PROPERTY ECONOMICS

WELLINGTON CITY COMMERCIALLY FEASIBLE RESIDENTIAL CAPACITY ASSESSMENT

Client: Wellington City Council

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SCHEDULE

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1. INTRODUCTION

Property Economics has been engaged by Wellington City Council (WCC) in conjunction with Urban Edge Planning (UEP) (the partnership), to assess feasible residential capacity within Wellington City and develop a functional and dynamic residential capacity model for the city.

This economic analysis will inform policy makers as to the current day housing capacity potential geospatially within Wellington City and which areas are able to accommodate future residential development based on the Draft District Plan (DDP) zonings and policy settings, the application of the Medium Density Residential Standards (MDRS) recently enacted as part of the RMA[1], and current market metrics and property development parameters.

Residential capacity modelling can be broken down into three parts. First, the Theoretical Capacity / Plan-Enabled Capacity (i.e., what could potentially be built within the planning regulations and development envelope for each site). Second, Feasible Capacity (i.e., what is profitable / feasible to build on each site). Third, an estimate of how much of feasible capacity will be realised based on projected household demand, changing household demographics and dwelling consents patterns.

UEP, being the planning arm of the partnership, has developed the Theoretical Capacity modelling and have written an accompanying report detailing their process, assumptions and methodology. This report is separate but should be read in conjunction with this report – refer Appendix 1.

[1] *The Medium Density Residential Standards require each Tier 1 Council (which includes Wellington City) to enable as a permitted activity across residentially zoned sites the development of 3 dwellings of up to 3 storeys per site.*

This report authored by Property Economics, outlines the methodology for the Feasible Capacity Model, and presents the results of both models. The report also covers the key variables such as land value (per square metre) and existing improvement value to land value ratios that contribute to the economic feasibility of developments. The report explains the relationship between these market indicators and the propensity for net feasible capacity.

1.1. GLOSSARY

This section provides definitions for frequently utilised terms applied in this analysis.

- Theoretical Yield / Plan Enabled Capacity – The total number of properties that could be developed according to the District Plan provisions within the permitted building envelope, irrespective of market conditions.
- Comprehensive Development – A development option that assumes the removal of all existing buildings for a comprehensive redevelopment of the entire site.
- Greenfield Capacity – Capacity on undeveloped land typically resulting from land that is rezoned from rural to urban.
- Infill Development - A development option that assumes the existing building is retained, and new residential house(s) are developed on the balance of the site.
- Standalone House – Single detached dwelling.
- Terraced House – 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 also 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. SUMMARY

The objective of this report is to provide an understanding of the level of feasible residential development capacity within Wellington City under the draft plan as well as the impacts of the MDRS. This assessment excludes the potential for Greenfield capacity.

The key points of the assessment can be summarised in the following points:

- The population projections for Wellington City anticipate growth of between 50,000 - 80,000 new residents over the next 30 years. On the upper end, this translates to a projected 31,300 new dwellings required to support this growth.
- The DDP and MDRS allow for the theoretical development of approximately 243,000 units. Of these, Property Economics has assessed (Scenario 1) that 140,700 are Feasible and around 127,300 are Realisable.
- Table S1 following shows there is sufficient capacity by typology and locations across each of the residential catchments, with the exception of standalone product in the CBD.
- However, in light of recent market shifts, an alternative scenario (Scenario 2) was tested with a 10% drop in Sales Price and a 10% increase in Construction Costs. This resulted in a drop in realisable capacity of more than 40%. This is shown on Table S2 following.
- While this does not compromise the potential for Wellington to meet its forecast residential demand at a district level, there is the potential for a locational undersupply in Wellington's northern suburbs.
- This assessment has not taken into consideration infrastructure constraints. As such, this surplus capacity may be a necessary buffer to shield sufficiency against changes in market conditions and potential constraints in infrastructure.

The following table summarises the resulting composition and realisation rates under the forecast dwelling projections[2].

[2] *These projections have been adapted based on the Sense Partners June 2021 population and dwelling projections, 50th percentile.*

TABLE S1: DEMAND AND ESTIMATED CAPACITY UPTAKE BY TYPOLOGY AND SIZE

Catchment	Type	Demand	Sufficiency	Estimated Capacity Uptake %
North	Standalone	4,898	YES	63%
	Attached	7,009	YES	69%
West	Standalone	3,989	YES	24%
	Attached	1,725	YES	15%
East	Standalone	1,572	YES	24%
	Attached	1,479	YES	18%
Inner	Standalone	788	YES	38%
	Attached	1,962	YES	26%
Central / CBD	Standalone	417	NO (42%)	100%
	Attached	4,913	YES	18%
South	Standalone	1,874	YES	22%
	Attached	616	YES	15%
Total		**31,242**	**YES**	**28%**

Source: Property Economics

TABLE S2: FEASIBLE CAPACITY SENSITIVITY ANALYSIS

By Typology	Standalone	Terraced	Apartment	Total
Feasible Capacity Scenario 2	15,816	32,080	41,583	**89,479**
Previous (Scenario 1)	20,369	69,960	50,370	**140,699**
Change	- 4,553	- 37,880	- 8,787	**- 51,220**
Realisable Capacity Scenario 2	21,785	19,241	32,375	**73,401**
Previous (Scenario 1)	32,752	49,710	44,900	**127,362**
Change	- 10,967	- 30,469	- 12,525	**- 53,961**

Source: Property Economics

3. THEORETICAL CAPACITY

3.1. METHODOLOGY AND ASSUMPTIONS

UEP has provided Property Economics with GIS layers containing the sites within the Wellington City District that provide for infill housing development or comprehensive residential redevelopment. Theoretical residential capacity was calculated utilising DDP provisions, and the new government directed MDRS, whichever provides the highest development capacity.

