PROPERTY ECONOMICS

HUTT CITY COMMERCIALLY FEASIBLE RESIDENTIAL CAPACITY ASSESSMENT

Client: Hutt City Council

Project No: 51970

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SCHEDULE

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1. INTRODUCTION

Property Economics has been engaged by Hutt City Council (HCC) as part of a wider Wellington region residential capacity project team, to undertake an assessment of the commercially feasible residential capacity (supply) of the Lower Hutt City District (Hutt City) within the context of Council's obligations under the National Policy Statement on Urban Development 2020 (NPS-UD).

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

This report discusses the work undertaken by both Property Economics and Hutt City Council analysing the existing theoretical residential capacity of Lower Hutt City and developing a capacity model for calculating the level of feasible development within the district. This will inform policymakers 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.
- 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.

2. THEORETICAL (ENABLED) CAPACITY

Property Economics has been provided with GIS layers containing the sites within Lower Hutt City that provide for infill, or comprehensive redevelopment opportunities. Theoretical residential capacity was calculated 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 'Urban' theoretical capacity output provided for the model by HCC by suburb and zone (maximum dwelling number per site).

TABLE 1 – LOWER HUTT CITY 'URBAN' THEORETICAL RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB

Theoretical Capacity - Sites less than 5ha							
Suburbs	**High Density Residential**	**Medium Density Residential**	**Restricted Residential**	**Total Residential**	**Unadjusted Commercial**	**Adjusted Commercial**	**Total Capacity**
ALICETOWN	4,545	-	-	4,545	555	444	4,989
AVALON	8,180	3,043	-	11,223	468	374	11,597
BELMONT	-	4,622	172	4,794	-	-	4,794
BOULCOTT	9,915	803	-	10,718	1,286	1,029	11,747
DAYS BAY	-	862	17	879	16	13	892
EASTBOURNE	860	3,499	107	4,466	551	441	4,907
EPUNI	7,217	-	-	7,217	1,182	946	8,163
FAIRFIELD	6,519	1,986	-	8,505	382	306	8,811
HARBOUR VIEW	1,032	2,215	-	3,247	-	-	3,247
HAYWARDS	318	241	3	562	-	-	562
HUTT CENTRAL	13,644	-	-	13,644	47,731	23,983	37,627
KELSON	-	6,324	242	6,566	-	-	6,566
KOROKORO	710	70	184	964	-	-	964
LOWRY BAY	-	1,944	69	2,013	-	-	2,013
MAHINA BAY	-	-	90	90	-	-	90
MANOR PARK	707	397	-	1,104	-	-	1,104
MAUNGARAKI	-	9,030	29	9,059	103	82	9,141
MELLING	256	-	-	256	-	-	256
MOERA	1,456	127	-	1,583	571	457	2,040
NAENAE	8,558	13,492	-	22,050	1,211	969	23,019
NORMANDALE	1,019	6,682	13	7,714	-	-	7,714
PETONE	10,183	107	-	10,290	29,681	3,009	13,299
POINT HOWARD	-	-	13	13	-	-	13
SEAVIEW	-	-	5	5	-	-	5
SORRENTO BAY	-	-	4	4	-	-	4
STOKES VALLEY	1,137	29,733	266	31,136	442	354	31,490
SUNSHINE BAY	-	-	6	6	-	-	6
TAITA	17,240	771	-	18,011	1,180	944	18,955
TIROHANGA	1,796	1,285	52	3,133	-	-	3,133
WAINUIOMATA	1,982	44,677	459	47,118	4,422	3,538	50,656
WAIWHETU	7,990	3,105	-	11,095	419	335	11,430
WATERLOO	9,566	3,421	22	13,009	614	491	13,500
WOBURN	15,809	-	-	15,809	37	30	15,839
YORK BAY	-	109	64	173	-	-	173
Total	**130,639**	**138,545**	**1,817**	**271,001**	**90,851**	**37,743**	**308,744**

Source: Property Economics, HCC

Restricted Residential includes Hill Residential and Landscape Protection zones which have minimum site sizes of around 600sqm and 2,000sqm respectively.

In total, there is capacity for 308,744 dwellings within Hutt City's under 5ha sites. The Suburb with the most capacity is Wainuiomata with 50,656 dwellings. This is likely due to sites in this area having a lower density in the existing housing stock. The suburb with the second most capacity is Hutt Central which is primarily driven by the higher heights enabled in the City Centre Zone for apartments.

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 in Table 2 below (maximum dwelling number per site). It is important to note that included in these 'Greenfield" sites is the Polytechnic in Waterloo which, in practice are not "greenfield" sites.

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

Theoretical Capacity - Greenfield			
Suburbs	**Medium Density Residential**	**Restricted Residential**	**Total Residential**
EASTBOURNE	-	86	86
GRACEFIELD	-	-	-
HUTT CENTRAL	-	-	-
KELSON	717	240	957
NAENAE	-	315	315
PETONE	-	-	-
SEAVIEW	-	-	-
STOKES VALLEY	-	357	357
TAITA	-	-	-
TIROHANGA	-	108	108
WAINUIOMATA	1,203	87	1,290
WATERLOO	475	-	475
YORK BAY	-	113	113
Total	**2,395**	**1,306**	**3,701**

Source: Property Economics, HCC

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

- It has been assumed that 30% of each site is required for internal roading.
- The reserves contribution requires land developers to either contributed land or money for reserves. For the purposes of this modelling Property Economics has assumed the contribution is purely financial as part of the contributions already accounted for in the urban model.
- Additionally, Property Economics have tested a large site option across the greenfield sites and adopted the most profitable option.

