commitment to working together and in partnership with central government and communities to achieve this vision. A critical role for UHCC is in setting land-use policy, undertaking further research, advocacy and monitoring, of which the HBA work programme forms a part.

The Affordable Housing Strategy also recognises there is an opportunity through Plan Change 50 to change the District Plan to incentivise the market to deliver more affordable housing units. The NPS-UD requires this HBA refresh to assess how well the current and likely future demands for housing by different groups in the community, including low-income households, older people and Māori, are met, including the demand for different types and forms of housing, such as affordable housing. This is explored in more detail in this report.

The focus in this report is on development and sales activity in the period 2018-2020, with reference to broader historical context supplied in the original 2019 HBA where necessary.

1.2 Where are we now?

It is important to understand the current housing and population context in Upper Hutt in order to provide a context to the supply, demand and capacity information to follow. The baseline information for Upper Hutt is summarised in the following table:

Table 6.5: Snap shot of current housing affordability indicators

Population[3]	No. of dwellings[4]	Median house price[5]	Median rent[6]	Average household income[7]	Regional GDP per person[8]
48,390	19,622	$703,113	$463	$103,243	$78,000
	Standalone 15,427 Attached 3,822				

[3] *Sense Partners http://demographics.sensepartners.nz/population.*
[4] *Sense Partners http://demographics.sensepartners.nz/data-download.*
[5] *MHUD dashboard, https://huddashboards.shinyapps.io/urban-development/#, median prices of residential dwellings sold in each quarter, inflation adjusted, March 2021.*
[6] *MHUD dashboard, https://huddashboards.shinyapps.io/urban-development/#, median rents, inflation adjusted, March 2021.*
[7] *Sense Partners, average household income, 2019.*
[8] *Stats NZ, 20210602 Gross domestic product per person, by region (Annual-Mar).*

2 Population Change and Housing Trends

2.1 Summary of what we found

In summary, the recent data analysed in this part of the report indicates the following:

Population Growth	• Population projections indicate Upper Hutt could experience significant growth in population between 2021 and 2051. • This exceeds the high growth population projections of the 2019 HBA. • There will be a significant increase in the older population (aged 70 or older) between 2018 and 2048. • A moderate decline in the working age population as a share of the total population is expected tp 2048.
Housing Demand	• The population growth is expected to generate demand for an additional 10,458 dwellings. • The majority of that demand will be for standalone dwellings; though an increase in demand for joined dwellings (which includes apartments) is anticipated over the period 2021-2051. • The majority of growth is anticipated to be in the central areas of Upper Hutt, close to transport links and other amenities
Housing Need	• Housing need is growing in Upper Hutt, with demand of housing for those on low incomes outstripping supply. • Public housing and community housing providers currently have a modest presence in Upper Hutt, but enjoy a strong and connected network across the City, which is supported by UHCC. • Residents in Upper Hutt are ageing and demand for suitable housing will increase particularly in the 65+ age group. • The available data indicates that Māori and Pasifika peoples are more likely to be marginalised due to lower earnings, and feel the impact of increases in house prices, and the lack of suitable housing stock that meets their demand. • The specific housing demand for Māori, older people and vulnerable people needs to be better understood.

2.2 What growth is projected for Upper Hutt?

Sense Partners have provided short-, medium- and long-term growth projections for population and dwellings in Upper Hutt for 2021-2051. These projections are summarised in the table below:

Table 6.6: Projected growth for Upper Hutt

	Estimated baseline total 2021	Short term: 2021-2023	Medium term: 2024-2030	Long term: 2031-2051	Total increase
Population	48,390	2,704	6,632	14,932	24,268
Dwellings	19,622	1,179	2,749	6,530	10,458

Regionally, Sense Partners predict that after the dip in international migration due to COVID-19 over the next few years, net migration is forecasted to increase but at a slower rate than in previous years. Similarly, at the regional scale, the net effect of both domestic migration and from births and deaths is set to steadily decline over the next 30 years.

Upper Hutt is fortunate in that its economy is highly concentrated around public services, with a low exposure to tourism related activities. This means that while the Upper Hutt economy has been, and will be impacted negatively by COVID-19, the structure of the local economy means that it is relatively stable and looks to be resilient to the worst economic effects. Nevertheless, the pandemic has meant the need for welfare support, and housing availability and affordability in Upper Hutt has become more pronounced since the start of the COVID-19 outbreak in March 2020.[9]

2.3 Demographics for Upper Hutt

In addition to population growth, it is also important to understand changes in the age profile and household types in Upper Hutt, as these contribute to housing demand and housing need. Sense Partners have provided projections for the population aged 70 or older, the working age population and household types. These are summarised in the tables below:

Table 6.7: Population aged 70 or older as a share of population and numbers

	2018	2028	2033	2048	Change
% of population aged 70 or older	10.4	12.1	13.9	16.6	+61%
Population aged 70 or older	4,698	6,716	8,361	11,935	+7,237

[9] *Upper Hutt City Council, Long Term Plan 2021-2031.*

Table 6.8: Working age population – share of population

	2018	2028	2033	2048	Change
Working age population	66.1%	62.2%	60.5%	58.8%	-7.3%

Table 6.9: Household types – share of total households

	2018	2028	2033	2048	Change
One-parent	11.5%	11.2%	11.1%	10.9%	-0.6%
Two-parent	45.5%	44.5%	43.8%	41.9%	-3.7%
Multi-family	6%	5.9%	5.9%	5.9%	-0.1%
Couple	22.2%	23%	23.4%	24.3%	+2.1%
Multi-person	2.1%	2%	2%	2%	-0.1%
Alone	9.8%	10.4%	10.8%	11.8%	+2%
Non-private residential	2.9%	2.9%	3%	3.3%	+0.4%

The above projections show that over the next approximately 30 years:

- There will be a significant increase in the older population (aged 70 or older);
- A moderate decline in the working age population as a share of the total population;
- Single person households and households comprising couples are anticipated to experience a small increase (as a shared of total households) between 2018 and 2048.Most other households, most noticeably two-parent households, are anticipated to experience a reduction (as a share of total households).

2.4 Housing demand

The Councils have engaged Sense Partners (SP) to model population growth and dwelling demand. Sense Partners methodology is explained in the regional chapter (Chapter 1 of this report).

2.4.1 Overall scale of housing demand

Sense Partners project the population for Upper Hutt over the period 2021-2051 to be as follows.

Table 6.10: Population projection for Upper Hutt 2021-2051

	Estimated baseline total 2021	Short term: 2021-2023	Medium term: 2024-2030	Long term: 2031-2051	Total increase
Population	48,390	2,704	6,632	14,932	24,268

Translating that population growth into households, the number of dwellings required to meet that population growth is projected, as follows:

Table 6.11: Dwelling projection for Upper Hutt 2021-2051

	Estimated baseline total 2021	Short term: 2021-2023	Medium term: 2024-2030	Long term: 2031-2051	Total increase
Dwellings	19,622	1,179	2,749	6,530	10,458

In accordance with clause 3.22 of the NPS-UD, a competitiveness margin is applied to the baseline demand figures. This is a margin of development capacity, over and above the expected demand that local authorities are required to provide, that is required in order to support choice and competitiveness in the housing land market. The competitiveness margins for housing land are:

- for the short term, 20%
- for the medium term, 20%
- for the long term, 15%.

Table 6.12: Dwelling demand with NPS-UD Margin applied

	Estimated baseline total 2021	Short term: 2021-2023	Medium term: 2024-2030	Long term: 2031-2051	Total increase
Dwellings	19,622	1,179	2,749	6,530	10,458
Adjustment		*20%*	*20%*	*15%*	
Adjusted demand		1,414	3,299	7,510	12,223

Clause 3.24(1) of the NPS-UD then requires this HBA to estimate for the short-term, medium-term, and long term, the demand for additional housing in the District's urban environment in terms of different dwelling types and location. The following sections provide this analysis.

2.4.2 Demand by Location and Typology

Broadly, housing demand is is categorised into these typologies:

- Standalone – Low density housing, stand-alone houses on separate allotments.
- Joined – medium and high density housing, including apartments and terraces

Based on the Sense Partners projection the following estimates by dwelling types are projected (occupied private and vacant dwellings):

Table 6.13: Upper Hutt projected dwellings by type. Modelled Sense Partners 50th percentile scenario, inflated

	Short term: 2021-2023	Medium term: 2024-2030	Long term: 2031-2051	Total increase
Standalone	1,224	2,464	5,220	8,808
Attached	202	802	2,413	3,146
Total	**1,326**	**3,266**	**7,633**	**11,954**

It is important to note that the above represents district-wide demand. Subsequent figures only seek to represent urban areas, removing the Mangaroa / Whitemans area from analysis. The Akatarawa / Moonshine area is included as this contains future urban growth areas at the urban fringe.

The figures below conceptualise dwelling growth in a heat map, aggregating the SA2s into the six growth catchments identified for this HBA refresh.

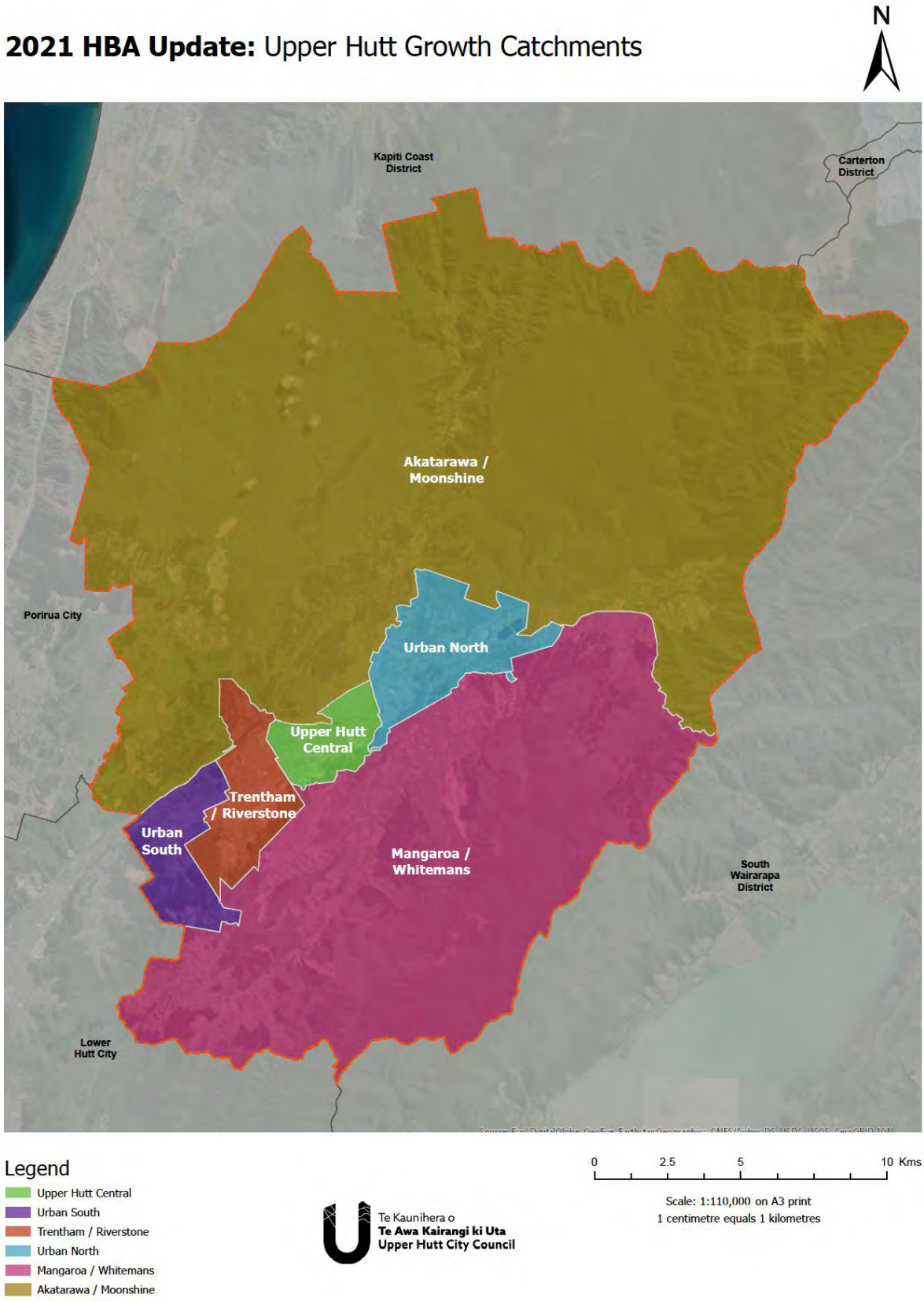


Figure 6.1: Upper Hutt growth catchments

The following figure illustrates that the majority of growth is anticipated to be in the central areas of Upper Hutt, close to transport links and other amenities.

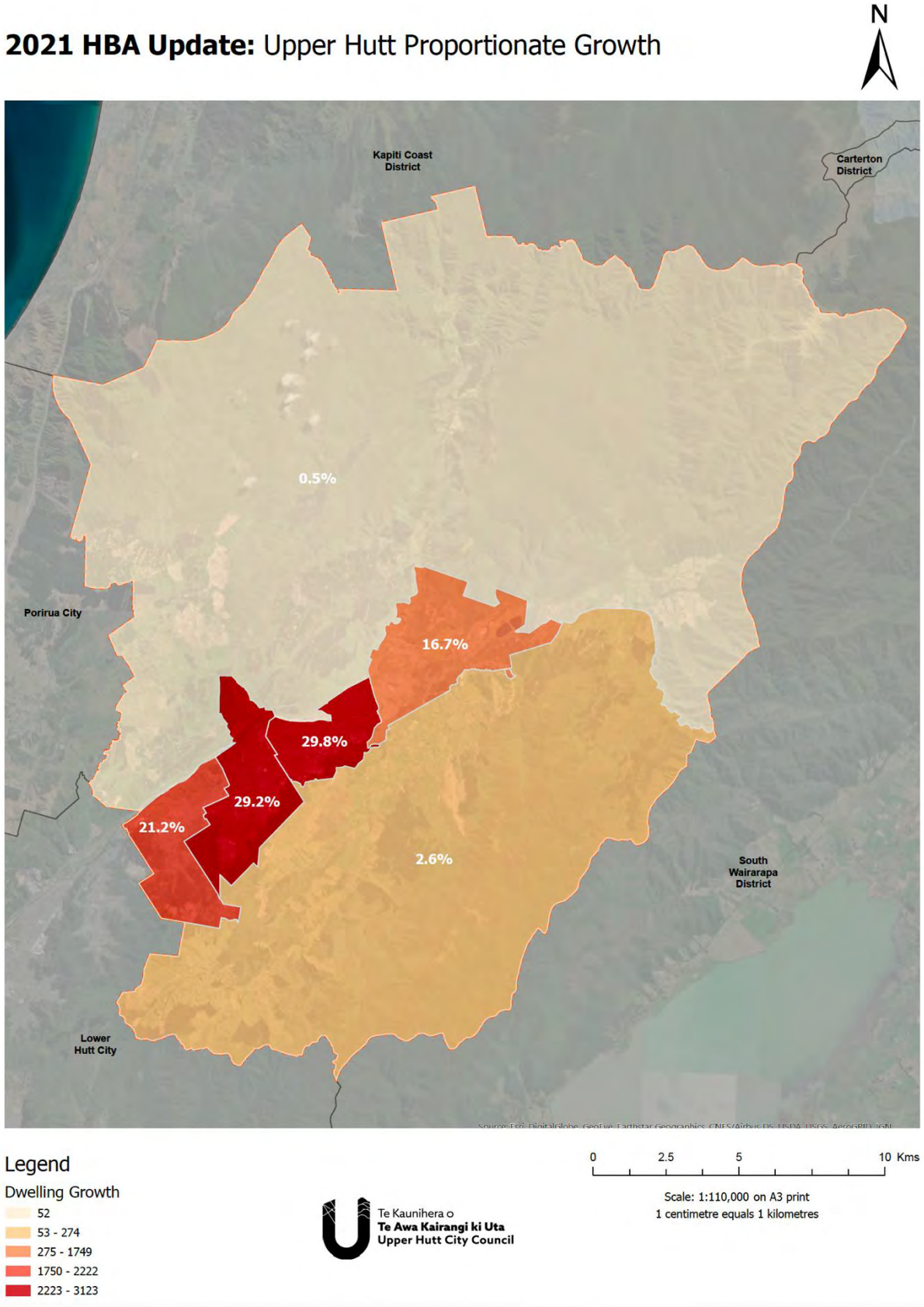


Figure 6.2: Upper Hutt proportionate dwelling growth

2.4.3 Dwelling Projections at SA2 level

Sense Partners have provided projections of dwelling and household growth (based on population growth projections) at SA2 level. This adds to UHCC's understanding of where household and dwelling demand might arise in the next 30 years, and informs infrastructure and other planning. The figure below shows that Pinehaven is projected to experience the greatest growth in dwellings in the period 2018-2048, a significant proportion of which is projected to be joined dwellings (e.g.including flats or apartments). Trentham South is another area of Upper Hutt anticipated to see a greater increase in joined dwellings than standalone typologies. The centre of Upper Hutt and the rural areas of Akatarawa and Mangaroa are projected to experience the least dwelling growth. Overall, the greatest demand is anticipated to be for standalone dwellings.

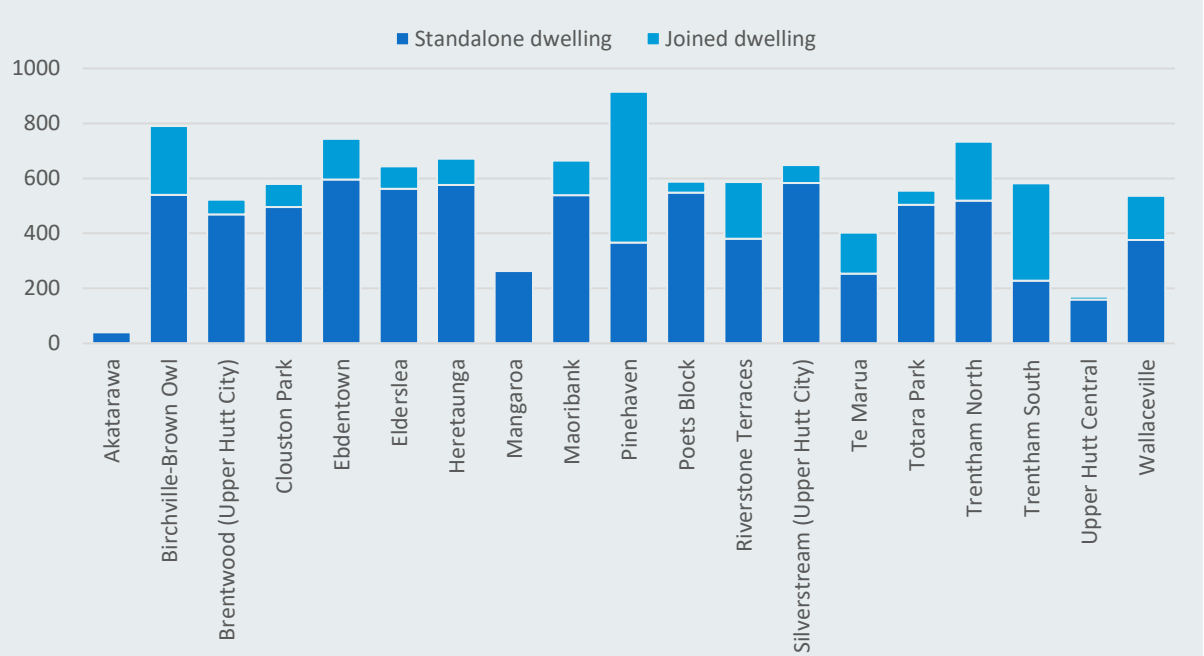


Figure 6.3: Projected additional dwellings 2018-2048 in Upper Hutt, SA2 level

The following table shows future demand and typology at SA2 level over the short, medium and long term. It confirms the anticipated ongoing demand for standalone dwellings, but the proportion of demand for joined dwellings increasing overtime, from 14% in the period 2021-24 to 30% in 2031-2051.

Table 6.14: Housing demand by typology for Upper Htt over the short, medium and long term

	2021-23		2024-2030		2031-2051	
Area (SA2)	Standalone	Joined	Standalone	Joined	Standalone	Joined
Akatarawa	2	1	7	0	41	0
Birchville-Brown Owl	57	56	154	45	320	100
Brentwood (Upper Hutt City)	55	3	110	19	292	41
Clouston Park	61	4	116	27	304	65
Ebdentown	96	6	129	48	310	109
Elderslea	63	4	155	26	332	64
Heretaunga	73	4	131	30	343	68
Mangaroa	20	0	90	0	162	0
Maoribank	71	28	135	21	304	50
Pinehaven	31	17	120	149	222	400
Poets Block	58	2	138	14	350	30
Riverstone Terraces	51	0	85	2	217	587
Silverstream (Upper Hutt City)	70	3	159	22	331	43
Te Marua	25	0	63	49	170	106
Totara Park	43	2	163	16	313	42
Trentham North	86	10	118	73	252	150
Trentham South	59	20	38	74	79	292
Upper Hutt Central	15	1	36	3	108	10
Wallaceville	84	7	106	50	93	125
Total	**1,012**	**170**	**2,056**	**677**	**4,546**	**1,981**

2.5 Current and potential future demands for housing

The NPS-UD provides UHCC with an opportunity to understand the current and likely future housing demands for Māori and different groups in the community, such as older people, renters, homeowners, low-income households and visitors. It also requires UHCC to develop an understanding of the different types and forms of housing needed including lower-cost housing, papakāinga, and seasonal worker and student accommodation. This is a new requirement introduced with the 2020 NPS-UD.

For this HBA, available data enables the current state in relation to housing demand for many of the categories to be broadly established. In some areas, for example housing demand for older people, it is possible to make some general assumpions about potential emerging demand over the next 30 years. However, Upper Hutt, along with the other territorial authorities in the Wellington Region, will be working with Greater Wellington Regional Council, the Regional Growth Framework team, local iwi and other stakeholders in order to

establish a more accurate picture of the likely future demands of the groups discussed in this section of the report for the next full HBA.

2.5.1 Homeowners

Despite affordability worsening in recent years in Upper Hutt, the 2018 census showed that dwellings owned increased from 57% in 2013 to 63% in the 2018 census. This is slightly below the average for NZ, which is 65%. Dwellings held in a family trust rose in 2013 compared to 2006 census, but then fell to 10.1% in the 2018 census. It is unclear what impact increasing housing unaffordability will have on tenure over the long term, however planning and other interventions are intended to ensure that people continue to have access to the housing market.

Table 6.15: Tenure of households for occupied private dwellings in Upper Hutt, 2006, 2013, 2018 censuses

Tenure	2006 (%)	2013 (%)	2018 (%)
Dwelling owned or partly owned	61.3	56.9	62.6
Dwelling held in a family trust	9.3	11.5	10.1
Dwelling not owned and not held in a family trust	25.3	26.4	27.3
Total % dwellings owned or in a family trust	70.6	71.4	72.7

2.5.2 Renters

The 2018 census data indicates the proportion of dwellings not owned or held in a family trust has been gradually increasing from roughly a quarter of households 2006 to just over 27% in 2018.

The Ministry of Business, Innovation and Employment (MBIE) maintain a database of inforamtion relating to rent and bonds, including data pertaining to market rents across New Zealand. MBIE's Market Rent Tool shows tenancy bond information for properties where bonds have been lodged in 6 monthly reporting periods.10 The data is for non-government owned properties that MBIE has information on and provides a useful indication of the non-government rental market based on bonds lodged.

For the period 1 December 2020 to 31 May 2021, the Market Rent Tool recorded a total of 3,207 active bonds in Upper Hutt. These are bonds that are current for the 6 month reporting period. The figure below shows the concentration of bonds across Upper Hutt and the median weekly rent for those areas.[11] It shows the greatest concentration of bonds, by some margin, is in Trentham. Interestingly, the data suggests no strong relationship between number of bonds in an area and median rent, with median rents generally between $485 and $595 a week across Upper Hutt, except for Riverstone Terraces, where the median weekly

[10] Tenancy bond data measures the average rent of actual bonds lodged by private landlords with MBIE. This series presents a measure of the actual price of newly acquired rentals. Under the Residential Tenancies Act (RTA), every landlord that receives a bond is required to lodge it with MBIE, unless it's a tenancy specifically excluded under the RTA (e.g. holiday homes). Not all landlords collect bonds.
11 The market rent regions are based on suburbs in the New Zealand Address Dataset (NZAD).

rent peaks at $795. No tenancy bonds were shown as being active in Akatarawa, Kingsley Heights, Mangaroa, Moonshine Valley or Te Marua for the Dec 2020-May 2021 reporting period.

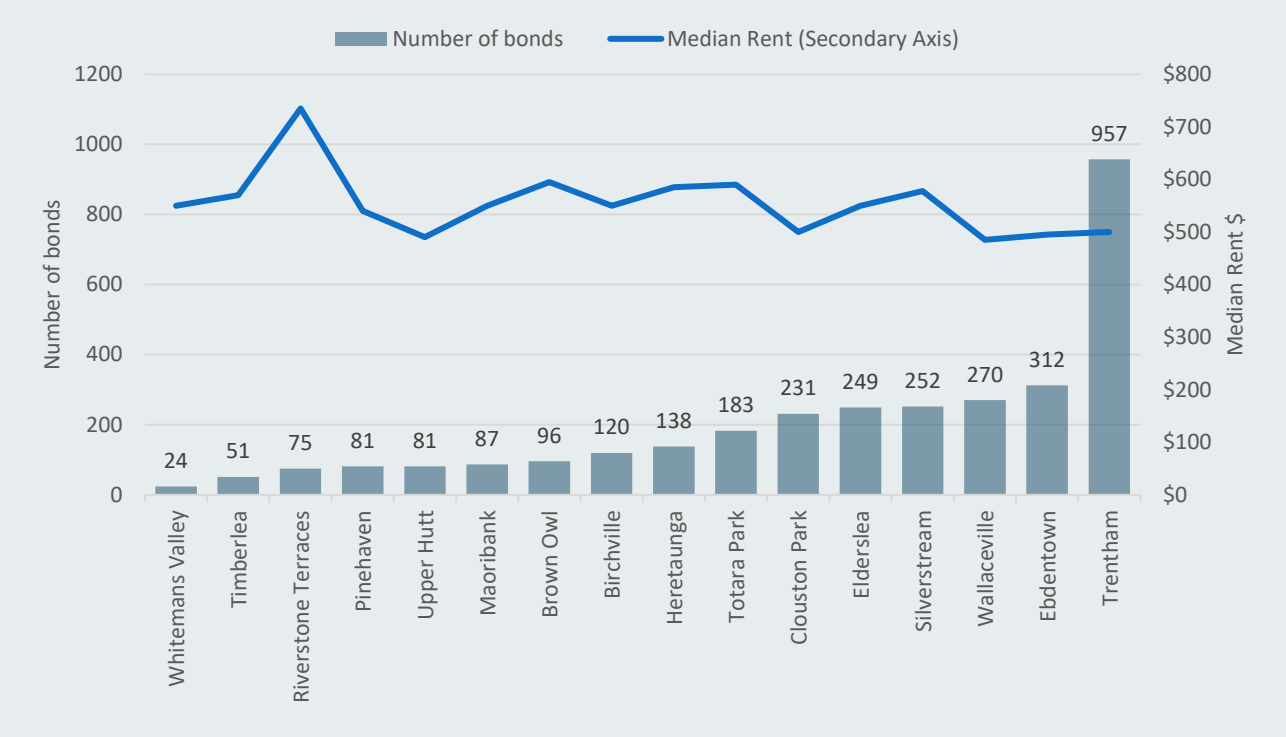


Figure 6.4: Median rents and number of bonds in Upper Hutt December 2020-May 2021

2.5.3 Māori

The NPS-UD requries the HBA demand analysis include an assessment of how well demand for housing by Māori is currently met and how the demand is likely to be met in future. In particular, the assessment must include the demand for different types and forms of housing such as community housing, lower-cost housing and papakāinga.

This current HBA as not specifically analysed Māori housing demand of typologies or forms for Upper Hutt in detail. The NPS-UD does not distinguish between housing for mana whenua on Māori land and the broader issue of access to affordable housing by those who identify as Māori. UHCC is working with Greater Wellington Regional Council and the Regional Growth Framework team to develop a methodology to ensure this issue is addressed appropriately in the next full HBA. This will include partnering with local mana whenua to ensure views, attitudes and aspirations of the region's Māori community with regard to housing are reflected.

The data available from Stats NZ allows a basic picture of Upper Hutt's current Māori population and current housing situation to be determined.

The last three Census shows Upper Hutt's Māori population steadily increasing, from 5,202 in 2006, to just under 7,000 Māori in the 2018 count, representing approximately 16% of Upper Hutt's total population.[12]

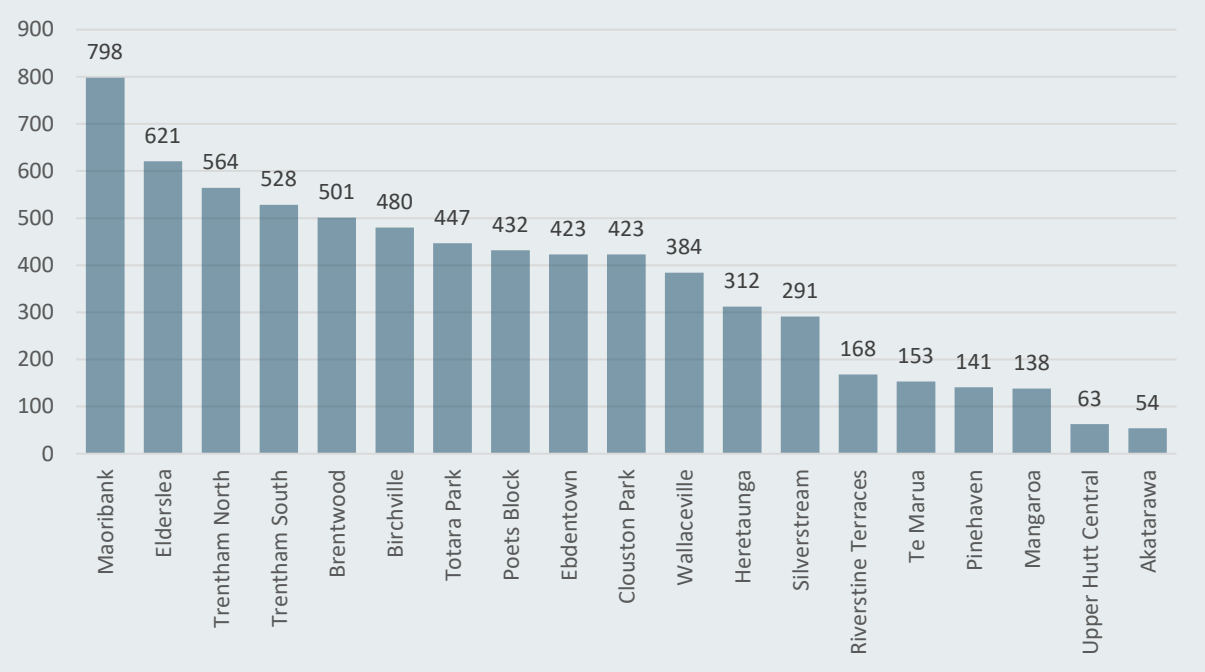


Figure 6.5: Distribution of Māori households in Upper Hutt

There are around 2,577 Māori households in Upper Hutt at the time of the most recent Census. The majority of households identifying as Māori are comprised of families with children (58%), and the vast majority of all Māori households live in separate dwellings (82%).

This HBA does not specifically look at housing affordability for Māori, however, Māori are over-represented in lower income groups regionally and in Upper Hutt. An anlaysis of median incomes for the period 2008-2020 shows that median weekly incomes for Māori and Pasifika are consistently lower than those for pakeha. For Māori, this has fluctuated between 5% and 25% less over the last 18 years, and median weekly incomes for Pasifika have been between 9% and 48% less than those for pakeha.[13] The Stats NZ report, *Housing in Aotearoa: 2020*, found that nationally Pacific peoples and Māori were less likely to own their home or hold it in a family trust than other ethnic groups. They were also more likely, along with people with Asian, Middle Eastern, Latin American, or African (MELAA) ethnicity, to live in public housing. This report also found that rates of severe housing deprivation were highest among young Pacific peoples and young Māori, while overall, severe housing deprivation prevalence rates for Pacific peoples and Māori were close to four and six times the European rate.

The available data indicates that Māori and Pasifika peoples in Upper Hutt are more likely to be marginalised due to lower earnings, lower rates of homeownership, feel the impact of increases in house prices, and the lack of suitable housing stock that meets their demand.

[12] https://www.stats.govt.nz/tools/2018-census-place-summaries/upper-hutt-city

[13] http://nzdotstat.stats.govt.nz/

2.5.4 Older people

Sense Partners population projections for Upper Hutt show that the population is ageing. The number of people over the age of 70 living in Upper Hutt is expected to reach just under 12,000 by 2048, accounting for approximately 17% of the overall population of the city.[14] Currently, people aged 70 and over account for 10.4% of Upper Hutt's resident population.[15]

An analysis of the anticipated shift in household types over the next 30 years accords with with an ageing population profile. For example a positive change in the number of all household types is expected as shown in the figure below, but the greatest increase is expected in the alone and couple households, at 89% and 73% respectively.

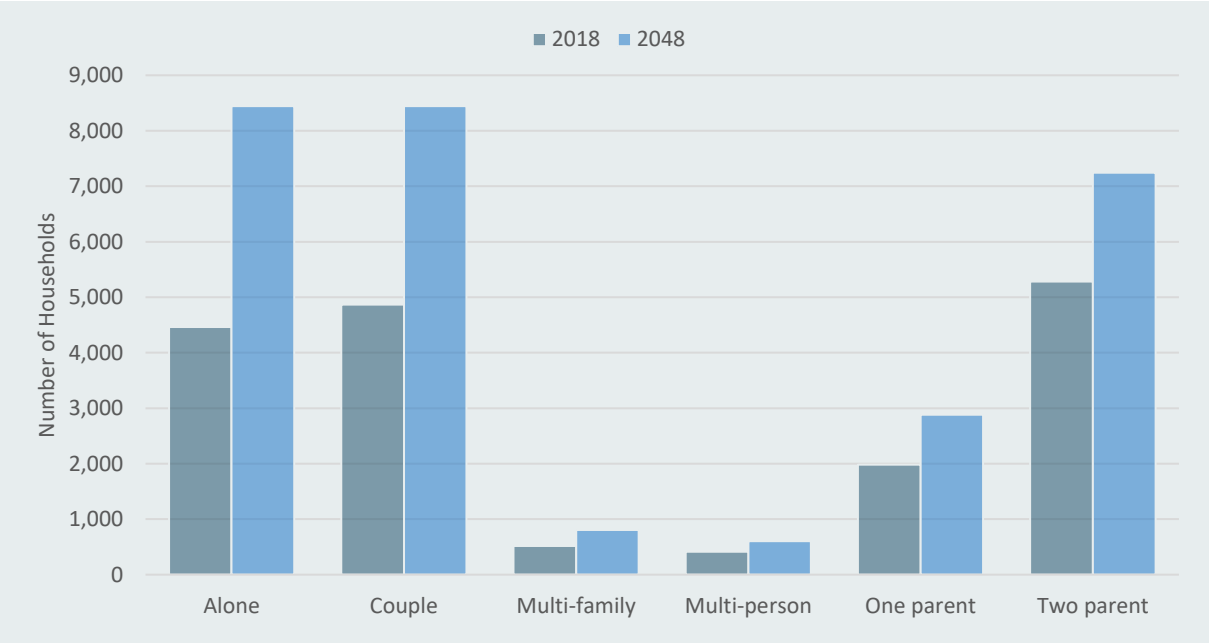


Figure 6.6: Anticipated change in the total number of household types in Upper Hutt 2018-2048

Looking at the various household types as a proportion of all households in Upper Hutt over the next 30 years reveals that alone and couple households as a proportion of overall households in Upper Hutt will grow, and the proportion of other household types remain static (as for multi-person and multi-family) or experience a contraction (as for one and two parent households).

