Residential Capacity Modelling

Medium Density Residential Standards and Qualifying Matters: Waipā District

6 March 23 – final

m.e consulting

Residential Capacity Modelling

Medium Density Residential Standards and Qualifying Matters: Waipā District

Prepared for

Waipā District Council

Document reference: WaipaDC001.22/Report/WaipaMDRS_Report6March23.docs

Date of this version: 6 March 2023

Report author(s): Susan Fairgray-McLean

Director approval: Greg Akehurst (05/03/23)

www.me.co.nz

WJE-203933-275-395-V1:sf

Contents

Figures

Tables

1 Introduction

Tier 1 territorial authorities are required to incorporate Medium Density Residential Standards (MDRS) into their district plans under the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 (Amendment Act), which generally increases the level of development that is provided for within urban areas. Waipā District Council (WDC) has proposed a plan change (Proposed Plan Change 26) to implement the MDRS. M.E have undertaken modelling to calculate the amount of residential dwelling capacity that is enabled within Waipā District's urban areas with the application of the MDRS and inform the proposed plan change.

The MDRS enables a higher level of residential development capacity in most areas. It increases the potential yield on each property parcel by enabling up to three dwellings on each site. It also increases the level of development opportunity on each site through expanding the three-dimensional development envelope[1] within which dwellings can be constructed. In combination, these provisions enable a shift in development patterns from those previously occurring across the district under the existing and past planning provisions. It is important to understand the level of residential capacity provided with the implementation of the MDRS.

M.E has been commissioned by the Future Proof Partnership[2] (FPP) to undertake further residential capacity modelling across the urban residential zones in Hamilton City and the Waikato and Waipā districts to understand the level of capacity enabled by the MDRS. The additional modelling builds off the existing residential capacity modelling undertaken in 2021 for the FPP to meet the requirements of the National Policy Statement on Urban Development (NPS-UD).

This report contains the second stage of the further MDRS modelling undertaken in the former part of 2022[3]. In addition to the unmodified MDRS modelling, it contains an existing baseline modelled capacity and models the effect of the Waipā District Council (WDC) Proposed Plan Change 26 (PC26) qualifying matters on the unmodified MDRS enabled capacity.

The unmodified MDRS modelling within this report has been updated from the 6 July 2022 report with the provision of further planning information. All three modelled scenarios now also include projected commercially feasible capacity across the short, medium and long-term[4]. Understanding the likely market growth within these scenarios is important within the context of the introduction of provisions for dwelling typologies that are substantially different to past patterns of development and not yet well established

[1] This occurs through a combination of the maximum height allowances (up to three storeys), building setbacks and height to boundary building recession planes.

[2] The FPP is formed by Waikato District, Hamilton City, Waipā District, and more recently, the main urban centres of Matamata-Piako District.

[3] M.E, 2022. *Residential Capacity Modelling: Medium Density Residential Standards: Waipā District,* prepared for Waipā District Council, 6 July 2022.

[4] The modelled feasibility occurs on the zones included for the MDRS assessment. As required, it does not include long-term future capacity on Deferred Residential Zone areas.

within the local market. Technical information on the additional further modelling contained within this report is set out in Section 4.

Understanding the capacity enabled by the MDRS is an important first stage in understanding the implications of the MDRS. It is likely that development will get taken up through time at a range of densities, including up to that of the MDRS in some locations. However, much of the development capacity delivered by the market is still likely to occur at lower densities, particularly within the short-term, as demand increases through time for higher density dwelling options.

The report briefly sets out the approach undertaken to model the MDRS provisions and presents the district's urban capacity calculations. It is not intended to be a detailed technical report on the model specifications, beyond outlining the key changes and extensions to the Waipā Residential Capacity Model used to model the MDRS. Further technical information on the structure of the Waipā Residential Capacity Model is instead contained within the FPPs Housing Development Capacity Assessment[5] (HBA) and associated technical documentation.

The report is structured as follows. Section 2 describes the intensification provisions of the MDRS and PC26. It summarises the changes in modelled development patterns with the application of the MDRS and how these apply to PC26 and then outlines the qualifying matters that have been modelled to modify the intensification provisions. The modelled scenarios are set out in Section 3. The modelling approach is then described in Section 4. The focus of Section 4 is on the key stages and development of the modelling approach to reflect the MDRS from the residential capacity modelling undertaken for the HBA in 2021. The summary results from the modelling are contained in Section 5, and concluding comment in Section 6.

[5] M.E, 2021. *NPS-UD Housing Development Capacity Assessment: Future Proof Partners,* prepared for Future Proof Partners (Hamilton City Council, Waikato District Council and Waipā District Council), 30 July 2021.

2 Intensification Provisions: MDRS and Plan Change 26

The development patterns enabled under the MDRS and contained within PC26 are substantially different to those that are currently provided for across much of the district's urban area within the Operative Waipā District Plan (ODP). If taken up, they would represent a significant step-change in density to past development patterns that have occurred across much of the district's urban areas.

2.1 Changes in Modelled Development Patterns

The district's urban areas have previously predominantly been characterised by lower density development in the form of single detached dwellings on full sites. These have generally occurred up to the densities enabled under the ODP, where much of the urban general residential suburban areas have had minimum site size requirements 500 m2. The minimum site size requirements, together with patterns of demand, mean that the development market has generally favoured single level, detached dwellings. Much of the development has occurred at densities lower than the planning minimums driven by inflows of retirement demand into the district where households have sought larger, higher quality dwellings.

The MDRS generally provides for a substantially higher level of development capacity across much of the district's urban residential areas. These are set out in Schedule 3A Part 2 of the Resource Management Act (RMA). It enables up to three dwellings to be constructed on each site that are up to three storeys high. These are also able to be constructed within an expanded three-dimensional building envelope through the combination of greater allowances in height limits, required setbacks from boundaries and height to boundary recession planes.

These provisions, if applied across the district's urban residential areas, would enable higher density development and dwelling typologies than have previously been provided for within the district. This increases the total residential capacity within the district's urban areas.

If the MDRS provisions are applied to the existing underlying zoning structure, then they would produce a range of medium to higher density dwelling typologies. These range from smaller two-level detached dwellings on smaller sites, up to two to three-level attached dwellings on the smallest land areas (per dwelling) enabled by the standards. At the highest end of the modelled densities, the modelling has assumed that these would reflect horizontally attached 2-3 level walk-up terraced housing. The modelling assumptions around minimum site areas are outlined in Section 4.4.

2.2 Plan Change 26 and MDRS

WDC-led PC26 applies the MDRS across the residential zones of Cambridge, Te Awamutu and Kihikihi, together with the application of a number of qualifying matters. The spatial extent of the intensification

provisions was determined through the MDRS guidance on relevant residential zones within mainly urban areas with a 2018 Census recorded population of at least 5,000 residents.

The assessment models the effects of the MDRS across all of the existing urban areas as well as the relevant greenfield areas within these three main urban areas of the district. The included greenfield areas are defined by the live residential zoned area, including areas that were previously Deferred Residential Zone areas (in the 2021 HBA) that subsequently became live (and changed to Residential Zone) through Plan Change 13 in 2022.

PC26 modifies the MDRS through a series of qualifying matters that apply within these urban areas. These are set out in the following sub-section.

2.3 Qualifying Matters

The Amendment Act enables the incorporation of MDRS into residential zones to be modified to the extent necessary to accommodate a qualifying matter.

Qualifying matters relate to certain aspects and characteristics of a property in a location that mean it is inappropriate to enable the additional level of residential development enabled by the intensification provisions. These are set out in Subpart 6 of the NPS-UD and section 77I of the Act.

A range of qualifying matters have been considered by WDC as part of the evaluation process. These are set out in Appendices 2 and 3 of the Section 32 report for PC26. Only a sub-set of these are likely to affect plan enabled capacity as some matters occur outside of residential zoned areas or areas where dwellings are likely to be constructed, with others affecting the cost of construction (e.g. costs from an engineering report requirement) without affecting the permitted capacity.

The first stage of the evaluation process identifies whether or not each qualifying matter is likely to have an effect on plan enabled capacity. Those likely to affect capacity are then incorporated within the capacity modelling process. They were applied within the residential capacity assessment using a combination of the notified PC26 Maps 56 and 57 and GIS files supplied by WDC.

The qualifying matters were consequently modelled within the residential capacity calculations as part of Scenario 3 to modify the application of the proposed MDRS intensification provisions. The modelled qualifying matters, and their modification to the MDRS provisions, include:

- Infrastructure constraint overlay – This has been applied across the residential zones of Cambridge, Te Awamutu and Kihikihi. An alternative density, of up to two dwellings per site, was applied to these parcels. This affects both plan-enabled and commercially feasible capacity.
- Stormwater constraint overlay – This has been applied across localised areas within the residential zones of Cambridge, Te Awamutu and Kihikihi. A reduced potential maximum site cover of 40% was applied to these parcels. This affects the commercially feasible capacity.
- Existing and new character clusters – This has been applied to the individual property parcels identified within the existing ODP provisions and the PC26 provisions. No further capacity was enabled within these parcels.

- River/gully proximity overlay – This has been applied to either full parcels or portions of parcels in localised areas along rivers and gullies. A reduced potential maximum site coverage of 40% was applied to these parcels. This affects the commercially feasible capacity.

3 Modelled Scenarios

There are three modelled scenarios to test the effect of the intensification provisions and application of qualifying matters on residential capacity. These underpin the modelling approach and structure of the assessment of effects on capacity.

The modelled scenarios are described below. The first modelled scenario is the existing ODP capacity and provides the baseline from which to measure changes in residential capacity as a result of the proposed provisions. The second scenario is the full, unrestricted application of the MDRS intensification provisions to the ODP zone structure. It provides the baseline from which to measure the effects of qualifying matters on capacity in the third scenario.

Scenario 1: Baseline Current Planning Provisions

Scenario 1 is the capacity modelled on the existing ODP provisions. It contains the same planning inputs as those used in the 2021 HBA in relation to the provisions applied to each zone. This includes the application of sub-zones (St Kilda, Picquet Hill and Cambridge Park), the Compact Housing Overlay and the existing heritage areas.

The key planning changes (with further technical modelling updates set out in Section 4) to the 2021 HBA and earlier 2022 unmodified MDRS modelling are:

- The conversion of several growth cells to live Residential Zone, which were previously a Deferred Residential Zone within the HBA.
- Further refinement of individual sites to include within the capacity modelling. These include removal of undevelopable areas around streams/gullies and the exclusion of sites used for particular purposes that reduce their likelihood of availability on the private market (e.g. schools, retirement villages[6], parks and other social infrastructure).

Scenario 2: Unmodified Intensification Provisions

Scenario 2 is the capacity modelled with the full extent, without modification, of the MDRS intensification provisions. This scenario is modelled with the MDRS applied to the ODP base zone structure. This includes the application of MDRS to existing character clusters, allowing up to three dwellings per site on these parcels.

Scenario 3: Modified Intensification Provisions

Scenario 3 tests the effect of the application of qualifying matters (QMs) (relevant to the modelling) on the unmodified intensification provisions of Scenario 2. This scenario reflects PC26 where MDRS is applied to

[6] At the request of WDC, capacity on sites containing retirement villages was excluded from capacity totals to ensure that the capacity estimates remained conservative. These sites are typically larger sites that contain a large number of existing units covering most of the site area. It is less likely that these sites would be redeveloped through further subdivision into smaller lot sizes to achieve the higher densities of up to three dwellings per site enabled through the MDRS.

the base ODP zoning structure together with a number of QMs. It also includes the additional character clusters proposed under PC26.

Proposed planning maps 56 and 57 of PC26 display the spatial extent of the modelled QMs under Scenario 3. Within this spatial structure, the modelling has been undertaken in accordance with the density provisions set out in Section 2.3.

In addition to the combined application of qualifying matters in Scenario 3, M.E has undertaken further modelling runs to illustrate the impact, on capacity, of each qualifying matter individually.

4 Modelling Approach

This section outlines the modelling approach that has been undertaken to model the capacity enabled by the MDRS within the Waipā District's urban areas. It identifies the key changes and extensions that have been constructed within the 2022 Waipā Residential Capacity Model to reflect the provisions of the MDRS.

The estimation of capacity has been undertaken at the parcel level, extending upon the M.E Residential Capacity Model developed for the 2021 HBA. It is an estimation of the net additional dwellings that can be accommodated on each parcel.