Primarily, the MDRS means a significant increase in the theoretical capacity of areas zoned General Residential in the DDP but mostly no change to the theoretical capacity to the areas already zoned for Medium Density. The Medium Density Residential Zone (MDRZ) as defined in Wellington's DDP typically has provisions that are at least if not more enabling than the Government's MDRS (i.e., allows for greater height and more apartments).

The Theoretical Capacity contained several scenarios, based on housing typology and quantum, that were identified as theoretically possible to develop. As outlined in UEP's methodology report (Appendix 1), this included three different sizes (Small, Medium and Large) for three different housing typologies (Standalone, Terraced and Apartments) for two different development types (Infill and Comprehensive) e.g., Medium–- Terraced–- Infill. This arrangement of 9 different typology and size combinations with two different development types results in a total of 18 different scenarios being run across every site.

Although there is no minimum site size in the MDRZ, Property Economics apply minimum site sizes of 100sqm for terraces and 150sqm for Standalone houses. For the terraces, this is based on a minimum of 50sqm ground floor area and a 50% site coverage.

The higher site size for Standalone reflects the additional land area requirements to provide sufficient setbacks between houses. While it may technically be possible to achieve smaller site sizes, these minimum site sizes are designed to provide on average more practical yields and ensure there is a sufficient difference in the theoretical yield between standalone and terraced options.

3.2. RESULTS

Table 1 following shows the total plan-enabled capacity by typology and size and the maximum attainable yield. Since most sites include all nine different typologies and sizes as different options, the theoretical yield is mutually exclusive. For example, 120,750 Small Standalone dwellings are only possible if you build solely that typology at the exclusion of all others.

The maximum attainable yield is a calculation of the highest yield development option for each site. 242,850 dwellings represent Wellington's theoretical capacity and includes a mix of typologies and sizes.

TABLE 1 – WELLINGTON DDP-ENABLED RESIDENTIAL DEVELOPMENT CAPACITY (MUTUALLY EXCLUSIVE)

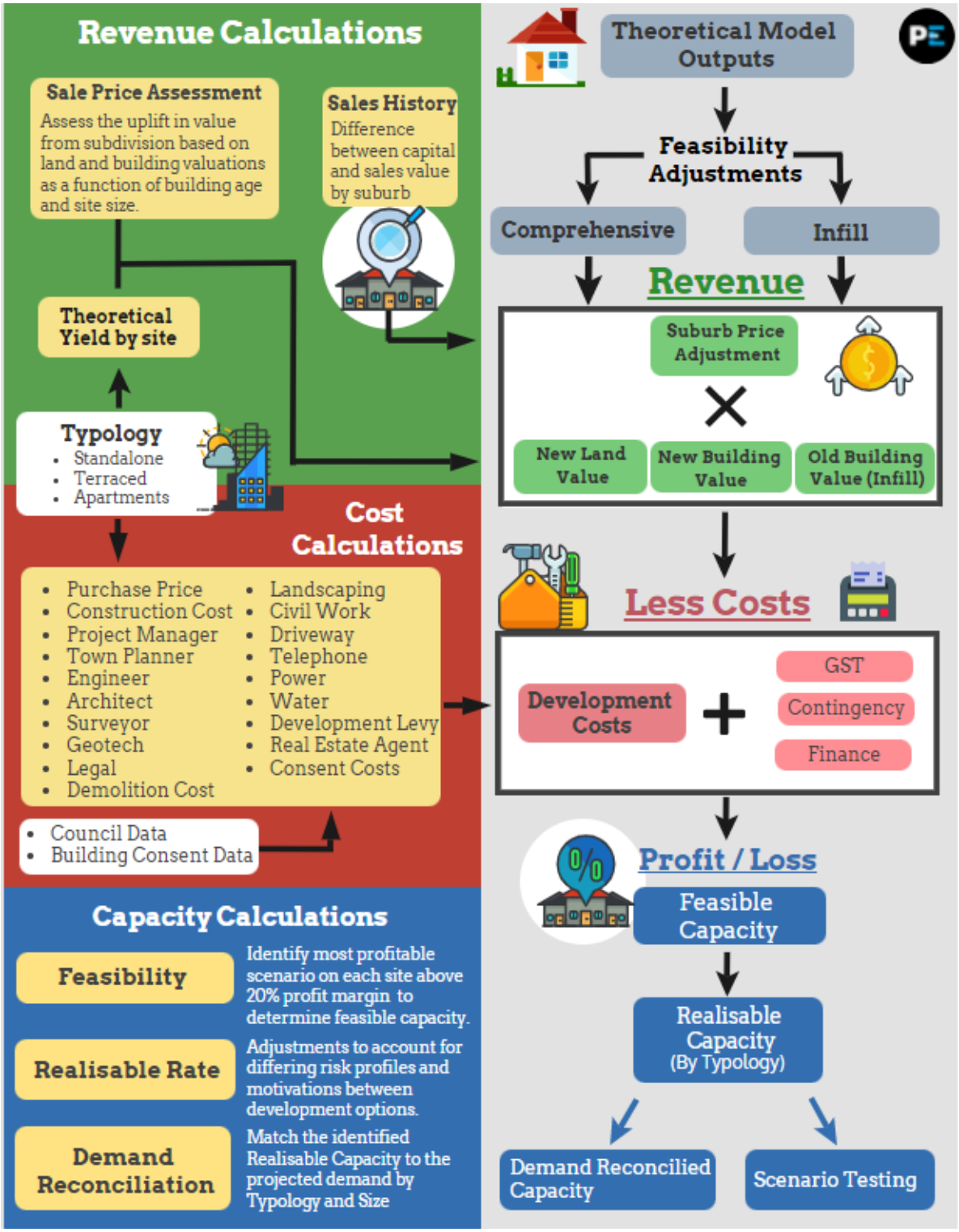
Typology	Size	Theoretical Yield
Standalone	Large	83,200
	Medium	116,600
	Small	120,750
Terraced	Large	93,100
	Medium	161,300
	Small	173,950
Apartment	Large	36,600
	Medium	58,050
	Small	85,700

Source: Property Economics, UEP

4. FEASIBLE CAPACITY MODELLING

A high-level overview of the model utilised by Property Economics in determining the feasible residential capacity for Wellington is outlined in the flow chart in Figure 1 below.