[14] *Sense Partners, 50th percentile projections.*
[15] *Sense Partners, 50th percentile projections.*

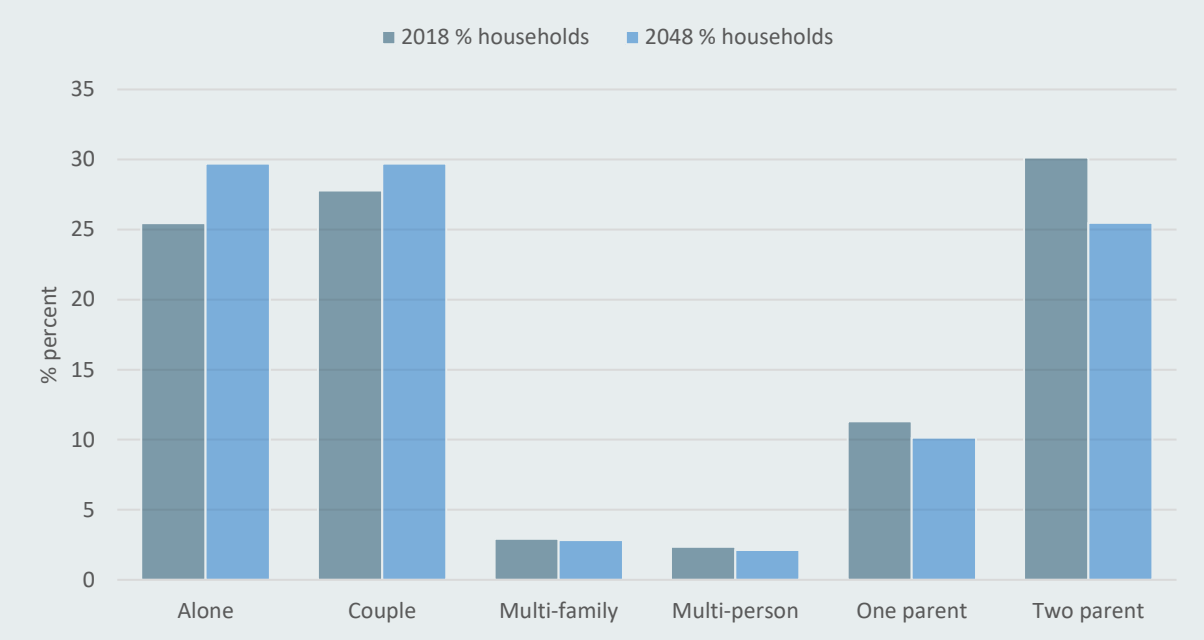


Figure 6.7: Expected percentage change in the proportion of different household types in Upper Hutt 2018 – 2048

In addition to independent living, retirement villages, rest homes and care homes provide other types of accommodation for people in their 70s and older. There are currently facilities in Upper Hutt providing independent living in retirement village settings, assisted living and care home level accommodation for older residents. Resource consent data from 2006 shows a number of applications processed by UHCC to increase the capacity of existing retirement villages by some 220 lots/villas, as well as the construction of two new care facilities within existing villlages. According to data from the Ministry of Health and aged care/living operators, the total existing retirement village and care home capacity in 2020 in Upper Hutt is as shown in the table below. The numbers would indicate that some of the additional capacity consented by UHCC in the period 2006-2020 has yet to be fulfilled.

Table 6.16: Retirement villages and rest homes in Upper Hutt

Name	Facility Type	Location	Current capacity	
			Beds	Units
Benhaven Rest Home	Rest home	Elderslea	20 beds	N/A
Elderslea Rest Home	Rest home	Elderslea	124 beds	N/A
Fergusson Care Home	Rest home	Trentham	112 beds	N/A
Fergusson Retirement Village	Village	Trentham	N/A	92 units
Heretaunga Home & Village	Rest home	Heretaunga	58 beds	N/A
St Josephs Home of Compassion	Rest home	Heretaunga	88 beds	N/A
Hutt Gables	Village	Clouston Park	N/A	46 units
Summerset at the Course	Village and Rest Home	Trentham	63 beds	44 units

The 2020 edition of Retirement Village and Aged Care Data by Jones Lang Lasalle confirms that demand for retirement village units is increasing nationally.[16] This HBA has not specifically analysed the specifics of housing demand by older people in Upper Hutt. However, opportunities exist to improve the understanding of this demand in the next full HBA review.

2.5.5 Low Income and Vulnerable Households

House prices in Upper Hutt have climbed steadily in recent years, with MHUD recording a median house sale price of $703,113 in March 2021.[17] This is nearly seven times the median total household income of $103,000.[18] The 2018 Census showed that the total household income for around 40% of households in Upper Hutt fell below $70,000.[19] While average incomes vary from suburb to suburb in Upper Hutt, affordability is becoming increasingy an issue for households across the City.

In this section, existing data regarding public housing, transitional housing and emergency housing is analysed to understand the current picture of demand for appropriate housing for people on low incomes or those in vulnerable or precarious situations in respect of their housing in Upper Hutt.

Housing need can be guaged via a number of data sources, including the Public Housing Register. The data indicates that housing need among those in Upper Hutt on low incomes has been increasing steadily over the past 5 years. Whilst some housing need in Upper Hutt is being met by a range of providers in the public system (e.g Kainga Ora) and non-profit sector, the increase in the number of applicants on the Public Housing Register in Upper Hutt indicates that supply is outstripping demand. The table below illustrates housing need in Upper Hutt as at March 2021.

Table 6.17: Housing Need in Upper Hutt, March 2021 (December 2020)

Number of applicants on the Housing Register	Number of applicants on the Transfer Register[20]	Public Housing tenancies	Transitional Housing places	Number of EH SNG approved	Amount of EH SNG approved
174 (178)[21]	18 (16)	399 (397)	129 (94)	147 (207)	$568,407 ($654,959)

Source: MHUD, Public Housing in Wellington Region Factsheet, March 2021

Another indicator of housing need is severe housing deprivation. MHUD's report, *Severe housing deprivation in Aotearoa New Zealand*, 2018 (and updated in July 2021), estimated

[16] *The 2020 edition of Retirement Village and Aged Care Data by Jones Lang Lasalle.*
[17] *MHUD Urban Development Dashboard, https://huddashboards.shinyapps.io/urban-development/#.*
[18] *Sense Partners, average household income, 2019.*
[19] *NZ Stats Dataset: Total household income (grouped) by household composition, for households in occupied private dwellings, 2013 and 2018 Censuses (RC, TA, DHB, SA2).*
[20] *. The Transfer Register is made up of people already in public housing, but who have requested and are eligible for a transfer to another property.*
[21] *Numbers in brackets are from December 2020.*

that in 2018 there were 207 people living in Upper Hutt experiencing severe housing deprivation. This report found that for Aotearoa New Zealand, the severely housing deprived population was disproportionately young, with nearly 50 percent aged under 25 years of age; and that rates of severe housing deprivation are highest among Pacific and Māori young people. For the total population, Māori and Pacific people's severe housing deprivation prevalence rates were four and six times the pakeha rate, respectively, and the MHUD report suspected that true levels of inequity are probably greater.

The following sections explore the housing need and supply in the public housing, community housing, emergency housing and transitional housing sectors in more detail.

2.5.6 Public Housing

Public houses are properties owned or leased by Kāinga Ora and registered Community Housing Providers (CHPs) that can be tenanted by people who are eligible for public housing.

The public housing register provides the number of applicants assessed as eligible for social housing who are ready to be matched to a suitable property. As at March 2021, there were 174 applicants on the public housing register in Upper Hutt, with the vast majority (91%) categorised as being a high priority. 70% of those applicants on the register needed 1 or 2 bedroom homes. The number of applicants on the housing register has experienced a 1,350% increase since March 2015.[22]

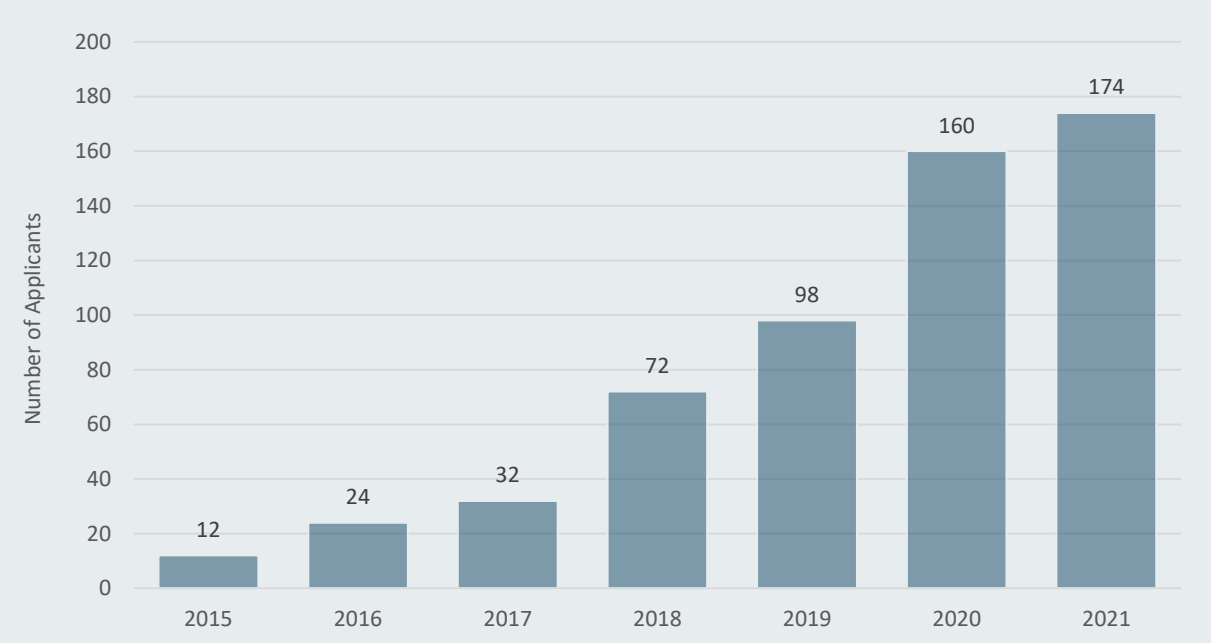


Figure 6.8: Applicants on the Housing Register in Upper Hutt 2015-2021

[22] *https://msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/housing/index.html*

2.5.7 Kāinga Ora

Kāinga Ora is a public housing landlord which also partners with the development community, Māori, local and central government, and others on urban development projects of all sizes.

Between 2010 and 2019, Kāinga Ora invested nearly $3 million dollars in property acquisition in Upper Hutt.[23] As at March 2021, Kāinga Ora manage a total of 396 properties in the City, the majority of which are 3 bedroom, as shown in the figure below.[24] A search of the Kāinga Ora website suggests there are no small or large scale housing developments planning in Upper Hutt in the immediate future.

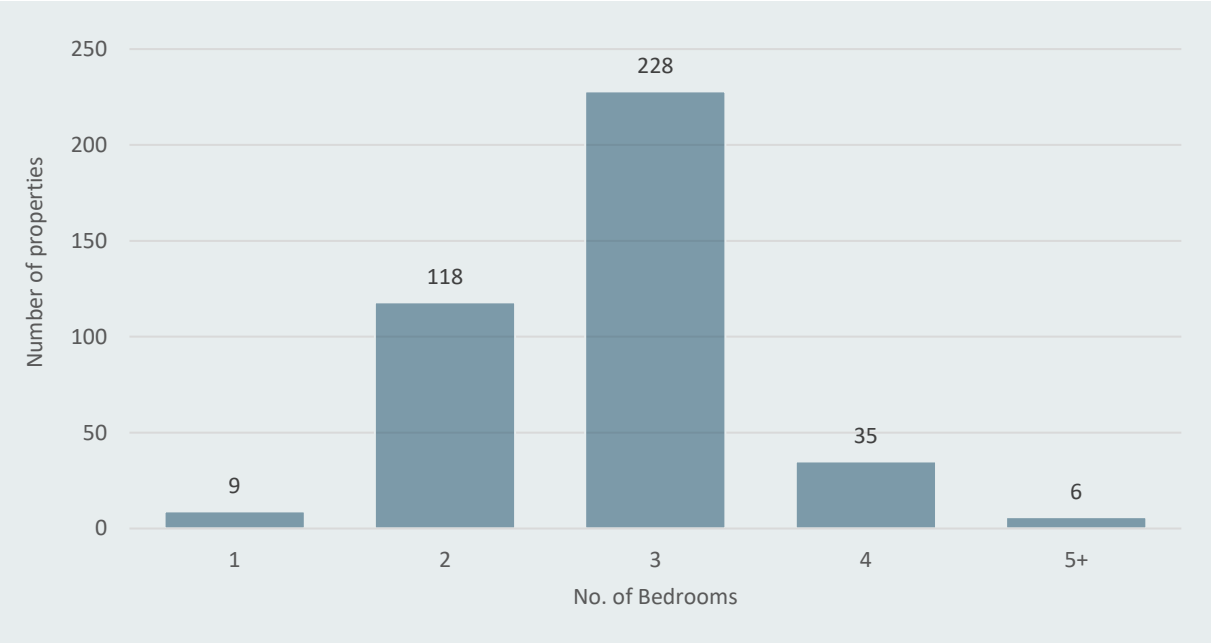


Figure 6.9: Bedroom composition of Kainga Ora homes in Upper Hutt (as at March 2021)-

2.5.8 Community Housing Providers (CHPS)

Community housing is a form of public housing working alongside private housing in the open market. Typically community housing providers (or CHPs) are not-for-profit groups meeting housing need through a range of social and affordable rental and home ownership options. They provide an alternative to the public housing provided by Kāinga Ora and local authority housing.

UHCC does not own or operate any social housing, but does facilitate a regular Local Housing Network comprised of a number of stakeholders in social, public and affordable housing. These include Kainga Ora and some of the 10 CHPs operating in the Wellington region

[23] *Kainga Ora, November 2019 Property Acquisitions spreadsheet.*
24 Kainga Ora, Managed Stock TLA March 2021 spreadsheet.

overall, that provide accommodation or provide support services to people and whānau in Upper Hutt.[25]

2.5.9 Emergency Housing Need

Emergency Housing Special Needs Grants (EH SNG) are available to people who cannot remain in their usual place or residence, if any, and do not have access to other accommodation which is adequate for them or their family's needs. The Ministry for Social Development (MSD) pays EH SNGs directly to accommodation suppliers and assistance is generally granted for up to seven nights but can be extended dependant on individual circumstances.

According to MSD data, there are 15 suppliers of emergency accommodation in Upper Hutt. Suppliers include motels and bed and breakfast accommodation as well as Upper Hutt Housing Trust – Homai te Wahiora (UHHT). The figure below illustrates the number of EH SNGs granted by the Upper Hutt MSD service centre in the period June 2017 – March 2019, and the total amount paid to the suppliers of emergency accommodation. The number of EH SNGs excludes figures suppressed by MSD on the grounds of confidentiality.[26]

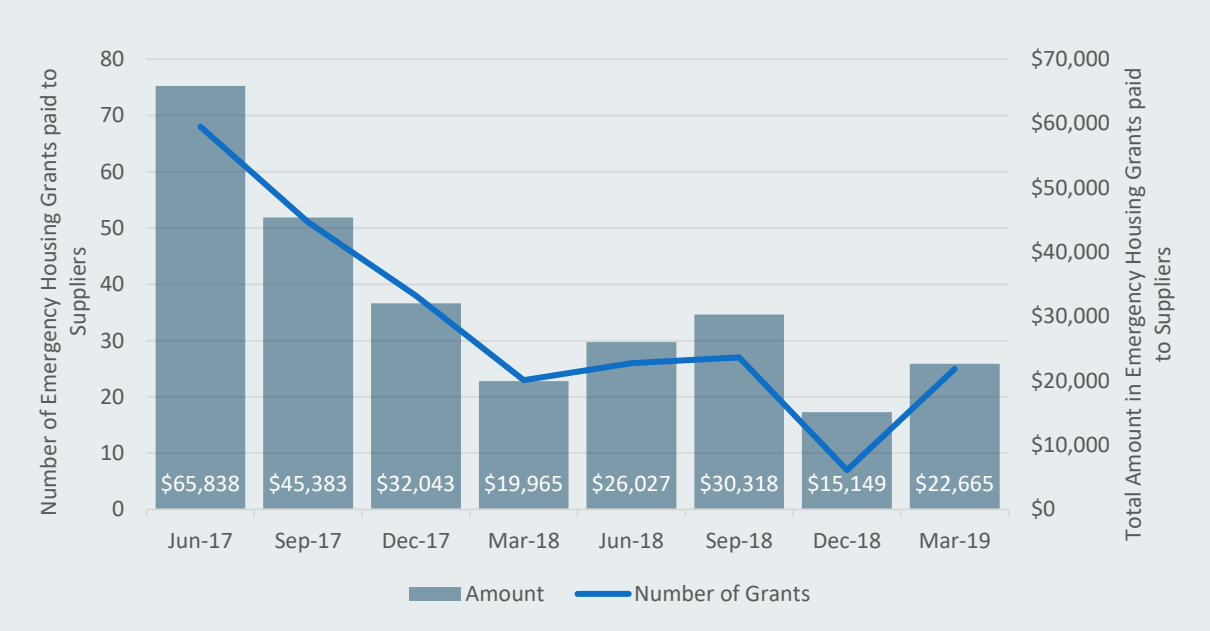


Figure 6.10: Emergency housing grant data, 2017-2019

UHHT was established in 2016. It operates a 9-room boarding house and a range of flats/houses. With their current capacity, UHHT can house over 40 people in need of shelter.

2.5.10 Transitional Housing Need

Transitional housing provides short-term accommodation for people in need, along with tailored housing related support. The transitional housing programme is led by HUD in

25 MHUD, Public Housing in Wellington Region Factsheet, March 2021,https://www.hud.govt.nz/assets/News-and-Resources/Statistics-and-Research/Public-housing-reports/Regional-factsheets-March-2021/MHUD210501-Housing-regional-Factsheets-Mar21-Wellington-v2.pdf

[26] Request made under the Official Information Act 1982 and published by MSD on 4 February 2020.

collaboration with Kāinga Ora, transitional housing providers, the Ministry of Social Development and the wider housing sector. People living in transitional housing pay rent of up to 25% of their income, which is in line with income-related rents for public housing, with the balance subsidised to providers by HUD.

In March 2021, there were 386 transitional housing places available across the Wellington Region (including Wairarapa), up from 347 in the previous quarter. These provided by the following agencies, some of which provide support to those in need of transistional housing in Upper Hutt:[27]

Table 6.18: Transitional Housing Providers in the Wellington Region

Transitional Housing Provider	Number of places
Atareira	8
Emerge Aoteroa	155
First Community Trust	40
Koraunui Marae	4
Women's Refuge	42
Oasis Netowrk	24
Kahungunu Whanau Services	11
Supporting Families Wairarapa	2
Wellington Women's Boarding House	8
Wellington Homeless Women's Trust	9
Te Whare Tane Charitable Trust	28
The Salvation Army	21
Upper Hutt Housing Trust	11
Wellington City Mission	23

2.5.11 Visitors

According to MBIE, Spend on tourism related products is approximately $50 million for Upper Hutt (up on previous year), with 66% of visitor spend in Upper Hutt by domestic visitors.[28]

There is both limited demand and availability of visitor accommodation in Upper Hutt. Available accommodation is a mixture of medium to low density motel units, as well as private AirBnb facilities. Wellington City is still seen as the location of the majority of regional visitor accommodation demand. Reference is made to the associated visitor accommodation

27 https://www.hud.govt.nz/assets/News-and-Resources/Statistics-and-Research/Public-housing-reports/Regional-factsheets-March-2021/MHUD210501-Housing-regional-Factsheets-Mar21-Wellington-v2.pdf

28 TRC Tourism Ltd, *Hutt Valley Tourism Action Plan 2018 – 2021*.

section in the Wellington City Chapter of this report. According to AirDNA.co, there are 72 active temporary accommodation rentals available in Upper Hutt, 89% of which are listed on AirBNB. 49 of these properties are entire homes, and the bulk of the balance is comprised of private rooms in homes.[29] Booking.com lists X motels and hotels available in Upper Hutt and within 5km of the City centre.[30]

The Hutt Valley Tourism Action Plan, 2018 – 2021 provides a strategic framework for a collaborative approach to tourism across the two Territorial Local Authority areas of Hutt City and Upper Hutt City in the Wellington Region. The Action Plan aims to develop the Hutt Valley as a highly desirable visitor destination able to attract visitors year-round. However, there is a wide spread view that there is insufficient commercial accommodation capacity across Upper Hutt and Lower Hutt. The Commercial Accommodation Monitor lists a capacity of eight establishments for Upper Hutt and 18 establishments for Lower Hutt. The Action Plan recommends analysis be undertaken to validate supply and demand and develop a regional approach.

[29] *https://www.airdna.co/vacation-rental-data/app/nz/wellington/wellington/upper-hutt-city/overview, July 2021.*
[30] *https://www.booking.com/, July 2021.*

3 The Housing Market & the Impact of Planning

Section 3.23 of the NPS-UD requires an analysis of how UHCC's planning decisions and provision of infrastructure affects the affordability and competitiveness of the local housing market. In this part of the report, UHCC and third-party data and information is analysed to build a picture of how well current and likely future demands for housing in Upper Hutt are met, and the impacts of current market conditions on important factors such as affordability and access to housing.

Firstly, 1.7 of this report looks at how well UHCC has been responding to housing demand through an analysis of building consent and resource consent data collated by UHCC, in combination with third party data relating to features such as population growth and property and vacant land sales prices.

This is followed by an assessment in section 1.8 of how well the current and potential future demands for housing by Māori and different groups in the community (such as older people, renters, homeowners and low-income households) are met.

Section 1.9 analyses some of the market indicators of housing affordability, housing demand and supply, and section 1.10 explores two price efficiency indicators, to better inform the overall understanding of Upper Hutt's current housing market.

3.1 Summary of what we found

In summary, the recent data analysed in this part of the report indicates the following:

Consenting Activity	• Encouragingly, subdivision consents and new dwelling consents as a proportion of all consents have gradually increased in the period 2018-2020. • However, recent and anticipated population growth may outpace consenting activity.
Employment Growth	• The number of persons employed in Upper Hutt has increased between 2016 and 2020, but by just 5%. • Regional per person GDP has increased on average 3% annually in the last 20 years. In 2020, it was $74,785 per person.

House Prices and Rents	• Median house prices have increased significantly over the period 2018-2020, and the number of residential properties being sold continues to fall. • House prices increases have occurred during a continued period of low mortgage rates and increasing regional GDP (per person). • Rents have continued to increase in Upper Hutt however not as sharply as dwelling sales price. • Upper Hutt rents continue to be cheaper than those in Wellington City and the wider region.
Market Indicators	• The regional housing market remains relatively well integrated, with Upper Hutt trends aligning with many of those experienced across the region. • Activity in the years since the original HBA suggests that the reducing quantum of houses sold may be increasing the rate of house sale price increases, placing pressure on the production of housing supply. • Results also show that after a period of the market being in a responsive trajectory, with consents increasing, barriers to supplying new homes to meet increasing demand are beginning to make themselves felt across the housing market in Upper Hutt and across the region. • The price-cost ratio in Upper Hutt has crept over 1.5, strongly suggesting a more than temporary demand-supply imbalance (in housing and possibly land) and potentially indicative of persistent constrained development opportunities.

3.2 Upper Hutt's residential consenting activity

Building consent and resource consent data can provide a useful insight into building activity at the local level and reflect economic realities 'on the ground'.

Analysis of the consenting data for 2007-2017 in the original HBA indicated that the effects of the Global Financial Crisis of 2008 (GFC) were potentially still being felt in Upper Hutt in 2017, with rates of consenting still 40% down on those experienced prior to the GFC.

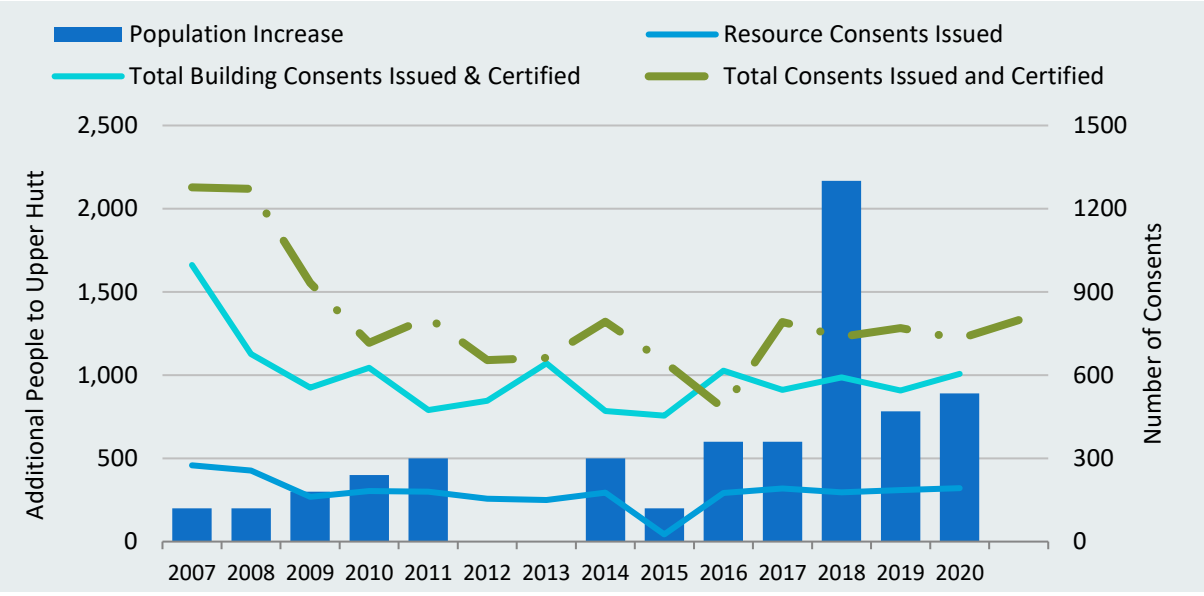


Figure 6.11: Rate of population change versus historic consenting

However, since 2017 consenting activity has stabilised and gradually increased, with that trend appearing set to continue in 2021. This can be seen in Figure 6.11 above and the following Figure 6.12.

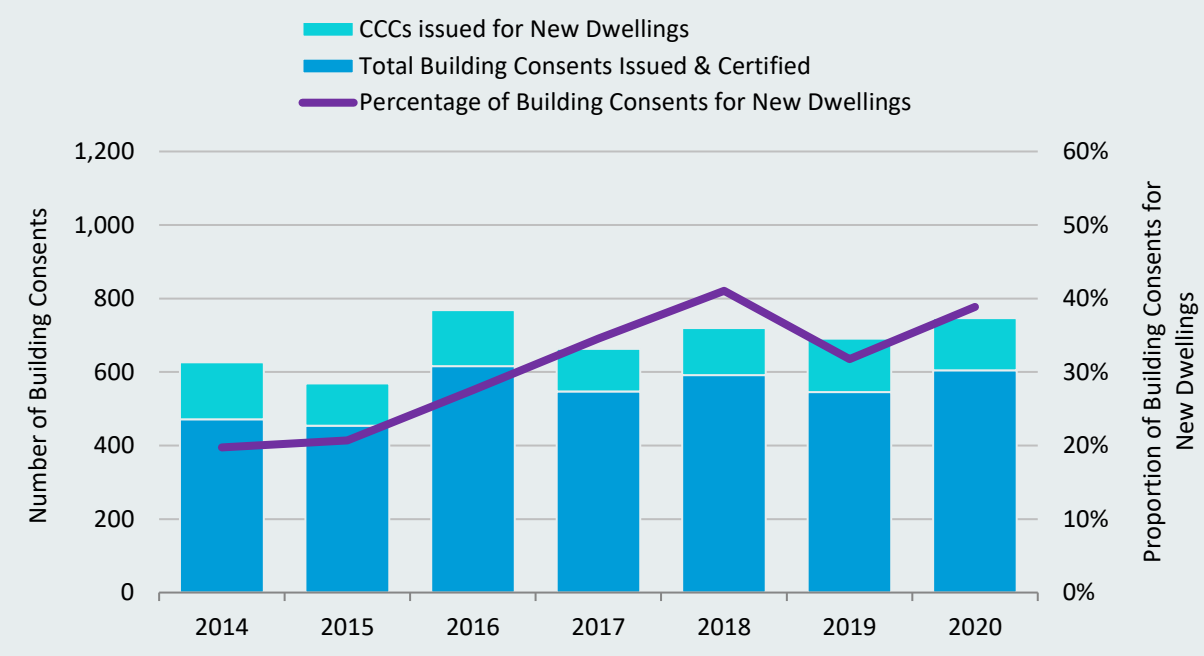


Figure 6.12: Building Consent Activity in Upper Hutt: 2014-2020

The following table compares consenting data for 2018-2020 with the period analysed in the previous HBA and again suggests consenting activity is improving against several measures:

Table 6.19: Resource consent and building consent performance 2007-2020

Measure	2007-2017	2018-2020
Median no. RC received per year	179	186
Percentage of RCs received for subdivision	*18.5%*	*22%*
Median no. of net new lots created per year	135	219
Median no. of BC issued & certified per year	586	592
Percentage of building consents for new dwellings	*20%*	*39%*

The increase in consenting activity seen in the last 24 months possibly reflects that Policy 8 of the NPS-UD to be responsive to proposals that add significantly to development capacity and contribute to well-functioning urban environments is being actively implemented by UHCC decision makers.

Whilst the trend in consenting activity is encouraging, the median annual population growth rate of Upper Hutt has also increased, from 300 persons per year for the period 2007-2017 to 838 person per year for 2018-2020. This translates to a growth rate 1.81% between 2018 and 2020. The graph below shows the number of building consents and resource consents in the context of additional people moving to Upper Hutt. It shows that while buildings consents kept pace with population growth between 2014-2017, the recent population growth spike in

2018 is not matched by a spike in building consent numbers, either for 2018 or in the following two years.

When household growth outstrips new dwelling consents, it can indicate barriers to supplying new homes to meet demand. This current situation may also be contributing to the increase in sale price and rents shown elsewhere in this report and indicates that not enough housing is being built to keep pace with demand. Slow growth in building consents may indicate that there are barriers to building more homes, potentially including planning constraints and/or construction industry capacity constraints. This data indicates the potential for a situation in Upper Hutt where there are too many people for dwellings available, which may exacerbate any existing supply issues.

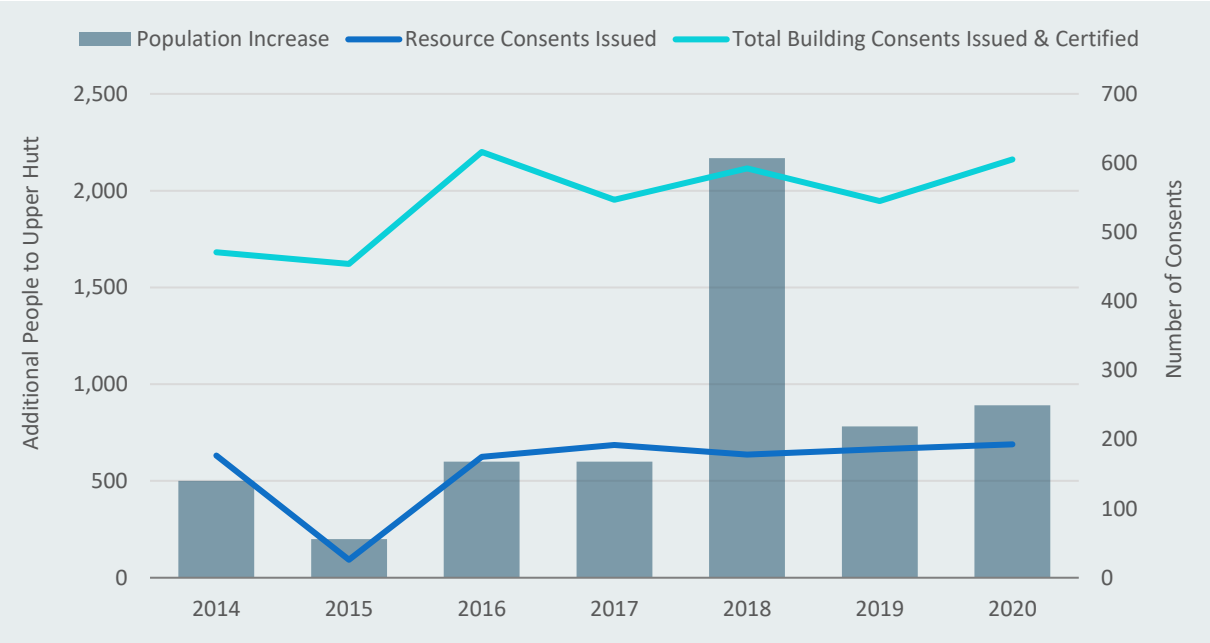


Figure 6.13: Rate of population change versus historic consenting[31]

Additionally, just because a new dwelling is consented, it does not mean that a new residential build will result. The following figure below shows a median annual realisation rate of buildings consents to CCCs for new dwellings at 21% in Upper Hutt. Possible reasons for this discrepancy include capacity constraints in the construction industry. The most recent potential constraint on the construction industry's ability to keep pace with building activity is the impact of COVID-19 on the building supply chain.

[31] *The jump in population in 2018 that can be seen in Figure 6.13 is as a result of a change in projections by Sense Partners.*

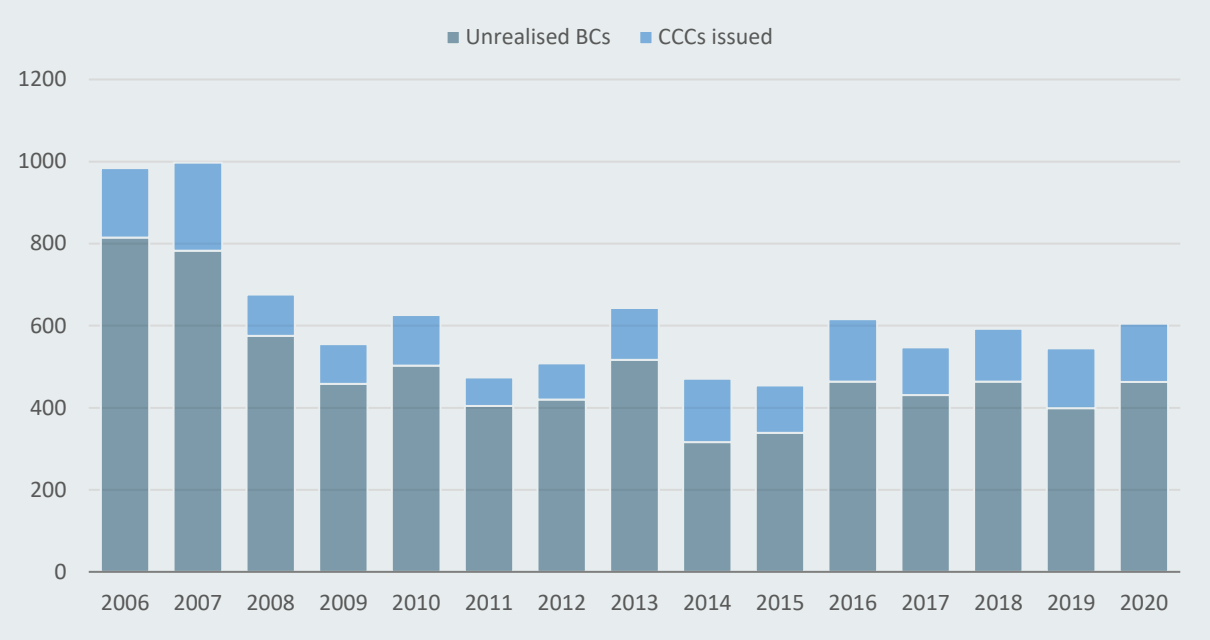


Figure 6.14: Code of compliance certificates for new dwellings as a proportion of total building consents issued and certified in Upper Hutt 2006-2020

In terms of understanding any potential capacity 'gap', there needs to be consideration of the growth of population and potential supply over time. This is because, as indicated above, there can be periods where a surplus is generated when consenting outstrips population growth (e.g. pre-GFC), and over time population growth can outstrip consenting (e.g. post-GFC). The following chart illustrates cumulative changes in population alongside consenting since 2006 to better understand the potential net effects of rises and falls in population growth and consenting.

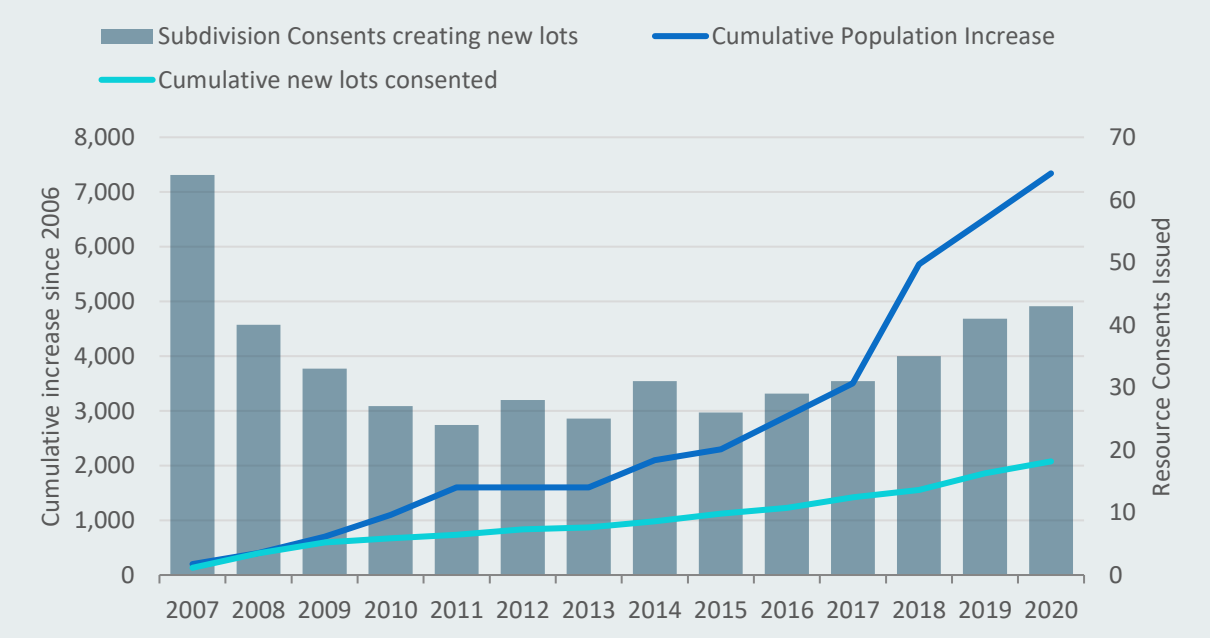


Figure 6.15: Upper Hutt subdivision consent activity relative to population growth: 2007-2020

Figure 6.15 indicates that whilst the number of subdivisions creating new lots continues to increase since 2015, population growth in Upper Hutt is outstripping consenting significantly in the period 2017-2020, particularly when compared to the relationship between consenting and population growth recorded in the preceding 10 years. The following chart again shows the disparity between the rate of cumulative increase of Upper Hutt's population compared to the cumulative increase in new residential building completed, a distinction that has become more pronounced since 2017.