Table 3 shows the Commercial Capacity both before and after adjustments. This adjustment refers to reducing the residential capacity by the proportion of that zone expected to be business. These ratios are shown in Table 3 below.

Note that in the previous HBA, a ratio of 20% for all commercial zones was applied. The ratios below represent a more refined consideration of each commercial zone relative to the previous HBA.

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

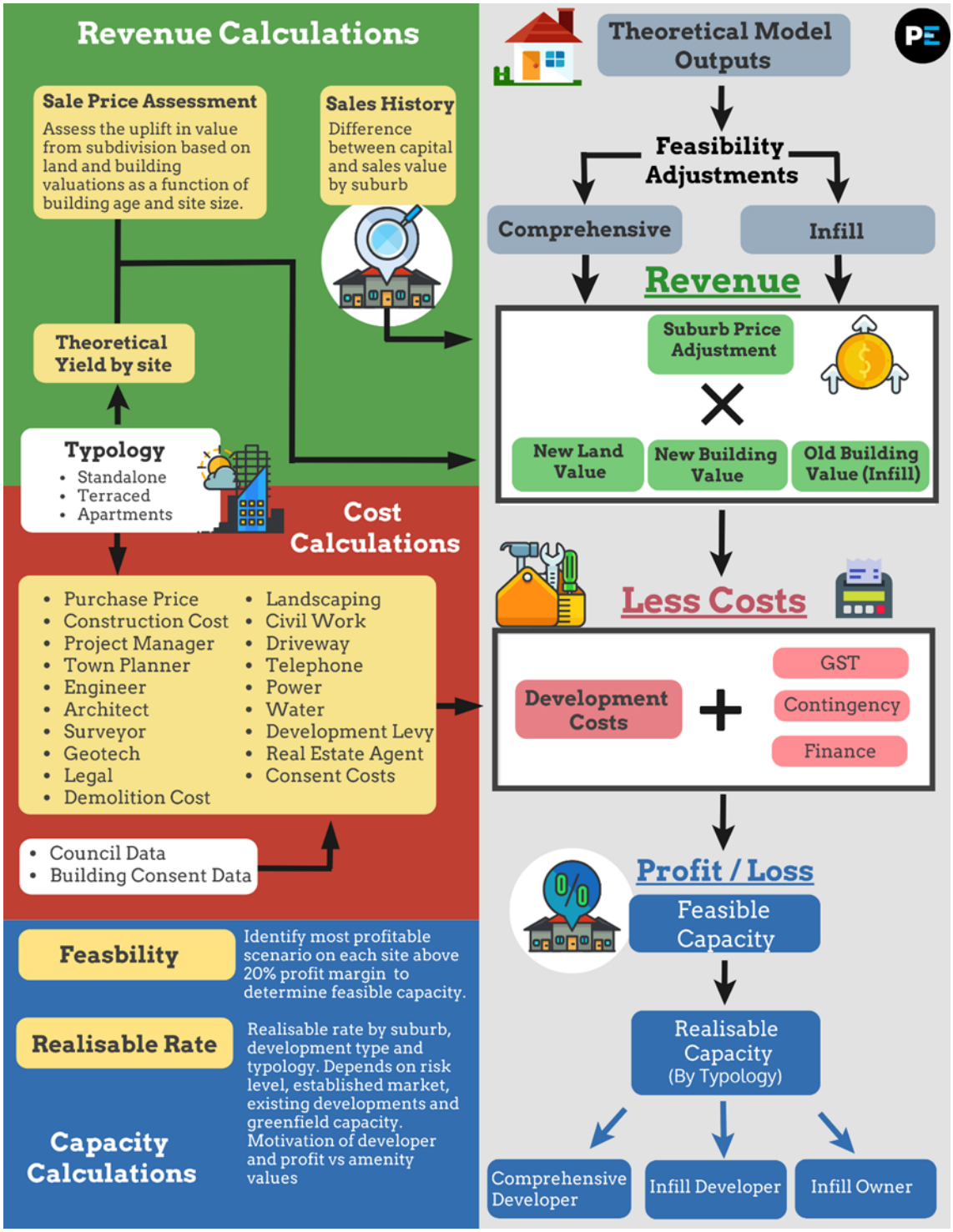
Zone	% Business
Petone Commercial	90%
Suburban Mixed Use	20%
Central Commercial	50%
General Business	100%
Special Business	100%
Avalon Business	100%

Source: Property Economics, HCC

3. FEASIBLE CAPACITY MODELLING

A high-level overview of the model utilised by Property Economics in determining the feasible residential capacity for Lower 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



Improvement Value per SQM

Using the rating database provided by 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 is 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 its profit through an increase in land value. Note that this is a generic example, (i.e., does not represent a specific site in Lower 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