The modelling firstly calculated the capacity enabled under the ODP (plan enabled capacity), and then estimated the share of capacity that is likely to potentially represent commercially feasible development options for profit-driven commercial developers. This section sets out the key changes and extensions developed for the 2021 HBA capacity model to reflect the MDRS provisions. It is not intended to be a technical document describing the Model in its entirety, which can instead be found within the 2021 HBA and associated documentation.

An outline of the approach, noting the key changes/extensions is set out in the sub-sections below.

4.1 Capacity Structure

Zoning and Urban Spatial Structure

Modelling has been undertaken across all urban residential zones within the district's urban areas. These include zones that are developed at an urban density and exclude residential development in other zones that are developed at lower densities (e.g. rural and lifestyle dwellings).

As requested by Waipā District Council (WDC), the Operative District Plan (ODP) has been applied as the underlying base zoning file for the modelling. It includes the live Residential Zone areas from the Growth cells from Plan Change 13.

The modelling has been undertaken across the Residential Zone (including the zones that are now live Residential Zone), which reflects updated zoning information supplied to M.E in November 2022. This represents two updates from the 2021 HBA and July 2022 MDRS modelling:

- The 2021 HBA and July 2022 MDRS modelling included capacity within both the Deferred Residential Zone and Residential Zone, based on the available zoning structure. Capacity within the Deferred Residential Zone has now been excluded from this assessment, but reported separately for informational purposes.
- A substantial share (approximately 489 ha) of the area previously zoned Deferred Residential Zone in the earlier assessments is now live-zoned Residential Zone within the current assessment.

In alignment with the 2021 HBA and the MDRS requirements, capacity within the Large Lot Residential and Deferred Large Lot Residential zones was excluded as this is instead characterised as lifestyle and rural development.

Analysis was undertaken across the above zones using the same urban structure as the 2021 HBA. The local areas within this structure include:

- Cambridge
- Te Awamutu
- Kihikihi

Analysis across these main urban areas is consistent with the analysis within the 2021 HBA.

A further classification within these areas was then applied to better model the commercial feasibility of the capacity enabled under the MDRS. The residential areas were divided into different types of location, ranging from Level 1 to Level 5, based on the general value of the area. Level 1 areas are lower in value, while Level 5 areas are highest in value. The classifications applied within each area are shown in Figure 4-1 and Figure 4-2.

Figure 4-1: Area Level Classification in Cambridge

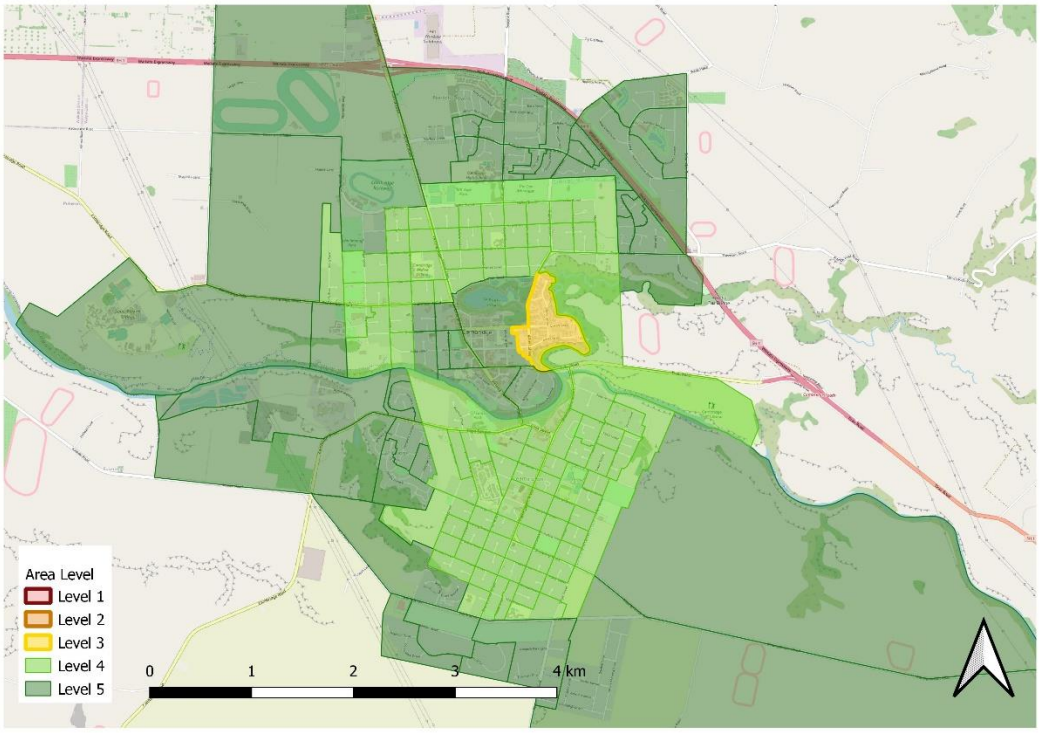
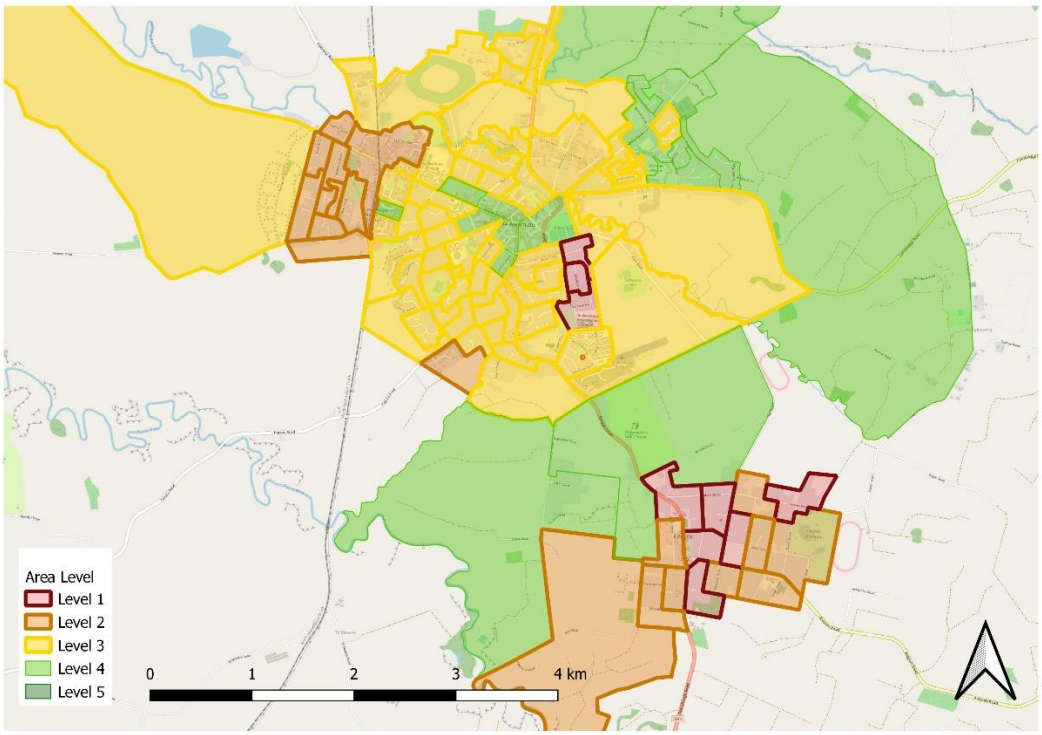


Figure 4-2: Area Level Classification in Te Awamutu and Kihikihi



Zoned areas within these locations were identified as either greenfield or existing urban areas. A similar approach to the 2021 HBA was followed where the existing urban edge was identified through a combination of aerial photographs and analysis of the most recent LINZ parcel boundary file. There is likely to have been some outward expansion of the urban edge since the analysis undertaken for the 2021 HBA.

Modelled Development Options and Dwelling Typologies

The modelling estimates the number of net additional dwellings that can be accommodated on each site. In line with the 2021 HBA modelling, the Model tests for both infill and redevelopment capacity, and capacity within the existing urban vs. greenfield areas.

Within the existing urban area:

- Infill capacity refers to the number of additional dwellings that can be constructed within the existing urban area without the removal or demolition of any existing dwellings. It typically involves the construction of additional dwellings on the vacant areas of parcels (e.g. constructing an additional dwelling in a large back yard area of an already developed property parcel).
- Redevelopment capacity refers to the number of additional dwellings that can be constructed within the existing urban area through the redevelopment of sites. It involves the demolition or removal of existing dwellings on a site and the subsequent construction of a greater number of dwellings on the same site.

Within each category, three dwelling typologies are modelled, which each have different site size requirements. They also have different relationships between dwelling size and land area, where smaller sites can generally be developed more efficiently with attached dwellings. The modelled dwelling

typologies include standalone (detached) dwellings, attached dwellings, and apartment dwellings. These are a combination of mainly two-level standalone dwellings on smaller sites, and attached dwellings. Attached dwellings are typically 2 storeys and are attached horizontally, with some 3-level development.

The capacity results also include maximums (across the three modelled typologies) of each of infill and redevelopment capacity within the existing urban area. Here, the model returns the greatest yield for each parcel out of the infill and redevelopment capacity options. Under the plan enabled capacity, the maximum redevelopment option will almost always represent the greatest yield. However, under the commercially feasible capacity often only a subset of the development options will be feasible (e.g. infill detached dwellings). This means that the model selects the highest yield from this subset (i.e. feasible dwellings), often resulting in smaller feasible maximums on a parcel than plan enabled maximums.

4.2 Plan Enabled Capacity

The plan enabled capacity estimates the total number of additional dwellings enabled through the application of planning provisions. It does not take into account the commercial feasibility of construction of dwellings or infrastructure constraints.

Modelling Stages

The key stages of the plan enabled capacity modelling are outlined within the 2021 HBA. The main changes and extensions to the MDRS modelling include:

- Defining the number of sites that can be formed through subdivision of each parcel/vacant area. This step identifies the number of sites that can be formed through applying the minimum site areas required for subdivision. These are based on the existing ODP minimum site areas for each base zone.
- Estimate the potential number of dwellings on each formed site. This additional stage applies assumptions on the land area required to construct a dwelling of each typology and then calculates how many dwellings can be accommodated within each of the formed sites. In line with the MDRS, the model allows for up to three dwellings to be accommodated on each formed site.
  The model tests for three dwelling typologies – standalone (detached) dwellings, attached dwellings and apartment dwellings. Larger minimum land areas are required to accommodate detached dwellings than attached dwellings.
  The input table in Section 4.4 identifies the input assumptions for minimum land area required for each dwelling typology within each zone and scenario. These minimum land areas take into account the maximum densities observed in recent developments in other locations in relation to the average land area required to accommodate each dwelling. They have also been tested for their ability to accommodate a minimum floorspace area within a 3-dimensional building footprint (up to 3 storeys) and outdoor living space requirements.
- Infill modelling. A geometrical approach has been undertaken within FME GIS modelling software to identify the vacant areas of existing parcels that are suitable for infill development. The approach is outlined in more detail within the 2021 HBA and associated documentation, and has been modified in the following ways to reflect the MDRS:
  - The setbacks from site boundaries as set out within the MDRS have been applied.
  - Vacant areas are tested for their potential road access.

- Road accessible vacant areas are then tested for their ability to accommodate dwellings through the application of shape factor input assumptions. Under the MDRS modelling, up to three shape factors on each site were tested (compared to 1 to 2 shape factors under the 2021 HBA modelling). The number of shape factors accommodated determined the number of dwellings tested on each site. The shape factor input assumptions are included within the input table.
- Infill areas were then adjusted to allow for planning requirements to be met for any existing dwellings on the remainder of the site (using the MDRS parameters). The final areas were then input into the Residential Capacity MDRS Model to test for plan enabled and feasible capacity.

- **Further parcel filtering.** Additional parcel-level examination of outputs has been undertaken by WDC since the HBA. This process has removed individual parcels from capacity that either contain social infrastructure (e.g. schools, hospitals, parks, etc), retirement villages and other parcels which have known constraints. Part of this process has removed undevelopable areas of parcels due to their steep topography adjacent to stream areas.

4.3 Commercially Feasible Capacity

The commercially feasible capacity estimates the share of plan enabled capacity that would represent potentially feasible development options for commercial developers to construct a dwelling(s). The calculations are undertaken at the parcel level to estimate the costs of constructing the dwellings estimated to be able to be accommodated under the planning provisions, then compared to a potential sales price to determine if there is a sufficient margin for developments to be potentially commercially feasible.

