From:	Official Information
To:	S 7(2)(a)
Cc:	Official Information
Subject:	Final response - LGOIMA 330236 - S 7(2)(a) - link to the ME Hamilton Residential Capacity Model 2022 report
Date:	Monday, 24 July 2023 2:49:24 pm
Attachments:	HamiltonMDRS_Report_CommercialFeasibility8Feb23.pdf image001.png

Kia ora S 7(2)(a)

We refer to your information request below. Hamilton City Council sincerely apologises for the delay, we are able to provide the following response.

Your request:

Please provide the link to this report - ME. Hamilton Residential Capacity Model 2022

Our Response:

The team have confirmed no report of the explanation provided exists. As such we are refusing your request in accordance with S17(e) of LGOIMA – this information does not exist.

In 2022, Market Economics completed two reports relative to your request however, both of which we have provided to you previously. These being:

1. Residential Capacity Feasibility Modelling (attached)
2. Residential Capacity Modelling

We are happy to make another enquiry if you are able to provide clarification on exactly what you are after. Please note – if no amendment is made to this request by close of business 31st of July 2023, we will consider this request complete.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Kind Regards,

Tatiyana
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Subject: ME. Hamilton Residential Capacity Model 2022/

Please provide the link to this report

Kind Regards

S 7(2)(a)

Residential Capacity Feasibility Modelling

Medium Density Residential Standards and Plan Change 12: Hamilton City

8 February 23 – final

m.e consulting

Residential Capacity Feasibility Modelling

Medium Density Residential Standards and Plan Change 12: Hamilton City

Prepared for

Hamilton City Council

Document reference: HMCC034.21/Report/HamiltonMDRS_Report_CommercialFeasibility.docs

Date of this version: 8 February 2023

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1 Introduction

Hamilton City Council (HCC) are proposing a plan change (Plan Change 12) to implement a range of residential intensification provisions across the urban environment. M.E have undertaken residential capacity modelling to understand the capacity enabled under these provisions, and the areas of this capacity that are likely to represent feasible development options. This report contains the commercially feasible capacity modelling and goes together with the first report containing the plan enabled capacity assessment[1].

The intensification provisions include the application of the Medium Density Residential Standards[2] (MDRS), which tier 1[3] high growth urban areas are required to incorporate into their district plans under the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill. They also include provisions for higher density residential development in key areas of accessibility required under Policy 3 of the National Policy Statement on Urban Development[4] (NPS-UD). M.E have undertaken further commercial feasibility modelling on the previously modelled plan enabled capacity calculated to inform the plan change Section 32 on the effects of the proposed provisions on residential capacity.

The proposed intensification provisions increase the level of development that is provided for within urban areas. 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[5] within which dwellings can be constructed. The NPS-UD Policy 3 requires high density development to be provided for within key areas of accessibility within the urban environment.

In combination, these provisions enable a substantial increase in development capacity across much of the urban area. In many locations, if taken up, they would represent shift in development patterns from those previously occurring within those locations under the existing and past planning provisions.

HCC needs to understand the effect of different potential intensification provisions on residential capacity to inform the development of options for Plan Change 12 and the types of development patterns to inform wider Council workstreams. M.E have been commissioned by HCC to undertake residential capacity modelling across the urban residential zones in Hamilton City to understand the level of capacity enabled by the proposed plan change options. The additional modelling builds off the existing residential capacity

[1] M.E, 2022. *Residential Capacity Modelling: Medium Density Residential Standards and Plan Change 12: Hamilton City,* prepared for Hamilton City Council, 3 August 2022.

[2] Ministry for the Environment, 2022. *Medium Density Residential Standards: A guide for territorial authorities,* 21 April 2022, https://environment.govt.nz/assets/publications/Medium-density-residential-standards-A-guide-for-territorial-authorities-v2.pdf, accessed at June 2022.

[3] As part of the Future Proof Partnership[3] (FPP), Hamilton City's urban area is identified as a tier 1 high growth urban area. The FPP is formed by Waikato District, Hamilton City, Waipa District, and more recently, the main urban centres of Matamata-Piako District.

[4] Ministry for the Environment, 2020. *National Policy Statement on Urban Development 2020,* July 2020.

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

modelling[6] undertaken in 2021 for HCC (and the Future Proof Partners) to meet the requirements of the National Policy Statement on Urban Development (NPS-UD).

The first stage of the project calculated the the amount of residential dwelling plan enabled capacity that is enabled within Hamilton City's urban areas with the application of the MDRS and NPS-UD Policy 3 requirements through proposed options for Plan Change 12. The plan enabled capacity is analysed within the first report (M.E Ltd, 2022), prepared to inform the plan change Section 32 analysis.

The second stage of the project, contained in this report, is to model the commercial feasibility of the plan enabled capacity. It estimates which areas of the plan enabled capacity are likely to represent feasible development options for private commercial developers. This aligns with the approach to understanding feasible capacity as set out in the NPS-UD.

Only a portion of the capacity enabled by the provisions is likely to represent commercially feasible options for developers. Over time, a greater range of development options and densities are likely become feasible in different locations with market growth. As such, the assessment estimates the range of capacity that is likely to be feasible in the short, medium and long-terms.

Understanding the types and location of plan-enabled capacity that is likely to represent feasible development options for commercial developers is an important stage in understanding the implications of these policies and proposed provisions. It indicates the types of dwellings and locations are more likely to be taken up as dwelling capacity delivered by the market through time.

The assessment tests the feasibility of the capacity under each of the scenarios modelled in the plan enabled capacity assessment. These include the baseline current planning provisions, the unconstrained proposed intensification provisions, and the modification of the intensification provisions by way of qualifying matters (as set out in Section 2.3).

The report sets out the approach undertaken to model the commercially feasible capacity enabled by the MDRS and Policy provisions. This includes the modelled capacity parameters in relation to the proposed provisions. It focuses on the commercial feasibility modelling process, while the first report contains the approach and discussion of the plan enabled capacity modelling.

This report is not intended to be a detailed technical report on the model structure specifications, beyond outlining the key changes and extensions to the Hamilton Residential Capacity Model used to model the MDRS/Policy 3. Further technical information on the structure of the Hamilton Residential Capacity Model is instead contained within the FPPs Housing Development Capacity Assessment[7] (HDCA) and associated technical documentation.

The report is structured as follows. Section 2 outlines the proposed intensification provisions under Plan Change 12 in relation to the MDRS and NPS-UD Policy 3. The modelled capacity scenarios are then 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 intensification provisions from the residential capacity modelling undertaken for the HDCA in 2021. The commercially feasible capacity results

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

[7] Ibid.

from the modelling are contained in Section 5, with commentary on the economic costs and benefits of the intensification provisions in Section 6. Concluding comments are contained in Section 7.

2 Intensification Provisions: MDRS and NPS-UD Policy 3

A range of different intensification provisions are being proposed through Plan Change 12 for Hamilton City to meet the requirements of the MDRS and Policy 3. These form the basis for the residential modelling approach. This section sets out the relevant aspects, for the capacity modelling, of the intensification provisions being considered within Plan Change 12 in relation to the MDRS and Policy 3. It also outlines the qualifying matters that affect the application of the provisions.

2.1 Residential Intensification Areas (Policy 3)

Urban intensification is proposed within the core central nodes of high amenity across Hamilton's urban area. Policy 3 of the NPS-UD requires adequate provision for higher density development in key nodes of accessibility relative to the level of accessibility and demand:

> "***Policy 3:*** *In relation to tier 1 urban environments, regional policy statements and district plans enable:*
>
> *(a) in city centre zones, building heights and density of urban form to realise as much development capacity as possible, to maximise benefits of intensification; and*
> *(b) in metropolitan centre zones, building heights and density of urban form to reflect demand for housing and business use in those locations, and in all cases building heights of at least 6 storeys; and*
> *(c) building heights of at least 6 storeys within at least a walkable catchment of the following:*
> *(i) existing and planned rapid transit stops*
> *(ii) the edge of city centre zones*
> *(iii) the edge of metropolitan centre zones; and*
> *(d) in all other locations in the tier 1 urban environment, building heights and density of urban form commensurate with the greater of:*
> *(i) the level of accessibility by existing or planned active or public transport to a range of commercial activities and community services; or*
> (ii) *relative demand for housing and business use in that location.* "

The areas of accessibility and proposed density provisions have been defined through Hamilton City's planning assessment. Plan Change 12 proposes to meet the NPS-UD Policy 3 requirements through the inclusion of provisions for higher density vertical residential development in key areas. These are provided for through the application of medium to higher density zones, that allow for the higher density development, across key areas of the urban environment. Higher density residential development is characterised by provision for development of vertically attached apartment buildings.

The changes in the proposed zoning structure also increase the density of other (non-vertically attached) residential development patterns through reducing the required minimum site sizes and land areas per dwelling. A full set of the proposed planning provisions are contained in HCC documentation and the modelled parameters to reflect the provisions are set out in Section 4.

The proposed zoning structure where these are applied under plan change 12 is set out as follows:

- Increased height allowance within the **City Centre Zones**. This includes an unlimited height allowance across all three precincts within the City Centre and is applied to the existing spatial extent of the zones.
- A **High Density Residential Zone** applied broadly to the 800m walkable catchment area surrounding the City Centre and some further northern extension along Te Rapa Road. This zone permits residential development up to 7 storeys.
- A **Medium Density Residential Zone** permitting residential development up to 5 storeys. This is applied in the existing residential areas:
    - adjacent to some areas of the the High Density Residential Zone surrounding the City Centre;
    - surrounding Hamilton's larger sub-regional and suburban centres;
    - surrounding key factors of urban amenity (e.g. public facilities such as the university and hospital); and
    - at the Ruakura urban edge.

2.2 Medium Density Residential Standards (MDRS)

Intensification has also been proposed across the remainder of Hamilton's general residential suburban area. This would occur through the application of the MDRS across both the medium to higher density residential areas outlined above (excluding the City Centre) and the remainder o the general suburban area.

The MDRS enable greater yields and levels of development to be achieved on most sites across Hamilton's urban residential area. They increase the yield through enabling up to three dwellings to be constructed on each site that are up to 3 storeys high. They also increase the level of development as the dwellings are 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 are set out in the MDRS fact sheet[8] and Schedule 3A Part 2 of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill.

The Plan Change 12 assessment considers options that include the application of MDRS across all urban residential zones within the urban environment. This covers the medium-higher density residential areas surrounding centres and other urban nodes, as well as the general residential suburban area. The modelling

[8] Ministry for the Environment, 2022. *Medium Density Residential Standards: A guide for territorial authorities,* 21 April 2022, https://environment.govt.nz/assets/publications/Medium-density-residential-standards-A-guide-for-territorial-authorities-v2.pdf, accessed at June 2022.

has also considered the application of the MDRS within the zoned greenfield areas that are not covered by a structure plan or development plan.

Alterations to the spatial extent of the MDRS provisions have been tested through the application of qualifying matters set out in Section 2.3 below.

Modelling has been undertaken to test the application of the MDRS to the existing ODP zoning structure as well as together with a different underlying zoning structure proposed for Plan Change 12.

2.3 Qualifying Matters

Policy 4 of the NPS-UD requires the modification of building heights and densities within Hamilton's District Plan under Policy 3 to the extent necessary to accommodate a qualifying matter. The Resource Management (Enabling Housing Supply and Other Matters) Amendment Bill requires the incorporation of MDRS into residential zones with the Plan to 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 less appropriate 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 77 of the Act.

A range of qualifying matters have been considered by HCC as part of the evaluation process. 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. The following sub-sections outline firstly the full range of qualifying matters considered, and then, secondly, those identified as affecting plan enabled capacity.

2.3.1 Full Range of Qualifying Matters Considered

The full range of qualifying matters considered within the capacity assessment is set out in Table 2-1. It identifies whether each matter is likely to affect plan enabled capacity and the consequent inclusion within the capacity modelling.

HCC have investigated a range of qualifying matters, with the most notable being flood hazard areas. Initial investigation of these matters determined that they did not impact on the residential plan enabled capacity. In some cases, there may be an impact on the commercial feasibility of capacity, but there are currently no proposals to alter the planning provisions. Where appropriate, impacts on feasibility will be incorporated into later feasibility modelling through the adjustment of cost structures.

SNAs were also considered in the modelling, but were determined not to impact capacity in either the base scenario or the intensification scenarios as development had already been excluded from these areas. SNAs are located within the natural gully system of Hamilton and identified in the ODP as Gully Hazard Areas. Residential development within Gully Hazard Areas is a Discretionary Activity, however, these areas are entirely excluded from the capacity modelling due to the reduced viability of constructing dwellings within

these steep areas. PC12 proposes that any residential developments within SNAs will be considered a Non-Complying Activity. The extension of SNAs proposed by PC9 does not impact modelled capacity in either the base scenario or the intensification scenarios as development had already been excluded due to the approach to the existing Gully Hazard Areas.

A range of other matters occurred in areas that did not contain provision for residential capacity as they were already excluded from the base scenario through planning provisions. These included nationally significant infrastructure, open spaces, designations and business lands (excluding the City Centre).

Table 2-1: Summary of Potential Qualifying Matters and Inclusion within Modelling

Qualifying Matter	Potential Effect on Plan Enabled Capacity
Matters of National Importance	
Peat Lake and Wetlands and Peat Lake Catchment	These areas have already been removed from the residential modelled areas.
Significant Natural Areas and Gullies	Only gully areas occur within the residential zones. These have already been removed from all modelled scenarios (including the base scenario) as dwellings are unlikely to be able to be constructed within these steep areas.
Archeological Sites	No change to plan enabled capacity provisions - capacity still enabled with inclusion of technical assessment report.
Built Heritage	No change to plan enabled capacity provisions - capacity still enabled with inclusion of technical assessment report.
Historical Heritage Areas	Likely to affect capacity - included in capacity modelling.
Flood Hazard Areas	No planning constraint, but likely to affect feasibility through additional mitigation measures required. This is a modelling limitation as testing has not occurred due to insufficient information. Testing can occur when more information becomes available in the future.
Te Turi Whai Mana	Likely to affect capacity - included in capacity modelling with the application of the Infrastructure Capacity Overlap.
Nationally Significant Infrastructure	These areas have already been excluded from areas of residential capacity in all modelled scenarios.
Open Spaces	There is no zoned residential capacity in these areas.
Designations	These areas have already been excluded from areas of residential capacity in all modelled scenarios.
Business Lands	Residential capacity is not provided for in business areas beyond the City Centre.

2.3.2 Qualifying Matters Potentially Affecting Plan Enabled Capacity

Within the above assessment, HCC have identified a number of qualifying matters that may apply within Hamilton affecting the application of the above intensification provisions being considered. Qualifying matters relevant to the model through their effect on plan enabled residential capacity include:

- Infrastructure Capacity Overlay (ICO): This overlay area covers much of Hamilton's urban area. At a broad level, the central city area and surrounding walkable catchment falls outside the ICO overlay area.
- Historic Heritage Areas (HHAs): These include the existing HHAs as well as the additional areas proposed under Plan Change 9.

Qualifying matters have been applied under various scenarios (Section 3) to limit the application of the proposed MDRS and Policy 3 intensification provisions. The residential development capacity on a parcel generally reverts to the existing zoning provisions in either the Operative District Plan or the Plan Change 12 proposed zoning (with the exclusion of the additional residential height allowances) with the application of a qualifying matter.

The additional density enabled by the MDRS beyond the zoning provisions does not apply to parcels affected by a qualifying matter; nor does the Policy 3 additional height allowance provided within the Plan Change 12 proposed zoning structure.

The additional density enabled by the proposed zoning structure, outside of the additional height allowance, does still apply in areas affected by a qualifying matter. This predominantly includes the increased density in minimum lot sizes across residential suburban areas through the upzoning of General Residential Zone areas to Medium Density Residential Zone, and other residential areas to the smaller minimum lot size requirements of the High Density Residential Zone[9].

The above qualifying matters have been applied in different combinations together with the application of MDRS and base zoning structures (ODP and Plan Change 12 zones). These test the effects of qualifying matters on capacity. The combinations are set out under each modelling scenario in Section 3.

Covenants

There are a proportion of residential properties within Hamilton City's urban area that contain covenants that may limit additional future development on parcels. A larger proportion of these are concentrated around Rototuna in the northern part of the city, with smaller proportions also around Nawton and in recent urban expansion areas of Ruakura and Peacocke.

HCC have identified all residential parcels across the city that contain covenents. They have estimated the share of these (75% to 80%)[10] that may restrict development capacity. The effects of covenants have been applied as a sensitivity test subsequent to the modelling of scenarios. This is because covenants are present in both the existing base situation and the modelled proposed situation. As such, the modelling needs to identify the effect of the intensification provisions without being skewed by the inclusion of covenants in the modelled proposed intensification provisions scenario[11].

Jack's Landing Special Housing Area

MDRS and Policy 3 provisions were excluded from this area and the agreed SHA yield was applied. This item has been included in both the baseline and other modelled scenarios.

[9] It is noted that no change, in this respect, is observed within the High Density Residential Zone modelling outputs with the application of qualifying matters. This is because qualifying matters are not currently applied to areas covering the zone. However, the approach has been established here in principle to guide future potential qualifying matter applications, if required.

[10] HCC have undertaken analysis in 2021 to estimate the share of the residential properties that contain a covenant where the covenant may restrict further development options. A random sample of 400 residential properties was selected from all residential properties that contain covenants. Title information from the selected properties were examined to determine whether the covenants may limit additional future development on the property. From this analysis, HCC estimate that around 75% to 80% of the residential properties containing covenants may have restrictions on their future development potential from the covenants.

[11] HCC have requested the inclusion of a baseline scenario (Scenario 1) to show alignment with the 2021 HDCA. The HDCA did not include the effect of covenants as the information was unavailable at the time.

3 Modelled Scenarios

HCC have developed a range of 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 and Policy 3 intensification provisions. It provides the baseline from which to measure the effects of qualifying matters on capacity.

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.

Scenario 2: Unmodified Intensification Provisions

Scenario 2 is the capacity modelled with the full extent, without modification, of the MDRS and Policy 3 intensification provisions. This scenario is modelled with the MDRS applied to the Plan Change 12 base zone structure with the vertical apartment development enabled within the zones as set out above.

Scenario 3: Modified Intensification Provisions

Scenario 3 tests the effect of the Infrastructure Capacity Overlay (ICO) qualifying matter together with the application of all other qualifying matters (relevant to the modelling) listed above. It is structured spatially in the following way:

a. Within the ICO area, the MDRS provisions are applied, but with a capacity density control of:
    i. 200m2 net land area per dwelling within the General Residential Zone; and
    ii. 150m2 net land area per dwelling within the Medium Density Residential Zone.

    The additional height allowance for vertically-attached apartment buildings within the Medium Density Residential Zone is not enabled within the ICO area.

b. Outside of the ICO area, the MDRS provisions and additional height allowances (Policy 3) are applied on an unrestricted basis across most areas. The exception occurs in specific locations where another qualifying matter occurs, in which case the base zone provisions of the proposed Plan Change 12 zones apply, without MDRS, (with the exclusion of the additional vertical height allowance).

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

4 Approach: Technical Modelling Structure and Parameters

This section outlines the modelling approach that has been undertaken to model the plan enabled and commercially feasible capacity with the application of the MDRS and Policy 3 within Hamilton City. It identifies the key changes and extensions that have been constructed within the Hamilton Residential Capacity Model to reflect the intensification provisions.

The estimation of capacity has been undertaken at the parcel level, extending upon the M.E Residential Capacity Model developed for the 2021 HDCA. 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 Plan (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. Both plan enabled and commercially feasible modelling approaches are included within this report due to the interrelationships between the parameters applied within the plan enabled modelling stages and the subsequent commercially feasible modelling.

