PROPERTY ECONOMICS

UPPER HUTT COMMERCIALLY FEASIBLE RESIDENTIAL CAPACITY ASSESSMENT

Client: Upper Hutt City Council

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SCHEDULE

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1. INTRODUCTION

Property Economics has been engaged by Upper Hutt City Council (**UHCC**) as part of a wider Wellington 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 city. 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.

This represents an update to the similar work Property Economics undertook in 2021 / 2022 for the Wellington Region's second HBA.

1.1. GLOSSARY

- **Theoretical Yield / Plan Enabled Capacity** – The total number of properties that could be developed under the proposed IPI Medium Density Residential Standards provisions within the permitted building envelope, irrelevant of market conditions.

- **Comprehensive Development** – A development option that assumes the removal of all existing buildings for a comprehensive redevelopment of the entire site with less restrictions.
- **Infill Development** - A development option that assumes the existing building is retained, and new residential house(s) are developed on balance of the site (i.e., the backyard).
- **Standalone House** – Single detached dwelling.
- **Terraced** – Dwellings that are attached horizontally to other dwellings but not vertically. This typology is always built to the ground floor (i.e., does not include homes built above retail stores).
- **Apartments** – Dwellings that are attached vertically and potentially horizontally. Usually in multi-storey developments of higher density. In this model, Apartments have only been defined in zones with height limits of at least 14m (i.e. four or more stories)
- **Total Yield**- The total number of dwellings developed.
- **Net Yield** – The total number of dwellings constructed net of any existing dwellings removed. For Infill development, the total yield is equal to the net yield, while for Comprehensive development the net yield is equal to the total yield less the existing dwellings.
- **Greenfield** – Defined as sites larger than 5ha.

2. THEORETICAL (ENABLED) 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.

Table 1 below outlines the theoretical capacity outputs by suburb based on the model provided to Property Economics (maximum dwelling number per site).

TABLE 1 – UPPER HUTT THEORETICAL RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB – URBAN CAPACITY

Theoretical Capacity						
Suburbs	**High Density Residential**	**Medium Density Residential**	**Total Residential**	**Unadjusted Commercial**	**Adjusted Commercial**	**Total Capacity**
Birchville-Brown Owl	-	14,324	14,324	835	325	14,649
Brentwood	-	4,499	4,499	29	3	4,502
Clouston Park	1,322	4,505	5,827	4	-	5,827
Ebdentown	13,645	1,499	15,144	-	-	15,144
Elderslea	9,518	4,921	14,439	1,371	461	14,900
Heretaunga	9,546	3,847	13,393	2,459	756	14,149
Mangaroa	-	1,211	1,211	-	-	1,211
Maoribank	-	17,769	17,769	-	-	17,769
Pinehaven	-	11,369	11,369	6	0	11,369
Poets Block	194	5,278	5,472	354	63	5,535
Riverstone Terraces	-	6,804	6,804	88	15	6,819
Silverstream	14,792	6,607	21,399	1,075	195	21,594
Te Marua	-	4,740	4,740	4	-	4,740
Totara Park	-	5,062	5,062	50	6	5,068
Trentham North	24,995	-	24,995	7,318	2,499	27,494
Trentham South	4,534	2,772	7,306	-	-	7,306
Upper Hutt Central	1,947	1,227	3,174	30,166	10,541	13,715
Wallaceville	18,204	-	18,204	-	-	18,204
Total	**98,697**	**96,434**	**195,131**	**43,759**	**14,865**	**209,996**

Source: Property Economics, UHCC

Table 1 shows there is theoretical capacity within Upper Hutt of just under 210,000 new dwellings. The suburb of Trentham North has the largest theoretical capacity at around 27,500 dwellings.

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.

In Upper Hutt's previous Housing and Business Capacity Assessment, the theoretical capacity in Upper Hutt was approximately 10,000 units. This new capacity assessment illustrates the significant increase in enabled residential capacity within the city.

The reason for the large increase in theoretical capacity is that previously, Upper Hutt was assessed with a minimum site size of 400sqm in the General Residential Zone and higher elsewhere. Therefore, any site smaller than 800sqm would have had zero additional capacity potential. Under the Medium Density Residential Standards however, there is no minimum and capacity options have been assessed at average land area of as low as 100sqm per unit.

Furthermore, sites in the High-Density Residential Zone (HDRZ) are enabled up to six storey apartments which means that many sites went from having zero net yield to a net yield of upwards of 35 dwellings.

Upper Hutt City Council has, for the purposes of this modelling, defined all sites greater than 5 ha as Greenfield, the theoretical capacity of which is shown on Table 2 below.

For the most part, these greenfield sites are treated the same as the smaller urban sites with a few exceptions.

- It is assumed that 30% of each site is required for internal roading and reserves.
- Additionally, Property Economics have tested a large site option across the greenfield sites and adopted the most profitable option.

Furthermore, Property Economics has endeavoured to account for slopes in the capacity assessment. In the Hutt City assessment most of their greenfield areas that had major sloping issues were zoned for either Hill Residential or Landscape Protection which had a minimum site size of 1,000sqm and 2,000sqm respectively.

Although Upper Hutt City Council do not have an equivalent zone, they are currently in the process of undertaking Plan Change 47 which may introduce a High Slope Hazard Overlay. This

overlay defines the areas with an incline of more than 26 degrees and the plan change places additional restrictions to building and subdivision within the High Slope Hazard Overlay.