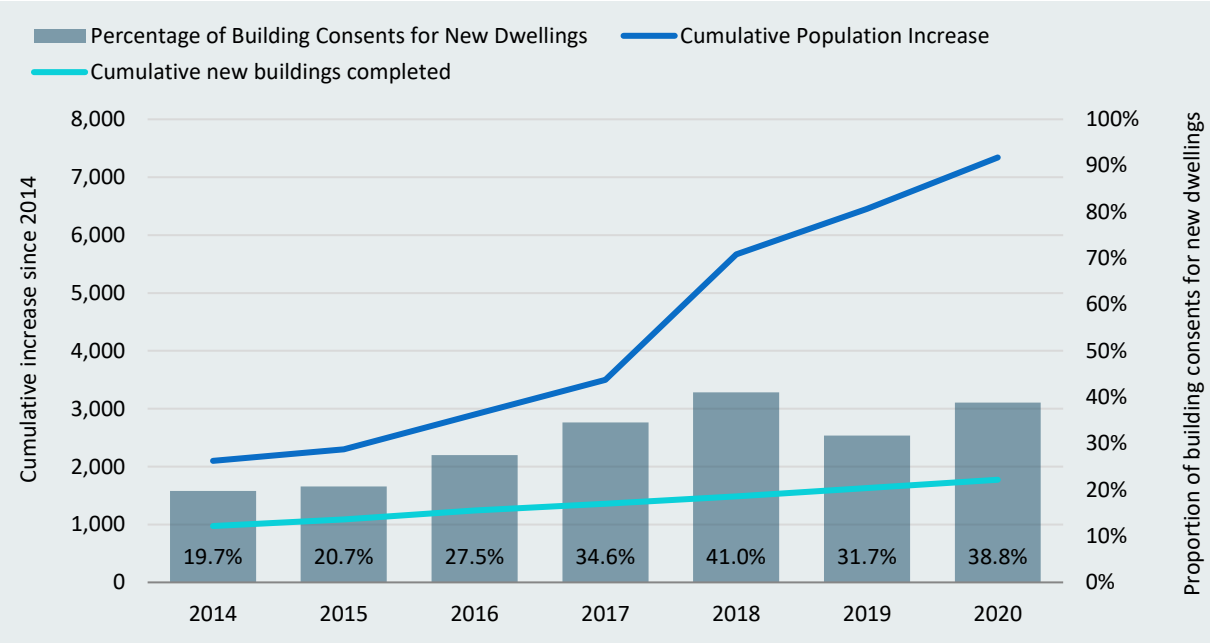


Figure 6.16: Upper Hutt new dwelling building consent activity relative to population growth: 2014-2020

The figure below expresses new lots and new dwellings to population growth as a ratio. Doing so can provide a rough indication of whether supply is keeping up with population growth and/or if it is starting to address any historical under-supply.

In 2007, there was correspondence between population growth and completed new dwellings – for every new person of growth, the was just over one new dwelling completed. However, in 2020, the population increase was estimated to be nearly 900 people, yet the number of new dwellings completed was just 128. Taken into consideration with other metrics explored in this part of the report, this could signal additional supply constraints for Upper Hutt.

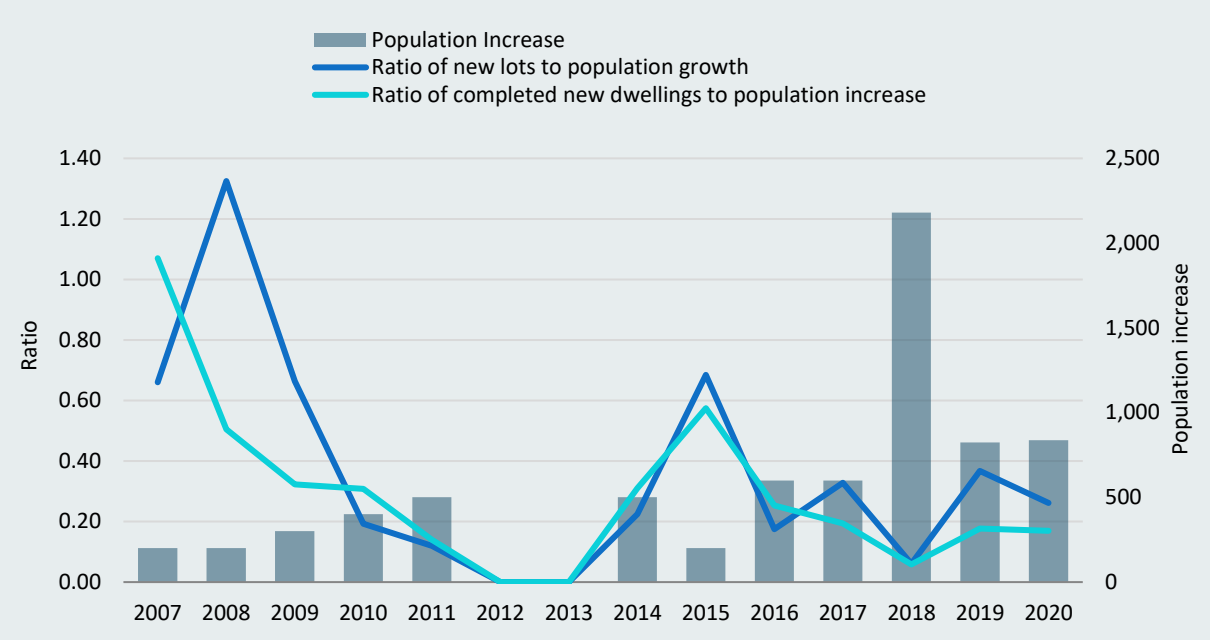


Figure 6.17: Ratio of consenting relative to population growth in Upper Hutt between 2007 and 2020

Data collected by MHUD similarly indicates potential misalignment between population growth and housing supply. The indicator in Figure 6.18 below approximates the demand for, and supply of, new dwellings. It measures changes in demand and how responsive supply is. In the 2019 HBA, it was noted that whilst consenting had been aligned with population growth over the years, the margins had started to narrow in early 2018. However, as can be seen in Figure 6.17 above, by the beginning of 2019, population growth in Upper Hutt outstripped new dwelling consents. This is a pattern seen across the region.

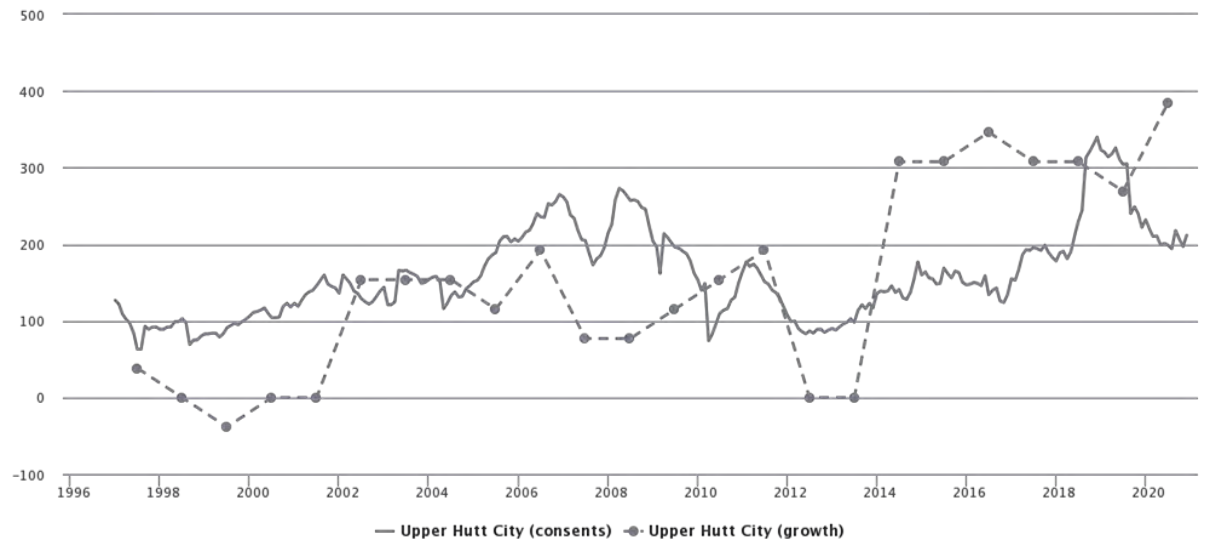


Figure 6.18: New Dwelling consents compared to household growth in Upper Hutt. Source: MHUD

The overall picture of consenting activity, sales, and population increase is illustrated in the chart below. It reemphasises that whilst the consenting environment has been gradually picking up since 2014, increases in house and vacant land prices and rates of population

growth have been far more energised. As noted in the original HBA, the consenting activity experienced in 2006 to 2008, prior to the GFC, has yet to be realised again.

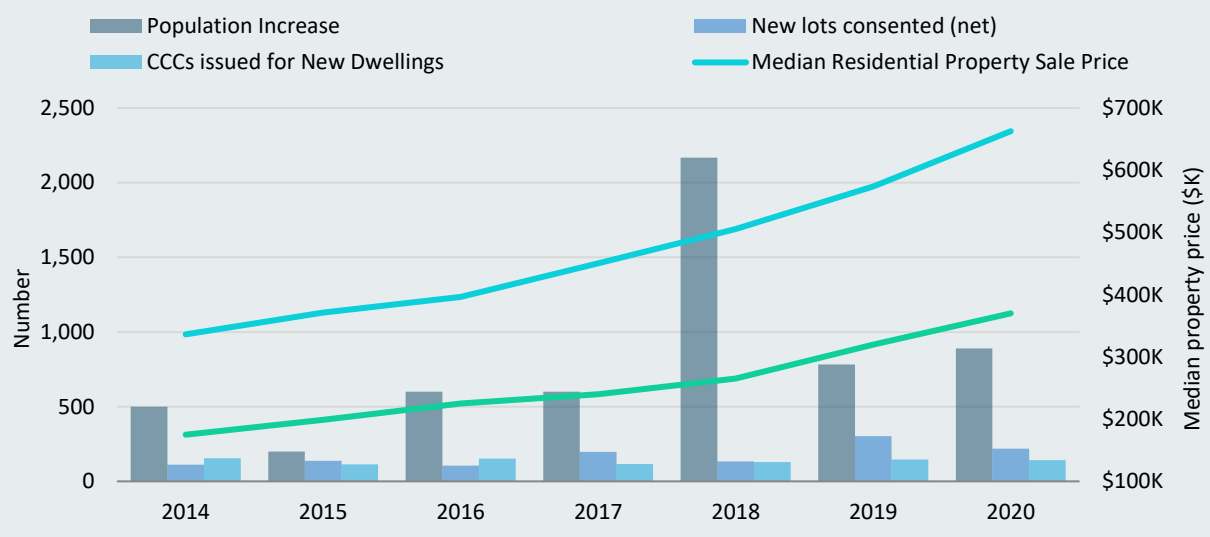


Figure 6.19: Overall consenting and sale price activity in Upper Hutt relative to population growth between 2014 & 2020

Tracking employment numbers against consents activity can help show how or if economic activity and development activity are related. The lingering impact of the GFC on both employment and total building consent values can be seen from 2008 in the figure below, but particularly in respect of building consent values. Upturns for both metrics can be seen to occur from 2015-2016. However, building consent values have enjoyed comparatively greater increases than employment numbers in recent years, with total values increasing 86% between 2016 and 2020, exceeding the pre-GFC value peak in 2007. Yet, the number of persons employed in Upper Hutt has increased just 5% between 2016 and 2020 and remain some distance from the pre-GFC employment peak of 12,145 persons in 2008.[32]

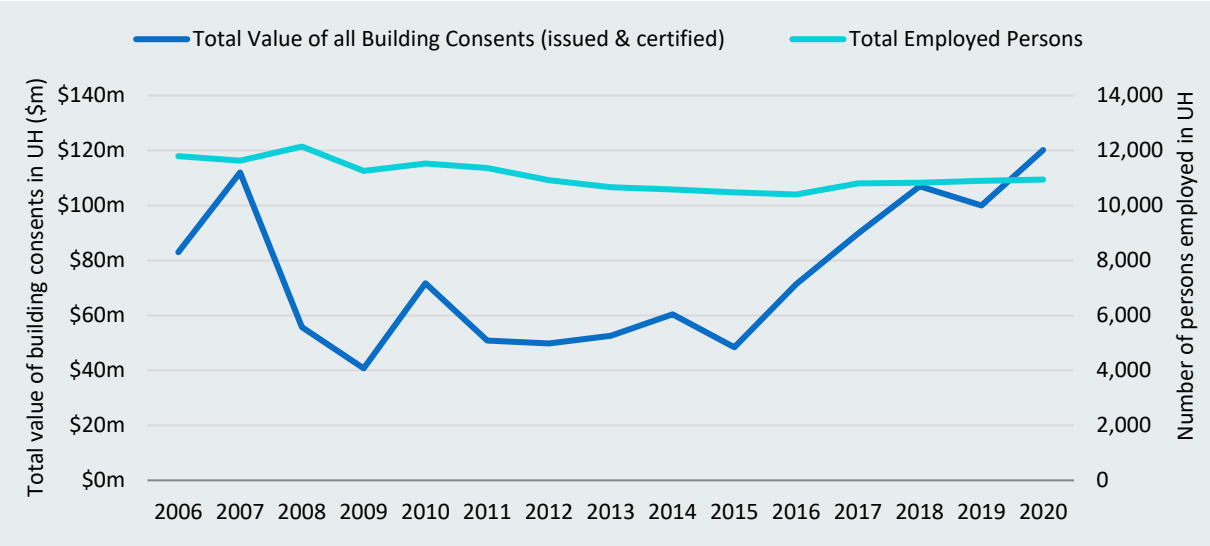


Figure 6.20: Relationship between employment and new dwelling building consents Upper Hutt between 2006 and 2020

[32] *Data supplied by Quotable Value, March 2021.*

3.3 Market Indicators

The NPS-UD requires UHCC to use evidence about land and development markets to assess the impact of different regulatory and non-regulatory options for urban development and their contribution to achieving well-functioning urban environments; and meeting the requirements to provide at least sufficient development capacity. The following sections explore data provided by both UHCC and MHUD's data portal relating to house prices and quantum of house sale, as well as other indicators of housing affordability.

3.3.1 Housing prices and residential property sales

As part of HBA reporting, UHCC have collated historic sales information for residential properties to 2020. Sales data was provided by Quotable Value Limited (QV). The chart below provides data on median residential unit sale price and median residential vacant land sale price alongside the number of residential units and vacant land sales.

In the period 2018-2020, the median residential sale price increased 28% from $516,000 in 2018 to $660,000 in 2020. However, the number of residential properties being sold fell from 965 to 871 in the same period, a decrease of 10%. Similarly, vacant residential land sale prices have been on an upward trajectory, with a 40% increase in the period 2018 and 2020 from $265,000 to $370,000, yet the number of sales of residential land has been falling since 2016.

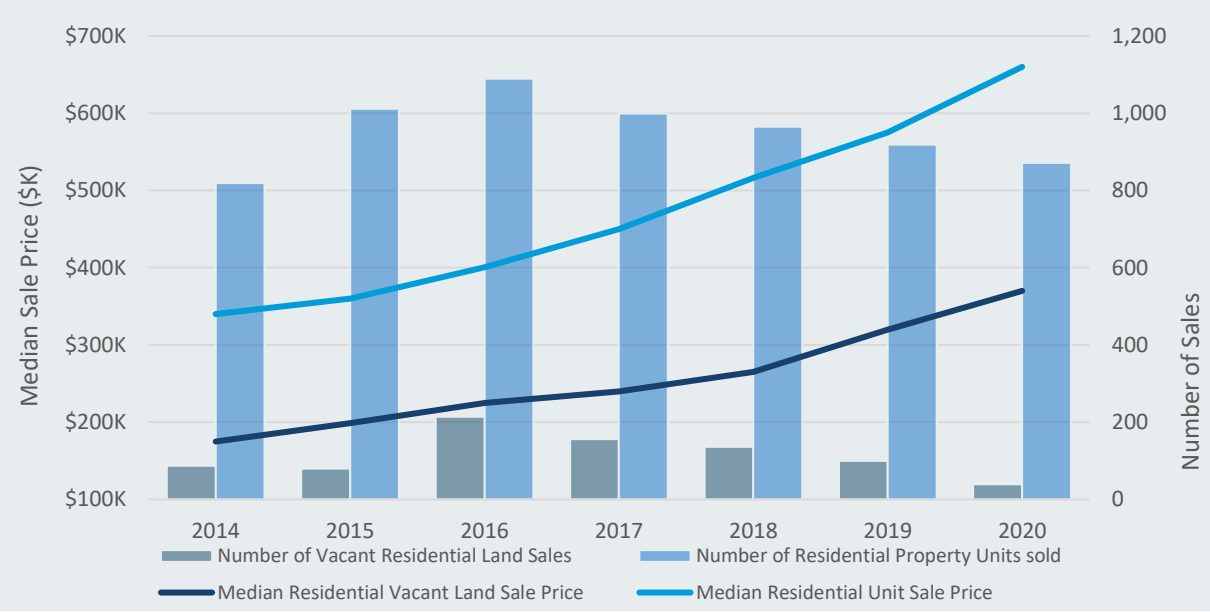


Figure 6.21: Number and price of residential properties sold in Upper Hutt between 2014 and 2020[33]

The following figure illustrates the net change to residential property and vacant land prices from 2014 to 2020 in Upper Hutt. Between 2006-2013, the net change in median residential property prices was relatively modest at $7,500 (or an 18% increase). In that period a fall in house prices was recorded in 2008 and 2009, possibly because of the impact of the GFC.

[33] *As for the 2019 HBA, the results have been expressed in 'units' as a single sale can relate to multiple dwellings or properties (for example, multi-unit complexes for residential use).*

However, the net change in median residential property prices between 2014 and 2020 is far starker at $320,000. This represents a 94% increase.

Ongoing low mortgage rates, the continued availability of credit and the lack of houses available to buy are critical drivers of house prices and may account for some of the heat recently seen in the local housing market. In the period 2014-2020 rates for a fixed mortgage have fallen from 6.1% in January 2014 to 3.5% in January 2021, and house prices are driven, in part, by substantial decreases in interest rates and increases in rents. As explained by the Reserve Bank of New Zealand, if long term interest rates are low, it is cheaper to borrow money for building houses. This should cause the supply of housing to increase, putting downward pressure on rents and house prices to normalise. However, supply constraints can prevent the market reaching equilibrium in the short term, causing rents and house prices to rise in response to lower interest rates.[34] The data indicates Upper Hutt is experiencing the impacts of this relationship.

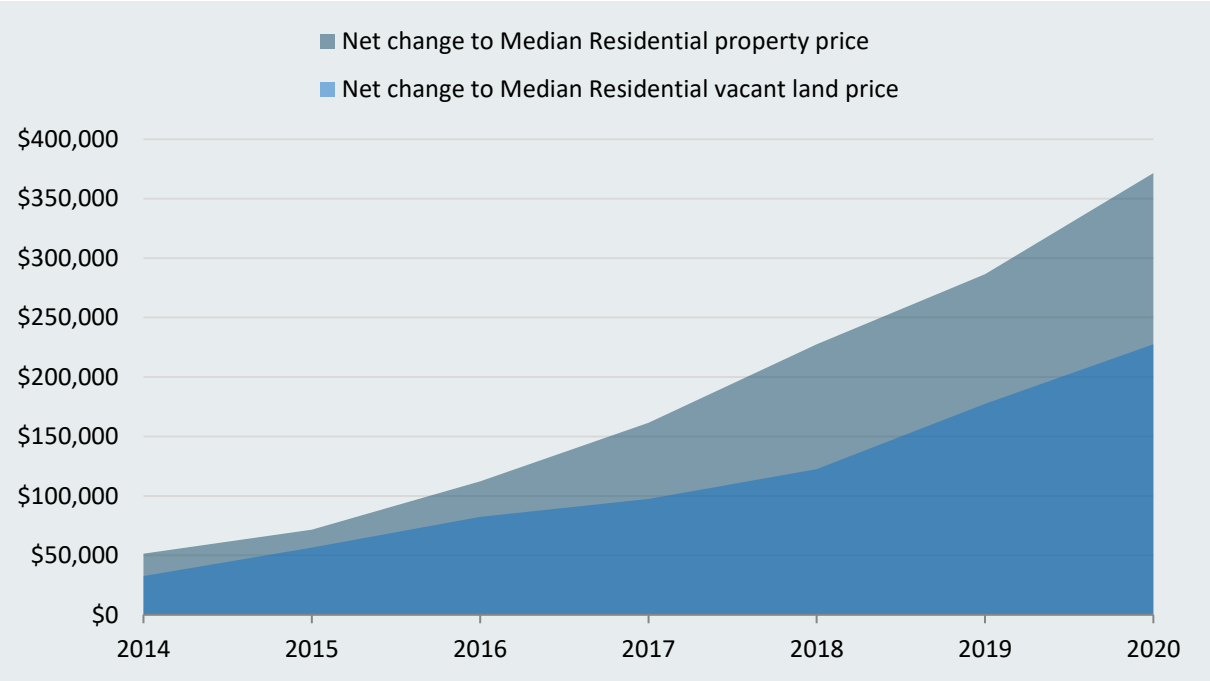


Figure 6.22: Cumulative net price changes since 2014 – 2020 for residential property in Upper Hutt

Looking at what type of housing is being sold, Figure 6.23 below shows that the sale of stand-alone dwellings continues to out-strip the sale of other typologies, a trend discussed in the 2019 HBA, with on average just under 5% of residential property sales (annual, median) being for apartments or units for the period 2018-2020. This is not necessarily surprising, as Upper Hutt is characterised by low density housing typologies. The 2013 Census results showed that Upper Hutt stands out regionally from the Greater Wellington Region as having higher proportions of single detached dwellings, with lower proportions of medium or higher density living.

[34] *https://www.rbnz.govt.nz/financial-stability/financial-stability-report/fsr-november-2019/how-have-lower-long-term-interest-rates-affected-housing-valuations.*

Low density typologies continue to be reflected in household type statistics in the 2018 census, where around 69% of households are identified as a 'one family household'.[35] It is anticipated that the implementation of NPS-UD requirements such as the enablement of high density living near existing urban centres in PC50 will have an impact on these proportions over time.

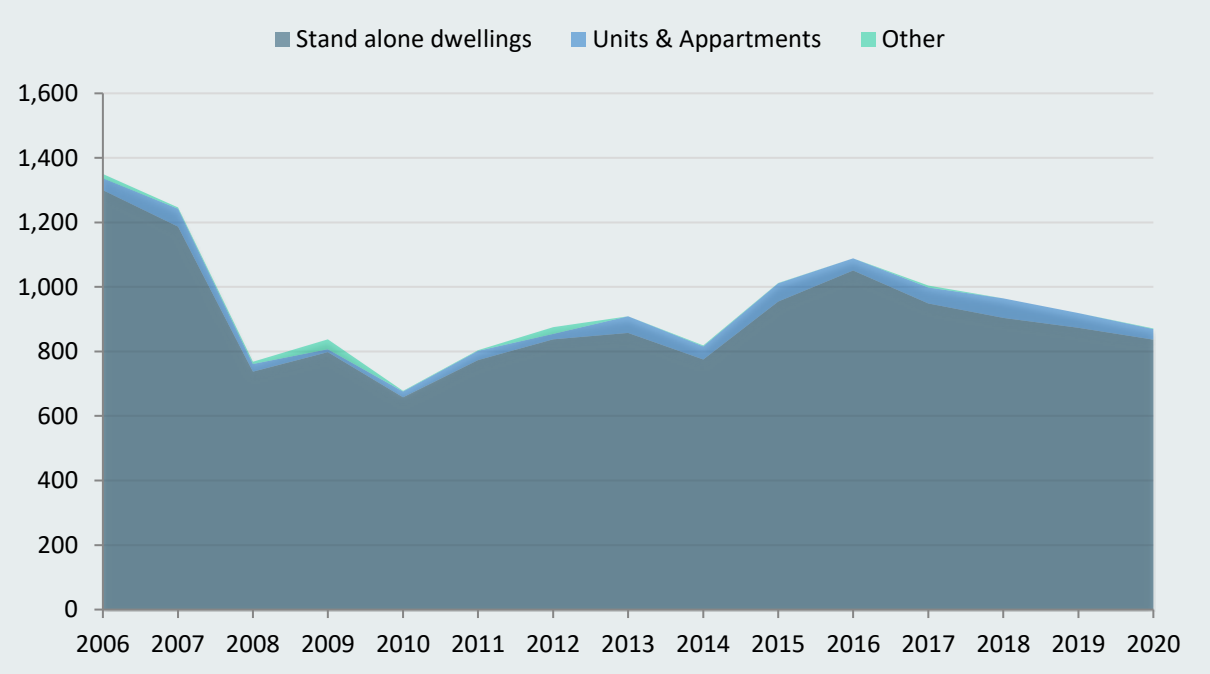


Figure 6.23: Typologies of houses sold in Upper Hutt between 2006 and 2020

The following figure highlights the integration of the regional housing market and how related prices are across the region. The 2019 HBA showed that while prices remained relatively steady from 2010 to 2014, from 2015 onwards prices across the region rose significantly. This upward trajectory has continued into 2020, with the median house sales price in Upper Hutt in 2020 being $703,113, which is a 36% increase on 2017 median sales price of $449,442 (inflation adjusted). This aligns with price increases identified elsewhere in this report.

[35] *http://nzdotstat.stats.govt.nz/, Household composition, for households in occupied private dwellings, 2006, 2013, and 2018 Censuses (RC, TA, DHB, SA2).*

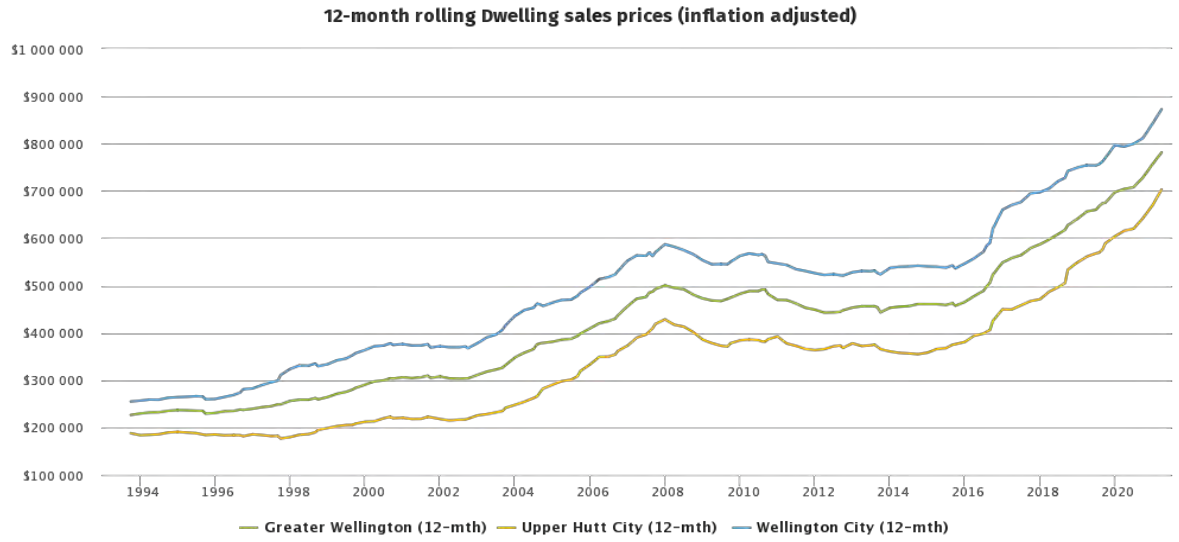


Figure 6.24: Median residential dwelling inflation-adjusted sale prices for Upper Hutt, Wellington City, and the Greater Wellington Region. Source: MHUD

When compared to other districts across the country, prices in Upper Hutt have retained an upward trajectory. This reflects both the higher household income in the region and the continued demand for housing as a result of labour demand thanks to the buoyancy of the local economy. Despite this positive economic outlook, the continued demand for housing results in prices across the housing spectrum increasing, further diminishing the accessibility of lower quartile housing. These results therefore summarise broad issues with the lack of housing supply and housing choice.

The quantity of dwellings sold in Upper Hutt has continued to fall since 2017. Interestingly, current sale rates in Upper Hutt are at their lowest since 1995. Since 2016, the quantity of dwellings sold in Upper Hutt has decreased by 45%, Wellington City has experienced a 55% decrease in quantity of dwellings sold.

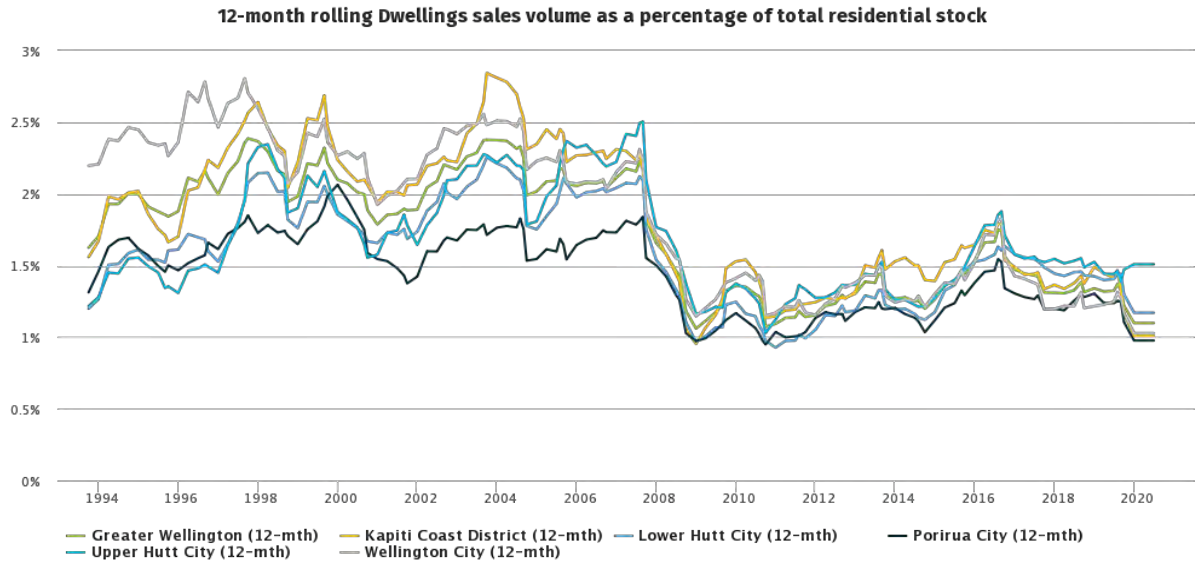


Figure 6.25: 12-month rolling number of dwellings sold as a percentage of housing stock across all districts and Greater Wellington Region. Source: MHUD

This indicator measures the quantity of all dwellings being bought and sold relative to the total residential stock and is a measure of activity or tightness in the local housing market. Growth in this measure suggests a more active market – people are more willing to buy and sell houses – and can signal that future growth in house prices may occur.

The previous HBA reported that Upper Hutt had experienced a higher-than-average proportional number of dwelling sales compared to other districts in the region for approximately the last 15 years. Since the end of 2017, sales volumes/total stock percentages for Upper Hutt remained around 1.5%, except for a nine-month period in 2019 when the percentage fell below 1.5%. The average sales volumes/total stock for Upper Hutt in the period 2017-2020 is 1.5%. Figures across the region for the same period indicate that while Upper Hutt's housing market has been relatively stable, the housing markets in other districts in the Wellington region have become increasingly less active.

Stability in sales volumes in Upper Hutt may indicate there has been a supply response to strengthening drivers of demand, such as Upper Hutt's population growth. It may also indicate that existing owners are more willing to put their house on the market in a rising rather than a falling market. Conversely, the declining trend in this indicator in neighbouring districts could signal existing owners in those areas are withdrawing from the market and constraints in the supply of dwellings.

3.3.2 Dwelling Rents

Rolling rental data trends for the period covered by the previous HBA closely aligned with those detailed in the sale data. Rental and sale prices both increased quickly in the period 2014-2017, although rental prices of a higher rate and later than sale prices. In the period 2017 to the first quarter of 2021, rents have continued to increase in Upper Hutt and regionally, however not as sharply as dwelling sales price increases (18% increase in median rent prices for Upper Hutt, as compared to 36% increase in median dwelling sales prices, inflation adjusted). Upper Hutt rents continue to be cheaper than those in Wellington City and the wider region ($95 cheaper and $73 cheaper respectively).

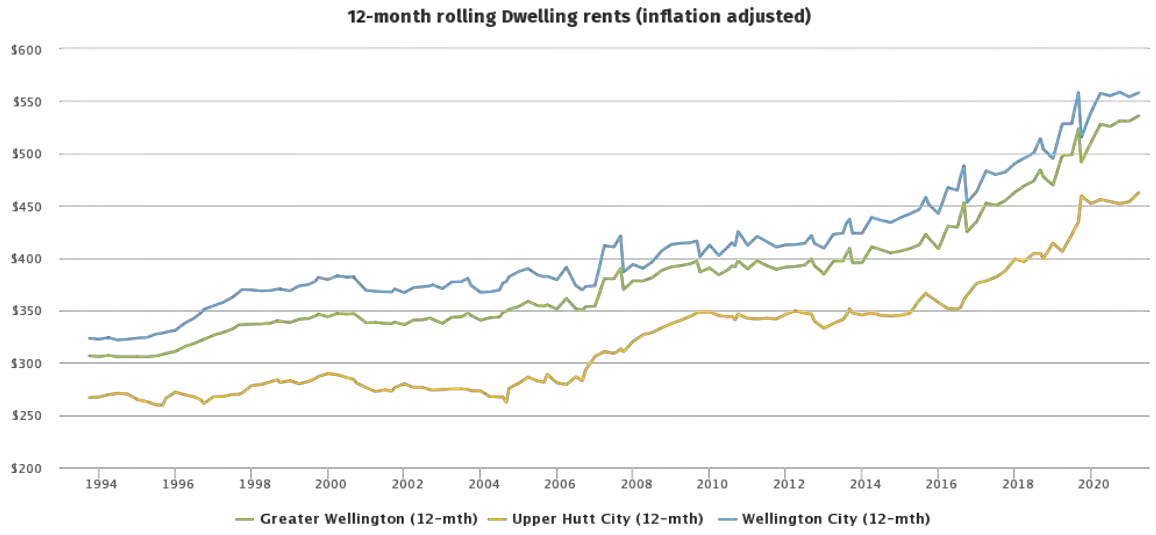


Figure 6.26: Median residential dwelling inflation-adjusted rent prices for Upper Hutt, Wellington City, and the Greater Wellington Region. Source: MHUD

3.3.3 Housing Affordability

A measure of affordability is the percentage of households spending more than 30 percent of their income on housing. This measure estimates how many renters would spend more than 30 percent of their income if they bought a lower quartile house with the same number of bedrooms as their current house, in the area that they currently live in. Under this measure, 74% of first home buyer households would be spending more than 30% of their income on housing costs, compared to just under 70% in Wellington City and 72% regionally.