This section sets out the key changes and extensions developed for the 2021 HDCA capacity model to reflect the intensification provisions. It is not intended to be a technical document describing the Model in its entirety, which can instead be found within the 2021 HDCA 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

This section sets out the structure of the capacity outputs that have been modelled. These are set out by zoning structure, urban spatial structure and development options.

Urban Zoning Structure

Modelling has been undertaken across all urban residential zones and the City Centre zones within the city's urban area. 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 set out in Section 3, modelling has been undertaken across both the existing ODP zoning structure and the proposed zoning structure under Plan Change 12. Use of the ODP zoning structure is consistent with the 2021 HDCA modelling, which has been re-based under Scenario 1.

The ODP urban residential zones across which the modelling (Scenario 1) has been undertaken within the urban area include:

- City Centre Zones (Precincts 1, 2 and 3)

- Residential Intensification Zone
- Medium Density Residential Zone
- General Residential Zone
- Special Residential Zone
- Special Heritage Zone
- Special Natural Zone
- Temple View Zone
- Rototuna North East Special Character Zone
- Peacocke Character Zone
- Future Urban Zone[12]

Further areas, outside these base zones, identified for future urban-scale residential development within the greenfield were also included under both zoning base structures. These are areas that are covered by development or structure plans that apply in the place of zoning.

Capacity modelling on other scenarios has been undertaken across the proposed Plan Change 12 zone structure. This generally contains more widespread application of medium to higher density residential zones that enabled greater intensification around the City Centre and other main urban centres, and other areas of higher amenity. This is achieved through the application of a High Density Residential Zone around the City Centre (with a degree of overlap with the previous Residential Intensification Zone), and the Medium Density Residential Zone in other areas.

The proposed Plan Change 12 urban residential zones across which the modelling (Scenario 2 and Scenario 3) has been undertaken within the urban area include:

- City Centre Zones (Precincts 1, 2 and 3)
- High Density Residential Zone
- Medium Density Residential Zone
- General Residential Zone

HCC has also supplied further information on structure plan and development agreement yields within selected greenfield areas, which have been applied in this assessment. This incorporates information that has been updated since that used within the HDCA. M.E have used HCC's greenfield area spatial structure and have applied minor updates where appropriate to capture further outward movement of the urban edge.

Within the greenfield areas, the modelling has applied any structure plan or development agreement yields supplied by HCC in place of the capacity that would otherwise be enabled as a function of the base zone or the application of MDRS/Policy 3 provisions. This is a conservative approach to capacity estimation to avoid over-stating capacity in areas which have higher certainty of future development patterns from existing plans or signalled developer intentions. This is consistent with the approach undertaken within the 2021 HDCA.

[12] At the request of HCC, the General Residential Zone provisions have been applied to the Future Urban Zone area.

The base zone, together with the MDRS provisions (where applied within each scenario) have been applied within other parts of the greenfield areas that do not contain yield information.

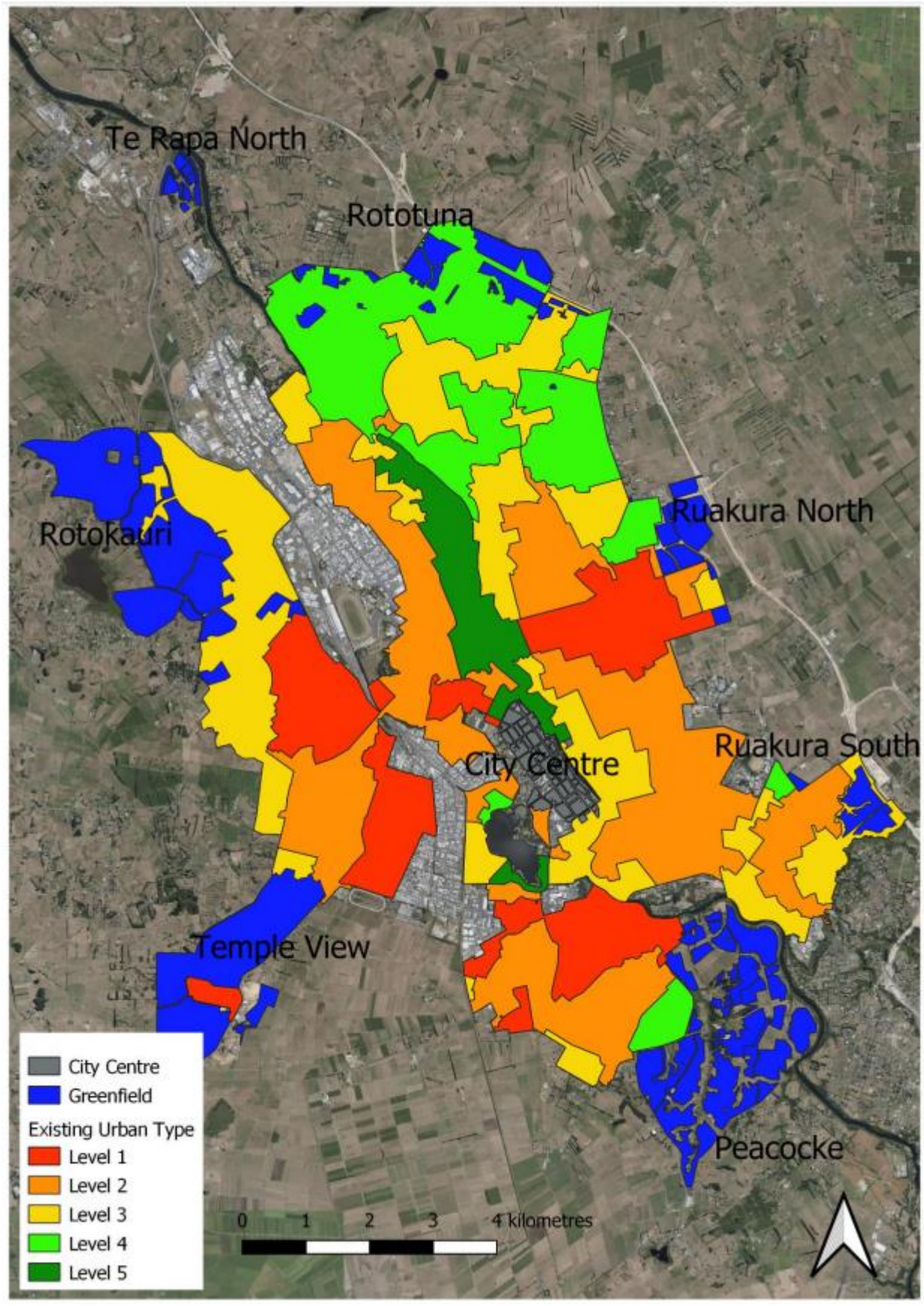
Urban Spatial Structure

Analysis was undertaken across the above zones within Hamilton's existing and future urban area. As a first stage, parcels were identified as either greenfield or existing urban areas. A similar approach to the HDCA 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 has been some outward expansion of the urban edge since the analysis undertaken for the HDCA.

Further development has been undertaken within the Hamilton Residential Capacity Model to better reflect the spatial structure of more intensive development patterns. Greater variation within the spatial structure is an important driver of the sales price component of the feasibility model.

At a base level, the model applies the same spatial structure as the HDCA (shown in Figure 4-1), consisting of five levels (Level 1 to Level 5) across the urban area. This enables the model to capture the broader geographic variations that occur in area values across the city. Level 1 are the lowest value areas, with correspondingly lower sales prices; and Level 5, the highest value areas. These levels are applied to both the parcel land and potential dwelling sales prices.

Figure 4-1: Hamilton City Spatial Framework (Base Levels) for Residential Capacity Assessment



Furthers layer, shown in Figure 4-2 and Figure 4-3 have been added into the model that reflects a greater level of differentiation to development patterns and sales prices within each of the areas. These generally differentiate parcels based on their location relative to main centres, accessibility along main roads and other areas of urban amenity.

Figure 4-2: Intensification Modelling Spatial Structure of Hamilton City Main Road Parcels

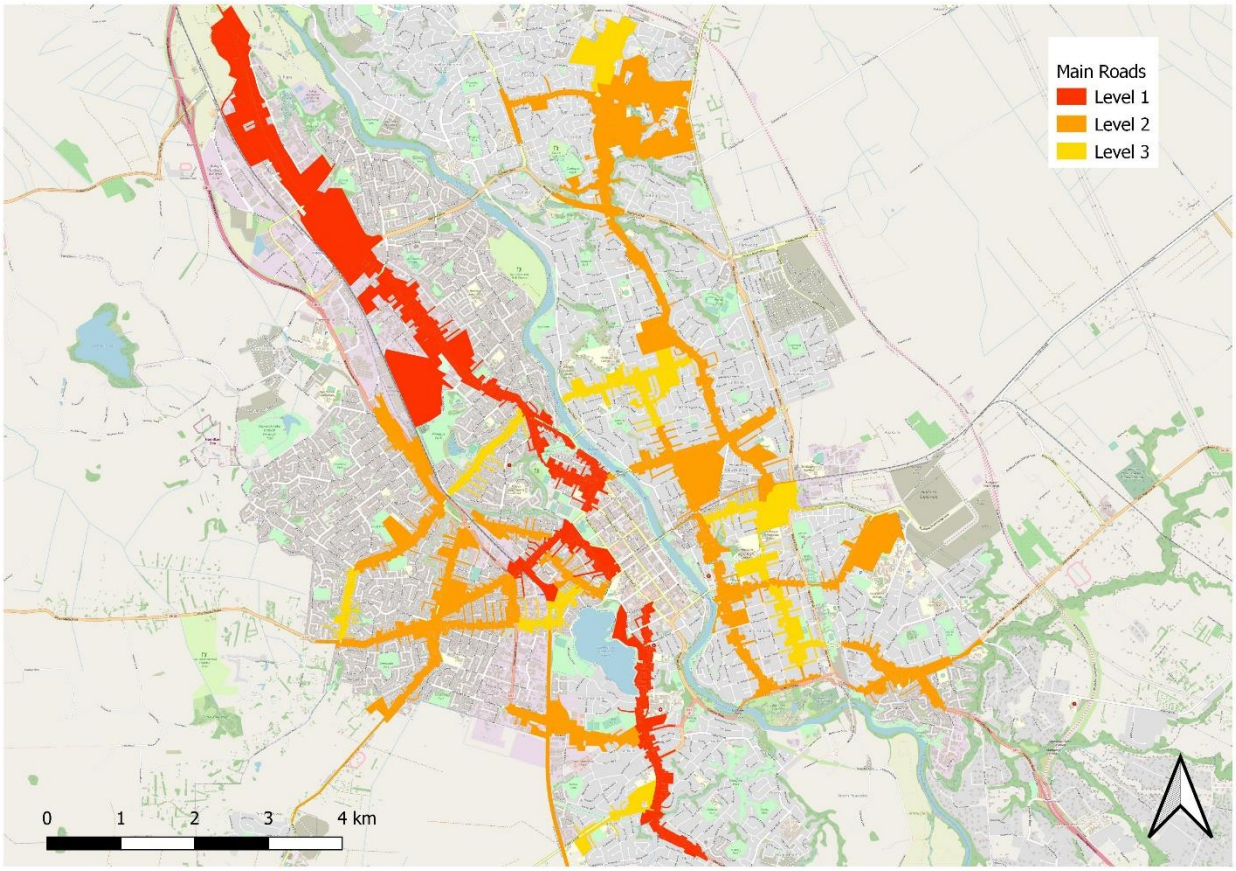
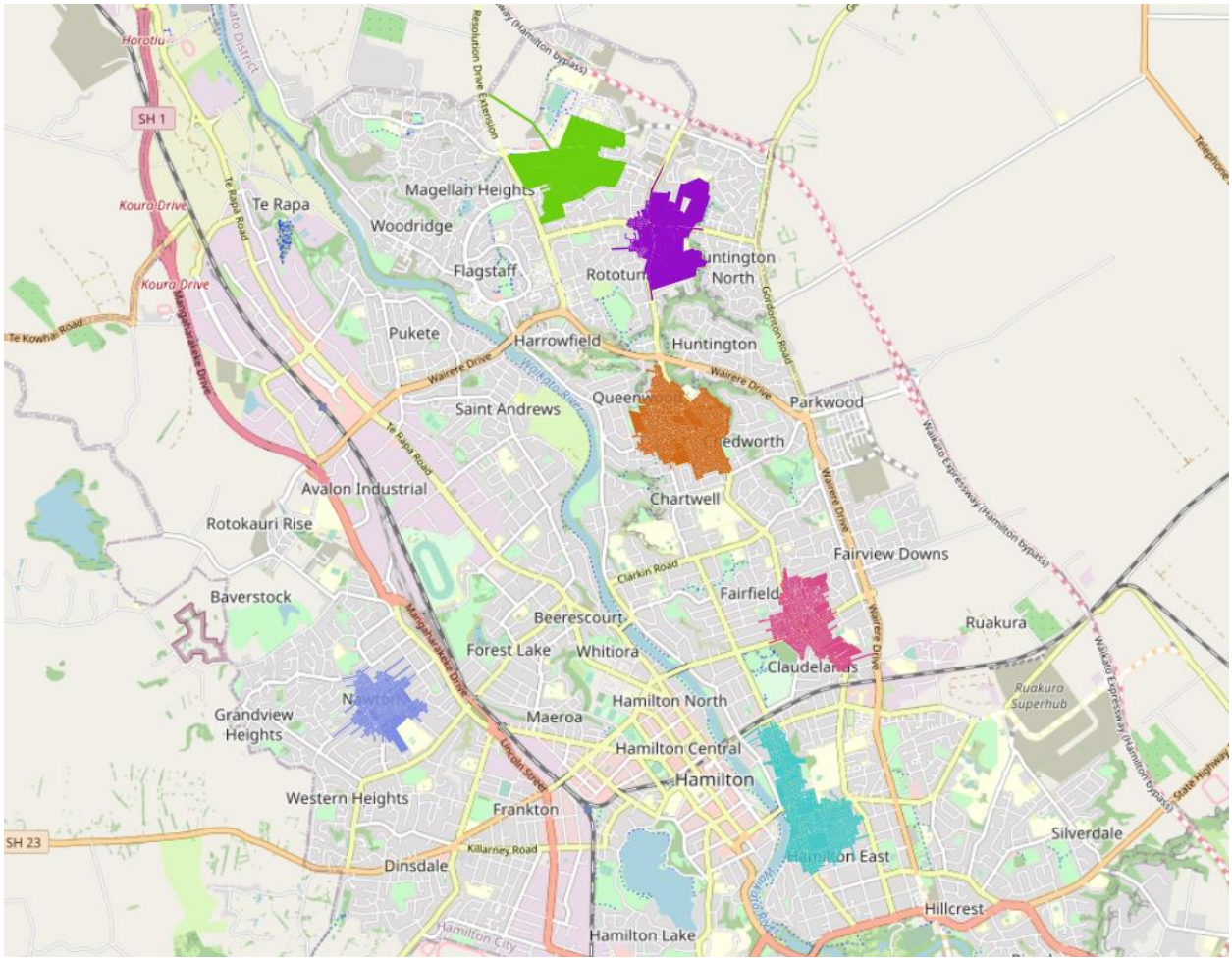


Figure 4-3: Intensification Modelling Spatial Structure of Hamilton City Main Centre Surrounds (excl. City Centre)



Modelled Development Options

The modelling estimates the number of net additional dwellings that can be accommodated on each site. In line with the HDCA 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, a range of different 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 (than detached dwellings). The modelled dwelling typologies are outlined further in the following sub-section (Section 4.2).

4.2 Modelled Dwelling Typologies

A range of dwelling typologies have been modelled within each of the development pathways. The typology categories are also included within the modelling undertaken for the 2021 HDCA, but have been applied in different locations and zones. They have also been substantially recalibrated to reflect the changes in the nature of dwellings with the intensification provions.

The following lists the dwelling typologies modelled and describes any difference in their application, within each zone, to the HDCA. It also describes the nature of the dwellings constructed within each category, as this may differ substantially to the characteristics of each typology under lower density provisions:

- Detached dwellings: These range from smaller two-storey detached dwellings on smaller sites (at a minimum, around 175m2-200m2) up to larger single level detached dwellings on general suburban scale sites (up to 400m2).
- Attached dwellings: These include a range of different dwelling typologies. They range from single level attached units up to higher density, horizontally-attached terraced houses. Dwellings within the higher density range can include two to three-level walk up terraced houses/apartments.
  In alignment with the ODP provisions, attached dwellings are modelled as duplex pairs in the scenarios where the MDRS are not applied. With the application of MDRS, the requirement to form duplex pairs is removed, with the modelling of multiple (up to three) attached dwellings on each site formed. These reflect terraced housing configurations.
- Horizontally attached apartments: These are higher density horizontally attached dwellings and are included as a separate dwelling typology to reflect the distinctions made within the ODP between different types of attached dwellings. They are generally higher density horizontally attached dwellings that are two to three-level walk up terraced houses/apartments. In some zones, the modelling applies higher density assumptions to these dwellings than the attached dwellings category.
- Vertical apartments: These include vertically attached apartment dwellings in buildings that are up to the maximum height enabled within the zone (up to five to eight storeys). These dwellings are modelled on larger sites within the City Centre zone, Commercial zone and, within the Medium and High Density Residential zones.

Table 4-1 below shows the dwelling typologies that were modelled in each zone with and without the application of MDRS and NPS-UD Policy 3.

Table 4-1: Modelled Dwelling Typologies by Zone

HCC ODP/Plan Change 12 Base Zone	Dwelling Typology Modelled (No MDRS)				Dwelling Typology Modelled (With MDRS and Policy 3)			
	Detached	Duplex/Attached	Horizontally Attached Apartments	Vertically Attached Apartments[1]	Detached	Duplex/Attached	Horizontally Attached Apartments	Vertically Attached Apartments[1]
City Centre - Precinct 1	No	No	No	Yes	No	No	No	Yes
City Centre - Precinct 2	No	No	No	Yes	No	No	No	Yes
City Centre - Precinct 3	No	No	Yes	Yes	No	No	No	Yes
High Density Residential Zone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Residential Intensification Zone	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Medium Density Residential Zone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
General Residential Zone	Yes	Yes	No	No	Yes	Yes	Yes	No
Special Heritage Zone	Yes	No	No	No	Yes	Yes	Yes	No
Special Natural Zone	Yes	No	No	No	Yes	Yes	Yes	No
Special Residential Zone	Yes	No	No	No	Yes	Yes	Yes	No
Temple View Zone	Yes	No	No	No	Yes	Yes	Yes	No
Rototuna North East Special Character Zone	Yes	No	No	No	Yes	Yes	Yes	No
Peacocke Character Zone	Yes	No	No	No	Yes	Yes	Yes	No
Large Lot Residential	Yes	No	No	No	Yes	No	No	No

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

[1] Vertically attached apartments were only modelled outside the City Centre when the proposed Plan Change 12 base zones were applied.

The capacity results also include maximums (across the four modelled typologies) of each of infill and redevelopment capacity within the existing urban area. A maximum combination total is also included within the greenfield areas. 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.

4.3 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 HDCA. The main changes and extensions to the MDRS modelling include:

- **Exclude selected parcels from development.** This stage involves excluding parcels from the modelling that are unlikely to be developed. A conservative approach was taken during this modelling to exclude capacity on parcels currently occupied by retirement villages. This differs to the 2021 HDCA where these sites were not excluded.
- **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 and proposed Plan Change 12 zones 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 (excluding vertical apartments, where the number is instead mainly limited by height allowances) 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. When MDRS is not applied, the model allocates up to the number of dwellings permitted within each site under the Plan[13].