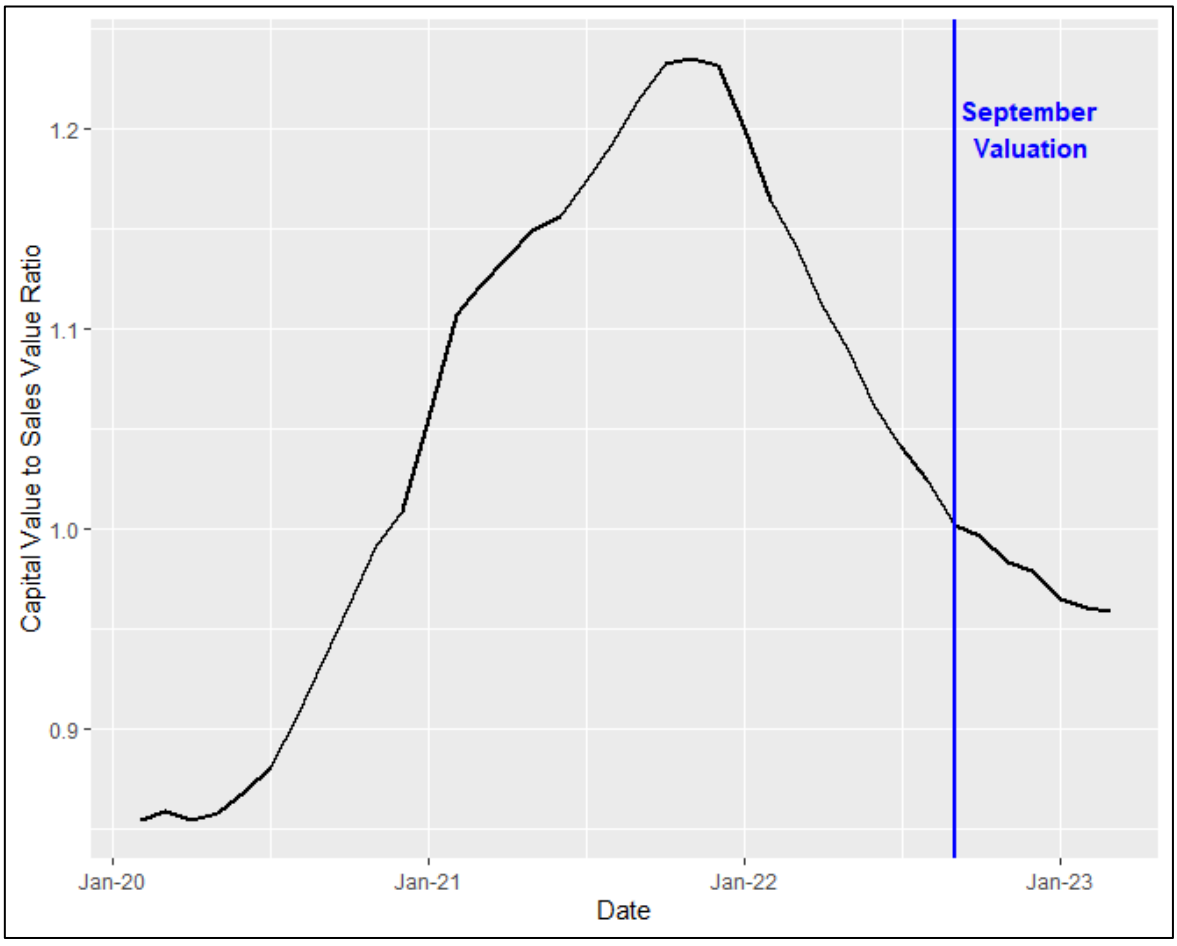
Source: Property Economics,

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.

Hutt Sales Price

Figure 2 shows how the average sales price compares to the September 2022 valuations between January 2020 and February 2023. It also highlights when the underlying valuations were undertaken in September 2022 which, as Figure 2 shows, coincides with an average 1.0 ratio of Sales Price to Valuation. This provides an indication of how sales price has changed over the past few years. At its peak at the end of 2021, Properties in Lower Hutt were selling for 23% higher than their current valuations on average. This can also be interpreted as showing that property prices have dropped by around 23% between December 2021 and September 2022.

FIGURE 2: ROLLING AVERAGE RATIO OF SALES PRICE TO CAPITAL VALUE BETWEEN JANUARY 2020 AND FEBRUARY



Source: Property Economics, Core Logic, HCC

The Sales Data used to produce Figure 2 was provided to Property Economics by Hutt City Council. However, Property Economics has also obtained further sales from Core Logic, and this shows that property prices have continued to drop over the following months data down by 4%.

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 Lower Hutt City 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: LOWER HUTT CITY FEASIBLE RESIDENTIAL DEVELOPMENT CAPACITY BY DISTRICT PLAN ZONE

Feasible (Max Profit)	Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
High Density Residential	130,632	4,444	288	8,031	12,763	10%
Other Residential Zones	140,362	0	3,270	27,350	30,620	22%
Commercial	37,743	12,042	0	125	12,167	32%
Greenfield / Sites over 5ha	3,701	0	1,546	472	2,018	55%
Total	**312,438**	**16,486**	**5,104**	**35,978**	**57,568**	**18%**

Source: Property Economics

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, then there is the potential for 57,568 additional units within Lower Hutt City's market including both urban and greenfield sites. As all development options have been considered in Table 5, this represents the total feasible capacity in the market. This level of feasible capacity represents a 18% feasibility rate on the theoretical capacity.