FIGURE 1: PROPERTY ECONOMICS RESIDENTIAL FEASIBILITY MODEL OVERVIEW



4.1. FEASIBLE CAPACITY

Property Economics has assessed the variables outlined above in the Wellington market and has 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 on existing urban sites is the relationship between a site's land value, fixed subdivision costs and the identifiable increase in value (sqm) through subdivision.

The feasible capacity assessment does not take infrastructure constraints into account. Many suburbs have significant constraints on development, particularly three waters. Only on-site commercial feasibility is considered.

Table 2 below outlines a summary of the number of dwellings on sites where the ratios meet a profit level suitable to meet market expectations (20% for this analysis) by Typology and Size. It is important to note that these outputs, like Table 1, are mutually exclusive and represent the capacity if only that typology and size are built on each site. This shows that Apartments have the highest feasibility rate of around 82% – 89% and that Standalone and Terraced development has a feasibility rate of around 50%.

TABLE 2: SUMMARY OF FEASIBLE CAPACITY BY TYPOLOGY AND SIZE – MUTUALLY EXCLUSIVE

Typology	Size	Theoretical Yield	Feasible	Feasibility Rate
Standalone	Large	83,200	41,250	50%
	Medium	116,600	56,650	49%
	Small	120,750	54,500	45%
Terraced	Large	93,100	47,700	51%
	Medium	161,300	90,800	56%
	Small	173,950	94,300	54%
Apartment	Large	36,600	30,100	82%
	Medium	58,050	51,450	89%
	Small	85,700	76,300	89%

Source: Property Economics, UEP

Table 3 shows the feasible capacity under both the maximum profit and realisable for each site. Unlike Table 1, these figures have removed all 'double ups' i.e., where multiple instances were tested on a specific site and represent the most profitable / 'likely' scenario for that site. If we assume that every developer and landowner will objectively choose the most profitable option (out of the 18 development scenarios tested), then the model estimates that Wellington has a total feasible capacity of 140,700 new dwellings.

However, the most profitable option when ranked against a static market is not always the most likely. Different development options and typologies have differing levels of risk and by extension, differing profit expectations. For example, a scenario where a developer could make a 24% profit margin by building five Standalone dwellings or a 28% profit margin by building

fifteen Apartments. In this instance, although the apartments are more profitable, the standalone option will provide a better return relative to the level of risk and is therefore considered the more likely development scenario.

By applying different profit margin requirements to each of the different development options based on their relative risk we end up with a more balanced distribution of capacity regarding the typologies delivered (but not sizes as this is dealt with in the following chapter). The methodology and profit margins used for this assessment are shown in Appendix 2.

This results in a reduction of the Feasible Capacity estimate to 127,370 with a decrease in the number of Apartments and Terraces but an increase in the number of Standalone.

TABLE 3: SUMMARY OF FEASIBLE CAPACITY BY TYPOLOGY AND SIZE – MAXIMUM PROFIT

Typology	Size	Feasible (Max Profit)	Realisable
Standalone	Large	970	1,000
	Medium	12,340	18,950
	Small	7,060	12,810
	Total	20,370	32,760
Terraced	Large	20	10
	Medium	29,400	19,310
	Small	40,540	30,390
	Total	69,960	49,710
Apartment	Large	30	0
	Medium	9,150	6,520
	Small	41,190	38,380
	Total	50,370	44,900
Total Capacity		**140,700**	**127,370**
Theoretical (Max Yield)		**242,850**	**242,850**
Feasibility %		**58%**	**52%**

Source: Property Economics, UEP

Table 4 following breaks down the maximum profit feasible and maximum yield theoretical capacity by Suburb while Table 5 shows the realisable feasible capacity.

TABLE 4 – WELLINGTON FEASIBLE RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB – MAXIMUM PROFIT (UNROUNDED)

Feasible Capacity						
Suburbs	**Theoretical Capacity**	**Feasible Standalone**	**Feasible Terraced**	**Feasible Apartment**	**Total Feasible Capacity**	**Feasibility Rate**
Aro Valley	2,004	396	323	235	954	48%
Berhampore	1,183	13	497	185	695	59%
Breaker Bay	714	76	470	-	546	76%
Broadmeadows	1,856	158	283	16	457	25%
Brooklyn	8,254	1,442	3,191	257	4,890	59%
Churton Park	9,367	981	936	9	1,926	21%
Crofton Downs	3,619	220	1,672	180	2,072	57%
Glenside	434	187	9	9	205	47%
Grenada North	312	-	61	-	61	20%
Grenada Village	2,486	470	206	-	676	27%
Hataitai	4,594	39	2,803	74	2,916	63%
Highbury	392	38	135	3	176	45%
Houghton Bay	1,437	412	468	3	883	61%
Island Bay	9,237	992	4,482	387	5,861	63%
Johnsonville	14,426	1,671	3,381	1,210	6,262	43%
Kaiwharawhara	891	11	289	278	578	65%
Karaka Bays	1,335	276	779	5	1,060	79%
Karori	17,621	615	10,842	174	11,631	66%
Kelburn	3,552	20	2,262	7	2,289	64%
Khandallah	14,335	456	7,758	1,003	9,217	64%
Kilbirnie	2,418	126	963	458	1,547	64%
Kingston	1,740	620	179	10	809	47%
Lyall Bay	1,945	268	732	64	1,064	55%
Maupuia	1,015	2	601	116	719	71%
Melrose	1,490	303	652	-	955	64%
Miramar	9,193	764	3,984	766	5,514	60%
Moa Point	102	-	-	-	-	0%
Mornington	1,365	391	146	24	561	41%
Mount Cook	5,727	-	489	3,322	3,811	67%
Mount Victoria	2,361	-	777	1,104	1,881	80%
Newlands	10,381	1,752	1,088	263	3,103	30%
Newtown	4,335	201	1,221	1,080	2,502	58%
Ngaio	8,596	298	4,139	103	4,540	53%
Ngauranga	263	94	38	57	189	72%
Northland	2,974	351	1,136	100	1,587	53%
Oriental Bay	340	-	250	52	302	89%
Owhiro Bay	1,256	415	189	-	604	48%
Paparangi	3,341	632	187	104	923	28%
Pipitea	3,041	-	-	2,544	2,544	84%
Rongotai	787	21	27	275	323	41%
Roseneath	1,447	49	908	43	1,000	69%
Seatoun	3,277	249	2,325	6	2,580	79%
Southgate	1,306	227	588	-	815	62%
Strathmore Park	3,888	836	964	77	1,877	48%
Takapu Valley	35	-	-	-	-	0%
Tawa	25,771	2,989	3,188	1,672	7,849	30%
Te Aro	17,049	-	102	16,658	16,760	98%
Thorndon	5,108	7	488	3,887	4,382	86%
Vogeltown	850	183	216	3	402	47%
Wadestown	4,680	159	2,914	2	3,075	66%
Wellington Central	14,535	46	16	13,465	13,527	93%
Wilton	2,318	432	589	31	1,052	45%
Woodridge	1,867	481	17	50	548	29%
Total	**242,850**	**20,369**	**69,960**	**50,370**	**140,699**	**58%**