  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 HDCA and associated documentation, and has been modified in the following ways to reflect the MDRS and Policy 3 requirements:
  - 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 HDCA 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.
  - A larger shape factor was used to estimate whether a vertically-attached apartment building would be likely to fit on each infill site under the Policy 3 modelled scenarios.

4.4 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

[13] The model has included duplex pairs within the General Residential, Residential Intensification and Medium Density Residential zones.

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.

Importantly, commercially feasible capacity should not be confused with growth – it is a measure of the potentially feasible capacity development options, some of which is likely to get taken up by the market with growth. Refer to the 2021 HDCA for a more detailed description of the measure of commercially feasible capacity.

The Intensification commercial feasibility model expands upon the existing modelling capability developed under the HDCA. Different components of the model are replaced/expanded to reflect the MDRS and NPS-UD Policy 3 intensification provisions within the proposed Plan Change 12. 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. Significant re-calibration has been undertaken within the Model to reflect the development patterns enabled by the intensification provisions. This component of the HDCA model is replaced with a new component that reflects the step-change in the nature of development under the intensification provisions. This is important because the relationships of dwelling size and type relative to site sizes are likely to be substantially different under the intensification provisions. 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 intensification provisions. This part of the model also estimates the number of storeys of each dwelling.

  Minimum dwelling site area for each typology and for each underlying PDP base zone are contained in Table 4-3 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 HDCA, 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 HDCA.
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 HDCA 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). HCC 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 HDCA. 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 HDCA, driven by the urban spatial structure identified in Section 4.1. This structure is also applied to the parcel land prices.
    - Further Spatial Differentiation. A further layer has been added into the model that reflects a greater level of differentiation to sales prices within each of the areas. Analysis of dwelling sales price and construction patterns in other urban economies suggest higher density dwellings have a greater correlation with localised spatial structures of accessibility. Put simply, there is a greater concentration of higher density dwellings into areas of higher accessibility than lower density dwelling development. This secondary spatial layer identified parcels along main roads (three classes of main road shown in Figure 4-2), and within the walkable catchment areas of key areas of urban accessibility (City Centre and other main urban centres as identified through the earlier NPS-UD intensification analysis as shown in Figure 4-3).

      Price differentials were applied to the prices estimated from the underlying general area sales curves to reflect the location of a parcel within these areas (refer to Table 4-2 below). The price differentials were estimated from analysis of sales data in Hamilton and other locations comparing dwellings/land within and outside of these areas. In many cases there was a paucity of information around attached dwellings in areas away from the identified areas of higher accessibility. However, the base potential price of these dwellings, although not realised in the market, was established through the differential between attached vs. detached dwellings generally. As such, the prices differentials refer to the potential sales prices rather than the likely actual observed differences as many of the potential sales prices many not occur as dwellings would be infeasible at these price points.
    - 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 parts of the city's market.

Table 4-2: Base Sales Price Differentials

Accessibility Type	Factor
Main Road 1	1.1
Main Road 2	1.07
Main Road 3	1.03
Grey Street 1	1.08
Chartwell	1.05
Five Crossroads	1.05
Nawton	1.05
Rototuna 2	1.05
Rototuna	1.05
Within CBD 800m	1.1

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

Modelled Market Growth Scenarios

As requested, commercial feasibility modelling has initially been undertaken within the current market and reflects the areas of plan enabled capacity that may currently potentially represent feasible options for commercial developers.

In addition to the current market calculations, the commercial feasibility of capacity has been estimated through time with market growth. Growth in market demand through time is an important driver of intensification processes where an increasing range of typologies, densities, development options (e.g. redevelopment) and locations gradually become feasible through time.

The feasibility modelling consequently produces estimates of feasible capacity in the short (2021-2024), medium (to 2031) and long-term (to 2051). It applies an annual average growth rate of 1.5% in construction costs and 2.5% to dwelling sales prices[14], land and existing dwelling costs.

4.5 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.

[14] Importantly, this does not result in a 2.5% annual increase in average new dwelling sales prices through time. Part of the price increase reflects the shift in dwellings from infeasible positions (where they would not be delivered by the market) to becoming feasible. As such, the average new dwelling sales price growth observed within the market would be lower.

The minimum subdivision area requirements were supplied by HCC and reflect the subdivision requirements of the ODP and Plan Change 12 proposed zone structure[15]. The minimum land area requirements were then established as input assumptions within the model. These are contained below in Table 4-3[16].

The development patterns enabled under the MDRS and Policy 3 are substantially different to those that are currently provided for across some parts of the city's urban area within the District Plan. If taken up, they would represent a significant step-change in density to past development patterns that have occurred across parts of the city's urban areas. If the MDRS provisions are applied to the existing underlying zoning structure (and vertically-attached apartment buildings enabled under Policy 3), then they would produce a range of medium to higher density dwelling typologies.

Initial three-dimensional modelling work undertaken by the 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 development patterns within the city's urban area. 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.

Zones with larger minimum subdivision site areas contained larger minimum land area per dwelling requirements. These were set at a minimum of one third of the subdivision area to ensure the model allocated only up to three dwellings per site.

Importantly, Table 4-3 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 latest LINZ parcel file, with sites formed using the existing ratings 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[17].

Greenfield Areas

Within the greenfield areas, yields were applied in the first instance from structure plans or developer plans, and then in line with the observed density at the adjacent urban edge. The model was required to adopt these densities for the initial site formation to reflect the structure/development plan yields.

[15] Assumptions were applied, relative to the rest of the zoning structure, where minimum subdivision areas were not available, or where densities used a maximum site area control (such as the Residential Intensification Zone).

[16] This table contains a combination of the ODP and proposed Plan Change 12 zones as both sets of zoning are used within the modelling. Parcels are assigned the ODP zones in Scenario 1, and then are assigned the proposed Plan Change 12 zones in Scenario 2 and Scenario 3.

[17] For example, if a General Residential Zone parcel of 750m2 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 400m2. Consequently, the model would construct dwellings at an average land area of 250m2 per dwelling.

Other greenfield areas (not covered by structure/developer plans) were multipled by 70% to include an allowance of 30% of the developable area for roads and reserves. The MDRS were then applied to the formed lots (within the net parcelled area) to accommodate up to three dwellings on each site.

Infrastructure Capacity Overlay (ICO) Area

Alternative density controls were applied to properties within the ICO area when it was applied within the modelling scenarios. A density control of 200m2 per dwelling (net area) was applied within the General Residential Zone, and 150m2 per dwelling (net area) within the Medium Density Residential Zone[18]. The requirement for these dwellings to form duplex pairs was removed under the MDRS modelled scenarios. This meant that some increase in plan enabled density was still able to occur within the ICO area[19].

[18] Gross densities of 210m2 per dwelling and 160m2 per dwelling were applied within the General Residential Zone and the Medium Density Residential Zone respectively to achieve the net densities. This creates an allowance for access way areas that do not contribute to the minimum site area requirements. This is likely to be a conservative approach as not all sites will require an allowance for accessways to achieve the net densities.

[19] For example, under the ODP, a 600m2 parcel within the General Residential Zone could accommodate one duplex pair (as the plan requires 400m2 to accommodate a duplex pair), meaning that the resulting density would be 300m2 land area per dwelling unit. With the removal of the requirement to form attached dwellings in pairs, the same parcel could potentially accommodate three dwellings at the 200m2 land area per dwelling alternative density control.

Table 4-3: Minimum Site Area Subdivision, Land Area per Dwelling and Dwelling Floorspace Minimum Modelling Inputs by Zone and Typology (Base Zones and MDRS)

HCC ODP/Plan Change 12 Base Zone	Dwelling Typology	Initial Subdivision Requirement - Land Area (m2)	Minimum Land Area per Dwelling (m2)		Corresponding Dwelling Size - Floorspace (m2)	
			Base Zones	MDRS	Base Zones[1]	MDRS
High Density Residential Zone	Detached	175	175	175	TBC	125
High Density Residential Zone	Attached (duplex/other)	150	150	100	TBC	150
High Density Residential Zone	Apartments (horizontally attached)	150	150	50	TBC	55
Residential Intensification Zone	Detached	300	300	175	TBC	125
Residential Intensification Zone	Attached (duplex/other)	300	150	133	TBC	152
Residential Intensification Zone	Apartments (horizontally attached)	300	150	100	TBC	150
Medium Density Residential Zone	Detached	300	300	200	TBC	135
Medium Density Residential Zone	Attached (duplex/other)	300	150	100	TBC	150
Medium Density Residential Zone	Apartments (horizontally attached)	300	150	100	TBC	150
General Residential Zone	Detached	400	400	200	TBC	135
General Residential Zone	Attached (duplex/other)	400	200	133	TBC	152
General Residential Zone	Apartments (horizontally attached)	400	n/a	133	TBC	152
Special Heritage Zone	Detached	600	600	200	TBC	135
Special Heritage Zone	Attached (duplex/other)	600	n/a	200	TBC	155
Special Heritage Zone	Apartments (horizontally attached)	600	n/a	200	TBC	155
Special Natural Zone	Detached	600	600	200	TBC	135
Special Natural Zone	Attached (duplex/other)	600	n/a	200	TBC	155
Special Natural Zone	Apartments (horizontally attached)	600	n/a	200	TBC	155
Special Residential Zone	Detached	600	600	200	TBC	135
Special Residential Zone	Attached (duplex/other)	600	n/a	200	TBC	155
Special Residential Zone	Apartments (horizontally attached)	600	n/a	200	TBC	155
Temple View Zone	Detached	600	600	200	TBC	135
Temple View Zone	Attached (duplex/other)	600	n/a	200	TBC	155
Temple View Zone	Apartments (horizontally attached)	600	n/a	200	TBC	155
Rototuna North East Special Character Zone	Detached	500	500	200	TBC	135
Rototuna North East Special Character Zone	Attached (duplex/other)	500	n/a	167	TBC	153
Rototuna North East Special Character Zone	Apartments (horizontally attached)	500	n/a	167	TBC	153
Peacocke Character Zone	Detached	400	400	200	TBC	135
Peacocke Character Zone	Attached (duplex/other)	400	n/a	133	TBC	152
Peacocke Character Zone	Apartments (horizontally attached)	400	n/a	133	TBC	152
Large Lot Residential	Detached	2,500	2500	833	TBC	200

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

[1] Base Zone dwelling size inputs will be detailed following subsequent modelling stages.

5 Modelled Commercially Feasible Capacity

This section contains the modelled results of the estimated commercially feasible capacity. It shows the share of plan enabled capacity that is estimated to represent commercially feasible development options in the current market, short, medium, and long-term, as well as the differences in capacity between modelled scenarios.

Commercially feasible capacity outputs are included for each modelled scenario across each time period. A summary of the effect of qualifying matters and the application of covenants is also included. The summary tables show the capacity by typology within each zone across the exiting urban and greenfield areas. More detailed information of capacity at a parcel level has been supplied as GIS files to HCC.

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 outlined in Section 4.1.

The first portion of the table shows the modelled capacity within each typology for infill development, including a maximum yield across the three typologies[20]. 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 HDCA. The key difference is the exclusion, from the infill capacity, of developing an additional dwelling on already developed sites to form a duplex pair with an existing dwelling.

The following sub-sections contain the modelled outputs for the commercially feasible capacity in the current market, as well as the short, medium and long-term when the market growth rates are applied.

[20] 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.

5.1.1 Scenario 1 Current Capacity: 2021

The proportion of plan enabled capacity that is estimated to currently potentially be commercially feasible options for a commercial developer are shown in Table 5-1. In total, it is estimated that around 23,000 dwellings within the plan enabled capacity currently represent commercially feasible development options. This amounts to around 16% of the plan enabled capacity. The share is higher for greenfield capacity, where around one-quarter (25%) of the capacity is estimated to be currently feasible to develop. This reflects the greater ease of developing greenfield capacity in comparison to brownfield development where around 14% of the plan enabled capacity may represent feasible development options.

Approximately two-thirds (65%) of the total feasible capacity occurs within the existing urban area. This amounts to an estimated redevelopment capacity of nearly 15,000 dwellings, with an infill capacity of nearly 2,000 dwellings.

A significant share of the existing urban capacity occurs as vertically-attached apartments within the City Centre. At an estimated redevelopment capacity of 8,200 additional dwellings, this is higher than the previous HBA assessment due to changes in market conditions. However, the higher density residential development market is not yet well established within Hamilton City, with only a minor portion of this capacity likely to be delivered within the current market.

The distribution of capacity within the existing suburban area outside of the City Centre generally reflects the extent of the zones under the ODP. The largest share of redevelopment capacity occurs within the General Residential Zone where there is an estimated capacity for an additional 5,100 dwellings. These predominantly occur as duplex dwellings where sites are able to be redeveloped at higher densities in duplex pairs.

Around one-third (35%) of the feasible development options are estimated to occur within the greenfield areas, with an estimated capacity for an additional 8,000 dwellings. Feasible capacity in greenfield areas are more focussed into detached dwellings, reflecting existing greenfield development patterns. The configuration of greenfield capacity is suggested by the density contained within the more recent developer plans.

The estimated current feasibility patterns are not dissimilar to those contained within the 2021 HDCA. Some differences are anticipated due to more recent changes in market conditions in relation to both demand and supply side factors. There is a greater proportion of redevelopment capacity. This is likely to occur as a result of increased market acceptance of higher dwelling densities, which are required for redevelopment feasibility and intensification. The feasibility results are also higher within greenfield areas as these are not constrained by infrastructure within this modelling.

Table 5-1: Hamilton City Current Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: ODP Base Zones and No MDRS

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	300	300	-	-	-	8,200	8,200	8,200	-	-	-	-	-	8,200
Precinct 2 - City Living Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Density Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential Intensification Zone	70	200	200	-	200	200	800	800	-	800	900	-	-	-	-	-	900
Medium Density Residential Zone	20	30	30	-	30	20	40	40	-	40	40	-	-	-	-	-	40
General Residential Zone	600	1,400	-	-	1,400	1,000	5,100	-	-	5,200	5,600	-	-	-	-	-	5,600
Special Heritage Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	10	-	-	-	10	20	-	-	-	20	30	-	-	-	-	-	30
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	10	-	-	-	10	-	-	-	-	-	10	-	-	-	-	-	10
Peacocke Character Zone	10	-	-	-	10	-	-	-	-	-	10	-	-	-	-	-	10
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	200	200
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna	-	-	-	-	-	-	-	-	-	-	-	800	300	500	-	1,500	1,500
Ruakura	-	-	-	-	-	-	-	-	-	-	-	-	-	1,900	-	1,900	1,900
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	30	30
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	4,300	-	-	-	4,300	4,300
TOTAL	**700**	**1,500**	**200**	**300**	**1,900**	**1,300**	**5,900**	**900**	**8,200**	**14,300**	**14,900**	**5,400**	**300**	**2,400**	**-**	**8,000**	**22,900**

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

5.1.2 Scenario 1 Short-Term Capacity: 2024

The proportion of plan enabled capacity estimated to represent feasible development options in the short-term (2024) is shown in Table 5-2. The projected feasible capacity increases by an additional 8,200 dwellings (+36%) over the short-term, to reach a total of around 31,000 dwellings.

Around two-thirds of the feasible capacity options are projected to occur within the existing urban areas, with a maximum capacity of around 20,500 additional dwellings. The greenfield feasible capacity is projected to increase to 10,600 additional dwellings.

Medium and higher density development options account for the largest share of total capacity within the existing urban area. The feasible vertically-attached dwellings all occur within the City Centre as the only location where they are enabled within the ODP scenario. Medium density feasible development options occur mainly through the provisions for duplex dwelling development within the General Residential Zone, reflective of the geographic extent of the zone.

The medium to higher density development options also account for the largest shares of total capacity growth over the short-term. This is due to a combination of market growth within these increased dwelling density options as well as increases in the feasibility through the higher yields able to be achieved under these options. A substantial share of this capacity occurs in the form of vertically-attached apartment dwellings. However, while these are likely to represent potential feasible development options, there is still likely to be only limited market uptake of this capacity as the market for higher density dwellings is likely to establish gradually through time within the Hamilton market.

There are smaller modelled increases in feasible detached dwelling capacity within the existing urban area. This is due to a combination of the lower plan enabled capacity for this development option together with the lower relative feasibility through the lower potential dwelling yields and higher site size requirements.

A higher share of the greenfield modelled capacity is estimated to occur as detached dwellings over the short-term. This is indicated by the average densities suggested by the subdivision development plans. Within these areas, it is likely that the share of development in attached dwellings will increase through time. It important to note that the distribution of greenfield yields by dwelling typology are based off the *average* density contained within the subdivision/developer plan yields. It is likely that the dwellings delivered within these areas may have a wider distribution across dwelling typologies (than indicated within the output tables) where feasibility is achieved across multiple dwellings.

Table 5-2: Hamilton City Short-Term (2024) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: ODP Base Zones and No MDRS

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartment	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartment	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	500	500	-	-	-	11,900	11,900	11,900	-	-	-	-	-	11,900
Precinct 2 - City Living Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Density Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential Intensification Zone	80	200	200	-	200	200	900	1,000	-	1,000	1,100	-	-	-	-	-	1,100
Medium Density Residential Zone	20	30	40	-	40	20	40	200	-	200	200	-	-	-	-	-	200
General Residential Zone	600	1,500	-	-	1,500	1,300	6,800	-	-	6,900	7,300	-	-	-	-	-	7,300
Special Heritage Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	10	-	-	-	10	20	-	-	-	20	30	-	-	-	-	-	30
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	10	-	-	-	10	-	-	-	-	-	10	-	-	-	-	-	10
Peacocke Character Zone	10	-	-	-	10	-	-	-	-	-	10	-	-	-	-	-	10
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	100	-	500	500
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	2,100	-	-	-	2,100	2,100
Rototuna	-	-	-	-	-	-	-	-	-	-	-	800	300	600	-	1,500	1,500
Ruakura	-	-	-	-	-	-	-	-	-	-	-	-	-	1,900	-	1,900	1,900
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	-	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	4,300	-	-	-	4,300	4,300
TOTAL	**800**	**1,700**	**200**	**500**	**2,300**	**1,600**	**7,800**	**1,100**	**11,900**	**20,000**	**20,500**	**7,800**	**300**	**2,700**	**-**	**10,600**	**31,000**

Source: M.E Hamilton Resident al Capacity Model, 2022.

5.1.3 Scenario 1 Medium-Term Capacity: 2031

The proportion of plan enabled capacity estimated to represent commercially feasible development options is projected to increase to around 56,800 dwellings within the medium-term (see Table 5-3). Over the medium and long-term, the share of total plan enabled capacity within the existing urban area that is estimated to be feasible development options is projected to increase as a greater range of intensification options become feasible within different typologies and locations.

The share of total feasible capacity within the existing urban area is projected to increase to an estimated 79% within the medium-term (up from 66% in the short-term). This amounts to around an estimated 44,100 dwellings.

Projected increases in the feasibility of the higher density dwelling redevelopment options (vertically-attached apartments) are a key contributor to the overall increase in projected feasible capacity within the existing urban area. There is likely to be some market growth in this dwelling typology through time over the medium-term. However, the large relative increases in this development option are likely to be well above the likely market growth, where the actual uptake of this option by developers is likely to be more closely aligned with the level of demand. The level of plan enabled capacity within this option is a key factor in the increase in feasible options. The substantially higher density of this typology means that there are much higher levels of capacity enabled on a per hectare basis than other zones.

There are also substantial projected increases in medium density capacity through the medium-term across the existing suburban area. These are largely in the form of duplex dwellings within the General Residential Zone, reflective of the geographic extent of the zone. Similar to the short-term, there are more limited projected increases in feasible detached dwellings.