The MDRS commercial feasibility model expands upon the existing modelling capability developed under the 2021 HBA. Different components of the model are replaced/expanded to reflect the MDRS provisions. The key components are:

- **Estimating the size and configuration of dwellings on each parcel.** The model firstly estimates the physical features of each potential dwelling on the formed parcels. It estimates the floorspace size and number of storeys of each dwelling, with the three different dwelling types (not additive) tested for each site. This component of the 2021 HBA model is replaced with a new component that reflects the step-change in the nature of development under the MDRS. This is important because the relationships of dwelling size and type relative to site sizes are likely to be substantially different under the MDRS. This has implications for construction costs.

  The model runs off a series of floor area ratio (FAR) curves that estimate the dwelling size that can be constructed on each site. These are established through assessing the dwelling sizes recently developed in higher density locations in other areas. They are also cross-checked against the three-dimensional parameters of the MDRS. This part of the model also identifies the number of storeys of each dwelling.

  Minimum dwelling site area for each typology and for each underlying ODP base zone are contained in Table 4-1 in Section 4.4. The model will tend toward these dwellings as a minimum, but will generate a range of dwelling sizes based on the initial site size formation. The dwelling sizes allocated will be at these levels or larger as they are scaled to the calculated land area per dwelling on each site.

The outputs of this component of the model are the number of dwellings on each site, their floorspace size and storeys. This is calculated for each dwelling typology option (standalone dwellings vs. duplex/terraced dwellings vs. apartments). These are not additive, but a maximum yield is identified for each parcel (as set out in Section 4.1) where the model selects the highest individual yield that can be constructed. These outputs form the inputs to the next stage of the model where the cost is calculated to construct each potential dwelling.

- Estimating the cost to construct each dwelling. This stage of the model estimates the total cost to construct each dwelling identified within the previous stage. The structure of the model is consistent with that used under the 2021 HBA, with a number of updated components as noted below. Updates have occurred in relation to both updated base costs as well as updates to the structure of costs to reflect the shift in the nature of dwelling development.

  The costs applied within the model include:

  i. Land costs.
  ii. Existing dwelling costs (redevelopment).
  iii. Site preparation costs including landscaping and driveway/parking areas and any demolition costs. These ratios to site area have also been updated from the 2021 HBA.
  iv. Construction costs. In addition to the base level cost increases in construction, further cost increases have been applied within the model to reflect a shift in the average number of storeys per dwelling where per metre rates increase with the number of storeys. These have been applied at an individual level to reflect the estimated number of storeys of each dwelling. As such, there is a substantial per m2 cost increase within the model from the 2021 HBA arising from a combination of base level shifts and changes in the nature of dwellings.
  v. Ancillary costs (infrastructure/utilities connections, professional services, consents, development contributions). WDC have supplied updated development contributions information which has been applied within the model.

- Estimating the potential sales price of each dwelling. This component of the model has been updated significantly from the 2021 HBA. Updates relate to the sales prices for higher density dwellings as well as the underlying spatial structure affecting prices.
  - Base Spatial Structure. At a base level, the model applies the same spatial structure as the 2021 HBA, driven by the urban spatial structure identified in Section 4.1. This structure is also applied to the parcel land prices. Further differentiation in prices have also been applied through the level 1 to 5 area value structure.
  - Estimation from other markets. Analysis of higher density dwellings within other urban economies was undertaken to inform the modelled sales prices within the urban areas across the district. This included considering the differences between sales prices of higher density dwellings and other dwellings at a density reflective of existing lower densities within similar areas. This approach was undertaken within the context of limited data from limited establishment of medium to higher density dwellings within the district's market.

As requested, commercial feasibility modelling has been undertaken within the current market and reflects the areas of plan enabled capacity that may potentially represent feasible options for commercial developers. Importantly, it should not be confused with growth – it is a measure of the potential capacity,

some of which is likely to get taken up by the market with growth. Refer to the 2021 HBA for a more detailed description of the measure of commercially feasible capacity.

4.4 Modelling Density Inputs

Minimum subdivision area requirements and land areas per dwelling formed intputs to the model. These are the initial land areas required to form a site within each zone, which could then be tested to accommodate up to three dwellings; and the land areas required, per dwelling, within these formed sites.

The minimum subdivision area requirements were supplied by WDC and reflect the subdivision requirements of the ODP. The minimum land area requirements were then established as input assumptions within the model. These are contained below in Table 4-1.

Initial three-dimensional modelling work undertaken by the Hamilton City Council (HCC) GIS team estimated the land areas required to accommodate different dwelling sizes and typologies. These were analysed as a starting point to determine parameters to apply to the Waipā District urban areas. The land areas per attached and apartment dwelling within each site reflect one-third of the initial site formation area to accommodate three dwellings upon each site. The viability of these densities was triangulated with the initial HCC modelling. Larger minimum areas (based on analysis of development patterns in other urban economies) were assumed to be required for detached dwellings to reflect the site area required to physically construct a standalone dwelling.

Importantly, Table 4-1 contains the *minimum* land areas which are formed within the model to accommodate dwellings. These have been applied to the existing spatial structure of the LINZ parcel dataset, with sites formed using the existing parcel boundaries. In most cases, the existing parcel boundaries exceed the minimum areas, meaning that sites (and corresponding land areas per dwelling) are are formed at lower densities than the minimums within the table[7].

Initial conversions have been applied to the Waipā District greenfield areas prior to the application of the land areas in Table 4-1. Greenfield areas were first multiplied by a factor of 70% to take account of the share of area within the greenfield growth cells that is unlikely to be developable. This is an important step as the ODP contains a number of greenfield areas that have been broadly identified as future growth areas that do not take into account land features that would likely limit the developable area.

Following the calculation of greenfield developable areas, these net areas were then multiplied by a further 70% to include an allowance of 30% of the developable area for roads and reserves[8]. The remaining net areas were then divided into lots and dwellings in accordance with Table 4-1.

[7] For example, if a Residential Zone parcel of 900m2 were entered into the model, it would form only one initial site due to insufficient land area to form two sites at the zone's minimum subdivision requirement of 500m2. Consequently, the model would construct dwellings at an average land area of 300m2 per dwelling.

[8] For example, a 10ha Residential Zone greenfield block of land identified broadly within the PDP in Te Awamutu would translate into 7ha of developable area. This would then translate into 4,900m2 of net land area that would be divided into lots at a density of 500m2 per lot to form around 98 lots, each potentially accommodating up to three dwellings.

Table 4-1: Minimum Site Area Subdivision and Land Area per Dwelling Minimum Modelling Inputs by Zone and Typology (MDRS Applied)

Waipa District Base Zone	Sub-Zone/Overlay	Dwelling Typology	Initial Subdivision Requirement - Land Area (m2)	Minimum Land Area per Dwelling (m2)
Residential Zone	n/a	Detached	500	200
		Attached	500	166
		Apartments	500	166
Residential Zone	Compact Housing Overlay	Detached	250	200
		Attached	250	150
		Apartments	250	100
Residential Zone	Picquet Hill	Detached	600	200
		Attached	600	200
		Apartments	600	200
Residential Zone	Cambridge Park	Detached	550	200
		Attached	550	183
		Apartments	550	183
Residential Zone	St Kilda	Detached	1,000	333
		Attached	1,000	333
		Apartments	1,000	333

Source: M.E, Waipa District Residential Intensification Capacity Model, 2022.

5 Modelled Capacity

This section contains the modelled results of the plan enabled and commercially feasible capacity. It shows the effect of the intensification provisions on capacity as well as the effect of the qualifying matters on the capacity enabled under the MDRS.

The dwelling capacity results are firstly reported separately for each scenario within this section (sub-sections 5.1 to 5.3). They are then compared in sub-section 5.4, which quantifies the effect of PC26 on overall dwelling capacity relative to the baseline planning provisions as well as the effect of qualifying matters on intensification. Each section contains both the plan enabled and commercially feasible capacity outputs.

Outputs are included for each modelled scenario as well as for each of the qualifying matters. The summary tables show the capacity by typology within each urban area across the exiting urban and greenfield areas. The results are summarised by each of the main urban areas – Cambridge, Te Awamutu and Kihikihi. More detailed information of capacity at a parcel level has been supplied as GIS files to WDC.

The plan enabled and commercially feasible capacity modelled within this section does not take into account any limits occurring through infrastructure constraints. As requested, the modelling has been undertaken to identify areas of plan enabled and potential feasibility without the consideration of infrastructure constraints. The Plan requires that infrastructure extensions within greenfield areas occur at the time of development, with additional infrastructure supplied by both Council and developers. Therefore, the timing of any infrastructure provision will occur simultaneously with take-up of capacity within these areas.

The commercial feasibility modelling has been undertaken within the current market and across the short, medium and long-term. It reflects the areas of plan enabled capacity that may potentially represent feasible options for commercial developers. Furthermore, the modelling has been undertaken using a 20% profit margin. It is likely that some development outside of this range may occur at a lower margin as there are increased shares of plan enabled capacity with estimated lower profit margins.

The modelling of capacity through time is important. This is because it is likely that higher shares of the plan enabled capacity would become commercially feasible development options for developers through time with market growth. This is particularly important when modelling the introduction of new types of dwelling densities and capacities within the district, which may not yet be reflected in existing patterns of development.

Medium to higher density development is not yet well established within the Waipā District, particularly within Te Awamutu and Kihikihi. These areas are lower value, with strong market tendencies toward lower density development. The density of development may increase through time, where medium density may become more established over the medium to longer-term. This is more likely to occur within the higher value market area of Cambridge, and least likely in Kihikihi.

The capacity results are net additional dwellings where the existing dwellings have been removed from the calculated gross yields on each parcel. The tables within the following sub-sections show the net additional dwellings in accordance with the capacity structure outline in Section 4.1.

The first portion of the tables show the modelled capacity within each typology for infill development, including a maximum yield across the three typologies[9]. The middle section contains the redevelopment capacity across the three options, including maximums for redevelopment as well as redevelopment and infill options combined. The remainder of the table shows the greenfield capacity in this structure.

Importantly, the columns within the table are not additive. The maximum columns show the maximum yield combinations within each development pathway (infill, redevelopment or greenfield), as well as the final column containing the total across the greenfield and existing urban areas.

5.1 Scenario 1: Baseline Current Planning Provisions Capacity

This section contains the existing baseline capacity modelled on the ODP provisions. It does not contain any application of intensification provisions or qualifying matters. The modelled approach here is the closest to the 2021 HBA. The main planning differences to the 2021 HBA have been outlined in Section 4.

5.1.1 Plan Enabled Capacity

The modelled plan enabled capacity is contained in Table 5-1. Under the baseline ODP planning provisions, there is a modelled capacity for a net additional 13,100 dwellings within Waipā district's main urban areas of Cambridge, Te Amamutu and Kihikihi. This includes capacity within the existing urban areas and the greenfield areas for future urban expansion.

Approximately half (51%; 6,600 dwellings) of the plan enabled capacity occurs within Cambridge, which is distributed relatively evenly across the existing urban and greenfield areas. The remainder of the capacity is located within Te Awamutu (39%; 5,000 dwellings) and Kihikihi (11%; 1,400 dwellings). Capacity within Te Amamutu is also relatively evenly distributed across the existing urban and greenfield areas, while nearly all (96%) of the capacity in Kihikihi occurs through intensification of the existing urban area.

Within the existing urban area, there is an estimated capacity for an additional 3,800 dwellings through infill development. This involves the construction of new dwellings on undeveloped portions of parcels without the demolition of existing dwellings. If sites were instead redeveloped to a higher intensity within the existing planning provisions, then there is an estimated capacity for an additional 7,000 dwellings within the existing urban areas of these townships.

[9] The maximum yield has been calculated at the parcel level and then aggregated to each location within the table. This means that the maximums within the commercially feasible tables will in most cases not align with the largest column value by typology. This is because some parcels may have feasible development options across higher density dwelling options, while others may only have feasible capacity for lower yield options. Therefore, the aggregation of feasible yields at the parcel level is a combination of some development within higher density typologies, and others at lower density typologies.

The greenfield capacity is concentrated into the urban areas of Cambridge (56%) and Te Awamutu (43%), with only a minor share in Kihikihi (1%). There is a modelled capacity for an additional 6,100 dwellings within the greenfield areas of these main urban areas.

Under Scenario 1, the modelled plan enabled capacity does not differ by dwelling typology. This is because there is no provision for smaller site sizes for more intensive dwellings. The plan enabled capacity within the Compact Housing area is also the same across each typology, although the detached dwellings within this area would differ to those likely to be constructed outside of these areas.