Source: Property Economics, UEP

TABLE 5: WELLINGTON REALISABLE RESIDENTIAL DEVELOPMENT CAPACITY BY SUBURB –(UNROUNDED)

Realisable Capacity						
Suburbs	**Theoretical Capacity**	**Realisable Standalone**	**Realisable Terraced**	**Realisable Apartment**	**Total Realisable Capacity**	**Feasibility Rate**
Aro Valley	2,004	423	259	180	862	43%
Berhampore	1,183	32	462	164	658	56%
Breaker Bay	714	321	198	-	519	73%
Broadmeadows	1,856	315	36	-	351	19%
Brooklyn	8,254	1,651	2,740	120	4,511	55%
Churton Park	9,367	1,411	209	-	1,620	17%
Crofton Downs	3,619	750	929	-	1,679	46%
Glenside	434	194	-	-	194	45%
Grenada North	312	21	18	-	39	13%
Grenada Village	2,486	545	45	-	590	24%
Hataitai	4,594	299	2,337	67	2,703	59%
Highbury	392	65	81	-	146	37%
Houghton Bay	1,437	556	267	3	826	57%
Island Bay	9,237	1,857	3,086	200	5,143	56%
Johnsonville	14,426	2,233	2,396	699	5,328	37%
Kaiwharawhara	891	96	196	163	455	51%
Karaka Bays	1,335	413	604	5	1,022	77%
Karori	17,621	2,887	7,439	30	10,356	59%
Kelburn	3,552	72	2,104	-	2,176	61%
Khandallah	14,335	1,558	6,497	519	8,574	60%
Kilbirnie	2,418	261	741	413	1,415	59%
Kingston	1,740	660	89	2	751	43%
Lyall Bay	1,945	349	567	42	958	49%
Maupuia	1,015	58	477	111	646	64%
Melrose	1,490	495	356	-	851	57%
Miramar	9,193	1,178	3,041	403	4,622	50%
Moa Point	102	-	-	-	-	0%
Mornington	1,365	426	58	-	484	35%
Mount Cook	5,727	43	485	3,134	3,662	64%
Mount Victoria	2,361	-	744	1,087	1,831	78%
Newlands	10,381	2,060	290	54	2,404	23%
Newtown	4,335	263	1,095	873	2,231	51%
Ngaio	8,596	1,048	2,967	21	4,036	47%
Ngauranga	263	121	4	13	138	53%
Northland	2,974	511	848	51	1,410	47%
Oriental Bay	340	19	226	-	245	72%
Owhiro Bay	1,256	466	92	-	558	44%
Paparangi	3,341	709	48	13	770	23%
Pipitea	3,041	-	-	2,436	2,436	80%
Rongotai	787	21	6	247	274	35%
Roseneath	1,447	301	602	17	920	64%
Seatoun	3,277	518	1,970	-	2,488	76%
Southgate	1,306	356	390	-	746	57%
Strathmore Park	3,888	1,030	598	33	1,661	43%
Takapu Valley	35	-	-	-	-	0%
Tawa	25,771	3,900	1,124	405	5,429	21%
Te Aro	17,049	-	99	16,555	16,654	98%
Thorndon	5,108	35	423	3,854	4,312	84%
Vogeltown	850	255	88	-	343	40%
Wadestown	4,680	841	2,058	-	2,899	62%
Wellington Central	14,535	46	13	12,935	12,994	89%
Wilton	2,318	591	308	-	899	39%
Woodridge	1,867	492	-	50	542	29%
Total	**242,850**	**32,752**	**49,710**	**44,900**	**127,362**	**52%**

Source: Property Economics, UEP

These tables highlight the different feasibility rates across each of the suburbs. There are several driving factors in the overall feasibility of capacity in a suburb however at its core, feasibility is driven by the average improvement to land value ratios in an area and the underlying value of the land.

The Theoretical Yield is based primarily on the potential for Comprehensive Redevelopment, that is the removal of existing homes to develop across the entire site. This is more likely to be feasible on sites with less valuable homes meaning areas that have primarily been developed over the last couple of decades (e.g., Grenada Village or Woodridge) may have a lower feasibility rate.

Additionally, it is not the construction of new homes that makes residential developers most of their profit but rather the process of increasing the sites land value through subdivision. The more valuable the underlying land value is, typically the greater the return particularly of higher density terraced homes. This is especially true of apartments as the assumed sale price is based on a combination of the average for the suburb and whether that parcel has an above or below average land value per sqm for its size.