Table 6 shows a summary of this feasible capacity by suburb.

TABLE 6 – LOWER HUTT CITY FEASIBLE RESIDENTIAL CAPACITY BY SUBURB – OWNER AND DEVELOPER

	Feasible Capacity						
Suburbs	**Theoretical Capacity**	**Feasible Standalone**	**Feasible Terraced**	**Feasible Apartment**	**Total Feasible Capacity**	**% of Theoretical**	**% of Sites with Feasible Option**
ALICETOWN	4,982	-	141	86	227	5%	10%
AVALON	11,597	-	1,150	-	1,150	10%	16%
BELMONT	4,794	140	782	-	922	19%	10%
BOULCOTT	11,747	-	293	1,291	1,584	13%	6%
DAYS BAY	892	33	277	-	310	35%	56%
EASTBOURNE	4,993	171	792	144	1,107	22%	14%
EPUNI	8,163	-	272	127	399	5%	12%
FAIRFIELD	8,811	75	1,025	-	1,100	12%	29%
HARBOUR VIEW	3,247	174	646	-	820	25%	58%
HAYWARDS	562	-	-	-	-	0%	0%
HUTT CENTRAL	37,627	115	799	11,617	12,530	33%	37%
KELSON	7,523	679	1,080	-	1,759	23%	39%
KOROKORO	964	169	95	-	264	27%	59%
LOWRY BAY	2,013	158	522	-	680	34%	65%
MAHINA BAY	90	79	-	-	79	88%	73%
MANOR PARK	1,104	-	67	-	67	6%	19%
MAUNGARAKI	9,141	178	1,994	-	2,172	24%	50%
MELLING	256	-	6	-	6	2%	6%
MOERA	2,040	-	57	-	57	3%	3%
NAENAE	23,334	329	3,538	-	3,867	17%	36%
NORMANDALE	7,714	228	2,145	-	2,373	31%	69%
PETONE	13,299	16	921	1,342	2,279	17%	31%
POINT HOWARD	13	7	-	-	7	54%	33%
SEAVIEW	5	5	-	-	5	100%	100%
SORRENTO BAY	4	2	-	-	2	50%	33%
STOKES VALLEY	31,847	858	7,115	-	7,973	25%	39%
SUNSHINE BAY	6	5	-	-	5	83%	67%
TAITA	18,955	7	1,536	-	1,543	8%	23%
TIROHANGA	3,241	251	445	-	696	21%	49%
WAINUIOMATA	51,946	1,022	7,064	-	8,086	16%	23%
WAIWHETU	11,430	99	1,198	353	1,650	14%	31%
WATERLOO	13,975	142	1,538	124	1,804	13%	25%
WOBURN	15,839	-	451	1,403	1,854	12%	15%
YORK BAY	286	162	29	-	191	67%	46%
Total	**312,438**	**5,104**	**35,978**	**16,486**	**57,568**	**18%**	**29%**

Source: Property Economics

Included in Table 6 are two different measures of feasibility. One is a comparison of the total feasible capacity against the total theoretical capacity while the other is a measure of the proportion of sites which have a feasible option.

These two numbers differ because the Theoretical Yield is the maximum possible yield on each site. For example, if there is a property on which it is theoretically possible to build 10 apartments, but the most profitable option is a single large house on the back section, then the '% of Theoretical' would only be 10% but 100% of the sites in this example are feasible to develop.

The feasibility of sites and their apartment potential is influenced by several factors, including underlying land values, available space for infill development, existing improvement values, and the practicality of further intensification. Suburbs with higher underlying land values, tend to have greater feasibility for apartment development compared to those with lower values. However, feasibility is also contingent upon the average size of sites and their potential for further intensification. This explains why Petone, despite having a relatively high land value,

demonstrates only an average level of feasibility. Additionally, the presence of numerous theoretical but not feasible apartments in the area contributes to a lower feasible capacity as a percentage of theoretical capacity.

It should also be noted that there are a couple of 'Suburbs' with only a few sites available for development such as Seaview. This suburb has a Feasibility Rate of 100% but as it is only a single developable site, it should not be construed as representing a suburb with high development feasibilities.

Hutt Central stands out as the area with the largest feasible capacity, primarily due to the presence of 11,617 feasible apartments. Nevertheless, it is worth noting that other locations, such as Boulcott, Petone, and Woburn, also exhibit significant apartment potential. Petone already features several apartment blocks along the commercial zone on Jackson Street, and it is important to highlight that most of the feasible apartments in this area are concentrated within the commercial zones.

Conversely, the majority of apartments in Woburn, Boulcott, and nearly 1,500 apartments in Hutt Central are situated within the High-Density Residential Zone. These three suburbs collectively contribute the majority of feasible apartments within this zone.

In the vast majority of cases, Terraces are the most profitable option in Lower Hutt with close to 36,000 dwellings as the most feasible option. The Suburb with the largest Feasible capacity Wainuiomata, also has the largest Theoretical capacity. This is likely due to the area having comparatively lower densities in the existing market making both redevelopment and infill more feasible.

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. 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., and thus a matrix of 'risk factors' have been applied across each combination of typology and development type.