Table 5-1: Waipā District Plan Enabled Capacity by Dwelling Typology and Urban Area: Scenario 1 – ODP Base Zones and No MDRS

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	1,500	1,600	1,600	1,600	3,200	3,200	3,200	3,200	3,200	3,400	3,400	3,400	3,400	6,600
Te Awamutu	1,200	1,300	1,300	1,300	2,400	2,400	2,400	2,400	2,400	2,600	2,600	2,600	2,600	5,000
Kihikihi	800	900	900	900	1,300	1,300	1,300	1,300	1,300	100	100	100	100	1,400
Total Main Urban Areas	**3,600**	**3,800**	**3,800**	**3,800**	**7,000**	**7,000**	**7,000**	**7,000**	**7,000**	**6,100**	**6,100**	**6,100**	**6,100**	**13,100**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

5.1.2 Commercially Feasible Capacity

The following sub-sections contain the estimated areas of plan enabled capacity that are likely to form potential commercially feasible development options for developers in the current market as well as the short, medium and long-term. Importantly, the capacity should not be confused with growth – it is a measure of the potential capacity, some of which is likely to get taken up by the market with growth. Refer to the 2021 HBA for a more detailed description of the measure of commercially feasible capacity.

Current Market: 2021

The modelling estimates that around 12% of the plan enabled capacity currently represents commercially feasible development options within the district's main urban areas. The share of potentially feasible plan enabled capacity is higher within Cambridge (around 18%) and lower within Te Awamutu and Kihikihi (5% to 7%). It amounts to an estimated 1,600 dwellings as shown in Table 5-2.

Importantly, the commercially feasible capacity does not indicate the *number* of dwellings it would be feasible to currently construct. It instead estimates the areas of plan enabled capacity that may be commercially feasible development opportunities for a profit-driven developer. The market is likely to take up a portion of this capacity, which will be determined by a number of factors including market demand, availability of capacity to the market and capacity within the development and construction sectors.

The share of infill and greenfield plan enabled capacity that is estimated to be commercially feasible is larger than the estimated feasible share of redevelopment capacity. This is because of the additional costs associated with redevelopment capacity through the purchase and demolition of existing dwellings on parcels. Under the baseline provisions, the potential yields are insufficient in some cases for redevelopment to represent a feasible development option.

The proportion of greenfield land areas that are estimated to be commercially feasible to develop are higher than the share of feasible greenfield capacity when expressed as a share of dwellings. This is because the plan enabled capacity is calculated at the densities enabled under the Plan, while the feasible capacity reflects the feasible densities at which the greenfield areas are developed. Many of the greenfield areas are currently being developed at lower densities than that enabled under the ODP.

The patterns of feasibility within the current market reflect the existing development patterns within the district of detached dwellings on full sites. This is due to a combination of patterns of dwelling demand as well as the limited difference in provisions for more intensive dwelling typologies across much of the urban area.

Table 5-2: Waipā District Current Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 1 – ODP Base Zones and No MDRS

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	500	100	-	500	500	100	-	500	700	600	-	-	600	1,200
Te Awamutu	-	-	-	-	-	-	-	-	-	200	-	-	200	200
Kihikihi	100	-	-	100	100	-	-	100	100	-	-	-	-	100
Total Main Urban Areas	**600**	**100**	**-**	**600**	**500**	**100**	**-**	**500**	**800**	**800**	**-**	**-**	**800**	**1,600**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Short-Term: 2024

The estimated commercially feasible capacity is projected to increase slightly to around 1,800 dwellings within the short-term (see Table 5-3). The patterns of feasible capacity are similar to the current market, with the highest shares of capacity occurring within Cambridge. Around one-third of the infill development options are estimated to be feasible within Cambridge, and over one-fifth of the redevelopment options (although some of these options would also include vacant sites).

The feasible capacity is distributed across both the existing urban area and areas of future greenfield expansion. Infill capacity remains a more feasible development option than redevelopment capacity within the short-term. In the short-term, there is an estimated feasible capacity of around 900 dwellings within the existing urban area, and a further 900 within the greenfield areas.

Table 5-3: Waipā District Short-Term (2024) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 1 – ODP Base Zones and No MDRS

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	500	100	-	500	600	100	-	600	800	600	-	-	600	1,400
Te Awamutu	-	-	-	-	-	-	-	-	-	200	-	-	200	200
Kihikihi	100	-	-	100	100	-	-	100	100	-	-	-	-	100
Total Main Urban Areas	**700**	**100**	**-**	**700**	**600**	**100**	**-**	**600**	**900**	**900**	**-**	**-**	**900**	**1,800**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Medium-Term: 2031

The estimated commercially feasible capacity is projected to increase to around 2,400 dwellings in the medium-term (see Table 5-4). This amounts to around one-fifth of the plan enabled capacity, with a higher share in the greenfield areas. Nearly one-third of plan enabled capacity is estimated to be feasible within Cambridge, including around one-fifth of plan-enabled redevelopment options.

In the medium-term, the share of redevelopment opportunities that are estimated to be commercially feasible are projected to increase with market growth, although remain lower than the feasible share of infill and greenfield development.

Table 5-4: Waipā District Medium-Term (2031) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 1 – ODP Base Zones and No MDRS

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	600	200	-	600	700	200	-	700	800	1,100	-	-	1,100	1,900
Te Awamutu	-	-	-	-	-	-	-	-	100	200	-	-	200	300
Kihikihi	100	-	-	100	100	-	-	100	200	-	-	-	-	200
Total Main Urban Areas	**700**	**200**	**-**	**700**	**900**	**200**	**-**	**900**	**1,100**	**1,400**	**-**	**-**	**1,400**	**2,400**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Long-Term: 2051

In the long-term, the modelling projects that between half and one-third of the plan-enabled capacity is likely to represent potentially feasible development options under the current provisions. This amounts to around 5,100 dwellings (see Table 5-5).

Most of the greenfield areas are estimated to be commercially feasible to develop in the long-term, albeit with a share at lower yields than that enabled under the Plan due to current market conditions. The feasibility of some greenfield areas is limited where areas are already developed into reasonably high value lifestyle properties.

There are higher projected levels of feasibility within Cambridge due to the higher market demand and higher property values within this area. The projected feasibility of development is lower within Te Awamutu due to the lower sales prices. These have constrained the feasibility of capacity, particularly within the short to medium-term, when combined with the recent increases in construction costs. In the long-term, feasibility increases, but at a lower margin than the 20%+ included within the reported capacity. As such, it is important to note that there is a significant share of capacity beyond that reported in Table 5-5 that may be delivered by the market at a lower margin.

The relative feasibility within Kihikihi is estimated to be higher in the long-term than in Te Awamutu. This is due to the lower value of existing dwelling stock and cheaper land prices in this area.

Table 5-5: Waipā District Long-Term (2051) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 1 – ODP Base Zones and No MDRS

Waipa Urban Area	INFILL				REDEVELOPMENT					GREENFIELD				
	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	700	500	300	700	1,000	600	200	1,000	1,100	2,000	200	200	2,000	3,100
Te Awamutu	-	-	-	-	100	-	-	100	100	1,500	-	-	1,500	1,600
Kihikihi	200	100	-	200	300	-	-	300	400	-	-	-	-	400
Total Main Urban Areas	**900**	**600**	**300**	**900**	**1,400**	**600**	**200**	**1,400**	**1,600**	**3,500**	**200**	**200**	**3,500**	**5,100**

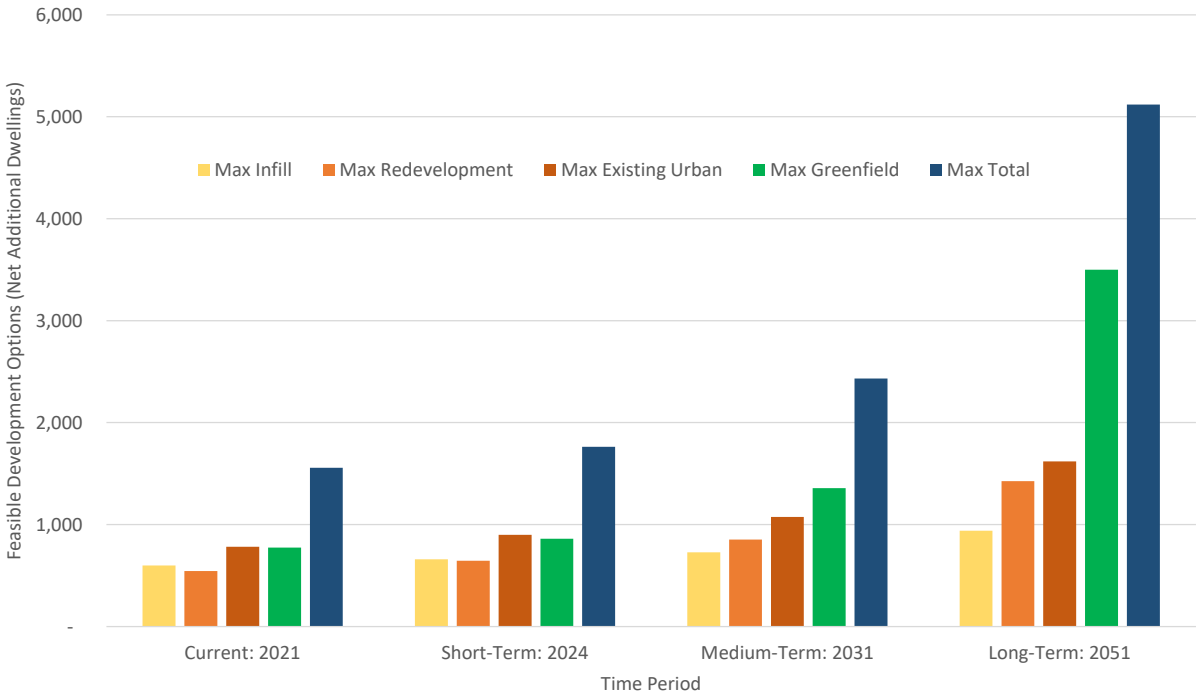
Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Summary of Scenario 1 Feasible Capacity

The projected commercially feasible capacity options are summarised across the different time periods in Figure 5-1. It shows the maximum projected feasible dwelling development options across all typologies for the existing urban (incl. infill or redevelopment), greenfield and total areas across each of the time periods.

Figure 5-1 shows that the feasible development capacity is projected to increase through time. There are larger net increases in the greenfield capacity, with slower growth in the feasibility of intensification within the existing urban area under the current planning provisions. Greenfield development reflects the predominant pattern of development within the district's main urban areas and is likely to be a function of the existing provisions that favour detached dwellings on full sites.

Figure 5-1: Waipā District Main Urban Area Estimated Commercially Feasible Capacity by Location Type and Time Period: Scenario 1 - ODP Base Zones and No MDRS



Source: M.E Waipa Residential Capacity Model, 2022.

5.2 Scenario 2: Unmodified Intensification Provisions

This section contains the unmodified intensification capacity modelled through the full application of MDRS to the ODP provisions without any modification through qualifying matters. It represents the highest level of intensification enabled by the MDRS when applied to the ODP zoning structure.

5.2.1 Plan Enabled Capacity

The modelled plan enabled capacity is contained in Table 5-6. It shows the net additional dwellings that would be enabled with the application of the MDRS to the ODP base zones.

The application of the MDRS results in a large increase in capacity across the district's main urban areas. In total, there is an estimated plan enabled capacity for an additional 59,700 dwellings under this scenario. Over two-thirds (69%; 41,200 dwellings) of the capacity is within the existing urban area, where redevelopment capacity is nearly three times that of the infill capacity.

Increases in capacity, from that enabled under the baseline provisions, are large within the existing urban area due to the increased ability to accommodate additional dwellings within the existing parcel structure. The relatively large land area requirement of the ODP currently limits the ability to accommodate any further dwellings within existing parcel boundaries.

The plan enabled capacity, if taken up, would represent a large increase in the number of households within the existing urban footprint of the urban areas of the district. If all existing urban area parcels were redeveloped, then it would result in a number of dwellings around three to four times the size of the existing urban dwellings base.

The capacity is also large within the greenfield areas, enabling an additional 18,500 dwellings with the application of MDRS across these areas. However, it is important to note that this reflects the potential yield of these areas if they were developed in more intensive typologies. Table 5-6 also shows that the greenfield areas capacity, if developed as smaller standalone dwellings, amounts to an additional 12,400 dwellings.