The feasible greenfield capacity is also projected to increase, albeit to a smaller extent than the projected increases within the existing urban area. The feasible greenfield capacity is projected to increase to a total of 12,000 additional dwellings within the medium-term. An increasing share of greenfield feasible capacity is through duplex dwellings, although detached dwellings still make up a substantial share of the capacity.

Table 5-3: Hamilton City Medium-Term (2031) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: ODP Base Zones and No MDRS

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	1,500	1,500	-	-	-	16,100	16,100	16,200	-	-	-	-	-	16,200
Precinct 2 - City Living Precinct	-	-	-	1,200	1,200	-	-	-	13,200	13,200	13,300	-	-	-	-	-	13,300
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Density Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential Intensification Zone	90	300	300	-	300	300	1,300	1,400	-	1,400	1,500	-	-	-	-	-	1,500
Medium Density Residential Zone	20	100	100	-	100	20	200	200	-	200	200	-	-	-	-	-	200
General Residential Zone	700	2,400	-	-	2,400	2,000	13,000	-	-	13,000	13,600	-	-	-	-	-	13,600
Special Heritage Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	20	-	-	-	20	40	-	-	-	40	40	-	-	-	-	-	40
Temple View Zone	10	-	-	-	10	-	-	-	-	-	10	-	-	-	-	-	10
Rototuna North East Special Character Zone	10	-	-	-	10	-	-	-	-	-	10	-	-	-	-	-	10
Peacocke Character Zone	10	-	-	-	10	-	-	-	-	-	10	-	-	-	-	-	10
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	100	-	-	-	100	100	-	-	-	-	-	100
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	500	-	900	900
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	2,100	-	-	-	2,100	2,100
Rototuna	-	-	-	-	-	-	-	-	-	-	-	900	300	900	-	1,500	1,500
Ruakura	-	-	-	-	-	-	-	-	-	-	-	900	2,100	1,900	-	2,100	2,100
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	-	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	5,000	-	100	-	5,000	5,000
TOTAL	800	2,800	400	2,600	5,500	2,500	14,400	1,600	29,300	44,100	45,100	9,600	2,400	3,400	-	11,800	56,800

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

5.1.4 Scenario 1 Long-Term Capacity: 2051

The long-term projected feasible capacity is estimated at around 93,400 dwellings (see Table 5-4). Around four-fifths (80%; 60,000 additional dwellings) of the capacity is estimated to occur within the existing urban area where an increased range of redevelopment options and locations are projected to become feasible through time.

Medium to higher density development options form the main areas of commercially feasible capacity within the existing urban area. These occur as vertically-attached apartments within the City Centre and duplex dwellings predominantly within the General Residential Zone, due to the extent of the zone. While these types of dwellings have similar levels of total additional capacity in the long-term, there is more likely to be greater take up of the medium density attached dwellings in response to the overall larger market size. The market for higher density vertically-attached apartment dwellings is likely to increase through time within Hamilton City, but is currently not well established.

There are projected lower levels of capacity from redevelopment into detached dwellings. This is due to a combination of the lower plan enabled capacity for these dwellings, but also projected lower levels of feasibility for redeveloping sites with detached dwellings due to the lower yields and higher costs required for these types of dwellings from the larger required site sizes.

Feasible greenfield development is projected to increase by around a further 6,700 dwellings from the medium-term to reach an estimated feasible 18,500 dwellings under the baseline scenario. The long-term share of plan enabled capacity that is estimated to be feasible in greenfield areas is lower than in the existing urban area. This is due to a sizeable portion of the plan enabled capacity as attached dwellings within areas of general lower feasibility (e.g. Templeview).

Table 5-4: Hamilton City Long-Term (2051) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: ODP Base Zones and No MDRS

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	1,500	1,500	-	-	-	16,400	16,400	16,500	-	-	-	-	-	16,500
Precinct 2 - City Living Precinct	-	-	-	1,400	1,400	-	-	-	22,800	22,800	22,900	-	-	-	-	-	22,900
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Density Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential Intensification Zone	100	400	400	-	400	400	2,700	2,900	-	2,900	3,000	-	-	-	-	-	3,000
Medium Density Residential Zone	20	300	300	-	300	20	400	500	-	500	500	-	-	-	-	-	500
General Residential Zone	1,500	5,100	-	-	5,100	5,400	31,600	-	-	31,600	31,800	-	-	-	-	-	31,800
Special Heritage Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	20	-	-	-	20	60	-	-	-	60	70	-	-	-	-	-	70
Temple View Zone	10	-	-	-	10	10	-	-	-	10	10	-	-	-	-	-	10
Rototuna North East Special Character Zone	20	-	-	-	20	10	-	-	-	10	30	-	-	-	-	-	30
Peacocke Character Zone	10	-	-	-	10	10	-	-	-	10	10	-	-	-	-	-	10
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	100	-	100	-	100	100	-	-	-	-	-	100
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	900	-	900	900
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	3,200	2,400	2,300	-	5,500	5,500
Rototuna	-	-	-	-	-	-	-	-	-	-	-	1,500	400	1,200	-	2,100	2,100
Ruakura	-	-	-	-	-	-	-	-	-	-	-	900	2,800	1,900	-	2,800	2,800
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	300	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	7,000	-	4,300	-	7,000	7,000
TOTAL	**1,700**	**5,700**	**700**	**2,900**	**8,700**	**6,000**	**34,700**	**3,400**	**39,200**	**74,300**	**74,900**	**13,400**	**5,500**	**10,700**	**-**	**18,500**	**93,400**

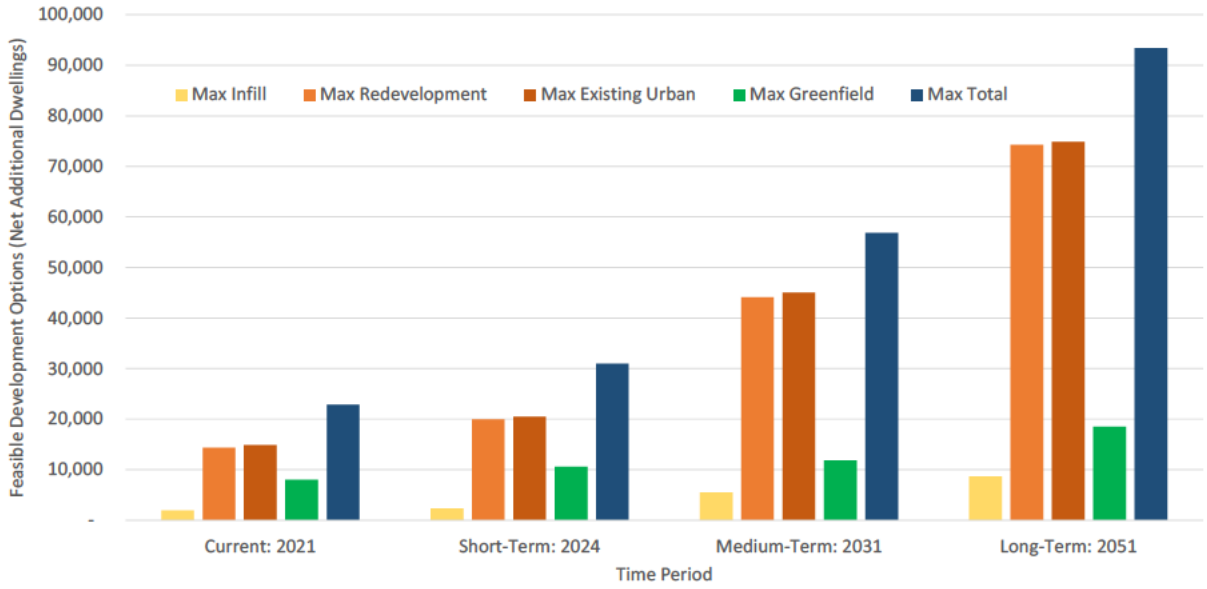
Source: M.E Hamilton Resident al Capacity Model, 2022.

5.1.5 Scenario 1 Summary of Feasible Capacity: 2021-2051

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 existing urban redevelopment capacity. This option has higher levels of plan enabled capacity with increases in the share of plan enabled capacity that is projected to become feasible through time.

Figure 5-1: Hamilton City Estimated Commercially Feasible Capacity by Location Type and Time Period: ODP Base Zones and No MDRS



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

5.2 Scenario 2: Unmodified Intensification Provisions

This section contains the modelled capacity under Scenario 2. Under this scenario, the intensification provisions are applied without any restrictions from qualifying matters. These include provision for higher density residential development in key areas of accessibility together with medium-density intensification across the general suburban area.

The following sub-sections contain the modelled outputs for the commercially feasible capacity in the current market, as well as the short, medium and long-term when the market growth rates are applied.

5.2.1 Scenario 2 Current Capacity: 2021

The level of capacity that is estimated to be currently feasible development options for commercial developers with the unconstrained application of the intensification provisions is shown in Table 5-5. Under this scenario, there is an estimated feasible capacity of around 64,300 additional dwellings. This amounts to around three-times the capacity contained within the areas that are estimated to be currently feasible within the baseline planning provisions scenario.

The largest increases in feasible capacity from the baseline scenario (Scenario 1) occur within the existing urban area. Under this scenario, existing urban area capacity increases to an estimated 50,100 dwellings. This equates to around 3 and 3.5 times the baseline scenario feasible capacity, which is a larger relative increase than the increase in plan enabled capacity where the plan enabled capacity is over 2.5 times the Scenario 1 capacity. This suggests that the intensification provisions both enable a higher potential level of development under the plan as well as increase the relative feasibility of this development.

Table 5-5 shows that a high share of the estimated feasible capacity occurs as horizontally-attached apartments. These are likely to occur as two to three-level walkup terraced housing. Terraced housing forms an important part of the intentisification process within most growing urban economies. This type of development has higher levels of feasibility through a combination of the higher achievable yields, more efficient development of smaller sites and cheaper construction costs than higher density, vertically-attached dwellings. The modelled outputs reflect this situation where a higher share of the horizontally-attached redevelopment capacity is feasible than other typologies.

A sizeable share of the estimated feasible terraced-housing (vertically-attached apartments) occur within Hamilton's higher areas of accessibility and have an overall tendency toward centralised areas (i.e. area surrounding the City Centre) at the city-scale. A large proportion (18,700 dwellings) of the terraced-housing capacity is estimated to occur within the High Density Residential Zone, which is applied around the City Centre 800m walkable catchment area. There are also significant levels of estimated feasible development options for terraced housing within the Medium Density Residential and General Residential zones. The higher relative feasibility of this type of development within the Medium Density Residential Zone is likely to reflect a combination of the higher densities enabled by the zone and higher demand within these locations.

There is also a large increase in the estimated capacity for detached dwellings, with an estimated 13,900 dwelling capacity, compared to around 1,300 dwellings under the baseline provisions. However, detached dwellings within this scenario are substantially different to those enabled under the baseline provisions. The current provisions require detached dwellings to be constructed on full sites, with a requirement for 400m2 land per detached dwelling within the General Residential Zone. These favour the construction of larger dwellings, many of which are single level. In comparison, the intensification provisions enable the contruction of smaller two to three-storey detached dwellings on significantly smaller site sizes.

The estimated feasible capacity for higher density dwellings is similar to that of the baseline scenario. The modelling indicates that vertically-attached dwellings are currently only feasible within Hamilton's central city area. This area already contains provision for higher density residential development, meaning that the likely level of higher density development enabled under Scenario 2 can already occur within this area.

The modelling estimates that higher density, vertically-attached apartments are not yet feasible in other locations away from the City Centre at the modelled margins. The market for higher density dwellings is not yet well established within Hamilton, with demand likely to be concentrated into the most central areas. However, intensification is still feasible within other areas of higher accessibility. The modelling shows that medium-density intensification (e.g. more intensive terraced housing) is likely to be feasible in many of these locations, which would result in intensification around Hamilton urban centres outside of the City Centre.

The higher yields enabled by the intensification provisions increase the share of the existing urban area that is estimated to be feasible for intensification, particularly through redevelopment options. It is estimated that around 18% of the existing urban plan enabled capacity represents feasible development options, up from 14% under the baseline scenario. This correspondingly increases the share of total feasible capacity that occurs within the existing urban area under this scenario (78%) compared to the baseline (65%). This also occurs as the modelling approach is conservative where it assumes that a significant share

of the greenfield areas will continue to be developed at the densities indicated within the structure/developer plans.

Table 5-5: Hamilton City Current Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: MDRS and NPS-UD Policy 3, No Qualifying Matters

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	300	300	-	-	-	8,200	8,200	8,200	-	-	-	-	-	8,200
Precinct 2 - City Living Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Density Residential	500	600	2,300	-	2,300	2,300	2,400	18,700	-	18,700	19,000	-	-	-	-	-	19,000
Residential Intensification Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium Density Residential Zone	300	600	700	-	800	900	6,200	6,600	-	6,700	7,000	-	-	-	-	-	7,000
General Residential Zone	3,100	2,600	2,700	-	3,800	10,700	9,700	10,100	-	14,700	15,800	-	-	-	-	-	15,800
Special Heritage Zone	10	10	10	-	10	10	-	-	-	10	10	-	-	-	-	-	10
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	200	200
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	2,900	-	-	-	2,900	2,900
Rototuna	-	-	-	-	-	-	-	-	-	-	-	1,900	500	1,100	-	2,500	2,500
Ruakura	-	-	-	-	-	-	-	-	-	-	-	900	2,900	4,200	-	4,200	4,200
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	30	30
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	4,300	-	-	-	4,300	4,300
TOTAL	**3,800**	**3,900**	**5,800**	**300**	**7,300**	**13,900**	**18,300**	**35,300**	**8,200**	**48,400**	**50,100**	**10,200**	**3,400**	**5,300**	**-**	**14,200**	**64,300**

Source: M.E Hamilton Resident al Capacity Model, 2022.

5.2.2 Scenario 2 Short-Term Capacity: 2024

The estimated feasible capacity under Scenario 2 is projected to increase to around 82,200 dwellings within the short-term (see Table 5-6). The structure of capacity follows that of the current situation meaning that the largest increases occur within the existing urban area.

The largest net increases occur within medium and higher density attached dwellings. These include terraced housing across the suburban areas, as well as verticall-attached dwellings within the City Centre. The increases in terraced-housing feasible capacity occur across a combination of the General Residential, Medium Density Residential and High Density Residential zones. The areas feasible to develop are modelled to occur across increasing shares of the extent of these zones.

Feasible capacity within the greenfield areas is also projected to increase over the short-term. There is an estimated net increase of 3,500 dwellings (from 2021), amount to an estimated feasible capacity for 17,700 greenfield dwellings in the short-term.

Table 5-6: Hamilton City Short-Term (2024) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: MDRS and NPS-UD Policy 3, No Qualifying Matters

Hamilton Zone	INFILL					REDEVELOPMENT						GREENFIELD					
	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	500	500	-	-	-	11,900	11,900	11,900	-	-	-	-	-	11,900
Precinct 2 - City Living Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Density Residential	500	700	2,400	-	2,400	2,500	2,800	20,600	-	20,600	20,800	-	-	-	-	-	20,800
Residential Intensification Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium Density Residential Zone	400	1,000	1,300	-	1,300	1,200	9,200	9,400	-	9,600	9,900	-	-	-	-	-	9,900
General Residential Zone	3,300	3,500	3,700	-	4,600	14,200	15,500	15,800	-	20,600	21,900	-	-	-	-	-	21,900
Special Heritage Zone	10	10	10	-	10	10	10	10	-	10	10	-	-	-	-	-	10
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	100	-	500	500
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	5,800	-	-	-	5,800	5,800
Rototuna	-	-	-	-	-	-	-	-	-	-	-	1,900	700	1,300	-	2,600	2,600
Ruakura	-	-	-	-	-	-	-	-	-	-	-	900	3,100	4,200	-	4,200	4,200
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	-	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	4,300	-	-	-	4,300	4,300
TOTAL	**4,200**	**5,200**	**7,400**	**500**	**8,800**	**18,000**	**27,500**	**45,800**	**11,900**	**62,700**	**64,500**	**13,500**	**3,900**	**5,700**	**-**	**17,700**	**82,200**

Source: M.E Hamilton Resident al Capacity Model, 2022.

5.2.3 Scenario 2 Medium-Term Capacity: 2031

The feasible capacity under Scenario 2 is projected to increase to a total of around 136,000 dwellings in the medium-term (see Table 5-7). This is an increase of around 54,000 additional feasible dwelling development options over the medium-term (in comparison to the short-term); and is nearly two and a half times the capacity projected to be feasible under the baseline scenario.

The largest increases in capacity occur within the redevelopment capacity for medium-density dwellings. These are primarily in attached dwellings, a sizeable share of which would be likely to occur as terraced housing. The largest net increases in medium-density dwelling capacity is projected to occur within the General Residential Zone. This is due to a combination of the overall spatial extent of the zone, but also occurs through the expansion of the feasible areas into new locations.

It is estimated that higher density redevelopment options may become feasible, at the modelled margins, across a wider geographic area within the medium-term. There is a share of estimated feasible higher density capacity within the High Density Residential Zone in addition to the icnrese in feasible capacity options within the City Centre. The market for higher density development is likely to gradually become more established in Hamilton through time, with the highest areas of feasibility projected to occur within Hamilton's central areas.

Table 5-7: Hamilton City Medium-Term (2031) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: MDRS and NPS-UD Policy 3, No Qualifying Matters

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	1,500	1,500	-	-	-	16,100	16,100	16,200	-	-	-	-	-	16,200
Precinct 2 - City Living Precinct	-	-	-	1,200	1,200	-	-	-	13,200	13,200	13,300	-	-	-	-	-	13,300
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	400	400	400	-	-	-	-	-	400
High Density Residential	600	900	2,500	200	2,600	3,100	3,800	23,800	1,300	24,500	24,600	-	-	-	-	-	24,600
Residential Intensification Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium Density Residential Zone	700	1,500	2,000	-	2,100	1,800	16,200	16,700	-	16,800	17,100	-	-	-	-	-	17,100
General Residential Zone	5,900	6,300	7,300	-	8,500	25,000	33,800	34,900	-	40,500	43,000	-	-	-	-	-	43,000
Special Heritage Zone	10	10	10	-	10	20	10	10	-	20	20	-	-	-	-	-	20
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	100	-	-	-	100	100	-	-	-	-	-	100
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	500	-	900	900
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	7,400	2,300	2,300	-	8,400	8,400
Rototuna	-	-	-	-	-	-	-	-	-	-	-	1,900	800	1,800	-	2,600	2,600
Ruakura	-	-	-	-	-	-	-	-	-	-	-	1,800	4,200	4,200	-	4,200	4,200
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	-	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	5,000	-	100	-	5,000	5,000
TOTAL	**7,200**	**8,600**	**11,800**	**2,800**	**15,800**	**30,000**	**53,900**	**75,500**	**31,000**	**111,700**	**114,800**	**16,800**	**7,300**	**9,000**	**-**	**21,300**	**136,000**

Source: M.E Hamilton Resident al Capacity Model, 2022.

5.2.4 Scenario 2 Long-Term Capacity: 2051

The modelled feasible capacity is projected to increase to an estimated 233,400 dwellings in the long-term (see Table 5-8). This equates to around two and a half times the level of capacity estimated under the baseline scenario. Part of this difference occurs through the greater number of parcels that are estimated to represent feasible development options, while part occurs through the increased development yields on parcels feasible under both modelled scenarios.