Although this plan change is not part of the planning environment on which this model is intended to cover, the high slope represents a very real practical constraint on development that also has significant cost implications.

For the purpose of modelling capacity in these areas, Property Economics has assumed a 1,000sqm average site size across the portion of the site covered by this high slope hazard overlay.

The area with the highest theoretical yield is the 62ha Silverstream golf club site in Heretaunga which is zoned for High Density Residential and after removing constraints (e.g. Designation) and space for roading, has a developable area of around 24ha and the theoretical potential for over 24,000 small apartments.

TABLE 2 UPPER HUTT CITY 'GREENFIELD' THEORETICAL RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB

Theoretical Capacity - Greenfield						
Suburbs	**High Density Residential**	**Medium Density Residential**	**Total Residential**	**Unadjusted Commercial**	**Adjusted Commercial**	**Total Capacity**
Birchville-Brown Owl	-	3,084	3,084	-	-	3,084
Heretaunga	24,193	-	24,193	-	-	24,193
Maoribank	-	414	414	-	-	414
Riverstone Terraces	-	202	202	-	-	202
Trentham South	-	234	234	-	-	234
Upper Hutt Central	-	513	513	7,635	3,053	3,566
Total	**24,193**	**4,447**	**28,640**	**7,635**	**3,053**	**31,693**

Source: Property Economics, UHCC

Tables 1 and 2 shows the Commercial Capacity both before and after adjustments. The adjustments this refers to is to reduce the residential capacity by the proportion of that zone which is expected to be business. These ratios are shown in Table 3 below.

TABLE 3: PROPORTION OF COMMERCIAL ZONE RESERVED FOR COMMERCIAL LAND USES

Zone	% Business
Neighbourhood Centre Zone	80%
Local Centre Zone	80%
Mixed Use Zone	60%
Town Centre Zone	80%
City Centre Zone	70%

Source: Property Economics, HCC

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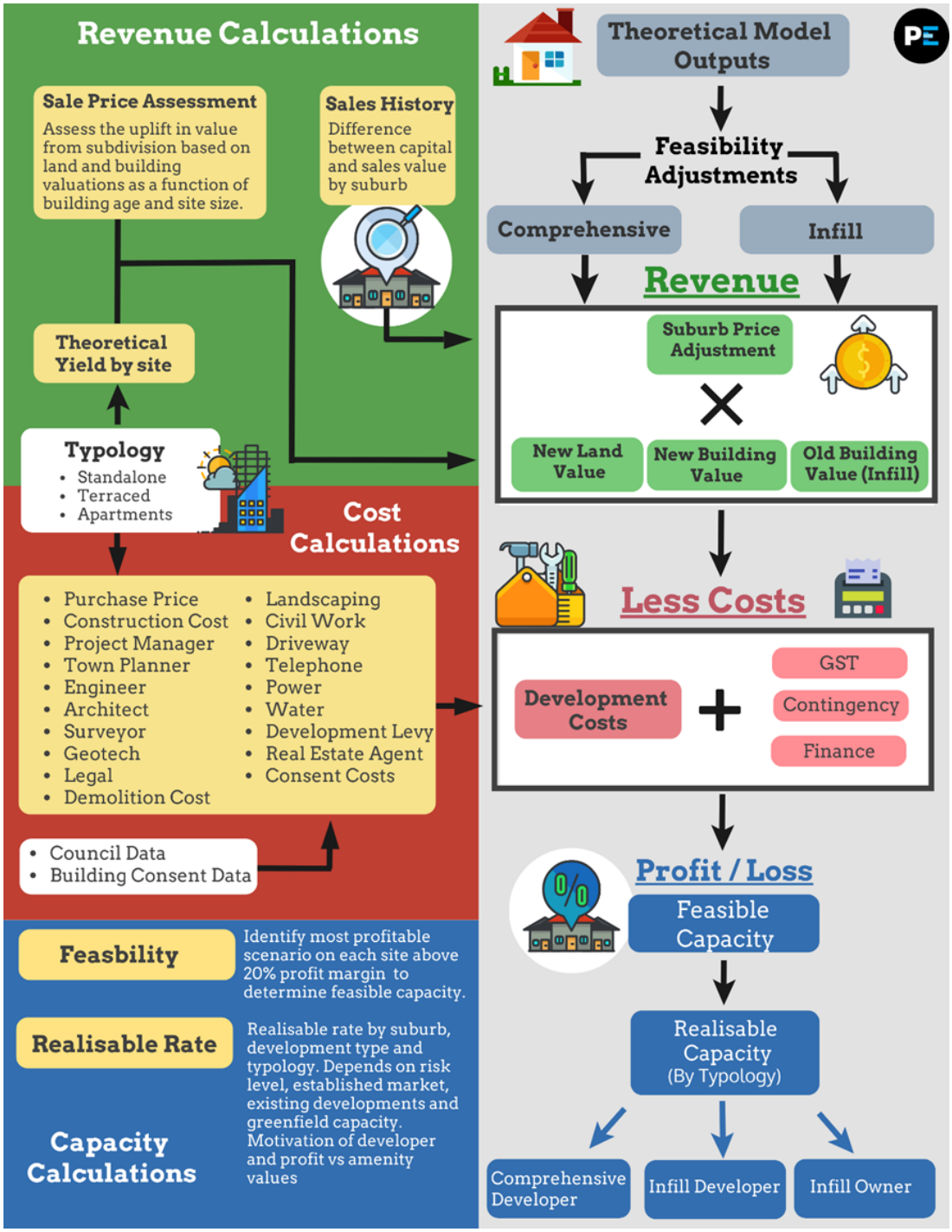
3. FEASIBLE CAPACITY MODELLING

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



Source: Property Economics

Improvement Value per SQM

Using the ratings database provided by Upper Hutt City Council, 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 (due to differing structures and quality), 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.