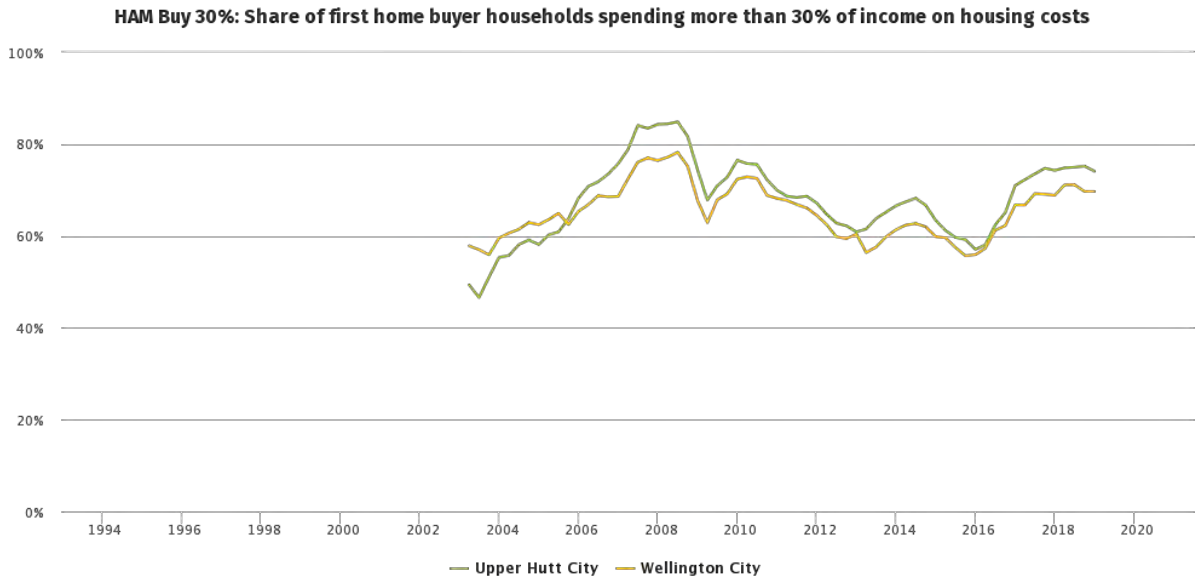


Figure 6.27: Housing Affordability Measure (HAM) Buy – Share of first home buyer households spending more than 30% of income on housing costs in Upper Hutt and Wellington City. Source: MHUD

The picture is reversed for renting, with 32% of renters spending more than 30% of their household income on rent in Upper Hutt, slightly higher than the 29% regionally.

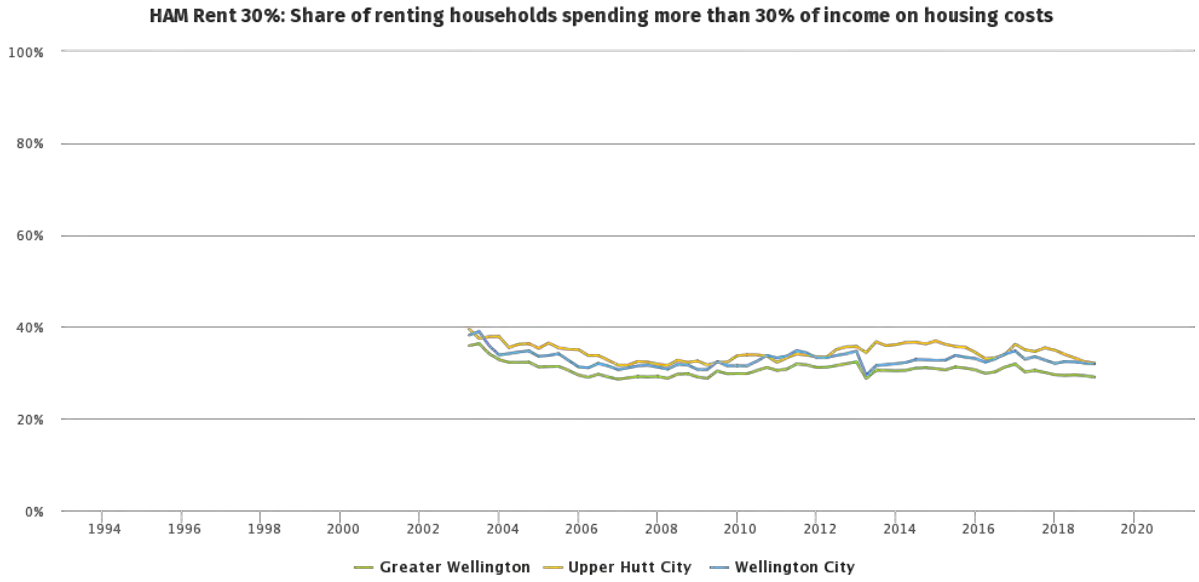


Figure 6.28: Housing Affordability Measure (HAM) Rent – Share of renting households spending more than 30% of income on rent in Upper Hutt, Wellington City and Wellington Region. Source: MHUD

Housing Affordability Data collated by CoreLogic is also useful for understanding affordability in both renters and homeowners at territorial authority level. The table below presents a number of indicators for Wellington region districts for the 4th quarter of 2020.[36]

Table 6.20: Affordability Indicators for Greater Wellington regional councils

	Avg. property value	Avg. annual income	Value to income ratio			Mortgage servicing			Years to save deposit			Rent affordability		
			Latest	Avg	Diff	Latest	Avg	Diff	Latest	Avg	Diff	Latest	Avg	Diff
Kapiti Coast	$746,081	$97,389	7.7	6.0	1.7	37%	38%	-1%	10.2	8.0	2.2	24%	24%	0%
Porirua City	$788,104	$139,323	5.7	4.3	1.4	27%	27%	0%	7.5	5.7	1.9	20%	18%	1%
Upper Hutt City	$707,138	$117,296	6.0	4.6	1.4	29%	29%	-1%	8.0	6.2	1.9	20%	19%	1%
Lower Hutt City	$750,542	$117,188	6.4	4.5	1.9	31%	28%	2%	8.5	6.0	2.6	21%	18%	3%

The value to income ratio is calculated by dividing nominal house prices by nominal disposable income per head and is considered a measure of affordability. The higher the ratio, the more unaffordable housing is. In Upper Hutt, the average property value of a dwelling is six times the average annual income. The national figure is 6.8 for Q4 2020. This table also that mortgage servicing is less stretched in Porirua and Upper Hutt, with the figures of 27% and 29% respectively, which is in line with their own averages. It will take a person on the annual average income eight years to save a deposit in Upper Hutt, which is currently higher (worse) than its long term average of six years. In addition, rental affordability in Upper Hutt is also a little more strained than usual too.

3.4 Price Efficiency Indicators

Price efficiency indicators produced by the Ministry for Housing and Urban Development and the Ministry for the Environment. This section looks at price-cost ratio in relation to Upper Hutt and are reproduced directly.[37]

3.4.1 Price Cost Ratio

The price cost ratio indicator provides an insight into the responsiveness of the land market, relative to construction activity. In short, it monitors the proportion of land cost to the cost of a home and can signal if there is a shortage of sections and development opportunities relative to demand.The ratio is composed of the following:

[36] *The NZ Housing Affordability Report, February 2021, CoreLogic, https://www.corelogic.co.nz/sites/default/files/2021-02/Q4_2020_NZ%20Housing%20Affordability_Report-230221-V4.pdf*
[37] *https://www.hud.govt.nz/news-and-resources/statistics-and-research/housing-market-indicators/*

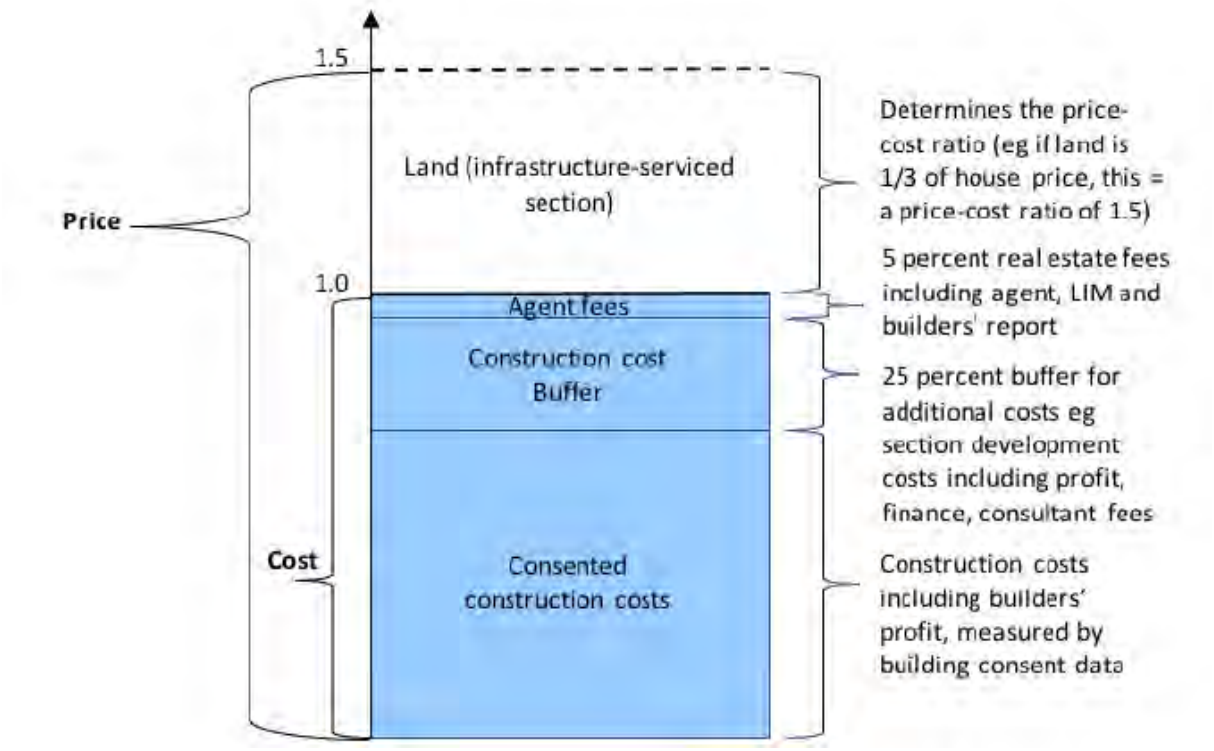


Figure 6.29: Composition of the Price-Cost Ratio. Source: MfE/MBIE

A ratio of below one indicates that houses are selling for a price below the cost of replacing them. Such a situation may occur in areas of no growth or even contraction.

A price cost ratio of between 1-1.5 is historically common where the supply of land and development opportunities is responsive to demand. As noted in the Evidence and Monitoring Guidelines[38] all urban areas in New Zealand had a ratio of between 1-1.5 some 20 years ago. In areas of New Zealand with more affordable housing markets, such ratios are still common.

And a price cost ratio above 1.5 suggests, with some caveats, that land supply and development opportunities are not keeping up with demand. As a result, land prices are having an upward effect on house prices.

In 2017, the Upper Hutt City price-cost ratio was just below 1.5, making Upper Hutt an attractive place to develop. This compared to the regional average of about 1.6 and the Wellington City price-cost ratio of about 1.9. However, the original HBA cautioned that the ratio was increasing for Upper Hutt, and recommended that land availability and construction costs be actively monitored to remain an attractive place to build.

[38] *NPS-UDC: Guide on Evidence and Monitoring – available at: https://www.mfe.govt.nz/publications/towns-and-cities/national-policy-statement-urban-development-capacity-guide-evidence*

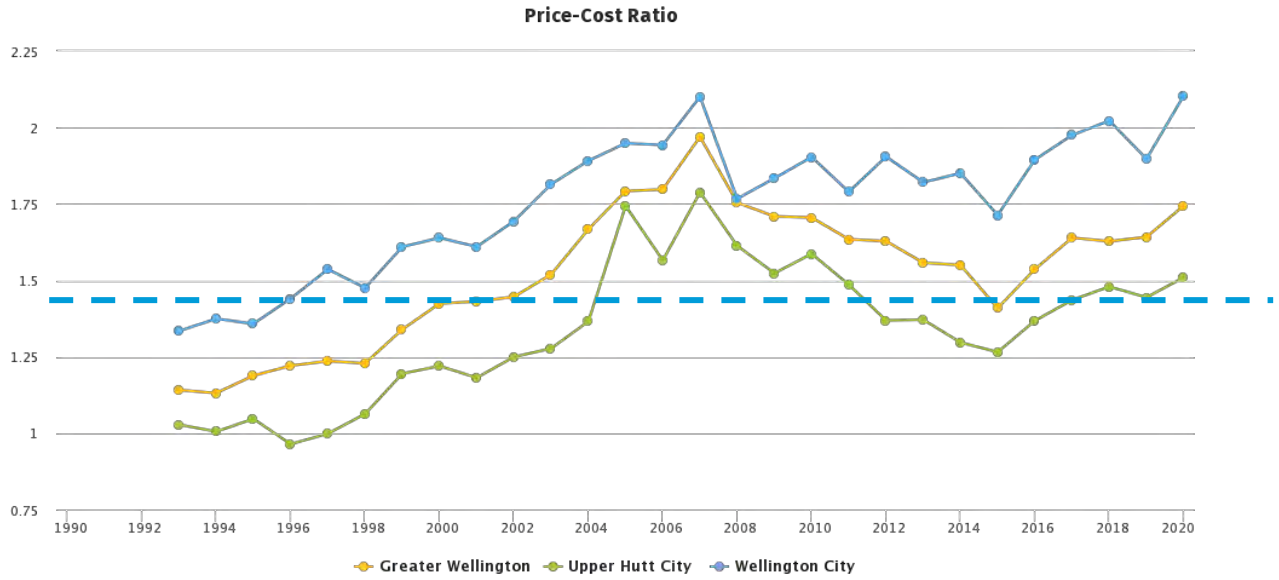


Figure 6.30: Price-Cost Ratio across Upper Hutt, Wellington City, and Greater Wellington. Source: MHUD

Figure 6.30 shows that since 2017, the price-cost ratio across Greater Wellington has continued to increase, including for Upper Hutt. The percentage increase for Upper Hutt between 2017 and 2020 has been just over 5%, from a ratio of 1.436 to 1.510 in 2020.

Ratios above 1.5 signal that the supply of sections and development opportunities is not keeping pace with demand and land prices are materially increasing house prices. The price-cost ratio in Upper Hutt and regionally has been gradually increasing since 2015, and so strongly suggests this is more than a temporary demand-supply imbalance (in housing and possibly land) and potentially indicative of persistent constrained development opportunities.

4 Housing Development Capacity

Key Findings

Modelling indicates that Upper Hutt has plan enabled and, feasible and realisable housing development capacity to meet housing need for at least the next 20 years.

Greenfield supply is 44% of the total supply, averaged over 30 years.

Current uplift of greenfield sites indicates yields in excess of modelled yields.

For projected demand to be met, the rate of construction over the next 30 years will need to increase.

4.1 Overview of modelling

The modelling of residential development capacity for this HBA has been split into two parts:

- Identification of capacity in the city's greenfield areas. As per the 2019 HBA, a minimum site size of 5 hectares has been used to define greenfield sites (regardless of whether the site benefits from an urban zoning).
- Modelling of what infill and redevelopment capacity exists within urban areas (excluding sites of 5 hectares or more, which are included in the greenfield capacity).
- The modelling uses the operative District Plan settings as a starting point (as at 2021).

4.2 The Requirements of the NPS-UD

The NPS-UD defines **development capacity** as:

"the capacity of land to be developed for housing […] use, based on:

a. the zoning, objectives, policies, rules, and overlays that apply in the relevant proposed and operative RMA planning documents; and

b. the provision of adequate development infrastructure to support the development of land for housing […] use"

Policy 2 of the NPS-UD requires Tier 1, 2, and 3 local authorities to provide, at all times, at least sufficient development capacity to meet expected demand for housing over the short, medium, and long term in both existing and new urban areas, and for both standalone and more dense forms of living.

To be characterised as **sufficient**, the development capacity must be:

a. plan-enabled; and
b. infrastructure-ready; and
c. feasible and reasonably expected to be realised; and
d. meet the expected demand plus the appropriate competitiveness margin.

Clause 3.4(1) of the NPS-UD describes development capacity as being **plan-enabled** for housing if:

a. in relation to the short term, it is on land that is zoned for housing […] use in an operative district plan;
b. in relation to the medium term, either paragraph (a) applies, or it is on land that is zoned for housing or […] use in a proposed district plan; or
c. in relation to the long term, either paragraph (b) applies, or it is on land identified by the local authority for future urban use or urban intensification in a Future Development Strategy (FDS) or, if the local authority is not required to have an FDS, any other relevant plan or strategy.

4.3 Greenfield Development Capacity

4.3.1 Plan enabled greenfield capacity

This table analyses greenfield sites identified by UHCC against criteria to provide a summary of how Council has determined the sites listed above to be plan-enabled for development capacity. The outlier in this assessment is Gabites Block, which UHCC is removing from consideration for plan-enabled housing capacity. This is because against all measures of plan-enablement, Gabites Block is marginal. It is currently zoned rural, is scheduled to be zoned for rural-residential development as part of PC50, and does not meet the standard for 'urban environment' either at present or in the future.

Table 6.21: Greenfield capacity inclusion analysis

Site name	Greenfield Model Yield	Feasibility outputs for other density options (sensitivity tests)	Actual Consented Yield (at 2021)	Identified in UHCC Strategies?	Operative Zoning	Captured in PC50?	Landowner & Developer intentions	In or intended to be urban environment?[39]	Plan enabled		
									Short term[40]	Medium term[41]	Long term[42]
Southern Growth Area	1,960	2,857	N/A	Yes, in Land Use Strategy	Spur zoned Low Density Res, rest Rural Zone	No. Will be subject to separate plan change.	Ongoing, motivated landowner	Yes		✓	✓
St Patricks Estate	77	290		No, but currently enabled	Limited residential enablement	Yes. Uplifted further, NPS-UD influence.	Consents obtained to fill the site, works underway	Yes	✓	✓	
Wallaceville	364	1,314		Yes, in Land Use Strategy	Suburban enablement	Yes. Uplifted further, NPS-UD influence.	Ongoing active development	Yes	✓	✓	
Cannon Point	274	400		No	Rural Zone	Yes, Residential Zone.	First stage consented and sold, recent purchases of adjacent site	Yes		✓	
Kingsley Heights	266	819	N/A	No	Residential Zone	Yes, and uplifted further.	On hold, split ownership	Yes	✓		
Gillespies Road	1,200	1,740	N/A	Yes, in Land Use Strategy	Residential Zone	Yes, Future Urban Zone.	None, split ownership	Yes		✓	✓
Gabites Block	1,292	1,870	N/A	Partially	Rural Zone	Yes, Settlement Zone.[43]	Private plan change being developed.[44]	No			✓

4.3.2 Greenfield capacity modelling

For this HBA refresh, UHCC and the other Wellington region councils commissioned MR Cagney to update its Greenfield Feasibility Model it prepared in 2018 for the original 2017 HBA report to enable plan-enabled and feasible housing capacity to be assessed. The sites

[39] The NPS-UD defines the urban environment as any area of land (regardless of size, and irrespective of local authority or statistical boundaries) that 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.

[40] Requires the zoning to be in an operative district plan (confirmed in Q & A document provided by MfE on 14 September 2021).

[41] Requires zoning to be in an operative or proposed district plan (confirmed in Q & A document provided by MfE on 14 September 2021).

[42] If a deferred zone is planned to have all the conditions in place to be up-zoned in 10 years, this can be considered as plan-enabled for the long term (confirmed in Q & A document provided by MfE on 14 September 2021).

[43] Under PC50, the Settlement Zone This zone provides for a form of rural-residential living, in a compact and clustered form, whereby openness and privacy can be maintained. Minimum allotment size is 2,000m^2.

[44] The Private Plan Changes seeks to provide a small area providing for 400m^2 allotments, with a potential yield of XX lots.

assessed by MR Cagney were provided by UHCC for the purposes of this 2021 analysis. They are comprised of sites formerly identified in the 2016 Land Use Strategy, and which formed the basis of the 2017 HBA assessment, and sites more recently identified during the development of PC50:

- Wallaceville Estate;
- Gillespies Road Block;
- Cannon Point;
- Kingsley Heights Extension;
- Southern Growth Area (Guildford);
- St Patrick's Estate; and
- Gabites Block.

MR Cagney's model calculates the feasibility of greenfield development on these sites, verifying both their yield and feasibility. The assessment takes into consideration existing site constraints, including slopes and natural hazards. Each site has been classified as urban or suburban and tested for the following densities:

Table 6.22: Greenfield capacity inputs

Scenario	Option
Suburban minimum net density	40
Suburban maximum net density	40
Urban minimum net density	100

Table 6.23 summarises the number of sites within each growth area, and the number of plan-enabled sections. Given the definition for plan-enabled in the NPS-UD, and the timetable for PC50, the number of plan-enabled sections are considered to provide capacity in the medium to long-term.

Table 6.23: UHCC Greenfield Yields

Greenfield Areas	No. of Sites	No. of Plan-enabled sections
Gabites Block	2	1,292
Gillespies Road Block	3	1,200
Cannon Point	3	274
Kinglsey Heights Extension	2	266
Southern Growth Area	1	1,960
Wallaceville Estate	2	364
St Patrick's Estate	1	77
Total	**14**	**5,433**

Source: MR Cagney, UHCC

The initial assessment exceeds the 2,800 new residential sections identified as feasible in the 2019 HBA. when applying a static density across each individual site.

4.3.3 Greenfield sensitivity analysis

Applying the sensitivity test of a higher net density of 100 dwellings per hectare, the model tested the maximum density that is economically viable, without consideration of planning controls. These results are detailed below:

Table 6.24: UHCC Greenfield Yields

Greenfield Areas	No. of Sites	No. of Plan-enabled sections	Change #	Change %
Gabites Block	2	1,870	+578	+45%
Gillespies Road Block	3	1,740	+540	+45%
Cannon Point	3	400	+126	+46%
Kinglsey Heights Extension	2	819	+553	+208%
Southern Growth Area	1	2,857	+897	+46%
Wallaceville Estate	2	1,314	+950	+261%
St Patrick's Estate	1	290	+213	+277%
Total	**14**	**9,290**	**+3,857**	**+141%**

Source: MR Cagney, UHCC

These results align with the Council's aim to evaluate its overall approach to density strategy, as seen in the development of PC50. It also aligns with the data in Table 6.24, which shows uplift of greenfield sites exceeding modelled yield.

It should be noted that the above numbers do not include any increase in housing supply that might arise from implementation of the Medium Density Residential Standards announced as part of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill 2021.

A copy of the MRCagney Greenfield report is attached as **Appendix 6.3** to this HBA.

4.4 Infill and Redevelopment Capacity

The infill and redevelopment model assesses areas of 5ha or less in terms of their ability to cater for infill development or a comprehensive redevelopment by applying current standards of the District Plan. These two scenarios in practice mean that: for infill, vacant proportions of established residential allotments are developed and subdivided; and for comprehensive, the established dwelling is demolished and the entire site is redeveloped to the maximum potential of development controls.

The methodology report of this assessment is attached as **Appendix 6.4** to this HBA.

4.4.1 Theoretical development capacity

The modelling has identified a theoretical plan enabled[45] housing capacity output of 10,023. On a suburb by suburb basis, this theoretical plan enabled housing capacity is as follows:

Table 6.25: Upper Hutt theoretical residential development capacity by suburb

Suburbs	Commercial	Residential and Rural	Special Activity	Total
Akatarawa	-	26	-	26
Birchville-Brown Owl	21	1,941	-	1,962
Brentwood	4	206	-	210
Clouston Park	25	249	-	274
Ebdentown	5	223	-	228
Elderslea	24	336	-	360
Heretaunga	42	365	17	424
Mangaroa	-	153	-	153
Maoribank	-	1,023	-	1,023
Pinehaven	1	754	-	755
Poets Block	1	265	-	266
Riverstone Terraces	21	813	-	834
Silverstream	40	687	113	840
Te Marua	-	661	142	803
Totara Park	9	108	-	117
Trentham North	175	262	-	437
Trentham South	-	332	244	576
Upper Hutt Central	357	148	0	505
Wallaceville	1	229	-	230
Total	**726**	**8,781**	**516**	**10,023**

Source: Property Economics, UHCC

Of the approximately 10,000 (rounded) theoretical capacity within Upper Hutt, 13% of which is located in non-residential zones. The suburb of Birchville – Brown Owl has the largest theoretical capacity at 1,962 overall.

4.4.2 Feasible development capacity

Property Economics has run feasible capacity models across the range of locations, land values, improvement values, and land value changes for Upper Hutt. A key component of the market's willingness to develop infill is the relationship between a site's land value, fixed

[45] *NPS-UD defines plan enabled as "..land zoned for housing or for business use (as applicable) only if housing or business use is a permitted, controlled, or restricted discretionary activity on that land."*

subdivision costs and the identifiable 'uptake' in value (sqm) through subdivision. For the purposes of this report, a development is deemed feasible if it reaches or exceeds a profit level suitable to meet market expectations (20% for the purpose of this analysis).

The results of this modelling are shown, suburb by suburb, in the table below:

Table 6.26: Upper Hutt feasible residential development capacity by zone– owner and developer

Feasible Capacity (Max Profit)	Theoretical	Standalone	Terraced	Total	% of Theoretical
Commercial	726	440	44	484	67%
Residential	8,715	5,654	413	6,067	70%
Rural	66	18	40	58	88%
Special Activity	516	231	18	249	48%
Total	**10,023**	**6,343**	**515**	**6,858**	**68%**

Source: Property Economics, UHCC

Table 6.27: Upper Hutt feasible residential development capacity by suburb – owner and developer

Suburbs	Theoretical Capacity	Feasible Standalone	Feasible Terraced	Total Feasible Capacity	Feasibility Rate
Akatarawa	26	7	19	26	100%
Birchville-Brown Owl	1962	1,483	26	1,509	77%
Brentwood	210	106	31	137	65%
Clouston Park	274	157	13	170	62%
Ebdentown	228	89	19	108	47%
Elderslea	360	91	72	163	45%
Heretaunga	424	257	15	272	64%
Mangaroa	153	88	13	101	66%
Maoribank	1023	798	15	813	79%
Pinehaven	755	369	23	392	52%
Poets Block	266	135	17	152	57%
Riverstone Terraces	834	686	31	717	86%
Silverstream	840	494	71	565	67%
Te Marua	803	508	12	520	65%
Totara Park	117	56	11	67	57%
Trentham North	437	223	80	303	69%
Trentham South	576	373	18	391	68%
Upper Hutt Central	505	322	12	334	66%
Wallaceville	230	101	17	118	51%
Total	**10,023**	**6,343**	**515**	**6,858**	**68%**

Source: Property Economics, UHCC

4.4.3 Feasible and realisable capacity modelling

On top of the feasible capacity modelling, practical considerations must be considered as to what is likely to be developed in the 'real world'. The realisation rates essentially provide for 'development chance' given the propensity for development variances.

These considerations are based on:

- Dwelling typology;
- Development option; and
- Greenfield competition

The identification of these variables not only allows for sensitivities but also addresses the relativity between typologies. While all three typologies may be feasible the development model identifies the site scenario with the highest profit margin. However, practically while the model assesses the standard 20% profit margin, there is greater risk in some typologies. The assessment below endeavours to consider these risks and motivation differentials.

The results of this modelling are shown, by zone and then suburb by suburb, in the tables below:

Table 6.28: Upper Hutt realisable residential development capacity by zone

REALISABLE CAPACITY	Theoretical	Standalone	Terraced	Total	% of theoretical
Commercial	726	150	3	153	21%
Residential	8,715	5,378	167	5,545	64%
Rural	66	25	31	56	85%
Special activity	516	160	14	174	34%
Total	**10,023**	**5,713**	**215**	**5,928**	**59%**

Source: Property Economics, UHCC

Table 6.29: Upper Hutt realisable residential development capacity by suburb – all zones

REALISABLE CAPACITY	Theoretical capacity	Realisable Standalone	Realisable Terraced	Total Realisable Capacity	Realisation Rate
Akatarawa	26	16	10	26	100%
Birchville-Brown Owl	1962	1,274	5	1,279	65%
Brentwood	210	113	13	126	60%
Clouston Park	274	146	11	157	57%
Ebdentown	228	89	6	95	42%
Elderslea	360	121	26	147	41%
Heretaunga	424	237	10	247	58%
Mangaroa	153	86	12	98	64%
Maoribank	1023	772	6	778	76%
Pinehaven	755	285	2	287	38%

REALISABLE CAPACITY	Theoretical capacity	Realisable Standalone	Realisable Terraced	Total Realisable Capacity	Realisation Rate
Poets Block	266	136	12	148	56%
Riverstone Terraces	834	662	12	674	81%
Silverstream	840	492	31	523	62%
Te Marua	803	388	1	389	48%
Totara Park	117	47	11	58	50%
Trentham North	437	162	16	178	41%
Trentham South	576	362	14	376	65%
Upper Hutt Central	505	226	2	228	45%
Wallaceville	230	99	15	114	50%
Total	**10,023**	**5,713**	**215**	**5,928**	**59%**

Source: Property Economics, UHCC

4.5 Total development capacity and sufficiency

Table 6.30 shows the projected dwelling demand under the Sense Partners 50th percentile forecast and the NPS-UD uplift requirement for Upper Hutt City. This shows that over the next 30 years (2021 – 2051), Upper Hutt City is projected to require an additional 12,223 dwellings.

The following table summarises the findings from the theoretical, feasible and realisable work carried out by Property Economics, for all typologies for the whole of Upper Hutt 2021-2051 It also provides a comparison between the housing projections (with the competitiveness margin applied) and the realisable capacity:

Table 6.30: Comparison of capacity type and typology

Capacity type	Theoretical	Standalone	Terraced	Total	% of theoretical
Theoretical	-	-	-	10,023	-
Feasible	10,023	6,343	515	6,858	68%
Realisable	10,023	5,713	215	5,928	59%
Housing projections[46]				**12,223**	
Difference between feasible and projected				**-5,365**	
Difference between realisable and projected				**-6,295**	

Source: Property Economics, UHCC

[46] *Compeitiveness margin applied.*

This table shows that there is a shortfall between housing demand and realisable capacity, when taking only infill capacity in to account.

Property Economics were supplied with the MRCagney Greenfield Capacity model. According to the Council directed density inputs, the greenfield land has capacity for 5,433 new sections, all of which are feasible to develop.

This makes Upper Hutt City's total feasible capacity 12,291 which just meets the 30-year projected demand including the required competitiveness margins. This capacity is reduced if the realisable capacity estimate is used instead of the feasible to 11,361, which is still 93% of the total projected demand requirements. These findings are summarised in the table below.

Table 6.31: Comparison of capacity and housing demand projection

Capacity type		Total capacity	% of which GF	% housing demand met
Infill Feasible	Greenfield (GF) Feasible			
6,858	5,433	12,291	44%	101%
Infill Realisable	Greenfield (GF) Feasible			
5,928	5,433	11,361	47%	93%

Source: Property Economics, UHCC

The following table shows capacity and sufficiency over the short, medium and long term.

Table 6.32 Housing Capacity and Sufficiency over the short, medium and long term.

	Short term	Medium term	Long term	Total
Demand (+NPS-UD Margin)	1,414	3,299	7,510	12,223
Greenfield capacity	543	1,268	3,622	5,433
Realisable capacity	593	1,382	3,952	5,928
Total Capacity[47]	**1,136**	**2,650**	**7,574**	**11,361**
Difference	**-278**	**-649**	**+64**	**-862**

For the purposes of this refresh, the capacity has been annualised and has not taken into consideration the potential influence of historic consenting data. As previously discussed in

[47] *For the purposes of this HBA refresh, the capacity has been annualised to arrive at the short, medium and long term capacity figures and to determine sufficiency.*

this report, the median number of new lots being created 2018-202 is 219, and a median of 231 buiding consents issued for residential dwellings in the same period. This is insufficient to meet projected demand. There are a range of factors that may influence the take-up of dwelling capacity, not least constraints in the supply chain as a result of global factors. For projected demand to be met, the rate of construction over the next 30 years will need to increase.

The overall assessment indicates that Upper Hutt land use policies and incentives will need to be adjusted in order to both accommodate an increased supply of housing, as well as a greater diversity of housing types. This work is already underway in Upper Hutt, predominantly with Plan Change 50, and the effects of that work on housing supply and demand will be assessed in the next full HBA for Upper Hutt and the wider region.

5 Infrastructure

Key Findings

Three waters services require substantive upgrade works in order to enable future development. Specifically, while there is high demand in the Urban North Housing Area, this faces significant infrastructure capacity constraints.

Local roads face some challenges in terms of capacity. However, UHCC is prioritising projects through the LTP to respond to constraints. are considered to be sufficient, but the roading Level of Service on State Highway 2 through Upper Hutt remains an issue.

The design of future development will need to consider how best to utilise the public transport network in order to increase network efficiency.

The NPS-UD requires UHCC to provide at least sufficient development capacity in its region or district to meet expected demand for housing. In order to be sufficient to meet expected demand for housing, the development capacity must be plan-enabled and infrastructure-ready. Development capacity is infrastructure-ready if:

- in relation to the short term, there is adequate existing development infrastructure to support the development of the land
- 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; and
- 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 long-term plan).

Development infrastructure includes network infrastructure for water supply, wastewater, or stormwater and land transport.

The NPSUD also refers to 'additional infrastructure' which includes public open space, community infrastructure, land transport that is not controlled by local authorities, social infrastructure, such as schools and healthcare facilities and telecommunications networks.

Local authorities must be satisfied that this type of infrastructure to service the development capacity is likely to be available.

5.1 Three Waters

Wellington Water Limited (WWL) considered thirteen areas for potential urban growth, including existing residential areas where infill is projected to result in additional dwellings and greenfield sites that are currently not provided with reticulated three water services.

5.1.1 Drinking water

Weelington Water's assessment for drinking water capacity is based on a previous capacity assessment (Wellington Water 2018). It notes that a water supply Zone Management Plan (ZMP) with a significant increase in projected population is currently being prepared and will be used to provide UHCC with more robust options needed to support growth. In summary, the latest report finds that most of the identified greenfield areas will require new infrastructure to support development.

5.1.2 Wastewater

Wastewater network hydraulic modelling is currently being prepared using a newly calibrated model and significantly increased projected population increases. This new assessment will provide advice to UHCC on recommended projects to provide for growth. The downstream end of the existing system, where it joins the Hutt City network, has significant overflows and population growth without investment will make these overflows worse. The results of modelling completed to date indicates that investment is needed over the medium to long term. Growth modelling and investment advice is currently underway to recommend best way forward to enable development in these catchments.

5.1.3 Stormwater

Historically, Upper Hutt was generally considered to have relatively good level of protection from stormwater flooding, given the highly permeable soils under most of the developed area. However, preliminary hydraulic modelling indicates that during a 1 in 100-year event, a significant number of existing houses may be potentially at risk of flooding, primarily because of their location within flood plains and near overflow paths. In addition, as development moves up into the hills there is potential for increased flooding if adequate measures are not used to prevent increased run-off. Future development is assumed to not increase the risk of flooding through the requirement for hydraulic neutrality and the use of designs that avoid flood hazards. Therefore, upgrades to reduce stormwater flooding and enable future growth are typically upgrades needed to address existing issues and constraints. The catchment-sized upgrades could be designed to service the hydraulic neutrality needs of future development. Flood modelling and optioneering are currently being undertaken to provide UHCC with options to address existing issues and support future growth.

5.2 Local Road Network

UHCC staff have prepared an assessment of local road network to meet the requirements of the National Policy Statement on Urban Development 2020 (NPS-UD). It updates the assessment completed in January 2019, and which was based on the National Policy Statement on Urban Development 2016. As well as addressing the new requirements of the NPSUD, the assessment also considers recently adopted Council strategies such as the Sustainability Strategy, which encourages low carbon transport within the City. The full report can be found at Appendix 6.1.

5.2.1 Challenges and Opportunities

The report finds that local roading in Upper Hutt is generally in good condition. Recent housing and residential growth has begun to increase pressure on key assets, which has prompted some projects provided for in the LTP to be brought forward. Additionally, Council has invested in several opportunities to assist in demand management, including the construction of cycle ways and cycle safety infrastructure at intersections, improvements to railway stations and ongoing monitoring and review of city centre parking provision.

The quality and safety of rural roads continues to be an issue for the rural community, exacerbated in some areas by increased subdivision and use demand. The Council acknowledges that with more development likely to occur in the rural area over the next 30 years, the design, capacity and function of specific rural roads will need to be re-examined to ensure that safety and efficiency are addressed, and that road maintenance and upgrades remain in step with the pace of anticipated development. Development contributions will also play an important role in resolving land transport issues.

Creating and maintaining a good quality network of safe paths for non-motorised transport is identified as a high priority for Upper Hutt and the need to provide a safe and well-maintained network of recreational paths and links around the city. Additionally, as the majority of Upper Hutt's working population commutes outside of the district, arterial routes and connections to State Highway 2 are priorities.

5.2.2 Levels of Service (LoS)

In 2020, Council completed updated track modelling to identify and measure transport network deficiencies out to 2050.[48] It shows that forecast 2018 traffic can move around the city with relative ease, with some areas of congestion developing during both peak flows. However, it indicates that continued growth and future land development will increase congestion and degraded levels of service on several parts of the network, particularly by 2050 where large parts of the network around the main east-west and north-south corridors are forecast to approach capacity at peak periods. The 2021 – 2031 Long Term Plan includes a study to consider improving the performance and function of Fergusson Drive, which is forecast to have poor levels of service in the short to medium term, as well as several major

[48] *The housing demand inputs used in the 2020 modelling were based on information available at the time, and do not account for the increased demand projections discussed in this HBA refresh.*

projects (notably the Silverstream Bridge replacement and two significant intersection upgrades).