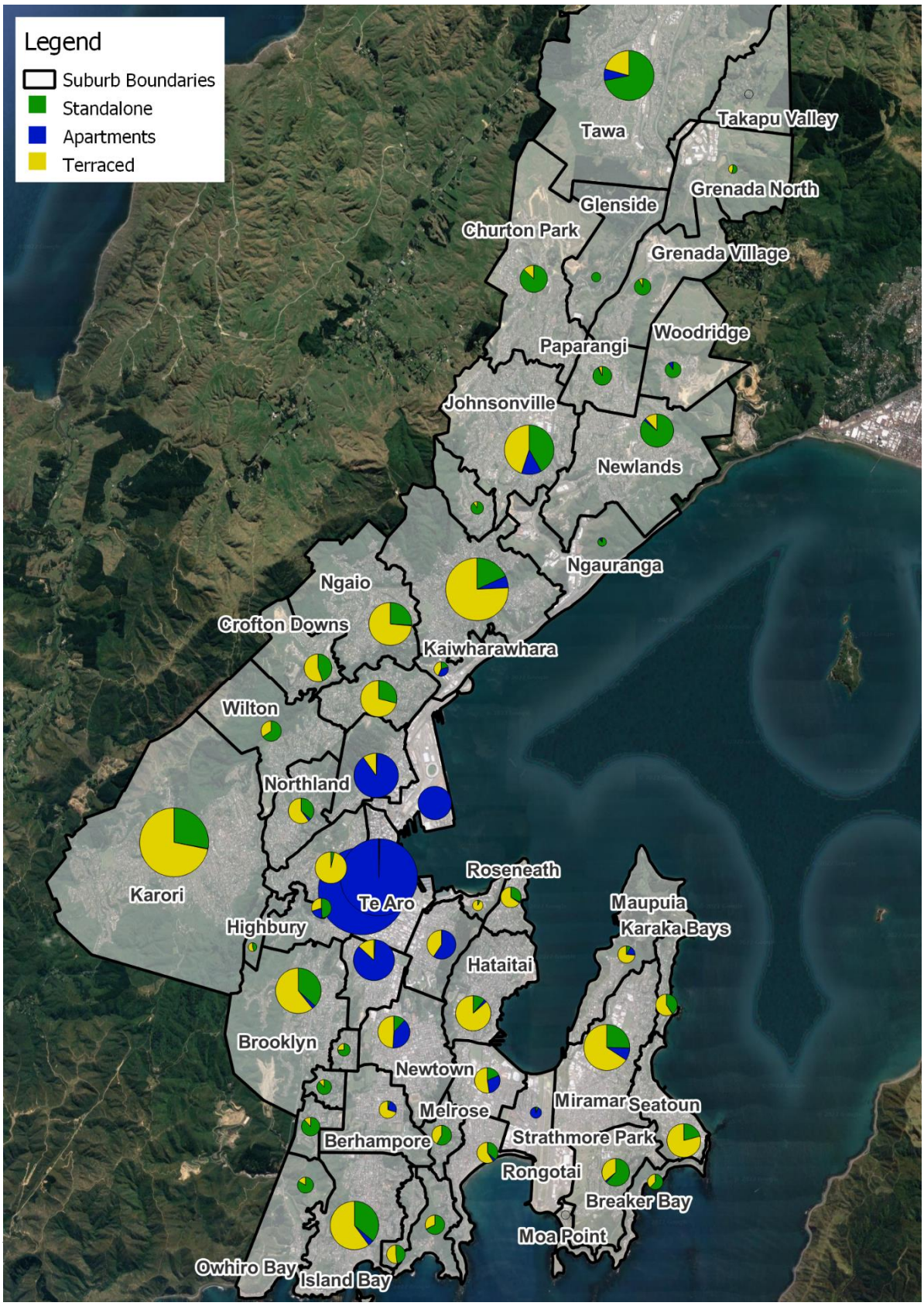
For this reason, the suburbs with the lowest feasibility rates are typically those located in the northern most areas

It is important to also understand that the results shown in Tables 4 and 5 above are based on the most profitable or most realisable option for each site. Although an area might have feasible apartments for example, they may be considered to be less realisable or profitable than the alternative options.

Te Aro for example has a 98% Feasibility Rate reflecting the fact that for more of the sites tested, apartments are the most likely realisable outcome and are feasible. In contrast, Tawa theoretically could build thousands of apartments, but they are typically less profitable or realisable than the Standalone and Terraced alternatives.

The geospatial distribution of this realisable capacity is shown on Figure 2. As expected, this shows the city centre is dominated by apartments while the surrounding suburbs has a mix of Standalone and Terraced dwellings.

FIGURE 2: MAP OF WELLINGTON SHOWING THE SUBURB BREAKDOWN OF REALISABLE CAPACITY



4.2. SUFFICIENCY BY TYPOLOGY – DEMAND RECONCILIATION

The analysis presented so far suggests that Wellington City has more than sufficient feasible capacity to meet the projected demand. However, the results in Table 3 show that this feasible capacity is made up of a mix of typologies and sizes that may not be suitable to meet the needs and desires of the Wellington housing market.

Property Economics therefore attempts to reconcile the capacity with the demand by systematically allocating sites to be built for specific development options (in regard to size and typology) so as to meet the projections. This enables the ability to identify any potential gaps in the market's ability to deliver a suitable mix of housing product.

Table 6 shows the Sense Partners Projected Dwelling Demand from 2021 to 2051. This shows that under the Median projection, Wellington City is projected to require an additional 31,300 dwelling.

TABLE 6: SENSE PARTNERS PROJECTED DWELLING DEMAND 2021 - 2051

		Estimated dwellings, 2021	Projected Growth (2021 - 2051)	Growth Share (%)
Median	Total	90,250	+ 31,300	100%
	Standalone	60,200	+ 13,400	43%
	Attached	28,400	+ 18,000	58%

Source: Property Economics, Sense Partners (50th percentile projection)

Table 6 also shows the proportional split in projected dwelling demand between Standalone and Attached dwellings according to Sense Partners.