Table 4 demonstrates how a subdivision primarily makes it profit through an increase in land value. Note that this is a generic example, (i.e., does not represent a specific site in Upper Hutt City) that is simply included for demonstration purposes.

TABLE 4: EXAMPLE OF HOW BUILDING VALUE AND LAND VALUE CAN VARY BETWEEN STANDALONE AND TERRACED DEVELOPMENT OPTIONS

Development Option on 500sqm site	Building Value per dwelling	Site Size per dwelling	Land Value per dwelling	Sale Price per dwelling	Land Value Per SQM	Total Land Value
One 100sqm Standalone	$ 400,000	500	$ 500,000	$900,000	$ 1,000	$ 500,000
Two 100sqm Standalone	$ 400,000	250	$ 400,000	$800,000	$ 1,600	$ 800,000
Three 100sqm Terraces	$ 400,000	167	$ 360,000	$760,000	$ 2,160	$ 1,080,000

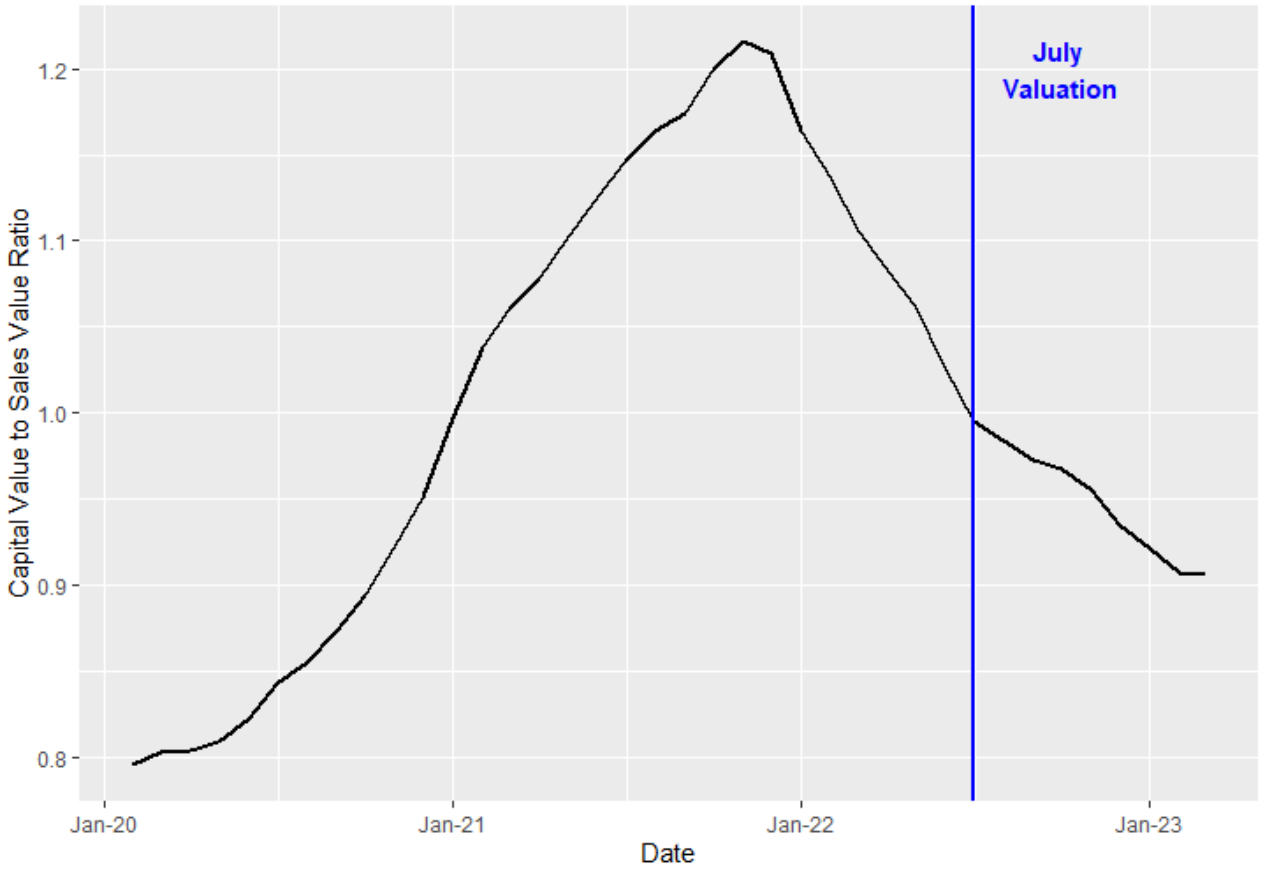
Source: Property Economics,

As this table shows, the value of each individual 100sqm building does not change. Rather the value in building more terraces is inherit in the increase in land value from $1,600 per sqm to $2,160 per sqm, which is the result of being able to build more homes on the same site. If building terraces did not result in a greater yield (i.e., only two terraces or two standalone options) then the Feasible Capacity Model results would likely show the standalone to be the preferred option.