Most (83%) of the long-term feasile capacity is within the existing urban area, particularly as redevelopment capacity. If redeveloped, together with infill development, there is a feasible capacity for around 144,000 additional dwellings within the existing urban area.

There is a high level of estimated feasible development options across a range of dwelling densities and typologies within the existing urban area. These include higher density vertically-attached apartment dwellings, medium-density terraced housing as well as smaller detached dwellings. There are estimated to be feasible development options within these typologies across large extents of the existing urban area. This is reflected in the high level of medium density feasible capacity within the High Density Residential, Medium Density Residential and General Residential zones.

The estimated feasible development options for higher density vertically-attached apartments are projected to increase further in the long-term as the market becomes more established. However, these are still heavily concentrated into the more central areas (City Centre and High Density Residential zones) of Hamilton's urban area at the modelled feasibility margins.

There may be some higher density residential development that occurs through time in other locations within Hamilton's urban environment further from the central areas. This may reflect a combination of different development objectives (i.e. where highest margins are not the primary consideration), development at lower margins, or development able to be achieved at acceptable margins through individual site situations.

In the long-term, it is estimated that there is a feasible development capacity of 39,000 dwellings within Hamilton's greenfield areas. However, this includes areas such as Templeview where infrastructure is not planned till within the longer-term. This also represents the capacity that is potentially feasible in dwelling typologies of a higher density than may be developed within the greenfield areas. It is likely that the eventual level of greenfield capacity delivered by the market will be lower than the estimated feasible capacity with dwellings delivered across a range of different typologies and densities.

Table 5-8: Hamilton City Long-Term (2051) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: MDRS and NPS-UD Policy 3, No Qualifying Matters

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	1,500	1,500	-	-	-	16,400	16,400	16,500	-	-	-	-	-	16,500
Precinct 2 - City Living Precinct	-	-	-	1,400	1,400	-	-	-	22,800	22,800	22,900	-	-	-	-	-	22,900
Precinct 3 - Ferrybank Precinct	-	-	-	70	70	-	-	-	3,700	3,700	3,700	-	-	-	-	-	3,700
High Density Residential	700	1,000	2,700	1,900	3,600	4,100	5,600	26,000	26,300	39,900	39,900	-	-	-	-	-	39,900
Residential Intensification Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium Density Residential Zone	800	2,200	2,500	-	2,500	3,200	22,400	22,500	300	22,700	22,900	-	-	-	-	-	22,900
General Residential Zone	6,400	9,000	9,700	-	9,700	57,800	79,700	80,300	-	87,000	88,100	-	-	-	-	-	88,100
Special Heritage Zone	10	10	10	-	10	20	20	20	-	20	20	-	-	-	-	-	20
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	100	100	100	-	100	100	-	-	-	-	-	100
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	900	-	900	900
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	8,500	5,900	8,000	-	9,800	9,800
Rototuna	-	-	-	-	-	-	-	-	-	-	-	2,500	1,400	2,600	-	3,200	3,200
Ruakura	-	-	-	-	-	-	-	-	-	-	-	1,900	4,200	4,200	-	4,200	4,200
Templeview	-	-	-	-	-	-	-	-	-	-	-	9,300	14,000	14,000	-	14,000	14,000
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	300	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	7,000	-	4,300	-	7,000	7,000
TOTAL	**7,900**	**12,200**	**14,900**	**4,800**	**18,800**	**65,200**	**107,900**	**128,900**	**69,500**	**192,600**	**194,000**	**29,900**	**25,600**	**34,300**	**-**	**39,300**	**233,400**

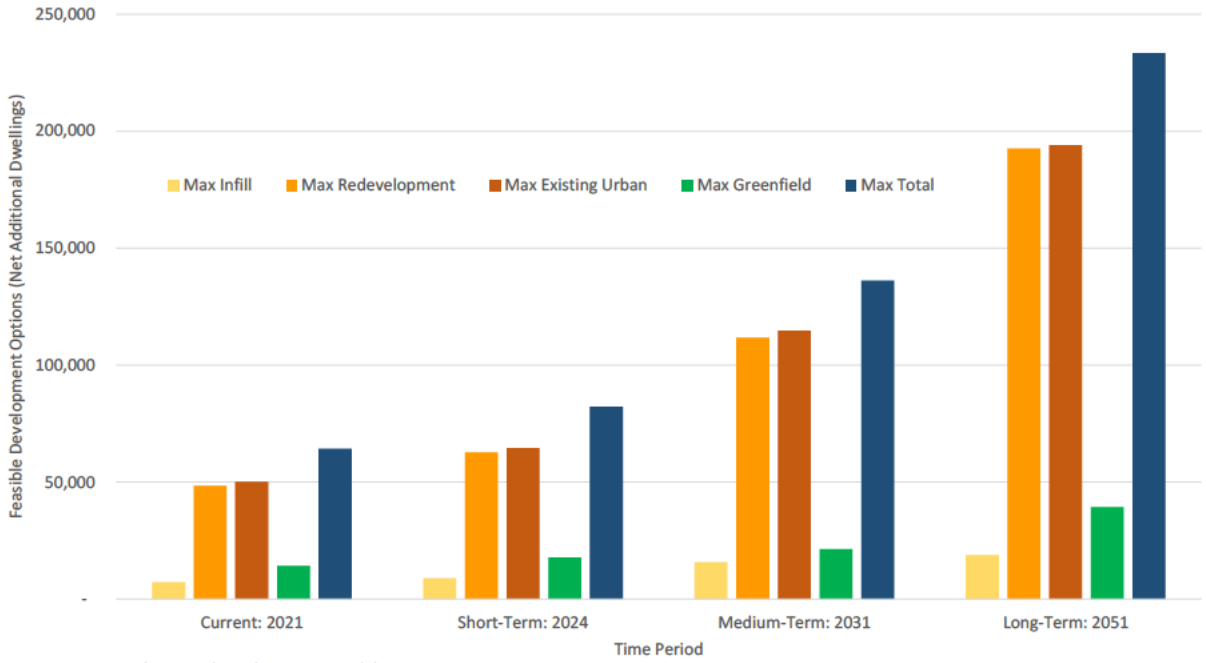
Source: M.E Hamilton Resident al Capacity Model, 2022.

5.2.5 Scenario 2 Summary of Feasible Capacity: 2021-2051

The estimated feasible capacity through time is shown 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 larger net increases in the existing urban redevelopment capacity. Similar to Scenario 1, this option has higher levels of plan enabled capacity with increases in the share of plan enabled capacity that is projected to become feasible through time. Figure 5-2:

Figure 5-2: Hamilton City Estimated Commercially Feasible Capacity by Location Type and Time Period: PC12 Base Zones and MDRS (Unconstrained)

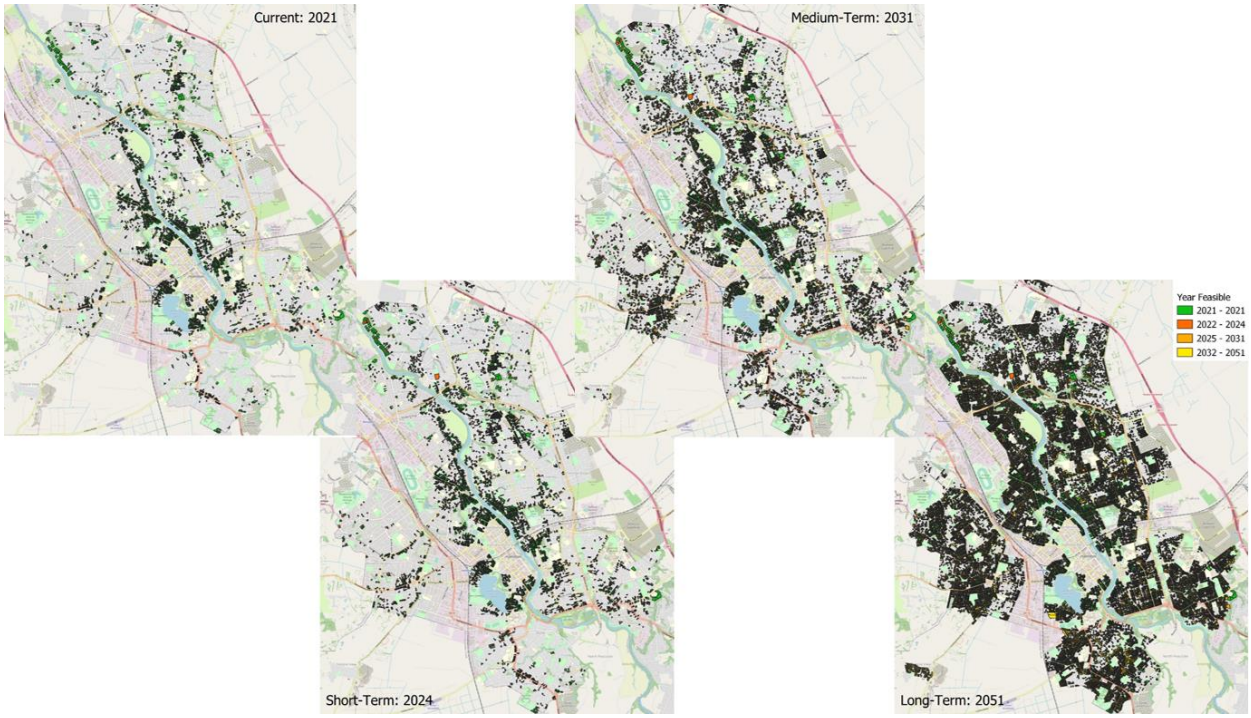


Source: M.E Hamilton Residential Capacity Model, 2022.

The estimated feasible development options are projected to occur across an increasing range of locations through time. Figure 5-3 maps the parcels that are estimated to represent commercially feasible redevelopment options for terraced housing through time. It shows that feasible development options are currently focussed around Hamilton's central areas and other main areas of urban accessibility. A high share of feasible parcels occur within the High Density Residential Zone that extends across the City Centre's walkable catchment area. The geographic pattern of feasibility is projected to continue into the short-term, where capacity is significantly concentrated into areas of higher accessibility.

The feasible terraced housing feasible locations are projected to expand across different parts of the existing urban area over the medium to long-term. In the long-term, terraced housing development is projected to be feasible across most of the general suburban area.

Figure 5-3: Existing Urban Area Projected Feasible Development Options for Terraced Housing: Scenario 2



5.3 Scenario 3: Modified Intensification Provisions

This section contains the modelled capacity under Scenario 3. The same PC12 base zoning structure is applied in this scenario to that used in Scenario 2. However, the application of the MDRS to this structure, and the provision for higher density development (i.e. vertically-attached apartments) is constrained by the application of qualifying matters as described in Section 2.3. These include the ICO and the HHAs, with the former covering large shares of the existing urban area.

The following sub-sections contain the modelled outputs for the commercially feasible capacity in the current market, as well as the short, medium and long-term when the market growth rates are applied.

5.3.1 Scenario 3 Current Capacity: 2021

The capacity that is estimated to currently represent potentially commercially feasible development options under Scenario 3 is shown in Table 5-9. There is an estimated capacity of around 49,300 dwellings across the existing urban and greenfield areas.

The application of intensification provisions within this scenario mean that the existing urban area also contains a high share of the feasible capacity under this scenario (36,100 dwellings). It is estimated that nearly three-quarters (73%) of the capacity is within the existing urban area, mainly in the form of redevelopment capacity. A large share of the redevelopment capacity occurs through terraced housing (horizontally-attached apartments) within the High Density Residential Zone, with smaller levels of feasible attached dwellings within the General Residential and Medium Density Residential zones.

The modelling suggests that the application of qualifying matters reduces the currently feasible capacity by around 23%, amounting to a net difference of around 15,000 dwellings to Scenario 2. Most of the difference to Scenario 2 occurs within the horizontally-attached (incl. terraced housing) redevelopment capacity. Importantly, part of this difference occurs through the differences in permitted densities within the medium-density development on parcels to those enable within Scenario 2. Many of the parcels are still estimated to be commercially feasible to redevelop, albeit at lower yields. The alternative density controls within the area covered by the ICO still enable terraced housing and other forms of medium density development to occur, and in many cases may reflect the density at which the market may deliver capacity in the absence of restrictions from qualifying matters.

There is also some reduction in the higher density dwellings under this scenario from Scenario 2. This occurs due to the presence of HHA qualifying matters within the City Centre area. However, the application of qualifying matters across other higher density locations does not affect the currently feasible capacity as these are only estimated to be feasible in central locations, which are not affected by the ICO.

There is an observable density gradient in the feasibility of capacity under Scenario 3. Higher density development, in the form of vertically-attached apartments are estimated to be feasible within the City Centre areas. Within the immediately surrounding area (the High Density Residential Zone), more intensive horizontally-attached apartments are estimated to be currently commercially feasible, as well as within the Medium Density Residential zone. A mixture of detached and attached dwellings are estimated to be feasible across the general suburban area within the General Residential Zone.

The feasible greenfield capacity is estimated to be similar to that of Scenario 2, at 13,200 dwellings, due to the limited application of qualifying matters in greenfield locations.

Table 5-9: Hamilton City Current Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: MDRS and NPS-UD Policy 3, Qualifying Matters Applied

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	300	300	-	-	-	6,300	6,300	6,300	-	-	-	-	-	6,300
Precinct 2 - City Living Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Density Residential	500	600	2,300	-	2,300	2,300	2,400	18,500	-	18,600	18,900	-	-	-	-	-	18,900
Residential Intensification Zone	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	10
Medium Density Residential Zone	300	300	300	-	500	900	2,200	2,300	-	2,700	2,900	-	-	-	-	-	2,900
General Residential Zone	2,400	1,400	1,400	-	2,400	6,800	2,700	2,800	-	6,900	7,900	-	-	-	-	-	7,900
Special Heritage Zone	10	10	10	-	10	10	-	-	-	10	10	-	-	-	-	-	10
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	10	-	-	-	10	10	-	-	-	10	10	-	-	-	-	-	10
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	200	200
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	2,900	-	-	-	2,900	2,900
Rototuna	-	-	-	-	-	-	-	-	-	-	-	1,100	400	900	-	1,700	1,700
Ruakura	-	-	-	-	-	-	-	-	-	-	-	900	2,900	4,100	-	4,100	4,100
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	30	30
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	4,300	-	-	-	4,300	4,300
TOTAL	3,100	2,300	4,100	300	5,500	10,000	7,300	23,700	6,300	34,500	36,100	9,500	3,300	5,000	-	13,200	49,300

Source: M.E Hamilton Resident al Capacity Model, 2022.

5.3.2 Scenario 3 Short-Term Capacity: 2024

The commercially feasible capacity is projected to increase to around 61,800 dwellings in the short-term (see Table 5-10). The pattern is similar to that which is estimated to be currently feasible, with nearly three-quarters (73%) of the feasible capacity within the existing urban area mainly through redevelopment.

The increases in projected feasible capacity in the short-term occur across a range of different dwelling typologies. There are projected increases in both medium density attached and detached dwellings, as well as some increase in feasible vertically-attached dwellings. The feasibility of vertically-attached dwellings is projected to remain within the City Centre zones in the short-term at the modelled feasibility margins.

The greenfield capacity (16,700 dwellings) is also projected to remain similar to that of Scenario 2 due to the limited application qualifying matters.

Table 5-10: Hamilton City Short-Term (2024) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: MDRS and NPS-UD Policy 3, Qualifying Matters Applied

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	500	500	-	-	-	10,000	10,000	10,000	-	-	-	-	-	10,000
Precinct 2 - City Living Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Density Residential	500	700	2,400	-	2,400	2,500	2,800	20,400	-	20,400	20,600	-	-	-	-	-	20,600
Residential Intensification Zone	-	-	-	-	-	-	10	10	-	10	20	-	-	-	-	-	20
Medium Density Residential Zone	400	600	700	-	800	1,200	3,300	3,400	-	3,800	4,100	-	-	-	-	-	4,100
General Residential Zone	2,700	1,700	1,800	-	2,700	9,200	4,000	4,100	-	9,300	10,400	-	-	-	-	-	10,400
Special Heritage Zone	10	10	10	-	10	10	10	10	-	10	10	-	-	-	-	-	10
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	10	-	-	-	10	10	-	-	-	10	10	-	-	-	-	-	10
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	100	-	500	500
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	5,800	-	-	-	5,800	5,800
Rototuna	-	-	-	-	-	-	-	-	-	-	-	1,100	400	1,000	-	1,700	1,700
Ruakura	-	-	-	-	-	-	-	-	-	-	-	900	2,900	4,100	-	4,100	4,100
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	-	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	4,300	-	-	-	4,300	4,300
TOTAL	3,600	2,900	4,800	500	6,500	13,000	10,200	27,900	10,000	43,600	45,200	12,800	3,300	5,300	-	16,700	61,800

Source: M.E Hamilton Resident al Capacity Model, 2022.

5.3.3 Scenario 3 Medium-Term Capacity: 2031

The projected medium-term feasible capacity is shown in Table 5-11. In total, estimated feasible dwelling capacity is projected to reach 98,400 dwellings in the medium-term. This includes a feasible capacity development options of 78,100 dwellings within the existing urban area and around 20,300 dwellings within the greenfield areas.

Increasing shares of this capacity is projected to occur within the existing urban area as a larger proportion of the plan enabled capacity is projected to become feasible through time. The pattern of feasible capacity is similar to the short-term, with a greater share of the development options across all typologies becoming feasible through time.

Higher density residential development is also projected to become feasible during the medium-term across a wider central area to occur within the High Density Residential Zone. This is consistent with Scenario 2 where this capacity is unaffected by the application of the ICO, with the constraints instead occurring through the HHA qualifying matters.

Table 5-11: Hamilton City Medium-Term (2031) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: MDRS and NPS-UD Policy 3, Qualifying Matters Applied

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	1,500	1,500	-	-	-	14,200	14,200	14,300	-	-	-	-	-	14,300
Precinct 2 - City Living Precinct	-	-	-	1,200	1,200	-	-	-	13,200	13,200	13,300	-	-	-	-	-	13,300
Precinct 3 - Ferrybank Precinct	-	-	-	-	-	-	-	-	400	400	400	-	-	-	-	-	400
High Density Residential	600	900	2,500	200	2,600	3,000	3,800	23,700	1,300	24,400	24,500	-	-	-	-	-	24,500
Residential Intensification Zone	-	-	10	-	10	-	20	20	-	20	20	-	-	-	-	-	20
Medium Density Residential Zone	700	900	1,100	-	1,300	1,800	5,700	5,900	-	6,200	6,600	-	-	-	-	-	6,600
General Residential Zone	4,700	2,700	2,800	-	4,900	16,600	8,800	9,100	-	17,000	18,900	-	-	-	-	-	18,900
Special Heritage Zone	10	10	10	-	10	20	10	10	-	20	20	-	-	-	-	-	20
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	10	-	-	-	10	20	-	-	-	20	20	-	-	-	-	-	20
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	100	-	-	-	100	100	-	-	-	-	-	100
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	500	-	900	900
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	7,400	2,300	2,300	-	8,400	8,400
Rototuna	-	-	-	-	-	-	-	-	-	-	-	1,200	400	1,400	-	1,700	1,700
Ruakura	-	-	-	-	-	-	-	-	-	-	-	1,800	4,100	4,100	-	4,100	4,100
Templeview	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	-	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	5,000	-	100	-	5,000	5,000
TOTAL	**6,000**	**4,500**	**6,400**	**2,800**	**11,500**	**21,500**	**18,300**	**38,700**	**29,100**	**75,600**	**78,100**	**16,100**	**6,800**	**8,400**	**-**	**20,300**	**98,400**

Source: M.E Hamilton Resident al Capacity Model, 2022.