The plan enabled capacity is spread relatively evenly across the two main urban areas of the district (where Te Awamutu and Kihikihi are considered together). Around half (50%; 30,800 dwellings) of the total capacity is within Cambridge. Of this, around two-thirds 66% is within the existing urban area and 34% within the greenfield area. Nearly all of the Cambridge greenfield capacity is in areas that are estimated to be the highest value type within the district.

The other half (28,900 dwellings) capacity is within the combined Te Awamutu and Kihikihi area. Most of this capacity occurs within Te Awamutu (23,400 dwellings), with a smaller share (5,500 dwellings) within Kihikihi. There is very little greenfield capacity within Kihikihi, with nearly all of the capacity occurring within the existing urban area. Kihikihi's modelled existing urban capacity is around 6 times its existing urban household base. This ratio is higher for Kihikihi than for Te Awamutu and Cambridge as many of the

residential parcels have been developed at densities much lower than that under the Plan, thus enabling the formation of more new lots through subdivision.

The bulk of the capacity within Te Awamutu occurs within the Level 3 mid value range areas. This is the case for both existing urban and greenfield capacity.

While the dwelling capacity under this scenario results in a large increase in potential capacity, it is likely that the market will more gradually shift toward more intensive development through time. The density of development delivered by the market, and therefore total yield achieved, is likely to be lower than that modelled under the intensification scenarios.

Table 5-6: Waipā District Plan Enabled Capacity by Dwelling Typology and Urban Area: Scenario 2 – Unmodified Intensification (MDRS)

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	3,600	5,300	5,700	5,700	14,900	18,900	20,100	20,100	20,500	6,800	10,200	10,300	10,300	30,800
Te Awamutu	3,500	5,200	5,300	5,300	11,100	14,500	15,000	15,000	15,400	5,500	8,000	8,000	8,000	23,400
Kihikihi	1,800	2,600	2,800	2,800	3,500	4,600	5,200	5,200	5,300	100	200	200	200	5,500
Total Main Urban Areas	**8,900**	**13,000**	**13,700**	**13,700**	**29,400**	**38,000**	**40,300**	**40,300**	**41,200**	**12,400**	**18,300**	**18,500**	**18,500**	**59,700**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

5.2.2 Commercially Feasible Capacity

The following sub-sections contain the estimated areas of plan enabled capacity that are likely to form potential commercially feasible development options for developers in the current market as well as the short, medium and long-term. Importantly, the capacity should not be confused with growth – it is a measure of the potential capacity, some of which is likely to get taken up by the market with growth. Refer to the 2021 HBA for a more detailed description of the measure of commercially feasible capacity.

Current Market: 2021

The estimated currently commercially feasible capacity is contained in Table 5-7 with the application of the MDRS to the ODP base zones. It shows the net additional dwellings that are estimated to represent potentially feasible development options for commercial developers. There is an estimated commercially feasible capacity of an additional 5,300 dwellings across the Waipā District's main urban areas.

The feasible capacity amounts to around 9% of the plan enabled capacity estimated to represent commercially feasible options. This is lower than Scenario 1, which is due to a combination of the overall larger scale of capacity enabled and the lower degree to which this type of more intensive development is currently established within the local market.

Between half and two-thirds (59%; 3,100 dwellings) of the estimated feasible capacity is located within the existing urban area. This is a bit below the existing urban area share of total plan enabled capacity (69%). Greenfield capacity often represents an easier development option (than existing urban development) due

to the scale at which it can be developed and the absence/reduction of costs associated with purchasing and demolishing existing dwellings.

A large share (78%; 4,200 dwellings) of the feasible capacity is estimated to occur within Cambridge, with a smaller share (22%; 1,200 dwellings) within the combined Te Awamutu/Kihikihi urban areas. This occurs due to the higher value areas within Cambridge, where overall 14% of plan enabled capacity is estimated to be feasible. It is more likely that this type of development density will initially establish in higher value areas within the district.

Smaller shares (4%) of the plan enabled capacity is estimated to be feasible within the Te Awamutu and Kihikihi areas. These areas are lower in value and have been characterised by lower density development of lower to mid-value detached dwellings on full sites. The feasibility of medium to higher density development patterns enabled by the MDRS is likely to be much lower in these types of locations. The market for increased density development typically first establishes in higher value locations, which, within the Waipā district, correspond to the Cambridge area.

Across the urban areas, the feasible capacity is concentrated into standalone detached dwellings, with little feasible capacity in attached dwellings. Within the modelling, most of this capacity would reflect the development of two-level detached dwellings on smaller sites. This is closer to the existing development patterns than medium density attached dwellings.

Table 5-7: Waipā District Current Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 2 – Unmodified Intensification (MDRS)

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	1,600	600	100	1,800	1,700	300	-	1,700	2,800	1,300	100	100	1,400	4,200
Te Awamutu	200	-	-	300	200	-	-	200	300	800	-	-	800	1,100
Kihikihi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Main Urban Areas	**1,900**	**600**	**100**	**2,100**	**1,800**	**300**	**-**	**1,900**	**3,100**	**2,200**	**100**	**100**	**2,200**	**5,300**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Short-Term: 2024

The estimated commercially feasible capacity is projected to increase to around 6,900 dwellings in the short-term across the district's main urban areas (see Table 5-8). In the short-term, it is estimated that around 12% of plan enabled capacity is likely to represent potentially feasible development options.

The share of feasible plan enabled capacity is higher for infill development within the existing urban area. The more intensive modelled dwelling typologies are more likely to establish initially within central areas of higher amenity. Overall, around one-fifth of the plan enabled infill capacity is estimated to be commercially feasible, with around 39% of that in Cambridge feasible.

Redevelopment feasibility is lower, at 7% of plan enabled capacity across the main urban areas. This corresponds to a smaller market size and lower demand for this type of development within this market within the short-term. The feasibility of redevelopment is likely to increase through time as the market for this type of development grows through time.

The share of plan enabled capacity that is feasible within greenfield areas is estimated at around 15%. This is similar to Scenario 1. It is likely that greenfield areas will be developed at lower yields in the short-term, which are closer to the existing well-established market patterns within these areas.

Table 5-8: Waipā District Short-Term (2024) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 2 – Unmodified Intensification (MDRS)

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	1,900	1,000	100	2,200	2,200	800	-	2,400	3,500	1,500	1,700	500	2,000	5,500
Te Awamutu	400	100	-	400	200	-	-	200	500	800	-	-	800	1,300
Kihikihi	100	-	-	100	-	-	-	-	100	-	-	-	-	100
Total Main Urban Areas	**2,400**	**1,100**	**100**	**2,700**	**2,400**	**800**	**-**	**2,600**	**4,100**	**2,300**	**1,700**	**500**	**2,800**	**6,900**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Medium-Term: 2031

The estimated commercially feasible capacity is projected to increase significantly in the medium-term as the market for more intensive residential development becomes more established. Table 5-9 shows that there is an estimated 15,500 feasible dwellings potential development options within the medium-term across the district's main urban areas.

The largest share of this capacity continues to occur within the Cambridge area. This is due to the higher value of this location and therefore the greater ability for the local market to support this type of development. During the medium-term, there is a change in the dwelling type structure of feasible capacity within Cambridge. There is a projected growth in capacity for attached dwellings as this type of development becomes more established.

There is also a sizeable increase in the feasible capacity within Te Amamutu during the medium-term. This is characterised by detached dwellings, with very limited feasible attached dwellings. This is generally reflective of the lower value market within this area, where attached dwellings are likely to establish over a longer time period.

While there is a sizeable relative increase in feasible capacity, the level of uptake is still likely to occur in line with the size of market demand for these types of dwellings. The scale of the relative increase is a function of the types of locations and range of land parcels where this type of development could potentially occur. These more intensive development patterns generally begin to emerge in the most central and accessible locations. Their potential application is likely to become achievable within a wider range of suburban locations through time.

Table 5-9: Waipā District Medium-Term (2031) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 2 – Unmodified Intensification (MDRS)

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	2,400	2,200	500	3,100	3,200	2,700	200	4,000	5,200	3,600	2,200	2,400	4,400	9,700
Te Awamutu	1,100	100	-	1,100	900	200	-	900	1,600	3,400	-	-	3,400	4,900
Kihikihi	700	-	-	700	400	-	-	400	800	100	-	-	100	900
Total Main Urban Areas	**4,200**	**2,400**	**500**	**4,900**	**4,500**	**2,900**	**200**	**5,400**	**7,600**	**7,100**	**2,200**	**2,400**	**7,900**	**15,500**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Long-Term: 2051

The estimated commercially feasible capacity is projected to increase substantially within the long-term. A wider range of development options are likely to become feasible across a more expansive area in the long-term within the district's main urban areas.

In total, there is an estimated feasible capacity of around 34,800 dwellings in the long-term (see Table 5-10). Between half and two-thirds (20,400 dwellings) of these are projected to occur within the Cambridge urban area, with the remainder in Te Awamutu (11,900 dwellings) and Kihikihi (2,500 dwellings). The feasibility of development is projected to continue to be higher within Cambridge where a greater share of plan enabled capacity is likely to become feasible.

In the long-term, there are a wide range of development options across that are projected to be feasible across much of the general suburban area in all of the district's main urban areas. Medium density development is likely to become more established within these locations over the long-term.

Table 5-10: Waipā District Long-Term (2051) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 2 – Unmodified Intensification (MDRS)

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	2,800	4,900	3,200	5,200	5,700	8,800	5,300	10,000	11,400	5,500	8,900	9,000	9,000	20,400
Te Awamutu	1,600	1,700	200	2,200	2,600	1,700	300	3,200	4,000	5,500	7,900	7,900	7,900	11,900
Kihikihi	1,400	900	-	1,600	1,800	600	-	1,900	2,300	100	100	100	100	2,500
Total Main Urban Areas	**5,800**	**7,400**	**3,400**	**9,000**	**10,100**	**11,000**	**5,600**	**15,100**	**17,700**	**11,100**	**16,900**	**17,000**	**17,100**	**34,800**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Summary of Scenario 2 Feasible Capacity

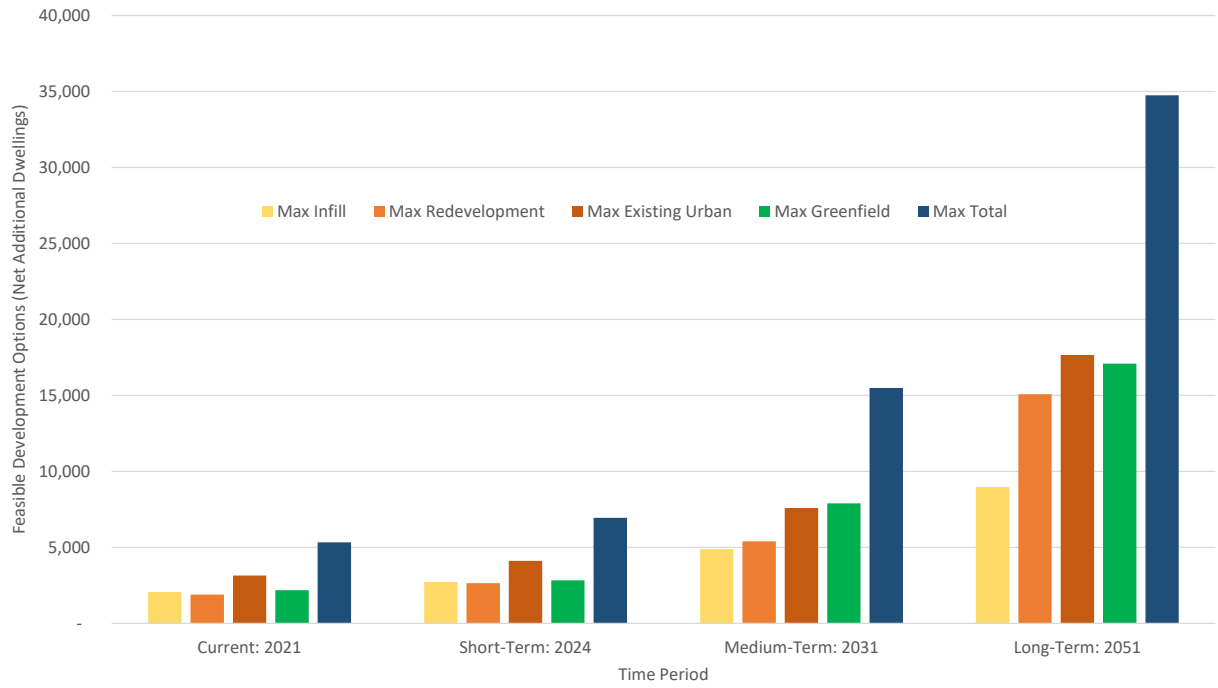
The projected commercially feasible capacity options are summarised across the different time periods in Figure 5-2. It shows the maximum projected feasible dwelling development options across all typologies for the existing urban (incl. infill or redevelopment), greenfield and total areas across each of the time periods.