Upper Hutt Sales Price

Figure 2 shows how the average sales price compares to capital valuation between January 2020 and February 2023. This provides an indication of how sales price has changed over the past few years. It also highlights when the underlying valuations were undertaken in July 2022 which, as Figure 2 shows, coincides with an average 1.0 ratio of Sales Price to Valuation. At its peak at the end of 2021, Properties in Upper Hutt were selling for 21.5% higher than their current valuations on average. This can also be interpreted as showing that property prices dropped by around 21.5% between December 2021 and July 2022.

FIGURE 2: AVERAGE HOUSE PRICE IN UPPER HUTT BETWEEN 2019 AND 2023



Source: Property Economics, UHCC, Core Logic

The Sales Data used to produce Figure 2 was provided to Property Economics by Upper Hutt City Council up till September 2022. However, Property Economics has also obtained further sales from Core Logic to generate the series into early 2023 and this shows that property prices have continued to drop over by a further 10% from the July valuation point.

Furthermore, the Construction Cost Index indicates the costs have risen by 10% in the last year and by 20% since 2020.

This shift in the balance between the underlying land values and the large increase in construction costs has a significant impact on the urban feasibility. As a baseline, the feasibility assessment results below reflect a price point as at the valuation (September 2022) however this report provides an indication of the potential feasible capacity under two different price scenarios, end of 2021 high, and early 2023 low.

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 5 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 5- UPPER HUTT FEASIBLE RESIDENTIAL DEVELOPMENT CAPACITY BY ZONE– OWNER AND DEVELOPER

Feasible (Max Profit)	Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
High Density Residential	98,697	484	1,157	3,939	5,580	6%
Medium Density Residential	96,434	0	9,796	6,358	16,154	17%
Commercial / Mixed Use Zone	14,865	1,054	0	452	1,505	10%
Greenfield	31,693	0	2,052	251	2,303	7%
Total	**241,689**	**1,538**	**13,005**	**11,000**	**25,543**	**11%**

Source: Property Economics, UHCC

Table 5 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 25,543 additional units within the Upper Hutt market. As all development options have been considered in Table 2, this represents the total feasible capacity in the market. This level of feasible capacity represents an 10% feasibility rate on the theoretical capacity.

Table 6 below shows how the feasible capacity is distributed across the suburbs.

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

Feasible Capacity						
Suburbs	**Theoretical Capacity**	**Feasible Standalone**	**Feasible Terraced**	**Feasible Apartment**	**Total Feasible Capacity**	**Feasibility Rate**
Birchville-Brown Owl	17,733	2,561	402	26	2,989	17%
Brentwood	4,502	145	717	-	862	19%
Clouston Park	5,827	141	265	-	406	7%
Ebdentown	15,144	145	700	33	878	6%
Elderslea	14,900	353	977	134	1,463	10%
Heretaunga	38,342	1,029	1,083	80	2,191	6%
Mangaroa	1,211	40	-	-	40	3%
Maoribank	18,183	2,493	387	-	2,880	16%
Pinehaven	11,369	2,202	466	-	2,668	23%
Poets Block	5,535	154	785	-	939	17%
Riverstone Terraces	7,021	789	394	-	1,183	17%
Silverstream	21,594	724	1,865	48	2,637	12%
Te Marua	4,740	714	158	-	872	18%
Totara Park	5,068	49	46	-	95	2%
Trentham North	27,494	218	1,279	61	1,558	6%
Trentham South	7,540	591	234	-	825	11%
Upper Hutt Central	17,281	487	598	1,156	2,241	13%
Wallaceville	18,204	170	644	-	814	4%
Total	**241,689**	**13,005**	**11,000**	**1,538**	**25,543**	**11%**

Source: Property Economics, UHCC

Silverstream is the Suburb with the area with the largest feasible capacity, the majority of which are Terraces. Most of the apartments are located in Upper Hutt Central, but there are a few sites in the HDRZ on which it is feasible and most profitable to build apartments.

The most profitable development option on each site is driven by a range of factors including the geometry and development potential of the site, the underlying zone and land values. Higher land values typically favour smaller site sizes while the HDRZ increases the development yield, particularly that of terraces. Consequently, Table 6 shows that terraced developments outnumber standalone in suburbs like Trentham North and Ebdentown where a large number of sites lie within the HDRZ. .

Conversely, standalone development outnumber terraces in Birchville-Brown Owl which is located in the northern edge of the city. Approximately one quarter of the feasible capacity in this suburb is on Greenfield Sites. The land values in this suburb are below average for the city and all of the Residential capacity is located within the General Residential Zone.

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 7 below shows the profit levels required for each combination of typology and development option to be considered realisable by the model.

TABLE 7 – 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.

Taking these market practicalities into consideration, Table 8 shows the realisable capacity within Upper Hutt: This shows the total capacity that is reasonable expected to be realised by taking the most "realisable" development option for each site.