Risk has been accounted for developments undertaken 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
Standalone	20%	17%	25%
Terraced	23%	20%	28%
Apartment	32%	28%	39%

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 for Lower Hutt City:

TABLE 8 – LOWER HUTT CITY REALISABLE RESIDENTIAL DEVELOPMENT CAPACITY BY DISTRICT PLAN ZONE

Realisable Capacity	Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
High Density Residential	130,632	1,210	962	2,207	4,379	3%
Other Residential Zones	140,362	0	7,611	5,909	13,520	10%
Commercial	37,743	8,637	0	66	8,703	23%
Greenfield / Sites over 5ha	3,701	0	1,634	0	1,634	44%
Total	**312,438**	**9,847**	**10,207**	**8,182**	**28,236**	**9%**

Source: Property Economics

Table 8 shows that the realisable capacity across Lower Hutt City is 28,236 new dwellings, representing a 9% realisation rate across the district. In essence, this represents a 49% realisation rate of the already calculated feasible capacity outlined in Table 8.
As expected, the realisation on standalone developments is higher than terraced, with realisable capacity for standalone developments higher than feasible capacity, due to the higher 'margin' of profit levels over the realisable profit rate. That is, there is a shift in the expected development profile to building standalone typologies over terraces for instances where the difference in the estimated profit margins is small.

There is also a reduction overall in the number of dwellings that are expected to be realised compared to the feasible capacity, resulting in a more conservative estimate of the housing potential. A large part of this is the reduction is in the number of owner infill developments.

Table 9 shows the Realisable capacity by District Plan Suburb.

TABLE 9: LOWER HUTT CITY REALISABLE RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB

Realisable Capacity							
Suburbs	**Theoretical Capacity**	**Realisable Standalone**	**Realisable Terraced**	**Realisable Apartment**	**Total Realisable Capacity**	**% of Theoretical**	**% of Sites with Realisable Option**
ALICETOWN	4,982	2	37	-	39	1%	1%
AVALON	11,597	-	797	-	797	7%	10%
BELMONT	4,794	239	351	-	590	12%	6%
BOULCOTT	11,747	163	18	563	745	6%	2%
DAYS BAY	892	75	127	-	202	23%	43%
EASTBOURNE	4,993	204	647	-	851	17%	11%
EPUNI	8,163	-	29	-	29	0%	1%
FAIRFIELD	8,811	230	451	-	681	8%	15%
HARBOUR VIEW	3,247	366	236	-	602	19%	42%
HAYWARDS	562	-	-	-	-	0%	0%
HUTT CENTRAL	37,627	159	615	8,797	9,571	25%	24%
KELSON	7,523	862	358	-	1,220	16%	20%
KOROKORO	964	204	27	-	231	24%	55%
LOWRY BAY	2,013	257	267	-	524	26%	50%
MAHINA BAY	90	79	-	-	79	88%	73%
MANOR PARK	1,104	3	13	-	16	1%	5%
MAUNGARAKI	9,141	431	880	-	1,311	14%	27%
MELLING	256	-	-	-	-	0%	0%
MOERA	2,040	-	-	-	-	0%	0%
NAENAE	23,334	445	417	-	862	4%	3%
NORMANDALE	7,714	948	739	-	1,687	22%	54%
PETONE	13,299	4	36	383	422	3%	2%
POINT HOWARD	13	7	-	-	7	54%	33%
SEAVIEW	5	5	-	-	5	100%	100%
SORRENTO BAY	4	2	-	-	2	50%	33%
STOKES VALLEY	31,847	2,552	886	-	3,438	11%	13%
SUNSHINE BAY	6	3	-	-	3	50%	33%
TAITA	18,955	109	48	-	157	1%	1%
TIROHANGA	3,241	382	101	-	483	15%	29%
WAINUIOMATA	51,946	1,699	266	-	1,965	4%	3%
WAIWHETU	11,430	188	197	-	385	3%	7%
WATERLOO	13,975	323	389	-	712	5%	11%
WOBURN	15,839	103	241	104	448	3%	6%
YORK BAY	286	163	8	-	171	60%	33%
Total	**312,438**	**10,207**	**8,182**	**9,847**	**28,236**	**9%**	**10%**

Source: Property Economics

4.3. GREENFIELD

As outlined above 'greenfield', for the purposes of this report relates to sites of 5ha or greater within the identified residential environment. Table 10 shows the Feasible and Realisable Greenfield Capacity for each suburb. Note that this capacity has been included in the preceding tables and is not additional to the capacity outlined in Tables 5,6,8 and 9.

In testing, all but one of the Greenfield sites run through the Feasibility Model (i.e., excluding sites completely covered by constraints) had Feasible and Realisable development options.

TABLE 10: GREENFIELD FEASIBLE AND REALISABLE CAPACITY

Suburbs	Theoretical Capacity	Feasible	Feasible Ratio	Realisable	Realisable Ratio
EASTBOURNE	86	86	100%	86	100%
KELSON	957	349	36%	349	36%
NAENAE	315	315	100%	315	100%
STOKES VALLEY	357	356	100%	356	100%
TIROHANGA	108	108	100%	108	100%
WAINUIOMATA	1,290	359	28%	307	24%
WATERLOO	475	332	70%	-	0%
YORK BAY	113	113	100%	113	100%
Total	**3,701**	**2,018**	**55%**	**1,634**	**44%**

Source: Property Economics

In other locations, 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 the Hill Residential and Landscape Protection areas with high minimum site sizes such as the sites in Stokes Valley and Eastbourne, there is no difference. However, for the Greenfield locations zoned for medium density or commercial, they do not have a minimum site size and it becomes theoretically possible to build small terraces on 70sqm lots.