Figure 5-2 shows that the feasible development capacity is projected to increase through time. There are large increases in capacity across both the existing urban and greenfield areas. Growth in feasible capacity within the short-term is mainly driven by the feasibility of detached dwellings on smaller sites. These are closer to the existing, well-established development patterns within the market.

Growth in capacity within the long-term is driven by a combination of an increase in the spatial extent of feasible development options, as well as increased yields on sites where more intensive attached dwelling development options become feasible. There are many sites that are feasible in the short to medium-term to develop as detached dwellings, that also become feasible to develop in attached dwellings during the long-term.

This capacity shows the potential development options that are likely to be feasible for the market. The level of take-up will be likely to correspond to the level of market demand for each type of development option through time.

Figure 5-2: Waipā District Main Urban Area Estimated Commercially Feasible Capacity by Location Type and Time Period: Scenario 2 – Unmodified Intensification (MDRS)



Source: M.E Waipa Residential Capacity Model, 2022.

5.3 Scenario 3: Modified Intensification Provisions

This section contains the capacity modelled with the application of PC26. It includes the application of the MDRS to the ODP zoning structure, with the modification of intensification provisions through the application of qualifying matters. This scenario shows the effect of qualifying matters on the capacity enabled through Scenario 2 as well as the increase in capacity under PC26 from the baseline existing zoning structure (i.e. Scenario 1).

5.3.1 Plan Enabled Capacity

The modelled plan enabled capacity is contained in Table 5-11. It shows the net additional dwellings that would be enabled under PC26.

Overall, Scenario 2 has a modelled plan enabled capacity for around 37,000 net additional dwellings. This equates to nearly three times the capacity enabled under the existing ODP baseline provisions. It is a reduction of around 38% from the capacity enabled under Scenario 2 where the intensification provisions are applied without modification.

PC26 provides for a large increase in capacity both within the existing urban area and greenfield areas relative to the baseline position. Increases are larger within the existing urban area due to the current constraints to additional site formation within the existing parcel structure from the full site requirement (generally 500m2 land area). If the existing urban area were redeveloped at this intensity, then it would be around three times the size of the existing dwelling base.

The plan enabled capacity is distributed relatively evenly between the main urban areas of Cambridge, and Te Awamutu/Kihikihi combined. Around half (51%; 18,900 dwellings) of the capacity is within Cambridge, with the remainder within Te Awamutu (39%; 14,400 dwellings) and Kihikihi (10%; 3,700 dwellings).

Table 5-11: Waipā District Plan Enabled Capacity by Dwelling Typology and Urban Area: Scenario 3 – Modified Intensification (MDRS with Qualifying Matters)

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	3,000	3,600	3,900	3,900	10,500	10,800	11,700	11,700	12,000	6,700	6,700	6,900	6,900	18,900
Te Awamutu	3,000	3,400	3,500	3,500	8,200	8,300	8,700	8,700	9,100	5,300	5,300	5,300	5,300	14,400
Kihikihi	1,600	1,800	2,000	2,000	2,900	3,000	3,500	3,500	3,600	100	100	100	100	3,700
Total Main Urban Areas	**7,600**	**8,800**	**9,300**	**9,300**	**21,600**	**22,000**	**23,900**	**23,900**	**24,700**	**12,200**	**12,200**	**12,300**	**12,300**	**37,000**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

5.3.2 Commercially Feasible Capacity

The following sub-sections contain the estimated areas of plan enabled capacity that are likely to form potential commercially feasible development options for developers in the current market as well as the short, medium and long-term. Importantly, the capacity should not be confused with growth – it is a measure of the potential capacity, some of which is likely to get taken up by the market with growth. Refer to the 2021 HBA for a more detailed description of the measure of commercially feasible capacity.

Current Market: 2021

Table 5-12 shows that there is a modelled estimated currently commercially feasible capacity of 3,400 dwellings as potential development options under PC26. This amounts to around 9% of the plan enabled capacity.

Nearly all (91%) of the feasible capacity is within the Cambridge urban area. This is a higher value urban area where there are higher levels of feasibility, particularly within development patterns that are more intensive than existing patterns of development.

Over half (58%) of the feasible capacity occurs within the existing urban area, with the remainder (42%; 1,400 dwelllings) within the greenfield area. While the existing urban area contains a larger share of the feasible development options, the share of take-up within this area may be lower due to the availability of capacity to the market and the existing propensity for greenfield development.

Table 5-12: Waipā District Current Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 3 – Modified Intensification (MDRS with Qualifying Matters)

Waipa Urban Area	INFILL				REDEVELOPMENT					GREENFIELD				
	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	1,400	300	-	1,400	1,000	100	-	1,000	1,800	1,300	100	100	1,300	3,200
Te Awamutu	100	-	-	100	100	-	-	100	200	100	-	-	100	300
Kihikihi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Main Urban Areas	**1,500**	**400**	**-**	**1,500**	**1,100**	**100**	**-**	**1,100**	**2,000**	**1,400**	**100**	**100**	**1,400**	**3,400**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Short-Term: 2024

The estimated commercially feasible development options are projected to increase to around 4,000 dwellings under PC26 in the short-term (see Table 5-13). This equates to around 11% of the plan enabled capacity.

Similar to the current market, the short-term feasible capacity is heavily dominated by detached dwellings. These are more similar to the existing patterns of development within the district's main urban areas. Under this scenario, detached dwellings are larger than those under Scenario 2 due to the alternative densities, but still represent a shift in development patterns to those currently being delivered by the market.

Most of the feasible capacity in the short-term is still concentrated into the Cambridge urban area. The modelling indicates that margins would be lower than the selected 20% within the Te Awamutu/Kihikihi urban areas in the short-term due to a combination of increased construction costs and lower demand within these areas.

Table 5-13: Waipā District Short-Term (2024) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 3 – Modified Intensification (MDRS with Qualifying Matters)

Waipa Urban Area	INFILL				REDEVELOPMENT					GREENFIELD				
	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	1,500	500	-	1,500	1,400	300	-	1,400	2,100	1,400	100	100	1,400	3,600
Te Awamutu	200	-	-	200	100	-	-	100	300	100	-	-	100	400
Kihikihi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Main Urban Areas	**1,700**	**600**	**-**	**1,700**	**1,500**	**300**	**-**	**1,500**	**2,400**	**1,600**	**100**	**100**	**1,600**	**4,000**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Medium-Term: 2031

The estimated feasible capacity is projected to increase in the medium-term to around 10,700 dwellings development opportunity (see Table 5-14). This amounts to nearly one-third (29%) of the plan-enabled capacity.

The growth in capacity within the medium-term is projected to occur in several ways. These include an increase in the location and type of development opportunities within the existing urban environment and the increase in greenfield areas that are feasible to develop.

The modelling indicates that the market for medium density development is likely to become more feasible through time in the medium-term. This increases the capacity within the existing urban area through a combination of increased yields on sites that were earlier feasible to develop as detached dwellings, as well as a greater viability of this type of development across a wider geographic area. This has mainly occurred within Cambridge, with attached dwellings having only a minor share of feasible capacity within the Te Awamutu/Kihikihi urban areas.

There is a sizeable projected increase in feasible greenfield areas within Te Awamutu within the medium-term. These areas are estimated to have lower margins within the short-term, increasing during the medium-term. These are dominanted by detached dwellings, with attached dwellings not projected to have sufficiently high margins within the medium-term.

Table 5-14: Waipā District Medium-Term (2031) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 3 – Modified Intensification (MDRS with Qualifying Matters)

	INFILL				REDEVELOPMENT					GREENFIELD				
Waipa Urban Area	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	1,600	1,400	200	1,700	2,200	900	100	2,300	2,900	3,500	1,400	1,700	3,700	6,500
Te Awamutu	800	100	-	800	700	-	-	700	1,100	2,400	-	-	2,400	3,500
Kihikihi	600	-	-	600	300	-	-	300	600	100	-	-	100	700
Total Main Urban Areas	**3,000**	**1,500**	**200**	**3,100**	**3,200**	**1,000**	**100**	**3,300**	**4,600**	**6,000**	**1,400**	**1,700**	**6,200**	**10,700**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Long-Term: 2051

The share of plan-enabled capacity that is projected to be commercially feasible development options is projected to increase further in the long-term (see Table 5-15). There is an estimated feasible capacity of 19,700 dwellings in Waipā district's main urban areas under PC26 in the long-term. This amounts to just over half of the capacity enabled under the proposed provisions.

The market for medium density development is projected to become more established over the long-term within Waipā district's urban areas. The modelling indicates that there is a sizeable increase in feasible capacity across both detached and attached dwellings over the long-term. The largest development opportunity for attached dwellings remains in the higher value urban area of Cambridge, with a smaller, albeit significant, potential development opportunity for attached dwellings within the existing urban area of Te Awamutu/Kihikihi.

Medium density development patterns are also projected to be feasible within greenfield areas. A higher share of the plan-enabled capacity in attached dwellings is feasible within greenfield areas (both Cambridge and Te Awamutu) than within the existing urban area. This is partly due to the type of development enabled, where attached dwellings in the greenfield areas are likely to be enabled at densities that are currently being delivered within many of Hamilton's greenfield areas. These are likely to mainly be a combination of smaller single level attached units, town houses, and some terraced housing.

Table 5-15: Waipā District Long-Term (2051) Commercially Feasible Capacity by Dwelling Typology and Urban Area: Scenario 3 – Modified Intensification (MDRS with Qualifying Matters)

Waipa Urban Area	INFILL				REDEVELOPMENT					GREENFIELD				
	Standalone	Attached	Apartment	Max Infill	Standalone	Attached	Apartment	Max Redevelopment	Max Infill or Redevelopment	Standalone	Attached	Apartment	Max Greenfield	Max Existing Urban and Greenfield
Cambridge	1,800	1,800	2,100	2,300	3,800	3,700	2,300	4,600	5,100	5,500	5,500	5,600	5,600	10,700
Te Awamutu	1,200	600	100	1,200	1,900	700	100	1,900	2,300	5,300	5,200	4,800	5,300	7,500
Kihikihi	900	600	-	900	1,200	300	-	1,200	1,300	100	100	100	100	1,400
Total Main Urban Areas	**3,900**	**3,100**	**2,200**	**4,400**	**6,900**	**4,700**	**2,400**	**7,700**	**8,700**	**10,800**	**10,700**	**10,400**	**10,900**	**19,700**

Source: M.E Waipa Residential Capacity MDRS Model, December 2022.

Summary of Scenario 3 Feasible Capacity

The projected commercially feasible capacity options are summarised across the different time periods in Figure 5-3. It shows the maximum projected feasible dwelling development options across all typologies for the existing urban (incl. infill or redevelopment), greenfield and total areas across each of the time periods.