TABLE 8: UPPER HUTT REALISABLE RESIDENTIAL DEVELOPMENT CAPACITY BY ZONE

Realisable	Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
High Density Residential	98,697	253	2,832	894	3,979	4%
Medium Density Residential	96,434	0	10,164	963	11,127	12%
Commercial / Mixed Use Zone	14,865	638	0	434	1,072	7%
Greenfield	31,693	0	2,088	194	2,282	7%
Total	**241,689**	**891**	**15,084**	**2,485**	**18,461**	**8%**

Source: Property Economics,

Table 8 shows that the realisable capacity across Upper Hutt is around 18,461 new dwellings, representing a 8% realisation rate across the city. In essence, this represents a 72% realisation rate of the already calculated feasible capacity outlined in Table 4 above.

As expected, the realisation on standalone developments is higher than terraced, with a slight increase in the realisable standalone development over feasible and a large decrease in the number of terraces that are expected to be realised.

The vast majority of dwellings that are likely to be realised in Upper Hutt City according to the modelling is of a standalone typology. However, it is important to note that neither the theoretical nor 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 9 disaggregates the realisable capacity by Suburb.

TABLE 9 – UPPER HUTT REALISABLE RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB – ALL ZONES

Realisable Capacity						
Suburbs	**Theoretical Capacity**	**Realisable Standalone**	**Realisable Terraced**	**Realisable Apartment**	**Total Realisable Capacity**	**Feasibility Rate**
Birchville-Brown Owl	17,733	2,102	6	-	2,108	12%
Brentwood	4,502	431	149	-	580	13%
Clouston Park	5,827	133	8	-	141	2%
Ebdentown	15,144	399	84	-	483	3%
Elderslea	14,900	735	101	122	958	6%
Heretaunga	38,342	1,505	455	80	2,040	5%
Mangaroa	1,211	11	-	-	11	1%
Maoribank	18,183	2,198	-	-	2,198	12%
Pinehaven	11,369	1,610	-	-	1,610	14%
Poets Block	5,535	507	135	-	642	12%
Riverstone Terraces	7,021	953	34	-	987	14%
Silverstream	21,594	1,659	392	-	2,051	9%
Te Marua	4,740	440	-	-	440	9%
Totara Park	5,068	44	4	-	48	1%
Trentham North	27,494	691	477	-	1,168	4%
Trentham South	7,540	680	75	-	755	10%
Upper Hutt Central	17,281	527	459	690	1,676	10%
Wallaceville	18,204	459	106	-	565	3%
Total	**241,689**	**15,084**	**2,485**	**891**	**18,461**	**8%**

Source: Property Economics, UHCC

4.3. GREENFIELD

Table 10 shows the Feasible and Realisable Greenfield Capacity for each suburb. Note that this capacity was included in the preceding tables and is not additional to the capacity outlined in Tables 5,6,8 and 9.

In testing, all but two of the Greenfield sites put through the feasibility model (i.e. excluding sites completely covered by constraints) had feasible and realisable development options. The difference between the Theoretical and Feasible Capacity represents the difference between what could be built under the plan and what is likely to be built. For example, it may be theoretically possible to build 70sqm small terraces, but the model may suggest that large Standalone houses are the most profitable option with a 200 – 400sqm site size average.

This is partially driven by many of the sites being restricted to 1,000sqm sites on the heavy sloping sections of the site and the model limiting the resulting development to a single typology. In reality, these larger greenfield sites are likely to have have a mix of typologies and site sizes as this enables developers to cater to a wider market.

TABLE 10: GREENFIELD FEASIBLE AND REALISABLE CAPACITY

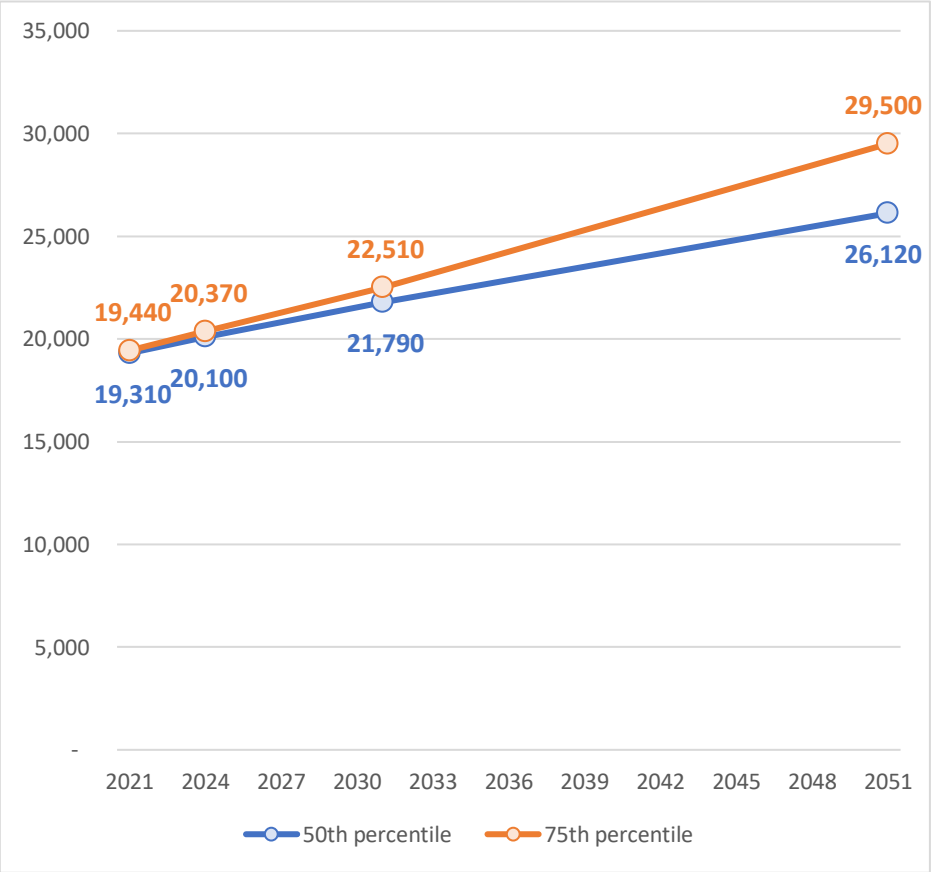
Suburbs	Theoretical Capacity	Feasible	Feasible Ratio	Realisable	Realisable Ratio
Birchville-Brown Owl	3,084	732	24%	732	24%
Heretaunga	24,193	809	3%	809	3%
Maoribank	414	141	34%	141	34%
Riverstone Terraces	202	60	30%	48	24%
Trentham South	234	73	31%	73	31%
Upper Hutt Central	3,566	488	14%	479	13%
Total	**31,693**	**2,303**	**7%**	**2,282**	**7%**