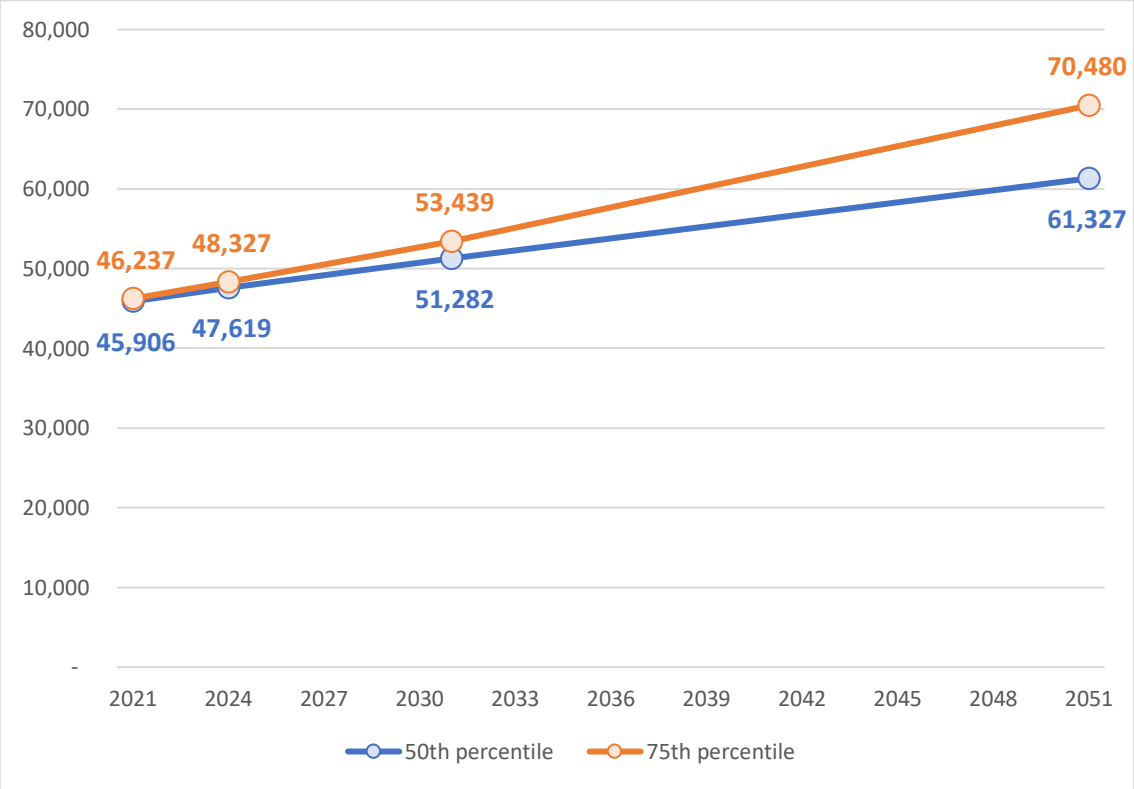
However, in these locations, the model suggests that medium to large standalone dwellings with 300sqm+ site sizes are more profitable / higher propensity to be realised in this location. Given their location on the outskirts of the city and the high level of intensification expected within the existing urban area, Property Economics would expect to see a larger average site size developed in these greenfield locations from a ground truthing perspective.

It is of interest to note that this iteration of the model tests a single typology. In practice, these larger Greenfield sites may result in a mix of typologies and site sizes.

5. SUFFICIENCY TO MEET DEMAND

Figure 3 below shows the household projections according to the projections developed by Sense Partners for Lower Hutt. 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 15,421 dwellings under the medium and 24,243 dwellings under the high projection.

FIGURE 3: SENSE PARTNERS PROJECTED HOUSEHOLDS (LOWER HUTT)



Source: Property Economics

Based on these projections, it is clear that Lower Hutt City has more than sufficient realisable capacity (of) to meet its projected demand under even the higher 75th percentile growth scenario (albeit it only just meets the competitiveness margin requirements set by the NPS).

The question remains, however, as to whether or not this capacity is suitable to meet the needs of the Lower Hutt housing market. Property Economics, therefore, attempts to reconcile the 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 children, single parent family etc) which can use to estimate the typology and size required (revealed preference) by the population in each location over the next 30 years.

Based on Lower 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 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 and the capacity to meet that demand. This highlights that around 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.

However, if Lower Hutt were to grow to meet their high projection, then there are insufficient realisable standalone homes to meet the projected demand at the same typology split. It may, therefore, require a shift in the balance of typologies that the households are willing to accept to attached dwellings (terraces and apartments) over standalone typologies.