5.3.4 Scenario 3 Long-Term Capacity: 2051

The projected feasible capacity development options in the long-term are shown in Table 5-12. The feasible capacity is projected to increase to around 177,100 dwellings. This includes an estimated capacity of 138,700 dwellings within the existing urban area, mainly through redevelopment capacity, and 38,400 dwellings within the greenfield area.

There is a high level of projected feasible redevelopment options within the existing urban area relative to long-term demand. These occur across a range of different dwelling densities and typologies across all of the main residential zones.

The feasibility of higher density vertically-attached apartments is similar to Scenario 2 in the long-term, where it includes large capacity within the High Density Residential Zone in addition to that within the City Centre. Higher density residential development is constrained in other locations beyond the inner areas under Scenario 3. However, application of qualifying matters does not affect the commercial feasibility modelled outputs as this type of capacity is only estimated to be feasible within centralised urban areas that are largely unconstrained by the qualifying matters.

Table 5-12: Hamilton City Long-Term (2051) Commercially Feasible Capacity by Dwelling Typology, Zone and Urban Structure: MDRS and NPS-UD Policy 3, Qualifying Matters Applied

	INFILL					REDEVELOPMENT						GREENFIELD					
Hamilton Zone	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Infill	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Redevelopment	Max Infill or Redevelopment	Detached Standalone	Duplex Attached	Horizontally Attached Apartments	Vertically Attached Apartments	Max Greenfield	Max Existing Urban + Greenfield
Precinct 1 - Downtown Precinct	-	-	-	1,500	1,500	-	-	-	14,500	14,500	14,600	-	-	-	-	-	14,600
Precinct 2 - City Living Precinct	-	-	-	1,400	1,400	-	-	-	22,800	22,800	22,900	-	-	-	-	-	22,900
Precinct 3 - Ferrybank Precinct	-	-	-	70	70	-	-	-	3,500	3,500	3,500	-	-	-	-	-	3,500
High Density Residential	700	1,000	2,600	1,900	3,600	4,100	5,600	25,800	26,100	39,600	39,600	-	-	-	-	-	39,600
Residential Intensification Zone	-	-	10	-	10	10	40	50	-	50	50	-	-	-	-	-	50
Medium Density Residential Zone	800	1,700	1,900	-	1,900	3,200	11,700	11,800	300	12,200	12,400	-	-	-	-	-	12,400
General Residential Zone	5,300	5,500	5,700	-	5,900	43,400	36,200	36,700	-	44,500	45,500	-	-	-	-	-	45,500
Special Heritage Zone	10	10	10	-	10	20	20	20	-	20	20	-	-	-	-	-	20
Special Natural Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Residential Zone	10	-	10	-	10	30	-	10	-	30	30	-	-	-	-	-	30
Temple View Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rototuna North East Special Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peacocke Character Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Lot Residential	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jacks Landing SHA	-	-	-	-	-	100	100	100	-	100	100	-	-	-	-	-	100
Future Urban Zone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Te Rapa North	-	-	-	-	-	-	-	-	-	-	-	400	-	900	-	900	900
Rotokauri	-	-	-	-	-	-	-	-	-	-	-	8,500	5,900	8,000	-	9,800	9,800
Rototuna	-	-	-	-	-	-	-	-	-	-	-	1,700	500	1,700	-	2,300	2,300
Ruakura	-	-	-	-	-	-	-	-	-	-	-	1,900	4,100	4,100	-	4,100	4,100
Templeview	-	-	-	-	-	-	-	-	-	-	-	9,300	14,000	14,000	-	14,000	14,000
Peacocke Stage 1B	-	-	-	-	-	-	-	-	-	-	-	300	-	300	-	300	300
Peacocke Stage 2	-	-	-	-	-	-	-	-	-	-	-	7,000	-	4,300	-	7,000	7,000
TOTAL	**6,800**	**8,200**	**10,200**	**4,800**	**14,300**	**50,900**	**53,700**	**74,500**	**67,200**	**137,200**	**138,700**	**29,100**	**24,600**	**33,300**	**-**	**38,400**	**177,100**

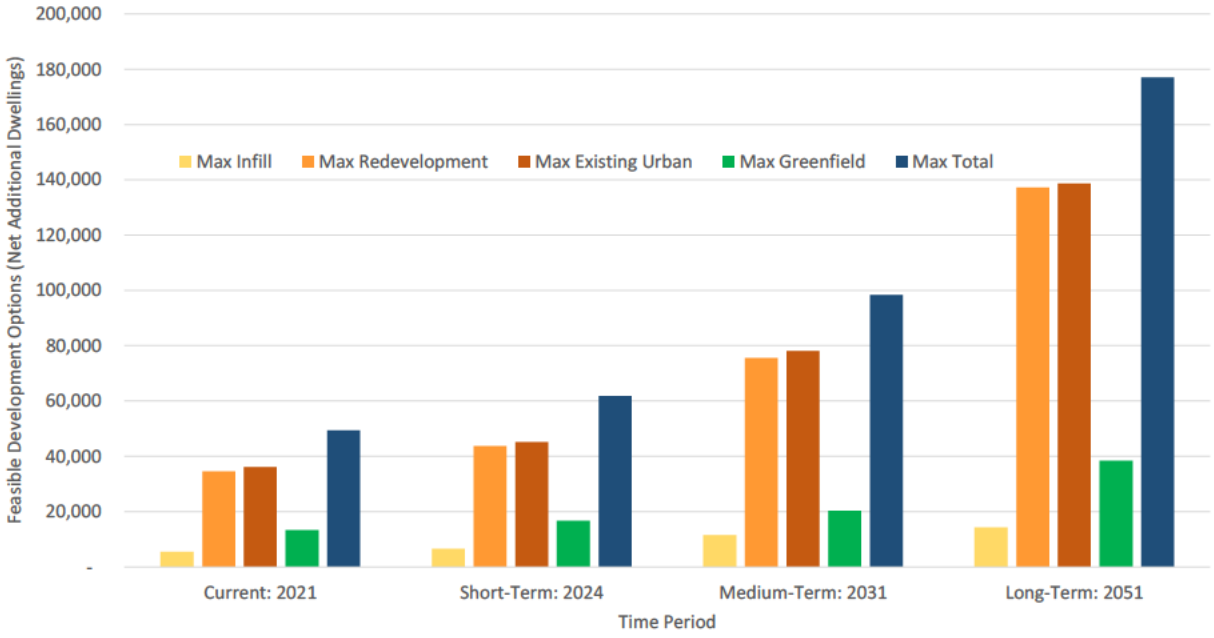
Source: M.E Hamilton Resident al Capacity Model, 2022.

5.3.5 Scenario 3 Summary of Feasible Capacity: 2021-2051

The estimated feasible capacity through time is shown in Figure 5-4. 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 5-4 shows that the feasible development capacity is projected to increase through time. There are larger net increases in the existing urban redevelopment capacity. Similar to scenarios 1 and 2, this option has higher levels of plan enabled capacity with increases in the share of plan enabled capacity that is projected to become feasible through time.

Figure 5-4: Hamilton City Estimated Commercially Feasible Capacity by Location Type and Time Period: PC12 Base Zones and MDRS (Qualifying Matters Applied)



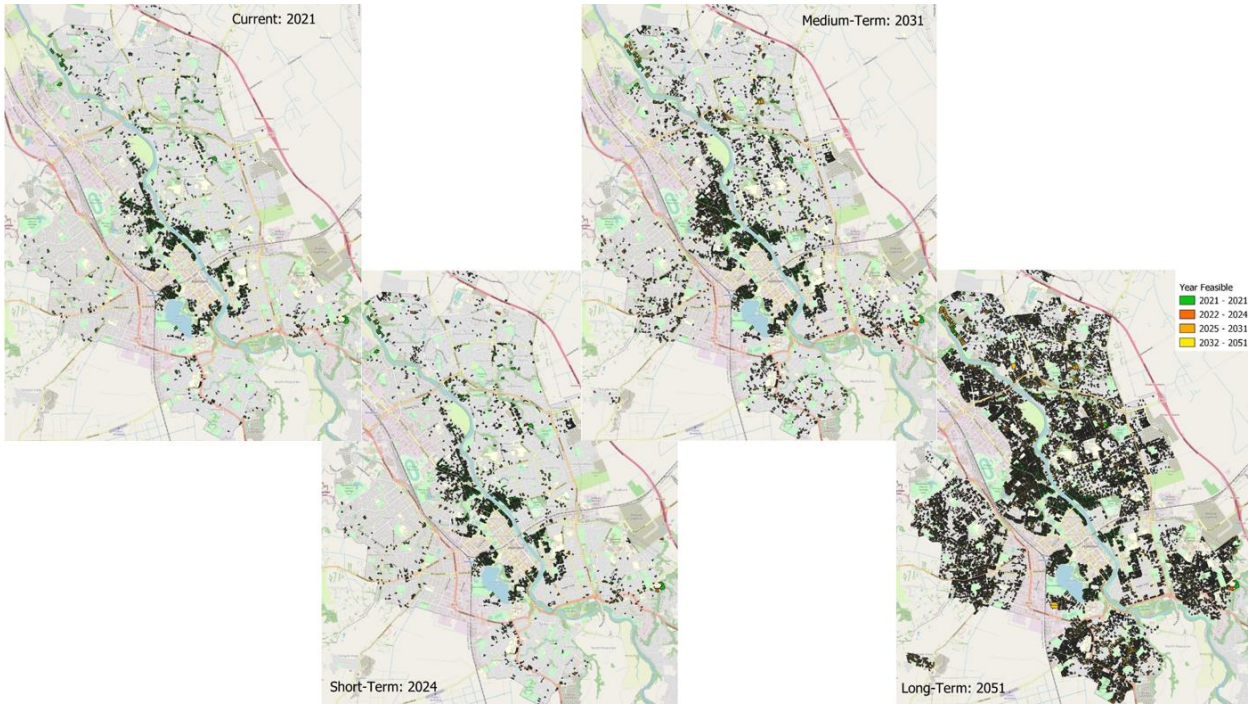
Source: M.E Hamilton Residential Capacity Model, 2022.

The projected feasible development options are also mapped under Scenario 3. It shows the parcels that are estimated to represent commercially feasible development options for terraced housing through time. Similar to Scenario 2, it shows that the estimated feasible development options are projected to occur across an increasing range of locations through time. It shows that feasible development options are currently focussed around Hamilton's central areas and other main areas of urban accessibility. A high share of feasible parcels occur within the High Density Residential Zone that extends across the City Centre's walkable catchment area. The geographic pattern of feasibility is projected to continue into the short-term, where capacity is significantly concentrated into areas of higher accessibility.

The feasible terraced housing feasible locations are projected to expand across different parts of the existing urban area over the medium to long-term. In the long-term, terraced housing development is projected to be feasible across most of the general suburban area.

The geographic patterns of feasibility are similar to that contained in Scenario 2 where intensification provisions are not constrained. The geographic extent of feasibility is more constrained in the current, short and medium-term than under Scenario 2, but has a similar geographic extent in the long-term. This suggests that the higher yields in Scenario 2 may increse the timing of feasibility for this type of development. The similar spatial extent in the long-term shows that many parcels are still feasible to redevelop with the application of the ICO qualifying matter, but at a lower yield.

Figure 5-5: Existing Urban Area Projected Feasible Development Options for Terraced Housing: Scenario 3



5.4 Comparison of Scenarios: Impact of Qualifying Matters and Intensification Provisions

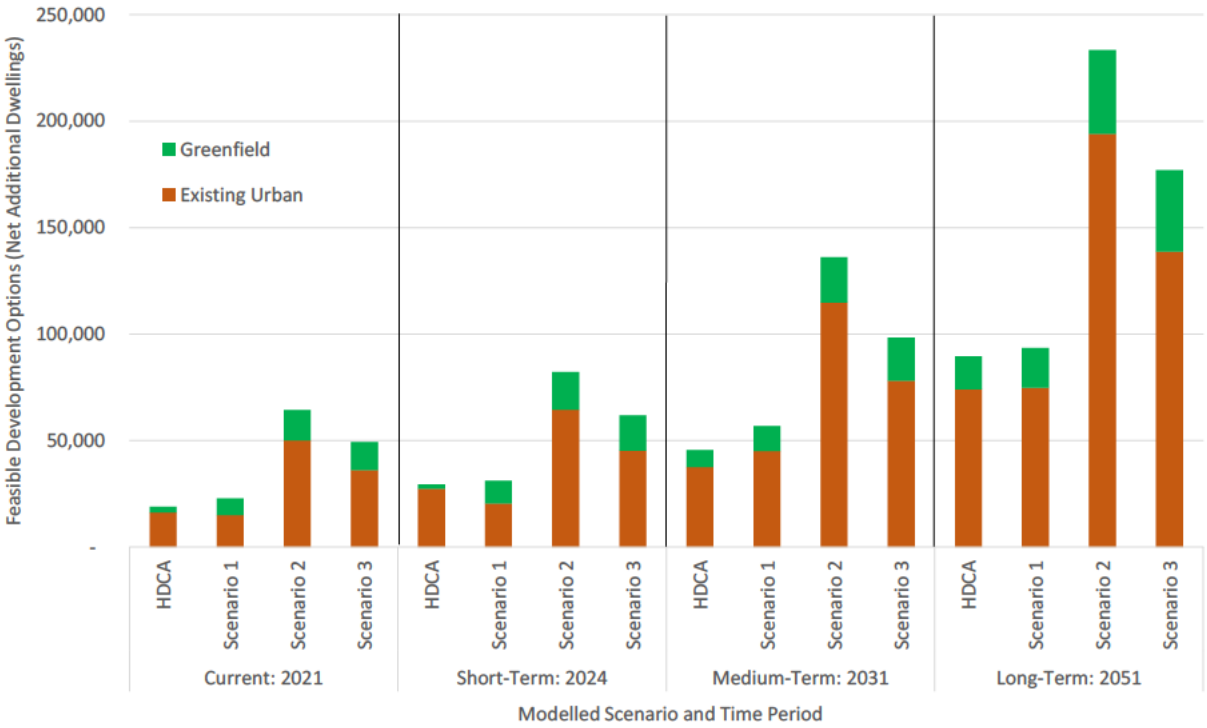
This section identifies the effect of the intensification provisions and qualifying matters on commercially feasible capacity through a comparison of the capacity across each scenario.

Figure 5-6 shows the total feasible capacity within each modelled scenario within each time period. It disaggregates capacity into the maximums from each of the existing urban and greenfield areas. These components of capacity are additive to form the total estimated feasible development options under each scenario. It also includes the modelled capacity from the 2021 HDCA for comparison.

The graph shows that the capacity the under the baseline ODP provisions (Scenario 1) is similar to that modelled under the HDCA. Within these totals, however, a greater share of the existing urban capacity occurs as redevelopment capacity within Scenario 1 due to market changes increasing the relative feasibility of this form of capacity.

Figure 5-6 shows that the intensification provisions applied under Scenario 2 generate substantial increases in feasible capacity from that modelled under the baseline scenario. The total capacity then reduces under Scenario 3 through the application of qualifying matters, although remains substantially above the level of capacity modelled under the baseline scenario.

Figure 5-6: Comparison of Projected Commercially Feasible Capacity by Modelled Scenario



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

The projected feasible capacity under each scenario is disaggregated by type of capacity in Figure 5-7. It shows the differences in capacity between scenarios on higher density vertically-attached apartment capacity and other medium-density capacity. It also provides a total capacity as these types of capacity are not additive as some parcels can either be developed as medium or higher density capacity.

The net differences (in terms of additional dwellings) between the scenarios within each type of capacity (vertically-attached vs. other capacity) are shown in Table 5-13 and correspond to the differences in the bars in Figure 5-7. The table firstly compares the capacity under Scenario 2 with that under Scenario 3 to illustrate the effect of applying the qualifying matters on the intensification provisions. It also compares the capacity in Scenario 3 with that in Scenario 1 to show the changes in the modified intensification scenario to the level of capacity enabled under the baseline provisions. The upper section of the table shows the net difference in capacity between these scenarios, while the lower section of the tables shows the percentage differences between the scenarios.

The application of qualifying matters reduces the total feasible capacity by between 23% and 28%, and by 24% over the long-term. This amounts to a reduction of 15,000 dwellings in the current market situation and around 56,000 dwellings in the long-term. Importantly, these show the differences in total potential feasible capacity options and not the reduction in dwelling capacity likely to be delivered by the market. The level of estimated feasible capacity is well ahead of projected dwelling demand over all time periods under all scenarios.

The relative effect of qualifying matters is greater when considered within the existing urban area only, particularly in relation to medium-density capacity. Existing urban area total capacity is reduced by between 28% and 32%, and by between 29% and 41% across the medium-density capacity. The relative effect on

higher density vertically-attached apartments is lower as most of this capacity is estimated to only be feasible in areas outside of the ICO. The main effect on capacity occurs through the HHAs within the central city, where the relative impact of these becomes smaller through time as increasing areas become feasible within the wider City Centre and High Density Residential zones.

Despite the decreases in feasible capacity from the unmodified application of intensification provisions, the capacity within Scenario 3 is higher than the capacity currently enabled by the ODP. Scenario 3 currently feasible total capacity is estimated to be 116% higher than the baseline and medium density capacity within the existing urban area around four and a half times that of the baseline. In the long-term, the Scenario 3 total feasible capacity is projected to be around 90% higher than that under the baseline provisions, and medium-density existing urban area capacity, around 136% higher.

The assessment shows that although the qualifying matters have a sizeable percentage reduction on medium density residential development within the existing urban area, the projected feasible development options are well ahead of projected demand. They are also considerably higher than the estimated feasible capacity under the current provisions (Scenario 1).

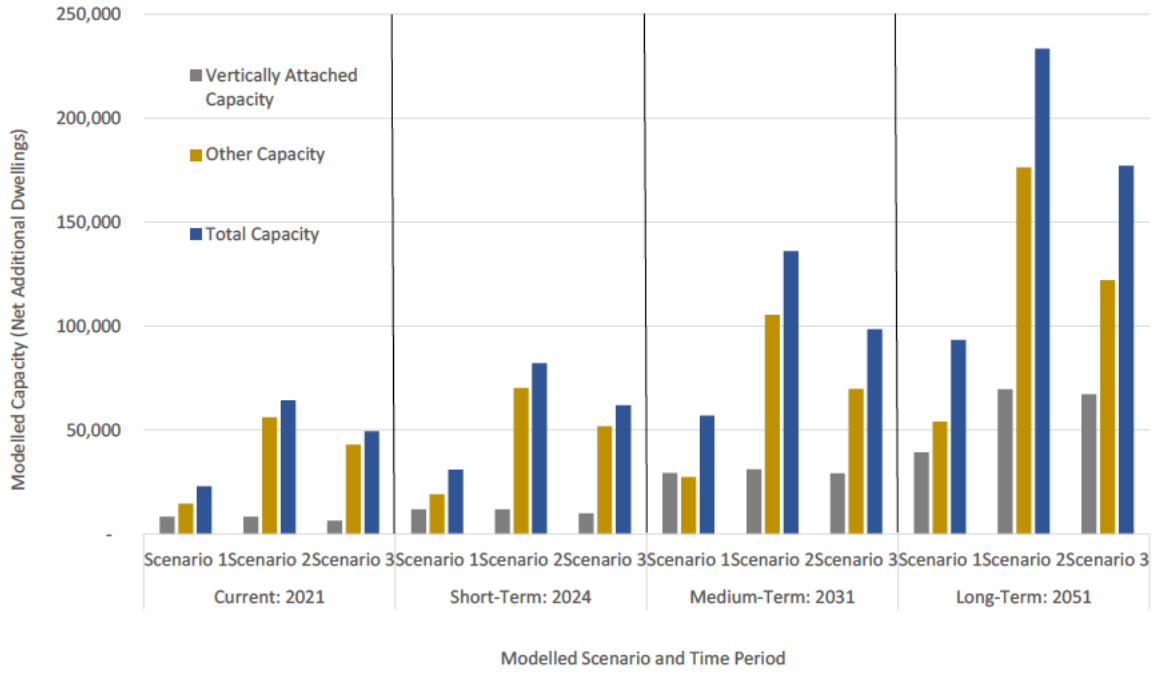
Scenario 3 has a long-term estimated feasible capacity of around 177,100 dwellings. This includes around 138,700 dwellings within the existing urban area, and up to around 38,400 dwellings within the greenfield area. Within the existing urban area, there is an estimated feasible capacity within the medium density development options of around 83,800 dwellings. In comparison, there is a projected long-term demand for an additional 37,500 dwellings, and 43,100 dwellings with the application of an NPS-UD margin.