Source: Property Economics

5. DEMAND RECONCILIATION

Figure 3 below shows the household projections according to the projections developed by Sense Partners for Upper Hutt City. It shows growth according to their 50th and 75th percentile projections showing the medium and high growth scenarios. Under these scenarios, the projected 30-year growth between 2021 and 2051 ranges from 6,810 dwellings under the medium and 10,050 dwellings under the high projection.

FIGURE 3: SENSE PARTNERS PROJECTED DWELLINGS (UPPER HUTT CITY)



Source: Property Economics

Based on this assumption, it is clear that Upper Hutt City has more than sufficient realisable capacity (of 18,461) to meet its projected demand under even the higher 75th percentile growth scenario (10,050 dwellings or 11,710 including the NPS UD margin).

The question remains however, as to whether or not this capacity is suitable to meet the needs and desires of the Upper Hutt housing market. It is therefore important to reconcile this capacity with the demand by systematically allocating sites to be built for specific development options.

Sense Partners Projections break down the household demand by household type (i.e. couple without kids, single parent family etc) which we can use to estimate the typology and size demanded by the population in each location over the next 30 years.

Based on Upper Hutt's history of new dwelling consents, Sense Partners breakdown of Standalone and Attached Dwellings and their projected household demographic changes, Property Economics has estimated the number of Small, Medium and Large dwellings of each typology will be required.

The model then reconciles the feasible capacity against this demand by sorting each of the sites by profit and systematically allocating each of them to be "Realised" as one of the nine typology / sizes.

Table 11 shows the split by typology and Size across each of Standalone, Terraces and Apartments, and the capacity to meet that demand. This highlights that three quarters of the demand is projected to be for Standalone dwellings and under the Medium Growth Scenario there is sufficient capacity to meet this demand. If Upper Hutt grows to meet their high projection, there remains sufficient realisable capacity to accommodate this demand structure.

TABLE 11: DEMAND RECONCILIATION BY TYPOLOGY AND SIZE FOR MEDIUM PROJECTION

Typology	Size	Demand	Demand Reconciled	Sufficiency	Residual Capacity
Standalone	Large	866	866	100%	3,220
	Medium	1,810	1,810	100%	3,416
	Small	2,402	2,402	100%	2,614
Terraced	Large	75	75	100%	281
	Medium	493	493	100%	712
	Small	985	985	100%	1,440
Apartment	Large	9	9	100%	382
	Medium	65	65	100%	315
	Small	102	102	100%	123
Total		6,807	6,807	100%	12,503