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

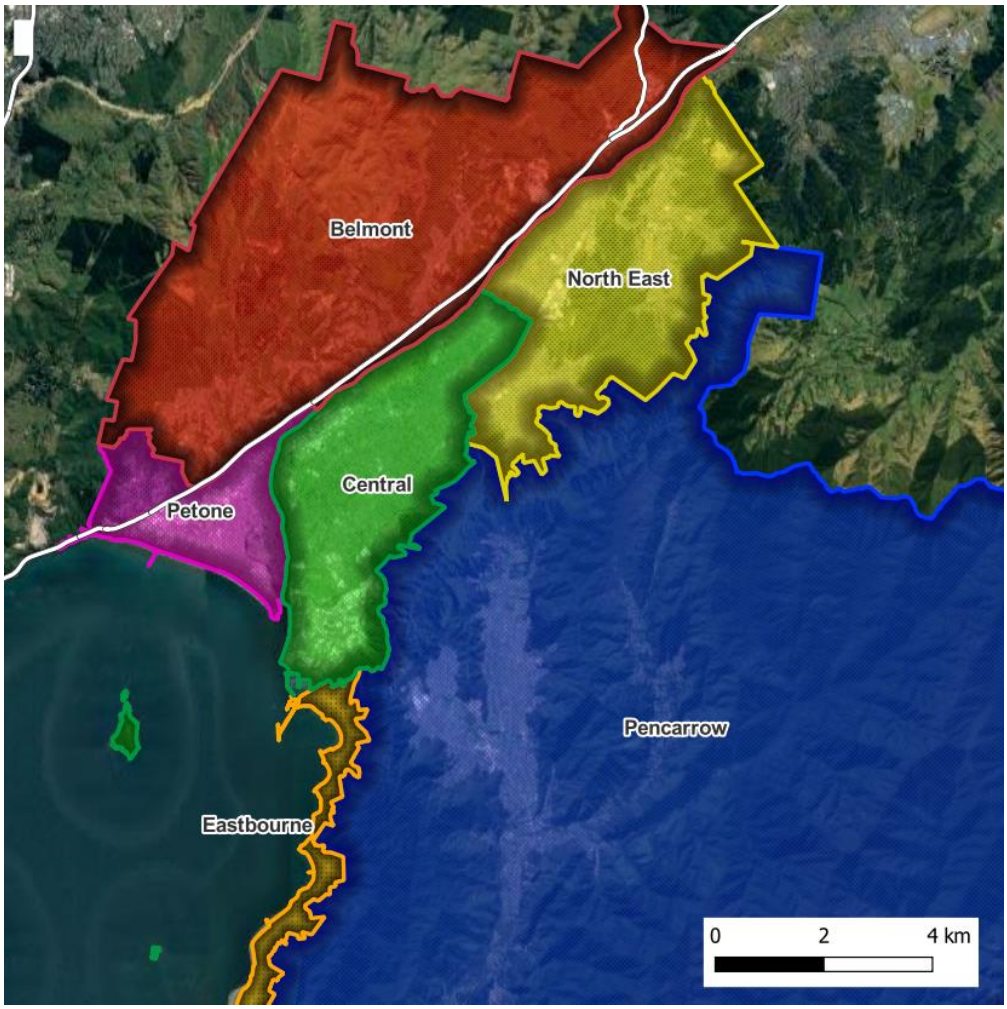
Typology	Size	Demand	Demand Reconciled	% of Demand Satisfied	Residual Capacity
Standalone	Large	2,711	2,711	100%	60
	Medium	4,293	4,293	100%	1,052
	Small	4,910	4,898	100%	0
Terraced	Large	156	156	100%	1,839
	Medium	771	771	100%	500
	Small	1,496	1,496	100%	22
Apartment	Large	73	73	100%	3,802
	Medium	398	398	100%	4,318
	Small	568	568	100%	2,026
Total		**15,376**	**15,364**	**100%**	**13,619**

Source: Property Economics, HCC

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 HCC defined in the 2022 Housing and Business Capacity Assessment for a finer-grain locational analysis. These areas are shown in Figure 4 below.

FIGURE 4: RESIDENTIAL CATCHMENTS



Source: Property Economics, HCC.

Table 12 shows there is sufficient capacity to meet demand in most of the geo-spatial areas identified above except for standalone product in the Central area, overall capacity within Petone sector and to a smaller extent Attached capacity in North East. This undersupply of standalone dwellings in Central is likely due (in part) to it being geospatially the smallest catchment in which a large portion of the area is either commercial or Hill Residential.

For Petone, the area is relatively built up (when compared with North for example) and therefore more expensive to redevelop. It should also be noted that Petone has 2,279 Feasible dwellings (mostly apartments) but only 422 Realisable dwellings. Therefore, there is significant apartment potential in this area, that could become realised in a market where there is a significant shortfall in standalone alternatives.

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

Catchment	Type	Demand	Reconciled Capacity	% of Demand Satisfied	Residual Capacity
North East	Standalone	2,462	2,462	100%	526
	Attached	935	726	78%	0
Central	Standalone	3,833	2,369	62%	0
	Attached	938	938	100%	11,287
Petone	Standalone	1,295	228	18%	0
	Attached	422	422	100%	133
Belmont	Standalone	2,100	2,100	100%	2,011
	Attached	801	801	100%	1,106
Eastbourne	Standalone	305	305	100%	871
	Attached	33	33	100%	341
Pencarrow	Standalone	1,919	1,919	100%	223
	Attached	333	182	55%	0
Total		**15,376**	**12,485**	**81%**	**16,498**

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 remaining residual capacity as shown in Table 12 above.