Despite the application of qualifying matters across large proportions of Hamilton's suburban residential areas, there are substantial increases in capacity enabled under Scenario 3 relative to the existing baseline. A core part of this relates to the alternative density control of a net site area of 200m2 per dwelling together with the removal of the requirement to form duplex pairs. This both increases the plan enabled density able to occur on many sites, and increases the range of typologies that can be constructed. Importantly, it enables terraced housing to occur, which is a major component of the intensification development patterns within growing urban economies.

The alternative density control also enables the development of smaller standalone (detached) dwellings on smaller sites. Previously these required a site area of 400m2 per dwelling, encouraging the development of larger, more expensive dwellings. The ability to construct smaller dwellings with less land area is likely to increase the feasibility of this dwelling type.

Changes to the underlying zoning structure within Scenario 3, relative to the baseline, also enable intensification to occur around key areas of accessibility within Hamilton's wider suburban area. This occurs through the Medium Density Residential Zone that has mainly been applied around suburban centres. Despite the application of qualifying matters, the alternative density control of 150m2 per dwelling within this zone allows for a higher density of development around these areas than within the general suburban area. This enables a reasonable level of intensification within the areas immediately surrounding these centres in the form of more intensive terraced housing or lowrise apartments.

Figure 5-7: Comparison of Projected Commercially Feasible Capacity by Modelled Scenario and Type



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

Table 5-13: Difference in Projected Feasible Capacity Development Options between Modelled Scenarios

Time Period	Comparison	Vertically-Attached Apartments			Other Capacity			Total Capacity		
		Existing Urban	Greenfields	Total	Existing Urban	Greenfields	Total	Existing Urban	Greenfields	Total
		Net Change in Capacity								
Current: 2021	Scenario 3 vs. Scenario 2	-1,900	0	-1,900	-12,100	-1,000	-13,100	-14,000	-1,000	-15,000
	Scenario 3 vs. Scenario 1	-1,900	0	-1,900	23,100	5,300	28,400	21,200	5,300	26,500
Short-Term: 2024	Scenario 3 vs. Scenario 2	-1,900	0	-1,900	-17,400	-1,000	-18,400	-19,300	-1,000	-20,300
	Scenario 3 vs. Scenario 1	-1,900	0	-1,900	26,600	6,100	32,700	24,700	6,100	30,800
Medium-Term: 2031	Scenario 3 vs. Scenario 2	-1,900	0	-1,900	-34,800	-1,000	-35,800	-36,700	-1,000	-37,700
	Scenario 3 vs. Scenario 1	-200	0	-200	33,900	8,500	42,400	33,000	8,500	41,500
Long-Term: 2051	Scenario 3 vs. Scenario 2	-2,300	0	-2,300	-53,100	-1,000	-54,100	-55,300	-1,000	-56,300
	Scenario 3 vs. Scenario 1	28,000	0	28,000	48,300	19,800	68,100	63,800	19,800	83,700
		Percentage Change in Capacity								
Current: 2021	Scenario 3 vs. Scenario 2	-23%	0%	-23%	-29%	-7%	-23%	-28%	-7%	-23%
	Scenario 3 vs. Scenario 1	-23%	0%	-23%	346%	66%	194%	142%	66%	116%
Short-Term: 2024	Scenario 3 vs. Scenario 2	-16%	0%	-16%	-33%	-6%	-26%	-30%	-6%	-25%
	Scenario 3 vs. Scenario 1	-16%	0%	-16%	311%	58%	171%	121%	58%	99%
Medium-Term: 2031	Scenario 3 vs. Scenario 2	-6%	0%	-6%	-41%	-5%	-34%	-32%	-5%	-28%
	Scenario 3 vs. Scenario 1	-1%	0%	-1%	218%	72%	155%	73%	72%	73%
Long-Term: 2051	Scenario 3 vs. Scenario 2	-3%	0%	-3%	-39%	-2%	-31%	-29%	-2%	-24%
	Scenario 3 vs. Scenario 1	71%	0%	71%	136%	107%	126%	85%	107%	90%

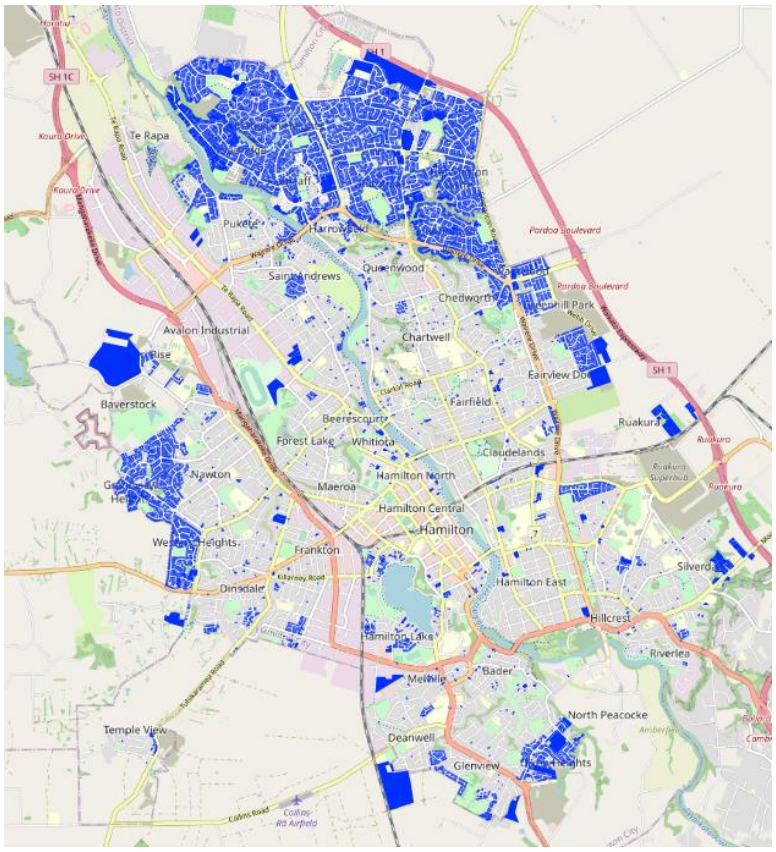
Source: M.E Hamilton Residential Capacity Model, 2022.

5.5 Impact of Covenants

A proportion of residential properties within Hamilton contain covenants that may restrict their further dwelling development. The property parcels containing covenants are shown in Figure 5-8 and are concentrated around the northeastern and western areas of Hamilton's suburban area. Capacity for further

dwelling development has been removed from most (77.5%[21]) of these parcels to understand the effect of covenants on overall capacity.

Figure 5-8: Hamilton City Residential Property Parcels with Covenants



The effect of removing capacity from residential parcels affected by covenants is shown in Figure 5-9 and Table 5-14. Figure 5-9 compares the estimated feasible capacity on all residential parcels with the capacity on residential parcels unaffected by covenants for each of the modelled scenarios. The net and percentage changes in capacity associated with the exclusion of covenanted parcels is correspondingly shown in Table 5-14.

If the effect of covenants are applied, the total estimated feasible capacity is reduced within each of the modelled scenarios. Covenants are estimated to reduce currently feasible capacity within the existing urban area by between 8% and 11%, amounting to 6% to 8% overall. This equates to a net difference of around 1,300 to 5,300 dwellings. By the long-term, there is an estimated 11% to 14% reduction in capacity within the existing urban area and 9% to 12% reduction overall (a net difference of around 8,000 to 27,400 dwellings).

The effect of covenents on feasible capacity is lower than that on plan enabled capacity. This occurs as a large share of the covenanted properties occur in the northeastern area of Hamilton which contain newer, higher-value dwellings, meaning these properties are less likely to be feasible for redevelopment. The

[21] This reflects the share of covenanted properties where covenants restricted further dwelling development as identified through research undertaken by HCC.

percentage impact of covenants becomes slightly larger through time as increased shares of covenanted properties become feasible for redevelopment in the long-term.

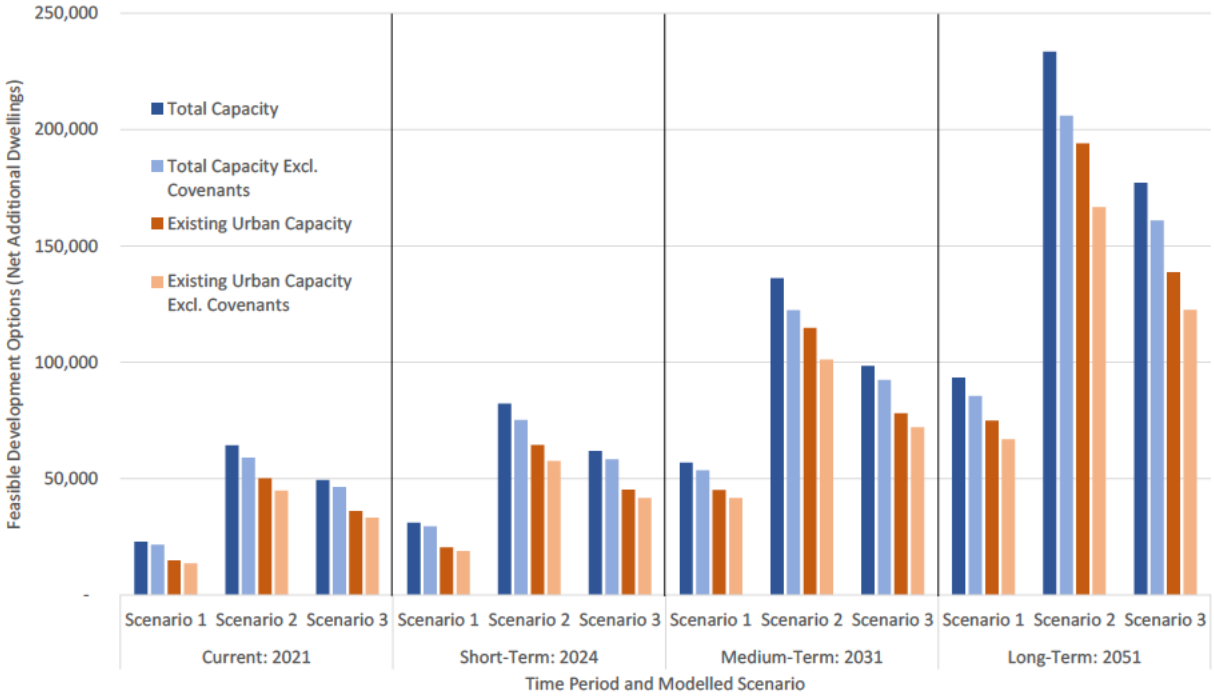
Most of the effect of covenants occurs within the medium density feasible capacity within the existing urban area. Covenants have not been applied to greenfield parcels within the analysis, and there are only limited properties containing covenants where higher density vertically-attached dwellings are modelled to be feasible. Overall, covenants reduce the existing urban area medium density estimated feasible capacity by 10% to 19% (1,300 to 5,300 dwellings) in the current market, and by 17% to 21% (7,600 to 25,800 dwellings) in the long-term.

The resulting modelled feasible capacity under all scenarios is still larger than demand with the application of covenants. The difference between projected feasible capacity and demand is greatest in the short to medium-term, and becomes smaller in the long-term. The difference between capacity and demand is larger under the intensification scenarios, and smaller with the existing baseline provisions.

There is a long-term demand for around 37,500 additional dwellings (43,100 dwellings with an NPS-UD margin). This compares to a total capacity of around 160,900 feasible dwelling options under Scenario 3 with the application of covenants. There is a large amount of capacity within both the existing urban area (including both medium and high density options) and greenfield areas relative to the projected demand. It would not require high portions of the existing urban area to be redeveloped to meet projected demand. Nor would it require a high reliance on higher density capacity.

The difference between projected capacity and demand is smaller with the application of covenants to the baseline provisions. While there is still sufficient feasible capacity to meet long-term demand, it would require substantial shares of capacity uptake across the existing urban general suburban area and some growth in the market size of higher density, vertically-attached dwellings through time.

Figure 5-9: Feasible Capacity by Scenario with and without Capacity on Covenanted Parcels



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

Table 5-14: Difference in Feasible Capacity by Scenario with and without Capacity on Covenanted Parcels

Time Period	Scenario	Vertically-Attached Apartments			Other Capacity			Total Capacity		
		Existing Urban	Greenfields	Total	Existing Urban	Greenfields	Total	Existing Urban	Greenfields	Total
		Net Difference of Including vs. Excluding Capacity on Parcels with Covenants								
Current: 2021	Scenario 1	0	0	0	-1,300	0	-1,300	-1,300	0	-1,300
	Scenario 2	0	0	0	-5,300	0	-5,300	-5,300	0	-5,300
	Scenario 3	0	0	0	-2,900	0	-2,900	-2,900	0	-2,900
Short-Term: 2024	Scenario 1	0	0	0	-1,600	0	-1,600	-1,600	0	-1,600
	Scenario 2	0	0	0	-7,000	0	-7,000	-7,000	0	-7,000
	Scenario 3	0	0	0	-3,500	0	-3,500	-3,500	0	-3,500
Medium-Term: 2031	Scenario 1	-300	0	-300	-3,000	0	-3,000	-3,400	0	-3,400
	Scenario 2	-600	0	-600	-13,200	0	-13,200	-13,700	0	-13,700
	Scenario 3	-600	0	-600	-5,600	0	-5,600	-6,100	0	-6,100
Long-Term: 2051	Scenario 1	-300	0	-300	-7,600	0	-7,600	-8,000	0	-8,000
	Scenario 2	-2,500	0	-2,500	-25,800	0	-25,800	-27,400	0	-27,400
	Scenario 3	-2,500	0	-2,500	-14,600	0	-14,600	-16,200	0	-16,200
		Percentage Difference of Including vs. Excluding Capacity on Parcels with Covenants								
Current: 2021	Scenario 1	0%	0%	0%	-19%	0%	-9%	-9%	0%	-6%
	Scenario 2	0%	0%	0%	-13%	0%	-10%	-11%	0%	-8%
	Scenario 3	0%	0%	0%	-10%	0%	-7%	-8%	0%	-6%
Short-Term: 2024	Scenario 1	0%	0%	0%	-19%	0%	-9%	-8%	0%	-5%
	Scenario 2	0%	0%	0%	-13%	0%	-10%	-11%	0%	-9%
	Scenario 3	0%	0%	0%	-10%	0%	-7%	-8%	0%	-6%
Medium-Term: 2031	Scenario 1	-1%	0%	-1%	-19%	0%	-11%	-7%	0%	-6%
	Scenario 2	-2%	0%	-2%	-16%	0%	-13%	-12%	0%	-10%
	Scenario 3	-2%	0%	-2%	-11%	0%	-8%	-8%	0%	-6%
Long-Term: 2051	Scenario 1	-1%	0%	-1%	-21%	0%	-14%	-11%	0%	-9%
	Scenario 2	-4%	0%	-4%	-19%	0%	-15%	-14%	0%	-12%
	Scenario 3	-4%	0%	-4%	-17%	0%	-12%	-12%	0%	-9%

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

6 Economic Costs and Benefits of Proposed Intensification Provisions

This section provides an overview of the anticipated economic costs and benefits of the modelled intensification scenarios within Hamilton City (including application of MDRS), relative to the status quo.

6.1 Economic Costs and Benefits of the Intensification Plan Change

The proposed provisions (including the application of the MDRS) are likely to generate changes through time to the nature and distribution of residential growth in Hamilton's urban area. Changes to growth patterns are likely to incrementally and cumulatively impact the city's urban form, becoming more significant through time. The nature of urban form has important impacts on the efficiency of spatial interactions across and within the city.

These factors give rise to a range of costs and benefits that are likely to flow from changes to the underlying planning structure. Part of the effect relates generally to the implementation of provisions for intensification, and is observable in aggregate at the city level; while part relates to the spatial distribution of the provisions and how they are applied within the urban environment. 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.

6.1.1 City Level Aggregate Effects of Intensification Provisions

The implementation of intensification provisions is likely to generate an economic benefit to households through increasing the range of different housing options available. While many of the dwelling typologies are already enabled across different parts of the city, the provisions are likely to increase the density at which they can occur and extend the locations across which higher density dwellings can occur, as well as increase the ability for the medium density attached options to be developed.

At the lower end of the increased density, the proposed provisions would enable smaller standalone dwellings to be constructed on smaller sites. Within the mid-range, the provisions would increase the density at which horizontally attached dwellings could be constructed. Currently, across the bulk of Hamilton's suburban area (General Residential Zone), these can occur as duplexes, and be constructed in pairs. The provisions would expand this mid-range density to better enable the construction of terraced housing, and at a higher density. Part of this effect occurs through the effective removal of the requirement to construct the dwellings in pairs[22]. The range of densities is increased at the higher end through the

[22] Within the General Residential Zone, the ODP currently provides for a duplex pair to be constructed on a 400m2 minimum net site area (i.e. a minimum of 200m2 per dwelling unit). If the site were instead 600m2, then still only two duplex units could be constructed as a permitted activity due to the requirement to be constructed in pairs. This would result in an average density of

geographic expansion across a number of nodes within the urban area for the provision for vertically-attached apartment buildings. These are currently only enabled within the City Centre.

The greater range of densities would enable a level of substitution of demand across different typologies. It would also allow demand to be met within the same typology at significantly different densities.

The provisions enabling smaller sites are likely to result in changes to the cost structures of dwelling construction and delivery due to changes in the nature of dwellings constructed. Generally, the provision of smaller sites is likely to result in increased flexibility for the market to scale dwellings to different site sizes. Under the current provisions for detached dwellings, there is a market tendency to construct larger dwellings that are scaled to the site size, with smaller dwellings shifting to the attached typology. The provisions would increase the range of detached dwellings that could be constructed, with the construction of two, possibly three, storey detached dwellings on smaller sites at the higher end. Increases in the range of densities for attached dwellings also changes the cost structures of dwellings through increasing the efficiency of site use. For example, the terraced housing typology typically increases the ratio of floorspace to site area.

The increased ability for the market to deliver a wider range of dwellings at different costs structures is likely to have a positive effect on housing affordability relative to the development patterns of new dwellings that would otherwise occur under the existing provisions. This is important for Hamilton as there is a growing demand for more affordable dwellings as well an increasing market acceptance for medium density attached dwellings. In aggregate, the provision of a greater range and value distribution of dwellings is likely to enable the market to increase its alignment with future citywide household demand structures.

The ability to form smaller site sizes increases the potential dwelling yield of sites. This is likely to increase the feasibility of redevelopment, particularly in higher value areas. This occurs where a significant share of the value of a dwelling is associated with the existence of a dwelling, with increases in value with size and characteristics. The same concept applies to land where a substantial share of the value is associated with the ability to accommodate a dwelling. As such, the aggregate value of multiple dwellings on a parcel is likely to significantly exceed the value of a single larger dwelling with the equivalent floor area of the smaller dwellings combined. Furthermore, the provision of smaller dwellings is likely to better align with the market demand for cheaper dwellings than a more expensive, larger dwelling.