Table 7 examines the Wellington new dwelling consents broken down by typology over the last 20 years. This shows that Apartments is the most common dwelling typology to receive consent and that Houses (which is assumed to primarily represent Standalone) only represent 34% of the market.

TABLE 7: WELLINGTON CITY NEW DWELLING CONSENTS 2000–- 2022

Type	Consents	Proportion
Townhouses, Flats, Units, Other	5,027	26%
Retirement Village Units	458	2%
Apartments	7,276	38%
Houses	6,535	34%
Total	19,296	100%

Source: Property Economics, StatsNZ

Based on Wellington'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 under the Medium Projection.

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 8 shows there is sufficient capacity to meet demand for each of the nine different typology and sizes under the Medium Projection. This demand represents a required realisation rate on the demand reconciled capacity over the next 30 years of only 28%.

TABLE 8: DEMAND RECONCILATION UNDER THE SENSE PARTNERS MEDIUM PROJECTION BY TYPOLOGY AND SIZE

Typology	Size	Demand	Demand Reconciled	Estimated Capacity Uptake %
Standalone	Large	3,807	YES	36%
	Medium	5,065	YES	30%
	Small	4,723	YES	33%
Terraced	Large	1,137	YES	53%
	Medium	3,567	YES	27%
	Small	5,996	YES	33%
Apartment	Large	925	YES	26%
	Medium	2,874	YES	21%
	Small	3,206	YES	19%
Total		**31,300**	**YES**	**28%**

Source: Property Economics

Table 8 highlights that this proportion varies by typology and size which is a reflection of the ratio between the individual demand and supply of each option. Large Terraces have the least feasible capacity potential relative to its demand and as such have the highest required realisation rate of 53%.

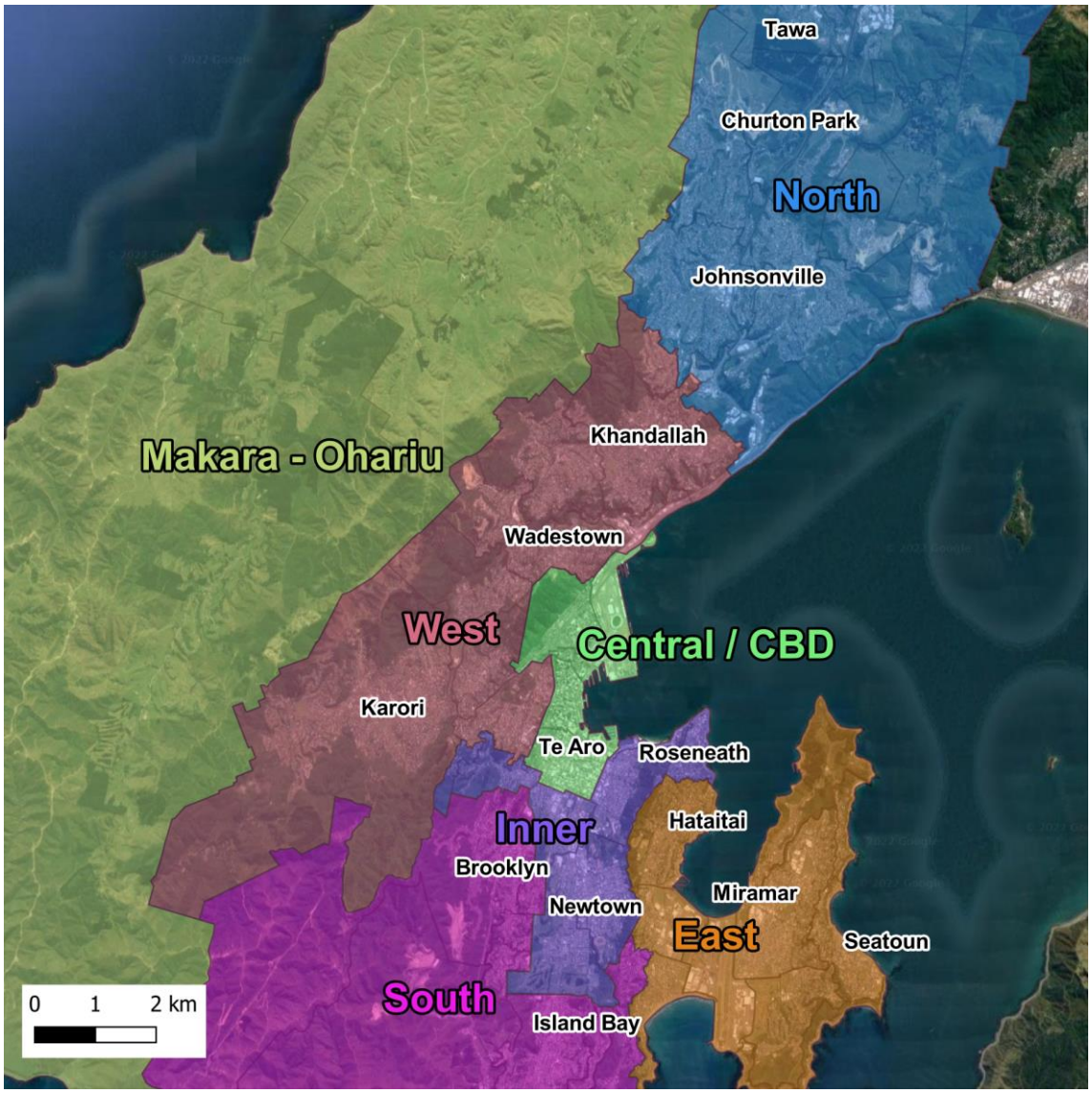
In Property Economics opinion, there is a high likelihood Wellington will be able to meet its projected growth and mix of market typology demand under the DDP and MDRS

4.3. SUFFICIENCY BY LOCATION

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 will be 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 seven residential catchments WCC defined in the 2019 Housing and Business Capacity Assessment for a finer grain locational analysis. These areas are shown on Figure 3 below.