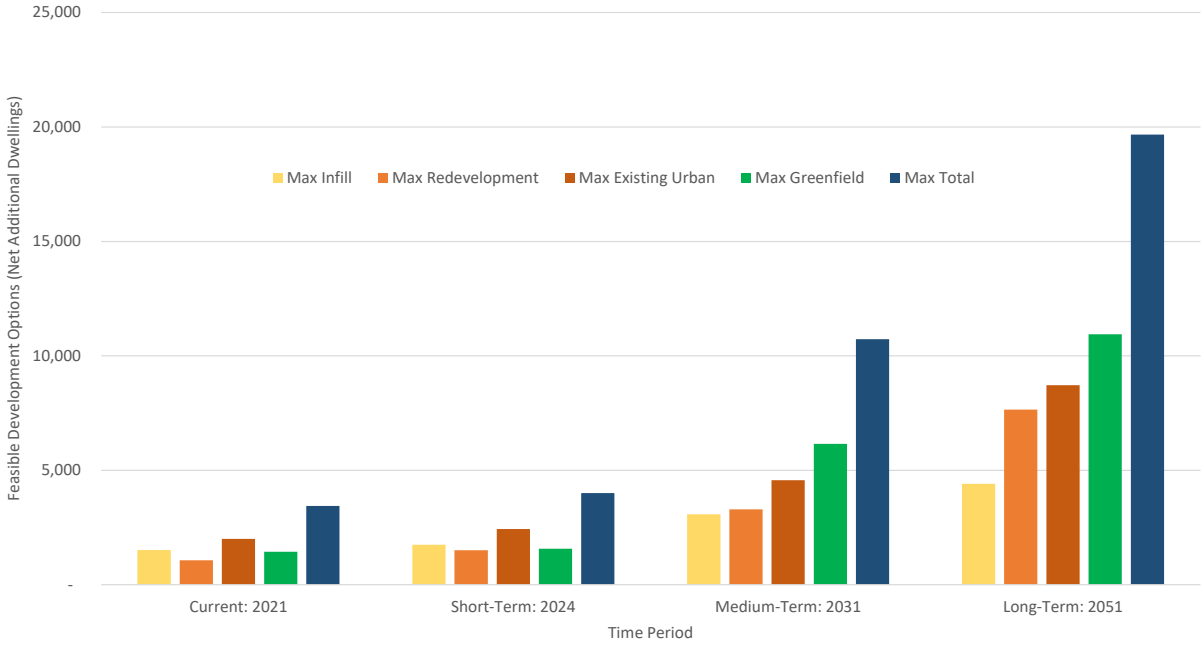
Figure 5-3 shows that the feasible development capacity is projected to increase through time. There are large increases in capacity across both the existing urban and greenfield areas.

Similar to Scenario 2, growth in feasible capacity within the short-term is mainly driven by the feasibility of detached dwellings on smaller sites. These are closer to the existing, well-established development patterns within the market and are at a slightly lower density to those modelled under Scenario 2 due to the alternative densities applied.

Growth in capacity within the long-term is driven by a combination of an increase in the spatial extent of feasible development options, as well as increased yields on sites where more intensive attached dwelling development options become feasible. The medium density dwelling options are projected to become more feasible through time. There are many sites that are feasible in the short to medium-term to develop as detached dwellings, that also become feasible to develop in attached dwellings during the long-term.

Similar to Scenario 2, this capacity shows the potential development options that are likely to be feasible for the market. The level of take-up will be likely to correspond to the level of market demand for each type of development option through time. The alternative densities modelled with the application of qualifying matters mean that there is likely to be a larger overlap in demand between detached and attached dwellings than under more intensive patterns of development.

Figure 5-3: Waipā District Main Urban Area Estimated Commercially Feasible Capacity by Location Type and Time Period: Scenario 3 – Modified Intensification (MDRS with Qualifying Matters)



Source: M.E Waipa Residential Capacity Model, 2022.

5.4 Comparison of Scenarios and Qualifying Matters

This section identifies the effect of the intensification provisions and qualifying matters on commercially feasible capacity through a comparison of the capacity across each scenario. The first part of this section provides an overview of the total capacity enabled under each of the scenarios, and then compares this to the projected demand. The second part of this section then quantifies the effect of the intensification provisions on baseline capacity and the effect of qualifying matters.

5.4.1 Overview of Total Modelled Capacity and Comparison to Demand

Comparison of Modelled Capacity by Modelled Scenario

Figure 5-4 and Table 5-16 show the total (maximum yields for existing urban plus greenfield) modelled capacity under each of the scenarios. They show the total plan enabled capacity as well as the projected feasible capacity in the current market, short, medium and long-terms. The capacity within each time period is overlaid with the projected urban demand (including a margin) within the district's main urban areas, obtained from the 2021 HBA.

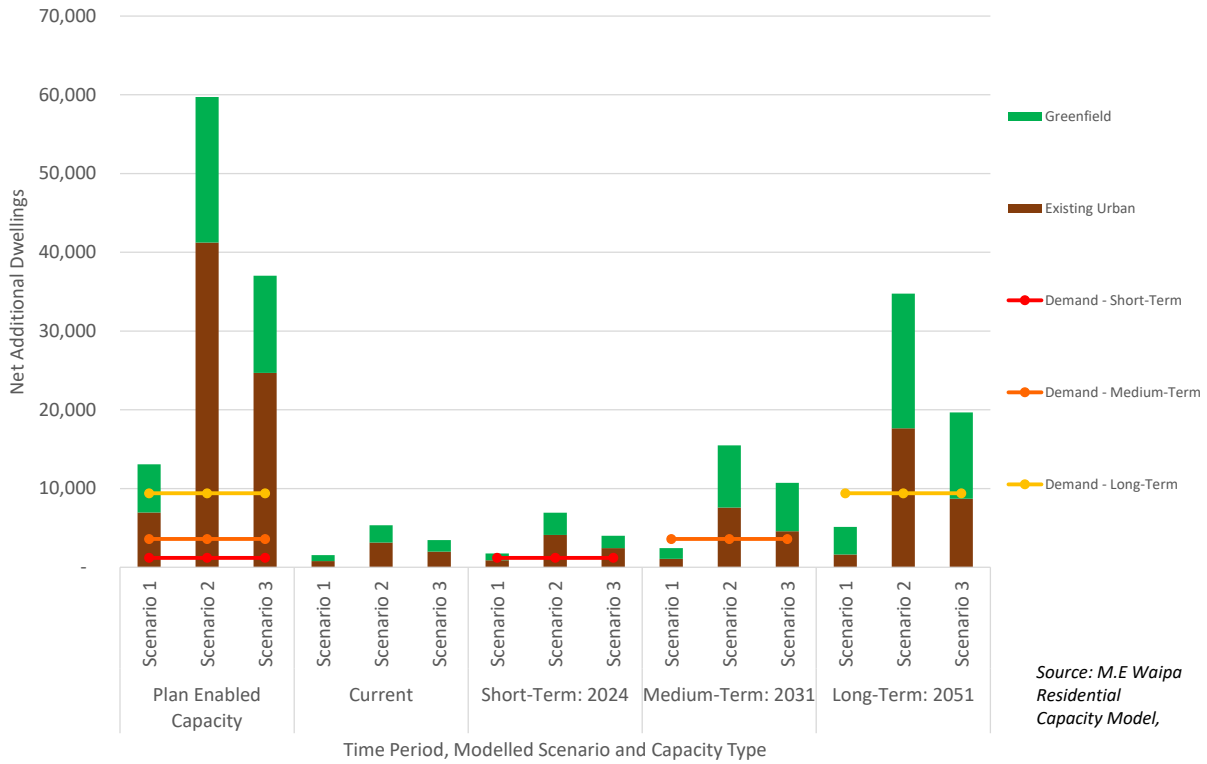
Table 5-16 also includes a commercially feasible scenario using current (2021) prices applied across the short, medium and long-term. This has been included as a sensitivity test due to requirements within the earlier NPS-UD assessments to assess capacity under current prices. The application of a current market situation to reflect the feasibility of intensification provisions capacity is less useful. This is because these types of development are not currently well established within the market, with only limited provision for

higher intensity development. They represent a substantially different type of development pattern that is likely to become more established through time.

Figure 5-4 shows that both scenarios 2 and 3 substantially increase the residential dwelling capacity relative to the baseline ODP provisions. These scenarios increase both the plan-enabled and commercially feasible capacity. Scenario 2 has the largest capacity, although scenario 3 still generates large increases from the existing baseline.

The differences in feasible development options capacity between the intensification provisions (scenarios 2 and 3) and that under the existing ODP provisions increases through time. This occurs as scenarios 2 and 3 introduce potential development patterns that differ substantially to historic patterns of development across the district's main urban areas. These development patterns are not currently well established, but are projected to increase in feasibility through time, resulting in increasing differences in capacity to the baseline provisions into the long-term.

Figure 5-4: Comparison of Plan-Enabled and Projected Commerically Feasible Capacity by Type and Modelled Scenario and Demand



Source: M.E Waipa Residential Capacity Model,

Table 5-16: Modelled Net Additional Dwelling Capacity by Scenario in Waipā District Main Urban Areas

		MAIN URBAN AREAS: Cambridge, Te Awamutu, Kihikihi			
		TIME PERIOD			
SCENARIO	CAPACITY TYPE	CURRENT	SHORT-TERM	MEDIUM-TERM	LONG-TERM
1	Plan Enabled	13,100	13,100	13,100	13,100
	Commercially Feasible	1,600	1,800	2,400	5,100
	Commercially Feasible (2021 prices)	1,600	1,600	1,600	1,600
2	Plan Enabled	59,700	59,700	59,700	59,700
	Commercially Feasible	5,300	6,900	15,500	34,800
	Commercially Feasible (2021 prices)	5,300	5,300	5,300	5,300
3	Plan Enabled	37,000	37,000	37,000	37,000
	Commercially Feasible	3,400	4,000	10,700	19,700
	Commercially Feasible (2021 prices)	3,400	3,400	3,400	3,400
HBA 2021	DEMAND (Incl. Margin)		1,200	3,600	9,400

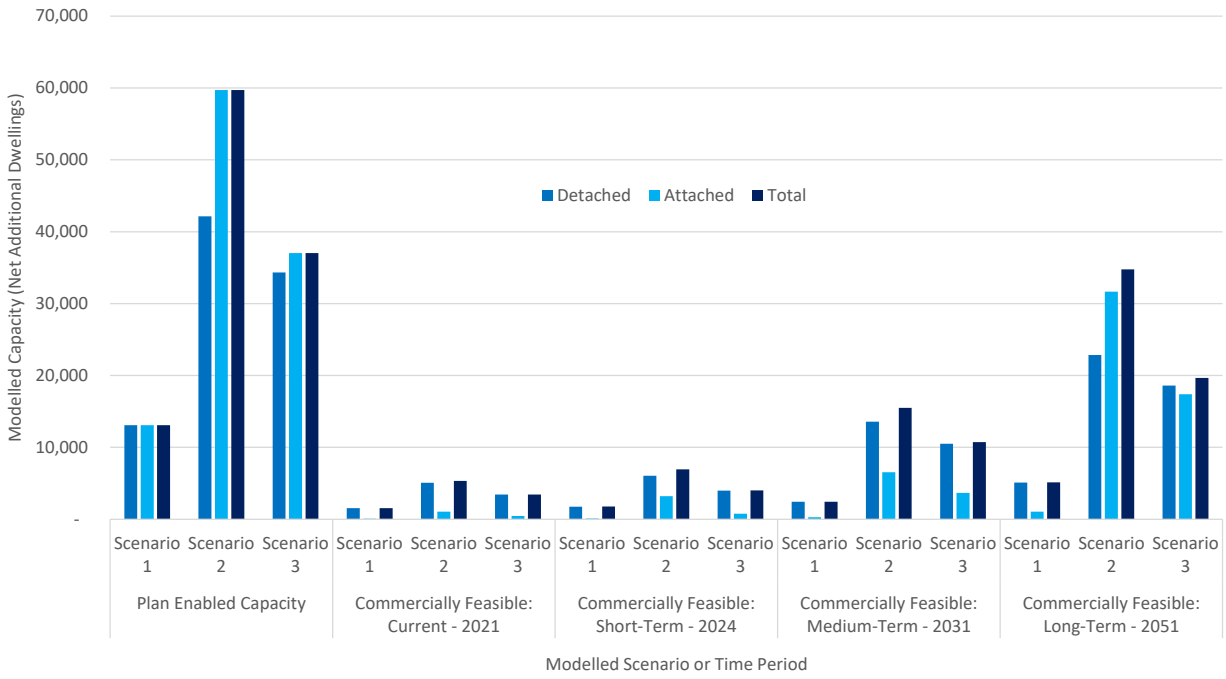
Source: M.E 2022 Waipa District MDRS Modelling, December 2022.

The capacity within each modelled scenario and time period is further disaggregated by dwelling typology in Figure 5-5. It shows the detached and maximum attached dwelling yields together with the total dwelling capacity for each scenario and time period. Importantly, the detached and attached dwelling yields are not additive as there are parcels that are feasible for both development options. The maximum yield combination across these typologies is reflected in the 'Total' data series.

Figure 5-5 shows the same aggregate pattern as that in Figure 5-4 where scenarios 2 and 3 substantially increase the capacity from the baseline provisions, with the largest capacity estimated to occur under Scenario 2. It also shows how more intensive medium density development options are likely to increase in feasibility through time within scenarios 2 and 3.