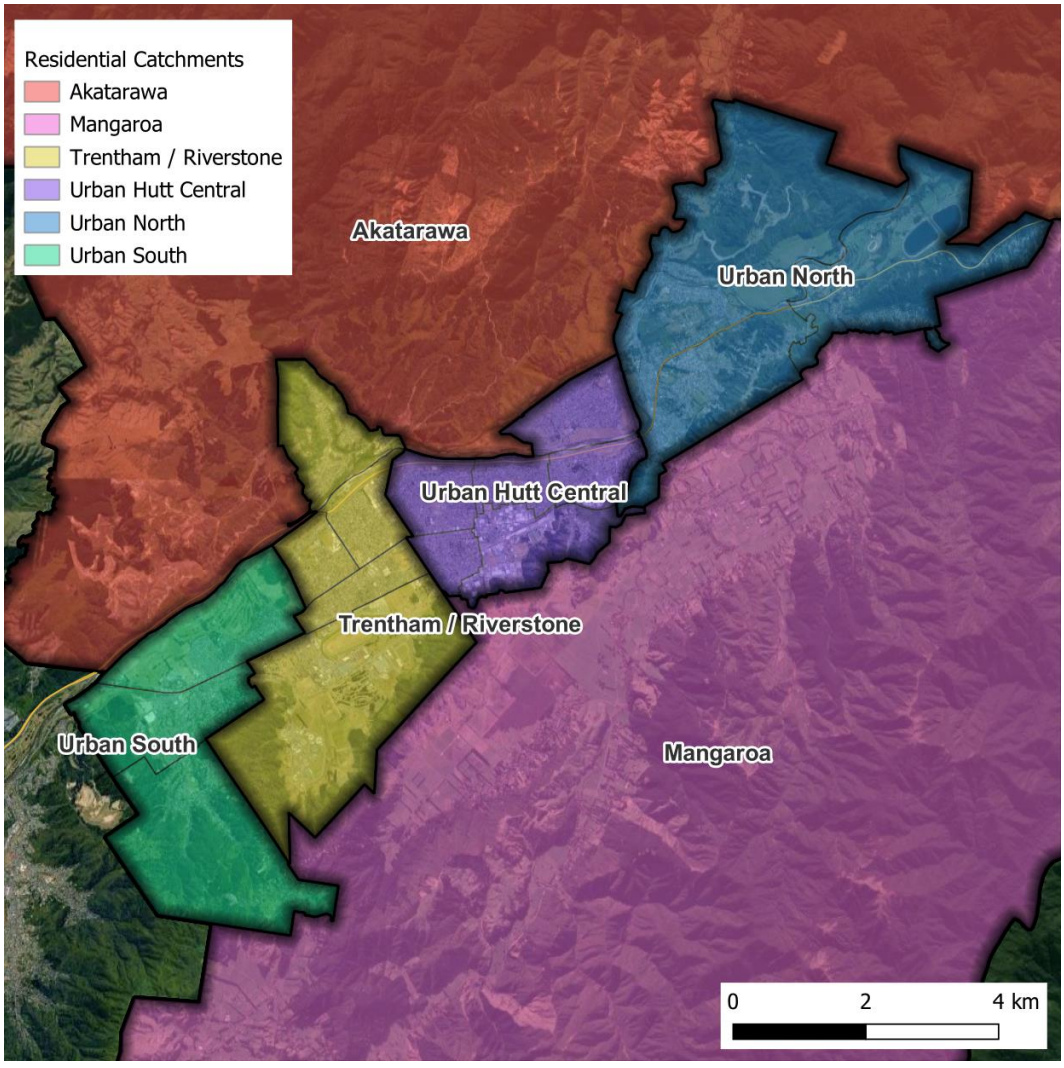
Source: Property Economics, UHCC

As well as ensuring there is sufficient capacity to support the likely demand by typology, it is also important to ensure there is sufficient capacity in each location. Sense Partners dwelling projections included a breakdown by Statistical Area 2 (SA2). However, Property Economics

does not consider it appropriate to assess demand and capacity at an SA2 level due to the margin of error and substitutability of demand across SA2s.

Instead, Property Economics have used the six residential catchments UHCC defined in the 2022 Housing and Business Capacity Assessment for a finer grain locational analysis. These areas are shown on Figure 4 below.

FIGURE 4: RESIDENTIAL CATCHMENTS



Source: Property Economics, UHCC.

Table 12 shows there is sufficient capacity to meet all of the demand by location except for the predominately rural areas of Akatarawa and Mangaroa. However, as this model does not take into account rural capacity, this demand may in fact be met outside the urban zones.

TABLE 12: DEMAND RECONCILATION UNDER THE SENSE PARTNERS MEDIUM PROJECTION BY TYPOLOGY AND SIZE

Catchment	Type	Demand	Demand Reconciled	Sufficiency	Residual Capacity
Akatarawa	Standalone	34	0	0%	0
	Attached	2	0	0%	0
Trentham / Riverstone	Standalone	1,418	1,418	100%	1,817
	Attached	672	672	100%	864
Urban South	Standalone	924	924	100%	3,349
	Attached	494	494	100%	921
Urban North	Standalone	774	774	100%	3,750
	Attached	258	258	100%	109
Urban Hutt Central	Standalone	1,750	1,750	100%	535
	Attached	300	300	100%	1,364
Mangaroa	Standalone	178	11	6%	0
	Attached	3	0	0%	0
Total		**6,807**	**6,601**	**97%**	**12,709**

Source: Property Economics

For the purposes of comparison with the other estimates of capacity, Table 13 breaks down the Demand Reconciled Capacity by Typology and Zone. Note that this includes both the capacity required to meet demand and the Residual Capacity shown in Table 12 above.

TABLE 13: UPPER HUTT DEMAND RECONCILED CAPACITY BY ZONE

Demand Reconciled	Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
High Density Residential	98,697	311	2,764	1,159	4,234	4%
Medium Density Residential	96,434	0	9,840	2,077	11,917	12%
Commercial / Mixed Use Zone	14,865	685	0	374	1,059	7%
Greenfield	31,693	0	1,724	376	2,100	7%
Total	**241,689**	**996**	**14,328**	**3,986**	**19,310**	**8%**

Source: Property Economics

Notably, the Urban Demand Reconciled Capacity is slightly higher than the Realisable Capacity while the Demand Reconciled Capacity on the Greenfield sites is slightly lower. This difference is due to the Demand Reconciled Capacity having a more even spread the typologies and sizes.

Specifically, in the Urban areas, the Realisable Capacity has more Standalone dwellings and favoured the Medium to Large sizes. The shift to attached dwellings and smaller average sizes results in an increase in capacity within the Urban areas.

In contrast, most of the Realisable Greenfield Capacity were Medium Standalone. However, in the Demand Reconciliation, most of the Greenfield sites were allocated to supplying large Standalone dwellings, resulting in a small reduction in capacity.