Modelling also shows that the level of service provided by State Highway 2 through Upper Hutt is also poor and is a key constraint on the levels of service of the local network connecting to this route. Advocacy to seek improvement on this route will continue with the New Zealand Transport Agency. The beneficial impacts from further planned improvements to the local network linking to this route are contingent upon its level of service being improved.

Council is currently planning a further and ongoing modelling programme to inform future transport planning and decision-making, including as part as preparation of Plan Change 50, and which is a key response to give effect to the 2020 NPS-UD.

The following table identifies planned and/or budgeted improvements to the local roading network, extracted from the draft Long Term Plan works programme for 2021 – 2031 calibrated against NPSUD timeframes.

Table 6.33: UHCC local road works over NPS-UD timeframes

Term	Statement
Short term 0 – 3 years: *Assessment of whether development capacity is serviced with transport infrastructure.*	Business-as-usual land transport programmes, including some capital projects, are provided for in Council's Long Term Plan and Infrastructure Strategy for this period, including: • City centre open space (2021 – 2022) • City centre paving revitalisation (2021 – 2023) • Rural roads high-priority safety projects (2021 -) • Fergusson/Ward/Whakatiki intersection upgrade (2021 - 2024) • Fergusson/Main/Gibbons intersection upgrade (2023 - 2031) • Tōtara Park Bridge widening (2021 – 2024) • Active mode transport programme (2021 – 2031)
Medium term 3 – 10 years: *Assessment of whether development infrastructure required to service development is identified in the Council's Long Term Plan, or Infrastructure Strategy.*	Business-as-usual land transport programmes, including some capital projects, are provided for in Council's Long Term Plan and Infrastructure Strategy for this period, including: • Silverstream Bridge replacement (2025 - 2031) (including Eastern Hutt/Fergusson Drive intersection and access to county lane)

Term	Statement
Long Term 10 – 30 years: *Development capacity must be feasible, identified in relevant plans and strategies, and the development infrastructure required to service it must be identified in the relevant Infrastructure Strategy required under the Local Government Act 2002.*	Council's Infrastructure Strategy and Land Use Strategy cover this period, providing the basis for Council's high level planning of infrastructure provision to service development capacity. The Infrastructure Strategy is reviewed every three years in line with the Long Term Plan to adjust Council's work programmes and funding requirements accordingly in response to a range of factors, including growth.

5.3 State Highway Network

Upper Hutt has two State Highway roading corridors within its territorial boundaries, dominated by State Highway 2, which runs through the district. As previous, LOS modelling has shown that the level of service offered is quite restricted.

NZTA have completed a regional assessment to inform the overall Greater Wellington UD area, previously referenced in this assessment. In respect of Upper Hutt, the report notes that whilst capacity of the state highway network is not a major constraining factor for development capacity in Upper Hutt, future greenfield development areas however may impact on the safety of connections to SH2. It also notes that regional connectivity towards Kāpiti and north will be increased when Transmission Gully opens and may potentially result in increased commercial and residential demand.

In the short term, Waka Kotahi is scheduled to invest in safety improvements along the SH2 corridor as part of the Road to Zero programme. The components of this work are summarised in the table below. The agency will also work with UHCC to ensure the staging and timing of development areas are aligned with transport interventions.

Table 6.34: Significant State Highway activities in the short/medium/long term from the Wellington RLTP for Upper Hutt

	Years 1-3 (2021/22-2023/24)	Years 4-10 (2024/25-2031/32)	Years 11-30 (2032/33-2051/52)
Upper Hutt City	• Road to Zero: SH2 Hutt Valley • Road to Zero: SH2 Remutaka • SH2 resilience – Ngāūranga to SH58 • SH58 Safety Improvements	•	•

A copy of the NZTA State Highway assessment is attached as Appendix 1.6 to the regional HBA.

5.4 Public Transport

The Metlink public transport network is crucial for providing the region's growing population with access to economic and social opportunities in the Wellington region. Public transport is an efficient way to move large numbers of people at peak times, particularly on corridors where travel demand is high and capacity is constrained. The Greater Wellington Regional Council (GWRC) has completed a regional assessment of public transport across the study area and is included in Appendix 1.5 of the regional HBA. The report identifies a number of challenges for the public transport system in the region, including:

- The capacity of the network to respond efficiently to existing and anticipated demand.
- Poor utilisation of existing bus services, particularly outside of Wellington City.
- Customer expectations for public transport are changing. Public transport must also be high quality, accessible, affordable, reliable and frequent for people to use it as there preferred choice.
- Changes to transport technology and travel behaviour such as e-bikes and scooters, ride sharing and MaaS for the first mile/last mile connections to railway stations will likely affect demand for public transport.

However, the report also identifies that greenfield development of the scale and nature anticipated in Upper Hutt will help improve the viability of public transport in the region, particularly bus services. The report advises that new growth areas need to be designed and located in a 'smart' way to ensure they consolidate the urban footprint, have a focus on centres and generally increase density.

The report identifies several challenges specific to Upper Hutt in achieving mode shift from the private car to public transport. These are:

- Capacity on the Hutt railway line was reaching, or over capacity before COVID.
- Upper Hutt suffers from considerable urban sprawl, with many areas not served by public transport in evenings or weekends.
- Almost no cycle or pedestrian facilities.

In response to these challenges, the Wellington Regional Mode Shift Plan identifies the following measures for Upper Hutt:

- Improve access to rail stations by bus, bike and on foot
- Potential access improvements to reduce severance (e.g. Totara Park).

The report summarises ongoing and proposed improvements to rail and bus services across the region. Those relevant to Upper Hutt are set out in the tables below:

Table 6.35: Ongoing Rail Upgrades

Line	Upgrades
Hutt Valley Line	• Double tracking between Trentham and Upper Hutt – improving reliability and frequency of train services. • Replacing overhead power system – improving service reliability. • New power supply for signals – improving service reliability.

Table 6.36: Proposed bus service upgrades

Service	Consideration
Lower Hutt – Petone: Routes 120 and 110	Consider ways to improve the high frequency core route through central Lower Hutt; in particular by extending the Stokes Valley route (120) to Petone and inter-working it with the Upper Hutt to Petone route (110) to provide a high frequency service of 7.5 - 15 minutes at all times between Avalon, Hutt Hospital, central Lower Hutt and Petone.
Totara Park Route 111	Consider introducing Sunday services. Consider traversing the California Drive loop only once in each return trip from Upper Hutt Station to address the perception of operational inefficiency, bearing in mind that train connections may be less convenient as a consequence.
Timberlea Route 112	Consider introducing Sunday services.

5.5 Open Space

The NPS-UD requires an assessment of the sufficiency of development capacity, and in doing so:

- whether development capacity is serviced with infrastructure; and
- whether development infrastructure required to service development is identified in the Council's Long Term Plan , or Infrastructure Strategy .

The assessment is not contingent on the location of development capacity, but assesses the infrastructure as it currently stands, and its potential to enable further growth over the next 30 years.

Regional open space provision is provided in Appendix 1.7 of the regional HBA. With respect to the local context, UHCC manages and maintains 642 hectares of reserve land including 54 individual parks and reserves with 65 sports fields, 51 regional and neighbourhood playgrounds, 11 hectares of public gardens and 67 kilometres of walking and cycling tracks. The city has a further 34,600 hectares of open space that is owned or managed by the Department of Conservation, Greater Wellington Regional Council and the Queen Elizabeth II Trust, or are privately owned. Most of these lands are on the periphery of the city, except for the regional council land along the Hutt River/Te Awa Kairangi.

The assessment found that from a citywide view, Upper Hutt appears to be well-served with an abundance of open space, containing a significant portion of the Wellington region's regional park area, while making up only 8.4% of the region's population. However, at a

more detailed suburb or Statistical Area 2 level there is significant variation in provision of open space.

Currently, Council has no specific levels of service in relation to the provision of Open Space. Current open space provision across the City is 8.7 Ha/1000, above the historic guideline of 7.0 Ha/1000 population. The open space network currently provides a variety of spaces for a diversity of activities, sports and other recreational uses.

Upper Hutt has both a growing and aging population. Household sizes are projected to be smaller and the NPS UD 2020 requires Council to enable intensification within its Central Business District and in urban areas located within at least a walkable distance of:

- existing and planned rapid transport stops;
- edges of city centre zones; and
- edges of metropolitan zones.

Within these areas, a minimum building height of at least 6 stories must be enabled, resulting in an increase in housing density, and in turn a population increase within the urban area. The increased population will put pressure on our open spaces so it will be important to maintain and enhance existing open space to ensure they serve future population. Also Council will develop policy and processes to acquire additional open spaces to meet demand.

The Open Space Strategy is the guiding framework for Council to respond and manage the open space network to continue to meet the needs of the community. The development of the Strategy preceded the release of the NPS UD 2020.

Future reviews of the Strategy will incorporate the direction of the NPS UD 2020. Furthermore, the 2021 Open Spaces Asset Management Plan (AMP), contains improvement initiatives to validate and categorise Council owned and managed open space within the next three years. The AMP also has initiatives to review levels of service with the view of having them available for the preparation of the 2024 Asset Management Plans and LTP.

A summary of overall works across the NPS-UD timeframes is provided below.

Table 6.37: Planned Open Space works in NPS-UD timeframes

Term	Statement
Short term 0 – 3 years: *Assessment of whether development capacity is serviced with open space infrastructure.*	Business-as-usual work programmes, including some capital projects, are provided for in Council's Long Term Plan and Infrastructure Strategy for this period, including: Maidstone Community Sports Hub Stage 2 (2021 - 2022) • Maidstone Park artificial turf renewals (2023 - 2024) • City Centre Open Space (2021 - 2022) • Walking and cycling network project (2021 - 2027) • Regional cycle trails (2021 - 2031) • New pathways and walkways (2021 - 2031)

Term	Statement
Medium term 3 – 10 years: *Assessment of whether development infrastructure required to service development is identified in the Council's Long Term Plan, or Infrastructure Strategy.*	Business-as-usual work programmes, including some capital projects, are provided for in Council's Long Term Plan and Infrastructure Strategy for this period, inlcuding: • Walking and cycling network project (2021 – 2027) • Regional cycle trails (2021 – 2031) • New pathways and walkways (2021 – 2031)
Long Term 10 – 30 years: *Development capacity must be feasible, identified in relevant plans and strategies, and the development infrastructure required to service it must be identified in the relevant Infrastructure Strategy required under the Local Government Act 2002.*	Council's Infrastructure Strategy and Land Use Strategy cover this period, providing the basis for Council's high level planning of infrastructure provision to service development capacity. In addition, Council's Open Space Strategy has specifically analysed network gaps and deficiencies to enable the continued management and development of the open space network to meet current and future community needs. The Infrastructure Strategy is reviewed every three years in line with the Long Term Plan to adjust Council's work programmes and funding requirements accordingly in response to a range of factors, including growth. The Open Space Strategy has a ten-year planning horizon and will be reviewed on this basis (around 2028).

5.6 Education

The Ministry of Education has updated the capture of school roll information across the study area, including for state-integrated schools.

Previous reporting from the Ministry highlighted that state-integrated schools were largely at capacity in the Upper Hutt catchment, with the capacity for secondary schools generally constrained. Current reporting shows the two state-integrated secondary schools now at capacity, with modest capacity in the state secondary sector. The 13 state primary schools and two state-integrated primary schools have capacity for 560 students and 130 students respectively.

The Ministry anticipates that UHCC will consult with them when considering the development of future growth areas due to identified constraints.

A copy of the Ministry's Education School Roll Information Capture is attached as **Appendix 1.8** to the regional HBA.

6 Conclusions

6.1 Overall Housing Pressures

An assessment of housing trends indicates that there are continuing housing pressures within the Upper Hutt, and these are projected to increase. The undersupply of housing identified in the 2019 HBA has continued into 2020 and 2021, exacerbating pressure on the existing housing stock, resulting in higher rents and house sale prices.

6.2 Housing Affordability

Indicators of housing affordability identify that housing affordability is declining in Upper Hutt. House prices are increasing due to increased demand, and this is not being met by a commensurate increase in new supply. This is exacerbated by a declining number of existing houses for sale. Incomes are also not increasing as much as house prices and this is in turn is further reducing housing affordability.

6.3 Housing Need and Housing Stress

An assessment of housing need for those on low incomes shows that this need is increasing. Available indicators additionally show increasing housing stress and that residents in Upper Hutt are ageing. Overall, the specific housing needs for certain groups, including Māori, those on low incomes, vulnerable people, and renters needs to be better understood.

6.4 Three Waters Infrastructure

Upper Hutt has constraints within its three waters networks, which need to be addressed to enable residential capacity. UHCC is in the process of preparing more detailed assessments and capacity modelling to inform growth. The stormwater network also has some constraints although this can be partly mitigated through a range of alternative measures. Significant investment will be required over time to address three waters infrastructure constraints to enable long term residential and business growth. In the interim, on-site mitigation is required to manage the effects of new housing development on the three waters network, especially in relation to network capacity.

6.5 Roading Network

There are existing pressures on some of Upper Hutt's arterial roads and on parts of the two state highways (SH1 and SH 58). Upper Hutt has capacity to accommodate growth in residential traffic volumes on some of the primary road network but overall capacity in the transport system will need to be carefully managed to provide for sustainable growth.

6.6 Other Infrastructure

The assessment found that from a citywide view, Upper Hutt appears to be well-served with an abundance of open space, containing a significant portion of the Wellington region's regional park area, while making up only 8.4% of the region's population. However, at a more detailed suburb or Statistical Area 2 level there is significant variation in provision of open space.

6.7 Housing Sufficiency

The Property Economics report suggests Upper Hutt City has nearly sufficient capacity supply for at least the next two decades, if not longer. However, under the current Plan, Upper Hutt may face some constraints in feasible and realisable housing development capacity to meet housing demand particularly in the short-medium term, with that easing over the longer term. However, as the greenfield model and analysis shows, take up of development opportunities in Upper Hutt has been yielding sections in excess of modelled yields, and this is likely set to continue with the implementation of new regulatory settings at the national and local level.

Network capacity constraints exist in the three waters network to support growth over the short and long term. Apartments are unlikely to represent a major contributor to meeting housing sufficiency over the short-, medium- or long-term in Upper Hutt. Market dynamics, as shown in the feasible and realisable modelling results, are still showing a weighting towards standalone and terraced housing. It is these typologies that will meet Upper Hutt's housing needs over this period.

The capacity assessment is based on regulatory settings that are currently under significant review. It also does not fully take into account the impact of other regulatory settings such as the application of rules in the Greater Wellington Proposed Natural Resources Plan and requirements under the NPS-FM. The possible effects of these wider regulatory settings on housing supply is unknown. A further risk for UHCC will be if identified greenfield areas take longer to be developed than anticipated.

List of Appendices

Appendix 1.1	Sense Partners population projections and housing demand methodology
Appendix 1.2	Infill and redevelopment plan-enabled residential capacity modelling methodology
Appendix 1.3	Wellington Regional Three Waters Capacity Assessment – 2021
Appendix 1.4	Metlink public transport network overview and the role of public transport in responding to population growth
Appendix 1.5	Assessment of the State Highway Network and land transport issues for the Wellington Region – Waka Kotahi
Appendix 1.6	Overview of regional open space – Greater Wellington regional parks
Appendix 1.7	Ministry of Education school roll information capture 2021
Appendix 6.1	UHCC Roading Infrastructure
Appendix 6.2	UHCC Open Spaces Assessment
Appendix 6.3	MRCagney Greenfield Report
Appendix 6.4	Infill and Redevelopment Capacity Methodology Report

Appendix 6.1

UHCC Roading Infrastructure

Kāpiti Coast District Council
poriruacity
Te Kaunihera o Te Awa Kairangi ki Uta Upper Hutt City Council
HUTT CITY Te Awa Kairangi
Absolutely Positively Wellington City Council Me Heke Ki Pōneke
Greater Wellington Te Pane Matua Taiao

NPS-UD Infrastructure assessment

Roading

Purpose

This assessment of the Upper Hutt City Council (Council) road network has been prepared to meet the requirements of the National Policy Statement on Urban Development 2020 (NPS-UD). This assessment is updated from an assessment completed in January 2019 based on the National Policy Statement on Urban Development 2016. The NPS-UD requires an assessment of the sufficiency of development capacity, and in doing so:

- whether development capacity is serviced with infrastructure; and
- whether development infrastructure required to service development is identified in the Council's Long Term Plan[1], or Infrastructure Strategy[2].

The assessment is not contingent on the location of development capacity, but assesses the infrastructure as it currently stands, and its potential to enable further growth over the next 30 years.

For the purpose of this report the scope of the road network includes facilities for walking, cycling, public transport and motorised traffic.

Overview of the local road network

SUMMARY OF ASSETS

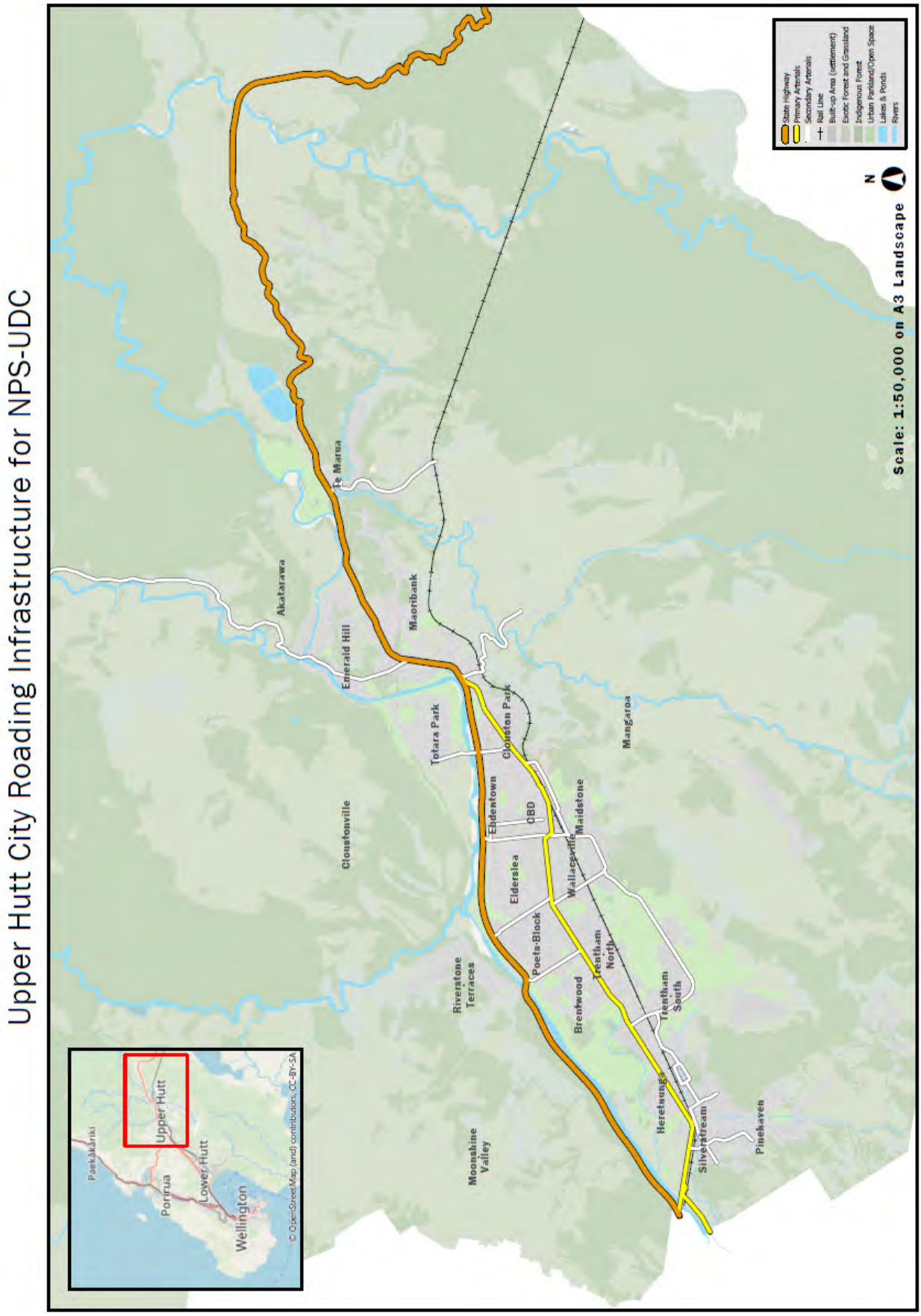
Upper Hutt's land transport network includes:

- 249km of roads (81 km rural and 168 km urban),
- 4.7km of cycleways
- 323km of kerbs and channels,
- 258km of footpath
- 3890 street lights
- 56 bridges (including 7 pedestrian foot bridges),
- three sets of traffic signals
- numerous sumps and street signs.

Note the quantity of assets vested in Council is increasing to match growth driven development and these reported numbers will increase overtime.

[1] UHCC Consultation Document 2021 - 2031
[2] Draft UHCC Infrastructure Strategy 2021 - 2051

Network map


Upper Hutt City Roading Infrastructure for NPS-UDC
Scale: 1:50,000 on A3 Landscape
N
State Highway
Primary Arterials
Secondary Arterials
Rail Line
Built-up Area (settlement)
Exotic Forest and Grassland
Indigenous Forest
Urban Parkland/Open Space
Lakes & Ponds
Rivers
Te Marua
Akatarawa
Emerald Hill
Maoribank
Totara Park
Clouston Park
Mangaroa
Cloustonville
Eldertown
CBD
Maidstone
Elderslea
Wallaceville
Poets-Block
Trentham North
Riverstone Terraces
Brentwood
Trentham South
Heretaunga
Silverstream
Pinehaven
Moonshine Valley
Upper Hutt
Lower Hutt
Porirua
Paekakariki
Wellington
© OpenStreetMap (and) contributors, CC-BY-SA

How performance is monitored

The levels of service agreed with the community are set out in Council's Long Term Plan (LTP).

Council monitors the performance of the network in many ways, including:

- conducting regular condition assessments of assets
- monitoring of road safety outcomes
- surveying residents' opinions annually
- reporting on financial performance to quarterly and annual reports; and
- reporting on a number of non-financial key performance indicators.

PHYSICAL CONDITION

Council's transport assets are regularly inspected and condition is recorded in various management systems, primarily through the Road Asset Maintenance Management system (RAMM).

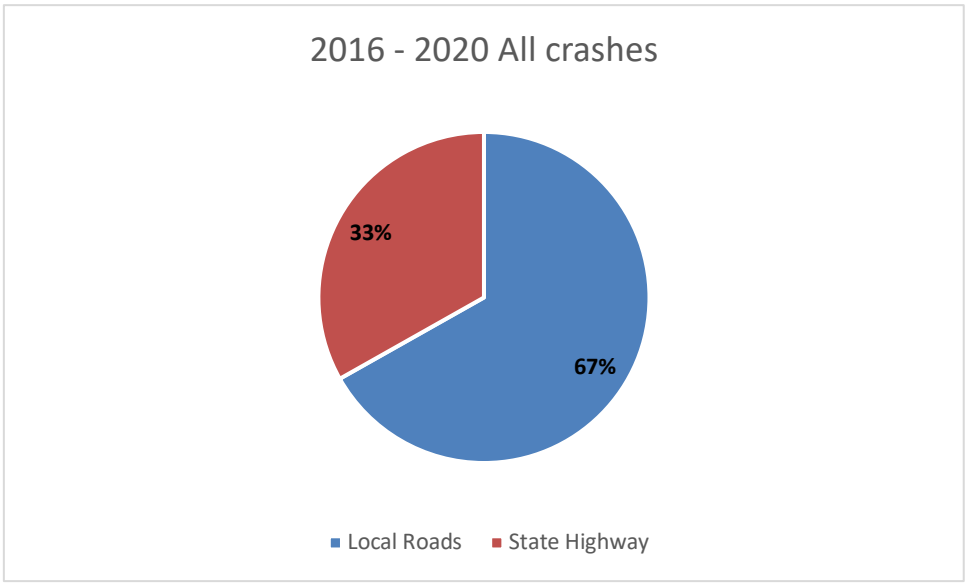
The majority of Council's transport network assets are in good condition with maintenance and renewal programmes being adequately funded through the LTP. Maintenance and renewal programmes are undertaken to ensure assets provide an acceptable level of service throughout their service lives.

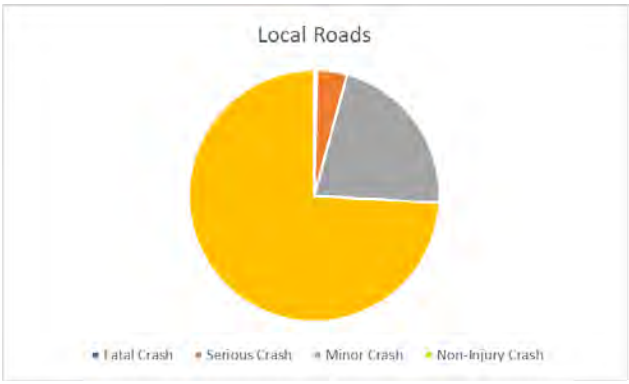
ROAD SAFETY OUTCOMES

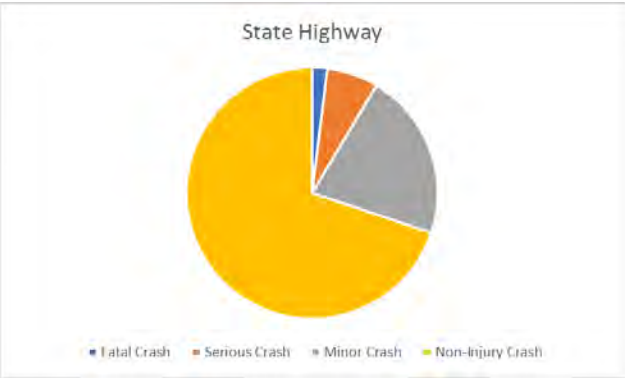
Council monitors a range of road safety outcomes as part of reporting requirements by New Zealand Transport Agency (NZTA) and in accordance with the Government's *Road to Zero*[3] initiatives. Council's annual road safety action plan identifies areas of concern and provides a basis for initiatives in partnerships with NZTA, the New Zealand Police and the Accident Compensation Corporation (ACC).

The NZTA's Crash Analysis System[4] (CAS) database was used to identify the location and severity of traffic crashes, as at April 2021, for the 5-year period 2016-2021.

[3] Road to Zero
[4] NZTA Crash Analysis System







Crash statistics for vulnerable road users in Upper Hutt

2016 – 2020 Crashes involving vulnerable road users	Local Roads Number	Local Roads % of local road crashes	State Highway Number	State Highway % of state highway crashes	All Upper Hutt Number	All Upper Hutt % of all crashes
Pedestrian	33	4%	3	1%	36	3%
Cyclist	34	4%	3	1%	37	3%
Motorcyclist	28	3%	36	9%	64	5%
Young Road User	163	20%	80	20%	243	20%
Driver 60+	65	8%	24	6%	89	7%
Total	323		146		469	
Fatal Crash	3	0%	6	0%	9	1%
Serious Crash	26	2%	17	1%	43	3%
Minor Crash	118	10%	45	4%	163	13%
Non-Injury Crash	147	12%	67	5%	214	17%
Total	294		135		429	

FINANCIAL PERFORMANCE

Financial results are published in Council's annual reports[5]. Results for the Land Transport activity for 2019 - 2020 were as follows:

- Actual total operating cost was $5.607 million, compared to the budgeted $10.311 million (the majority of this additional spending was funded by external sources, in particular due to the completion of the LED streetlight upgrade ahead of schedule).
- Actual capital expenditure (renewals and developments) was $3.280 million, compared to the budgeted $10.358 million, with the underspend being due to COVID-19 alert level restrictions occurring during ideal resealing season, resource consent issues with projects, and third party funding agreements.

NON-FINANCIAL PERFORMANCE

Council reviewed its performance measures in the Long Term Plan 2018 - 2028 and the framework was aligned with its strategic priority areas. This clearly identifies linkages between what we do and why we do it, with the ultimate goal of working towards community outcomes.

Targets are set so that Council can measure and continually improve services provided to the community. Performance is reported on in our Annual Reports and where appropriate, based on data availability, some measures will be reported on more frequently (quarterly or half-yearly).

Council is also required to report on some mandatory measures for aspects of land transport activities.

The Land Transport performance indicators measured are (seven in total):

- Road safety: The change from the previous financial year in the number of fatalities and serious injury crashes on the local road network, expressed as a number.
- Road conditions: The average quality of ride on a sealed local road network, measured by †smooth travel exposure.
- Road maintenance: The area of the sealed local road network that is resurfaced
- Footpaths: The percentage of footpaths within Upper Hutt that fall within the level of service or service standard for the condition of footpaths that is set out in the Council's relevant document (such as its Annual Plan, Long Term Plan, activity management plan, asset management plan or annual works programme).
- Response to service requests: The percentage of customer service requests relating to roads and footpaths to which Council responds within the timeframe specified in the Long Term Plan
- Community satisfaction with the street lighting throughout the city.
- Community satisfaction with the cleanliness of the city's streets.

The following is a summary of non-financial performance results against the agreed measures for the Land Transport activity for 2019 - 2020 (the most recent complete data available).

- Achieved: 4 (Road safety, Footpaths, Response to service requests)

[5] Annual Report 2020

- Not achieved: 3 (Road conditions, Street lighting, Street cleanliness, Road maintenance)

Responses to constraints and/or issues

2020 NATIONAL POLICY STATEMENT ON URBAN DEVELOPMENT AND RESPONSE

The Government requires Council, through the 2020 National Policy Statement on Urban Development (NPS UD), to provide for a level of new development within the city that provides supply ahead of demand to maintain housing affordability.

The NPS UD enables significant intensification of land use around urban train stations, as well as around and within the CBD and metropolitan zones. Council will respond to the NPS UD through the cyclical updates to Council strategies and plans, such as the Land Use Strategy. From a roading perspective tools such as the One Network Framework will be used to identify any specific locations where issues may result.

Council is also progressing a Plan Change which will address some of these potential development outcomes and the timing thereof.

For the current assessment, Council needs to provide strategic infrastructure to enable 10,677 new dwellings over the 2018 - 2048 period[6].

GROWTH AND DEMAND STRATEGIC RESPONSES: LAND USE STRATEGY 2016 – 2043

Council's Land Use Strategy 2016 – 2043[7] (LUS) identifies key areas for growth in Upper Hutt to meet the needs of a changing population and to encourage and support future growth and development. Any future growth areas are well signalled in the Land Use Strategy and Council plans to carry out modelling of its networks as the implementation of the growth areas proceed. The next update to the LUS will account for the requirements of the 2020 NPS UD.

The LUS included the following desired movement and infrastructure outcomes relating to roading for the period to 2043.

Infrastructure outcomes

- Networks and infrastructure that have been identified, assessed and planned to accommodate future growth
- Infrastructure requirements for new development that have been efficiently integrated with existing development
- Adoption of new and emerging infrastructure technology that improves both cost and environmental outcomes, wherever possible
- Adoption of best practice in network and infrastructure design and construction, to ensure that the development of infrastructure is compatible with both natural values and new development
- Collaborative working with other infrastructure providers, where this is practicable, to deliver outcomes that are efficient and effective

[6] Under the 2019 HBA projection, Council needed to provide strategic infrastructure to enable 5,600 new dwellings over the period from 2017 - 2047
[7] UHCC Land Use Strategy 2016 - 2043

- Infrastructure that is resilient to the effects of climate change and natural hazards, and is able to operate quickly and safely if emergency events occur

Movement outcomes

- Safe and attractive connections and linkages between residential, business, community and recreation areas within the city
- Improved, safe and efficient connectivity to the wider region
- Efficient and affordable public transport options and further development of sustainable transport infrastructure
- Development that is carefully located to avoid any adverse effects of movement network operation.

INFRASTRUCTURE STRATEGY

Council adopted a 30-year Infrastructure Strategy[8] as part of the adoption of for the Long Term Plan 2021 - 2031 (LTP), in accordance with the Local Government Act 2002[9]. The purpose of the Strategy is to identify significant infrastructure challenges and opportunities for Upper Hutt over the next 30 years. Decisions made in regard to the most likely option for responding to these issues are reflected in budgets incorporated into the LTP.

Council has assessed the likely impact of any future development as a result of Council's Land Use Strategy 2016 – 2043 on the roading network through modelling. The LTP includes potential projects to ensure that adequate capacity is provided for the expected traffic volumes from future development.

External Factors

Council anticipates the following external factors will influence the growth or decline in demand for roading infrastructure services in Upper Hutt over the next 30 years:

- COVID-19
- changing population
- growing urban environment
- three waters sector reform
- changing climate
- sustainability
- resilience
- connectivity with the region
- new technologies
- changing legislation and priorities

[8] UHCC Consultation Document 2021 – 2031
[9] Local Government Act 2002, Section 101B

These factors influence the demand for Council's services delivered by its infrastructure assets and consequently the programme of works reflected in the LTP. The challenge is to time any CAPEX projects (new or upgrades to existing assets) in order to provide the agreed level of service.

Recent housing and residential growth has begun to increase pressure on key assets. Some of these growth-related needs have been reflected in projects brought forward in the LTP.

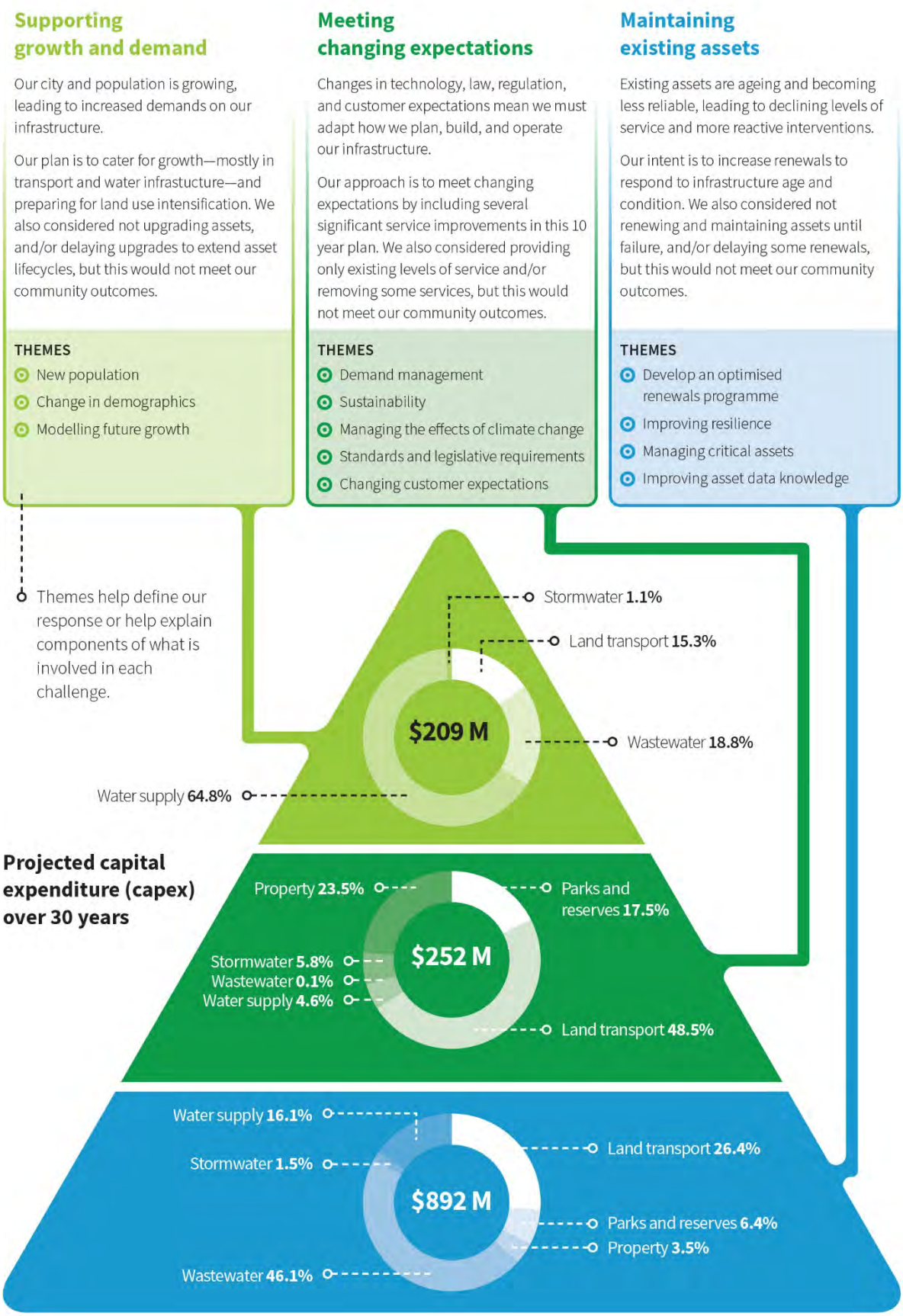
In 2018 Council partially-reinstated its Development Contributions Policy, applying only to the rural areas, with the intention to expand this across the whole of the city in the near future. Council is considering alignment with national direction in this area.