FIGURE 3: MAP OF WELLINGTON CITY RESIDENTIAL CATCHMENTS



Source: Property Economics, LINZ

Based on these catchments, Property Economics then compared the demand as projected by Sense Partners size, typology and location. This is broken down into the Standalone and Attached dwelling demand as indicated in their assessment.

Table 9 shows the Demand reconciled capacity by Residential Catchment and the resulting Demand to Supply Ratio required in each location. Note that the Makara – Ohariu catchment (which has demand for 68 dwellings) has not been included as it has no urban capacity, hence the reduction in Demand to 31,242.

TABLE 9: DEMAND RECONCILATION UNDER THE SENSE PARTNERS MEDIUM PROJECTION BY TYPOLOGY AND RESIDENTIAL CATCHMENTS

Catchment	Type	Demand	Sufficiency	Estimated Capacity Uptake %
North	Standalone	4,898	YES	63%
	Attached	7,009	YES	69%
West	Standalone	3,989	YES	24%
	Attached	1,725	YES	15%
East	Standalone	1,572	YES	24%
	Attached	1,479	YES	18%
Inner	Standalone	788	YES	38%
	Attached	1,962	YES	26%
Central / CBD	Standalone	417	NO (42%)	100%
	Attached	4,913	YES	18%
South	Standalone	1,874	YES	22%
	Attached	616	YES	15%
Total		**31,242**	**YES**	**28%**

Source: Property Economics

Table 9 shows that there is sufficient capacity to meet demand by typology across the locational catchments except in regard to the Standalone product in the Central / CBD area. This is not unexpected considering most of the area is Commercially zoned land, but neither is it undesirable. The magnitude of the potential undersupply is comparatively small, and this demand is likely transferable to other suburbs such as Wadestown or Kelburn in the Wellington West Catchment.

Also shown on Table 9 is the required realisation rate of each product type within each of the catchments. This shows that a realisation rate of only 15% - 25% will be required to meet projected demand in most areas. In the Wellington North catchment however, a realisation rate of up to 69% will be required to meet projected demand of attached dwellings (not accounting any existing or planned greenfield land within this northern area.).

5. FURTHER COMPARISONS

5.1. SENSITIVITY ANALYSIS

As an extension to the feasibility modelling outlined above, Property Economics have tested a scenario (Scenario 2) where sales prices drop by 10% while construction costs continue to rise (in this case by 10%). This potentially better represents 'today's environment' relative to September 2021 when the updated WCC valuation data was valued at[3].

As central government continues to push forward with a range of actions to significantly increase the delivery of housing development, the cost of building materials has been steadily increasing over the last few years coupled with supply chain issues and labour shortages. However, with the increases to the OCR and interest rates, the market is starting to experience a downwards pressure on prices and a tightening of liquidity in the market.

Table 10 shows a summary of the feasible and realisable capacity of the base Scenario 1 tested in this report and this new Scenario 2.

TABLE 10 – FEASIBLE CAPACITY SENSITIVITY ANALYSIS

By Typology	Standalone	Terraced	Apartment	Total
Feasible Capacity Scenario 2	15,816	32,080	41,583	**89,479**
Previous (Scenario 1)	20,369	69,960	50,370	**140,699**
Change	- 4,553	- 37,880	- 8,787	**- 51,220**
Realisable Capacity Scenario 2	21,785	19,241	32,375	**73,401**
Previous (Scenario 1)	32,752	49,710	44,900	**127,362**
Change	- 10,967	- 30,469	- 12,525	**- 53,961**

Source: Property Economics, WCC

This shows that the combination of a 10% increase in Construction Costs and a 10% decrease in Sale Price results in a more than 40% reduction in the level of feasible capacity. In particular, this has the greatest impact on the feasibility of Terraces.

This significant drop in the feasible capacity raises the required realisation rate to meet Medium projections at a district level to 45% which is still considered to be a realistic outcome.

[3] *The construction costs used in this modelling are the same as those applied in the HBA undertaken approximately six months prior while the valuations are based as at 1 September 2021. New Zealand's Infrastructure Commission report revealed that Construction Costs have risen by around 10% over the past year (2021). According to the REINZ House Price Index for the Wellington Region, housing prices have dropped by just over 10% since September.*

However, Table 11 indicates that there may be a shortfall of around 6,000 dwellings to meet projected demand within the Wellington North Catchment when performing the same demand reconciliation as before. Only 30% of the attached dwelling demand is realisable under this Scenario for the North Catchment. This demand will need to be met either by additional zoning (greenfield) or by the redistribution into other suburbs such as those in the Wellington West catchment.

TABLE 11: DEMAND RECONCILIATION BY RESIDENTIAL CATCHMENT AND TYPOLOGY – SCENARIO 2

Catchment	Type	Demand	Sufficiency	Estimated Capacity Uptake %
North	Standalone	4,898	NO (74%)	100%
	Attached	7,009	NO (30%)	100%
West	Standalone	3,989	YES	40%
	Attached	1,725	YES	28%
East	Standalone	1,572	YES	43%
	Attached	1,479	YES	40%
Inner	Standalone	788	YES	57%
	Attached	1,962	YES	29%
Central / CBD	Standalone	417	NO (28%)	100%
	Attached	4,913	YES	19%
South	Standalone	1,874	YES	37%
	Attached	616	YES	42%
Total		31,242	YES	36%

Source: Property Economics, WCC

5.2. COMPARISON WITH PREVIOUS FEASIBLE CAPACITY OUTPUTS

Table 12 shows the comparison between the October 2021 Housing Capacity Assessment based on the Operative Plan results and the results of the updated modelling completed for the DDP with the MDRS.