TABLE 13: LOWER HUTT CITY DEMAND RECONCILED CAPACITY BY ZONE

Demand Reconciled	Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
High Density Residential	130,632	676	1,894	1,346	3,916	3%
Other Residential Zones	140,362	0	9,532	3,350	12,882	9%
Commercial	37,743	10,509	0	88	10,597	28%
Greenfield / Sites over 5ha	3,701	0	1,588	0	1,588	43%
Total	**312,438**	**11,185**	**13,014**	**4,784**	**28,983**	**9%**

Source: Property Economics

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

The Realisable Capacity favoured larger dwellings, particularly Medium Standalone and Large Apartments and Terraces. The shift to a more balanced size distribution to match the expected demand profile resulted in more small dwellings (particularly small apartments) and an increase in capacity estimates.

6. ALTERNATIVE SCENARIOS

Table 14 shows the feasibility and realisable capacity under a 6% reduction in Sale Price (i.e., the difference between the median sale price in February 2023 and the September 2022 valuation date). This reduction in sale price correlates with a larger decrease in land values as construction values have not materially changed. Consequently, this has a large impact on the level of feasible and realisable capacity in Lower Hutt City.

TABLE 14: FEASIBLE AND REALISABLE CAPACITY WITH A 6% REDUCTION IN SALE PRICE

		Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
Feasible (Max Profit)	High Density Residential	130,632	3,342	214	3,128	6,684	5%
	Other Residential Zones	140,362	0	2,391	12,972	15,363	11%
	Commercial	37,743	10,795	0	65	10,860	29%
	Greenfield / Sites over 5ha	3,701	0	1,422	0	1,422	38%
	Total	**312,438**	**14,137**	**4,027**	**16,165**	**34,329**	**11%**
Realisable Capacity	High Density Residential	130,632	182	740	639	1,561	1%
	Other Residential Zones	140,362	0	5,019	2,008	7,027	5%
	Commercial	37,743	5,218	0	38	5,256	14%
	Greenfield / Sites over 5ha	3,701	0	1,379	0	1,379	37%
	Total	**312,438**	**5,400**	**7,138**	**2,685**	**15,223**	**5%**

Source: Property Economics

The impacts of both prices and construction costs in the model are evident when comparing what the capacity results would have been under the previous HBA market conditions. The previous HBA resulted in a Feasible Capacity of 38,174 and a Realisable Capacity of 15,945 in the urban model. Table 15 below shows that the medium-density residential standards would result in a large increase in the level of both feasible (+233%) and realisable capacity (+431%) (when comparing just the urban areas).

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

		Theoretical	Apartment	Standalone	Terraced	Total	% of Theoretical
Feasible (Max Profit)	High Density Residential	130,632	15,029	1,305	12,014	28,348	22%
	Other Residential Zones	140,362	39	7,941	32,639	40,619	29%
	Commercial	37,743	17,750	0	165	17,915	47%
	Greenfield / Sites over 5ha	3,701	0	1,546	472	2,018	55%
	Total	**312,438**	**32,818**	**10,792**	**45,290**	**88,900**	**28%**
Realisable Capacity	High Density Residential	130,632	6,325	3,614	7,833	17,772	14%
	Other Residential Zones	140,362	0	17,469	15,484	32,953	23%
	Commercial	37,743	15,718	0	294	16,013	42%
	Greenfield / Sites over 5ha	3,701	0	1,686	332	2,018	55%
	Total	**312,438**	**22,043**	**22,769**	**23,943**	**68,756**	**22%**

Source: Property Economics

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 Hutt City. This shows that over the next 30 years (2021 – 2051), Hutt City requires a residential capacity of 18,003 dwellings under the medium 50th percentile projection and a capacity of 28,240 dwellings under the higher 75th percentile projection.

TABLE 16: LOWER 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	1,713	3,663	10,045	15,421
	NPS Buffer	*20%*	*20%*	*15%*	-
	Total	**2,056**	**4,396**	**11,552**	**18,003**
75th Percentile	Households	2,090	5,112	17,041	24,243
	NPS Buffer	*20%*	*20%*	*15%*	-
	Total	**2,508**	**6,134**	**19,597**	**28,240**

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: LOWER HUTT CITY CAPACITY OVERVIEW

Capacity Overview	Urban	Greenfield	Total
Theoretical Capacity	308,744	3,701	**312,438**
Feasible	55,550	2,018	**57,568**
Realisable	26,602	1,634	**28,236**
Demand Reconciled	27,395	1,588	**28,983**

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 Hutt City has more than sufficient capacity to meet the projected demand (including margins) under the 50th Percentile growth but just enough capacity to meet demand under the 75th percentile (falls

[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.*

short by 5 dwellings). It is also important to note that under this higher growth profile, there will need to be a significant shift in the locational and typology preferences to meet demand.

TABLE 18: LOWER HUTT CITY SUFFICIENCY

Sufficiency	50th Percentile	75th Percentile
Demand + NPS Buffer	18,003	28,240
Realisable Capacity	28,236	
Difference	**+ 10,233**	**- 5**

Source: Property Economics