Focus areas

The focus areas identified in the Infrastructure Strategy for Land Transport for 2021 - 2051 are:

- Ensuring the road network is resilient, efficient, effective, and safe and assists in the delivery of Council's strategic goals.
- Reducing the vulnerability of the rural roading network to natural hazard events.
- Addressing substandard rural carriageway widths – impact on safety of motorists, cyclists, horse riders and pedestrians on rural roads.
- Delivering agreed levels of service as the city enters a period of growth.
- Providing cycling and walking facilities to meet the agreed levels of service for all ages.
- Continue advocating with Greater Wellington Regional Council and Waka Kotahi NZ Transport Agency for capacity and safety upgrades of State Highway 2 and State Highway 58.

Executive summary of Infrastructure Strategy 2021 – 2051 (extract from Long Term Plan 2021 – 2031 adopted 29 June 2021)



Demand management

Council has also invested in a number of opportunities to assist in demand management. These include:

- The construction of cycle ways including the provision of cycle safety infrastructure such as markings at intersections. This work being co-funded through the Urban Cycle Fund (UCF) and the New Zealand Transport Agency (NZTA). Although notionally concluding in July 2018, there are indications that this national programme will be ongoing.
- The investment in improvements to railway stations and their environs recognising that transport hubs can become medium and high density development opportunities. An example of this has been the shared development by GWRC and Council of the Upper Hutt Railway station, commuter parking and Princess Street upgrade.
- The ongoing monitoring and review of parking in the city centre to ensure the balance between demand and turnover is maintained. This requires identification an assessment of council owned off-street parking and how it is managed to be made.
- As the population ages and as medium density housing becomes more common, the demand on footpaths and maintaining footpath condition continues to grow.

OTHER ISSUES

Resilience

Upper Hutt lies within a floodplain with much of the city exposed to flood risk. Climate change is likely to exacerbate this risk through increased frequency and intensity of flooding events. It is uncertain whether the effects of climate change will be seen during the lifetime of this Strategy; however there is the potential to see increasing rainfall variability.

Both the Fergusson Drive transport corridor (which include the Silverstream Bridge) and State Highway 2 have known vulnerabilities which reduce their resilience to natural hazards.

The alternative routes involve the use of local roads and studies continue as to what can be done at a local level to bolster resilience on these routes.

The resilience of the roading network has been recently reviewed with the major concerns being the number of hilly rural roads that could be affected by major slips and some important access roads that could be affected by fallen overhead cables after a severe event whether it is seismic or weather related. A plan has been prepared to assist in the recovery of these roads to a condition that would permit access for emergency services and access to essential services such as water reservoirs and pump stations as quickly as possible.

There are also a number of bridges that require upgrading to varying degrees to increase their ability to cope with a large seismic event. Some of these structures have been upgraded and others are programmed for upgrading. The upgrading would be to at least a state where there was a good chance that they could be quickly opened again to emergency services.

Although resilience is an important issue it is a conscious decision that, where possible, resilience will be addressed concurrently within the renewals programme. Evidence would suggest that an often marginal change in cost to a renewals programme can bring about significant resilience benefits. Therefore although significant resilience costs and programmes may not be specifically identified resilience benefits will nevertheless be delivered as part of the renewals programme. It is considered best practice to not to just

replace “like with like” but to replace to present day standards—this includes incorporating our current knowledge of resilience and hazard mitigation.

In other words, resilience in incorporated in all that is done. Networks are renewed with more resilient materials. Renewals are prioritised with resilience being one of the key drivers alongside condition.

Sustainability

In 2020 Council adopted a new Sustainability Strategy[10]. One of the goals of the Strategy is to encourage low carbon transport with actions including to:

1. Expand and maintain safe walking, cycling and other low carbon transport mode networks.
2. Explore options for reducing vehicle use in the city centre and promotion of foot traffic.
3. Advocate for low carbon transport secure storage at train and bus hubs.
4. Ensure adequate EV chargers are available throughout the city.
5. Commit to lowering the carbon footprint of the transport used in Council work.
6. Continue to advocate for cost-effective, reliable and efficient public transport systems

Rural roads

The quality and safety of rural roads is an issue for the rural community. Rural roads are used by different users for different purposes and at times these uses can potentially conflict, resulting in safety concerns. The issue tends not just to be the amount of traffic on rural roads, but the speed of some drivers and potential conflicts between horse riders, pedestrians, cyclists, stock and motorised vehicles, including rural vehicles such as tractors. Many residents feel there is a need to separate these users from one another and upgrade the quality of the roading network.

Challenges are also emerging in rural communities due to subdivision and use demands. Roads which were generally narrow were fine for low traffic volumes but as development has occurred new residents are expecting a higher level of service as well as contributing to traffic growth.

At the same time many of these rural roads are popular with multiple users including cyclists, walkers and horse riders. The mixed use combined with increasing traffic volumes is a growing and ongoing problem. Using Development Contributions funding has a role to play in how these issues will be resolved.

Rural roads are also particularly vulnerable to land movement and the frequency/severity of these events is increasing. This is due to the increased frequency of high intensity localised rainfall events.

The ability for Council to recover costs of maintenance and upgrade of roads is limited by the LGA and RMA. The maintenance cost varies according to vehicle volumes, design standards and the level of service provided.

With more development likely to occur in the rural area over the next 30 years, Council will need to re-examine the design, capacity and function of specific rural roads to ensure that safety and efficiency are addressed, and that road maintenance and upgrades remain in step with the pace of anticipated development.

[10] Sustainability Strategy

Other forms of movement and transport

Upper Hutt's flat topography is ideal for encouraging non-motorised transport such as cycling and walking, and particularly for young people, riding things like scooters and skateboards. Human-powered transport has the advantages of being cheap, emission-free and providing long-term health benefits.

Creating and maintaining a good quality network of safe paths for non-motorised transport (and permitted motorised vehicles such as mobility scooters) needs to be a high priority for Upper Hutt. Since 2016, $1.5 million has been allocated to Upper Hutt from the national Urban Cycleways Fund to construct new cycleways in the city.

As well as providing for non-vehicle movement between specific destinations, there is also a need to provide a safe and well-maintained network of recreational paths and links around the city. Recreational cycling, walking and (in the rural areas) horse riding need to be accommodated. Some of these paths can be shared, but user safety needs to be a top priority.

Improving the physical connectedness of the city

Council will continue to encourage improvements to the city's movement network, and improved connectivity to the regional transport networks.

With a high proportion (over 50%) of workers commuting to jobs outside the city, Council needs to continue to ensure ease of access to the strategic roading and rail networks, advocate for public transport improvements and upgrades to existing network connections, and encourage development that makes efficient use of existing networks.

Council will continue to work with external and government agencies to direct development of, and provide upgrades to, transport network infrastructure.

Council will continue to ensure that there are good linkages and connections between the city and local centres, areas of work, residential areas, community focal points and open spaces, for all types of transportation. There is also a need to ensure that recreational paths and linkages are enhanced, particularly for walking, cycling and in the rural areas, horse riding. Council will continue to work with the community to identify and improve these connections.

Council will also identify areas, such as shopping streets or local centres where improvements to public space, roading or pedestrian areas will enhance the quality of the environment and improve the economic vitality, vibrancy and use of the area.

Providing access to the network and local services will include monitoring and review of demand for parking to ensure that parking is adequately provided for across the city.

Network constraints

TRACKS MODELLING RESULTS

In 2020, Council completed updated modelling[11] to identify and measure transport network deficiencies out to 2050. The future years (in 5-year increments) have been developed from the recently completed base 2013 Upper Hutt Transportation Model and future Urban Development Capacity (UDC) land use and population data, provided as part of overall Housing and Business Capacity Assessment reporting inputs, 2019 HBA projections for 2017-2047, including the proposed Blue Mountains Campus employment centre and the notional rural Plan Change 50 development. This report will be updated as part of the plan change

[11] 2018 Upper Hutt Model Update – 2050 Plan Change 50 Deficiency Report, June 2020

project. The following paragraphs describe the outputs from the modelling. Note that the housing demand inputs are based on information current at 2019 and do not account for the increased demand projections noted in the above section "2020 National Policy Statement on Urban Development and response"

For the 2018 model year, traffic flow on the local road network is generally quite stable in both the morning and evening peak periods. However, volumes on State Highway 2 are resulting in significant restrictions to drivers along the single lane section between the Fergusson Drive (south at Silverstream) and Whakatiki Street intersections. The following locations all show degraded intersection levels of service during peak periods, ranging from forced flow to nearing unstable flow (Level of Service E and F):

- SH2 intersections with Fergusson Drive (south at Silverstream), Moonshine Hill Road, Whakatiki Street and Akatarawa Road, SH2 south of Akatawara Road to Maoribank intersection
- Fergusson Drive between Field Street and Barton Avenue is also starting to show impacts of increased traffic flow.

By 2028 (including for Blue Mountains Campus development) the following deficiencies (LOS D, E of F) are forecast over and above those identified in the 2018 model year:

- Blenheim St / Brown St
- SH2 / Moonshine Rd
- Ward St / Blue Mountains Campus
- Fergusson Dr / Cederholm Gr
- Fergusson Dr / Bernadette St
- SH2 / Tōtara Park
- SH2 / Fergusson Dr North
- SH2 / Gibbons Link
- Fergusson Dr / Golf Rd
- Fergusson Dr / Barton Av / Sullivan Av

By 2050 (including for Blue Mountains Campus and PC 50 developments) the following deficiencies (LOS D, E of F) are forecast over and above those identified in the 2028 model year:

- Anzac Dr / Messines Rd (LOS F PM Peak)
- Main Rd N / Moeraki Rd (LOS E PM Peak)
- Main Rd N / Topaz St (LOS F AM Peak)
- Fergusson Dr / Field St (LOS F PM Peak)
- Main Rd N / Norana Rd (LOS F PM Peak)
- Kiln St / Whitemans Rd (LOS D PM Peak)
- Fergusson Dr / Kiwi St / Elizabeth St (LOS D PM Peak)

- Messines Rd / Gallipoli Rd (LOS D PM Peak)
- Fergusson Dr / Eastern Hutt Rd (LOS F AM Peak)
- Field St / Kiln St (LOS E PM Peak)
- Main Road North / Sunnyview Dr (LOS D)
- Fergusson Dr / Kashmir Av (LOS D PM Peak)
- Fergusson Dr / Wilson St (LOS D PM Peak)
- Alexander Rd / William Durant Dr (LOS D PM Peak)

Note that by 2050 those deficiencies identified in the 2018 model year are forecast to decline to levels of service E and F.

SUMMARY

Modelling completed in 2020 shows that forecast 2018 traffic can move around the city with relative ease, with some areas of congestion developing during both peak flows. However in the modelled outyears continued growth and future land development will increase congestion and degraded levels of service on several parts of the network, particularly by 2050 where large parts of the network around the main east-west and north-south corridors are forecast to approach capacity at peak periods.

Several intersections along Fergusson Drive are forecast to have poor levels of service in 2018 and 2028. The 2021 – 2031 Long Term Plan includes a study to consider improving the performance and function of Fergusson Drive, as well as several major projects (notably the Silverstream Bridge replacement and two significant intersection upgrades).

Modelling also shows that the level of service provided by State Highway 2 through Upper Hutt is also poor, and is a key constraint on the levels of service of the local network connecting to this route. Advocacy to seek improvement on this route will continue with the New Zealand Transport Agency. The beneficial impacts from further planned improvements to the local network linking to this route are contingent upon its level of service being improved.

Council is currently planning a further and ongoing modelling programme to inform future transport planning and decision-making, including as part as preparation of Plan Change 50, a key response to give effect to the 2020 NPS-UD. Note that the housing demand inputs used in the 2020 modelling were based on information available at the time, and do not account for the increased demand projections noted in the above section "2020 National Policy Statement on Urban Development and response"

Planned and/or budgeted improvements

This section outlines planned and/or budgeted improvements to the roading network, by way of summaries for major projects, extracted from the draft Long Term Plan works programme for 2021 - 2031.

MAJOR PROJECTS

City centre open space (2021 – 2022)

Investigations will be carried out to determine an appropriate location and design for a new open space in the Upper Hutt city centre.

City centre paving revitalisation (2021 – 2023)

Parts of the city centre (around the railway station, Main Street, King Street and Princes Street) has new paved footpaths and street furniture. Starting out as an asset renewal works to replace the red brick paving, this project seeks to continue to expand this new look and feel further.

Fergusson/Ward/Whakatiki intersection upgrade (2021 - 2024)

Significant development is planned, and underway, on Alexander Road and the previously owned AgResearch site on Ward Street. This is resulting in a substantial increase in traffic using the Fergusson/Ward/Whakatiki intersections. Each intersection is currently roundabout controlled. We need to upgrade these intersections to be able to safely manage increased demand.

Silverstream Bridge replacement (2025 – 2031)

Council will decide whether to proceed with implementing improvements to the Silverstream Bridge. The bridge sits astride a major fault line and currently intrudes into Te Awa Kairangi/Hutt River floodway. The bridge is a major connection to State Highway 2. The bridge is nearing the end of its useful life and current operational issues include poor safety performance for general traffic and cyclists, increasing congestion and delays. The project will encompass associated improvements required to the adjacent Eastern Hutt Road, Fergusson Drive, and Field Street intersections. Significant growth is anticipated in this part of the city and this project includes assisting to provide for this growth. In addition the bridge is a key, high value transport link from a resilience perspective.

The bridge is partly owned by Hutt City and also carries the water main to Porirua City. Any improvements to the bridge will need to be coordinated with SH2 improvements and so the actual timing of implementation of this project is dependent upon a number of other parties as well as UHCC. Business case work to align stakeholders and define the project will occur through this LTP period. The Silverstream Bridge remains an essential connection to State Highway 2.

A section of Eastern Hutt Road/Fergusson Drive will be remodeled and upgraded to improve peak congestion and provide safer access to County Lane as part of the Silverstream Bridge replacement (this was previously planned as a separate project).

Fergusson/Main/Gibbons intersection upgrade (2023 – 2031)

There are deteriorating levels of service for people driving using these intersections. This project is to upgrade the intersection by realignment of the intersection to accommodate vehicle volumes, to cater for efficient passenger transport and an anticipated increase in heavy vehicles using this route. This project has a high strategic fit because of the transport efficiency and safety benefits derived.

Tōtara Park Bridge widening (2021 – 2024)

Increased traffic on the state highway has created congestion exiting Tōtara Park, creating delays for both car and passenger transport. Future residential development will further increase those delays. The limited holding capacity for right turning vehicles, combined with the signal phasing, contributes to significant queues and delays for those exiting Tōtara Park. This project will widen part of Tōtara Park Bridge to provide a longer length of two lanes at the traffic signals, which will increase the efficiency of traffic flow through the signals. The project will plan and construct a higher capacity bridge from Tōtara Park onto SH2. This project has a high strategic fit because of the transport efficiency benefits derived.

Rural roads high-priority safety projects (2021 – 2031)

Land use and service level demands continue in rural areas effective demands on the rural road network. This project has a high strategic fit because of the road safety benefits derived.

Council's preferred option that is budgeted for is to complete a programme prioritised on safety benefits and aligned with other transport projects.

As a programme of work, some further specific options for individual component projects may be developed and considered closer to the relevant decision points.

Active mode transport programme (2021 – 2031)

Council plans to continue developing our on-road and open space walking and cycling network. It supports the strong recreational focus of our city vision and is aligned to the goals and objectives of the open space strategy, as well as promoting low carbon transport in line with our sustainability strategy. During year one of the long term plan council will develop a consolidated plan for walking and cycling across the road and parks networks.

Linkages to State Highway developments/improvements

State Highway 2 runs the length of the city and is a critical link for both Upper Hutt and the wider region. Its capacity is also the single biggest deficiency in the Upper Hutt network. It was recommended that State Highway 2 be four-laned between Gibbons Street and Western Hutt Road (Silverstream intersection) after the last urban growth traffic study was conducted in 2009 and this is consistent with the level of service modelling results Council completed in 2019.

The beneficial impacts from further planned improvements to the local network linking to this route are contingent upon its level of service being improved. The main improvement currently planned by NZTA within the city limits is to upgrade the Silverstream intersection (timing unconfirmed).

A full regional assessment of the State Highway network has been provided by NZTA as part of the Housing and Business Assessment.

Summary statement

Term	Statement
Short term 0 – 3 years: Assessment of whether development capacity is serviced with transport infrastructure	Business-as-usual land transport programmes, including some capital projects, are provided for in Council's Long Term Plan and Infrastructure Strategy for this period, including: • City centre open space (2021 – 2022) • City centre paving revitalisation (2021 – 2023) • Rural roads high-priority safety projects (2021 -) • Fergusson/Ward/Whakatiki intersection upgrade (2021 - 2024) • Fergusson/Main/Gibbons intersection upgrade (2023 - 2031) • Tōtara Park Bridge widening (2021 – 2024) • Active mode transport programme (2021 – 2031)

Term	Statement
Medium term 3 – 10 years: Assessment of whether development infrastructure required to service development is identified in the Council's Long Term Plan, or Infrastructure Strategy.	Business-as-usual land transport programmes, including some capital projects, are provided for in Council's Long Term Plan and Infrastructure Strategy for this period, including: • Silverstream Bridge replacement (2025 - 2031) (including Eastern Hutt/Fergusson Drive intersection and access to county lane)
Long Term 10 – 30 years: Development capacity must be feasible, identified in relevant plans and strategies, and the development infrastructure required to service it must be identified in the relevant Infrastructure Strategy required under the Local Government Act 2002.	Council's Infrastructure Strategy and Land Use Strategy cover this period, providing the basis for Council's high level planning of infrastructure provision to service development capacity. The Infrastructure Strategy is reviewed every three years in line with the Long Term Plan to adjust Council's work programmes and funding requirements accordingly in response to a range of factors, including growth.

Appendix 6.2

UHCC Open Spaces Assessment

Kāpiti Coast District Council · poriruacity · Te Kaunihera o Te Awa Kairangi ki Uta Upper Hutt City Council · Hutt City Te Awa Kairangi · Absolutely Positively Wellington City Council Me Heke Ki Pōneke · Greater Wellington Te Pane Matua Taiao

NPS-UD Infrastructure assessment

Open space

Introduction

This assessment of the Upper Hutt City Council (Council) open space network has been prepared to meet the requirements of the National Policy Statement on Urban Development 2020 (NPS-UD). This assessment is updated from an assessment completed in January 2019 based on the National Policy Statement on Urban Development 2016. The NPS-UD requires an assessment of the sufficiency of development capacity, and in doing so:

- whether development capacity is serviced with infrastructure; and
- whether development infrastructure required to service development is identified in the Council's Long Term Plan[1], or Infrastructure Strategy[2].

The assessment is not contingent on the location of development capacity, but assesses the infrastructure as it currently stands, and its potential to enable further growth over the next 30 years.

Overview of the open space network

DESCRIPTION

Upper Hutt has a large open space network with a variety of spaces for the many recreation activities enjoyed by our community. Parks and open spaces provide opportunities for a wide range of users to be active, socialise and relax. The diverse character of these spaces contributes to what makes the city unique and distinctive.

The city is located within the upper reaches of the Hutt River/Te Awa Kairangi, surrounded by Whakatikei, Akatarawa, Tararua and Rimutaka Ranges, and the Southern Hills. This landscape provides a strong natural setting for the city. The linear character of the natural landscape and the movement and infrastructure networks play a significant role in the accessibility and connectivity of public open space across the city.

SUMMARY OF ASSETS

Council manages and maintains 642 hectares of reserve land including 54 individual parks and reserves with 65 sports fields, 51 regional and neighbourhood playgrounds, 11 hectares of public gardens and 67 kilometres of walking and cycling tracks.

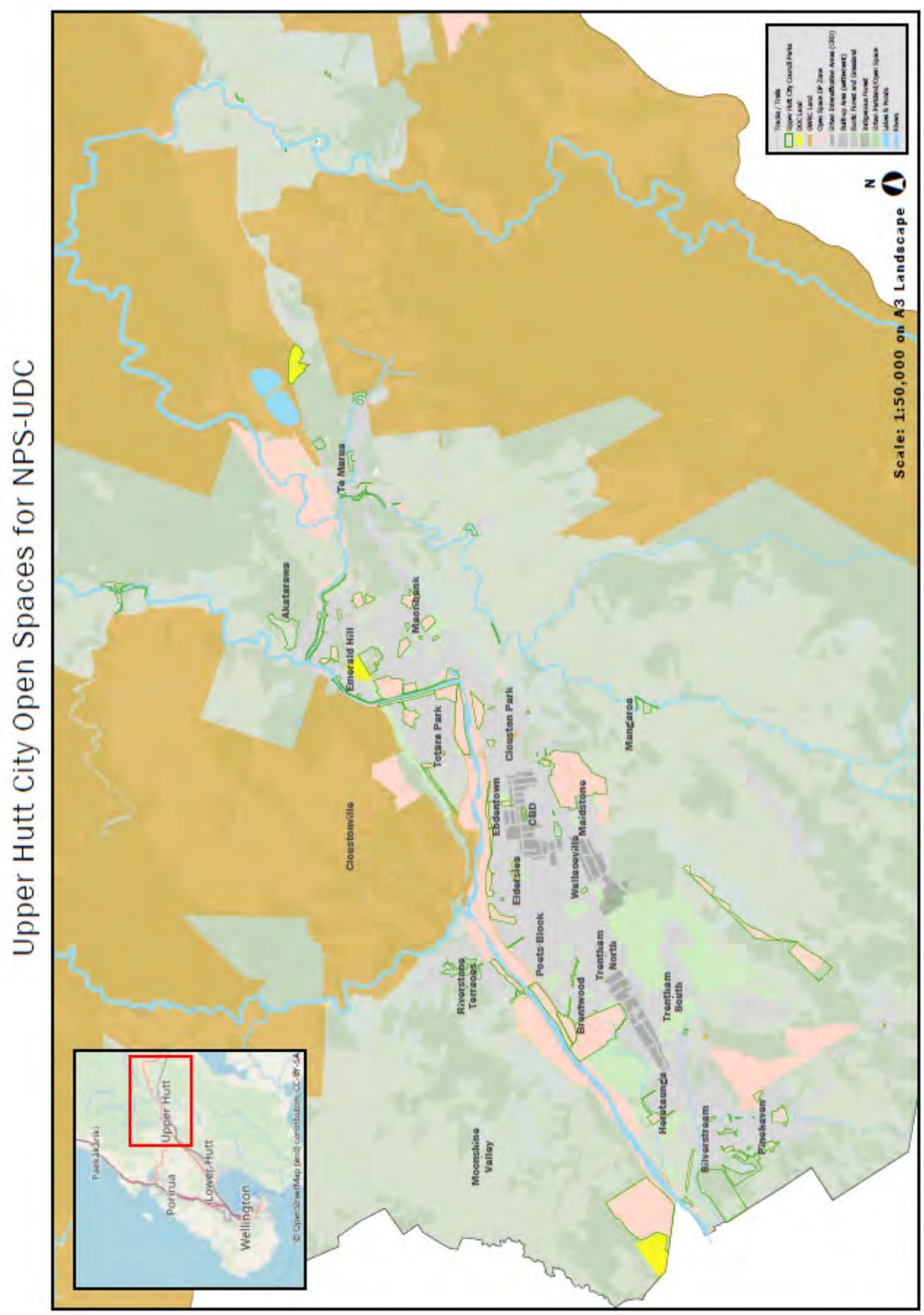
OTHER OPEN SPACES IN UPPER HUTT

The city has a further 34,600 hectares of open space that is owned or managed by the Department of Conservation, Greater Wellington Regional Council and the Queen Elizabeth II Trust, or are privately owned. Most of these lands are on the periphery of the city, except for the regional council land along the Hutt River/Te Awa Kairangi.

[1] UHCC Consultation Document 2021 - 2031
[2] Draft UHCC Infrastructure Strategy 2021 - 2051

As a result the majority of Upper Hutt's natural resources that form part of the wider open space network are not managed by Council. They include landscapes and features like the hills that surround the city, our regional parks, and the Hutt River /Te Awa Kairangi and its tributaries. Some areas of open space are held primarily for other management purposes, and secondarily for recreation. For example the Hutt River corridor and water collection areas managed by the regional council have primary purposes for flood management and water collection.

Network map


Upper Hutt City Open Spaces for NPS-UDC
Scale: 1:50,000 on A3 Landscape
N
Te Marua
Akatarawa
Maoribank
Emerald Hill
Totara Park
Closeburn Park
Mangaroa
Closetonville
Eddertown
CBD
Maidstone
Elderslea
Wallaceville
Poets Block
Riverstone Terraces
Trentham North
Brentwood
Trentham South
Moonshine Valley
Heretaunga
Silverstream
Pinehaven
Paekakariki
Upper Hutt
Porirua
Lower Hutt
Wellington

Responses to constraints and/or issues

OPEN SPACE STRATEGY

Council's Open Space Strategy[3] (adopted in 2018) was developed as an outcome from several prior long term plans as well as an action from the Land Use Strategy[4] (LUS). The purpose of the Strategy is to provide an overarching framework and strategic direction for public parks and open space for the next 10 years. It is the principle, long-term planning document that will help Council manage, plan, develop and maintain our parks, reserves and open spaces in a collaborative, sustainable manner to meet the current and future recreational needs of the community.

The Strategy recognises the value of open space to our community, visitors and workers and the contribution open space makes towards the quality of life in Upper Hutt. The city is located close to these open spaces—local parks, the rivers, reserves, and walking and cycling trails. The relatively easy access we have to these parks and open spaces forms part of the city's identity and the lifestyle it offers. These are important features that attract people to Upper Hutt.

Upper Hutt is growing and changing which presents opportunities and challenges. We are experiencing increased demand for housing and business space, and need to ensure that the values of open space are retained as our city evolves. The Strategy considers both quality and quantity to enable the continued provision of open space that meets the recreational needs of current and future generations.

As well as meeting the recreation needs (both passive and active) of the community, there are opportunities to link to the regional open space network and draw visitors to our city through events and tourism.

The Strategy sets the following strategic direction: "Upper Hutt has an open space network of great spaces and places that are valued for their role in contributing to the health and wellbeing of the people and the environment of our city. "

Scope

For the purpose of the Strategy, 'open space' is land that is, or should be, set aside for public recreation, that the community has a relatively free right of access to.

The Strategy will guide the use, management, and development of open spaces with a framework for decision making on future projects and work to improve our open space network. It includes:

- Goals and objectives for Upper Hutt's open spaces.
- Guidelines for optimising open spaces, purchasing new open spaces and disposing of land that offers limited open space opportunities for the community.
- An analysis of existing open spaces to identify some of the opportunities for future improvements and development to achieve the goals of the strategy.
- A high level action plan to help implement the Strategy.

[3] UHCC Open Space Strategy 2018 - 2028
[4] UHCC Land Use Strategy 2016 - 2043

The Strategy does not contain specific projects or actions relating to maintenance or operations for specific parks or open spaces—this work will follow through Council's Long Term Plan[5] (LTP) and ongoing operations and asset management.

INFRASTRUCTURE STRATEGY

Leveraging off the Open Space Strategy, significant investment is proposed in facilities such as Maidstone Community Sports Hub, to provide an integrated development, resulting in consolidated and more efficient utilisation of the area by various sporting codes to enhance the sustainability and effectiveness of their operations into the future. The project has secured government funding from the government's shovel ready projects initiative. Similarly, there will be significant investment in cycleways and ancillary infrastructure particularly where these routes add to or enhance the connection of regional and national cycleways. Levels of service will be consistent with the Strategy taking into account affordability. Nevertheless, it is expected that there will be demand for increases in levels of service for walking and cycling.

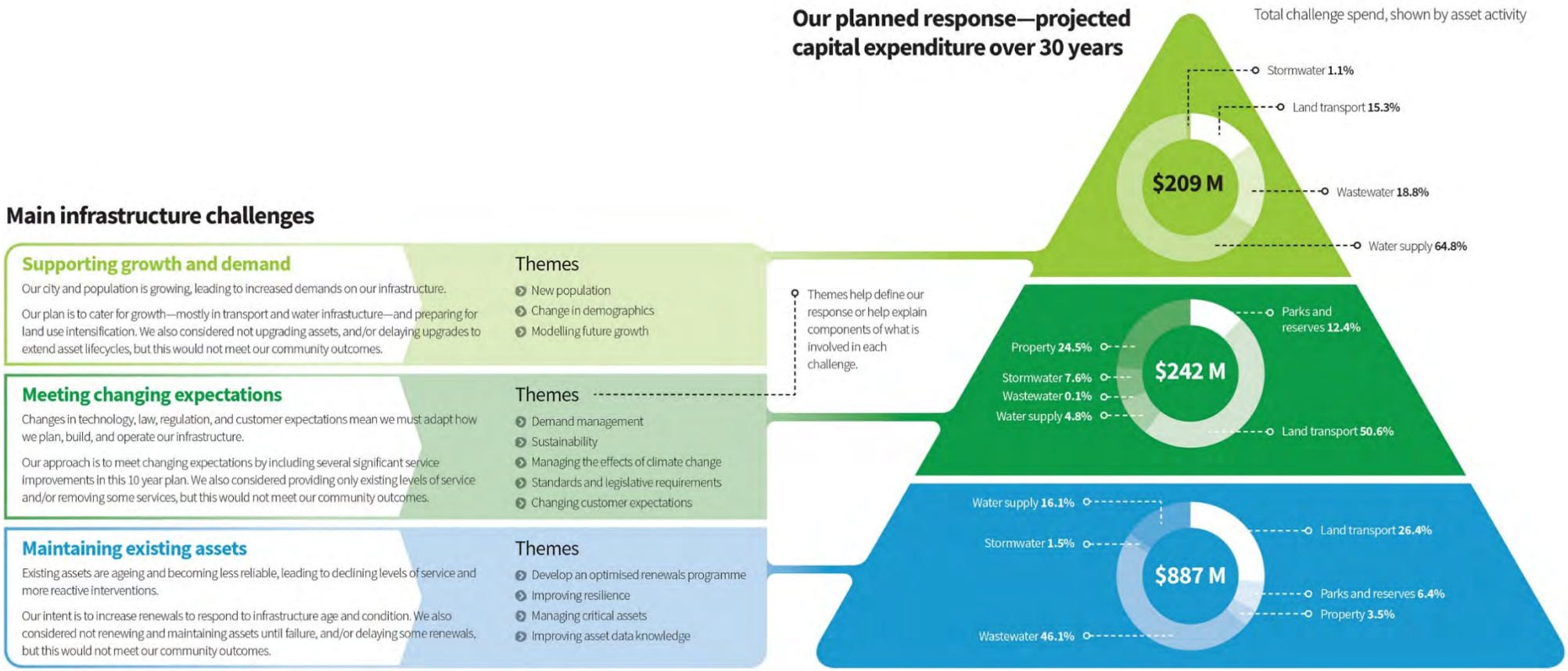
Focus areas

The focus areas identified in the draft Infrastructure Strategy for Parks and Reserves for 2021 – 2051 are:

- Ensuring parks and reserves assets are resilient, effective, safe, meet the requirements of the community, and assists in the delivery of Council's strategic goals.
- Catering for anticipated future growth in burial requirements.
- Providing cycling and walking facilities to meet the agreed levels of service for all ages.
- Continuing to align work programmes and levels of service with the Open Space Strategy.

[5] UHCC 2021 – 2031 Long Term Plan

Executive summary of Draft Infrastructure Strategy 2021 – 2051 (extract from Long Term Plan 2021 – 2031 consultation document, published March 2021)



Assessment of the overall sufficiency of the network

GENERAL

Each open space has its own identity within the open space network depending on its location, configuration and function. As part of developing the Open Space Strategy the character of each open space was assessed and the distribution mapped. This has provided an understanding of what open space exists, what the distribution is and the experiences provided for within each open space.

PHYSICAL CONDITION

Open space assets are managed in accordance with Council's asset management plan, which provides for lifecycle management and condition assessments. Annual condition inspections are undertaken on assets to ensure they are still in good working order and that current maintenance contracts managed by Parks and Reserves officers are fulfilled at a satisfactory level, to prolong asset lives for the benefit of the public.

Assets are maintained at a physical condition grading of one (being excellent) to three (being average). Average physical condition is an acceptable minimum asset condition, at which point Council would either renew, maintain or replace the asset. Any assets that have a condition grade of four (being poor) or five (being very poor) would need to be renewed, refurbished or replaced immediately as they are no longer serving their purpose or fulfilling levels of service.

The Open Space Strategy action plan includes plans for ongoing condition audits using the guidelines for ideal open space to review each open space, taking account of the needs of present and future users.

FINANCIAL PERFORMANCE AND NON-FINANCIAL PERFORMANCE

Financial results are published in Council's annual reports[6]. Results for the Parks and Reserves activity for 2019/2020 were as follows. Note these are a component of the figures in the Annual Report.

- Actual total operating cost was $3,210,491, compared to the budgeted $3,784,581, with the underspend being as a result of COVID-19.
- Actual capital expenditure (renewals and developments) was $2,188,550, compared to the budgeted $5,706,917, with underspend due to project timing issues, COVID-19 and project delays.

The following is a summary of performance against the agreed measures for the Parks and Reserves activity for 2019 - 2020.

Annual community survey results 2019 – 2020

Satisfaction with open space and gardens remains high with 91% of residents satisfied with the facilities provided. However as tabled below a reduction in resident satisfaction is evident since the 2017 2018 assessment.

[6] UHCC Annual Report 2019 - 2020

Satisfaction with open spaces, amenities, gardens 2017 to 2020		
2019 - 2020	2018 - 2019	2017 – 2018
91%	93%	96%

GUIDELINES FOR FUTURE OPEN SPACE

The Open Space Strategy guidelines are designed to guide Council with the continued protection, development, or optimisation of open space to make Upper Hutt a livable city and deliver great value for money to the community. The guidelines will assist in the practical realisation of the goals and objectives within the Strategy using best practice for open space.

It provides a consistent and balanced framework for decision-making regarding the open space network to ensure its continued contribution to the health and wellbeing of our community and the environment.

Over the next 10 years, these guidelines will assist Council to effectively manage, protect and ensure values are maintained across the open space network through:

- Maintaining and enhancing the existing open spaces before acquiring more.
- Ensuring assets are fit-for-purpose for their defined activity and intended user group.
- Disposing of underperforming assets that won't meet present or future community needs.
- Realising opportunities for flexible and multi-purpose spaces where possible and desirable.
- Where possible, acquiring open space in areas of walkable gaps, intensification, or greenfield development to provide for a range of recreation opportunities.

Not all open spaces will address all of the factors included in the guidelines as it will depend on the function, type and nature of the open space. Consideration of these factors will assist in evaluating the strengths and weaknesses and potential of an existing or proposed open space when making decisions.

Network gaps and pressures

2020 NATIONAL POLICY STATEMENT ON URBAN DEVELOPMENT AND RESPONSE

The Government requires Council, through the 2020 National Policy Statement on Urban Development (NPS UD), to provide for a level of new development within the city that provides supply ahead of demand to maintain housing affordability.

The NPS UD enables significant intensification of land use around urban train stations, as well as around and within the CBD. Council will respond to the NPS UD through the cyclical updates to Council strategies and plans, such as the Land Use Strategy and the Open Space Strategy.

Council is also progressing a Plan Change which will address some of these potential development outcomes and the timing thereof.

For the current assessment, Council needs to provide strategic infrastructure to enable 10,472 new dwellings over the 2021 – 2051 period[7].

ANALYSIS OF ANTICIPATED GROWTH AREAS

The use of open space is not restricted the boundary of a neighbourhood. The community will use open space across the city depending on the activity they are undertaking. The urban area of the city has been split into four areas to enable analysis of the sufficiency of open space to meet the changes identified within the NPS UD.

Urban North	Containing the following Statistical Area 2 (SA2) catchments: Birchville – Brown Owl, Clouston Park, Ebdentown, Maoribank, and Te Marua.
Upper Hutt Central	Containing the following Statistical Area 2 (SA2) catchments: Clouston Park, Ebdentown, Elderslea, Totara Park, Upper Hutt Central, and Wallaceville
Trentham / Riverstone	Containing the following Statistical Area 2 (SA2) catchments: Brentwood, Poets Block, Riverstone Terraces, Trentham North, and Trentham South.
Urban South	Containing the following Statistical Area 2 (SA2) catchments: Heretaunga, Pinehaven, and Silversteam

COMMENTARY

The following commentary details the existing provision of open space. Existing provision is measured using the number of hectares per population. At present Council does not have a level of service to compare the existing provision with, and so a comparison is made to the historic industry guideline of 7 ha/1000 people[8]. The population data is from the 2018 Census population count for each Statistical Area.