The DDP and MDRS provisions have resulted in the plan enabled capacity (Theoretical) more than doubling when compared against the previous modelling of the Operative District Plan. The changes to the plan are significant and this effect is expected.

What is more noteworthy however is the significant increase in the level of feasible capacity. This is a direct result of the combination of three key factors:

- The changes to the provisions for residential development in the Draft District Plan,
- The introduction of the Medium Density Residential Standards, and
- Greater than expected increases in the underlying land values between the September 2018 and 2021 valuations.

TABLE 12: COMPARISON OF FEASIBLE CAPACITY AGAINST THE PREVIOUS OPERATIVE PLAN

Scenario	Theoretical	Feasible (Max Profit)	Realisable
Operative (2021)	102,220	35,154	23,679
Draft DP including MDRS (2022)	242,850	140,699	127,362
Comparison	+ 138%	+ 300%	+ 438%

Source: Property Economics, WCC

As was evident in the sensitivity analysis presented in section 5.1 of this report, small changes to certain market variables in the model can have proportionally greater impacts on the feasible capacity. The increase in potential yield on each site not only increases the yield for the developments that were already feasible, but also the profitability of sites that were previously unfeasible. Hence, with theoretical capacity more than doubling it is expected that feasible capacity would increase by a greater proportion.

This increase in feasible capacity however is also the result of the new valuation data that was published following the completion of the October HBA 2021 report for Council. Although the model included adjustments to the potential sale price based on market sales, the level of land value increase as valued was significantly higher with most suburbs doubling the land values. As the feasibility of intensification is inherently linked to the value of the land, this has compounded the resulting increase in feasibility.

6. CONCLUSION

In this report, Property Economics has assessed the feasible capacity of Wellington City Council's DDP with the addition of the Government directed MDRS standards as modelled by Urban Edge Planning.

Previously, the assessed feasible capacity under the Operative District Plan fell short of the projected demand with a realisable capacity of almost 23,700. Having now updated the model to reflect the new 2021 valuations and more than doubling the theoretical capacity, Wellington's realisable capacity is now circa 127,300. This is sufficient to meet the projected household demand of 31,300 over the next 30 years (2021 – 2051).

However, the modelling has also shown that between the continued supply chain and employment pressures in the construction industry and the rising interest rates softening residential demand, there is the possibility for capacity to drop by over 40%. While this does not compromise the potential for Wellington to meet its urban demand at a district level, there is the potential for a locational undersupply in Wellington's northern suburbs.

Additionally, this assessment has not taken into consideration infrastructure constraints. Although Council has not completed a full assessment, they have already identified some areas that will require significant infrastructure upgrades to support any additional urban capacity (e.g., a new sewerage treatment plan in Karori). Until these upgrades can occur, the total urban capacity will be limited by these constraints and the excess supply in other areas will be needed to accommodate the undersupply until additional capacity is provided.

Therefore, although the more than sufficient capacity under the DDP and MDRS Scenarios 1 and 2 evaluated in this report, this surplus capacity may be a necessary buffer to shield sufficiency against changes in market conditions and potential constraints in infrastructure.

APPENDIX 1: THEORETICAL CAPACITY REPORT

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APPENDIX 2: REALISABLE CAPACITY

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. This chapter explains how Property Economics applies different profit margins reflecting the propensity for development variances.

These considerations are based on:

- Dwelling typology
- Development option

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.

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

TABLE 13 – 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 to terraced products, 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.

APPENDIX 3: ANALYSIS OF THE CONTRIBUTION TO CAPACITY OF THE MDRS OVER AND ABOVE THE DDP

Table 14 below shows that the MDRS contributes 30% of the increase in Theoretical Capacity over the previous Operative Plan Scenario 1 results and that most of the growth in Theoretical Capacity is the result of the DDP provisions.

Similarly, the MDRS provides for only 20% of the total increase in realisable capacity with the rest of the increase attributable to either the DDP or the change to valuations.

TABLE 14: COMPARISON OF CONTRIBUTIONS OF DDP WITH UPDATED VALUATIONS AND MDRS ON CAPACITY – SCENARIO 1

Scenario 1	Theoretical	Feasible (Max Profit)	Realisable
Operative (2021)	102,220	35,154	23,679
Draft District Plan (2022)	201,569	116,372	108,602
ODP -> DDP	99,349	81,218	84,923
Draft DP including MDRS (2022)	242,850	140,699	127,362
DDP -> DDP with MDRS	41,281	24,327	18,760

Source: Property Economics

Additionally for reference, Table 15 following shows the impacts under the Scenario 2 assumptions of reduced sale price (-10%) and increased construction costs (+10%).

TABLE 15: COMPARISON OF CONTRIBUTIONS OF DDP WITH UPDATED VALUATIONS AND MDRS ON CAPACITY – SCENARIO 2

Scenario 2	Theoretical	Feasible (Max Profit)	Realisable
Operative (2021)	102,220	35,154	23,679
Draft District Plan (2022)	201,569	77,502	66,626
ODP -> DDP	+ 99,349	+ 42,348	+ 42,947
Draft DP including MDRS (2022)	242,850	89,479	73,401
DDP -> DDP with MDRS	+ 41,281	+ 11,977	+ 6,775

Source: Property Economics

Table 16 following compares the change to Theoretical (Max Yield) at a zone level. This is done to highlight the difference in impact on theoretical capacity in the General Residential Zone and the Medium Density Residential Zone.

TABLE 16: THEORETICAL CAPACITY COMPARISON OF DDP WITH AND WITHOUT MDRS

Zone	Without MDRS	With MDRS	# Change	% Change
General Residential Zone	82,543	116,734	34,191	29%
Medium Density Residential Zone	69,860	76,950	7,090	9%
Total	**152,403**	**193,684**	**41,281**	**21%**

Source: Property Economics

As anticipated the MDRS has a greater impact on the General Residential Zone which increased by 29% compared to the Medium Density Residential Zone which increased by only 9%.