6.1.2 Effects from the Location of Provisions

The *location* and *extent* of intensification provisions are important and affect the costs and benefits that may arise from changes to development patterns across the urban area. Part of the effects occur to private households involved in the transaction of individual dwellings, while the resulting development patterns have wider effects observed at the community and the city levels. The location of intensification provisions and the spatial extent across which they are applied determine the level of optimisation of effects of intensification and need to be considered together.

The application of intensification provisions within key areas of accessibility is likely to have positive effects on urban form through supporting a centres-based structure. This generates a range of benefits that accrue

300m2 per attached dwelling on the site, where the typology is more likely to reflect a townhouse. If MDRS were applied, then three dwellings could be constructed on the site, which would likely result in a terraced housing typology.

to both individual households and the wider community. Concentration of development into these areas increases the amenity received by households through greater accessibility. It also supports the viability of centres through the concentration of demand in local surrounding areas, thereby increasing the level of amenity provided by the centre to the community within its catchment area. This is important as centres play an important social role and function in addition to the amenity offered by their commercial activities.

Increased centres' function and the concentration of growth around these key nodes has benefits through increasing the sustainability of urban form. This occurs through several mechanisms. These include a greater share of alternative mode trips (e.g. walking/cycling to the centre), increased travel efficiency at the city scale through the concentration of commercial and social activities within centres relative to a more dispersed distribution, and the increased viability of public transport options where transport hubs are supported by centres.

Further economic benefits that accrue to the public sector are also achieved through the implementation of growth patterns that support intensification within centres. Increased nodes of activity allow for the more efficient delivery of transport and social infrastructure through their concentration into centres. A concentration of residential demand within close proximity to these centres enables investment in this infrastructure to more efficiently serve a greater demand.

It is also important to consider the location of provisions at a higher spatial scale in relation to the distribution across the urban centre's hierarchy. This relates to the overall form of the city and the ability to achieve appropriate differentiation of nodes within the centres' hierarchy. A distribution of growth, as enabled through the intensification provisions, can support Hamilton's objectives to re-establish the primacy of the City Centre if it occurs in appropriate locations. Alternatively, high levels of intensification around key nodes away from the City Centre may redirect growth away from central locations that would otherwise support the primacy of the City Centre.

6.1.3 Effects from the Spatial Extent of Provisions

It is important to consider the spatial extent of any intensification provisions as this is likely to affect the type of urban form outcomes that are achieved, and the costs and benefits that flow from these development patterns.

The spatial extent of the provisions determines whether there is likely to be sufficient differentiation of development intensities across the urban area. The benefits of intensification rely especially on a level of concentration of growth around key nodes of accessibility and sufficient differentiation of these patterns within the urban area.

The application of walkable catchments has different relative effects within different sized urban economies. Application of intensification areas across a constant distance across all urban economies will generally cover considerably larger shares of the total residential area in smaller urban economies. Depending upon the nature (dwelling scale, etc) of provisions, high relative coverage of urban areas may reduce the level of differentiation across the urban area[23]. This may reduce the degree to which growth is

[23] The share of urban area covered by a constant catchment distance tends to be inversely related to city size.

concentrated around key nodes of accessibility, potentially reducing the benefits associated with intensification into these areas set out in the previous sub-section.

The spatial extent of provisions that apply to the highest density development (e.g. vertically attached apartments) is also important to appropriately encourage growth that functions together with the centre and encourage development patterns that are appropriate for the surrounding urban environment. If the spatial extent of higher density development provisions are too large, then this may result in higher density developments occurring opportunistically within parts of the area that are less likely to function together with the centre. Moreover, these developments could potentially absorb a high share of the total higher density market demand. This may therefore reduce the likelihood of this development occurring elsewhere in locations that are more likely to function together with the centre and achieve the intensified urban form concentrated around centres.

6.1.4 Effects on Infrastructure

The concentration of growth into the core parts of accessible areas, and appropriate parts of the suburban environment, enables more efficient infrastructure provision. This occurs through the higher density of demand[24] as well as the timing and sequencing of growth. If intensification provisions are too widespread, then this reduces the ability to achieve infrastructure efficiencies and may increase infrastructure costs through the requirement to supply increased infrastructure across larger areas due to the possibility of intensification.

6.1.5 Effects from the Scale of Market Demand

The overall scale of market demand is likely to affect the appropriateness of the scale of intensification provisions by location. The level of market demand for different types of dwelling densities will affect the degree to which concentration of development within key areas of accessibility is achieved and the nature of that intensification.

Smaller urban economies typically have lower demand for the higher density dwelling typologies, such as vertically attached apartments. This market is not yet well established in Hamilton City. Lower demand means that core nodes of accessibility are less able to sustain intensification of higher density dwellings than areas where there is greater market demand. A smaller market size increases the propensity for any higher density vertical development outside of the centre zone or not directly adjacent to the centre to form a standalone development that is less consistent with the surrounding urban environment.

In contrast, larger urban economies with higher demand are able to sustain higher density development across greater distances that function together with the centre and are consistent with the density gradient within the catchment area. Higher density vertical development is typically more consistently sustained across larger walkable catchment areas within higher value areas in larger urban economies.

In smaller urban economies, intensification patterns around centres are instead more likely to be characterised by medium density attached dwellings, such as those provided for within the Residential

[24] Infrastructure costs are generally lower if demand is more spatially concentrated than the higher costs from more expansive networks required to serve more dispersed patterns of growth.

Intensification and High Density Residential zones or the MDRS provisions applied to the underlying general suburban residential zones.

6.2 Assessment of Modelled Scenarios

6.2.1 Enabled Development Patterns

There are two modelled scenarios for intensification in Hamilton City. These are Scenario 2 (unmodified intensification) and Scenario 3 (modified intensification). The modelling has shown that both scenarios would enable a large volume of plan enabled capacity to occur in relation to projected long-term demand; and within this, each would provide for a large amount of intensification at the city level. The intensification enabled under the scenarios would expand the range of density, and consequently, typologies, able to be constructed across much of the urban environment.

The benefits in relation to an increased range of densities (greater market flexibility and increased feasibility of smaller cheaper dwellings that use land more efficiently) are set out in Section 6.1 and are therefore likely to be achieved across both options. Despite the large spatial extent of the ICO, the provisions in Scenario 3 still provide for some of this benefit to occur across the general suburban area covered by the overlay. This is because the 150m2/200m2 alternative density control still enables an increase in density across these areas. The exclusion of a requirement to form duplex pairs under this option is an important factor in enabling this greater density and results in a change in the typology potentially able to be provided – it opens up the ability for the market to deliver terraced housing, albeit at a lower density than in Scenario 2.

There are substantial differences in the overall urban form enabled by scenarios 2 and 3. These differences are likely to have an important effect on the type of costs and benefits experienced by each option and flow from the location of the provisions.

Scenario 2 enables widespread intensification across all of the residential urban environment. It provides for sizeable nodes of vertically-attached apartment buildings in multiple Medium Density Residential nodes arounds centres across the extent of the urban environment. Some of these areas are away from the City Centre. The extent and location of these higher density nodes (at the macro city structure level) mean that intensification development patterns in some areas may dilute the level of intensification that may otherwise occur around the City Centre.

The vertically-attached apartment market is not yet well established in Hamilton City, but is likely to increase through time. The overall scale of provision for this type of development is very large relative to demand under both scenarios. As such. It is likely that only a small share of the capacity would need to be taken up to meet demand. This means that only some locations are likely to be able to develop with consistent levels of intensification within the nodes, while higher density developments in other areas may take the form of opportunistic standalone developments within their surrounding areas. The spatial extent of the provisions for higher density development and the number of areas across which it applies mean that the development may occur in some locations where it may be less likely to function together with the centre.

The provision for intensification under Scenario 3 is considerably more concentrated into the central areas of Hamilton City. The provision for higher density vertically-attached apartment buildings is concentrated around the City Centre, High Density Residential Zone and proximate areas of the Medium Density Residential Zone. There is no provision for this form of development in areas away from the central part of the urban areas.

Scenario 3 is better aligned with Hamilton City's centres strategy than Scenario 2. Scenario 3 still allows for high levels of vertically-attached apartment capacity relative to growth. However, if development were to occur anywhere within these areas, then it would be more likely to support the primacy of the City Centre.

Within the rest of the suburban area, the proposed zoning structure (and ICO alternative densities) still allow for differentiation across the urban environment to reflect the higher accessibility and amenity provided by centres. The level of density contained within the Medium Density Residential alternative controls is likely to enable a significant level of intensification to occur around these centres and align with a larger proportion of the market for attached dwellings.

There is also significant scope for further development across the rest of the suburban area under Scenario 3. Even with the ICO controls, development can be realised at greater densities on many sites than that currently enabled by the ODP. As such, it increases the feasibility of redeveloping these sites. This may mean that a smaller percentage of existing sites may be redeveloped as the larger development opportunity absorbs a higher share of demand than under the baseline provisions.

The differences in the patterns of development across the city between the two scenarios are likely to result in differences in infrastructure costs. Scenario 3 provides greater centralisation of intensification into a more concentrated area. As set out in Section 6.1.4, this is likely to enabled greater efficiencies in infrastructure provision (than Scenario 2) and be more likely to avoid the increased cost of widespread, un-sequenced intensification.

It is important to note that both scenarios represent large increases in potential intensification across the urban environment relative to demand. This may generate challenges in relation to infrastructure sequencing and provision, and may reduce the propensity of growth to concentrate into the areas of higher accessibility and amenity. However, taking the above factors into account, Scenario 3 is likely to represent a more favourable option (than Scenario 2) in relation to the consideration of economic costs and benefits. It contains a sizeable increase in plan enabled dwelling capacity relative to demand and the existing ODP base scenario. The increase in capacity also provides for a wider range of densities and, within this, dwelling options. These are likely to increase the feasibility for the market and the feasibility to redevelop sites.

6.2.2 NPS-UD Objectives

The greater levels of intensification enabled under both scenarios 2 and 3 mean that they each enable much higher levels of urban development opportunity than the existing baseline provisions, recognising the national significance of urban development. The increased ranges of density of these provisions, under both scenarios, align with the NPS-UD objectives to increase housing affordability.

At the city level, both modelled scenarios have a similar effect in terms of the overall range of density and dwelling typologies. The larger differences in the alignment of the scenarios with the NPS-UD objectives instead relate to the spatial distribution of enabled development patterns. Importantly, as set out above,

this effect occurs through a combination of both enabling increased development opportunity in appropriate places as well as providing sufficient differentiation across the urban area to encourage development to occur within these locations.

A core part of achieving the NPS-UD well functioning urban environment (Objective 1) relates to achieving sufficiently concentrated development patterns within areas of higher accessibility and amenity. The viability of these centres and the amenity they provide is supported by the concentration of residential development within their surrounding catchment areas. It is therefore important to encourage patterns of intensification to concentrate into these areas and reduce the dilution of higher density development away from areas of higher amenity.

While both scenarios enable a substantial level of intensification across the urban area, Scenario 3 provides greater direction for patterns of growth to concentrate into central areas of amenity. This takes into account the overall market size and level of market establishment of higher density dwelling typologies. While the higher density provisions are limited to the more central areas, Scenario 3 does still allow for substantial levels of intensification to occur around other areas of higher amenity where the qualifying matters have been applied. The levels of intensification enabled within the Medium Density Residential Zone and the additional provision within the General Residential Zone reflect levels of intensification occurring in centres in other areas within less central parts of the urban areas.

In contrast, Scenario 2 allows for high levels of intensification across the extent of the urban environment. This may reduce the level to which development is concentrated into areas of higher accessibility and amenity, therefore slowing the achievement of a well-functioning urban environment within these central areas.

6.2.3 Commercially Feasible Development Patterns within Enabled Growth Patterns

The feasibility modelling has shown that the intensification provisions are likely to increase the range of dwelling types and densities that are supplied by the residential development market. This occurs through a combination of enabling more alignment between patterns of demand as well as increases in the feasibility of developing parcels through higher potential yields and smaller land area per dwelling requirements. The higher level of development enabled on the sites under the MDRS (i.e. the three-dimensional building envelope enabled on each parcel) also allows them to be more efficiently developed, further increasing their feasibility.

There are increases in the range and type of dwellings and development patterns that are feasible at the city-level under both intensification scenarios. The modelling estimates that Scenario 2 (unmodified intensification) has higher levels of medium-density feasible capacity than Scenario 3 where alternative density controls are applied within the areas covered by qualifying matters. However, it is important that part of this effect occurs through the higher yields enabled on parcels, where many parcels remain feasible to redevelop under both scenarios. The modelling shows that there is some difference in timing in relation to the feasibility of redevelopment on parcels; and that the spatial extent of feasible locations is similar to the long-term.

While feasibility may be increased on some parcels through the higher densities enabled under Scenario 2, it is likely that only part of this effect will be realised through the capacity that is eventually delivered by

the market. This is because the market will deliver capacity at a range of densities and typologies with the distribution being driven by the scale and type of market demand. It is less likely that large proportions of capacity will be delivered in higher margin development options that have only limited market demand. The level of capacity delivered will depend upon what can be sustained by the market.

The alternative densities enabled under the ICO qualifying matter area (which contains the largest share of the effect from qualifying matters application) still allows for a reasonably high level of intensification across Hamilton's urban environment. Critically, it allows for the development of terraced housing, which typically plays an important role in urban intensification in growing urban economies. It also allows for the delivery of smaller detached dwellings on smaller land areas.

The modelling has shown that the enabled development patterns are feasible and enable significant intensification relative to the baseline scenario. There is a sizeable ability for Hamilton's general suburban areas to intensify with the application of the qualifying matters.

It is also important to consider the effect of the qualifying matters on the higher density residential development in key locations and the ability for these locations to intensify. The modelling indicates that the qualifying matters are likely to have a smaller effect on feasible development options than the plan enabled capacity. This is because the qualifying matters are predominantly applied in areas outside of those estimated to be generally commercially feasible for higher density developments.

The higher density residential development market is not yet well established in Hamilton City. The modelling indicates that it is likely to be predominantly concentrated around the central parts of Hamilton City which have the highest accessibility and amenity. This is generally reflected in other growing urban economies where higher density residential development (beyond that enabled through the MDRS) is concentrated into a few central locations of highest amenity.

The central areas cover a sizeable portion of Hamilton's urban areas where residential capacity is provided. There is a modelled plan enabled capacity in the City Centre and High Density Residential zones for around 96,200 apartment dwellings (and 93,600 dwellings when qualifying matters are applied). This is sizeable in comparison to the level of demand.

The modelling indicates that there is likely to be limited feasible opportunity for private sector commercial developers in locations outside of Hamilton City's central areas. There may be individual sites that could be developed by commercial developers in these areas (in the absence of qualifying matters) due to individual site circumstances/characteristics or at lower margins. However, these are less likely to be a reflection of the general feasible development patterns across the city, which are more likely to be concentrated into central areas. The extent of this development, if it were to occur, is also likely to be limited due to the small market size for this type of development, with the largest share of the demand likely to favour central locations.

The greatest proportions of market demand in Hamilton City are instead likely to occur in low to medium density dwellings. These range from detached dwellings up to more intensive terraced housing, all of which are still enabled with the application of qualifying matters.

Areas of high accessibility, outside of the City Centre and High Density Residential zones, around key centres are still able to intensify with the application of qualifying matters. The alternative controls of 150m2 per

dwelling (within the Medium Density Residential Zone) enable reasonably high density terraced housing to occur, which is significantly more intensive than the existing patterns of residential development in many of those locations.

As set out in Section 4.4, the modelling reflects the likely development patterns of private, profit-driven commercial developers. There may be other dwelling capacity providers that have different development models that would opt to deliver higher density residential development in locations constrained by the qualifying matters. As such, the qualifying matters would limit the development options, in terms of location, for these providers.

Section 6.1 sets out the types of costs and benefits of the proposed provisions arising from the enabled development patterns and urban form. Importantly, there are effects that accrue to the wider community overall through the impacts on urban form as well as to private property owners and developers through the profits from development opportunities. It is important that these are balanced appropriately, recognising that it is unlikely that this can be achieved by the private commercial market alone.

The feasibility assessment has shown that there is a large amount of feasible development options for developers, even with the application of qualifying matters. It suggests that higher density development is enabled in locations where it is generally feasible and that these areas contain very large levels of capacity relative to demand. Urban form benefits can be achieved through the appropriate level of concentration of this type of development into key areas (refer to Section 6.1). This may be reduced if development is diluted across a large number of locations in the form of isolated developments that have varying degrees of functioning together with the node of amenity.

7 Conclusions

The MDRS provision enable a greater level of capacity and development across much of the urban residential area of Hamilton. They enable greater intensification through a combination of higher potential yields on most parcels together with a greater level of development able to occur within each site.

The provisions also introduce substantial further opportunity for higher density residential development across a range of locations within core areas of accessibility within the urban area. With the application of qualifying matters, the higher density development opportunity is concentrated into the central parts of the urban environment within the City Centre and surrounding areas. These correspond to the areas where this type of development is modelled to be generally commercially feasible.

In addition to areas of higher density development, the provisions also increase the density of development across the general suburban area. They provide for medium density development across this area. Part of this effect occurs through changes to the underling zoning base, to increase the spatial extent of the High and Medium Density Residential zones, with part also occurring through the application of the MDRS.

The combined application of intensification provisions substantially increases the total additional development capacity. This mainly occurs within the existing urban area outside of the City Centre as a large share of the greenfield areas are already covered, within the modelling, by developer or structure plans. Capacity increases result in a sizeable enabled capacity relative to the existing urban dwelling base and projected long-term dwelling demand.

In some locations, the types of capacity enabled by the Policy 3 vertical height provisions and MDRS is at a significantly higher density than that provided within many of the main urban residential zones of the Plan. If capacity is taken up at these higher vertical-development densities, then it would represent a significant shift to the development patterns that have previously characterised growth within central parts of the city. Development at medium densities is already occurring across many parts of Hamilton City, which are closer to the attached dwelling development provided for through the MDRS.

Understanding the capacity enabled by the intensification provisions is an important first stage in understanding the implications of the provisions. 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 higher density dwelling options.

There are a range of economic costs and benefits that may occur as a result of the urban form development patterns enabled by the modelled intensification scenarios. Part of the effect relates generally to the implementation of provisions for intensification, and is observable in aggregate at the city level; while part relates to the spatial distribution of the provisions and how they are applied within the urban environment.

Both intensification options (scenarios 2 and 3) result in a large increase in plan enabled capacity (relative to demand and to the existing ODP provisions) and levels of potential intensification widespread across the urban environment. Increased density options create greater flexibility for the market to provide smaller, cheaper dwellings, but may result in costs associated within infrastructure sequencing and may dilute the ability to concentrate growth into the core areas of accessibility provided for within the provisions.

Within the options, Scenario 3 is likely to represent a more favourable option (than Scenario 2) in relation to the consideration of economic costs and benefits and the alignment with the objectives of the NPS-UD. It contains a sizeable increase in plan enabled dwelling capacity and commercially feasible development options relative to demand and the existing ODP base scenario. The increase in capacity also provides for a wider range of densities and, within this, dwelling options. These are likely to increase the feasibility for the market and the feasibility to redevelop sites. Scenario 3 is likely to support a more efficient spatial economic structure for the city (than Scenario 2) as higher density development is limited to central areas where it is more likely to support the primacy of the City Centre.