Urban Area:	Analysis
Urban North	All areas apart from Te Marua in Urban North are predicted to experience high levels of growth. Te Marua is located on the urban rural fringe and is not subject to the same growth pressure as other areas within Urban North. Existing open space provision is 13.3 Ha/1000 population, much higher than historic guidelines. The relatively high provision is due to a number of large reserves. Although large, Akatarawa Cemetery (11.3 Ha) has limited recreational opportunities, as it is an active Cemetery. Harcourt Park (12.4 Ha) is a destination reserve that provides local provision for the Birchville – Brown Owl and Maoribank areas. This open space is used by communities in areas that potentially have

[7] Under the 2019 HBA projection, Council needed to provide strategic infrastructure to enable 5,600 new dwellings over the period from 2017 - 2047

[8] The Local Government Act requires Local Authorities to consult with their communities in relation to Levels of Service. The figure of 7 Ha/1000 population was developed, in the late 1970's, after the enactment of the Reserves Act 1977, by New Zealand Parks Managers and planning specialists. This was a level of provision that would ensure adequate reserve space when land was subdivided.

	lower levels of provision. The park further has walking connections to large reserve areas within Totara Park (part of the City Central area). However, the swing Bridge between Harcourt Park and Larchmont Reserve (within the City Central area) is the only crossing across the Hutt River to connect these spaces. Emerald Hill Reserve (9 Ha) is an undeveloped reserve with regenerating native bush. It is adjacent to a block (9.6Ha) owned by the Department of Conservation which is subject to a treaty settlement and is held in fee simple, therefore outside of the provisions of the Reserves Act 1977. Maoribank has low open space provision with State Highway 2 limiting cross connection with other areas. As a result, residents are likely to use private or public transport to access open space. With the high levels of growth within the Urban North area, provision will significantly reduce should no further open space be secured. Harcourt Park, as a destination park and close to other areas, will likely experience higher levels of demand which will place limits on available recreational opportunities. Below is further analysis at the Statistical Area level for the Urban North area.	
Statistical Area 2	**Demand Projection**	**Analysis / Opportunities**
Birchville – Brown Owl	**Extreme**	**Current Provision:** Akatarawa Cemetery Akatarawa River Esplanade Reserves Birchville Beech Reserve Birchville Esplanade Reserve Birchville Park Blackbeech Espl Reserve Bridge Esplande reserve Edmund Lomas Park Emerald Hill Reserve Gillespies Esplanade Reserve Harcourt Park Harcourt Park Soccer Hoggard Park Rata Park Te Haukaretu Park **Analysis:** Current open space provision is high. Birchville – Brown Owl is an urban and rural area that is predicted to experience extreme growth. Growth within Birchville – Brown Owl will be a combination of infill and potential extension of the current urban area. Birchville – Brown Owl has well placed and sized open space in the current urban area. **Opportunities:** Growth may offer opportunities for securing additional open space and connections, as well as improving accessibility to existing open space.
Maoribank	**Very High**	**Current Provision:** Benge Hall Reserve Brown Owl Reserve Gentian Park Norana Road Reserve Speargrass Access Reserve

		Speargrass Park Timberlea Park **Analysis:** Current open space provision is low. Maoribank is a combination of urban and rural areas that is predicted to experience very high growth. The rural area is to the east of the Wellington – Wairarapa Railway line. The current urban area has well sized and positioned open space. Speargrass Park and Timberlea Park have good street access. However, SH2 disconnects Benge Park and Benge Hall Reserve from the urban area. **Opportunities:** Growth may provide opportunities to increase open space provision and access to existing open space.
Te Marua	**Moderately Low**	**Current Provision** Collins Creek Reserve Kaitoke Hill Scenic Reserve Maymorn Road Reserve Plateau Road Play Area Te Marua Hill Reserve Upper Plateau Park Upper Plateau Scenic Reserve **Analysis:** Current open space provision is low. Te Marua is a rural area with a small pocket of urban development to the south of the area. Te Marua is predicted to experience moderately low growth. Current open spaces consist of bush areas and esplanade reserves. **Opportunities:** Growth may provide opportunities to acquire further esplanade reserves.
Urban Area: **Upper Hutt Central**	**Analysis**	
	The statistical areas within Upper Hutt Central, except for Upper Hutt Central, are predicted to experience high to very high growth. Open space provision is 9.0 Ha/1000 population, slightly above the historic guideline. Maidstone Park (58 Ha) provides a large area of provision of open space for the City Central area and the City. The park provides sports playing surfaces for the bulk of active sport. A recently completed regional destination playground, including a bike pump track and skate park, are located within the Park. Other large areas of open space within Upper Hutt Central are located within Totara Park at Awakairangi Park (15 Ha) and Ngati Tama Park (7Ha). Both areas connect to Harcourt Park (within Urban North) via a swing bridge located in Larchmont Reserve, that connects directly to Ngati Toa Park. Within other SA2 areas, provision is low and not well distributed. This of particular concern in areas that are within walking distance to rapid transport where high density, multi-story growth will become a permitted activity. Due to location and provision of open space, most residents within the Upper Hutt Central are likely to use private or public transport to access open space or walk or bike for those residents within walking distance to their local	

	reserve. Unless further provision is secured, levels of provision will decrease with the projected high levels of growth. It is likely that Maidstone Park, as it is the key sports ground for the City, will experience higher levels of demand. Below is further analysis at the Statistical Area 2 level for the Upper Hutt Central.	
Statistical Area 2	**Demand Projection**	**Analysis / Opportunities**
Clouston Park	**High**	**Current Provision:** Benge Park Maoribank Park Oaklands Reserve **Analysis:** Current open space provision is low. The largest park, Maoribank Park, provides limited provision as has only two access points and has SH2 frontage which prevents direct access from the park to the Hutt River. Benge Park is in the western part of the area. Remaining provision is provided by two pocket reserves in the eastern part of the area. **Opportunities:** Growth within Clouston Park may offer opportunities to secure additional open space. A key opportunity is to improve accessibility to the existing open spaces.
Ebdentown	**Very High**	**Current Provision:** Oxford Park Savage Park Pine Avenue Park Riverbank Park **Analysis:** Current open space provision is low. The bulk of the area is within a 30-minute walk from Upper Hutt railway station, providing an opportunity for multi floor intensification in the future. Current open space provision is provided by Riverbank Park and Pine Avenue Park on the northern edge of the area. Access to the Hutt River is restricted by SH2. Oxford Park is centrally located within the area but has inadequate road frontage. Savage Park is located on the southern edge of the area and has very limited street access. Good connections between open space within the area are provided by walkways between streets. **Opportunities:** Growth within the area may offer opportunities to secure additional open space. A key opportunity is to improve accessibility to the existing open spaces.
Elderslea	**Very High**	**Current Provision:** Clyma Park McLeod Park

		McLeod Street Play Area Whakatiki Park **Analysis:** Current open space provision is low. Approximately 1/3 of the area is within a 30-minute walk from public transport and therefore available for multi-story development. Open space is provided by McLeod and Whakatiki parks that are adjacent to SH2, resulting in limited access to the Hutt River. Clyma Park is located centrally within the area. However, it has limited road frontage. The McLeod Street Play Area is in the north-eastern part of the area. The southern parts of the area currently have no open space provision. **Opportunities:** Opportunities for increasing the amount of open space are limited within the area due to existing residential development. However, there are opportunities to improve accessibility and visibility of the existing reserves.
Totara Park	**High**	**Current Provision** Awakairangi Park California Park Denver Grove Reserve Larchmont Reserve Ngati Tama Park Totara Park Drainage Reserve Tulsa Park Turon Park **Analysis:** Current open space provision is medium. Good provision of open space exists along the riverbank of the Hutt River and at California Park. Totara Park has good interconnecting walking access - enhancing accessibility to open space. **Opportunities:** Growth may provide opportunities to extend access and increase open space provision.
Upper Hutt Central	**Low**	**Current Provision:** Civic Centre Maidstone Park Railway Green Space **Analysis:** Current open space provision is high. Upper Hutt Central is an urban area that contains the central business district. Maidstone Park is the main destination reserve for Upper Hutt, providing open space for active sport and recreation. At present the largest playground in New Zealand is located within the park. Maidstone Park contains bush areas with a track network, providing passive recreational opportunities. The bulk of the area is within a 30-minute walk to the Upper Hutt railway station. Furthermore, as the area encompasses the

		CBD and surrounds, multi-story development is permitted which will place further demand on open space areas within the area. **Opportunities:** Low growth is likely to yield little opportunity for additional capacity within Upper Hutt Central
Wallaceville	**High**	**Current Provision** Nil **Analysis:** Current there is no open space provision in Wallaceville. The entire area is within a 30-minute walking distance to Wallaceville station enabling multi story intensification. **Opportunities:** Growth may provide opportunities to improve provision and may also provide opportunities to create linkages to nearby open space, eg in the Upper Hutt Central and Trentham South areas.
Urban Area: **Trentham / Riverstone**	**Analysis** The statistical areas within Trentham / Riverstone, except for Upper Hutt Central, are predicted to experience high to very high growth. Open space provision is 8.7 Ha/1000 population, slightly above historic guidelines. However, the open space is in the west of the area resulting in large areas that have no neighbourhood reserve within a walkable area. Infill growth is likely to place pressure on levels of provision unless further open space can be secured. Below is further analysis at the Statistical Area 2 level for the Trentham / Riverstone area.	
Statistical Area 2	**Demand Projection**	**Analysis / Opportunities**
Brentwood	**Moderate**	**Current Provision:** Doris Nicholson Reserve Hikarangi Drainage Reserve Hikarangi Drainage Reserve Extension Moehau Park Moonshine Park **Analysis:** Current open space provision is low, with the largest park, Moonshine Park, on the north west edge of the area. While Trentham Memorial Park (one of the three destination parks in the City) borders the area, it is located on the northern boundary of the Heretaunga area, with only two vehicle access points to the Brentwood area. Two drainage reserves run diagonally across the area. They do not connect with each other and only have public access at one end, which limits their ability to provide cross area access. **Opportunities:** Growth may offer opportunities to improve provision, access and connection across the area.

Poets Block	High	**Current Provision** Whakatiki Buffer Reserve **Analysis:** Open Space provision in Poets Block is very low. Provision of open space managed by Upper Hutt City Council is restricted to a buffer area between the urban area and the rear of the industrial area of Whakatiki Street. Other open space provision in the area is limited to areas alongside the Hutt River, not managed by Council. **Opportunities:** Growth may provide opportunities to increase open space provision and linkages within the area.
Riverstone Terraces	Moderate	**Current Provision:** Craigs Flat Reserve Riverstone Bush Reserve Riverstone Reserve **Analysis:** Open space provision in Riverstone Terraces is low. Current open space provision mainly consists of bush areas that provide linkages within the area. **Opportunities:** Growth may provide opportunities to improve linkages within and to other areas.
Trentham North	Very High	**Current Provision** Ward / Miro Green Area Tawai Park **Analysis:** Open space provision in Trentham North is very low. The majority of the residential area of Trentham North is located within walking distance of the Trentham and Wallaceville rail stations which enables multi-story intensification, further putting pressure on open space provision. **Opportunities:** Growth may provide opportunities to address the low provision.
Trentham South	Moderate	**Current Provision** Pinehill Reserve Wallaceville Reserve Grants Bush **Analysis:** Open space provision in Trentham South is very low. Pinehill and Wallaceville reserves are the only open spaces within the area. Trentham South is largely urban, with a rural on the eastern side of the area. The bulk of the urban residential area is within a 30 minute walk of the Heretaunga and Trentham rail stations, enabling multi story development within this area.

		Opportunities: Growth may provide opportunities to extend access and increase reserve provision.
Urban Area: **Urban South**	The Statistical Areas within the Urban South area is predicted to experience high and very high growth. Open space provision is 9.9 Ha/1000 population, higher than historic guidelines. The high provision is due to Trentham Memorial Park (43Ha), located in the Heretaunga area and the Silverstream Spur Reserve (35Ha), located in the Silverstream area. Silverstream Spur is currently inaccessible to the public. Trentham Memorial Park is a destination park that provides open space that residences in other areas with lower levels of provision would likely use for recreation. As with the other destination reserves, providing and improving access for private and public transport is required, as well as improvements for walking and biking access. There is also potential for open space to be provided within the future Southern Growth Area (Silverstream – Pinehaven Hills) that may affect overall provision of open space within the Urban South area. Any open space provided is likely to enable a mix of opportunities for open space activities. Below is further analysis at the Statistical Area 2 level for the Urban South area.	
Statistical Area 2	**Demand Projection**	**Analysis / Opportunities**
Heretaunga	**High**	**Current Provision** Heretaunga Park Mawaihakona Stream Esplanade Reserve Pumpkin Cottage Park Trentham Memorial Park **Analysis:** Open space provision in Heretaunga is low. Open space consists of Trentham Memorial park, a destination park, and Heretaunga Park, that is utilised as sports fields. Both have connections to the Hutt River. Trentham Memorial Park provides open space to the city as a whole and often stages regional events. Intensification at the southern end of the area is likely due to proposed District Plan changes. As the entire area is within a 30-minute walk of Silverstream Railway, multi-story development is enabled across the area. **Opportunities:** Growth may provide opportunities to improve provision, capacity, accessibility, and linkages within Heretaunga.
Pinehaven	**Very High**	**Current Provision:** Avian Park Fendalton Reserve Pickerills Reserve Pinehaven Library Reserve Pinehaven Reserve

		Analysis: Open space provision in Pinehaven is low. Open space in Pinehaven is located around the Pinehaven Library Reserve. The Southern Growth Area is expected to have a significant influence on growth (See the 2016 Land Use Strategy) within Pinehaven and Silverstream. **Opportunities:** Growth may provide opportunities to increase open space provision and linkages through the area from Blue Mountains through to lower Pinehaven and Silverstream.
Silverstream	**Very High**	**Current Provision:** Duncraig Crescent Reserve Dunns Park Kurth Crescent Reserve Pioneer Reserve Silverstream Amenity Reserve Silverstream Park Silverstream Spur Reserve Sunbrae Drainage Reserve Sylvan Heights Reserve Tapestry Grove Reserve Willow Park Wyndham Park **Analysis:** Open space provision in Silverstream is low. Good provision exists in the southern parts of the area with good connections between the open spaces. However, the north-eastern sector has no provision. A large portion of this area is within a 30-minute walk from Silverstream and Heretaunga railway stations, enabling multi-level residential development in these parts. **Opportunities:** The Southern Growth Area is expected to have a significant influence on growth (See the 2016 Land Use Strategy) within Silverstream and Pinehaven. This is likely to provide opportunities to increase open space provision and linkages through the area and to adjoining areas.

Commentary on sufficiency based on use

From a citywide view, Upper Hutt appears to be well-served with an abundance of open space, containing a significant portion of the Wellington region's regional park area, while making up only 8.4% of the region's population. However, at a more detailed suburb or Statistical Area 2 level there is significant variation in provision of open space.

Currently, Council has no specific levels of service in relation to the provision of Open Space. Current open space provision across the City is 8.7 Ha/1000, above the historic guideline of 7.0 Ha/1000 population.

The open space network currently provides a variety of spaces for a diversity of activities, sports and other recreational uses.

Upper Hutt has both a growing and aging population. Household sizes are projected to be smaller and the NPS UD 2020 requires Council to enable intensification within its Central Business District and in urban areas located within at least a walkable distance of:

- existing and planned rapid transport stops;
- edges of city centre zones; and
- edges of metropolitan zones.

Within these areas, a minimum building height of at least 6 stories must be enabled, resulting in an increase in housing density, and in turn a population increase within the urban area. The increased population will put pressure on our open spaces so it will be important to maintain and enhance existing open space to ensure they serve future population. Also Council will develop policy and processes to acquire additional open spaces to meet demand.

The Open Space Strategy is the guiding framework for Council to respond and manage the open space network to continue to meet the needs of the community. The development of the Strategy preceded the release of the NPS UD 2020.

Future reviews of the Strategy will incorporate the direction of the NPS UD 2020. Furthermore, the 2021 Open Spaces Asset Management Plan (AMP), contains improvement initiatives to validate and categorise Council owned and managed open space within the next three years. The AMP also has initiatives to review levels of service with the view of having them available for the preparation of the 2024 Asset Management Plans and LTP.

PROVISION OF SPORTS FIELDS

Council was involved in a regional survey project in 2013 (Wellington Region Sports Field Strategy prepared for: Wellington Region Territorial Authorities in September 2013) which provided the following assessment of winter sports codes for Upper Hutt:

> "With the Maidstone Park artificial turf field added to the network further investment in capacity increase projects is unlikely to be needed for the foreseeable future. A re-balancing of competition and training supply will meet the current and projected training shortfall. If council wishes there is also potential to retire some under-performing fields."

At the time of writing in 2013, the report stated that there was a surplus of 71 hours FFE (Full-size Field Equivalent) usage per season and with the new Maidstone artificial turfs (45 FFE) this would increase to a surplus of 116 FFE hours.

With Maidstone Park being utilised fully since 2013, there has been a significant reduction in natural grass usage. Football and rugby have both reconfigured their respective competitions, resulting in less grounds being required, eg Awakairangi Park had 10 football fields which are now no longer used for seasonal sport.

There is currently no additional sports field developments planned in Upper Hutt. General maintenance and refurbishments, such as converting the current soil rugby fields to sand-based fields at Maidstone Park have also increase the number of playable hours.

Planned improvements to 2031

This section outlines planned and/or budgeted improvements to the open space network, by way of summaries for major projects, extracted from the LTP works programme for 2021 – 2031.

MAJOR PROJECTS

Maidstone Community Sports Hub Stage 2 (2021 – 2022)

Council will complete the development of buildings at Maidstone Park by upgrading the playing fields into a new combined facility, for which Council has received external funding from the Government's "Shovel-ready" projects initiative.

Parks Renewals programme (2021 – 2031)

Assets that have come to end of life will be replaced to maintain and/or improve levels of service and ensure a safe environment for parks users.

Walking and cycling network (2021 – 2027)

Council plans to continue developing walking and cycling networks. This would improve the liveability of the city and provide easy, safe access to our highly valued open space network. It supports the strong recreational focus of our city vision and is aligned to the goals and objectives of the Open Space Strategy.

Maidstone Park artificial turf renewals (2023 – 2024 and 2035 – 2036)

The two existing artificial turfs have a lifespan of 12 years and renewals are scheduled accordingly. These turfs have very high utilisation and extend the opportunity for recreational activity through greater consistency of playing surface.

Active Mode Transport Programme (2021 – 2029)

Council plans to continue developing our on-road and open space walking and cycling network. It supports the strong recreational focus of our city vision and is aligned to the goals and objectives of the Open Space Strategy, as well as promoting low carbon transport in line with our Sustainability Strategy.

Regional cycle trails (2021 – 2031)

Council will participate in the Wellington Regional Trails for the Future (strategic framework for trails) and contribute to the part-funding of a resource to provide a coordinated approach to the development and promotion of cycleways, including enabling greater access to government and other funding sources. One of the proposed signature trails in the regional framework is the Remutaka Cycle Trail. This regionally funded initiative will enable further track development, building of infrastructure (toilets/shelters), and the development and implementation of a consistent high-quality experience for users of regional cycleways including the Remutaka Cycle Trail.

Summary statement

Term	Statement
Short term 0 – 3 years: Assessment of whether development capacity is serviced with open space infrastructure	Business-as-usual work programmes, including some capital projects, are provided for in Council's Long Term Plan and Infrastructure Strategy for this period, including: • Maidstone Community Sports Hub Stage 2 (2021 – 2022) • Maidstone Park artificial turf renewals (2023 – 2024) • City Centre Open Space (2021 – 2022) • Walking and cycling network project (2021 – 2027) • Regional cycle trails (2021 – 2031) • New pathways and walkways (2021 – 2031)
Medium term 3 – 10 years: Assessment of whether development infrastructure required to service development is identified in the Council's Long Term Plan, or Infrastructure Strategy.	Business-as-usual work programmes, including some capital projects, are provided for in Council's Long Term Plan and Infrastructure Strategy for this period, inlcuding: • Walking and cycling network project (2021 – 2027) • Regional cycle trails (2021 – 2031) • New pathways and walkways (2021 – 2031)
Long Term 10 – 30 years: Development capacity must be feasible, identified in relevant plans and strategies, and the development infrastructure required to service it must be identified in the relevant Infrastructure Strategy required under the Local Government Act 2002.	Council's Infrastructure Strategy and Land Use Strategy cover this period, providing the basis for Council's high level planning of infrastructure provision to service development capacity. In addition, Council's Open Space Strategy has specifically analysed network gaps and deficiencies to enable the continued management and development of the open space network to meet current and future community needs. The Infrastructure Strategy is reviewed every three years in line with the Long Term Plan to adjust Council's work programmes and funding requirements accordingly in response to a range of factors, including growth. The Open Space Strategy has a ten-year planning horizon and will be reviewed on this basis (around 2028).

Appendix 6.3

MRCagney Greenfield Report

Kāpiti Coast District Council
poriruacity
Te Kaunihera o Te Awa Kairangi ki Uta Upper Hutt City Council
HUTT CITY TE AWA KAIRANGI
Absolutely Positively Wellington City Council Me Heke Ki Pōneke
Greater Wellington Te Pane Matua Taiao

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MEMORANDUM

To:	Ike Kleynbos	**Of:**	Upper Hutt City Council
From:	Danielle Gatland, Beth Schuck	**Date:**	29 October 2021
Copies:	Connor Spence, Lucy Cooper		
Project:	Upper Hutt Greenfield Model Update (NZ3148)		
Subject:	Summary of updates to Upper Hutt's Greenfield Feasibility Model		

1 Introduction

MRCagney developed a Greenfield Feasibility Model in 2018 for Upper Hutt City Council among others. This model took as inputs information about greenfield sites in Wellington including their ratings data and capacity estimates along with development cost and sales price estimates to compute the feasibility[1] of subdividing those greenfield sites. This model helped councils respond to the National Policy Statement on Urban Development Capacity at the time.

In 2020, a subsequent National Policy Statement on Urban Development was released, again requiring councils to assess their plan-enabled and feasible housing capacity. This memorandum describes updates that have been made to the original modelling to reflect the requirements of Upper Hutt City Council for this housing capacity assessment.

2 How to use the model

Most of the interactions with the model will be through the 'Summary Dashboard' sheet which collates the key inputs for scenario testing, summaries of results, and a handful of detailed results for sense checking. Other sheets within the model can also be interacted with, but either contain model workings or more detailed inputs.

2.1 Standard sensitivity tests

The following table outlines the scenario options and how each option can be used.

[1] Whether it is profitable for developers.

Scenario setting	Default option	Description
Scenario		
Time to develop subdivisions (months)	18	Impacts the timing of when costs are incurred which affects the 'weighted average cost of capital' required to develop.
Feasibility scenario	Maximise number of lots	If a range of density tests (below) are provided, this determines how the model chooses between densities for any given site.
Suburban minimum net density	40	A minimum and maximum density to test for sites classified as 'suburban'. If these are the same, only one density is tested.
Suburban maximum net density		
Urban minimum net density	100	A minimum and maximum density to test for sites classified as 'urban'. If these are the same, only one density is tested.
Urban maximum net density		
Price and cost sensitivity tests		
Civil works contingency	25%	Contingency for civil works (development) costs
Fees and charges contingency	10%	Contingency for council-related fees and charges
Price scenario		
Sale price sensitivities	48%	Assumed change to sales price estimates compared to previous model.
Cost sensitivities	21%	Assumed change to development costs compared to previous model. **Does not apply to development contribution costs, consent fees, resource consent compliance costs or land purchase costs.**
Land purchase price sensitivities	44%	Assumed increase in land purchase costs relative to capital values.
Apply Upper Hutt Reserve Fund	Yes	Applies a fee of 4% of the estimated section sales price to developments.
Gross margin sensitivity tests		
Gross margin required for a development to be feasible	20%	Required profit margin (revenue / costs) for a development to be considered feasible.

The yellow tables on the "Summary Dashboard" sheet summarise the plan-enabled and feasible capacity given the selected scenario settings.

2.2 Other, detailed inputs

If editing any of these more detailed inputs, "Save As" the spreadsheet to avoid losing the original data and inputs.

More detailed input assumptions can be adjusted on some of the input sheets of the model. In particular:

- **Upper Hutt Sites**, to be updated whenever new sites should be evaluated or old sites should be removed (either because they have been developed or are no longer suitable for development):
  - The user can load in new site data, which is extracted from the GIS team at Upper Hutt City Council.
  - Columns that are greyed out and italicised are columns which are not necessary for the model to compute but are in the dataset and may be useful for future reference and checking of the inputs.
  - Further details on the meaning of each attribute/column are included in an Appendix at the end of this memo.
  - **Up to 100 individual parcels (rows) can be loaded into the model.**
- **Costs**, to be updated regularly, around every 3-5 years (in the short term, the cost sensitivity on the dashboard can be used to adjust all costs at a similar rate):
  - Unit costs for developing large sites into smaller sections are input here. Full details of what each of these costs represents is included in the original model documentation.
  - The 'sensitivity-adjusted' unit cost rates are also included, so that the user can review the unit costs given the cost sensitivity applied on the 'Summary Dashboard' page.
  - Resource consent fees and certification costs are also input on this sheet.
- **Other inputs**:
  - Other inputs to the model can also be input, such as the weighted average cost of capital (described further in Section 4.6), the reserve fund contribution, or the reserve area assumed to be required for wastewater, stormwater and landscaped area within developed sites.

3 Updates to model inputs and assumptions

This section outlines updates that have been made to the inputs and underlying assumptions of the model compared with the 2018 version of the model.

3.1 Updated sites

The sites being assessed have been updated to the sites provided by Upper Hutt City Council for the 2021 analysis. The provided data was processed using QGIS to extract the updated values input into the *Upper Hutt Sites* worksheet.

In this model update, the following columns are no longer used, as they were not required for the model and were not provided in the updated data:

- FIRST_Greenfield
- Levy_Area

The *Assessment ID* column contains the *PV_wufi* values provided for each site.
An additional *Urban/Suburban* column has been added, as detailed below.

Urban/suburban classification

The model has been updated to allow for different density testing for urban and suburban sites. The Summary Dashboard has input values for minimum and maximum suburban density, and minimum and maximum urban density, as shown here:

Suburban minimum net density	40	Minimum net density (sites per hectare) for suburban areas
Suburban maximum net density	40	Maximum net density (sites per hectare) for suburban areas
Urban minimum net density	100	Minimum net density (sites per hectare) for urban areas
Urban maximum net density	100	Maximum net density (sites per hectare) for urban areas

Each input site has been classified as urban or suburban, and in the sensitivity testing of the model (the results of which are shown in the light-yellow tables on the dashboard page) the range of densities input above are tested for each class of site.

3.2 Stormwater management costs

The original model did not include costs for stormwater management which have come about due to new regulations in Upper Hutt to mitigate water quality impacts of developments. These costs have been added as a civil works cost input, with a unit cost of $4.46 per m^2 of new land residential parcels created.

However, as the Cost Sensitivity input on the dashboard sheet applies to this cost and the default value suggested for this sensitivity test is 21%, we input $3.69/$m^2$ which turns into 4.46/m^2 when factored up by the cost sensitivity input. The unit cost is in the Costs input tab.

3.3 Slope level

The previous model estimated the Constraint value based on the slope of the site using the mapping in the table below. Assuming the same development of Constraint value in the latest data provided, we have backfilled the slope classifications for the new sites based on the Constraint values provided.

Constraint Value	Slope Class	Slope steepness
0.25	Steep slope	40°-60°
0.5	Moderate Slope	31°-40°
1	Relatively Flat	0°-31°

3.4 Updated Costs

The following costs have been updated in the model inputs.

Consent notification cost

The consent application cost has increased to $2,300. This has been updated in the *Costs* worksheet. The 'Cost Sensitivity' input on the dashboard sheet does not apply to this cost.

Certification cost

The cost of certification at the end of the process has increased to $1,200. This has been updated in the *Costs* worksheet. The 'Cost Sensitivity' input on the dashboard sheet does not apply to this cost.

Development contribution cost

The development contribution cost per new site was provided for each greenfield site (with many sites having no development contribution). The 'Cost Sensitivity' input on the dashboard sheet does not apply to this cost.

Other development costs

We assume there has been a 21% increase in development costs since the original model was developed in 2018. This is reflected in the "Cost sensitivities" on the dashboard of the model.

This is based on analysis of Upper Hutt's building consent data collected from Statistics New Zealand which indicated that the average value of new residential buildings in the Upper Hutt region showed that the average value per square-metre has increased by 21% from 2018 to 2020.

Land purchase prices

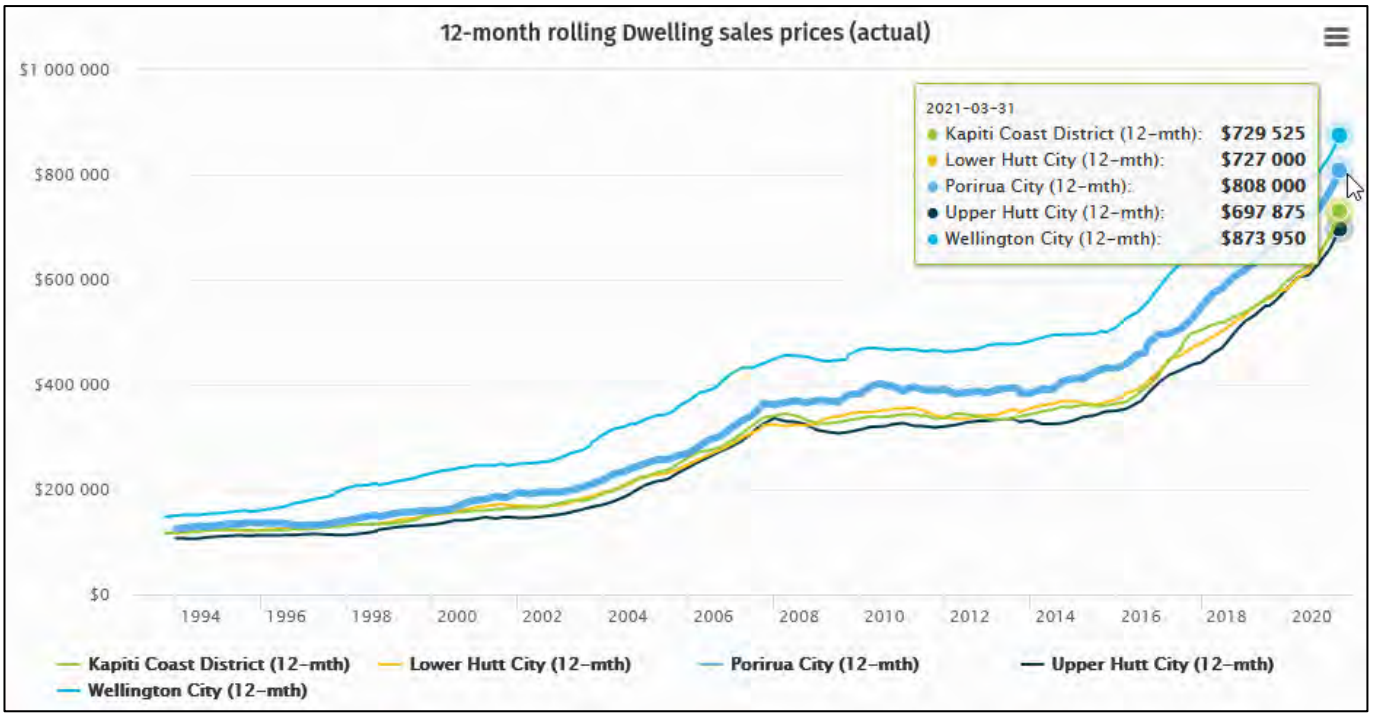
The updated site inputs have also included updated capital value estimates for each site, which informs the land purchase price assumptions. We estimate that land purchase prices are, on average, 44% greater than capital values based on data for residential dwelling sales prices for January 2021 to March 2021.[2] This is reflected in the "Land purchase price sensitivities" on the dashboard of the model.

Section sales prices

Rather than developing an entirely new section pricing model, we simply update the 2018 assumptions based on increases to dwelling sales prices since then. We assume that section sales prices have increased by 48% since 2018. This is reflected in the "Sale price sensitivities" on the dashboard of the model.

As outlined in the following table and chart, Upper Hutt's dwelling sales prices have increased by 48% since the 2018 model was developed. This is a larger increase than the other Wellington council areas, which have each increased by 28-45%. Dwelling sales prices may not match directly with section sales prices, however we consider this to be a reasonable proxy.

City Council	Jun-18	Mar-21	Increase
Upper Hutt	$471,000	$697,875	48%
Lower Hutt	$502,250	$727,000	45%
Kapiti Coast	$518,250	$729,525	41%
Porirua	$584,500	$808,000	38%
Wellington	$683,000	$873,950	28%



3.5 Simplified User Inputs

Initially there were two possible options to model land prices, with model 1 recommended for analysis. To increase ease of use, model 1 is now the only model in use. The user input to select which model to use has been removed.

[2] https://www.propertyvalue.co.nz/property-trends/residential-sales-prices (14 July 2021)

The user inputs for "Price scenario sensitivities" had default options for low, medium and high price scenarios, as well as the option for manual inputs. With the updated pricing methods, only the manual option is needed, with the recommended input outlined in section 3. The option to select a default scenario has been removed.

3.6 Other clarifications

3.6.1 Weighted average cost of capital (importance of the 'timing' of costs incurred)

One of the often-overlooked elements of the cost inputs is the assumption around the 'timing' of costs being incurred, which is expressed as the percentage of the way through the project that costs are incurred. This model applies a 'Weighted Average Cost of Capital' (WACC) to estimate the 'real' cost of borrowing, including an assumed 'cost of debt', or interest rate, for borrowing finances to fund a development.

The base assumption for the cost of borrowing (interest rate) is 10% and this can be changed in the "Other inputs" sheet of the model. The specific formula to calculate the WACC for each cost is:

$$C_w = (1 + WACC)^t * C_a$$

where C_w is the weighted cost; $WACC$ is the interest rate (10%); t is the time (in years) between the cost being incurred and the site being sold[3]; and C_a is the actual cost rate.

3.6.2 Flow-on effects of slope assumptions

The slope assumptions for each parcel impact various calculations throughout the model. The following calculations and model components are impacted by slope estimates:

- Aggregate across sites: the individual parcels/rows of GIS data that make up each assessment ID (PV_WuFi) are combined, and the area of each site is combined with its slope estimate to create an estimate for each assessment ID of the proportion of the overall site that is:
  - Relatively flat
  - Moderate slope
  - Steep slope
- Road reserve area: the amount of area that is set aside to provide roading space depends on how much of the site is sloped. Sites with more sloped area require more space to be set aside for roads. This can be thought of, for example on very steep sections, where roads are more likely to wind their way up the slope.
- Section pricing estimates: sites on sloped land are less valuable than sites on flat land. This is reflected in the section pricing model, so if a site is more sloped, the estimated sales prices will be lower. Note that other factors influence the sales price as well, such as the 'area unit' that the site is in.
- Earthworks and site preparation costs: the model applies a cost to earthworks and site preparation relating to the amount of land required to be removed from the site. A steeper site will require more land to be removed than a flatter site. In particular:
  - Assume 0.3m^3 of cut per 1m^2 of site area on a relatively flat site
  - Assume 1.3m^3 of cut per 1m^2 of site area on a moderately sloping site
  - Assume 3m^3 of cut per 1m^2 of site area on a steeply sloping site

[3] If the development takes 18 months, the weighted average cost of capital for the land purchase (at the start of the 18 months) applies $t = 1.5$ because the land was purchased 1.5 years before the development was completed and sold.

4 Appendix: Updating GIS data

The greenfield feasibility model is designed to use outputs from GIS-based development capacity model with some additional pre-processing. The development capacity model identifies large greenfield parcels that have been zoned for urban development or identified as future urban zones.

The spreadsheet model is designed to accept development capacity model outputs in spreadsheet form. The following attributes are required for each greenfield site:

- **Assessment_ID**: This is a field that identifies each distinct parcel. There can be multiple input sites with the same "Assessment_ID", in which case they will be aggregated within the spreadsheet model. This is generally sourced from the "PV_wufi" attribute, for Upper Hutt sites.
- **zone**: This is the district plan zoning currently applied to the site. This is used to summarise model outputs.
- **parcel_area_m2**: This identifies the total area of the parcel (in square metres), including area that is undevelopable.
- **DevelopableSpace_ha**: This identifies the total developable area (in hectares) estimated in the development capacity model.
- **capital_value**: This is the assessed value of the site, based on the most recent ratings valuation. This is used to estimate the cost to purchase the site for development.
- **DwellingCount**: This identifies the number of existing dwellings on the site, if any. The final output refers to the "net added lots", so the existing dwelling count is subtracted from the total number of sites.
- **GreenfieldDwellingCapacity**: This is an estimate (from the development capacity model) of the total number of dwellings that could be developed on the site under district plan rules.
- **Constraint_Total**: This is an indicator of the degree to which each individual parcel (or parcel sliver) is available for development based on geographic and infrastructure constraints. A value of 0 indicates that the site has no development potential, whilst a value of 1 indicates that the whole site is available for development.
    - The constraint scores are inherited directly from councils' capacity estimates, and can split parcels up into multiple slivers, based on overlays that intersect only part of the parcels.
    - This process split up individual greenfield parcels into multiple slivers.
- **DevelopmentContribution**: The value of the development contribution owing for each new site within the parcel.
- **AU2013_NAM**: 2013 Census area unit names. This is used in the section pricing model, by applying 'price premiums' to different area units, to estimate section revenues for each site.
- **SlopeClass**: Each input site should be classified as relatively flat, moderate slope, or steep slope. This field is currently estimated by the Constraint_Total value as described earlier.
- **Share_View_Water**[4]: What proportion of the new sites are expected to have a view of the water.
- **Share_View_Land**: What proportion of the new sites are expected to have a view of land.
- **Urban/Suburban**: classification for whether each site is 'urban' or 'suburban', which affects the sensitivity tests of density for developments.
- **Site Name**: the site name for each GIS parcel. This is used for summarising the capacity results.