In the short to medium-term, the feasible capacity is largest for detached dwellings. In the long-term, attached dwellings have a higher feasible capacity. Part of this is due to the higher yields achieved through attached dwellings (on parcels which are feasible to develop as either dwelling type), with part occurring due to parcels becoming feasible with the increased yields achievable through attached dwellings.

Figure 5-5: Comparison of Plan-Enabled and Projected Commercially Feasible Capacity by Modelled Scenario and Type



Source: M.E Waipa Residential Capacity Model, 2022.

Comparison of Total Capacity to Demand

Figure 5-4 and Table 5-16 also show the projected demand for urban dwellings within the district's main urban areas of Cambridge, Te Awamutu and Kihikihi. The demand projections have been obtained from the 2021 HBA, which estimates the urban share of the April 2021 FPP WISE High Series Projections[10].

They show that both the plan enabled and commercially feasible capacity under scenarios 2 and 3 is substantially greater than projected demand across all three time periods. There is a projected long-term demand for around 9,400 additional urban dwellings across the Cambridge, Te Awamutu and Kihikihi urban areas, including a competitiveness margin (8,100 additional dwellings if the margin is excluded). This compares to a total plan enabled capacity of 37,000 (Scenario 3) to 59,700 (Scenario 2), and projected feasible capacity of 19,700 dwellings (Scenario 3) to 34,800 dwellings (Scenario 2).

It is important to note that not all feasible capacity is likely to be available to the market for development. Therefore, it is important that there is not a reliance on high take-up rates of capacity to meet future demand. Around 16% of the plan enabled capacity or 27% of the commercially feasible capacity would need to be taken up to meet demand (14% and 23% excluding the demand margin) under Scenario 2.

Under Scenario 3, 25% of plan-enabled capacity would need to be taken up and nearly half (48%) of long-term feasible capacity (22% and 41% excluding the demand margin). While a required take-up rate of 48%

[10] Updated household projections have been released by Statistics New Zealand on 15 December 2022. These have not yet been evaluated within the context of this report and there has not yet been any direction on the use of these projections by FPP. As such, the report uses the 2021 HBA projections as directed by FPP for the HBA.

is relatively high, it is important to note that over half of the long-term feasible capacity occurs as greenfield capacity.

The feasible detached dwelling yield within the greenfield areas under PC26 (Scenario 3) is around 10,800 dwellings, which exceeds the projected demand. While it is unlikely that these areas will be developed at this intensity, it suggests that there is a sizeable capacity within these areas to accommodate a substantial portion of demand. If the greenfield areas accommodated a substantial share of the future demand, then the required take-up through intensification of the existing urban area is less.

The above comparison is a high level comparison between total demand and total projected capacity. It is recommended that further assessment is undertaken to understand the alignment between the type of demand and type of capacity enabled. It is also important to evaluate the scale of the proposed provisions in relation to the likely market size as the combination of these factors will affect the take-up of development and the urban form patterns that emerge.

It is likely that development will get taken up through time at a range of densities, including up to that of the provisions in some locations. However, a portion of the development capacity delivered by the market is still likely to occur at lower to medium densities, particularly within the short-term, as demand increases through time for more intensive dwelling options.

A more detailed sufficiency assessment will be undertaken in the next HBA for FPP. In the interim, it is important to consider the type of capacity enabled under the different provisions, including its alignment with medium density development patterns in similar types of urban areas. This will indicate the types of development patterns that may occur within these areas and their corresponding likely yield.

5.4.2 Quantified Effect of Intensification Provisions and Qualifying Matters

The differences between the dwelling capacity modelled under each scenario is summarised in Table 5-17. It shows both the net and percentage differences in capacity between the scenarios. Importantly, this shows the difference in capacity between PC26 (Scenario 3) and the existing ODP baseline provisions (Scenario 1), and the change in capacity with the application of qualifying matters to that which is enabled through the unmodified intensification (Scenario 2). These differences are summarised within the sub-sections below.

Difference in Capacity Between PC26 (Scenario 3) and the Existing ODP Baseline (Scenario 1)

Table 5-17 shows that PC26 contains nearly three times the plan-enabled capacity than that enabled under the existing ODP baseline provisions. Overall, it increases that plan-enabled capacity by 183%, amounting to a net increase of an additional 24,000 dwellings.

The largest modelled increases occur within the existing urban area, where capacity increases by 255%. This amounts to an additional 17,700 dwellings enabled under PC26 than the existing baseline provisions within the existing urban area. The increases are smaller, although still sizeable within the greenfield areas, where plan-enabled capacity is modelled to increase by 101% (+6,200 additional dwellings).

The relative increase within the existing urban area is larger than the percentage increase within the greenfield areas. This is due to the existing parcel boundary structure constraining the ability to form new lots (through infill subdivision or redevelopment) at the required lot size under the baseline provisions.

The modelling estimates that the PC26 increases the feasible development capacity options by between 121% and 284% from those modelled under the baseline provisions. This amounts to a difference of 1,900 dwellings in the current market, increasing to 14,500 dwellings in the long-term. The modelled percentage difference increases through time as the market for medium density development options grows, with a higher share of plan enabled capacity becoming feasible through time under the PC26 intensification provisions. Moreover, the feasible capacity within the baseline provisions is constrained due to the increases in construction costs and the requirement to construct larger dwellings on full sites.

Difference in Capacity Between PC26 (Scenario 3) and the Unmodified Intensification Provisions (Scenario 2): Impact of Qualifying Matters

Table 5-17 also shows the impact of qualifying matters proposed under PC26 on the modelled capacity. This is seen through the comparison of Scenario 3 (PC26) with Scenario 2 (Unmodified Intensification).

Overall, the proposed qualifying matters in PC26 decrease the plan enabled capacity by 38%. The impact is slightly larger (at -40%) within the existing urban area, and smaller within the greenfield areas (with a reduction of 33%). This amounts to a net reduction of 22,700 dwellings.

The percentage effect on detached dwellings is estimated to be smaller than on attached dwellings. This is because detached dwellings are assumed to require a larger land area to construct each dwelling, resulting in a greater level of similarity between the two scenarios than for attached dwellings.

The modelling projects that PC26 reduces the estimated feasible capacity of Scenario 2 by 31% to 42% over the short to long-term. This amounts to a net difference of -1,900 dwellings in the current market, increasing to -15,100 dwellings in the long-term. The largest reduction in feasible capacity occurs within attached dwellings, and increases in the long-term when higher shares of this capacity becomes feasible with market growth. However, the modelling does not reflect the potential for changes to the Infrastructure Constraint and Stormwater Constraint Overlays as infrastructure upgrades occur over time.

Effects of PC26 on Feasibility

It is important to understand the likely nature of the impacts of the PC26 on feasible development opportunities beyond the net differences expressed in Table 5-17.

The alternative densities proposed under PC26 result in differences in enabled dwelling typologies to those otherwise enabled by the MDRS. The alternative densities would enable two dwellings per site, with a minimum land area of 250m2 per dwelling, with many existing parcel boundaries producing substantially larger per dwelling site sizes. Analysis of existing recent development patterns suggest that these site sizes under PC26 would produce duplex pairs, townhouses, and some lower intensity terraced housing.

In comparison, the MDRS would enable these densities, and extend up to higher intensity terraced housing, which are likely to play a greater relative role in the longer-term intensification within more central urban areas.

This terraced housing density of development would be restricted by the alternative densities proposed by PC26, meaning that the level of intensification may be constrained in certain areas. This restriction is more likely to occur within the long-term when the market becomes more established for terraced housing in these urban areas. This may constrain development in areas where it may be appropriate in the long-term for more intensive medium-density development within these urban areas.

Table 5-17: Difference in Plan-Enabled and Projected Feasible Capacity Development Options between Modelled Scenarios

Time Period	Comparison	Existing Urban			Greenfields			Total		
		Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
		Net Change in Capacity (Number of Net Additional Dwellings)								
Plan Enabled Capacity	Scenario 3 vs. Scenario 2	-7,560	-16,536	-16,536	-252	-6,136	-6,136	-7,812	-22,672	-22,672
	Scenario 3 vs. Scenario 1	15,212	17,735	17,735	6,048	6,216	6,216	21,260	23,951	23,951
Commercially Feasible Capacity: Current - 2021	Scenario 3 vs. Scenario 2	-930	-591	-1,142	-710	-38	-748	-1,640	-629	-1,890
	Scenario 3 vs. Scenario 1	1,221	280	1,223	666	73	666	1,887	353	1,889
Commercially Feasible Capacity: Short-Term - 2024	Scenario 3 vs. Scenario 2	-1,358	-873	-1,675	-704	-1,578	-1,256	-2,062	-2,451	-2,931
	Scenario 3 vs. Scenario 1	1,529	589	1,533	712	73	712	2,241	662	2,245
Commercially Feasible Capacity: Medium-Term -	Scenario 3 vs. Scenario 2	-2,053	-2,151	-3,020	-1,026	-734	-1,747	-3,079	-2,885	-4,767
	Scenario 3 vs. Scenario 1	3,393	1,704	3,496	4,679	1,675	4,798	8,072	3,379	8,294
Commercially Feasible Capacity: Long-Term - 2051	Scenario 3 vs. Scenario 2	-4,006	-8,082	-8,938	-250	-6,197	-6,147	-4,256	-14,279	-15,085
	Scenario 3 vs. Scenario 1	6,144	5,703	7,102	7,326	10,639	7,445	13,470	16,342	14,547
		Percentage Change in Capacity								
Plan Enabled Capacity	Scenario 3 vs. Scenario 2	-25%	-40%	-40%	-2%	-33%	-33%	-19%	-38%	-38%
	Scenario 3 vs. Scenario 1	219%	255%	255%	99%	101%	101%	162%	183%	183%
Commercially Feasible Capacity: Current - 2021	Scenario 3 vs. Scenario 2	-32%	-62%	-36%	-33%	-34%	-34%	-32%	-59%	-35%
	Scenario 3 vs. Scenario 1	156%	329%	156%	86%	0%	86%	121%	415%	121%
Commercially Feasible Capacity: Short-Term - 2024	Scenario 3 vs. Scenario 2	-36%	-56%	-41%	-31%	-96%	-44%	-34%	-76%	-42%
	Scenario 3 vs. Scenario 1	171%	561%	170%	83%	0%	83%	128%	630%	127%
Commercially Feasible Capacity: Medium-Term -	Scenario 3 vs. Scenario 2	-32%	-52%	-40%	-15%	-30%	-22%	-23%	-44%	-31%
	Scenario 3 vs. Scenario 1	317%	592%	325%	345%	0%	353%	332%	1173%	341%
Commercially Feasible Capacity: Long-Term - 2051	Scenario 3 vs. Scenario 2	-34%	-55%	-51%	-2%	-36%	-36%	-19%	-45%	-43%
	Scenario 3 vs. Scenario 1	380%	691%	438%	209%	4925%	213%	263%	1570%	284%

Source: M.E Waipa Residential Capacity Model, 2022.

6 Conclusions

Proposed Plan Change 26 would enable a greater level of capacity and development across much of the urban residential areas of Waipā District. It would enable greater intensification within the existing urban areas, together with higher yields within the greenfield areas.

The total capacity enabled by the PC26 provisions would represent large increases to the existing urban dwelling base. It has been estimated that a share of the plan enabled capacity is likely to represent commercially feasible options for developers, which amounts to around a quarter of the size of the existing household base in the current market, and around one and a half times the existing base in the long-term.

The types of capacity enabled by the intensification provisions are at a substantially higher density than that provided within many of the main urban residential zones of the ODP. If capacity is taken up at these densities, then it would represent a significant shift to the development patterns that have previously characterised growth across much of the district's urban areas. The greatest difference would occur with attached dwellings, with the detached dwellings being closer (than attached dwellings) to existing development patterns.

The modelling has shown that the qualifying matters proposed under PC26 would reduce the capacity enabled under a scenario where the MDRS were applied without modification. While both the plan-enabled and commercially feasible capacity under PC26 is projected to substantially exceed the projected future urban demand, there may be some effect on the feasibility of capacity and achievable density within parts of the urban environment. This relates primarily to the alternative densities proposed for the Infrastructure Constraint qualifying matter through restricting the development of more intensive attached dwellings (e.g. terraced housing).

Understanding the capacity enabled by PC26 is an important first stage in understanding the implications of PC26 and the MDRS. It is likely that development will get taken up through time at a range of densities, including up to that of PC26 and the MDRS in some locations. However, much of the development capacity delivered by the market is still likely to occur at lower densities, particularly within the short-term, as demand increases through time for more intensive dwelling options.