6. ALTERNATIVE SCENARIOS

Table 14 shows the feasibility and realisable capacity based on Quarter 1 2023 prices (i.e. a further approximately 7% reduction from the September 2022 prices on which the preceding capacity assessment was based). This reduction in sale price correlates with a larger decrease in the land values as improvement values have not materially changed.

TABLE 14: FEASIBLE AND REALISABLE CAPACITY AS AT EARLY 2023 PRICES

		Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
Feasible (Max Profit)	High Density Residential	98,697	362	1,127	2,960	4,449	5%
	Medium Density Residential	96,434	0	6,283	4,444	10,727	11%
	Commercial / Mixed Use Zone	14,865	851	0	470	1,320	9%
	Greenfield	31,693	0	1,839	203	2,042	6%
	Total	**241,689**	**1,213**	**9,249**	**8,077**	**18,539**	**8%**
Realisable Capacity	High Density Residential	98,697	52	1,877	843	2,772	3%
	Medium Density Residential	96,434	0	5,865	655	6,520	7%
	Commercial / Mixed Use Zone	14,865	295	0	250	545	4%
	Greenfield	31,693	0	1,839	203	2,042	6%
	Total	**241,689**	**347**	**9,581**	**1,951**	**11,879**	**5%**

Source: Property Economics

This drop in sales price has a significant impact on the level of feasible and realisable capacity, dropping the Realisable Capacity from 18,640 to just under 11,900. Notably, this capacity is still sufficient to meet the projected demand under the High Projections of 11,710 even with the required competitiveness margin.

We see the impacts of both prices and construction costs in the model when we compare what the capacity results would have been had we run them under the previous HBA market conditions as shown on Table 15. This shows that with an approximately 20% higher sales price and lower construction costs, the feasibility of infill development more than doubles. . In particularly, the number of Feasible Apartments increases to over 16,000, most of which are in the High-Density Residential Zone.

TABLE 15: FEASIBLE AND REALISABLE CAPACITY UNDER PREVIOUS HBA MARKET CONDITIONS

		Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
Feasible (Max Profit)	High Density Residential	98,697	13,651	1,031	4,880	19,562	20%
	Medium Density Residential	96,434	0	11,146	14,359	25,505	26%
	Commercial / Mixed Use Zone	14,865	2,502	0	545	3,047	21%
	Greenfield	31,693	0	1,320	1,341	2,661	8%
	Total	**241,689**	**16,153**	**13,497**	**21,126**	**50,776**	**21%**
Realisable Capacity	High Density Residential	98,697	1,639	2,155	4,318	8,112	8%
	Medium Density Residential	96,434	0	15,293	7,755	23,048	24%
	Commercial / Mixed Use Zone	14,865	1,881	0	622	2,503	17%
	Greenfield	31,693	0	2,052	242	2,294	7%
	Total	**241,689**	**3,520**	**19,500**	**12,938**	**35,958**	**15%**

Source: Property Economics

The previous HBA resulted in an Urban Feasible Capacity of 6,858 and Realisable Capacity of 5,928. This shows that the Intensification Plan Change would result in a large increase in the level of both feasible (+640%) and realisable capacity (+500%).

7. SUMMARY

Table 16 shows the projected dwelling demand under the Sense Partners 50th and 75th percentile forecast and the NPS-UD[1] uplift requirement for Upper Hutt City. This shows that over the next 30 years (2023 – 2053), Upper Hutt City requires a capacity of over 7,950 dwellings under the medium 50th percentile projection and a capacity of 11,710 dwellings under the higher 75th percentile projection.

TABLE 16: UPPER HUTT CITY HOUSEHOLD PROJECTIONS OVER SHORT, MEDIUM, AND LONG TERM

Capacity Requirements		Short Term (2021 - 2024)	Medium Term (2024 - 2031)	Long Term (2031 - 2051)	Total Increase
50th Percentile	Households	790	1,680	4,330	6,810
	NPS Buffer	*20%*	*20%*	*15%*	-
	Total	**940**	**2,020**	**4,980**	**7,950**
75th Percentile	Households	920	2,140	6,980	10,050
	NPS Buffer	*20%*	*20%*	*15%*	-
	Total	**1,110**	**2,570**	**8,030**	**11,710**

Source: Property Economics, Sense Partners

Table 17 shows the summary of the four different measures of capacity for both Urban and Greenfield sites.

TABLE 17: UPPER HUTT CAPACITY OVERVIEW

Capacity Overview	Urban	Greenfield	Total
Theoretical Capacity	209,996	31,693	**241,689**
Feasible	23,239	2,303	**25,543**
Realisable	16,178	2,303	**18,482**
Demand Reconciled	17,210	2,100	**19,310**

Source: Property Economics

Finally, Table 18 shows a comparison of the Realisable Capacity (being the lowest capacity estimate) against total Demand including the NPS Buffer. This shows that under both demand projections, Upper Hutt City has more than sufficient capacity to meet the projected demand.

[1] The National Policy Statement for Urban Development requires Councils to provide sufficient capacity to meet projected demand with a 20% competitiveness margin / buffer over the Short to Medium Term and a 15% buffer over the Long Term.

TABLE 18: UPPER HUTT SUFFICIENCY

Sufficiency	50th Percentile	75th Percentile
Demand + NPS Buffer	7,950	11,710
Realisable Capacity	18,482	
Difference	**+ 10,532**	**+ 6,772**

Source: Property Economics