[4] The views of water and of land can be estimated using a manual assessment from online maps. These variables range from 0 (no views) to 1 (all sites have views), and the Share_View_Water and Share_View_Land should sum to 1 or less (ie a site should not be considered to have a view of land and water). These inputs affect the section pricing estimates.

Appendix 6.4

Infill and Redevelopment Capacity Methodology Report

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PROPERTY ECONOMICS

UPPER HUTT FEASIBLE RESIDENTIAL CAPACITY ASSESSMENT

Client: Upper Hutt City Council

Project No: 51991

Date: February 2022

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SCHEDULE

Code	Date	Information / Comments	Project Leader
51991.6	February 2022	Report	Tim Heath / Phil Osborne

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1. INTRODUCTION

Property Economics has been engaged by Upper Hutt City Council (UHCC) as part of a wider region residential capacity project to undertake an assessment of the commercially feasible residential capacity (supply) of the Upper Hutt District urban areas within the context of Council's obligations under the National Policy Statement on Urban Development (NPS UD).

The purpose of this report is to provide UHCC with robust market intelligence to assist in making more informed and economically justified decisions in regard to the design and implementation of a residential policy framework for the District Plan and other strategic planning documents.

This report discusses the work undertaken by Property Economics in analysing the existing theoretical residential capacity of Upper Hutt City and developing a capacity model for calculating the level of feasible development within the district. This will inform policy makers on the feasible level of housing supply, and which areas are able to accommodate future residential development based on current zonings, policy settings and market parameters.

2. THEORETICAL CAPACITY

Property Economics have been provided with GIS layers containing the sites within Upper Hutt that provided for infill, or comprehensive redevelopment. Theoretical residential capacity was calculated by UHCC utilising current District Plan policy settings and algorithmic, GIS and 3D modelling. The information contained several different scenarios, based on housing typology and quantum, that were identified as theoretically viable to develop.

Property Economics has adjusted the Theoretical Capacity outputs provided by UHCC by applying a practical minimum site size of 80sqm for a terraced dwelling and 150sqm for standalone.

Table 1 below outlines the theoretical capacity outputs based on the model provided to Property Economics.

TABLE 1 – UPPER HUTT THEORETICAL RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB

Suburbs	Commercial	Residential and Rural	Special Activity	Total
Akatarawa	-	26	-	26
Birchville-Brown Owl	21	1,941	-	1,962
Brentwood	4	206	-	210
Clouston Park	25	249	-	274
Ebdentown	5	223	-	228
Elderslea	24	336	-	360
Heretaunga	42	365	17	424
Mangaroa	-	153	-	153
Maoribank	-	1,023	-	1,023
Pinehaven	1	754	-	755
Poets Block	1	265	-	266
Riverstone Terraces	21	813	-	834
Silverstream	40	687	113	840
Te Marua	-	661	142	803
Totara Park	9	108	-	117
Trentham North	175	262	-	437
Trentham South	-	332	244	576
Upper Hutt Central	357	148	0	505
Wallaceville	1	229	-	230
Grand Total	**726**	**8,781**	**516**	**10,023**

Source: Property Economics, UHCC

Throughout this report the capacity in the Residential and Rural Zone have been distinguished from the capacity in the Business Commercial and Special Purpose Zones. In the Business Commercial Zone, residential at ground floor is a discretionary activity while all residential activity (save for a home for a caretaker) is discretionary in the Business Industrial Zone.

Table 1 shows there is theoretical capacity within Upper Hutt for around 10,000 new dwellings (rounded), of which about 13% is located in non-residential zones. . The suburb of Birchville – Brown Owl has the largest theoretical capacity at 1,962 overall.

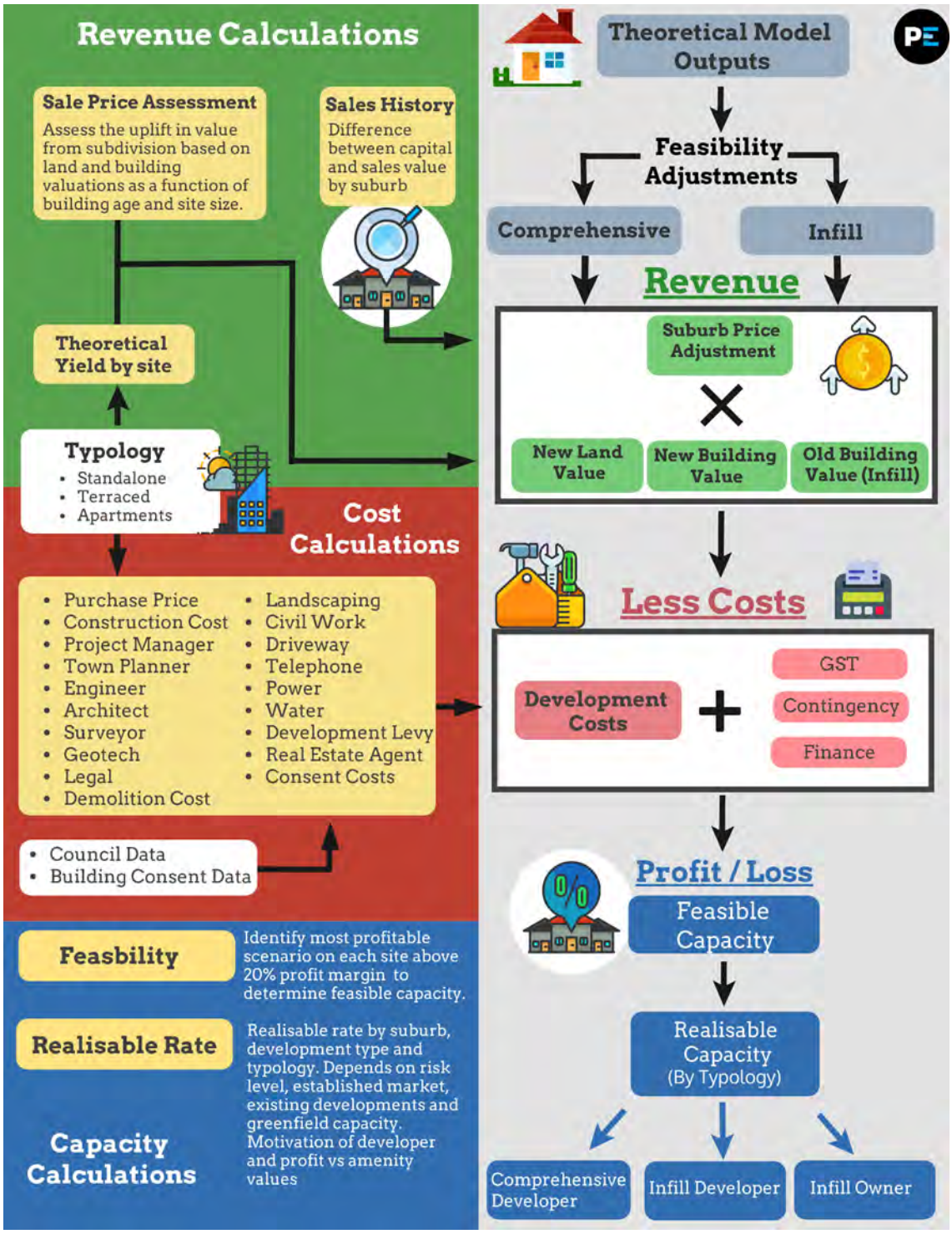
It is important to note that Table 1 represents the sum of the maximum attainable yield of any typology on an individual site basis. The theoretical model outputs provided to Property Economics contained several different development scenarios on each site, therefore the theoretical yield represents the scenarios on each site where the development potential is the highest

.

3. FEASIBLE CAPACITY MODELLING

A high-level overview of the model utilised by Property Economics in determining the feasible residential capacity for Upper Hutt City is outlined in the flow chart in Figure 1 below, with detailed descriptions of each stage of the process given following.

FIGURE 1: PROPERTY ECONOMICS RESIDENTIAL FEASIBILITY MODEL OVERVIEW



Using the ratings database provided by UHCC, the land value per sqm and improvement value per sqm is calculated. This is then summarised by suburb, size and typology to give the average per sqm value for various types of dwellings.

By splitting the valuation into land and improvement value, it accounts for variations of both sizes e.g., a large dwelling on a small piece of land compared to the same size dwelling on a larger piece of land.

Values are not the same across each suburb, and thus it is required to give the per sqm value for each suburb individually. Also, the per sqm rate for land and improvement value are shown not to be consistent across all sizes. For example, a larger dwelling has on average a lower per sqm improvement value than a smaller one. This inverse relationship between size and per sqm value is the same for both land value per sqm and building value per sqm.

It was also found that in modern residential developments, terraced dwellings do not have a statistically distinct improvement value to that of standalone dwellings. Although they typically cost slightly more on average due to the noise mitigation, this does not translate into additional value to the consumer over the standalone typologies. Therefore, the resulting build values is assumed to be the same between terraced and standalone for Upper Hutt City (refer Table 2). The value of terraced housing is inherent in the greater land utilisation and resulting higher land value per square metre.

TABLE 2 – UPPER HUTT STANDALONE / TERRACED BUILD VALUE / SQM BY SUBURB

Standalone	50	75	100	125	150	175	200	225	250	280
Akatarawa	$ 3,331	$ 3,147	$ 3,007	$ 2,890	$ 2,748	$ 2,661	$ 2,532	$ 2,439	$ 2,404	$ 2,316
Akatarawa Valley	$ 3,703	$ 3,499	$ 3,344	$ 3,213	$ 3,055	$ 2,958	$ 2,815	$ 2,712	$ 2,673	$ 2,575
Birchville	$ 3,507	$ 3,313	$ 3,166	$ 3,043	$ 2,893	$ 2,801	$ 2,666	$ 2,568	$ 2,531	$ 2,438
Brown Owl	$ 3,884	$ 3,669	$ 3,507	$ 3,370	$ 3,204	$ 3,102	$ 2,953	$ 2,844	$ 2,803	$ 2,700
Clouston Park	$ 3,775	$ 3,567	$ 3,409	$ 3,276	$ 3,114	$ 3,016	$ 2,870	$ 2,765	$ 2,724	$ 2,625
Craigs Flat	$ 3,703	$ 3,499	$ 3,344	$ 3,213	$ 3,055	$ 2,958	$ 2,815	$ 2,712	$ 2,673	$ 2,575
Ebdentown	$ 4,306	$ 4,068	$ 3,888	$ 3,736	$ 3,552	$ 3,439	$ 3,273	$ 3,153	$ 3,107	$ 2,994
Elderslea	$ 4,299	$ 4,061	$ 3,881	$ 3,730	$ 3,546	$ 3,434	$ 3,268	$ 3,148	$ 3,102	$ 2,989
Heretaunga	$ 4,237	$ 4,003	$ 3,826	$ 3,677	$ 3,495	$ 3,385	$ 3,221	$ 3,103	$ 3,058	$ 2,946
Kaitoke	$ 3,703	$ 3,499	$ 3,344	$ 3,213	$ 3,055	$ 2,958	$ 2,815	$ 2,712	$ 2,673	$ 2,575
Kingsley Heights	$ 3,732	$ 3,526	$ 3,370	$ 3,238	$ 3,079	$ 2,981	$ 2,837	$ 2,733	$ 2,693	$ 2,595
Maidstone	$ 3,624	$ 3,424	$ 3,272	$ 3,144	$ 2,989	$ 2,894	$ 2,755	$ 2,654	$ 2,615	$ 2,519
Mangaroa	$ 3,703	$ 3,499	$ 3,344	$ 3,213	$ 3,055	$ 2,958	$ 2,815	$ 2,712	$ 2,673	$ 2,575
Maoribank	$ 3,564	$ 3,368	$ 3,218	$ 3,093	$ 2,940	$ 2,847	$ 2,710	$ 2,610	$ 2,572	$ 2,478
Maymorn	$ 3,194	$ 3,018	$ 2,884	$ 2,771	$ 2,635	$ 2,551	$ 2,428	$ 2,339	$ 2,305	$ 2,221
Other	$ 3,698	$ 3,494	$ 3,339	$ 3,209	$ 3,051	$ 2,954	$ 2,811	$ 2,708	$ 2,669	$ 2,571
Pinehaven	$ 3,561	$ 3,364	$ 3,215	$ 3,090	$ 2,937	$ 2,844	$ 2,707	$ 2,608	$ 2,570	$ 2,476
Riverstone Terraces	$ 3,699	$ 3,495	$ 3,340	$ 3,210	$ 3,052	$ 2,955	$ 2,812	$ 2,709	$ 2,670	$ 2,572
Silverstream	$ 4,198	$ 3,967	$ 3,791	$ 3,643	$ 3,463	$ 3,353	$ 3,192	$ 3,075	$ 3,030	$ 2,919
Te Marua	$ 3,439	$ 3,249	$ 3,105	$ 2,984	$ 2,837	$ 2,747	$ 2,615	$ 2,519	$ 2,482	$ 2,391
Timberlea	$ 3,541	$ 3,345	$ 3,197	$ 3,072	$ 2,921	$ 2,828	$ 2,692	$ 2,593	$ 2,555	$ 2,462
Totara Park	$ 3,687	$ 3,483	$ 3,329	$ 3,199	$ 3,041	$ 2,945	$ 2,803	$ 2,700	$ 2,660	$ 2,563
Trentham	$ 4,004	$ 3,784	$ 3,616	$ 3,475	$ 3,303	$ 3,199	$ 3,044	$ 2,933	$ 2,890	$ 2,784
Upper Hutt	$ 4,488	$ 4,240	$ 4,052	$ 3,894	$ 3,702	$ 3,585	$ 3,412	$ 3,287	$ 3,239	$ 3,120
Wallaceville	$ 3,951	$ 3,733	$ 3,568	$ 3,429	$ 3,260	$ 3,156	$ 3,004	$ 2,894	$ 2,852	$ 2,747

Source: Property Economics, UHCC

Figure 2 below shows the land value per sqm subdivision scale utilised in the commercially feasible capacity modelling for varying land sizes. This was utilised for all typologies.

Figure 3 is indexed against a site size of 50sqm (representing a scale of 100%). At 1,300sqm the index is 10%, indicating that the average 1,000sqm site has a land value per sqm around 1/10th of that of a 50sqm site.

FIGURE 2 – UPPER HUTT CITY LAND VALUE / SQM SCALE

Source: Property Economics

A limitation identified during the modelling process was that by applying a percentage increase on the site-specific land value through the process of subdivision, meant that sites with a proportionally high underlying land value resulted in an impractical subdivided land value on a per sqm basis. This was identified as a specific problem for sites with underlying commercial land values.

As a solution, the maximum residentially zoned land value per sqm identified within the ratings database was used as a maximum limit for the land value per sqm after subdivision. This removed the impact of sites with underlying commercial land values resulting in impractically high profitability, and thus feasible yield.

Similarly, on large sites such as farmland or industrial warehouses with relatively low land values per sqm, the increase in land value afforded by this process does not accurately represent the true value of the site as a residential activity. As such, a minimum land value after subdivision is applied based on the local residential market.

Sales vs Capital Value (CV)

A statistically significant sample dataset of recent sales in Upper Hutt City was used to find the difference between the average sales price and the most recent valuation. This is to ensure the capacity modelling utilises the most up to date values data critical to the determination of current day feasible capacity.

Based on regressing the underling land and improvement values against the most recent sales values (second half of 2021) it was found that land values had risen by about 93% on average while improvement values had risen by about 27%.

Although there was some statistically significant variation in these values between suburbs, the volatility of the estimates given the sample size is likely to create more errors. On this basis, Property Economics has held these proportions constant between all suburbs.

Construction Costs

Constructions costs for new dwellings were found by analysing the value of recent building consents granted within Upper Hutt. The historical building consent data shows that the average value of building consents varies across suburb within Upper Hutt, indicating the variety of product quality that is built.

Due to this, a table of average building consent per sqm by suburb was extracted from the building consent data in order to represent the average construction costs in a suburb. This is then used in the model as the construction costs of building a new dwelling.

Tables 3 below show the average build cost by suburb for standalone and terraced. Houses utilised in the feasible capacity model.

Note this metric has increased at a relatively fast rate in recent years, and is forecast to increase further in the foreseeable future with supply chain issues, logistic constraints in the market and the inflationary environment now prevailing in New Zealand. As such the construction cost / sqm of dwellings is likely to increase above the metrics identified in Table 3 within a short period of time.

TABLE 3 –UPPER HUTT CITY STANDALONE BUILD COST BY SUBURB

Standalone	50	75	100	125	150	175	200	225	250	280
Akatarawa	$ 3,395	$ 2,740	$ 2,383	$ 2,153	$ 1,991	$ 1,960	$ 1,853	$ 1,767	$ 1,696	$ 1,626
Akatarawa Valley	$ 3,775	$ 3,047	$ 2,649	$ 2,394	$ 2,214	$ 2,179	$ 2,060	$ 1,965	$ 1,886	$ 1,808
Birchville	$ 3,575	$ 2,885	$ 2,509	$ 2,267	$ 2,096	$ 2,063	$ 1,951	$ 1,861	$ 1,786	$ 1,712
Brown Owl	$ 3,959	$ 3,195	$ 2,778	$ 2,510	$ 2,322	$ 2,285	$ 2,160	$ 2,061	$ 1,978	$ 1,896
Clouston Park	$ 3,848	$ 3,106	$ 2,701	$ 2,440	$ 2,257	$ 2,221	$ 2,100	$ 2,003	$ 1,922	$ 1,843
Craigs Flat	$ 3,775	$ 3,047	$ 2,649	$ 2,394	$ 2,214	$ 2,179	$ 2,060	$ 1,965	$ 1,886	$ 1,808
Ebdentown	$ 4,389	$ 3,542	$ 3,080	$ 2,783	$ 2,574	$ 2,533	$ 2,395	$ 2,285	$ 2,193	$ 2,102
Elderslea	$ 4,382	$ 3,536	$ 3,075	$ 2,778	$ 2,570	$ 2,529	$ 2,391	$ 2,281	$ 2,189	$ 2,098
Heretaunga	$ 4,319	$ 3,486	$ 3,031	$ 2,739	$ 2,533	$ 2,493	$ 2,357	$ 2,248	$ 2,158	$ 2,068
Kaitoke	$ 3,775	$ 3,047	$ 2,649	$ 2,394	$ 2,214	$ 2,179	$ 2,060	$ 1,965	$ 1,886	$ 1,808
Kingsley Heights	$ 3,804	$ 3,070	$ 2,670	$ 2,412	$ 2,231	$ 2,196	$ 2,076	$ 1,980	$ 1,901	$ 1,822
Maidstone	$ 3,694	$ 2,981	$ 2,592	$ 2,342	$ 2,166	$ 2,132	$ 2,016	$ 1,923	$ 1,845	$ 1,769
Mangaroa	$ 3,775	$ 3,047	$ 2,649	$ 2,394	$ 2,214	$ 2,179	$ 2,060	$ 1,965	$ 1,886	$ 1,808
Maoribank	$ 3,633	$ 2,932	$ 2,550	$ 2,304	$ 2,131	$ 2,097	$ 1,983	$ 1,891	$ 1,815	$ 1,740
Maymorn	$ 3,256	$ 2,627	$ 2,285	$ 2,064	$ 1,909	$ 1,879	$ 1,777	$ 1,695	$ 1,626	$ 1,559
Other	$ 3,770	$ 3,042	$ 2,646	$ 2,390	$ 2,211	$ 2,176	$ 2,057	$ 1,962	$ 1,883	$ 1,805
Pinehaven	$ 3,630	$ 2,929	$ 2,547	$ 2,302	$ 2,129	$ 2,095	$ 1,981	$ 1,889	$ 1,813	$ 1,738
Riverstone Terraces	$ 3,771	$ 3,043	$ 2,647	$ 2,391	$ 2,211	$ 2,176	$ 2,058	$ 1,963	$ 1,884	$ 1,806
Silverstream	$ 4,279	$ 3,454	$ 3,003	$ 2,714	$ 2,510	$ 2,470	$ 2,335	$ 2,228	$ 2,138	$ 2,049
Te Marua	$ 3,506	$ 2,829	$ 2,460	$ 2,223	$ 2,056	$ 2,023	$ 1,913	$ 1,825	$ 1,751	$ 1,679
Timberlea	$ 3,609	$ 2,913	$ 2,533	$ 2,289	$ 2,117	$ 2,083	$ 1,970	$ 1,879	$ 1,803	$ 1,728
Totara Park	$ 3,758	$ 3,033	$ 2,637	$ 2,383	$ 2,204	$ 2,169	$ 2,051	$ 1,956	$ 1,877	$ 1,800
Trentham	$ 4,082	$ 3,294	$ 2,865	$ 2,588	$ 2,394	$ 2,356	$ 2,228	$ 2,125	$ 2,039	$ 1,955
Upper Hutt	$ 4,574	$ 3,692	$ 3,211	$ 2,901	$ 2,683	$ 2,640	$ 2,496	$ 2,381	$ 2,285	$ 2,191
Wallaceville	$ 4,028	$ 3,251	$ 2,827	$ 2,554	$ 2,362	$ 2,325	$ 2,198	$ 2,097	$ 2,012	$ 1,929

Source: Property Economics

TABLE 4 – UPPER HUTT CITY TERRACED BUILD COST BY SUBURB

Standalone	50	75	100	125	150	175	200	225	250	280
Akatarawa	$ 3,582	$ 2,891	$ 2,514	$ 2,271	$ 2,101	$ 2,067	$ 1,955	$ 1,864	$ 1,789	$ 1,715
Akatarawa Valley	$ 3,983	$ 3,214	$ 2,795	$ 2,525	$ 2,336	$ 2,299	$ 2,173	$ 2,073	$ 1,990	$ 1,907
Birchville	$ 3,771	$ 3,043	$ 2,647	$ 2,391	$ 2,212	$ 2,177	$ 2,058	$ 1,963	$ 1,884	$ 1,806
Brown Owl	$ 4,177	$ 3,371	$ 2,931	$ 2,648	$ 2,449	$ 2,411	$ 2,279	$ 2,174	$ 2,086	$ 2,000
Clouston Park	$ 4,060	$ 3,276	$ 2,849	$ 2,574	$ 2,381	$ 2,343	$ 2,216	$ 2,113	$ 2,028	$ 1,944
Craigs Flat	$ 3,983	$ 3,214	$ 2,795	$ 2,525	$ 2,336	$ 2,299	$ 2,173	$ 2,073	$ 1,990	$ 1,907
Ebdentown	$ 4,630	$ 3,737	$ 3,250	$ 2,936	$ 2,716	$ 2,673	$ 2,527	$ 2,410	$ 2,313	$ 2,217
Elderslea	$ 4,623	$ 3,731	$ 3,244	$ 2,931	$ 2,711	$ 2,668	$ 2,523	$ 2,406	$ 2,309	$ 2,214
Heretaunga	$ 4,557	$ 3,677	$ 3,198	$ 2,889	$ 2,672	$ 2,630	$ 2,487	$ 2,372	$ 2,276	$ 2,182
Kaitoke	$ 3,983	$ 3,214	$ 2,795	$ 2,525	$ 2,336	$ 2,299	$ 2,173	$ 2,073	$ 1,990	$ 1,907
Kingsley Heights	$ 4,014	$ 3,239	$ 2,817	$ 2,545	$ 2,354	$ 2,317	$ 2,190	$ 2,089	$ 2,005	$ 1,922
Maidstone	$ 3,897	$ 3,145	$ 2,735	$ 2,471	$ 2,285	$ 2,249	$ 2,126	$ 2,028	$ 1,947	$ 1,866
Mangaroa	$ 3,983	$ 3,214	$ 2,795	$ 2,525	$ 2,336	$ 2,299	$ 2,173	$ 2,073	$ 1,990	$ 1,907
Maoribank	$ 3,833	$ 3,093	$ 2,690	$ 2,431	$ 2,248	$ 2,212	$ 2,092	$ 1,995	$ 1,915	$ 1,836
Maymorn	$ 3,435	$ 2,772	$ 2,411	$ 2,178	$ 2,014	$ 1,982	$ 1,874	$ 1,788	$ 1,716	$ 1,645
Other	$ 3,977	$ 3,210	$ 2,791	$ 2,522	$ 2,332	$ 2,295	$ 2,170	$ 2,070	$ 1,987	$ 1,904
Pinehaven	$ 3,829	$ 3,090	$ 2,688	$ 2,428	$ 2,246	$ 2,210	$ 2,090	$ 1,993	$ 1,913	$ 1,834
Riverstone Terraces	$ 3,978	$ 3,211	$ 2,792	$ 2,523	$ 2,333	$ 2,296	$ 2,171	$ 2,071	$ 1,987	$ 1,905
Silverstream	$ 4,515	$ 3,643	$ 3,169	$ 2,863	$ 2,648	$ 2,606	$ 2,464	$ 2,350	$ 2,255	$ 2,162
Te Marua	$ 3,699	$ 2,985	$ 2,596	$ 2,345	$ 2,169	$ 2,135	$ 2,018	$ 1,925	$ 1,848	$ 1,771
Timberlea	$ 3,808	$ 3,073	$ 2,672	$ 2,414	$ 2,233	$ 2,198	$ 2,078	$ 1,982	$ 1,902	$ 1,823
Totara Park	$ 3,965	$ 3,200	$ 2,782	$ 2,514	$ 2,325	$ 2,288	$ 2,164	$ 2,064	$ 1,981	$ 1,899
Trentham	$ 4,307	$ 3,475	$ 3,022	$ 2,731	$ 2,526	$ 2,486	$ 2,350	$ 2,242	$ 2,151	$ 2,062
Upper Hutt	$ 4,826	$ 3,895	$ 3,387	$ 3,060	$ 2,830	$ 2,785	$ 2,634	$ 2,512	$ 2,411	$ 2,311
Wallaceville	$ 4,249	$ 3,429	$ 2,982	$ 2,695	$ 2,492	$ 2,453	$ 2,319	$ 2,212	$ 2,123	$ 2,035

Source: Property Economics

Other Development Costs

As well as construction costs, a number of other costs have been incorporated into the feasibility model on a per dwelling basis. Some of the key costs are outlined below in Table 5. In addition to these costs, a commercial interest rate of 8% p.a. and a 10% contingency on total costs (risk) has been applied.

TABLE 5 –UPPER HUTT PER DWELLING DEVELOPMENT COSTS

COMPREHENSIVE COSTS	Standalone	Terraced	Apartment
Demo Cost (per sqm)	$ 100	$ 100	$ 100
Landscaping	$ 3,125	$ 3,750	$ 750
Civil Work	$ 20,000	$ 15,000	$ 5,000
Driveway	$ 20,000	$ 6,600	$ 3,300
Telephone	$ 4,500	$ 2,500	$ 2,000
Power	$ 6,000	$ 6,000	$ 2,250
Water and Wastewater	$ 16,500	$ 7,500	$ 7,500

INFILL COSTS	Standalone	Terraced	Apartment
Demo Cost (per sqm)	$ -	$ -	$ -
Landscaping	$ 3,125	$ 3,750	$ 750
Civil Work	$ 20,000	$ 15,000	$ 5,000
Driveway	$ 20,000	$ 6,600	$ 3,300
Telephone	$ 4,500	$ 2,500	$ 2,000
Power	$ 6,000	$ 6,000	$ 2,250
Water and Wastewater	$ 16,500	$ 7,500	$ 7,500

Source: Property Economics, UHCC

4. FEASIBILITY MODELLING OUTPUTS

4.1. FEASIBLE CAPACITY OUTPUTS

Property Economics has assessed the variables outlined above in the Upper Hutt market and run feasible capacity models across the range of locations, land values, improvement values, and land value changes. A key component of the market's willingness to develop infill is the relationship between a site's land value, fixed subdivision costs and the identifiable 'uptake' in value (sqm) through subdivision.

Table 6 below outlines a summary of the number of potential sections on sites where the ratios meet a profit level suitable to meet market expectations (20% for the purpose of this analysis).

TABLE 6- UPPER HUTT FEASIBLE RESIDENTIAL DEVELOPMENT CAPACITY BY ZONE– OWNER AND DEVELOPER

Feasible Capacity (Max Profit)	Theoretical	Standalone	Terraced	Total	% of Theoretical
Commercial	726	440	44	484	67%
Residential	8,715	5,654	413	6,067	70%
Rural	66	18	40	58	88%
Special Activity	516	231	18	249	48%
Total	**10,023**	**6,343**	**515**	**6,858**	**68%**

Source: Property Economics, UHCC

Table 6 represents the subdivision undertaken by either an owner occupier or a developer, with the capacity representing the most profitable. This is an important difference as motivations and capital outlay are often different. These figures have removed all 'double ups' i.e., where multiple instances were tested on a specific site and represent the most profitable scenario for that site.

If developments were to be undertaken by either a developer or owner occupier, there is then potential for 6,858 additional units within the Upper Hutt market. As all development options have been considered in Table 6, this represents the total feasible capacity in the market. This level of feasible capacity represents a 68% feasibility rate on the theoretical capacity.

Table 7 below shows how the feasible capacity is distributed across the suburbs.

TABLE 7 – UPPER HUTT FEASIBLE RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB– OWNER AND DEVELOPER –

Feasible Capacity					
Suburbs	Theoretical Capacity	Feasible Standalone	Feasible Terraced	Total Feasible Capacity	Feasibility Rate
Akatarawa	26	7	19	26	100%
Birchville-Brown Owl	1962	1,483	26	1,509	77%
Brentwood	210	106	31	137	65%
Clouston Park	274	157	13	170	62%
Ebdentown	228	89	19	108	47%
Elderslea	360	91	72	163	45%
Heretaunga	424	257	15	272	64%
Mangaroa	153	88	13	101	66%
Maoribank	1023	798	15	813	79%
Pinehaven	755	369	23	392	52%
Poets Block	266	135	17	152	57%
Riverstone Terraces	834	686	31	717	86%
Silverstream	840	494	71	565	67%
Te Marua	803	508	12	520	65%
Totara Park	117	56	11	67	57%
Trentham North	437	223	80	303	69%
Trentham South	576	373	18	391	68%
Upper Hutt Central	505	322	12	334	66%
Wallaceville	230	101	17	118	51%
Total	10,023	6,343	515	6,858	68%

Source: Property Economics, UHCC

4.2. REALISABLE CAPACITY OUTPUTS

On top of the feasible capacity modelling, practical considerations must be taken into account as to what is likely to be developed in the real world. While this section is separated from the sensitivities above the realisation rates essentially provide for 'development chance' given the propensity for development variances.

These considerations are based on:

- Dwelling typology
- Development option
- Greenfield competition

The identification of these variables not only provides for sensitivities but also addresses the relativity between typologies. While all three typologies may be feasible the development model identifies the site scenario with the highest profit margin. However, practically while the model assesses the standard 20% profit margin, there is greater risk in some typologies. The assessment below endeavours to consider these risks, and motivation, differentials.

On top of greenfield consideration, the relative risk of each development type must be considered in quantifying what will practically be developed by the market. The risk is not homogenous across typology or development type, and thus a matrix of 'risk factors' have been applied across each combination of typology and development type.

Risk has been accounted for developments undertaking by developers by increasing the required profit level for a development to be classified as 'realisable', on top of being feasible. Table 8 below shows the profit levels required for each combination of typology and development option to be considered realisable by the model.

TABLE 8 – DEVELOPER REALISABLE PROFIT RATES

	Comprehensive Developer	Infill Developer	Infill Owner
House	24%	20%	29%
Terraced	27%	24%	33%
Apartment	38%	33%	46%

Source: Property Economics,

This reflects the market practicality that developments taken on by a developer have relatively lower risk if they are an infill development, rather than a comprehensive development. It also shows the increasing risk of development as the typology increases in scale from standalone dwellings, through to terraced product, and finally apartments.

For an owner occupier the model considers the profit level of the development relative to the capital value of the existing dwelling(s). This is because motivations for an owner to subdivide their property are inherently linked with the relative profit they can achieve against the value of their own home e.g. a $100,000 profit on a $1,000,000 site will be less likely to be developed by

the owner, compared to a $100,000 profit on a $500,000 site, assuming similar fixed costs. Therefore, as a methodology for this, the model considers that the lowest quartile of feasible infill developments in terms of the relative profit / CV ratio will not be realised by the market.

Additionally, it has been directed by UHCC that they expect around 20% of the commercial zone to be used for Residential Activity. This has been modelled by adding an additional profit margin to target only the most profitable developments.

Taking these market practicalities into consideration, Table 9 represents the realisable capacity within Upper Hutt:

TABLE 9: UPPER HUTT REALISABLE RESIDENTIAL DEVELOPMENT CAPACITY BY ZONE

Realisable Capacity	Theoretical	Standalone	Terraced	Total	% of Theoretical
Commercial	726	150	3	153	21%
Residential	8,715	5,378	167	5,545	64%
Rural	66	25	31	56	85%
Special Activity	516	160	14	174	34%
Total	**10,023**	**5,713**	**215**	**5,928**	**59%**

Source: Property Economics,

Table 9 shows that the realisable capacity across Upper Hutt is around 5,928 new dwellings, representing a 59% realisation rate across the district. In essence, this represents a 86% realisation rate of the already calculated feasible capacity outlined in Table 6 above. As expected, the realisation on standalone developments is higher than terraced, with 90% of all feasible standalone developments being realised, compared to 42% for terraced.

As discussed, the realisable capacity for the Commercial Zone has been reduced further than the other zones down to a realisation rate of only 21% on the theoretical capacity.

The vast majority of dwellings that are likely to be realised in Upper Hutt City according to the Property Economics modelling are standalone. However, it is important to note that neither the theoretical or feasible model takes into account some of the more nuanced details of each individual site. There may be instances where the shape or slope necessitates a standalone or terraced development.

Table 10 disaggregates the realisable capacity by Suburb.

TABLE 10 – UPPER HUTT REALISABLE RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB – ALL ZONES

Realisable Capacity					
Suburbs	Theoretical Capacity	Realisable Standalone	Realisable Terraced	Total Realisable Capacity	Realisation Rate
Akatarawa	26	16	10	26	100%
Birchville-Brown Owl	1962	1,274	5	1,279	65%
Brentwood	210	113	13	126	60%
Clouston Park	274	146	11	157	57%
Ebdentown	228	89	6	95	42%
Elderslea	360	121	26	147	41%
Heretaunga	424	237	10	247	58%
Mangaroa	153	86	12	98	64%
Maoribank	1023	772	6	778	76%
Pinehaven	755	285	2	287	38%
Poets Block	266	136	12	148	56%
Riverstone Terraces	834	662	12	674	81%
Silverstream	840	492	31	523	62%
Te Marua	803	388	1	389	48%
Totara Park	117	47	11	58	50%
Trentham North	437	162	16	178	41%
Trentham South	576	362	14	376	65%
Upper Hutt Central	505	226	2	228	45%
Wallaceville	230	99	15	114	50%
Total	10,023	5,713	215	5,928	59%

Source: Property Economics, UHCC

5. SUFFICIENCY OF SUPPLY

Table 11 shows the projected dwelling demand under the Sense Partners 50th percentile forecast and the NPS-UD uplift requirement for Upper Hutt City. This shows that over the next 30 years (2021 – 2051), Upper Hutt City is projected to require an additional 12,223 dwellings.

TABLE 11: UPPER HUTT CITY HOUSEHOLD PROJECTIONS OVER SHORT, MEDIUM, AND LONG TERM

	Short Term (2021 - 2024)	Medium Term (2024 - 2031)	Long Term (2031 - 2051)	Total Increase
Dwellings	1,179	2,749	6,530	10,458
Margin	*20%*	*20%*	*15%*	-
Demand Adjustment	236	550	980	1,765
Total	**1,415**	**3,299**	**7,510**	**12,223**

Source: Property Economics, Sense Partners

Property Economics has been supplied with the MRCagney Greenfield Capacity model. According to the Council directed density inputs, the greenfield land has capacity for 5,433 new sections, all of which are feasible to develop. This makes Upper Hutt City's total feasible capacity 12,291 which just meets the 30-year projected demand including the required competitiveness margins. This capacity is reduced if the realisable capacity estimate is used instead of the feasible to 11,361, which is still 93% of the total projected demand requirements.

This suggests, Upper Hutt City has sufficient capacity supply for at least the next two decades, if not longer.